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On the Political Economy of Complexity

Abstract

A substantial number of regulatory frameworks are commonly viewed by impartial observers as inordinately complex. Is there an explanation for this phenomenon? Employing a partial equilibrium model, this paper approaches the problem of complexity from a political-economy vantage point. It underscores some hitherto unexplored ways in which complexity serves the narrow interests of some market agents and sets up effective barriers to entry to their competitors. These rent-inducing barriers often take the form of rapid and extensive supplements and changes in the regulatory environment, which make it hard for smaller market agents to adjust and maintain their competitive edge. Whereas regulatory schemes are normally conceived as enhancing transparency, and changes in these schemes are usually associated with salutary reformative agendas, this Article underscores the dark side of both phenomena by focusing on the anti-competitive features of regulation and reform and by clarifying the role of complexity in enhancing and preserving the narrow interests of certain market participants.

JEL-Code: D700, K000.

Keywords: regulation, barriers to entry, accounting, securities regulation, the market of charters, race to the top, race to the bottom.

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Introduction

It is commonly observed that a significant number of regulatory frameworks are inexorably complex. It is also well-understood that this complexity comes with an onerous price-tag. To make the system function, a costly regulatory apparatus needs to be established. On its receiving end, regulated industries divert otherwise productive resources to the effort of compliance and are constrained from exploiting otherwise lucrative business opportunities. To use a worn out, but totally truthful cliché, regulation is a form of taxation,[2] and hence complex regulation is a particularly loathsome load to shoulder.[3] Nevertheless, complex regulatory regimes abound. Accepted wisdom has it, that this sorry state of affairs is inevitable, as the ills of unregulated industries far eclipse the toll of regulating them. In times of egregious scandal, such as in the aftermath of the subprime mortgage meltdown of 2008, public support for unyieldingly detailed and comprehensive regulatory regimes is likely to become more vociferous. The rhetoric is that if life is complicated and the forms of deceit and overreaching grow in sophistication, the function of leveling the field cannot be simple and transparent to the layperson's perceptual faculties.

We obviously accept the notion that in any mixed economy, there is an important role for government in its regulatory capacity. It is equally well-understood that some regulatory structures, however well-intentioned, result in efficiency losses and the world would have been a better place without them. To avoid potential regrets at the post regulatory stage it is often believed that regulators ought to constantly monitor regulated markets and fine-tune their responses to the flow of events as they unfold. In this Article

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[2] Richard Posner, *Taxation by Regulation*, 2 Bell Journal of Econ. and Management 22 (1971).
[3] These well-known observations have been studied not only in the general, abstract context (e.g. Richard Quandt, *Complexity in Regulation*, 22 J. Public Econ. 199 (1983)); but also in specific markets such as the securities market (e.g. Troy Paredes, *Blinded by the Light: Information Overload and its Consequences for Securities Regulation*, 81 Wash. U. L. Q. 417 (2003)), the health delivery system (e.g. ROBERT FIELD, HEALTH CARE REGULATION IN AMERICA: COMPLEXITY, CONFRONTATION AND COMPROMISE (Oxford U. Press, 2007)), regional labor markets (e.g. Mark Bray & Peter Waring, *'Complexity' and 'Congruence' in Australian Labour Regulation*, 47 J. of Industrial Relations 1 (2005)) or the environment (e.g. Philip Andrews-Speed, Minying Yang, Lei Shen & Shelley Cao, *The Regulation of China's Township and Village Coal Mines: A Study of Complexity and Ineffectiveness*, 11 J. of Cleaner Production 185 (2003)).

we make the novel observation that what we perceive as regulatory responsiveness is often in itself a form of taxation, which results in the erection of effective barriers to entry and even incentivizes smaller competitors who are already in the market to jump ship and abandon it to the rule of the strong and the mighty. It is important to reiterate that our point is *not* that regulation as such is often steered by current players to fend off potential newcomers: to do so would be tantamount to treading a well-beaten track. Rather, our point is that barriers to entry, and incentives to contribute to market concentration, are often occasioned by the responsiveness of regulators to frequent changes in the regulated environment.

To show how this cause and effect cycle actually transpires, we sketch a partial equilibrium model which is compatible with the assertions outlined above. The model defines both the conditions of keeping potential competitors at bay and of incentivizing existing players to yield the market to a much smaller segment of dominant firms. To enliven our otherwise stylized model by analyzing real life regulatory systems, we examine three very different markets. In Section I we discuss the complexity of the accounting market and show how the large accounting firms, who were instrumental in designing the relevant regulatory regime, benefit from their own handiwork; this, in turn, works to the detriment of smaller accounting firms which face an insurmountable barrier to entry to the market of auditing services to public firms and gives to those who are already in the market an incentive to retire from the business altogether. In section II we examine some key features of two principal statutory responses to recent scandals in the securities regulation field, the Sarbanes-Oxley and the Dodd-Frank legislation. Among the clear beneficiaries of these statutes it is easy to identify a number of large law firms, whose success is underscored by an aggressive crowding out of their smaller competitors. Section III revisits an old debate, the role of the State of Delaware as a competitor in the market for corporate charters. We join the crowd of former observers, who characterized the strategy of the State of Delaware as an anti-competitive scheme, but do it with a twist of our own, by highlighting the complexity of Delaware's corporate code and exposing the role of that complexity as a tool of dominance over that State's competitors. Section IV lays out the formal

model and discusses its applicability to the cases examined in the former sections. Section V concludes.

Although three sparrows do not a summer make, our three examples are meant to suggest a proposition of a broader import: both the volume and the velocity of change may often be inversely related to social welfare.

Section I: The Accounting Market

At the close of the first decade of our century, there were some 28,000,000 private companies registered in the United States.[4] Most of them do not have any reporting requirements other than filing income tax returns. The accounting principles applicable to these companies are relatively simple. Some private companies are required by lenders, bonding companies, regulators and others to prepare financial statements conforming to the United States Generally Accepted Accounting Principles (US GAAP) but in many of these cases this requirement is dispensed with if a Certified Public Accountant (CPA) appends her audit with an appropriate reservation.[5]

Publicly traded corporations, on the other hand, play a totally different kind of ballgame. The Securities and Exchange Commission (SEC) is authorized by statute to establish accounting and reporting standards for those entities.[6] However, the SEC preferred, throughout its history, to delegate this rule-making power to the private sector as long as it could demonstrably show that it is in fact acting in the public interest. Until 1973 all accounting rules were promulgated by various committees of the AICPA- the American Institute of CPA's, which is dominated by the largest audit firms. Between 1939 and 1959 it was the Committee on Accounting Procedures- the CAP; and then, for additional 13 years, the baton was passed on to the APB- the Accounting Principles Board.

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[4] This figure excludes not-for-profit and government establishments. See U.S. Bureau's Nonemployer Statistics: 2008 Report, and 2008 County Business Patterns Report.
[5] Blue Ribbon Panel on Standard Setting of Private Companies: Report to the Board of Trustees of the Financial Accounting Foundation, January 2011.
[6] Securities Exchange Act of 1934.

In 1971, following some public dissatisfaction with the AICPA's monopolistic rule-making role, a new entity was established, the FAF- the Financial Accounting Foundation,[7] which in turn set up the Financial Accounting Standard Board (FASB), the originator of the U.S. GAAP. Consequently, since 1973, all accounting and reporting standards for non - government entities, as well as all the revisions and amendments to these standards,[8] were promulgated by the FASB. These standards were officially recognized as authoritative by both the SEC and by the AICPA.[9] The only public corporations exempt from the U.S. GAAP are foreign issuers, which since March of 2008 may prepare their financial statements in conformity with the International Financial Reporting Standards (IFRS) without reconciliation with the US GAAP.[10]

According to the financial statements of the FAF for the year ending in 2000-2001, about a quarter of its income was derived from voluntary fund raising, and the rest was raised through sales of publications, presumably to large corporations and large audit firms. The cash flow reports indicate that fund raising accounted for about a third, rather than a quarter, of total income.[11] Again, one can only surmise that the major donors were large CPA firms, since rule-making agencies of audit standards are not likely to loom large on one's list of charitable donations if one is not a representative of a large audit firm.[12] Only in 2002 it was finally recognized (in the Sarbanes-Oxley Act) that the financial and professional dependence of the FASB on the large audit firms had to be constrained; from that point on the

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[7] Various entities and agencies joined forces and were represented in the FAF. They include the American Accounting Association, the American Institute of Certified Public Accountants, the Association for Investment Management and Research, the Financial Executives International, the Government Finance Officer Association, the Institute of Management Accountants, the National Association of State Auditors, Comptrollers and Treasurers and the Securities Industry Association.

[8] 17 CFR Parts 210, 230, 239 and 249, RIN 3235-AJ90, http://www.sec.gov/rules/final/2007/33-8879.pdf

[9] *Facts About FASB* http://www.fasb.org/facts/.

[10] Since the beginning of 2005 companies listed on a European Union regulated market may use the IFRS in preparing their financial statements. See Regulation (EC) No. 1606/2002 of the European Parliament and of the Council of 19 July 2002 ("the IAS Regulation").

[11] See http://www.fasb.org/cs/ContentServer?c=document _C&pagename=FASB%2FDocument_C%2FDocumentPage&cid=1176157114017.

[12] "From 1973 until 2002, FASB's funding was voluntary, giving accounting firms and public companies (the board's principal funding sources) control of FASB's purse string" Harvey L. Pitt, *Filling In The GAAP*, Forbes Magazine (Jan 5, 2006) available at http://www.forbes.com/2006/05/01/harvey-pitt-gaap-fasb-cx_hp_0501fasb.html.

SEC became the only source (except revenues from sale of publications) for FASB funding.[13] However, the culture of FASB legislation had already been firmly established. What is that culture?

The accounting rules promulgated by the FASB have been and still are both bulky and volatile. In terms of sheer bulk, the current accounting and audit rules span around 7600 pages, all of which pertain to purely professional guidelines.[14] In terms of volatility, or guideline-turnover, this bulky stock is heavily edited, revised, reshaped, transformed and updated in a head-spinning velocity. For example, in 2010, eight years after the Sarbanes-Oxley legislation, the rules were revised 29 times for a grand total of 1004 pages of detailed changes and renovations.[15]

Now who could afford to both acquire the initial professional expertise which is necessary to service large public corporations and maintain it in a serviceable condition year after year, given both the bulk and the volatility of the regulatory structure? Clearly, not the smaller CPA firms. Indeed, the facts seem to point to a self-evident conclusion. In fiscal year 2003, the four largest audit firms ("the Big 4": PricewaterhouseCoopers, KPMG, Ernst&Young and Deloitte&Touche) audited 91% (!) of all listed corporations in the United States.[16] They also collected, in 2012, a total

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[13] The Sarbanes-Oxley Act of 2002 (Public Law 107–204 107th Congress), Section 109.

[14] *Just How Many Pages are There in GAAP,* http://attestationupdate.com/2011/04/28/just-how-many-pages-are-there-in-gaap-/sas-and-ssars.

[15] These updates, in the order of their promulgation, covered the following subjects: Equity distributions; corporate group consolidation; technical corrections; stock compensation; fair value measurements and disclosures; not for profit entities; technical corrections; disclosure of subsequent events; consolidation of investment funds; derivatives and hedging; income taxes; stock compensation; accounting of oil and gas extractive activities; insurance and financial services; casinos and entertainments; revenue recognition; receivables; foreign currency; receivables; technical amendments; technical corrections of SEC paragraphs; health care entities; health care entities; pension plans; insurance and financial services; other expenses; intangibles and business combinations. Some topics appear in this list more than once, reflecting the number of updates relating to these topics.

[16] Maria T. Caban-Garcia & Susan Cammack, *Audit Firm Concentration and Competition: Effects of Consolidation Since 1997*, 5 The Journal of Theoretical Accounting Research1 (2009).

revenue exceeding 110 billion dollars in fees.[17] It appears that the complexity of regulation and the resulting concentration in the audit market is not endemic just to the U.S. market. For example, according to a study conducted in 2003, the percentage of CPA firms servicing public corporations in the UK in the period ranging between 1968 and 2003 dropped by almost 93% from 1109 firms at the beginning of the surveyed period to 84 at its close.[18] The percentage of UK audits performed by the "Big 4" rose during this period from around 20% to approximately 70%.[19]

We may conclude, then, that the regulatory structure of the accounting market in the United States is extremely complex; that its standards are determined by professional organizations which, during the formative years, were both dominated and financed by the largest accounting firms; and that these same firms are also the principal beneficiaries of this genre of complexity. Obviously, not all other markets display the same characteristics of the auditing market. But striking similarities abound. We turn next to consider a similar effect on the legal market for representing public corporations in the United States.

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[17] *The 2012 Big Four Firms Performance Analysis* http://www.big4.com/wp-content/uploads/2013/01/The-2012-Big-Four-Firms-Performance-Analysis.pdf.

[18] Vivien Beattie, Alan Goodacre & Stella Fearnley., *And then there were four: A study of UK audit market concentration — causes, consequences and the scope for market adjustment*, 11 Journal of Financial Regulation and Compliance 250 (2003).

[19] Ibid.

Section II: Corporate Governance and Securities Regulation

Following the Enron and related scandals, Congress enacted the Public Company Accounting Reform and Investor Protecting Act, more commonly known as the Sarbanes-Oxley Act. In spite of its official name, which alludes to the world of accounting and audit—an understandable choice given Enron's creativity in "off balance sheet accounting"—the Act cuts deep into the domain of corporate governance. In the process, it renders compliance with its onerous requirements a daunting task for issuers, directors, officers, legal counsel and auditors of all firms and given the substantial fixed cost of compliance, a virtual game stopper for all varieties of smaller players. Perhaps the most intrusive provision of the Act is embedded in Section 404, which requires annual disclosures of adequate internal control structures and all kinds of procedures both for financial reporting and for the assessment of the effectiveness of the adopted structures[20]; and all of this must be guaranteed by the firm's management on pain of personal liability. It has been estimated that compliance with just this one section costs issuers millions of dollars, both for internal controls and for attorneys and accountants pontificating over the process.[21] To mention just a few more examples, Section 302 imposes on the firm's CEO and CFO the obligation to certify, on each quarter and annually, the truthfulness of a whole canopy of facts concerning the mandated corporate disclosures, as well as the establishment of internal control mechanisms designed to make sure that these disclosures do not contain any misleading information. Section 401 requires disclosure concerning off balance sheet transactions and pro forma figures. Section 409 mandates a speedy disclosure of any new information pertinent to the public. Of particular interest is Section 802 which imposes a prison term of 20 years for *falsification* of records and up to ten years for violating rules pertaining to *retention* of records. The

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[20] The cost of compliance with section 404 alone is estimated for several million dollars during the first year of implementation for large firms. For data see Joseph Grundfest & Steven Bochner, *Fixing 404*, 105 Mich. L. Rev. 1643 (2007).

[21] *Study of the Sarbanes-Oxley Act of 2002 Section 404 Internal Control over Financial Reporting Requirements*, Office of Economic Analysis, UNITED STATES SECURITIES AND EXCHANGE COMMISSION (September 2009) http://www.sec.gov/news/studies/2009/sox-404_study.pdf.

onerous nature of complying with these regulatory requirements has been heavily scrutinized in the literature;[22] we shall not summarize all of this in this paper- it is all too obvious to bear repetition.

In spite of its tight regulatory strictures the market gave way once again, just six years after Sarbanes-Oxley, following the subprime housing meltdown of 2008. This disaster was closely followed by another substantial regulatory response, the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. The Dodd-Frank Act is consisted of the most sweeping regulatory changes affecting corporate America since the New Deal legislation of the 1930's.[23] It spans 2,319 pages of detailed injunctions, the vast majority of which are totally new to the regulatory landscape, although much of this deluge of new materials does not directly concern matters of corporate governance. According to an estimate conducted by one leading corporate law firm (Davis Polk), the new Act mandates the promulgation of additional 243 sets of rules by a variety of agencies (the SEC alone is mandated to promulgate 95 sets of regulations), no less than 67 different studies will have to be conducted, and those subject to the new regulatory regime will have to submit 22 new periodic reports to the overseeing agencies.[24]

Combined with the many thousands of pre-Dodd-Frank pages pertaining to securities regulation, the mandatory rules in the area of corporate

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[22] A thoughtful summary of the costs and benefits of the Sarbanes-Oxley Act was published by the late Larry Ribstein soon after the promulgation of the Act. See Larry Ribstein, *Market vs. Regulatory Responses to Corporate Fraud: A Critique of the Sarbanes-Oxley Act of 2002*, 28 J. of Corporation Law 1 (2002-03). See also, William Carney, *The Costs of Being Public After Sarbanes-Oxley: The Irony of "Going Private"*, 55 EMORY L.J. 141 (2006).

[23] The intention to overhaul the entire financial regulatory structure since the Great Depression was articulated by President Obama himself. See *Remarks of the President on Regulatory Reform* (June 7, 2009) http://www.whitehouse.gov/the_press_office/Remarks-of-the-President-on-Regulatory-Reform/.

[24] *Summery of the Dodd-Frank Wall Street Reform and Consumer Protection Act, Enacted into Law on July 21, 2010* http://www.davispolk.com/files/Publication/7084f9fe-6580-413b-b870-b7c025ed2ecf/Presentation/PublicationAttachment/1d4495c7-0be0-4e9a-ba77-f786fb90464a/070910_Financial_Reform_Summary.pdf.

governance and securities regulation appear to lap the regulatory structure of the audit market in both bulk and innovative turnover.

In an old paper, Henry Manne suggested that the growing complexity in the overall regulatory structure in the United States generated the rise of mammoth law firms and sharpened their proclivity to compete for higher fees. [25] Unlike the case of the CPA firms, analyzed in the previous Section, we did not find direct evidence for such an assertion. Whereas the audit rule-making process has been dominated by the audit profession, both the Sarbanes-Oxley and the Dodd-Frank legislation, as the most recent paradigms of regulatory intervention in the areas of corporate governance and securities regulation, seems to have been motivated by public sentiment spirited by visions of plummeting stock and the erosion of long-term savings. As was suggested by Stephen Bainbridge, the legal profession did not retain much clout in the relevant Federal legislation, compared to the clout of ideologues with agendas inimical to a free market economy.[26] Of course, lobbying groups, of whichever ideology, are commonly assisted by legal advice, and one cannot write off the possibility that some of the lawyers retained by the architects of the relevant legislation did not turn a blind eye to their own interests; but this is as far as we can say, given the state of the evidence. With this said, it is abundantly clear who are the beneficiaries of this complexity. Even without looking at the record, it is clear that neither Sarbanes-Oxley nor Dodd-Frank can be handled in the minor league. Modestly sized law firms simply do not have the resources to guide large firms through the Byzantine maze of compliance, simply because the amount of professional know-how and the rapid adjustments needed for massive changes are beyond the capacity of these firms. Thus, according to an annual survey conducted by ALM Legal Intelligence researchers (www.almlegalintelligence.com) more than half of the Fortune 100 companies use as outside counsel in the area of corporate law just five firms- Cleary Gottlieb, Davis Polk, Cravath, Simpson Thacher and

[25] Henry Manne, *The Judiciary and Free Markets*, 21 Harvard J. L. & Pub. Policy 11 (1997-8).
[26] Stephen Bainbridge*, Dodd-Frank: Quack Federal Corporate Governance Round II*, 95 Minn. L. Rev. 1779 (2010-11).

Shearman Sterling.[27] By contrast, in the area of contract litigation, which is significantly less complex, the five leading law firms in that area represent only 16 corporations out of the Fortune 100, and the numbers are 19, 29 and 35 in the increasingly more complex areas of labor law, corporate tort litigation and intellectual property, respectively. This trend of firm-dominance in corporate law seems to be endemic to other fields of complex legal practice across the globe. Thus, according to a 2012 report prepared by PricewaterhouseCooper, the growing complexity of large scale legal practice in the UK accounts for the fact that the 10 largest UK law firms netted about one half of the revenues collected by the 100 largest firms in that country, with per capita income differentials between the larger and smaller firms growing in size over time: whereas the profitability of the largest firms are on the rise, the statistics relating to the smaller firms are actually on the decline.[28] In the U.S. as well, in spite of the fact that the legal industry as a whole has taken a beating in the wake of the 2008 mini-recession, the most lucrative firms, especially those specializing in mergers and acquisitions (e.g. Watchtell, Lipton and Cravath), neither shrank in size nor suffered a decline in their per capita income.[29] By contrast, the figures relating to 2008 are quite different. It appears that prior to the promulgation of the Dodd-Frank legislation, the leading Fortune 500 companies were represented, in their corporate transactions, by a fair number of law firms, much larger than now.[30] Once again, complexity took its toll and myriad smaller firms left the market.

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[27] *Who Reps Mini-Charts: The Usual Suspects* (August 19, 2010) http://www.law.com/corporatecounsel/PubArticleCC.jsp?id=1202465800116.

[28] *Law firms' survey 2012* http://www.pwc.com/im/en/publications/assets/21st_law_firms_survey_2012.pdf.

[29] *A less gilded future*, The Economist (May 5, 2011) Available at http://www.economist.com/node/18651114.

[30] *Taking It Outside: Who Represents America's Biggest Companies* (August 18, 2009) http://www.law.com/corporatecounsel/PubArticleCC.jsp?id=1202433038248&Taking_It_Outside_Who_Represents_Americas_Biggest_Companies&slreturn=20130618104648.

Section III: The Market for Corporate Charters

The discussion that follows in this Section is of a more speculative nature, and is primarily intended to test the limits of the applicability of the central thesis of this Article.

One of the most explored issues in corporate scholarship documents is the role of the State of Delaware in the market for corporate charters. As the majority of large public corporations choose Delaware as their domiciliary state, Delaware collects approximately 20% of its state budget just from incorporation and annual franchise fees. Its corporate bar and a variety of tangential professionals thrive in the process, which helps transform Wilmington from an otherwise dormant provincial town to a hub of worldwide commercial activity.[31] It is also well-known that Delaware is keen to maintain its dominant role in the market for corporate charters[32] and that it does every effort to shape its corporate law, broadly defined, as attractively as possible in the eyes of those who select a state of incorporation.[33]

Statutes, however, cannot be either patented or copyrighted and hence Delaware faces a threat of competition from other jurisdictions, eager to expand their share in the market for corporate charters, by simply mimicking the Delaware General Corporation Law and by offering an ostensibly

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[31] The steady flow of income from incorporation and franchise fees allows Delaware not to impose state income tax which makes it a relative tax haven for numerous businesses. In this fashion the State's attractive corporate system and its zero income tax regime act in tandem to attract a great deal of income generating activity into the State.

[32] The State of Delaware is currently on the website with on-going advertisements to incorporate in Delaware. See, for example, LEWIS S. BLACK JR., *WHY CORPORATIONS CHOOSE DELAWARE* (Delaware Department of State, Division of Corporations 2007). Available at http://corp.delaware.gov/pdfs/whycorporations_english.pdf.

[33] Marcel Kahan and Ehud Kamar attempted at one point to cast doubt as to the existence of competition in the market for corporate charters: Marcel Kahan and Ehud Kamar, *The Myth of State Competition in Corporate Law*, 55 Stanford L. Rev. 679 (2002). The authors raise an empirical claim that other jurisdictions do not appear to be interested in getting a larger slice from the market for charters pie. This empirical claim may or may not be right, but it does not seem relevant to the issue at hand. Even if the other jurisdictions emulate Delaware's corporate law as they often do simply in order to provide their corporate constituencies with a better legal order, Delaware is compelled to maintain its competitive edge by further and better innovations; Delaware competes against the rest of the world even if the rest of the world is not interested in the competitive game.

fungible product at a discount. Indeed, very close substitutes of the Delaware General Corporations Law have been legislated in numerous other jurisdictions across the United States. [34] In spite of these competitive forces, Delaware was able to maintain its clear dominance in the market: The competition has hardly made a dent in its overall market share.

In the following pages we draw a close analogy between the previous sections of this Article, which shed light on issues of market concentration in the auditing and securities markets on the one hand, and resolving the puzzle of Delaware's success in the market for corporate charters on the other hand.

A few preliminary remarks are in order, acknowledging the perceived differences between the two sides of the analogy. First, in the auditing and securities markets the lawgiver and its beneficiaries are distinct entities. In the case of Delaware, the State legislature is crafting its corporate law for its own advantage. Secondly, in the former case a partial equilibrium admits a number of players into the fray, whereas in the market for charters a single player reigns supreme. With this said, it seems to us that the economics of the two situations are largely of the same feather, and are equally captured by the formal model that follows. It is also important to emphasize, that this Section does not focus on the question whether Delaware law is in fact superior to competing corporate laws across the United States (and beyond). That question had already been debated *ad nauseam* in various other *fora*. Rather, the question is how to explain the fact that given the indisputable success of the law of Delaware in the inter-state (and international) market for charters, other jurisdictions could not afford to mimic it and thus capture a lucrative slice of the market.

The law of Delaware is anything but "simple" to emulate. In fact, it is mimicry-proof. This form of complexity emanates from a number of factors. We shall focus attention on three such factors, which we denote as its "open-endedness", its unique admixture of legal and extra-legal materials

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[34] In fact, all jurisdictions, including Delaware, are copying from each other, to the extent, long observed in the literature, that statutory corporate law is near-uniform across the United States. See Willliam Carney, *The Production of Corporate Law*, 71 S. Cal. L. Rev. 715 (1998). See also, John Coffee, *The Prospects of Global Convergence of Corporate Governance and its Implications*, 93 N.W. L. Rev. 641 (1999).

and its rapid rate of change. This complexity keeps Delaware's competitors at bay and facilitates its continued dominance in the market for charters. We now turn to a detailed discussion of these three elements of complexity and show why they effectively bar entry into Delaware's turf.

A. Open- endedness.

It is trite knowledge that legal norms can be either "rules" or "standards". "Rules" are high-definition norms which are easy to apply due to their high degree of specificity. For example, a norm that sets a highway speed limit at 60 miles an hour is a "rule". "Standards" are low-definition norms which are open-ended and conducive to multiple interpretations. For example, the imperative to conduct oneself as a "reasonable person" in the law of torts is a "standard". Louis Kaplow has argued, in a 1992 seminal paper, that in actual fact every applied legal norm is a "rule": Since every adjudication allocates rights and liabilities specifically, rather than open-endedly, when lawgivers enact a "standard", they simply delegate the rule making power to judges and other arbiters, when they are called upon to adjudicate disputes.[35] Now clearly, rules are easy to duplicate. For example, if jurisdiction A sets a speed limit at 60 miles an hour and jurisdiction B follows in its footsteps, the two jurisdictions end up in exactly the same spot. On the other hand standards are much harder to follow. If jurisdiction C ordains that contracts must be performed "in good faith", and jurisdiction D does likewise, the meaning of this open-ended injunction is totally dependent on the arbiter's discretion and any semblance of uniformity goes up in smoke.

As shall be noted instantly, the Delaware General Corporation Law is filled with standards, and hence it is hard to emulate. The deep meaning of being "like Delaware" implies the enjoyment of network externalities due to the fact that any given company is governed by the same set of rules that govern the majority of the other companies, i.e. the companies that are incorporated in Delaware. But if the Delaware statute is interpreted differently than a similarly worded statute in some other jurisdiction, a company incorporated

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[35] Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 Duke L. J. 557 (1992).

in that other jurisdiction loses that advantage. Ehud Kamar[36] (and some followers)[37] have made the claim that this "indeterminacy", as Kamar termed it, actually enhances the status of Delaware as a quasi-monopoly in the market for charters, and hence was facilitated by state agencies such as the legislature, the bench and the bar, if not consciously and purposefully, at least tacitly and *sotto voce*. In a way, this is an ingenious insight, because if true, it provides an explanation for the puzzle why don't other jurisdictions, vying for a juicier slice of the pie, appoint competent courts to compete with Delaware's: This is not because Delaware had already tapped the entire supply of competing jurists who might be willing to accept a prestigious and lucrative judicial appointment, but rather because competent as these competing courts may possibly be, their own interpretation of a standard-filled statute is bound to diverge from the interpretation proffered by the Delaware bench. With this said, we are satisfied to make a weaker claim, and hence, we think, more convincing. Unlike Kamar, we are not convinced that open-endedness of the kind identified by Kamar is necessarily inefficient.[38] Furthermore, and more importantly, we doubt the political economy explanation suggested by Kamar. There is a lucrative myth exalting the law of Delaware for its high degree of transparency and predictability.[39] The business of debunking this kind of myth might be too risky for the interest groups involved, even if their conniving efforts are hidden from the public eye and do not even reach the level of self-awareness. For our purposes it is enough to acknowledge the open-endedness of the Delaware Code and just to leave it at that.

The very core of the law relating to public corporations rotates around the concept of the so-called "agency problem", i.e. how to secure the uneasy

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[36] Ehud Kamar, *A Regulatory Competition Theory of Indeterminacy in Corporate Law*, 98 Col. L. Rev. 1908 (1998).

[37] Marcel Kahan, for example, seems to have embraced Kamar's view wholesale. See Marcel Kahan & Ehud Kamar, *Price Discrimination in the Market for Corporate Law*, 86 Cornell L. Rev. 1205 (2001).

[38] This point was taken by judge Leo Strine from the Delaware Chancery Court. See Leo Strine, *Delaware's Corporate Law System: Is Corporate America Buying an Exquisite Jewel or a Diamond in the Rough? A Response to Kahan & Kamar's Price Discrimination in the Market for Corporate Law*, 86 Cornell L. Rev. 1257 (2001).

[39] See, for instance, Roberta Romano, *Law as a Product: Some Pieces of the Incorporation Puzzle*, 1 J. L., Econ. & Org. 225 (1985).

bond between managers and controlling stockholders on the one hand and the investing public on the other hand. The principal legal tool employed to secure the fidelity and diligence of corporate agents to the investing public is embedded in the law of fiduciary obligations, which is consisted mainly of the duty of care and diligence and of the duty of loyalty. In spite of the centrality of this body of law, the Delaware General Corporation Law is largely sparse on anything pertaining to it. Subchapter IV of the statute, relating to "directors and officers", which does not even mention the role, duties and responsibilities of corporate block-holders, ought to be interpreted as delegating to the courts, through ex post adjudication, the common law discretion to delineate the borders between good and evil, between what must be tolerated and what need be proscribed, and, in short, between the freedom of the marketplace and the injunctions of law. This assertion is buttressed both by what is lacking in the Delaware statute and by what may become apparent in perusing Delaware's decisional law..

Subchapter IV does not contain any definition of the applicable duty of care and diligence, of either directors, officers or large block-holders, although section 102 b (7) of the Law permits the company to include in its certificate of incorporation a provision exonerating board members of their delictual liability vis à vis the company under certain circumstances. This section does not apply to corporate officers or to block-holders and does not provide exoneration for breaches of the duty of loyalty or to other cases involving conflict of duty and interest. The treatment of the duty of loyalty is even more meager. The main provision relating to this important issue is embedded in section 144, which states that contracts tinted with a conflict of duty and interest between the company and one or more of its directors or officers may nevertheless be ratified by disinterested directors or stockholders, or may get the *imprimatur* of the court if it approves ex post its fairness to the company. So much for the statute; all the rest is relegated to common law adjudication.

Kamar ably demonstrates that this open-endedness is only exacerbated on a close reading of a variety of leading Delaware corporate cases. There are plenty of more recent cases fully in line with his observation, which demonstrate that the Delaware approach to open-ended corporate standards

is here to stay. A couple of examples illustrate the point. *Stone, derivatively on behalf of Nominal Defendant AmSouth Bancorporation*[40] is a Delaware Supreme Court case in which the Court had to determine whether AmSouth directors breached their duty of loyalty to the corporation in failing to detect some money laundering and other unlawful activities resulting in a heavy fine levied on the company. The Court ruled that "mere" gross negligence on the part of the directors, standing alone, did not constitute such a breach. On the other side of the spectrum, any instance of deliberate and willful disregard for their directorial obligations did constitute a breach of the duty of loyalty. The lingering question was where to draw the line in cases where the directors' misfeasance turned itself into an actionable malfeasance, which due to its serious nature falls outside the pale of the protection given by Delaware law to "merely" negligent actors. In response to this query the Court analyses in detail some previous landmark cases, where it was held, for example, that:

A failure to act in good faith may be shown, for instance, where the fiduciary intentionally acts with the purpose other than advancing the best interests of the corporation, where the fiduciary acts with the intent to violate applicable positive law, or where the fiduciary intentionally fails to act in the face of a known duty to act, demonstrating a conscious disregard of his duties. There may be other examples of bad faith yet to be proven or alleged, but these three are the most salient.[41]Confusing? Wait for the following "clarification":

> This view of a failure to act in good faith results in two additional doctrinal consequences. First, although good faith may be described colloquially as part of a "triad" of fiduciary duties that includes the duties of care and loyalty, the obligation to act in good faith does not establish an independent fiduciary duty that stands on the same duties as the duties of care and loyalty. Only the latter two duties, where violated, may directly result in liability, whereas a failure to act in good faith may do

[40] *Stone v. Ritter,* 911 A.2d 362 (Del. 2006).
[41] *In re Walt Disney Co. Deriv. Litig*., 906 A.2d 27 (Del. 2006).

> so, but indirectly. The second doctrinal consequence is that the fiduciary duty of loyalty is not limited to cases involving a financial or other cognizable fiduciary conflict of interest. It also encompasses cases where the fiduciary fails to act in good faith… a director cannot act loyally towards the corporation unless she acts in the good faith belief that her actions are in the corporation's best interests.[42]

Another illustrative Delaware Supreme Court case is *Versata Enterprises v. Selectica, Inc.*[43] Selectica, a Delaware public corporation with a rather concentrated ownership structure, accumulated substantial losses over the years which entitled it to significant net operating loss (NOL's) tax carryforwards. These NOL's constituted its most valuable assets. According to federal tax laws, NOL carryforwards could no longer be credited against future earnings if the company underwent a "change of control" defined as a change of ownership of 40% or more of its outstanding stock.[44] Another company, Trilogy, was one of its major stockholders as well as a fierce business competitor. Trilogy was interested to acquire the business of Selectica, but since the Selectica board deemed its offer inadequate, Trilogy started to acquire shares on the open market. The board felt threatened by the contingency of losing is valuable NOL's and hence amended its existing poison pill by reducing its triggering level from 15% to 5%, grandfathering existing holdings but setting the limit for future acquisitions at only 0.5%. This low-level triggering mechanism, coupled with some other defensive measures, including its charter-based staggered board of directors, made it difficult for Trilogy to proceed with its acquisition attempts, and hence the question arose as to the reasonableness of the defensive measures adopted by the company.. Clearly, if deemed unreasonable, the Court was empowered, and indeed mandated, to rule that the directors breached their fiduciary obligations and to set the defensive measures aside.

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[42] *Stone v. Ritter,* 911 A.2d 362 (Del. 2006).

[43] 5 A. 3d 586 (2010).

[44] The Internal Revenue Code, Section 382. The rationale of Section 382 appears to be that tax credit for past losses ought to be reserved for the entity that suffered those losses, but not to another entity which acquired it solely for the purpose of using the carryforwards.

In response to this issue the Court invoked and applied the principles announced in several previous Delaware cases, and particularly *Unocal*[45] and *Unitrin*[46]. The court in *Unocal* held that the board could justify the adoption of shareholders' rights plans (poison pills) if it had "reasonable grounds" to believe that the potential acquirer constituted a "threat" to the corporate enterprise; in addition, the board had to show that the defensive measures used by it were neither "coercive" nor "preclusive", and were "reasonable" as a response to the threat. In *Unitrin*, the Court held that this "reasonableness" or "proportionality" test could be met if the defenses were not "draconian", were not "coercive" in the sense that they did not "cram down" on the shareholders an alternative which was favored by the management, and were not "preclusive" in the sense of making the acquisition "realistically unattainable". Now given the raw factual background of the case, it could have been anyone's guess whether the purchase of some securities on the open market constituted a "threat" to the enterprise of Selectica and its valuable NOL's, where the federal trigger for losing their carryforward tax benefits was set at 40% of the outstanding stock; or whether the 5% trigger of the amended poison pill was not "coercive" on the stockholders or "preclusive" of the acquirer's acquisition efforts; or, in general, whether the whole setup of defensive measures, including the existing charter-based staggered board, were proportional to the threat posed by the acquirer. In fact, the Court ruled in favor of the Selectica directors on each and every one of these issues. This was not, perhaps, an unreasonable result, but was hard to predict one way or another, and hence not easy to mimic or emulate in competing jurisdictions.

in sum, even at a very high cost, other jurisdictions are effectively barred from emulating the corporate legal system of Delaware, which is largely made up of a relatively vacuous statute and a standard-filled decisional law. No network externalities can be hoped for by simply emulating the words of the statute, if it is bound to be interpreted differently in different

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[45] *Unocal Corp. v. Mesa Petroleum Co*. 493 A. 2d 946 (Del. 1985).
[46] *Unitrin Inc. v. American General Corporation*, 651 A. 2d 1361 (Del. 1995).

jurisdictions. This state of affairs is further exacerbated by the considerations highlighted in the following two sections.

B. Formal and Informal Law in the Delaware Corporate Jurisprudence.

Writing towards the close of the last century, Edward Rock noted with amazement that the corporate system in America works. The reason for his astonishment was that in his view, all the mechanisms that were hard-wired into the legal system to restrain principal-agent excesses were known to function imperfectly. As Rock saw it, the triple safety belt of institutional, legal and market constraints on agency-type problems fell short of doing their job, and hence his bewilderment at the relative thriving of the corporate enterprise (on both sides of the regulatory-industry divide). The only solution to this puzzle, as Rock interpreted it, was embedded in an elaborate web of legal norms emanating from the Delaware judiciary and filtering down to the leading corporate bar and to their corporate clients. These norms, according to Rock, were not explicit rules and certainly not formal sanctions imposed by the judiciary; rather, the judiciary was bent on weaving a rich and complex narrative about "saints and sinners", preaching their gospel of good (and shady) corporate practices simply by telling stories appended by an edifying moral. These narratives were routinely reported in the financial press, carefully studies by legal counsel and through their intermediation internalized throughout corporate America.[47]

Our interest in Rock's theory stems from the simple fact that it is one thing to predict judicial outcomes where the judges apply "hard" law, and it is quite another to divine "soft" judicial prose, grounded on any individual judge's moral sentiment. "Morality", reminds us Oscar Wilde in his *An Ideal Husband*, "is simply the attitude we adopt towards people we personally dislike". The exact identity of these (rarely good but more commonly naughty) boys in the imagination of any particular judge in untested, fact intensive adjudications can be anybody's guess and hence very hard to

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[47] Edward Rock, *Saints and Sinners: How Does Delaware Corporate Law Work?*. 44 UCLA Law Review, 1009,(1997).

follow or emulate. Again, in a world filled with fact intensive preachings, very few network externalities can be gained by initial emulation. We canvassed a substantial number of more recent Delaware cases to verify the sustainability of Rock's claim and we found it quite convincing. A few illustrations follow.

Kohler v. *Netspend Holdings Inc*.[48] involved a proposed merger of the company (Netspend) with another entity. Ms. Kohler, the plaintiff, sued derivatively to temporarily enjoin the merger. The narrow issue which was litigated in this case was whether or not to grant the plaintiff a temporary injunction. This remedy is normally granted only if, among other conditions, the plaintiff can show that on balance withholding the injunction might result not only in irreparable damage to herself, but also that this damage exceeds the potential harm that is likely to be visited upon the defendant if it be temporarily enjoined. In a short passage, towards the end of his opinion, Vice Chancellor Glasscock determined that this condition was not satisfied and hence ruled for the defendant. End of the story? Formally, yes. Informally, far from it. The judge started out by reminding not only the parties, but, one is led to surmise, a large and invisible audience, that if a target is faced by an acquisition offer the board is subjected to the "*Revlon* duties",[49] obligating it to act in good faith towards the sole goal of maximizing value for the stockholders. A detailed analysis followed. From this analysis we learn that only on rare occasions would the court sanction the validity of a merger if the board failed to scan the market for alternative offers, as, in fact, was the case in *Netspend*. Nevertheless the Court found mitigating circumstances, all grounded on the factual backdrop of the Netspend attempted merger, which gave the board colorable excuse for its omission. The Court also stated that the board's failure to engage in a market check was exacerbated by agreeing to a no-shop agreement with the acquirer. This, the court stated, was unreasonable conduct, as was the board's decision to enter into a standstill agreement, buttressed by a so-called "don't ask don't waive" clause, both crippling the board's opportunity to find

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[48] 2013 WL 2181518 (Del. Ch. May 21, 2013).
[49] *Revlon Inc. v. MacAndrews & Forbes Holdings, Inc*., 506 A. 2d 173 (Del., 1986).

a better bidder for the company. In reading these statements, the Court's audience is led to believe that an injunction is about to be issued. In fact, this was not the case. The Court found some saving graces which justified the withholding of the injunction. The purpose of discussing no-shop, standstill and "don't ask don't waive" strategies was meant to edify rather than to dispose of the case. Finally, the Court rebuked the board for having relied on a "weak" fairness opinion, furnished by Bank of America-Merrill Lynch, because one of the components of the valuation of the corporate stock indicated that the bidder's price was too low. But that too failed to tilt the pendulum in favor of the plaintiff. The defendants came out of this case badly battered, but formally victorious. Not surprisingly, though, the corporate community paid much more attention to the preaching elements of the case than to its final result.[50]

Ryan v. Lyondell Chemical Company,[51] another typical Delaware case, is similarly structured. Lyondell, a prosperous company, received a merger proposal which embodied a hefty 45% premium over market price for its stockholders. The board deliberated the proposal rather swiftly and accepted the proposal inside of seven days. It did not perform a market check for which it was rebuked on the grounds of not properly fulfilling its *Revlon* duties. It did hire an investment bank (Deutsche Bank) to serve as its financial advisor concerning the adequacy of the offer, but with specific instructions not to seek out competing offers. It also agreed to accept the acquirer's demand for a no-shop provision, as well as to a pay a $385 million break-up fee in the contingency of deciding to terminate the transaction, thus falling under the *Unocal*[52] and *Omnicare*[53] principles, which make it risky for targets to accept lock-up terms precluding a proper scan of the market for better alternatives. This earned the board another rebuke by the Court. However, a class action challenging the merger for its apparent impropriety failed. The Court felt that given the size of the

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[50] See, for instance, a memo sent by the law firm of Paul, Weiss to its corporate clients, in which the final result was mentioned only in passing, available at http://www.paulweiss.com/media/1650034/23-may-13_del.pdf.
[51] 2008 Del. Ch. LEXIS 105 (Del. Ch. 29 July 2008).
[52] *Unocal Corp. v. Mesa Petroleum Co*. 493 A. 2d 946 (Del. 1985).
[53] *Omnicare Inc. v. NCS Healthcare Inc*., 818 A. 2d 914 (Del. 2003).

premium offered by the acquirer, the fact that no other bidders seem to have shown any interest in the company and the board's understandable fear that if it were to scan the market without immediate success it might dampen the acquirer's enthusiasm for Lyondell, all these factors together tipped the scales in its favor. The Court also recognized that board members might have been negligent in their overall demeanor, but deferred to the fact that "regular" directorial negligence is shielded from liability under the Delaware statute.[54] Clearly, the Court could have disposed of the case much more succinctly, but only at the cost of not addressing a much large audience than the litigating parties. Interestingly, the Delaware Supreme Court found a reversible error in the lower court's reasoning. According to the Supreme Court, which was much less interested in edifying its public, since no deliberate disregard of the directors' duties could be established on the record, and since the directors tried to push hard for better terms and their fear for losing the transaction was not unreasonable, that was enough to rule out a *Revlon* duty violation. The Court was content to rule in favor of the directors on the merits.[55]

To be sure, not all "preaching" cases involve such a deep divide between the direct *ratio decidendi* of the case and its surrounding edifying discourse. Oftentimes the conduct of the defendants is so egregious, that the final result is to be expected from the first lines of the judges' opinions. But in many of these cases the Court declines to forego the opportunity to issue a warning to some invisible audience outside of the courtroom. A typical case of this genre is *In re Southern Peru Copper Corporation Shareholder Derivative Litigation*.[56] Southern Peru was a publicly traded corporation. The defendant was its controlling stockholder, and virtually the sole owner of a group of private companies. The defendant offered Southern Peru to purchase his private holdings in exchange for a set number of Southern Peru's shares, which had a market value between $3.1 and $3.55 billion (depending on the relevant timing). Southern Peru appointed a committee of independent directors to consider the offer. It became apparent that

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[54] Del. C. § 102(b)(7) (2001)..
[55] *Lyondell Chemical Co. v. Ryan*, 970 A. 2d 235 (Del. 2009).
[56] 52 A. 3d 761 (Del. Ch. 2011).

according to the valuation process undertaken by the committee and assisted by a respectable investment bank, the value of the defendant's private holdings was dramatically lower than the market value of the coveted Southern Peru shares. Instead of shelving the offer then and there, the committee adopted some kind of a convoluted valuation method which assisted it to approve of the exchange. The Court started out by stating the obvious, namely that due to the identity of the parties, a public corporation and its controlling stockholder, the standard of review had to be "entire fairness". But then it went on to consider the *minutiae* of the committee members' deliberations, step by step, to establish the obvious- that they violated their duty of loyalty to the corporation, as did the controlling stockholder, which was ordered, almost fifty pages down the line, to disgorge a large number of the Southern Peru shares which he obtained under these shady circumstances.

C. Change

Delaware corporate law is rapidly changing. This ought not to surprise anyone, given the volatility of the business world and its rapid incidence of meeting new challenges, most of which are thrust at the door of the Delaware courts. The Delaware Business Corporation Law, with its vague standards, filled, as it were, by fact intensive admonitions for "saints and sinners" is ideally suited to accommodate this rapid rate of change, since judges can navigate through it in every which way meets their dispensation. Indeed, as the Court in *Unocal* freely recognized, Delaware's "corporate law is not static. It must grow and develop in response to, indeed in anticipation of, evolving concepts and needs".[57]

But change is not engendered only for lack of clear legislative guidance, nor solely from any exogenous reason. It also follows from the Byzantine form taken on by Delaware's decisional law—in itself a common feature of

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[57] *Unocal Corp. v. Mesa Petroleum Co*. 493 A. 2d 946, 957 (Del. 1985).

excessive judicial leeway—which therefore needs to be under constant maintenance and repair. In a rare paper coauthored by three of Delaware's most celebrated judges the authors lay bare their own take of their Court's wayward direction. In their view, the principal–agent problem, which is, once again, the most vexing problem in the entire corpus of corporate law, was treated by their Court in an unprincipled fashion, by a rapid, almost hyper-active refashioning of the standards for judicial review. To make things simpler, and more intelligible, they proposed to reduce the number of standards to just three- a standard of gross negligence to cases of duty of care, a standard of entire fairness to cases of "traditional" type duty of loyalty, and some intermediate standard of review to cases of entrenchment.[58] The authors' call for simplicity and transparency is, of course, highly commendable. But it is one thing to recommend these virtues and quite another to implement them. A scan of recent Delaware cases reveals that these same standards of review are neither transparent nor immune to frantic change.

McPadden v. Sidhu, decided in 2008[59] is an illustration of the court treatment of the standard applied to duty of care cases. The corporation in question, i2 Technologies Inc. ("i2"), decided to sell a subsidiary, Trade Services Corporation ("TSC"). Another company offered to purchase TSC for $25 million. The offer was rejected by the board. A senior officer of the company, Dubreville, expressed an interest to purchase TSC and communicated his interest to the board. The board made a strategic decision to sell TSC and entrusted the management of the sales process to… Dubreville himself! Dubreville did not solicit any offers from outside bidders and manipulated TSC's accounting to make it look less attractive. He then offered to purchase TSC for $3 million, only part of which would inure to the benefit of i2. He also recruited a financial firm to submit to the board a number of fairness opinions. Dubreville's $3 million offer was at the bottom side of the lowest of these evaluations. The board did not take any action to

[58] William Allen, Jack Jacobs & Leo Strine, *Function Over Form: A Reassessment of Standards of Review in Delaware Corporation Law*, 56 Bus. Law. 1292 (2000-01).

[59] 964 A. 2d 1262 (Del. Ch. 2008).

monitor the sales process and unanimously voted to accept Dubreville's offer without further ado just a few days after it was submitted for its approval and after the company had already agreed to a substantial break- up fee. Two years down the line, Duberville sold TSC to a third party for more than eight times the purchase price. The plaintiff sued derivatively on behalf of i2 seeking to hold the directors liable for a wrongful sale (he also sued Dubreville, who was not a member of the board, but the destiny of that claim is omitted from this analysis). The Delaware statute exonerates from liability to the company directorial acts that constitute a breach of the duty of care, but not acts that constitute a breach of the duty of loyalty. On several previous occasions it had ruled that if the board acted in bad faith it could not be shielded by the exculpating provision in the statute, because bad faith spelled a breach of the duty of loyalty.[60] So in this case the question boiled down to which duty was violated by the board, a duty of care (for which the directors could claim the benefit of the exculpating provision) or a duty of loyalty (which cannot be contracted away in the certificate of incorporation)?

The very first words in the Court's opinion reveal both the complexity and the novelty of the decision facing the Court. These words were:

> Though what must be shown for bad faith conduct had not been completely defined, it is quite clearly established that gross negligence, alone, cannot constitute bad faith. Thus, a board of directors may act "badly" without acting in bad faith. This sometimes fine distinction between a breach of care (through gross negligence) and a breach of loyalty (through bad faith) is one illustrated by the actions of the board in this case.[61]

Indeed, for all of the reasons described above, the Court castigated the board for *very* bad behavior. The question of its egregious gross negligence was not in dispute. But nevertheless the Court decided in the directors' favor, because its "badness" did not amount, in its view, to "bad faith". They were,

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[60] E.g. *in re Walt Disney Co. Derivative Litigation*, 906 A.2d 27, 63 (Del. 2006).
[61] *McPadden v. Sidhu*, 964 A. 2d 1262, 1263 (Del. Ch., 2008)..

one is led to conclude, acting badly in good faith. Now how could any director approve in good faith a sale of a corporate asset for a mere $3 million after having considered and rejected a former offer of $25 million, after entrusting a conflicted insider with sole authority to broker the deal and without doing anything to exercise any directorial oversight seem rather surprising, and shows how the new "simple" and "transparent" standard relating to duties of care play out.

If duty of care cases are at one pole of the fiduciary duties spectrum, "classical" duty of loyalty cases are firmly situated at the other pole. Once the court is satisfied that a given transaction between a company and an insider is "conflicted", i.e. the insider suffered from a conflict of duty and interest, it is incumbent upon the insider, if she wishes to escape liability, to establish "entire fairness". The standard of entire fairness is the most exacting of the three standards offered by the triad of Delaware judges,[62] but alas, it is neither a "simple" standard to apply, nor is it a stable and transparent to the naked eye. The following recent case illustrates.

Encite LLC v. Soni[63] involved a startup company with a promising, but still unfulfilled, technological innovation. As is often the case, a rivalry developed between its CEO who was also its founder and the inventor of its IP (Marsh) and the venture capitalists that financed the operation (the VC). Eventually, it was decided to sell a subsidiary which owned the IP, the only valuable asset of the corporation, and both Marsh and the VC competed in the bidding process. The board was dominated by the VC representatives who eventually preferred to sell the subsidiary to their principals, although Marsh contended that his was the more valuable offer. For reasons that are not relevant to this analysis the deal fell through, but the Court was called upon to opine on the propriety of the decision to prefer the VC, given the applicability of the entire fairness standard of review.

Here are some of the "simple" and "transparent" tests that the Court set for itself in ruling on the entire fairness standard of review. The Court started its

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[62] *Reis v. Hazelett Strip-Casting Corp*., 28 A. 3d 442 (Del. Ch. 2011).
[63] C.A. No. 2476-VCG (Del. Ch. 2011).

analysis by conceding that these tests require "enhanced scrutiny", which is, in itself, of a "fact-intensive nature". It imposes on the directors the burden of proving to the court that the transaction under scrutiny was the product of both fair dealing and fair price. The Court explained:

> Although fair dealing and fair price concern separate lines of inquiry, the determination of entire fairness is not a bifurcated analysis. Rather, the court determines fairness based on all aspects of the entire transaction. Additionally, at least in non-fraudulent transactions, price may be the preponderant consideration. That is, although evidence of fair dealing may help demonstrate the fairness of the price obtained, what ultimately matters most is that the price was a fair one. The entire fairness analysis thus requires the transaction to be objectively fair; the board's honest belief as to fairness is insufficient to satisfy the test.[64]

Citing previous case law[65], the Court elucidated the meaning of the fair dealing prong of this non-bifurcated test of entire fairness, holding that this requirement embraces questions of the timing of the transaction, "how it was initiated, structured, negotiated, disclosed to the directors and how the approvals of the directors and the stockholders were obtained." In addition, the defendants must establish that the actions they took during the sale process were entirely fair, "what discussions they had, and what advice they were provided by counsel". Regarding the advice the directors obtained from the transaction counsel, the Court ruled that although relying on this advice is relevant for the issue of fair dealing, it is not "determinative". The contents of this advice ought to be taken into account too, and weighed against the other factors which are relevant for the fair dealing requirement. The Court added that although there is no "blueprint" for proper conduct, the board may not entirely "eschew procedural safeguards". As to the fair price component of this "simple" test, the Court ruled that the relevant factors include proper considerations of the "assets, market value, earnings, future

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[64] Supra, at *66.

[65] *Weinberger v. UOP Inc*. 457 A. 2d 701, 711 (Del. 1983).

prospects, and any other elements that affect the intrinsic or inherent value of the company's stock".

This deluge of requirements is partially copious of pervious decisions of the Delaware courts, and partially novel, as is always the case in such disputes of a "fact intensive nature", as the *Encite* Court put it.

Finally, we move to examine the middle ground, or "intermediate" standard of review, which was deemed appropriate for entrenchment cases.

Air Products and Chemicals Inc. v. Airgas Inc.[66] is a typical entrenchment case, as it deals squarely with the well-known issue of the board's authority to block a tender offer by refusing to withdraw a poison pill (and other defensive measures), even if the stockholders are fully aware of the reasons for its resistance and yet find the offer attractive and wish to accept it. In a way, this question had already been discussed both in the literature[67] and in Delaware's own jurisprudence,[68] for a long-long time. Nevertheless, the Court started its analysis by conceding that "this fundamental question has engaged practitioners, academics and members of the judiciary, but it has yet to be confronted head-on".

The Court's final conclusion was, that although boards are not permitted to "just say never" to a hostile tender offer, the board in *Air Products* did not transcend its authority by blocking the offer in the special circumstances of the case. This was quite a surprising result. We classify this result as a "change" in the regulatory framework of the law of entrenchments.

The case involved a hostile tender offer made by Air Products to purchase 100% of the shares of another company, Airgas. The limits of the board's

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[66] 16 A. 3d 48 (2011).

[67] E.g. Frank Easterbrook & Daniel Fischel, *The Proper Role of a Target's Management in Responding to a Tender Offer*, 94 Harv. L. Rev. 1161 (1981). In spite of the article name, it contains an indictment not only of managerial resistance to tender offers but to defensive tactics in general (even if they are sanctioned or even engineered by the members of the board).

[68] Poisons pills were first legitimized by the Delaware courts in *Moran v. Households International Inc*. 490 A. 2d 1059 (Del. 1985). *Moran* involved a basically similar issue, to what extent can the board use its discretion to deprive the stockholders of their opportunity to cash in on an offer which incorporates a premium over the market price of their shares.

discretion in cases like this were previously delineated in *Unocal*.[69] The standard of review announced in *Unocal* is a "heightened" standard of review. It allows the board to sustain its battery of defenses if, but only if, it satisfies the court that the offer constituted a "cognizable" threat to shareholder value; one category of such a threat is instances involving coercive methods employed by the tender offeror. Once a cognizable threat is recognized to exist, the board's responses ought to maintain a measure of proportionality; to satisfy the condition of proportionality the responses need be "non-preclusive", i.e. they must leave some room for successful offers under sufficiently modified circumstances. This heightened standard of review makes a lot of sense. It reflects a healthy measure of skepticism that must accompany the assessment of any incumbent board's discretion in cases of entrenchment, which lie at the core of the principal-agent discord. How was this "heightened" standard of review applied in *Air Products*? The shareholder base of the company was recognized by the Court to be "sophisticated and well informed". The stockholders had ample time to consider the offer, including the board's assertions as to the "threat" that the offer allegedly imposed on the stockholders' best interests. In fact, the Court underlined the fact that the offer was on the table "more time than any litigated poison pill in Delaware history". No shareholder was exposed to the threat of remaining in a minority position in an acquired target, because the offer was for 100% of the shares. There were no thorny valuation problems because the offer was an all-cash, fully financed offer. And, of course, the offer embodied a substantial premium over market price. Its final price, $70 a share, constituted a 61% premium over the last closing market price prior to the announcement of Air Products' offer to acquire Airgas. Numerous stockholders were attracted by this price, and the board assumed that if they were allowed to make their own decision, the majority of stockholders would be tempted to tender their shares. One indication for this rift between incumbents and stockholders was reflected in the fact that insurgent stockholders won a proxy fight over a slate of nominees to the board, over the objection of the management and the board. The main reason why Air

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[69] *Unocal Corp. v. Mesa Petroleum Co*. 493 A. 2d 946, 957 (Del. 1985)..

Products initiated this successful proxy fight was to gain some influence on the board regarding its blocked tender offer. The only "threat" that the board identified in Air Products' tender offer was that the board reached a decision, based on its own discretion and corroborated by advice from respectable investment bankers, that the market price of Airgas was too low and did not reflect the company's potential for success in the future. After much deliberation, the Court reached a decision that given the board's evaluation of the company's bright prospects, what it considered as insufficient price constituted, in itself, a "cognizable threat" to the welfare of the stockholders; that the board's responses were in fact proportional to the threat and were not preclusive of potentially successful attempts to acquire the company in the future.

In summary, none of the three tests suggested by judges Allen, Jacobs and Strine – the standard of gross negligence to fit duty of care violations; the standard of entire fairness for traditional duty of loyalty violations and an intermediate standard of review for entrenchment cases, is either "simple" or stable. All these standards are intensively fact dependent and rapidly mutating. Their emulation by non-Delaware jurisdictions is a virtual impossibility.

We turn now to an attempt to capture the evidence in a formal model.

Section IV: The Model

We refer to the service providers as "firms"; to the consumers of the ***service*** as "clients"; and to the corpus of information which is necessary to adequately provide the service as "professional knowledge". We also assume that there is a subgroup of the firms that is influential in promulgating the professional knowledge.

In the market for auditing services, the "firms" are the CPA-firms and the "clients" are public corporations that submit their financial reports to the SEC. In the securities industry, the "firms" are the law-firms and the "clients" are the public corporations that have to comply with the relevant regulatory regime. In the market for corporate charters, the "firms" are the competing jurisdictions and the clients are the entities that choose domiciliatory states.

George Stigler defined a barrier to entry as "a cost of producing (at some or every rate of output) that must be borne by firms seeking to enter an industry but is not borne by firms already in the industry.[70]" The level of professional knowledge creates a barrier to entry in two ways: (1) it prevents new firms from entering the market; and (2) it drives out of the market small firms that cannot afford to maintain their level of professional knowledge. In other words, the changes in the professional knowledge can be viewed as both "*barrier to entry*" and as "*pressure to exit*". [71] In the case of the auditing market these changes are generated by the flow of new accounting and auditing rules promulgated by the FASB. In the case of the securities industry the changes are generated by federal legislation. In the market for corporate charters, Delaware's dominance is maintained by a free-wheeling and rapidly changing practice of "story telling" and creative judicial

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[70] GEORGE J. STIGLER, *THE ORGANIZATION OF INDUSTRY* (University of Chicago Press, 1968) 67.

[71] Note that a barrier to entry does not necessarily reduce public welfare. For example, professional knowledge of oncologists is increasing over time and it possibly creates a barrier to enter the market for cancer treatments, but we presume that the increasing knowledge is not detrimental to public health.

interpretation of the open-ended standards of fiduciary obligations. We turn now to modeling these assertions.

The knowledge needed to provide the service to a client at time t, $K(t)$, is measured in terms of the cost of acquiring and assimilating this knowledge. We assume that $K(t)=K_0+D\left(1-e^{-\beta t}\right)$. At time 0, $K(0)=K_0$ and as t increases, the level of knowledge approaches K_0+D. The rate of change of knowledge is $\frac{dK(t)}{dt}=\beta De^{-\beta t}$, and $\frac{d^2K(t)}{dt^2}=-\beta^2De^{-\beta t}$. Thus, the concavity measure of $K(t)$ is $\frac{d\left[Ln(K'(t)\right]}{dt}=\frac{K''(t)}{K'(t)}=-\beta$.

The higher is β, the sooner the level of knowledge approaches its maximum level. The time it takes to reach a level of knowledge which is $K_0+\delta D$, for $0<\delta<1$, is $t=\frac{1}{\beta}Ln\left[\frac{1}{1-\delta}\right]$.

In addition to the growth in the level of knowledge, part of the existing knowledge, α, has to be replaced continuously.

Suppose that a firm considers entering the market at time *t*. To be able to provide the service, it first has to learn and assimilate the current state of knowledge. In addition, the entering firm has to take into account the present value of the costs to maintain its ability to serve its clients.

Let the interest rate be denoted by *i*. At time *t*, the present value of the cost of entering the market and stay there is

$$PV(enter-and-stay)=K(t)+\int_t^{\infty}\left[\beta De^{-\beta x-i(x-t)}+\alpha K(x)e^{-i(x-t)}\right]dx$$

Substituting $K(x)=K_0+D\left(1-e^{-\beta x}\right)$ into the above equation yields,

$$PV(enter-and-stay)=\left(1+\frac{\alpha}{i}\right)\left(K(t)+\left(\frac{1}{1+\frac{i}{\beta}}\right)De^{-\beta t}\right)$$ [72]

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[72] **Proof**

$$PV(enter-and-stay)=K(t)+\int_t^\infty\left[\beta De^{-\beta x-i(x-t)}+\alpha K_0e^{-i(x-t)}+\alpha D\left(1-e^{-\beta x}\right)e^{-i(x-t)}\right]dx=$$

$$K(t)+\int_t^\infty\left[\beta De^{-\beta x-ix+it}+\alpha K_0e^{-i(x-t)}+\alpha De^{-i(x-t)}-\alpha De^{-\beta x-ix+it}\right]dx=$$

$$K(t)+\int_t^\infty\left[\beta D\left(1-\frac{\alpha}{\beta}\right)e^{-\beta x-ix+it}+\left(\alpha K_0+\alpha D\right)e^{-i(x-t)}\right]dx=$$

$$K(t)+\left[-\frac{\beta D}{\beta+i}\left(1-\frac{\alpha}{\beta}\right)e^{-\beta x-ix+it}-\frac{\alpha}{i}\left(K_0+D\right)e^{-i(x-t)}\right]_{x=t}^{\infty}=$$

$$K(t)+\frac{\beta D}{\beta+i}\left(1-\frac{\alpha}{\beta}\right)e^{-\beta t}+\frac{\alpha}{i}\left(K_0+D\right).$$

Substituting $K_0=K(t)-D\left(1-e^{-\beta t}\right)$ into the above last expression yields,

$$PV(enter-and-stay)=\left(1+\frac{\alpha}{i}\right)\left(K(t)+\left(\frac{1}{1+\frac{i}{\beta}}\right)De^{-\beta t}\right).$$

The effect of time on the entry cost

Notice that $\frac{d}{dt}PV(enter-and-stay)>0$. That is, the entry cost is increasing over time:[73]

Therefore, if the benefit from entering the market is stable over time, and at time t_0 the entry cost is a viable barrier to entry, it will continue to be a barrier to entry in the future, for any $t>t_0$.

It is interesting to note that

$$\frac{d}{dt}PV(enter-and-stay)=\left(\frac{i+\alpha}{i+\beta}\right)\beta De^{-\beta t}=\left(\frac{i+\alpha}{i+\beta}\right)\frac{dK(t)}{dt}.$$

Therefore, the ratio $\dfrac{\frac{d}{dt}PV(enter-and-stay)}{\frac{d}{dt}K(t)}=\dfrac{1+\frac{\alpha}{i}}{1+\frac{\beta}{i}}$ is constant;

If $\alpha>\beta$, then $\dfrac{\frac{d}{dt}PV(enter-and-stay)}{\frac{d}{dt}K(t)}>1$; that is, the rate of increase in the cost to enter the market is higher than the rate of increase of knowledge.

At $t=0$, the cost of entering the market is:

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[73]

$$\frac{d}{dt}\left[\left(1+\frac{\alpha}{i}\right)\left(K(t)+\left(\frac{1}{1+\frac{i}{\beta}}\right)De^{-\beta t}\right)\right]=\left(1+\frac{\alpha}{i}\right)\left(\beta De^{-\beta t}-\beta D\left(\frac{1}{1+\frac{i}{\beta}}\right)e^{-\beta t}\right)=$$

$$=\beta D\left(1+\frac{\alpha}{i}\right)e^{-\beta t}\left(1-\left(\frac{1}{1+\frac{i}{\beta}}\right)\right)=\beta De^{-\beta t}\left(1+\frac{\alpha}{i}\right)\left(\frac{1}{1+\frac{i}{\beta}}\right)=\left(\frac{i+\alpha}{i+\beta}\right)\beta De^{-\beta t}>0$$

$$PV(enter-and-stay)_{t=0} = \left(1+\frac{\alpha}{i}\right)\left(K_0 + \left(\frac{1}{1+\frac{1}{\beta/i}}\right)D\right)$$

The higher the standardized $\frac{\alpha}{i}$ and $\frac{\beta}{i}$, the higher the cost of entering the market.

But the effect of $\frac{\alpha}{i}$ is different from that of $\frac{\beta}{i}$: If $\frac{\alpha}{i} \to \infty$, then $PV(enter-and-stay)_{t=0} \to \infty$, but if $\frac{\beta}{i} \to \infty$, then $PV(enter-and-stay)_{t=0} \to \left(1+\frac{\alpha}{i}\right)(K_0 + D)$. In other words, the effect of the rate of knowledge replacement on the entry cost is much stronger than the effect of the rate of increase in the knowledge. This is because, in our setting, the knowledge is bounded from above by $K_0 + D$.

As $t \to \infty$, the cost of entering the market is:

$PV(enter-and-stay)_{t\to\infty} = \left(1+\frac{\alpha}{i}\right)(K_0 + D)$. In the long run the entry cost depends on the standardized rate of knowledge replacement $\frac{\alpha}{i}$ and on the maximum level of knowledge, $K_0 + D$.

The total increment in the entry cost is

$$PV(enter-and-stay)_{t\to\infty} - PV(enter-and-stay)_{t=0} =$$

$$\left(1+\frac{\alpha}{i}\right)(K_0 + D) - \left(1+\frac{\alpha}{i}\right)\left(K_0 + \frac{\beta}{i+\beta}D\right) = \left(\frac{i+\alpha}{i+\beta}\right)D = \left(\frac{1+\frac{\alpha}{i}}{1+\frac{\beta}{i}}\right)D$$

Notice that D is the total increase in the level of knowledge (from K_0 to $K_{t\to\infty} = K_0 + D$). Hence, the total increase in the entry cost is directly related to the total increase in the level of knowledge, and it also depends on the standardized rates of knowledge growth and knowledge replacement. Also

note that the total increase in the entry cost increases with $\frac{\alpha}{i}$ and decreases with $\frac{\beta}{i}$. The reason for that is that when $\frac{\beta}{i}$ is increased, the cost to enter the market at *t=0* is increased whereas the entry cost when $t \to \infty$ is independent of $\frac{\beta}{i}$.

The benefit from entering the market

Let us denote by N the number of firms that operate in the market and by p the firm's added income from serving a client in the market. Let g denote the firm's perceived growth rate of the number of its clients. Given the plausible assumption that the perceived growth rate is lower than the interest rate, $g < i$, the professional's perceived present value of the benefits from entering the market is $\int_{x=t}^{\infty} pe^{(g-i)x}dx = p\left[\frac{e^{(g-i)x}}{g-i}\right]_{x=t}^{\infty} = p\left[0-\frac{1}{g-i}\right] = \frac{p}{i-g}$. [74]

Therefore, the professional knowledge is a viable barrier to entry, at time *t*, if the benefit from entering the market is lower than the entry cost:

$$\frac{p}{i-g} < \left(1+\frac{\alpha}{i}\right)\left(K(t)+\left(\frac{\beta}{\beta+i}\right)De^{-\beta t}\right).$$

The equilibrium conditions

Denote by n_j the number of clients of firm *j* and denote by N_t the number of firms in the market at time t.

At time *t*, no firm has an incentive to exit the market if, for any $n_j \in \{n_1, n_2, ..., n_{N_t}\}$,

[74] A violation of this assumption, viz., $g > i$, implies infinite benefit from entering the market that, in turn, increases the number of firms that enter the market. Therefore, the actual growth rate decreases, which in turn reduces the perceived rate g. This process continues until the assumption is satisfied.

(no-exit condition) $$\frac{p}{i-g} > \frac{\left(1+\frac{\alpha}{i}\right)\left(\frac{\beta}{\beta+i}\right)De^{-\beta t} + \frac{\alpha}{i}K(t)}{n_j}$$

The LHS is the average benefit from a current client and the RHS is the average cost per client of maintaining the level of knowledge and make it feasible to serve the clients. Notice that as the number of clients n_j increases, the average cost of knowledge maintenance decreases which, in turn, provides an incentive to stay in the market. And, at time *t*, no firm has an incentive to enter the market if

(no-entry condition) $$\frac{p}{i-g} < \left(1+\frac{\alpha}{i}\right)\left(K(t) + \left(\frac{\beta}{\beta+i}\right)De^{-\beta t}\right).$$

Hence, in equilibrium, for any $n_j \in \{n_1, n_2, ..., n_{N_t}\}$,

$$\frac{\left(1+\frac{\alpha}{i}\right)\left(\frac{\beta}{\beta+i}\right)De^{-\beta t} + \frac{\alpha}{i}K(t)}{n_j} < \frac{p}{i-g} < \left(1+\frac{\alpha}{i}\right)\left(K(t) + \left(\frac{\beta}{\beta+i}\right)De^{-\beta t}\right)$$

Denote by n_0 the minimum number of clients for a firm in the market, $n_0 = Min\{n_1, n_2, ..., n_{N_t}\}$. In equilibrium, where no firm enters or exits the market, both conditions must hold at time *t*:

(no-entry condition) $$\frac{p}{i-g} < \left(1+\frac{\alpha}{i}\right)\left(K(t) + \left(\frac{\beta}{\beta+i}\right)De^{-\beta t}\right),$$

and,

(no-exit condition) $$\frac{p}{i-g} > \frac{\left(1+\frac{\alpha}{i}\right)\left(\frac{\beta}{\beta+i}\right)De^{-\beta t} + \frac{\alpha}{i}K(t)}{n_0}.$$

The possibility of equilibrium – the 'no-entry condition'

The "no-entry" condition holds if $NE = \left(1+\frac{\alpha}{i}\right)\left(K(t)+\left(\frac{\beta}{\beta+i}\right)De^{-\beta t}\right)-\frac{p}{i-g}>0$

NE denotes the excess of entry cost over the benefit from entering the market.

Since the benefit from entering the market is the same over time, for any fixed interest rate, $\frac{\partial(NE)}{\partial t}=\frac{d}{dt}\left[PV(enter-and-stay)\right]>0$.

Result 1

If the long run cost of entering the market is larger than the benefit, that is, $\left(1+\frac{\alpha}{i}\right)(K_0+D)>\frac{p}{i-g}$, then there exits t_0 such that for any $t>t_0$, the "no-entry" condition holds.

Proof: See Appendix.

Note that if the perceived growth rate is zero, $g=0$, then the condition for the existence of "no-entry" may be expressed as $\alpha+i>\frac{p}{K_0+D}$. Thus, for any level of interest, it is sufficient that $\alpha>\frac{p}{K_0+D}$

The possibility of equilibrium - the "no-exit" condition

If the rate of knowledge replacement is higher (smaller) than the rate of growth of knowledge, that is, $\alpha > \beta \quad (\beta > \alpha)$, then the maintenance cost is increasing (decreasing) over time.[75] In both cases we obtain

Result 2

The no-exit condition is satisfied if $\frac{n_0 p}{i-g} > \frac{\alpha}{i}\left(K_0 + D\right)$.

Proof: See Appendix.

By Result 2, if at equilibrium the expectation for growth is nil, $g = 0$, it must be that $\frac{n_0 p}{i-g} > \frac{\alpha}{i}\left(K_0 + D\right) \Rightarrow \alpha < \frac{n_0 p}{K_0 + D}$. When we combine Result 1 and Result 2 , assuming that the the expectation for growth is nil, $g = 0$, we get the following conditions that ensure equilibrium:

$$\frac{p}{K_0 + D} < \alpha < \frac{n_0 p}{K_0 + D}$$

This last result sheds light on the important role of the rate regulations changes. The rate, α, must be higher than the ratio of benefit to cost, $\frac{p}{K_0 + D}$, so that an outsider is deterred from entering the market, and the rate

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$$\frac{\partial}{\partial t}\left[\left(1+\frac{\alpha}{i}\right)\left(\frac{\beta}{\beta+i}\right)De^{-\beta t} + \frac{\alpha}{i}K(t)\right] = -\beta\left(1+\frac{\alpha}{i}\right)\left(\frac{\beta}{\beta+i}\right)De^{-\beta t} + \frac{\alpha}{i}\frac{\partial K(t)}{\partial t} =$$

$$-\beta\left(1+\frac{\alpha}{i}\right)\left(\frac{\beta}{\beta+i}\right)De^{-\beta t} + \frac{\alpha}{i}\frac{\partial}{\partial t}\left(K_0 + D\left(1-e^{-\beta t}\right)\right) =$$

$$-\beta\left(1+\frac{\alpha}{i}\right)\left(\frac{\beta}{\beta+i}\right)De^{-\beta t} + \frac{\alpha}{i}\beta De^{-\beta t} = D\beta e^{-\beta t}\frac{\beta}{i}\left[\frac{\alpha}{\beta} - \frac{i+\alpha}{i+\beta}\right] > 0$$

of regulation change divided by the minimum number of clients for an incumbent firm, $\frac{\alpha}{n_0}$, must be lower than the ratio of benefit to cost, $\frac{p}{K_0 + D}$, so that an incumbent firm will not exit the market.

Notice that if the regulator imposes new rules that reduce the benefit of providing a service to a client, then this will cause a higher concentration of firms in the market. For example, if by a new SEC regulation, an auditor is prohibited from consulting his auditing client on business or tax issues, the benefit from auditing a public company is decreased and thus more CPA firms will exit the market. This process continues until the minimum number of clients is large enough such that $\alpha < \frac{n_0 p}{K_0 + D}$. In other words, regulation may cause higher concentration.

The effect of increasing cost to maintain professional knowledge is twofold: (i) it decreases the number of firms in the market; and (ii) to cope with the maintenance cost of professional knowledge, the incumbent firms specialize in providing services to clients in specific areas of knowledge, such as automobiles, high-tech, oil and gas, mining or aerospace and defense. For example, in 2002, 84% of the Oil and Gas industry were audited by E&Y; 100% of the Tobacco industry were audited by PWC; 55% of the Banking industry were audited by KPMG[76] .

[76] Beattie V., Goodacre A. and Fearnley S. (2003), "*And then there were four: A study of UK audit market concentration — causes, consequences and the scope for market adjustment*", Journal of Financial Regulation and Compliance (11) pp. 250-265.

Section V: Conclusion

It appears from the foregoing analysis that the number of players that can afford to offer their professional services in "complex" markets depend both on the sheer bulk of the professional expertise required of them, and on the velocity of its change. As the volume and velocity of change increase, the smaller is the number of players in equilibrium. Only a handful of firms can handle the regulatory deluge thrust upon them in the securities market. Only four players can gainfully do the job in the accounting market. And in the market of corporate charters the number is practically reduced to just one.

A number of lessons can be derived from this analysis. The first lesson, and this is a trite one, is that even the most public-spirited regulatory effort comes with a price tag, at least for those of us who view market concentration with some disdain. Secondly, although we usually hail responsiveness as a virtue, industrious responsiveness, in presaging change, may sometimes turn itself into a vice. Thirdly, the theory of regulated industries may be less case-specific than meets the naked eye, or, at least, some very different industries share some common and predictable forms of behavior when confronted with regulatory imperatives, especially when these imperatives are subject to frequent and voluminous transformations. More specifically, none of the three markets surveyed in this Article exhibits identical raw characteristics, and yet they all share so much in common: In the auditing market the regulatory framework was heavily influenced by its beneficiaries, the large accounting firms, which cannot be said of the large law firms representing public corporations in the wake of the recent regulatory flood. The case of Delaware is unique in the sense that this State’s legal system, which defines the expertise which is required of new players (other jurisdictions), is self-formulated, by the State of Delaware itself, and this is certainly not the case in both the auditing and in securities markets. But in spite of all these perceived differences the same basic dynamics apply: Volume and mutations tax market participants; new entrants are barred at the gate and existing players are pressured to yield their market share to the strong and the mighty.

Appendix

Proof of Result 1

If $PV(enter-and-stay)_{t=0} = \left(1+\frac{\alpha}{i}\right)\left(K_0 + \frac{\beta}{i+\beta}D\right) > \frac{p}{i-g}$ then, because $\frac{\partial(NE)}{\partial t} > 0$, for any t, the "no-entry" condition holds.

If $NE_{t=0} = \left(1+\frac{\alpha}{i}\right)\left(K_0 + \frac{\beta}{i+\beta}D\right) - \frac{p}{i-g} < 0$ but $NE_{t\to\infty} = \left(1+\frac{\alpha}{i}\right)\left(K_0 + D\right) - \frac{p}{i-g} > 0$, then there exist t_0 for which $\left(1+\frac{\alpha}{i}\right)\left(K(t_0) + \left(\frac{\beta}{\beta+i}\right)De^{-\beta t_0}\right) = \frac{p}{i-g}$.

Since $\frac{\partial(NE)}{\partial t} > 0$, for any $t > t_0$,

$$NE = \left(1+\frac{\alpha}{i}\right)\left(K(t) + \left(\frac{B}{\beta+i}\right)e^{-\beta t}\right) - \frac{p}{i-g} > 0.$$

Therefore, there exits t_0 such that for any $t > t_0$ the "no-entry condition" holds if and only if $\left(1+\frac{\alpha}{i}\right)\left(K_0 + D\right) - \frac{p}{i-g} > 0.$

Proof of Result 2

Notice that, for any α and β, when $t \to \infty$, the maintenance cost is

$$\left(1+\frac{\alpha}{i}\right)\left(\frac{\beta}{\beta+i}\right)De^{-\beta t} + \frac{\alpha}{i}K(t) \to \frac{\alpha}{i}\left(K_0 + D\right).$$

Case 1: $\alpha > \beta$

Since the maintenance cost is increasing over time, $\left(1+\frac{\alpha}{i}\right)\left(\frac{\beta}{\beta+i}\right)De^{-\beta t} + \frac{\alpha}{i}K(t) < \frac{\alpha}{i}\left(K_0 + D\right).$

If $\frac{n_0 p}{i-g} > \frac{\alpha}{i}(K_0 + D)$, then a firm has no incentive to exit the market, since for any t, $\frac{n_0 p}{i-g} > \frac{\alpha}{i}(K_0 + D) > \left(1+\frac{\alpha}{i}\right)\left(\frac{\beta}{\beta+i}\right)De^{-\beta t} + \frac{\alpha}{i}K(t).$

If, on the other hand, $\frac{n_0 p}{i-g} < \frac{\alpha}{i}(K_0 + D)$, then there exists some t_0 such that for any $t > t_0$

$\frac{n_0 p}{i-g} < \left(1+\frac{\alpha}{i}\right)\left(\frac{\beta}{\beta+i}\right)De^{-\beta t} + \frac{\alpha}{i}K(t)$ and therefore for $t > t_0$ the firm exits the market.

Case 2: $\alpha < \beta$

Since the maintenance cost is decreasing over time, $\left(1+\frac{\alpha}{i}\right)\left(\frac{\beta}{\beta+i}\right)De^{-\beta t} + \frac{\alpha}{i}K(t) > \frac{\alpha}{i}(K_0 + D).$

If $\frac{n_0 p}{i-g} > \frac{\alpha}{i}(K_0 + D)$, then there exists t_0 such that for any $t > t_0$,

$\frac{n_0 p}{i-g} > \left(1+\frac{\alpha}{i}\right)\left(\frac{\beta}{\beta+i}\right)De^{-\beta t} + \frac{\alpha}{i}K(t).$ In other words, for $t > t_0$ a firm in the market has no incentive to exit the market.

If, on the other hand, $\frac{n_0 p}{i-g} < \frac{\alpha}{i}(K_0 + D)$, then $\left(1+\frac{\alpha}{i}\right)\left(\frac{\beta}{\beta+i}\right)De^{-\beta t} + \frac{\alpha}{i}K(t) > \frac{n_0 p}{i-g}$ and the firm exits the market.

Case 3: $\alpha = \beta$

Since the maintenance cost is constant over time, $\left(1+\frac{\alpha}{i}\right)\left(\frac{\beta}{\beta+i}\right)De^{-\beta t} + \frac{\alpha}{i}K(t) = \frac{\alpha}{i}(K_0 + D).$

If $\frac{n_0 p}{i-g} > \frac{\alpha}{i}(K_0 + D)$, then $\frac{n_0 p}{i-g} > \left(1+\frac{\alpha}{i}\right)\left(\frac{\beta}{\beta+i}\right)De^{-\beta t} + \frac{\alpha}{i}K(t)$. In other words, a firm in the market has no incentive to exit the market.

If, on the other hand, $\frac{n_0 p}{i-g} < \frac{\alpha}{i}(K_0 + D)$, then $\left(1+\frac{\alpha}{i}\right)\left(\frac{\beta}{\beta+i}\right)De^{-\beta t} + \frac{\alpha}{i}K(t) > \frac{n_0 p}{i-g}$ and the firm exits the market.