

## DRAFT ARTICLE

### INVESTMENT POLICY FOR THE IMMORTAL CORPORATION

*Andrew A. Schwartz\**

*Natural persons with a lifespan of less than a century can be expected to invest with a time horizon of months, years or decades. Corporations, having an unlimited lifespan, should employ an infinite investment time horizon in making investment decisions; as immortal entities, they can be extremely patient when waiting for a project to pay off. Further, corporations should use a lower discount rate when evaluating investment opportunities than a mortal ever could. A low discount rate is virtuous because it demonstrates regard for the future (which for an immortal entity, stretches on forever). And this low discount rate should enable corporations to observe more positive net present value investment opportunities, as well as cooperate better, than natural persons.*

*Corporations are legal entities that possess certain defining characteristics, namely limited liability, centralized management, alienable shares, and immortality. Scholars have carefully examined and expounded upon the first three of these attributes, especially limited liability, but have largely ignored the last. In an attempt to fill this scholarly void, this Article specifically focuses on the immortal nature of corporations and, from that position, presents several related insights regarding corporate investment policy.*

*There are at least three important potential criticisms of this analysis that must be and are addressed herein. First, corporations cannot manage themselves, and must always be controlled and directed by natural persons who, being mortal, have a finite investment time horizon and a relatively high discount rate. In response, this Article borrows from the implicit racism literature and suggests that corporate managers should try to “de-bias” themselves from a mortal world view into an immortal one. Second, regardless of a corporation’s own discount rate, its cost of capital is determined in the market by the discount rates of potential investors, which to the extent investors are natural persons, may be relatively high. This Article responds on the ground that the investors in many corporations are corporations themselves, and so the cost of capital should bear some relation to the relatively low discount rate of corporations. Third, focusing on an infinite investment horizon may weaken corporate law’s ability to keep management accountable to shareholders. This is a valid concern, but current law already provides a weak level of accountability that would not be much diminished by a focus on corporate immortality.*

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\* Associate Professor of Law, University of Colorado Law School. For comments, thanks to Bill Carney, Vic Fleischer, Mark Loewenstein and Allison Schwartz, and to participants in faculty workshops at Colorado and conferees at the Midwest Corporate Law Scholars Conference. For research assistance, thanks to Shira Cooks. The author welcomes further comments at [andrew.schwartz@colorado.edu](mailto:andrew.schwartz@colorado.edu). Please do not cite or circulate without permission.

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## INTRODUCTION

In making investment decisions, as in many other areas of life, it would be highly useful to put into practice the lessons we learn over a lifetime—but of course we can't, thanks to human mortality.<sup>1</sup> By the time those lessons are learned, there is little time left to embark on lucrative long-term projects. It's a fact of life. But what if one were immortal?

Modern corporate statutes universally provide that corporations have perpetual existence.<sup>2</sup> In other words, they are immortal<sup>3</sup> and should therefore make investment decisions in a manner befitting an immortal entity. This Article catalogs several of the key ways in which the investment policy of an immortal corporation can and should differ from that of a mortal natural person.

Whereas natural persons with a lifespan of less than a century might invest with a time horizon of months, years or decades, corporations, having an unlimited lifespan, should employ an infinite investment time horizon in making investment decisions. As immortal entities, they can be extremely patient when waiting for a project to pay off. Further, corporations should use a lower discount rate when evaluating investment opportunities than a mortal ever could. A low discount rate is virtuous, in that it demonstrates regard for the future, which for an immortal entity, stretches on forever. And this low discount rate should enable corporations to observe more positive net present value investment opportunities, as well as cooperate better, than natural persons.

There is a large and growing body of scholarship that claims that corporations should be managed for the “long term.”<sup>4</sup> This is generally

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<sup>1</sup> See, e.g., THE FACES, *Ooh La La, on OOH LA LA* (Warner Bros. Records 1973) (“I wish that I knew all I know now—when I was younger!”).

<sup>2</sup> E.g., DEL. GEN. CORP. L. § 102(b)(5) (“the corporation shall have perpetual existence” unless a shorter term is stated in the certificate of incorporation).

<sup>3</sup> This use of the term “immortal” does not ignore the fact that many corporations cease to exist due to a liquidation, merger or conversion, just to name a few, but is merely meant to signal that, unlike a natural person, a corporation is not certain to expire after some length of time. By way of analogy, mythological gods are “immortal,” but that does not necessarily mean that they exist forever. For example, at the end of the opera *Die Walküre*, the goddess Brunnhilde is stripped of her immortality and “dies.” Richard Wagner, *DIE WALKÜRE*; see also *THOR* (Paramount Pictures 2011) (mythical god Thor is cast to earth and subject to mortal threats).

<sup>4</sup> E.g., Nadelle Grossman, *Turning a Short-Term Fling Into a Long-Term Commitment: Board Duties in a New Era*, 43 U. MICH. J.L. REFORM 905 (2010); Mirriam A. Cherry and Jarrod Wong, *Clawbacks: Prospective Contract Measures in an Era of Excessive Executive Compensation and Ponzi Schemes*, 94 MINN. L. REV. 368, 392 (2009) (“One of the major problems with executive compensation has been a focus only upon short-term performance. Such short-term thinking often leads to opportunistic behavior, at

advocated for instrumental reasons: “short-termism is bad,” so it should be avoided.<sup>5</sup> The present Article enhances that literature by providing a fundamental statutory grounding for the idea that corporate managers must direct their efforts toward the long term: Unlike natural persons who in the long run are sure to perish, the corporation is immortal and will be around to experience even the very long term.

This Article proceeds as follows: Part I enumerates the defining characteristics of the corporation, namely limited liability, centralized management, alienable shares, and immortality. Part II explains several key ways in which the immortal nature of a corporation can and should impact its investment policy. Part II addresses three key criticisms of this analysis that all arise from the fact that immortal corporations are owned and managed by mortal natural persons.

### I. THE DEFINING ATTRIBUTES OF THE CORPORATION

What is a corporation? The most eloquent and frequently cited definition is probably the one set forth by Chief Justice Marshall in the famous *Dartmouth College* case: “A corporation is an artificial being, invisible, intangible, and existing only in contemplation of law[, possessing] only those properties which the charter of its creation confers upon it.”<sup>6</sup> Similarly, BLACK’S LAW DICTIONARY defines corporation as an “entity . . . having authority under law to act as a single person distinct from the shareholders who own it.”<sup>7</sup> A leading treatise concurs, defining the corporation as “a legal unit with a status or capacity of its own separate from the shareholders who own it.”<sup>8</sup>

Thus a corporation can be conceptualized as a legal entity whose nature is determined by a set of core legal attributes.<sup>9</sup> Scholars differ in their terminology, but essentially all agree that the defining features of the corporate entity are (1) limited liability, (2) centralized management, (3) alienable shares, and (4) immortality.<sup>10</sup> Of these four attributes, scholars

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the expense of the long-term health of the company.”).

<sup>5</sup> Nadelle Grossman, Turning a Short-Term Fling Into a Long-Term Commitment: Board Duties in a New Era, 43 U. MICH. J.L. REFORM 905, 907 (2010).

<sup>6</sup> Trustees of Dartmouth College v. Woodward, 17 U.S. (4 Wheat.) 518, 636 (1819).

<sup>7</sup> Black’s Law Dictionary (9th ed. 2009).

<sup>8</sup> James D. Cox and Thomas L. Hazen, Corporations § 1.02 at 2-3 (2d ed. 2003).

<sup>9</sup> For criticism of this “entity theory” of the corporation, see Part \_\_\_\_, *infra* [nexus of contracts discussion].

<sup>10</sup> *E.g.*, Thomas Lee Hazen and Jerry W. Markham, Corporations and Other Business Enterprises: Cases and Materials 25 (3d ed. 2009) (listing these four attributes as the “advantages” of corporations); Roberta Romano, Foundations of Corporate Law 61 (1993) (these “[f]our characteristics distinguish corporations from . . . proprietorships and

have focused intently on the first three, and have had very little to say about the fourth.<sup>11</sup> This Article claims, however, that important insights about the nature and purpose of the corporation can be gleaned by focusing on immortality. Before getting there, however, this Part examines the existing literature on these four legal characteristics that define the corporation.

### A. *Limited Liability*

Limited liability refers to the concept that shareholders of a corporation are ordinarily not liable for the corporation's obligations or debts.<sup>12</sup> Therefore, shareholder's liability is "limited" to only the investment they made in purchasing company shares.<sup>13</sup> This concept of limited liability is derived from the notion that the corporation is a separate entity and, therefore, it is the corporation that incurs the debts, not the shareholder.<sup>14</sup>

Limited liability is vital to the corporate structure.<sup>15</sup> The aggregation of individual investments is what permits corporations to operate and invest on a large-scale,<sup>16</sup> but the risk and uncertainty of investing without limited liability would deter individual investors and have a major effect on a corporation's ability to operate.<sup>17</sup> Without limited liability (as in a partnership), it would likely be impossible to find anyone to invest, as they would be rationally deterred from putting their entire net worth at risk for firm debts.<sup>18</sup> For this reason, limited liability is commonly described by

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partnerships"); *see also* Melvin A. Eisenberg, *Corporations and Other Business Organizations: Cases and Materials* 106 (9th ed. 2005) (adding "Entity status" to these four); *cf.* Stephen Bainbridge, *Corporate Law* 1 (2d ed. 2009) (defining "the corporation as a legal fiction characterized by six attributes: formal creation as prescribed by state law; legal personality; separation of ownership and control; freely alienable ownership interests; indefinite duration; and limited liability");

<sup>11</sup> CLARK, *CORPORATE LAW* § 1.2.3 at 15 (legal personality is "often ignored by lawyers because it generates less litigation than" other corporate attributes); ROBERTA ROMANO, *FOUNDATIONS OF CORPORATE LAW* 61 (1993) ("commentators' attention has focused most on limited liability").

<sup>12</sup> Model Business Corporation Act § 6.22; William M. Fletcher, *Fletcher Encyclopedia of the Law of Corporations* § 6 (2011).

<sup>13</sup> Franklin A. Gevurtz, *Corporation Law* 6 (2d ed. 2010); Richard A. Posner, *Economic Analysis of Law* § 14.3 at 424 (the "shareholder's liability is limited to the value of his shares"); Daniel H. Easterbrook and Daniel R. Fischel, *The Economic Structure of Corporate Law* 40 (1991).

<sup>14</sup> William A. Klein and John C. Coffee Jr., *Business Organization and Finance legal and Economic Principles* 146 (2007).

<sup>15</sup> *Id.* at 147.

<sup>16</sup> *Id.* at 106.

<sup>17</sup> *See id.* at 147.

<sup>18</sup> POSNER, *ECONOMIC ANALYSIS OF LAW* § 14.2 at 422 ("each partner is personally liable for the debts of the partnership"); KLEIN AND COFFEE, *supra* note \_\_\_, at 147.

scholars as “the most important feature of the corporation.”<sup>19</sup>

Beyond the traditional notion of limited liability of shareholders for corporate debts, scholars led by Henry Hansmann and Reinier Kraakman have broadened their analysis to the more general idea of “asset partitioning,” that is, the legal separation of firm assets and the personal assets of its owners and managers.<sup>20</sup> In these scholars’ view, asset partitioning is not only “the principal” function of organizational law, indeed it is “the only essential contribution that organizational law makes to commercial activity.”<sup>21</sup>

Limited liability is also a necessary precondition to the free alienability of shares,<sup>22</sup> because it renders the identity and wealth of shareholders irrelevant.<sup>23</sup> Without the protection of limited liability, a shareholder would not be able to sell his shares freely without the consent of other shareholders, who would then become liable for the actions of the new buyer.<sup>24</sup> In other words, limited liability makes shares fungible, which they must be in order to be traded on a liquid market.<sup>25</sup> Further, those that invest under a regime of limited liability need not expend significant resources to monitor the business or their fellow shareholders.<sup>26</sup>

In sum, limited liability is widely viewed as the most important characteristic of the corporation and has been carefully studied and analyzed for that reason.<sup>27</sup>

### B. Centralized Management

“Centralized management” is the corporate structure in which

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<sup>19</sup> FRANKLIN A. GEVURTZ, CORPORATION LAW 25 (2d ed. 2010); DANIEL H. EASTERBROOK AND DANIEL R. FISCHER, THE ECONOMIC STRUCTURE OF CORPORATE LAW 40 (1991) (“Limited liability is a distinguishing feature of corporate law—perhaps *the* distinguishing feature.”) (emphasis in original).

<sup>20</sup> See Henry Hansmann and Reinier Kraakman, *The Essential Role of Organizational Law*, 110 YALE L.J. 387 (2000).

<sup>21</sup> *Id.* at 393.

<sup>22</sup> See *infra* Part I.A.3.

<sup>23</sup> See Posner, *Economic Analysis of Law* 536.

<sup>24</sup> EASTERBROOK AND FISCHER 42; POSNER, *ECONOMIC ANALYSIS OF LAW* § 14.3 at 424 (“Without limited liability, a shareholder, like a partner, would not even be allowed to see his shares without the other shareholders’ consent, since if he had sold them to someone poorer than he, the liability risk to the other shareholders would be increased.”).

<sup>25</sup> See generally Andrew A. Schwartz, *Consumer Contract Exchanges and the Problem of Adhesion*, 28 YALE J. REG. \_\_ (forthcoming 2011) (“the first pre-requisite of a functioning contract exchange is that the contracts created or traded must be fungible”).

<sup>26</sup> Easterbrook and Fischel 41-42.

<sup>27</sup> See, e.g., WALTER HOUSTON ANDERSON, LIMITATIONS OF THE CORPORATE ENTITY (1931) (entire treatise solely devoted to limited liability) [Cite treatise chapters devoted to LL].

shareholders “own” a corporation, but control over the management of a corporation is centralized in the hands of a board of directors, which generally delegates day-to-day decision making to executive officers and their reports.<sup>28</sup> Centralized management is needed for both its expertise and efficiency. The management’s expertise helps ensure that those who make complicated business decisions for the corporation are qualified to do so.<sup>29</sup> Centralized management is also much more efficient than the alternative of asking thousands or millions of shareholders to make business decisions collectively.<sup>30</sup>

By its nature, centralized management grants discretion to the board of directors and those they have delegated power to.<sup>31</sup> Shareholders, as “owners” of the corporation, are entitled to profits made by the corporation.<sup>32</sup> However, discretionary decisions on how to spend the corporation’s earnings are made by the managers.<sup>33</sup> As a result, it is possible for managers to exercise that discretion in ways that benefit their own interests rather than those of the corporation or its shareholders.<sup>34</sup> When managers make decisions that are in their own self-interest, they not only hurt the interests of the shareholders but also the health of the corporation and thus the broader economy.<sup>35</sup>

This fundamental conflict of interest has been examined for generations and “drive[s] much of corporate law.”<sup>36</sup> That is to say, much corporate law and policy is focused on the divergence of shareholder and managerial interests.<sup>37</sup> The many approaches to dealing with the conflict between shareholder and managerial control include reliance on market forces, structural changes that empower the shareholder, and vigorous enforcement of fiduciary duties.<sup>38</sup> Due to the effects that managerial discretion can have

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<sup>28</sup> See, e.g., Del. Gen. Corp. L. § 141(a) (“The business and affairs of every corporation organized under this chapter shall be managed by or under the direction of a board of directors . . .”); BAINBRIDGE, CORPORATE LAW at 3.

<sup>29</sup> Principles of Corporate Governance: Analysis and Recommendations Vol. I 384-385 (1992)

<sup>30</sup> See BAINBRIDGE [new book].

<sup>31</sup> Principles of Corporate Governance: Analysis and Recommendations Vol. I 384-385 (1992)

<sup>32</sup> Bainbridge 5.

<sup>33</sup> *Id.*

<sup>34</sup> Principles of Corporate Governance: Analysis and Recommendations Vol. I 384-385 (1992)

<sup>35</sup> GEVURTZ 236.

<sup>36</sup> BAINBRIDGE, CORPORATE LAW at 3-4; see generally EASTERBROOK AND FISCHEL 90 (“We arrive at the relation between shareholders and managers, which holds center stage in the rest of this book.”).

<sup>37</sup> See Bainbridge 5.

<sup>38</sup> GEVURTZ 237-244.

on individual corporations and the economy as a whole, centralized management has been widely studied.<sup>39</sup>

### C. Alienable Shares

Shares of stock in corporation are alienable, which is to say that they are freely transferrable and may be bought or sold at any time.<sup>40</sup> Once a corporation sells or conveys shares to investors, it creates a secondary market in which those shares may be sold on to willing buyers.<sup>41</sup> The secondary market makes the corporation's shares liquid, allowing those who buy them to sell just as easily.<sup>42</sup> This free transferability means that buying and selling of shares can be done by a simple phone call or instantly on the Internet.<sup>43</sup> This alienability of shares gives the shareholders the ability to freely sell their shares without restrictions or permission from the corporation.<sup>44</sup>

An important aspect of the corporation is its facilitation of passive investments by individual investors, which can then be aggregated to permit large-scale investments and operations by the corporation.<sup>45</sup> Making shares easily transferrable attracts passive investors and facilitates their further investment in corporations.<sup>46</sup>

While the alienability of shares is necessary for a secondary market, it can create issues for management, shareholders and the corporation,<sup>47</sup> because the shares that can be so easily sold represent voting interests in the corporation.<sup>48</sup> A shareholder with a controlling block of stock also carries proportional voting rights and therefore has the power to control the

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<sup>39</sup> [Cite treatise chapters devoted to CM]

<sup>40</sup> KLEIN 109; MODEL BUSINESS CORPORATION ACT § 6.27 (by implication). This is certainly true of publicly traded corporations. The shares of closely held corporations, by contrast, are sometimes subject to contractual restrictions on alienability, *id.* at 109, but even in that context the default rule is one of free alienability. *Id.*

<sup>41</sup> See Bainbridge 30. This is so regardless of the state of regulation or whether an IPO was held. For example, shares in Facebook and other successful "dot-com" companies do not trade on any stock exchange, such as NASDAQ or the New York Stock Exchange, but do trade on a secondary market. See Peter Delevett, *What, no Facebook? Just wait a while*, SAN JOSE MERCURY NEWS, Apr. 17, 2011, at \_\_\_ ("Facebook, Zynga, Twitter and Yelp have steadfastly remained private, thanks in large part to a thriving secondary market that's allowed employees to unload shares without waiting for an initial public offering.").

<sup>42</sup> See BAINBRIDGE 30.

<sup>43</sup> KLEIN 109.

<sup>44</sup> See *id.*

<sup>45</sup> *Id.* at 106.

<sup>46</sup> *Id.* at 109.

<sup>47</sup> See Gevurtz 15.

<sup>48</sup> See *id.* at 4.

corporation by selecting directors.<sup>49</sup> Such a controlling shareholder would also have the right to sell the control bloc, generally at a premium over a single share price.<sup>50</sup>

In addition, a disaggregated group of small shareholders who collectively comprise a majority may jointly sell their shares (again at a premium) in response to a “tender offer.”<sup>51</sup> The ability of investors to buy on the secondary market a controlling stake in a corporation makes possible the “market for corporate control,” which is a vital tool for encouraging managers to put forth great effort on behalf of the corporation.<sup>52</sup> A tremendous body of law has grown up around this concept, including the important *Unocal* line of cases.<sup>53</sup>

In conclusion, the alienability of shares is a key attribute of the corporation and has been a central topic of study in corporate law.<sup>54</sup>

#### D. Immortality

Finally, scholars generally include immortality, or perpetual existence, as a defining attribute of the corporation. There is generally no limit on the duration of a corporation.<sup>55</sup> In other words, the corporation has an “indefinite legal existence,” which can be terminated only in a few rare circumstances.<sup>56</sup> While it is possible to specify a limit to the duration of the corporation on the documents creating it, such a practice is rare.<sup>57</sup>

In the pre-modern era, immortality was viewed as “the leading attribute of corporations.”<sup>58</sup> In the famous *Dartmouth College* case, Chief Justice

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<sup>49</sup> See *id.* at 15.

<sup>50</sup> James D. Cox and Thomas L. Hazen, *Corporations* 620 (2d ed. 2003).

<sup>51</sup> STEPHEN M. BAINBRIDGE, *CORPORATE LAW* 340 (2nd ed. 2009) (a tender offer is an offer to purchase shares made by a bidder directly to the stockholders of a certain company, which can be communicated to the shareholders by a general mailing to the entire list of shareholders, through an advertisement or otherwise, with a view of acquiring the control of the company).

<sup>52</sup> [Manne article]

<sup>53</sup> *Unocal v. Mesa Petroleum Co.*, 493 A.2d 946 (Del. 1985).

<sup>54</sup> [Cite treatise chapters on Alienability]

<sup>55</sup> KLEIN 109.

<sup>56</sup> BAINBRIDGE 5 (a corporation’s existence may only be terminated by a voluntary dissolution requiring the recommendation of the board of directors and approved by a majority of the shareholders, merger with another corporation, insolvency in a bankruptcy proceeding, or by judicial decree (which requires there be a deadlock or oppressive behavior by the corporation’s controlling shareholders)).

<sup>57</sup> KLEIN 109.

<sup>58</sup> HENRY MAINE, *ANCIENT LAW* 110 (1960). The same may be said for the post-modern era. See, e.g., D.E. Brown, *Corporations and Social Classification*, 15 *Current Anthropology* No. 1, at 29 (Mar. 1974) (“A corporation is a presumptively perpetual status”); *id.* at 40 (“corporations may be defined as presumptively perpetual social units”).

Marshall observed that immortality was an essential characteristic of the corporate entity, as it empowers “a perpetual succession of individuals [to act] for the promotion of the particular object, like one immortal being.”<sup>59</sup> Similarly, Blackstone described the corporation in his Commentaries as “a person that never dies.”<sup>60</sup> Its shareholders and managers may change, but it is still the same corporation, just “as the River Thames is still the same river, though the parts which compose it are changing every instant.”<sup>61</sup>

Today, the corporate code of every state expressly provides for corporate immortality.<sup>62</sup> The Delaware General Corporate Law, for example, provides that “the corporation shall have perpetual existence” unless the certificate of incorporation provides otherwise.<sup>63</sup> Using nearly the same language, the New York Business Corporation Law states that every corporation “shall . . . have perpetual duration,” subject to any limitations in its certificate or imposed by statute.<sup>64</sup> Thus the corporate

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<sup>59</sup> Trustees of Dartmouth College v. Woodward, 17 U.S. (4 Wheat.) 518, 636 (1819) (“Among the most important [properties of the corporation] are immortality, and, if the expression may be allowed, individuality; properties, by which a perpetual succession of many persons are considered as the same, and may act as a single individual. They enable a corporation to manage its own affairs, and to hold property, without the perplexing intricacies, the hazardous and endless necessity, of perpetual conveyances for the purpose of transmitting it from hand to hand. It is chiefly for the purpose of clothing bodies of men, in succession, with these qualities and capacities, that corporations were invented, and are in use. By these means, a perpetual succession of individuals are capable of acting for the promotion of the particular object, like one immortal being.”).

<sup>60</sup> 1 W. BLACKSTONE, COMMENTARIES 468 (1783); *see also, e.g.*, The Case of Suttons Hospital, 77 Eng. Rep. 937, 973 (K.B. 1613) (defining a corporation as an “aggregate of many [that] is invisible, immortal, and rests only in intendment and consideration of the law”).

<sup>61</sup> 1 W. Blackstone, Commentaries 468 (1783).

<sup>62</sup> 1 MODEL BUSINESS CORPORATION ACT ANNOTATED 3-24 (4th ed. 2008) (“Every jurisdiction specifies . . . that corporate existence is perpetual unless otherwise provided.”). Note that early 19th Century state corporate statutes required that the certificate of incorporation include a limited term of corporate existence, with a maximum term of twenty, thirty or fifty years. FRANKLIN A. GEVURTZ, CORPORATION LAW 20 (2d ed. 2010); *see, e.g.*, 1892 N.Y. Laws §§ 1804-05, 2042-43 (limiting business corporations to fifty years). By the turn of the 20th Century, however, legislators amended their corporate law statutes to permit perpetual existence. GEVURTZ at 21; Douglas M. Branson, *Corporate Governance “Reform” and the New Corporate Social Responsibility*, 62 U. PITT. L. REV. 605, 615-16 (2001) (“The last ‘limited life’ charters were granted early in the 20th Century by western states such as Arizona and Washington.”); *see, e.g.*, 1896 N.J. Laws § 280 (providing for perpetual corporate existence).

<sup>63</sup> Del. Gen. Corp. L. § 102(b)(5); *id.* § 122(1) (“Every corporation [shall have] perpetual succession by its corporate name, unless a limited period of duration is stated in its certificate of incorporation”); *accord* Model Business Corporation Act § 3.02 (2007) (“Unless its articles of incorporation provide otherwise, every corporation has perpetual duration and succession in its corporate name . . .”).

<sup>64</sup> N.Y. Bus. Corp. L. § 202(a)(1).

attribute of immortality has its origin in the statutory text from which the corporation springs. This is an important point, for corporations are “creatures of statute,” defined by their legal attributes. In short, immortality is a core defining characteristic of the corporation.

Corporate scholars, however, have not paid much attention to immortality.<sup>65</sup> Limited liability and the other corporate attributes discussed above have been the subject of extensive and thoughtful analyses and scholarship<sup>66</sup> while immortality has been largely neglected. Many major corporation law treatises barely mention immortality at all. The 800-page COX AND HAZEN treatise, for example, spends one chapter on limited liability,<sup>67</sup> four chapters on centralized management,<sup>68</sup> and seven chapters on alienability of shares<sup>69</sup>—yet devotes just a single paragraph to corporate immortality.<sup>70</sup> And the similarly voluminous GEVURTZ treatise spends most of one chapter on limited liability,<sup>71</sup> two long chapters on centralized management,<sup>72</sup> and another chapter on the alienability of shares,<sup>73</sup> but only mentions immortality in passing on two pages.<sup>74</sup>

Even when the immortality of the corporation is directly mentioned, its importance is often minimized.<sup>75</sup> The FLETCHER CYCLOPEDIA, for instance, states, “The term ‘perpetual succession’ is not generally construed to imply corporate immortality, but rather a continuity of existence . . . limited in duration to the period stated in its charter or the act authorizing the granting of it.”<sup>76</sup> Frank Easterbrook and Daniel Fischel opine that describing a corporation as having “perpetual existence” is “misleading” because it really means nothing more than that “the corporation lasts until

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<sup>65</sup> CLARK §1.2.3 at 15 (corporate personality and immortality are “often ignored by lawyers because [they] generate[] less litigation” than other aspects of the corporate form).

<sup>66</sup> *See supra* Parts I.A-C.

<sup>67</sup> Cox and Hazen Ch.7.

<sup>68</sup> *Id.* Chs.8-11.

<sup>69</sup> *Id.* Chs.12-14, 16-18, 21.

<sup>70</sup> COX AND HAZEN 7. Similarly, the GEVURTZ treatise spends ten pages on limited liability (pp.25-34), two chapters on centralized management (chs.3-4), and one chapter on the alienability of shares (ch.2). In contrast, (pp.20-21). KLEIN 109 (one paragraph); BAINBRIDGE 5 (same).

<sup>71</sup> GEVURTZ 25-34, 69-111 (chapter 1).

<sup>72</sup> *Id.* at 179-470 (chapters 3-4).

<sup>73</sup> *Id.* at 112-77 (chapter 2).

<sup>74</sup> *Id.* at 20-21 (noting, in discussing the history of corporations, that limits on duration were eliminated in the later 19th and early 20th centuries); *see also* STEPHEN M. BAINBRIDGE, CORPORATE LAW (2d ed. 2009) (chapter 4 covers limited liability; chapter 3, alienable shares; chapters 5 and 6, centralized management; immortality is mentioned in one paragraph (on page 5) in the introduction).

<sup>75</sup> *See* 1 William M. Fletcher, Fletcher Cyclopedia of the Law of Corporations § 6 (2011).

<sup>76</sup> 1 William M. Fletcher, Fletcher Cyclopedia of the Law of Corporations § 6 (2011).

dissolved.”<sup>77</sup>

Indeed, the most careful analysis of corporate immortality has come from scholars who criticize it as poor policy. In the 1970s, for example, consumer advocates and others concerned about a “race for the bottom” among states for corporate charters<sup>78</sup> proposed a shift from state to federal chartering of corporations.<sup>79</sup> One of the key proposals of the federal chartering movement was to end corporate immortality: “Rather than allowing the corporation to exist indefinitely, a federal law should require the corporation to renew its charter every 30 years [and only] after determination by [a federal agency] that such renewal would not contravene the public interest.”<sup>80</sup> Had the proposal been adopted—it was not—it would have represented a throwback to the historic limited life charter of the 19th Century and earlier.<sup>81</sup>

Despite the attacks, immortality remains a core defining legal attribute of the corporation. But the subject has been almost completely ignored by corporate scholars. A primary purpose of the present article is to begin to rectify this omission.

## II. INVESTMENT POLICY FOR THE IMMORTAL CORPORATION

A shift of focus to corporate immortality yields a number of important insights for corporate investment policy.

### A. *Infinite Time Horizon*

A “time horizon” is the length of time during which an investor plans to place her investment at risk.<sup>82</sup> Different investors have different time

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<sup>77</sup> Easterbrook and Fischel 11.

<sup>78</sup> William L. Cary, *Federalism and Corporate Law: Reflections Upon Delaware*, 83 YALE L.J. 663, 666 (1974); *see also* Liggett v. Lee, 288 U.S. 517, 559 (1933) (Brandeis, J., dissenting) (describing the competition for corporate charters as a “race . . . not of diligence but of laxity”).

<sup>79</sup> *See id.* at 663 (“Perhaps now is the time to reconsider the federal role.”); RALPH NADER, ET AL., TAMING THE GIANT CORPORATION (1976); *Federal Chartering of Corporations: A Proposal*, 61 GEO. L.J. 89 (1972).

<sup>80</sup> *Federal Chartering of Corporations: A Proposal*, 61 GEO. L.J. 89, 101 (1972) (The public interest might be better served by a periodic re-examination of corporate existence and performance [than by the current system of perpetual existence].”).

<sup>81</sup> Douglas M. Branson, *Corporate Governance “Reform” and the New Corporate Social Responsibility*, 62 U. PITT. L. REV. 605, 615-16 (2001) (“Nader [and his collaborators] proposed a return to limited life charters. . . . Their proposal was that corporations would have to run the federal regulatory gauntlet every twenty or twenty-five years.”).

<sup>82</sup> [Cite]. The term “investment horizon” is a synonym.

horizons and therefore different preferred investments. For someone with a very short investment horizon, an investment in a ticket for a lottery to be drawn tomorrow would make sense, as she will only have to wait one day to find out whether her investment pays off.<sup>83</sup> By contrast, a person with a long time horizon might prefer to invest in a parcel of land in a blighted part of town that she expects to gentrify.<sup>84</sup> The payoff (if any) of such an investment will not come for many years.

Why might someone ever prefer an investment whose outcome will not be revealed for years over an investment whose outcome will quickly become apparent? After all, the first rule of finance is that “a dollar today is worth more than a dollar tomorrow,”<sup>85</sup> so the sooner the resolution of an investment, the more valuable it is, all else being equal.

The answer is that longer time horizons are associated with greater total returns, because a long time span allows one to invest in risky assets and ventures whose volatility is unbearable for those with short time horizons.<sup>86</sup> The concept is familiar to anyone who has received advice on their retirement plan: A young worker just starting out has a long investment horizon, as they have many years until retirement, whereas older workers on the cusp of retirement have a short investment horizon. Thus young workers should invest in risky high-yielding investments (*i.e.*, stocks<sup>87</sup>), while older workers must make do with safe low-yielding investments (*i.e.*, government bonds), as the latter group does not have the time to recover from a steep drop in the volatile stock market.<sup>88</sup>

As the retirement example shows, investors with long lives in front of them have long investment horizons, while those who are in their autumn

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<sup>83</sup> *But cf.* John Ellement, *Lottery Winner, 94, Sues to Get it All Now*, BOSTON GLOBE, Dec. 29, 2004, at B1 (elderly winner of \$5.6 million lottery denied immediate lump-sum payout and forced by lottery commission to accept annual payments of \$200,000 for twenty years); David Weber, *Judge Nixes Quick Cash for Elder Lotto Winner*, Boston Herald, Dec. 31, 2004, at 15 (reporting on judicial affirmation of lottery commission’s decision).

<sup>84</sup> *See, e.g.*, *Kenford Co. v. County of Erie*, 537 N.E.2d 176 (N.Y. 1989) (case involving land speculation near site for planned professional football stadium that was never built).

<sup>85</sup> Brealey, et al. 14.

<sup>86</sup> Edward A. Zelinsky, *The Defined Contribution Paradigm*, 114 YALE L.J. 451, 460 (2004) (“riskier, but ultimately more profitable, investments” are off-limits from many individuals, “particularly older persons with shorter time horizons to retirement [because risky] investments’ variability may strike on the downside at an inopportune time in the individual’s life span, *i.e.*, when she needs her retirement resources to live”).

<sup>87</sup> BREALEY, ET AL. 206 (“The stock market is risky because there is a spread of possible outcomes.”).

<sup>88</sup> Edward A. Zelinsky, *The Defined Contribution Paradigm*, 114 YALE L.J. 451, 460 (2004) (“An older 401(k) participant’s choice of a riskier investment with a higher long-run return is potentially problematic because she may not have the time to wait for the investment’s rebound—assuming that rebound will occur.”).

years have short investment horizons. That is to say, because a person cannot allocate future resources any farther into the future than she imagines she might live, a natural person's investment horizon should rationally depend on how long she expects to live.<sup>89</sup> The logical conclusion is that a person should endeavor to make a number of speculative long-term investments in their earliest years of life to achieve spectacular returns in their old age. The problem is that youngsters generally lack the capital to make significant investments, and, by the time they have saved a large pool of money, they have reached middle age and their investment horizon is no longer what it once was. "Youth," as George Bernard Shaw once said, "is wasted on the young."<sup>90</sup>

The corporate form solves this problem. Because it is immortal, the corporation has an infinite time horizon for investing. This important point has not previously been recognized by the corporate law literature. Unlike a natural person, whose time horizon is limited to a natural lifespan, a corporation will never grow old or fall ill. It therefore has all the time in the world to wait for an investment to bear fruit, which should allow it to invest in ultra-volatile, and thus ultra-profitable, investments. More broadly, immortality allows a corporation to engage in a variety of transactions with ultra-long time spans, such as locking in an interest rate for a century by issuing 100-year bonds.<sup>91</sup>

In short, an infinite time horizon should give a corporation an ability to "wait out" the market and endure huge ups and downs that would consume an entire natural lifetime. This should allow the corporation to make investments that are too volatile for a natural person—of any age—to undertake. And because expected return is positively correlated with volatility, those risky investments should, over the long term, yield high returns, higher than a natural person with a finite time horizon can ever expect to achieve.

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<sup>89</sup> Richard A. Posner, *Are We One Self or Multiple Selves*, 3 LEGAL THEORY 27(1997).

<sup>90</sup> The French apparently have a similar expression: "Si jeunesse savait, si vieillesse pouvait." (If only youth knew; if only old age could.)

<sup>91</sup> Katy Burne, *MIT Offers "Century Bond"*, WALL ST. J., May 11, 2011, at \_\_\_ (reporting that the Massachusetts Institute of Technology "came to market Wednesday with rare hundred-year bond offering in the amount of \$750 million" at 5.6%); Graham Bowley, *Easy Borrowing By Corporations Spurs Few Jobs*, N.Y. TIMES, Oct. 4, 2010 ("In August, the railroad Norfolk Southern Corporation borrowed \$250 million in 100-year bonds at an annual rate of 5.95 percent."); Katy Burne, *Bankers Pitch 100-Year Bonds*, WALL ST. J., Aug. 23, 2010, at \_\_\_ ("Hundred-year bonds were in vogue in the mid 1990s and early 2000s, when a few dozen companies issued them. . . . The coupons on these bonds were mostly between 7% and 8%.") [CONSIDER EXPANDING]

### B. Ultra-Long Term Investments

A primary implication of the infinite time horizon of corporations is that they can make ultra-long term investments whose payoffs are not expected for decades or centuries. An immortal corporation is peculiarly suited to making such an investment, for it will continue to exist when it pays off. This is a comparative advantage of the corporate form that has not always been appreciated.<sup>92</sup> This is not to say that corporations should only pursue ultra-long term investments, but merely that they have a special opportunity to do so.

The law has not fully recognized this. In the important *Paramount v. Time* decision, the Supreme Court of Delaware held that the board of directors has “authority to set a corporate course of action, including time frame, designed to enhance corporate profitability. Thus, the question of ‘long-term’ versus ‘short-term’ values is largely irrelevant because directors, generally, are obliged to chart a course for a corporation which is in its best interests without regard to a fixed investment horizon.”<sup>93</sup> This may be correct, but it does not give directors much direction.

In contrast, a focus on immortality can help guide directors in their management of the corporation: Directors should recognize that the corporation, because it is immortal, has a comparative advantage over natural persons when it comes to ultra-long-term investments.<sup>94</sup> This is not to say that corporations should never invest in short-term projects—surely they should—but that the corporate form offers a special advantage with regard to long-term ones.

#### 1. Patent vs. Trade Secret

As a specific example of how a corporation might put into practice an ultra-long-term investment strategy, consider the issue of whether a corporation should patent an invention or maintain it as a trade secret. Some innovations cannot realistically be protected as trade secrets, such as

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<sup>92</sup> Indeed, this aspect of the corporation has been seen by some as dangerous. *See, e.g.*, *Central R.R. Co. v. Collins*, 40 Ga. 582, \_\_ (1869) (“All experience has shown that large accumulations of property, in hands likely to keep it intact for a long period, are dangerous to the public weal. Having perpetual succession, any kind of a corporation has peculiar facilities for [the accumulation of large amounts of property.] Freed, as such bodies are, from the sure bound to the schemes of individuals—the grave—they are able to add field to field, and power to power, until they become entirely too strong for that society which is made up of those whose plans are limited by a single life.”).

<sup>93</sup> *Paramount Comm’ns, Inc. v. Time Inc.*, 571 A.2d 1140, 1150 (Del. 1989).

<sup>94</sup> A corporation’s ability to make ultra-long-term investments also constitutes a comparative advantage over other forms of business organizations. *See infra* Part II.\_.

those that must by their nature be shown to competitors or the public and that can easily be “reverse engineered,” like the cotton gin.<sup>95</sup> In such cases, there is no choice to be made; the only alternative is to seek a patent.<sup>96</sup> Each method of intellectual property protection has its own benefits and shortcomings.

A patent is an extremely strong form of intellectual property for novel and useful inventions. A patent does not require proof of copying to enforce the patent and therefore protects the holder against independent inventors.<sup>97</sup> And willful patent infringement is also subject to treble (triple) damages.<sup>98</sup> But patents can be costly to obtain and, most importantly, will expire after twenty years, at which point the invention joins the public domain.<sup>99</sup>

A trade secret is used to protect information that has commercial value and that the owner of that information would like to conceal from competitors in order to prevent them from benefitting from that information.<sup>100</sup> This can include a useful invention, so long as it is valuable and not generally known, and the owner of the information uses reasonable efforts to keep it secret.<sup>101</sup> And, in a notable contrast to the limited life of a patent, trade secret protection lasts forever, so long as the invention is kept secret.<sup>102</sup>

For an invention amenable to protection by either method,<sup>103</sup> trade secret protection is superior to patenting in some ways, yet inferior in

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<sup>95</sup> Eli Whitney famously patented the cotton gin in 1794. Even with the patent, however, copies and near-copies were made and sold that undermined his ability to profit from his ingenuity.

<sup>96</sup> Some innovations cannot realistically be protected as trade secrets, such as those that must be shared with the public and that can easily be “reverse engineered.” In such cases, there is no choice to be made; the only alternative is to seek a patent.

<sup>97</sup> David W. Quinto & Stuart H. Singer, *Trade Secrets* 9 (2009).

<sup>98</sup> [Cite]

<sup>99</sup> 35 U.S.C. § 154(a)(2).

<sup>100</sup> David D. Freidman, William L. Landes & Richard A. Posner, *Some Economics of Trade Secret Law*, 5 *Journal of Economic Perspectives* 61 (Winter 1991).

<sup>101</sup> See UNIFORM TRADE SECRETS ACT § 1(4) (“Trade secret means information, including a formula, pattern, compilation, program, device, method, technique, or process that: (i) Derives independent economic value, actual or potential, from not being generally known and not being readily ascertainable by proper means by other persons who can obtain economic value from the disclosure or use, and (ii) Is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.”); KINNEY & LANGE, P.A., *INTELLECTUAL PROPERTY FOR BUSINESS LAWYERS* §§ 11:4-8 (2010-2011 ed. 2010).

<sup>102</sup> Kinney & Lange, P.A., *Intellectual Property for Business Lawyers* § 11:1 (2010-2011 ed. 2010); Roger D. Blair & Thomas F. Cotter, *Intellectual Property Economic and Legal Dimensions of Rights and Remedies* 25 (2005).

<sup>103</sup> Not every invention is so amenable. See *supra* text accompanying note \_\_ [re: cotton gin].

others.<sup>104</sup> Trade secret protection is not restricted by a term of years, does not require the same level of approval by a government agency, and can provide protection of a new idea or related information from being known by the public.<sup>105</sup> Patent protection, by contrast, can provide more certain protection—while in place.<sup>106</sup>

For a natural person that compares these two options, the twenty-year term of a patent represents a significant portion of their expected life span. But for an immortal corporation, twenty years is but a fleeting moment. Hence a corporation should be expected to, all else being equal, favor trade secret protection over patent.

Consider the Coca-Cola formula, one of the most zealously guarded trade secrets of all time. When the formula was invented in the late 19th century, it could almost certainly have been patented.<sup>107</sup> Patent protection would have maintained the formula as Coca-Cola's proprietary information for a decade or two, but by electing to protect the formula as a trade secret, it still remains proprietary today, more than 100 years after its development. That was a wise decision for the immortal Coca-Cola Co. to make.

And Coca-Cola is not alone. Many corporations rely on trade secret protection.<sup>108</sup> For a modern example, take Google, Inc., whose search-engine algorithms are a carefully guarded trade secret.<sup>109</sup> Google could almost certainly patent (or copyright) its novel method for obtaining and presenting Internet searches, but has chosen not to.<sup>110</sup> Why not? Because Google's management apparently believes it can generate profits from the algorithm for many decades to come, and is not willing to settle for the 20-year term of a patent.<sup>111</sup> Google's decision to maintain its crown jewels algorithms as trade secrets is appropriate, despite the high present cost of doing so, in light of its immortality.

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<sup>104</sup> Roger D. Blair & Thomas F. Cotter, *Intellectual Property Economic and Legal Dimensions of Rights and Remedies* 23 (2005).

<sup>105</sup> David W. Quinto & Stuart H. Singer, *Trade Secrets* 9 (2009).

<sup>106</sup> Arthur H. Seidel & David R. Crichton, *What the General Practitioner Should Know About Trade Secrets and Employment Agreements* 4 (1995).

<sup>107</sup> The written formula could surely have been protected by copyright, though it would only protect the words, not the formula itself. A patent would have protected the formula itself, and would presumably have been granted if sought, given that Coca-Cola was marketed at the time as a beverage with patentable utility, namely as medicine.

<sup>108</sup> David W. Quinto & Stuart H. Singer, *Trade Secrets*, 9 (2009) (citation omitted).

<sup>109</sup> See Rahul K. Parikh, *In Practice*, L.A. TIMES, Aug. 23, 2010, at E1 (comparing Google's trade secret algorithms to the Coca-Cola formula).

<sup>110</sup> *But cf.* Patent No. 6,285,999 (filed Jan. 9, 1998) (original "PageRank" algorithm from which Google's current algorithms descend).

<sup>111</sup> *Cf.* James B. Stewart, *Why Google Still Looks Like a Long-Term Winner*, WALL ST. J., Apr. 23, 2011 ("Google is determined to . . . pour money into big, potentially high-yielding investments, no matter what the immediate consequences for quarterly earnings").

In short, immortal corporations should have a greater preference for trade secret protection than do mortal natural persons. Corporate managers should appreciate that the long-term benefits of trade secret protection may be particularly valuable for their immortal corporations.

### C. Low Discount Rate

“The first basic principle of finance is that a dollar today is worth more than a dollar tomorrow,” according to a leading text on corporate finance.<sup>112</sup> How much more? That depends on the so-called “discount rate” at which future dollars are discounted due to our time preference for an immediate benefit over a deferred one.<sup>113</sup> For example, at a discount rate of 5%, a \$100 bill to be tendered in one year has a “present value” of \$95. At a discount rate of 20%, a \$100 bill in one year has a present value of \$80.<sup>114</sup>

But there is no single “proper” discount rate for all people and at all times. Market conditions—most notably the interest rate on short-term United States treasury bills—play a role in determining an appropriate discount rate.<sup>115</sup> This is because a payment received today can be invested in T-bills for a “risk-free” return that would not be available if the payment were not tendered for some time.<sup>116</sup> But even under a given set of market conditions, and a given level of risk,<sup>117</sup> different people will differ in their personal discount rates.<sup>118</sup>

Why is it that we prefer an immediate reward to one that is delayed, even when we are certain that the later payment will be made?<sup>119</sup> The

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<sup>112</sup> Richard A. Brealey, et al., *Principles of Corporate Finance* 14 (2008) (emphasis omitted).

<sup>113</sup> THE MIT DICTIONARY OF MODERN ECONOMICS 256 (David W. Pearce ed., 4th ed. 1992)

<sup>114</sup> In either case, any rational person would take \$100 now instead of the same \$100 in a year from now.

<sup>115</sup> Brealey 14.

<sup>116</sup> BREALEY 14; W. Kip Viscusi, *Rational Discounting for Regulatory Analysis*, 74 U. CHI. L. REV. 209, 222 (2007) (a “good measure of the riskless rate of return is the government bond rate [on the] three-month Treasury bill”).

<sup>117</sup> See Stephen A. Marglin, *The Social Rate of Discount and the Optimal Rate of Investment*, 77 Q.J. ECON. 95, 96 (1963) (“nothing is lost in [discussing discount rates] by assuming perfect certainty”).

<sup>118</sup> Richard L. Revesz, *Environmental Regulation, Cost-Benefit Analysis, and the Discounting of Human Lives*, 99 Colum. L. Rev. 941, 986 (“Different individuals have different discount rates . . . .”); see Glenn W. Harrison, Morten I. Lau & Melonie B. Williams, *Estimating Individual Discount Rates in Denmark: A Field Experiment*, 92 The American Economic Review 1606, 1615 (2002); Leonard Green, Astrid Fry & Joel Myerson, *Discounting of Delayed Rewards: A Life-Span Comparison*, 5 Psychological Science 33 (1994).

<sup>119</sup> See *supra* note 111 (“nothing is lost in [discussing discount rates] by assuming

answer is, ultimately, human mortality.<sup>120</sup> We all know that, sooner or later, our lives will come to an end, and that moment might come while we are waiting for a deferred reward. As John Maynard Keynes famously wrote, “In the long run we are all dead.”<sup>121</sup> The knowledge that we will all die one day causes us to prefer an immediate payoff to one that is postponed, for fear that we may not be around to collect the latter.<sup>122</sup> This basic financial concept has been the subject of countless works of poetry and literature through the ages, for instance the famous poem that begins “Gather ye rosebuds while ye may.”<sup>123</sup> And there are well known adages to the same effect, such as “carpe diem”<sup>124</sup> and “eat, drink, and be merry, for tomorrow we die.”<sup>125</sup>

This is not to say that human beings are incapable of delaying gratification—just that we need to be compensated to do so. Thus \$100 in a year has a discounted present value of less than \$100 because we know that we may not live long enough to collect and enjoy it.<sup>126</sup> The level of discount should vary from person to person, depending on their likelihood of being alive when at the deferred date.<sup>127</sup> In other words, people’s discount rates should correlate with their probability of being alive at reward time—or at least their perception of that probability.<sup>128</sup>

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perfect certainty”).

<sup>120</sup> POSNER 17 (“A rational individual

<sup>121</sup> John Maynard Keynes, *A Tract on Monetary Reform* 65 (1923)

<sup>122</sup> See RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 17 (7th ed. 2007). (a rational investor should take into account the likelihood of being alive when a delayed reward will pay off)

<sup>123</sup> Robert Herrick, *To the Virgins, to make much of Time*, in \_\_\_\_\_ (\_\_\_\_\_) (“Gather ye rosebuds while ye may,/Old Time is still a-flying:/And this same flower that smiles today/To-morrow will be dying.”); accord The Grass Roots, *Let’s Live for Today*, on LET’S LIVE FOR TODAY (Dunhill Records 1967) (“Sha-la-la-la-la-la, live for today / And don’t worry about tomorrow, hey, hey, hey . . . / We’ll take the most from living, have pleasure while we can”); see also Pink Floyd, *Time*, on THE DARK SIDE OF THE MOON (Harvest/Capitol Records 1973).

<sup>124</sup> See, e.g., DEAD POETS SOCIETY (Touchstone Pictures 1989) (inspiring boarding school English teacher tells his students, “Carpe diem. Seize the day, boys. Make your lives extraordinary.”).

<sup>125</sup> See, e.g., ECCLESIASTES 8:15 (King James) (“a man hath no better thing under the sun, than to eat, and to drink, and to be merry”); ISAIAH 22:13 (King James) (“let us eat and drink; for tomorrow we shall die”); DAVE MATTHEWS BAND, *Tripping Billies*, on CRASH (1996) (“Eat, drink and be merry / for tomorrow we die”).

<sup>126</sup> Leonard Green, Astrid Fry & Joel Myerson, *Discounting of Delayed Rewards: A Life-Span Comparison*, 5 *Psychological Science* 33 (1994).

<sup>127</sup> Richard A. Posner, *Economic Analysis of Law* 17 (7th ed. 2007).

<sup>128</sup> RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 17 (7th ed. 2007) (“A rational individual chooses among possible actions by using a discount (interest) rate to reduce future costs and benefits, whenever they are expected to be realized, to a present value, thus enabling comparison among the future states and between each of those states and the

At the extreme, a person with a terminal illness has only a short time to live, and should therefore rationally demand significant compensation for any delay in payoff.<sup>129</sup> That is, her discount rate should be relatively high compared to the average person. By contrast, a healthy youngster that expects to live for decades should be expected to have a relatively low discount rate, as they are confident that they will be able to collect a future payoff. Empirical studies concur with this thought experiment. For example, a recent field study of individuals in Denmark found that age is a major factor in increasing discount rates.<sup>130</sup> The study showed that people over 50 had a much higher overall highest discount rate compared to those in their 40s.<sup>131</sup>

It has also been found that discount rates can differ depending on socioeconomic factors such as education and income,<sup>132</sup> and these studies confirm that those who expect to live relatively longer have lower discount rates than those with the opposite expectation. For example, it is well known and broadly understood that the affluent and educated have significantly higher life expectancies than the poor and uneducated.<sup>133</sup> Thus one should expect the latter groups to have higher discount rates than the former and, again, there is empirical support for this intuition: The Danish study discussed above found that persons of modest means had a 10% higher discount rate than those in higher income brackets,<sup>134</sup> and that those

present. Impartiality between present and future consumption implies discounting future costs and benefits at a rate equal to the probability of still being alive when the future state in question arrives.”) (emphasis supplied).

<sup>129</sup> See Steve Connor, *The £400 Test That Tells You How Long You’ll Live*, THE INDEPENDENT (U.K.), May 16, 2011 (people may be interested in a genetic test that shows how fast they are aging because they might think “‘If I know I’m going to die in 10 years I’ll spend all my money now,’ or ‘If I’m going to live for 40 more years I’ll be more conservative in my lifestyle’”).

<sup>130</sup> See Glenn W. Harrison, Morten I Lau & Melonie B. Williams, *Estimating Individual Discount Rates in Denmark: A Field Experiment*, 92 *The American Economic Review* 1606; see also Leonard Green, Astrid Fry & Joel Myerson, *Discounting of Delayed Rewards: A Life-Span Comparison*, 5 *Psychological Science* 33 (1994).

<sup>131</sup> Glenn W. Harrison, Morten I Lau & Melonie B. Williams, *Estimating Individual Discount Rates in Denmark: A Field Experiment*, 92 *The American Economic Review* 1606, 1615 (2002) (people under 40 had a discount rate of 28%, people ages 41-50 had a discount rate of 25%, people over 50 had a discount rate of 30%); see also [Cite].

<sup>132</sup> See Glenn W. Harrison, Morten I Lau & Melonie B. Williams, *Estimating Individual Discount Rates in Denmark: A Field Experiment*, 92 *The American Economic Review* 1606, 1617 (2002), See also John T. Warner & Saul Pleeter, *The Personal Discount Rate: Evidence from Military Downsizing Programs*, 91 *The American Economic Review* 33, 37 (2001).

<sup>133</sup> Robert Pear, *Gap in Life Expectancy Widens for the Nation*, N.Y. TIMES, March 23, 2008, at \_\_\_.

<sup>134</sup> Glenn W. Harrison, Morten I Lau & Melonie B. Williams, *Estimating Individual*

who were more educated had a 10% lower discount rate than who were less educated.<sup>135</sup>

Low discount rates are socially desirable, because they imply a concern for the future.<sup>136</sup> It is widely, if not universally viewed as virtuous to behave like the low-discount-rate ant that plans ahead for the winter, not the high-discount-rate grasshopper that sings all summer and finds itself starving come winter.<sup>137</sup> Thus someone with a low discount rate is commonly praised as “principled,” while someone with a high discount rate is often derided as “unprincipled.”<sup>138</sup>

Eric Posner has persuasively suggested that people will prefer to undertake long-term projects with partners with low discount rates, because they are likely to work diligently toward the goal, unlike partners with high discount rates, who are more likely to cheat and shirk.<sup>139</sup> As a matter of game theory, “repeated prisoner’s dilemmas are most likely to yield the cooperative outcome when parties have low discount rates.”<sup>140</sup> And this theoretical construct have been verified experimentally. Psychological studies using “public-good games sessions” have shown that people with lower discount rates are more cooperative and contribute more to the public good than those with higher discount rates.<sup>141</sup>

*Discount Rates in Denmark: A Field Experiment*, 92 *The American Economic Review* 1606, 1615 (2002) (showing that poor people had a discount rate of 32.94% compared to 22.5% for upper middle class and rich people)

<sup>135</sup> Glenn W. Harrison, Morten I Lau & Melonie B. Williams, *Estimating Individual Discount Rates in Denmark: A Field Experiment*, 92 *AM. ECON. REV.* 1606, 1615 (2002) (showing more educated people had a 20.5% discount rate compared to a 30.98% discount rate for those who were more educated).

<sup>136</sup> Indeed, some argue that the ethical discount rate should be zero, on the ground that “present and future persons should be of equal worth.” Lisa Heinzerling and Frank Ackerman, *Law and Economics for a Warming World*, 1 *HARV. L. & POL’Y REV.* 331, 352 (2007).

<sup>137</sup> See Jean de la Fontaine, *La Cigale et La Fourmi*, in *FABLES* (1668). Cf. Affordable Care Act (mandating purchase of health insurance).

<sup>138</sup> Eric Posner suggests that a person with a low discount rate is called, in common parlance, “principled,” while someone with a high discount rate is called “unprincipled.” POSNER 187.

<sup>139</sup> ERIC POSNER, *LAW AND SOCIAL NORMS* 19-21, 34 (2000); Dan M. Kahan, *Signaling or Reciprocating? A Response to Eric Posner’s Law and Social Norms*, 36 *U. RICH. L. REV.* 367 (2002) (“Posner assumes that individuals will find other individuals desirable as partners in profitable collective undertakings to the extent that they perceive them to have low rather than high discount rates. Individuals who value future payoffs as much or nearly as much as present ones are more likely than those who excessively discount the future to forego the immediate advantages of shirking or cheating. They are more likely to do this in the interest of reaping the long-term benefits associated with access to future trading opportunities.”).

<sup>140</sup> POSNER 19.

<sup>141</sup> E.g., O.S. Curry et al., *Patience is a Virtue: Cooperative People Have Lower*

Consider the example of logging. A logger with a high discount rate can be expected to clear cut the forest, thereby maximizing profit today with little regard for profit tomorrow. A logger with a low discount rate will fell trees selectively and plant new ones, because it values the future profits only a little less than current profits. As a matter of public policy, we surely hope that our loggers have low discount rates.<sup>142</sup> Or, for another example, consider climate change, which is broadly viewed as a major long-term problem.<sup>143</sup> According to experts, at a discount rate of 1%, which implies a deep concern for future values, it is economically justifiable to act now to prevent future harm from climate change.<sup>144</sup> At a slightly higher discount rate of 3.5%, however, we are better off just letting future generations deal with the consequences.<sup>145</sup>

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*Discount Rates*, 44 PERSONALITY AND INDIVIDUAL DIFFERENCES 778, 782 (2008) (“The present study demonstrated that patience is a virtue, in the sense that participants who cooperated by contributing more to the public-good exhibited lower discount rates.”); Andrew C. Harris and Gregory J. Madden, *Delay Discounting and Performance on the Prisoner’s Dilemma Game*, 52 PSYCHOLOGICAL RECORD 429, \_\_ (2002) (“The present findings . . . suggest that individuals who most discount the value of delayed consequences will be unlikely to cooperate in the prisoner’s dilemma.”).

<sup>142</sup> See Jared Diamond, *Easter Island’s End*, DISCOVER MAGAZINE, August 1995 (suggesting that civilization on Easter Island declined because the populace “was cutting the forest more rapidly than the forest was regenerating”).

<sup>143</sup> E.g., William A. Boyd, *Climate Change, Fragmentation, and the Challenges of Global Environmental Law: Elements of a Post-Copenhagen Assemblage*, 32 U. Pa. Int’l L.J. 457, 459-60 (2010) (“Expected impacts [of climate change include] sea-level rise, melting ice sheets, receding glaciers, altered precipitation patterns, increased frequency and intensity of hurricanes, drought, new and amplified disease vectors, ocean acidification, species loss, and all manner of social and economic consequences . . . .”); Lisa Heinzerling and Frank Ackerman, *Law and Economics for a Warming World*, 1 HARV. L. & POL’Y REV. 331, 353 (2007) (noting “the ominous long-range implications of climate change”).

<sup>144</sup> Lisa Heinzerling and Frank Ackerman, *Law and Economics for a Warming World*, 1 HARV. L. & POL’Y REV. 331, 350-51 (2007).

<sup>145</sup> Lisa Heinzerling and Frank Ackerman, *Law and Economics for a Warming World*, 1 HARV. L. & POL’Y REV. 331, 350-51 (2007); James G. Titus, *Rising Seas, Coastal Erosion, and the Takings Clause: How to Save Wetlands and Beaches Without Hurting Property Owners*, 57 MD. L. REV. 1279, 1331 n.180 (1998) (“It is axiomatic among economists that if an environmental policy has benefits over many decades, a high discount rate tends to discourage policies to protect the environment.”) (citing WILLIAM R. CLINE, INST. FOR INT’L ECONS., *THE ECONOMICS OF GLOBAL WARMING* 235-36 (1992), and EDWARD M. GRAMLICH, *BENEFIT-COST ANALYSIS OF GOVERNMENT PROGRAMS* 130). In a similar vein, finance scholars have offered theory and data in support of discounting the far-distant future at a lower rate than the near-future. Martin L. Weitzman, *Why the Far-Distant Future Should Be Discounted at Its Lowest Possible Rate*, 36 J. Env’t’l Econ. & Mgm’t 201, 202 (1998) (developing “a ‘generic argument’ why events in the far-distant future should be discounted at the lowest possible rate”); Omar Azfar, *Rationalizing Hyperbolic Discounting*, 38 J. Econ. Behavior & Org. 245, 251 (1999) (“Experimental results on discounting almost invariably show that agents discount the distant future at

In short, low discount rates are virtuous, as it would be beneficial for people to value the future highly, and discount it only a little bit. But as we have seen, one's discount rate is determined in part by the chances of surviving to the relevant future time, and even the longest-lived people will only survive for so long, leaving them with a chance of not being around for the deferred reward. In this way, the problem of mortality limits our ability to act in accord with a socially desirable low discount rate.

For an extreme example of how our limited lifespans and associated high discount rates cause social problems, look to Jared Diamond's account of the history of Easter Island, a isolated speck of land in the Pacific Ocean.<sup>146</sup> At one time, the Island was a verdant and fertile land. Over the course of several centuries (around 1200 to 1500 AD), however, Easter Islanders cleared the forest more rapidly than it could regenerate, and eventually the food chain was destroyed, leading to huge losses of human life and the general collapse of society.<sup>147</sup> By the time the first Europeans visited the island (in the 1700s), they found it a barren wasteland with a tiny population. One may wonder, "What were they thinking when they cut down the last palm tree?"<sup>148</sup> They were thinking: "We might as well enjoy that palm tree today because we may not get a chance to do so tomorrow."<sup>149</sup>

The immortal nature of the corporation solves this problem. A corporation has no fear that it will die before a deferred payout can be realized. Thus a corporation should be able to display a lower discount rate than would ever be possible for a natural person.<sup>150</sup> This means that corporations should act in a more socially beneficial manner than natural persons. Immortal corporations would never have chopped down the last tree on Easter Island, for example.

Thanks to its lower discount rate, a corporation should be more patient and mature than any human ever could be. It should be able to defer gratification and work cooperatively with others better than any natural person. And it should always trade fairly with counterparties, because there will always be another round tomorrow. The corporation should act like the ant, not the grasshopper. This is an intuitive and highly socially desirable

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lower rates than they discount the near future.").

<sup>146</sup> See generally Jared Diamond, *Easter's End*, DISCOVER, August 1995.

<sup>147</sup> *Id.* (suggesting that civilization on Easter Island declined because the populace "was cutting the forest more rapidly than the forest was regenerating").

<sup>148</sup> *Id.*

<sup>149</sup> See JOHN MAYNARD KEYNES, A TRACT ON MONETARY REFORM 65 (1923) ("In the long run we are all dead.").

<sup>150</sup> An immortal investor would still have a discount rate greater than zero, not due to any fear of death but because he could invest the immediate payoff in a risk-free manner and obtain a positive return.

outcome. Thus, Keynes was wrong, at least with regard to corporations.<sup>151</sup> In “the long run,” we may be dead, but they will continue to exist, and had better act accordingly.

#### D. More Positive NPV Opportunities

One key implication of the insight that corporations can display a low discount rate, one so low that it could never be achievable by a mortal person, is that corporations should observe more positive net present value (NPV) investment opportunities than do natural persons. Let us unpack that statement, using an example.<sup>152</sup>

Suppose Allison and Bob were both offered the opportunity to purchase a vacant lot for \$85,000, and that they both receive advice from expert real-estate advisors certain that the lot can be sold in one year for \$100,000.<sup>153</sup> They are each certain to clear \$15,000 on the deal—but will have to wait a year to receive that money. Should Allison or Bob buy the lot? Elementary finance teaches this depends on the present value of the expected sale price of \$100,000. What is the present value of \$100,000 to be received a year from now? That depends on Allison’s and Bob’s personal discount rate.

If Allison, thanks to a long life ahead of her, has a 10% discount rate, the \$100,000 payoff has a present value of \$90,000. Thus, the *net* present value of the investment—the payoff minus the initial investment—is \$90,000 - \$85,000, or \$5,000. Thus for Allison with her 10% discount rate, the vacant lot is a positive NPV investment opportunity and should be embraced.

What if Bob, thanks to his advanced age, has a 20% discount rate? In that case, the \$100,000 payoff would have only an \$80,000 present value to him, and the NPV would be \$80,000 - \$85,000, or *negative* \$5000. At Bob’s 20% discount rate, the vacant lot is a negative NPV investment opportunity and should be rejected.<sup>154</sup>

From this simple example, we can see that an investor with a relatively lower discount rate will observe more positive NPV investment opportunities than an investor with a relatively higher discount rate, all else being equal. This is a key finding, as the ultimate goal of financial managers “is to seize all investment opportunities that have a positive net

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<sup>151</sup> See *supra* text accompanying notes \_\_\_ to \_\_\_.

<sup>152</sup> This example is based on one found in BREALEY 14.

<sup>153</sup> For simplicity’s sake, assume the advisor has perfect foresight (or travelled through time), so that it is truly certain that the lot can be sold in one year for \$100,000 with no risk. Also assume that there are no transaction costs.

<sup>154</sup> Again, note that this example ignores risk.

present value.”<sup>155</sup> And since the corporation is immortal and thus has a lower discount rate than any natural person,<sup>156</sup> it should observe positive NPV investment opportunities where human beings would not.

To continue with the above example, if the asking price for the vacant lot were \$91,000 (instead of \$85,000), the investment would be seen by both Allison and Bob as a negative NPV opportunity and they would not invest in it. For Allison, the NPV would be  $\$90,000 - \$91,000 = (\$1,000)$ ; for Bob, the NPV would be  $\$80,000 - \$91,000 = (\$11,000)$ . But a corporation with, say, a 5% discount rate would still perceive the vacant lot as a positive NPV investment:  $\$95,000 - \$91,000 = \$4,000$ . Hence the corporation would be willing to invest, even though no natural person would do so.

This amounts to a structural advantage for immortal corporations as investors in speculative assets. Indeed, there may be some investments that would never be made in the absence of corporations, in particular ultra-long term ones, because the discount rate of a natural person would be too high to rationally invest.<sup>157</sup>

For example, consider the choice between two business opportunities of equal risk:<sup>158</sup> The “steady” opportunity pays \$1 per year every year forever, beginning this year; the “speculative” opportunity pays nothing until after 100 years pass, at which point it pays \$100,000. If these are the only two opportunities available, which should be selected? In other words, which investment has a higher net present value?

At a discount rate of 10%, the answer is clear: The steady choice is better. The present value of its endless stream of \$1, discounted at 10%, is about \$10. By comparison, the present value of the \$100,000 future payoff from the speculative choice is only about \$7.

At a slightly lower discount rate, however, the speculative investment is the superior choice. At a discount rate of 8%, for instance, the present value of the steady investment is about \$13, but the present value of the speculative investment is about \$45. At lower discount rates, the effect is even more pronounced. At 3%, the steady investment has a present value of about \$33, which is miniscule compared to the speculative investment’s present value of about \$5,000.

In this way, a low-discount-rate investor can undertake highly profitable long-term ventures that would not appear attractive to a high-discount-rate investor. In other words, a corporation, with its low discount rate, will observe more positive net present value investment opportunities than will a

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<sup>155</sup> Brealey 22.

<sup>156</sup> *Supra* Part I.A.

<sup>157</sup> *See infra* Part I.B.1.

<sup>158</sup> Or no risk. *See supra* note \_\_\_\_.

natural person.

Furthermore, ventures of the “speculative” type are precisely the type of long-term socially useful investment projects that corporations are supposed to undertake. And their immortal nature, by lowering their discount rates to lower levels than available to natural persons, makes them especially well-suited to do so.

### *E. Better Cooperation*

As a matter of economic theory, a party with a low discount rate should be expected to cooperate better than a party with a high discount rate.<sup>159</sup> Cooperation, in this sense, means diligently working together with others toward a common goal, without slacking or cheating. This is because parties with low discount rates “value future payoffs as much or nearly as much as present ones” and therefore “forego the immediate advantages or shirking or cheating . . . in the interest of reaping the long-term benefits associated with access to future trading opportunities.”<sup>160</sup>

This theory is testable, using the standard prisoner’s dilemma.<sup>161</sup> This theory would predict that parties with low discount rates are the most likely to reliably cooperate to achieve a high collective payoff, and that parties with high discount rates are more likely to defect and only obtain a low collective payoff.<sup>162</sup> And, indeed, a number of psychological studies have put this hypothesis to the test and have shown that parties with low discount rates are better at cooperating in the prisoner’s dilemma.<sup>163</sup>

An immortal corporation, then, with a discount rate lower than that of a natural person, should be expected to be an exceptionally good cooperator. This is an intuitive result, as the corporation will always be there for another round tomorrow and tomorrow and tomorrow.

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<sup>159</sup> ERIC POSNER, *LAW AND SOCIAL NORMS* 19-21, 34 (2000) [check pin]; Dan M. Kahan, *Signaling or Reciprocating? A Response to Eric Posner’s Law and Social Norms*, 36 U. RICH. L. REV. 367, 370 (2002) (summarizing the argument).

<sup>160</sup> Dan M. Kahan, *Signaling or Reciprocating? A Response to Eric Posner’s Law and Social Norms*, 36 U. RICH. L. REV. 367, 370 (2002).

<sup>161</sup> [Define prisoner’s dilemma]

<sup>162</sup> POSNER 19.

<sup>163</sup> *E.g.*, O.S. Curry et al., *Patience is a Virtue: Cooperative People Have Lower Discount Rates*, 44 PERSONALITY AND INDIVIDUAL DIFFERENCES 778, 782 (2008) (“The present study demonstrated that patience is a virtue, in the sense that participants who cooperated by contributing more to the public-good exhibited lower discount rates.”); Andrew C. Harris and Gregory J. Madden, *Delay Discounting and Performance on the Prisoner’s Dilemma Game*, 52 PSYCHOLOGICAL RECORD 429, \_\_ (2002) (“The present findings . . . suggest that individuals who most discount the value of delayed consequences will be unlikely to cooperate in the prisoner’s dilemma.”).

## III. OBJECTIONS AND CONCERNS

This Part identifies and responds to three important objections or concerns to the core idea identified in this Article, *i.e.*, that corporations should make investment decisions that are appropriate for an immortal entity.

A. *Managers are Mortal*

Corporations are managed by or under the direction of their board of directors,<sup>164</sup> and those directors must be natural persons.<sup>165</sup> Thus, while a corporation can, in theory, make investments with an infinite time horizon and an ultra-low discount rate, the only way for it do so in practice is for a group of natural persons (management) to make it so, and they might find it challenging to put themselves in the shoes of an immortal being. They may focus on annual or even quarterly performance (especially if they are compensated to do so) rather than cause the corporation to invest in the most profitable long-term ventures.<sup>166</sup>

A conscious focus on immortality, however, should help management appreciate their proper role in guiding the corporation. Managers that affirmatively recognize the immortal nature of their corporation may be able to conceive of what is in its best interest. Perhaps methods of “de-biasing” can be employed, akin to those developed in the implicit racial bias context. Studies have shown that persons with an implicit anti-African-American bias (most people, apparently) can overcome their bias, in an experimental setting at least, by consciously focusing on African-Americans they hold in high esteem, such as President Obama or Martin Luther King.<sup>167</sup>

Translating this de-biasing concept to the present problem, the goal is to encourage managers to appreciate that the corporation is immortal, and to manage it accordingly. Physical illustrations of the corporation’s long history (if any) could help in this regard, for example a yellowed photograph of the first factory or a portrait of the founder wearing obviously antiquated garb. Knowing that the corporation has existed a long time in the past makes it easier to imagine it continuing to exist for a long time into the future. Corporate seals, trademarks, songs and other branding endeavors can also assist managers in conceiving of the corporation as an entity unto itself that can live forever.

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<sup>164</sup> Del. § 141(a).

<sup>165</sup> Del. § 141(b).

<sup>166</sup> Cherry and Wong, *supra note* \_\_, at \_\_.

<sup>167</sup> Jerry Kang and Kristin Lane, *Seeing Through Colorblindness: Implicit Bias and the Law*, 58 UCLA L. REV. 465, 501 (2010).

Something as simple as consciously recognizing the immortal nature of the corporation should help de-bias managers from their own mortality. Thus it is to his credit that the Norwegian Finance Minister, in discussing his government's pension fund's investment time horizon, recently said that the fund is "investing for infinity."<sup>168</sup> Comparing methods of de-biasing against a short-term mortal view is beyond the scope of this Article, but could be examined in future work.

The management of many educational corporations, like Yale and Harvard universities, seem to have little problem managing with an eye to perpetuity<sup>169</sup>, and the same can be said for some for-profit corporations, such as Berkshire Hathaway<sup>170</sup>. The concept, however, is generalizable to all corporations: All managers should try to manage from the perspective of immortality, because all corporations are immortal.

The recognition that corporations are immortal also gives added ammunition to the movement to align executive compensation agreements with the long-term success of the corporation.<sup>171</sup>

### *B. Shareholders are Mortal – Cost of Capital*

A further fundamental objection to the corporation's investing as if it were immortal is that the corporation needs to attract shareholders to exist, and those shareholders will demand a certain return from their investment, given its level of risk.<sup>172</sup> This return a corporation "must promise in order to get capital from the market, debt or equity" is called the "cost of capital."<sup>173</sup> A corporation "does not set its own cost of capital; it must go to

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<sup>168</sup> Josiane Kremer, Norway Buys Greek Debt as Wealth Fund Sees No Default, BLOOMBERG, Sept. 9, 2010.

<sup>169</sup> See Henry Hansman, *Why Do Universities Have Endowments?*, 19 J. LEGAL STUD. 3, 9 (Jan., 1990) (Yale endowment is presumably saved for the future).

<sup>170</sup> Warren E. Buffet, *An Owners Manual to Berkshire Shareholders* (June 1996) (<http://www.berkshirehathaway.com/ownman.pdf>) ("we measure our success by the long-term progress of the companies rather than by the month-to-month movements of their stocks. In fact, we would not care in the least if several years went by in which there was no trading, or quotation of prices, in the stocks of those companies. If we have good long-term expectations, short-term price changes are meaningless for us except to the extent they offer us an opportunity to increase our ownership at an attractive price").

<sup>171</sup> Mark J. Loewenstein, *The Conundrum of Executive Compensation* 34 WAKE FOREST L. REV. 2 (2000) ([t]hose who believe that executives are "overpaid" may point to studies that suggest the lack of relation between executive compensation and corporation performance and argue that unless there is such a relation the executives compensation cannot be justified).

<sup>172</sup> SHANNON P. PRATT AND ROGER J. GRABOWSKI, *COST OF CAPITAL: APPLICATIONS AND EXAMPLES* 3 (3d ed. 2008).

<sup>173</sup> PRATT AND GRABOWSKI 3.

the market to discover it.”<sup>174</sup> For example, a corporation that heeds Part II, *supra*, and internally selects a low-discount rate investment strategy may nevertheless find out that the universe of potential shareholders have a different (and higher) discount rate.<sup>175</sup> Ultimately the corporation’s investment strategy is determined by the shareholders’ cost of capital, not the corporation’s internal discount rate.<sup>176</sup> And a shareholder’s cost of capital for an investment of a given level of risk is, in turn, determined by her own personal discount rate.<sup>177</sup>

The upshot is that the cost of capital for a corporation is determined by the weighted average discount rate of the universe of potential investors.<sup>178</sup> So, if corporations are immortal, but their shareholders are mortal, the corporation will nevertheless be forced to invest as if it were mortal. All of the benefits of investing from an immortal perspective discussed above cannot be achieved because the cost of capital will be set by investors, who are themselves mortal. This is a potentially powerful critique, but its effect should be blunted by the fact that corporations themselves can be shareholders in other immortal corporations.

Originally, corporations were not permitted to hold stock in other corporations.<sup>179</sup> Beginning in the nineteenth century, corporate promoters asked for this privilege and some states started granting special charters to some corporations allowing them to own stock in other related corporations.<sup>180</sup> The floodgates opened in the 1880s and ‘90s, when New Jersey enacted the first general corporate code that gave all corporations the ability to own stock in other corporations and a “Holding Company” Act that allowed corporations to buy and sell the stock and assets of its competitors.<sup>181</sup> Other states soon began to follow New Jersey’s lead and, since 1912, every state permits corporations to hold stock in one another.<sup>182</sup>

Corporations have taken this newfound opportunity to heart. Investing

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<sup>174</sup> PRATT AND GRABOWSKI 3 (“The cost of capital comes from the marketplace.”).

<sup>175</sup> PRATT AND GRABOWSKI 5 (“The cost of capital is a function of the investment, not the investor. The cost of capital comes from the marketplace. The marketplace is the universe of investors ‘pricing’ the risk of a particular asset.”).

<sup>176</sup> [Bill Carney]

<sup>177</sup> Holding risk constant. *See supra note* \_\_\_\_.

<sup>178</sup> PRATT AND GRABOWSKI 6 (“Cost of capital equals the discount rate.”); *id.* at 10 (citing ALLEN, BREALEY AND MYERS). For present purposes, this ignores differences between debt and equity.

<sup>179</sup> Lawrence M. Friedman, *A History of American Law* 396 (3d ed. 2005).

<sup>180</sup> Lawrence M. Friedman, *A History of American Law* 396 (3d ed. 2005).

<sup>181</sup> Joel Seligman, *A Brief History of Delaware’s General Corporation Law of 1899*, 1 DEL J. CORP. L. 249, 265 (1976).

<sup>182</sup> Joel Seligman, *A Brief History of Delaware’s General Corporation Law of 1899*, 1 DEL J. CORP. L. 249, 269 (1976).

in shares of other corporations has become a major component of modern corporate management. eBay, Inc., for instance, not only runs an online auction house, but also buys stock in lots of other corporations, such as a 28% stake in craigslist, Inc.,<sup>183</sup> as well as hundreds of millions of dollars in other corporations.<sup>184</sup> Indeed, the Delaware Chancery Court has observed, in connection with a corporate opportunity case, that eBay is “in the business of investing in securities.”<sup>185</sup>

The result is that many corporations are owned, in significant part, by other corporations. Take Coca-Cola Co., for instance. SunTrust Banks, Inc. owns about 7% of Coke shares and Berkshire Hathaway, Inc. owns about 8%.<sup>186</sup> And these corporations, in turn, are owned in significant part by other corporations.<sup>187</sup> And so on and so on. It’s turtles all the way down.<sup>188</sup>

Well, not quite. At some point in the chain of stock ownership one finds natural persons, and there are natural persons with significant direct holdings of corporations, even massive ones like Coca-Cola.<sup>189</sup> But the cost of capital for a corporation is not determined by any one shareholder, but by the weighted collective view of all of the actual and potential shareholders.<sup>190</sup> And, as discussed *supra* in Part II.C, immortal corporations should display a lower discount rate than natural persons. So,

<sup>183</sup> eBay Domestic Holdings, Inc. v. Newmark, 16 A.3d 1, 11 (Del. Ch. 2010).

<sup>184</sup> See eBay 10-K

<sup>185</sup> In re eBay, Inc. Shareholders Litigation, 2004 WL 253521, at \*4 (Del. Ch. Jan. 23, 2004).

<sup>186</sup> YAHOO! FINANCE, <http://finance.yahoo.com/marketupdate?u> (search “get quotes” for Coca Cola Company information; then follow “Major Holders”)

<sup>187</sup> See YAHOO! FINANCE, <http://finance.yahoo.com/marketupdate?u> (search “get quotes” for specific company information; then follow “Major Holders”)

<sup>188</sup> The phrase “turtles all the way down” traces its origins to a nineteenth century William James essay. See Rodger C. Crampton, *Demystifying Legal Scholarship*, 75 GEO. L. J. 2 n.4 (1986) (citing William James, *The Will to Believe* (1897)). For its meaning, see STEVEN HAWKING, A BRIEF HISTORY OF TIME 1:

A well-known scientist (some say it was Bertrand Russell) once gave a public lecture on astronomy. He described how the earth orbits around the sun and how the sun, in turn, orbits around the center of a vast collection of stars called our galaxy. At the end of the lecture, a little old lady at the back of the room got up and said: “What you have told us is rubbish. The world is really a flat plate supported on the back of a giant tortoise.” The scientist gave a superior smile before replying, “What is the tortoise standing on?” “You’re very clever, young man, very clever,” said the old lady. “But it’s turtles all the way down!”

<sup>189</sup> YAHOO! FINANCE, <http://finance.yahoo.com/marketupdate?u> (search “get quotes” for Coca Cola Company information; then follow “Major Holders”) (Coca-Cola Director, Donald Keough owns 4.9 million shares in the company).

<sup>190</sup> See PRATT, *supra* note 175.

to the extent that corporations make up some significant portion of the investors in other corporations, the marketplace's discount rate will be lower than it would be if all shareholders were natural persons.

Furthermore, the objection that no one will invest in a corporation that plans to invest in a project whose benefits will be realized only after they have passed away can also be rebutted even if all the potential shareholders are natural persons. This is because, so long as parties have access to well functioning capital markets, natural persons that hold shares directly can sell their shares and "cash out" their value in their lifetime.<sup>191</sup> So long as the corporation has a bright future, existing shareholders can sell their shares to new shareholders in an endless daisy-chain of ownership.<sup>192</sup>

### C. Managerial Accountability

Centralized management is a fundamental feature of the corporate structure, as discussed in Part II.B, *supra*. The separation of ownership and control that it engenders, however, is a consistent source of trouble for corporate law.<sup>193</sup> With little direct oversight from the shareholders, corporate managers may be tempted to work as little as possible and aggrandize as much pay and perquisites as possible.<sup>194</sup> To address this problem, corporate law imposes fiduciary duties of care and loyalty on directors.<sup>195</sup>

But if management is supposed to maximize the long-term value of the corporation, and not particularly worry about the share price on a given day, this may permit managers to whittle away the value of the corporation while professing a belief that large profits will eventually materialize.<sup>196</sup> This is a problem. But this is already the case under current law. Directors, whether

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<sup>191</sup> STEPHEN M. BAINBRIDGE, CORPORATE LAW 30 (2d 2009) (shares in the corporation are "alienable" meaning the shareholder can freely sell their securities at any time without restrictions or permission from the corporation).

<sup>192</sup> PRINCIPLES OF FINANCE (Oil Co. example). Finally, the same objection can be made to many government investments that are made with a time horizon that exceeds an ordinary lifespan (*e.g.*, the Hoover Dam), but natural persons have proved willing to contribute taxes toward those investments.

<sup>193</sup> STEPHEN M. BAINBRIDGE, CORPORATE LAW 5 (2d 2009) (much of developing corporate law and policy has focused on the divergence of manager and shareholder interests).

<sup>194</sup> ALI Principles of Corporate Governance: Analysis and Recommendations Vol. I 384-385 (1992) (it is possible for managers to exercise their discretionary power in ways that benefit their own interests rather than those of the shareholders whom they are meant to represent).

<sup>195</sup> STEPHEN M. BAINBRIDGE, CORPORATE LAW 75 (2d 2009) (much of corporate law can be understood as constraining directors from acting in their own interests).

<sup>196</sup> *Contra* private equity investment agreements – usually for a ten year term.

operating under an “other constituencies” statute or not, can generally find a legitimate rationale for entrenchment even without any discussion of immortality.<sup>197</sup>

#### CONCLUSION

A focus on the immortal nature of corporations reveals important theoretical insights into corporate investment policy. It also opens up a potentially fertile field for future scholarship. For example, the entity theory of the corporation has in recent decades been largely overrun by the nexus-of-contracts view.<sup>198</sup> A focus on corporate immortality, however, may revive the old-fashioned idea that a corporation really is something more than merely a means for presently existing natural persons to transact. This and other questions bear further examination.

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<sup>197</sup> See *Paramount v. Time*.

<sup>198</sup> FISCHER AND EASTERBROOK; HOFFIELD, *FUNDAMENTAL LEGAL CONCEPTIONS* (1923) (“corporations [are] simply another mode by which individuals or natural persons can enjoy their property and engage in business”).