

Hart, Oliver D.; Zingales, Luigi

Working Paper

Companies Should Maximize Shareholder Welfare Not Market Value

Working Paper, No. 267

Provided in Cooperation with:

George J. Stigler Center for the Study of the Economy and the State, The University of Chicago Booth School of Business

Suggested Citation: Hart, Oliver D.; Zingales, Luigi (2017) : Companies Should Maximize Shareholder Welfare Not Market Value, Working Paper, No. 267, University of Chicago Booth School of Business, Stigler Center for the Study of the Economy and the State, Chicago, IL

This Version is available at:

<https://hdl.handle.net/10419/262669>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



Stigler Center
for the Study of the Economy and the State

**Companies Should Maximize Shareholder
Welfare Not Market Value**

Oliver Hart
Harvard University

Luigi Zingales
University of Chicago

July 2017

New Working Paper Series No. 12

Stigler Center for the Study of the Economy and the State
University of Chicago Booth School of Business
5807 S Woodlawn Ave
Chicago, IL 60637

Companies Should Maximize Shareholder Welfare Not Market Value

Oliver Hart and Luigi Zingales*

This Version: July 2017

First Version: October 2016

Abstract

What is the appropriate objective function for a firm? We analyze this question for the case where shareholders are prosocial and externalities are not perfectly separable from production decisions. We argue that maximization of shareholder welfare is not the same as maximization of market value. We propose that company and asset managers should pursue policies consistent with the preferences of their investors. Voting by shareholders on corporate policy is one way to achieve this.

*Hart: Department of Economics, Harvard University (email: ohart@harvard.edu); Zingales: Booth School of Business, University of Chicago (email: Luigi.Zingales@chicagobooth.edu). We are grateful for feedback from audiences at the JLFA conference in Cambridge, MA (November, 2015), the National University of Singapore (November, 2015), the Crisis in the Theory of the Firm conferences at Harvard Business School (November, 2015) and Booth School of Business, University of Chicago (March, 2017), the Hans-Werner Sinn retirement conference in Munich (January, 2016), the 2016 Global Corporate Governance Colloquia in Stockholm (June, 2016), the Committee for Organizational Economics meeting in Munich (September, 2016), the ALEA Conference at Yale (May, 2017), the Contract Law and Economics in the Next One Hundred Years conference at Copenhagen Business School (June, 2017), and the NBER Corporate Finance meeting (July, 2017). We would also like to thank Henry Hansman, Michael Klausner, Bruce Kogut, John Matsusaka, Holger Spamann, two referees, and especially Niko Matouschek, for helpful comments. Luigi Zingales gratefully acknowledges financial support from the Stigler Center at the University of Chicago.

1. Introduction

This paper is concerned with a venerable question: what is the appropriate objective function for a firm, particularly a public company? This question can in turn be divided into two sub-questions. The first is, what does the law (in the United States, say) require the board of directors or managers of a (public) company to do? The second is, what should managers do? We will be concerned more with the second sub-question than the first, but our analysis will have implications also for the design of law.

A natural starting point for our analysis is the famous article that Milton Friedman published in the New York Times Magazine in 1970.¹ In this article, Friedman starts off by arguing that a corporate executive is the employee of the owners of a (public) company and has a direct responsibility to his employers. He goes on to say: “That responsibility is to conduct the business in accordance with their desires, which will generally be to make as much money as possible while conforming to the basic rules of the society, both those embodied in law and those embodied in ethical custom.”

Friedman’s article has been enormously influential and his general position, that companies should maximize profit or market value, commands wide acceptance among both economists and lawyers today. It can even be seen as providing the intellectual foundation for the “shareholder value” revolution.

In this article we take issue with one part of Friedman’s argument. We follow him in supposing that, for many public companies, shareholder welfare is an appropriate objective. However, we argue that it is too narrow to identify shareholder welfare with market value². The ultimate shareholders of a company (in the case of institutional investors, those who invest in the institutions) are ordinary people who in their daily lives are concerned about money, but not just about money. They have ethical and social concerns. In principle, these could be part of the “ethical custom” Friedman refers to, but does not elaborate on. Not only do shareholders give to charity, something Friedman discusses at length, but they also internalize externalities to some extent. For example, someone might buy an electric car rather than a gas guzzler because he or

¹ Friedman had written about the same topic earlier; see Friedman (1962). But the question has a much longer history. See, e.g., Berle (1931) and Dodd (1932).

² We are by no means the first to argue that shareholder welfare and market value are not the same. Related contributions are Elhauge (2005), Graff Zivin and Small (2005), Baron (2007), Benabou and Tirole (2010), Morgan and Tumlinson (2012), and Magill et al. (2015). We discuss some of these papers further below.

she is concerned about pollution or global warming; she might use less water in her house or garden than is privately optimal because water is a scarce good; she might buy fair trade coffee even though it is more expensive and no better than regular coffee; she might buy chicken from a free range farm rather than from a factory farm; etc. As another example, many owners of privately-held firms appear to care about the welfare of their workers beyond what profit maximization would require.

However, if consumers and owners of private companies take social factors into account and internalize externalities in their own behavior, why would they not want the public companies they invest in to do the same? To put it another way, if a consumer is willing to spend \$100 to reduce pollution by \$120, why would that consumer not want a company he or she holds shares in to do this too?

A response that Milton Friedman or his followers might make is: we should separate money-making activities from ethical activities. Let companies make money and let individuals and governments deal with externalities. In some settings (like charity, which is Friedman's leading example), this is a powerful argument, but as a general matter we disagree with it because we believe that money-making and ethical activities are often inseparable. Consider the case of Walmart selling high-capacity magazines of the sort used in mass killings.⁴ If shareholders are concerned about mass killings, transferring profit to shareholders to spend on gun control might not be as efficient as banning the sales of high-capacity magazines in the first place.

More generally, Friedman's separability assumption requires consumers to have a (scalable) project that is the reverse of the project implemented by the corporation. But is there any reason to think that the reverse of an oil digging project, say, always exists? In many cases this would seem to defy belief.

In this paper we will be particularly interested in non-separable activities, where profit and damage are inextricably connected for technological reasons⁵. The company has the technology to create both, and individuals do not have the technology (costlessly) to undo this. In this case we will argue that Friedman's conclusions do not hold: shareholder welfare is not

⁴ <https://www.forbes.com/sites/clareoconnor/2015/04/15/walmart-beats-out-church-in-court-over-gun-sales/#5e48811f66c8>.

⁵ Elhauge (2005), Benabou and Tirole (2010), and Morgan and Tumlinson (2012) also consider the case of non-separable activities.

equivalent to market value. In contrast, in the case where the externality is separable from money-making, such as with charitable giving by companies, Friedman's argument is correct.

A second argument that Friedman and his supporters make in favor of profit maximization is that externalities should be left to government. Like many people these days (and maybe always), we are not that sanguine about the efficiency of the political process. Also, even if the political process is efficient, it might be very difficult to write a regulation that specifies, say, that companies should treat their workers with dignity. It might be better to leave the implementation of this goal to shareholders. Finally, in the United States there are some areas where the Supreme Court has made political intervention very difficult by, for example, ruling that individuals have a constitutional right to own a gun and that corporations have a constitutional right to support political campaigns. If political change is hard to achieve, action at the corporate level is a reasonable substitute⁶. An example of such an action is the attempt by some Walmart shareholders, such as Trinity Church, to include in the Walmart proxy statement a proposal requiring the board to oversee the sale of "products that especially endanger public safety" (Bainbridge and Copland (2016)).

We are aware of a further counter-argument to our suggestion that companies should pursue shareholder welfare rather than value maximization. If the board is encouraged to take into account ethical concerns, which are hard to quantify, might this not open the door to self-interested behavior under the guise of ethical behavior? This is a legitimate worry and we will discuss possible remedies.

We model prosocial behavior in a somewhat novel way. In the existing literature on social investing (e.g., Heinkel et al. (2001), Graff Zivin and Small (2005), Barnea et al. (2013), Baron (2007), and Hong and Kacperczyk (2009)), prosocial investors are supposed to be sin-averse and to discount shares of dirty companies relative to those of clean companies. We do not proceed in this way for the following reason. Under sin-aversion the marginal investor in a company, that is, the investor whose valuation of shares equals their market price, will be the most prosocial of the shareholders since by definition inframarginal investors have a valuation above the price and so must be less sin-averse. Thus a value maximizing company will maximize the valuation of its most prosocial investor, and this will naturally lead it to act in a somewhat prosocial way. ("Prosocial behavior is good for profit.")

⁶ See Benabou and Tirole (2010) for a discussion of this issue.

We think that this conclusion is too optimistic. We believe that in reality many investors are prosocial even though they are willing to hold the shares of tobacco or gun companies. To capture this, we suppose that each individual puts some weight on doing the right or socially efficient thing, *but only if he feels responsible for the action in question*. The relative weights on private and social payoffs vary across individuals. This formulation implies that a consumer may vote for a company to adopt a clean rather than a dirty technology even if this reduces profit, but will be willing to hold shares in a dirty company if he is not responsible for the decision (or once the decision has been made). We discuss the robustness of our results to different specifications of moral behavior in Section 5.

Our paper should be seen as a contribution to the vast literature on objectives of firms. This literature can be divided into several parts. One part emphasizes that a Friedman-type argument holds only in an Arrow-Debreu complete markets economy where each firm is a perfect competitor. If there is uncertainty and some contingent commodity markets do not exist, consumers will care about the types of securities firms issue as well as the value of these securities, and shareholders will disagree about what a firm should do: net market value maximization will not be a universally approved goal⁷. The same is true if there are complete markets but the firm is an imperfect competitor in the product or labor markets. A shareholder of General Motors who is also a purchaser of cars may favor a low price policy for GM, even if this sacrifices some profit (see, e.g., Farrell (1985)). Similarly, a GM shareholder who works at GM may favor a high wage policy rather than a profit-maximizing one.

A second part of the literature emphasizes the idea that, particularly these days, shareholders have diversified portfolios and so are interested in total market value rather than the value of a particular firm. If managers respond to this and maximize combined value, the good news is that some coordination failures between firms will be avoided. The bad news is that managers may be able to exploit their joint monopoly power without needing to reach formal or informal agreements, rendering anti-trust laws powerless⁸.

A third part of the literature has been concerned with the relations between a firm and its stakeholders, which include workers, consumers, producers and creditors, as well as shareholders. In a world of incomplete contracts, these groups are all vulnerable to opportunistic

⁷ See the papers in Magill and Quinzii (2008).

⁸ For recent empirical work on the importance of this effect, see Azar et al. (2017). For a discussion of the theory, see Rotemberg (1984), Gordon (1990), and Azar (2017).

behavior and so to encourage them to make relationship-specific investments it may be important for managers to deviate from short-run profit or value maximization⁹. Under some conditions it may be efficient for the company to be set up as a worker, producer, or consumer co-operative or as a non-profit¹⁰.

Our paper is closer to a fourth part of the literature that emphasizes corporate social responsibility¹¹. This part of the literature, and it is vast, is mainly concerned with the empirical implications of a company's pursuing a broader objective than just shareholder value. Might putting some weight on social issues actually increase profit in the long-run? There is also a small theoretical literature on corporate objectives when shareholders care about public goods and externalities. We will discuss the relationship between our paper and this literature in Section 6. One point to note is that most of the theoretical literature is concerned with corporate gift-giving rather than with the mitigation of externalities, which is the focus of our paper.

The closest work to ours is Elhauge (2005). Elhauge (2005) makes many of the same arguments that we do in a more informal way. Specifically, he recognizes that profit maximization is too narrow a goal for managers when shareholders have social concerns. He also identifies the role of takeovers in pushing companies to maximize profits, even against the interest of shareholders themselves, given that shareholders may be subject to a collective action problem. Elhauge (2005) does not model prosocial behavior, nor does he explain the asymmetry, i.e., why in a world of socially conscious shareholders we do not observe prosocial takeovers; this is one of the concerns of our paper. He also does not advocate shareholder voting as a way to determine corporate policy, as we do. At the same time his paper considers a number of issues that we do not. Stout (2012), like Elhauge (2005), also argues that, given that shareholders are prosocial, managers should pursue a broader agenda than profit maximization.

The paper is organized as follows. In Section 2 we consider a very simple model of a founder who wants to take a company public. We ask whether the founder prefers to create a “clean” company or a “dirty” company assuming that she has complete control over the company's future. In Section 3 we discuss various governance structures that will allow the founder to influence the direction of the company given that she does not have complete control

⁹ See, e.g., Shleifer and Summers (1988), and Blair and Stout (1999). For a recent discussion, see Mayer (2013). For a related idea, see Magill et al. (2015).

¹⁰ See, e.g., Hansmann (1996).

¹¹ For a recent survey, see Kitzmueller and Shimschack (2012).

over its future. In Section 4 we compare the governance arrangements suggested by our analysis to what is observed or feasible in practice. Section 5 discusses the robustness of our results to the particular way we model prosocial behavior. Section 6 contains a very short literature review. Section 7 concludes.

2. A very simple model

Consider a company initially 100% owned by a founder F . At date 0 F will take the company public and sell off her entire stake.¹² A new board of directors will be appointed and this board together with senior executives will take an action at date 1. For simplicity we suppose that this action x takes on two values: *clean* or *dirty*. The action has two effects: it creates some profit π that is distributed to shareholders, and some environmental damage that affects people in the rest of the economy (possibly in other countries). Note that this environmental damage is supposed not to affect shareholders directly. We assume that the damage is measured in money. For simplicity we assume that the environmental damage of the clean action is zero while the environmental damage of the dirty action is d . The interest rate is zero.

We can thus write the payoffs as follows, where social surplus equals profit minus damage:

	<i>profit</i>	<i>damage</i>	<i>social surplus</i>
Clean	π_{clean}	0	π_{clean}
Dirty	π_{dirty}	d	$\pi_{dirty} - d$

Our economy contains a large number of consumers (one of whom is F). Most consumers are not wealthy (F is an exception), and some consumers are prosocial (or socially conscious). We model prosocial behavior as follows. We suppose that a consumer puts some weight on doing the right or socially efficient thing, *but only if he feels responsible for the action in question*. An implication of this is that a consumer does not object to holding shares in a dirty company if he had no role in choosing the dirty action—indeed he will pay full price for such shares. If the consumer is asked to vote on a clean action rather than a dirty action, however, he may be

¹² The analysis would not be very different if F initially sells only a fraction of her shares. As long as she retains control, she will feel responsible for the choice of action or governance structure. Furthermore, she will be concerned about what happens after she loses control, an event that is bound to happen eventually.

prepared to vote for the former. We will take the view, discussed further below, that a consumer will vote as if he is pivotal since this is the only time his vote matters¹⁴. Moreover, if his vote is pivotal, he feels responsible for the outcome.¹⁵

We make a distinction between how a consumer decides between actions and his final payoff. We will refer therefore to two types of payoffs: decision payoffs and final payoffs. The decision payoff incorporates the damage that his decision causes, while the final payoff does not.

Start with decision payoffs. We assume that the decision payoff from an action that consumer i feels responsible for is a weighted average of his private payoff and a fraction of the social surplus corresponding to the action, where the weights are $(1 - \lambda_i)$ and λ_i , respectively, and the fractional weight on the social surplus term equals consumer i 's shareholding¹⁶. That is, the decision payoff to consumer i who owns a fraction α_i of the company's shares from the dirty action is

$$(1) \quad (1 - \lambda_i)\alpha_i\pi_{dirty} + \lambda_i\alpha_i(\pi_{dirty} - d) = \alpha_i(\pi_{dirty} - \lambda_i d),$$

while from the clean action it is

$$(2) \quad (1 - \lambda_i)\alpha_i\pi_{clean} + \lambda_i\alpha_i\pi_{clean} = \alpha_i\pi_{clean},$$

where $0 \leq \lambda_i \leq 1$.

It follows that consumer i will vote for *clean* over *dirty* if and only if

$$(3) \quad \alpha_i\pi_{clean} > \alpha_i(\pi_{dirty} - \lambda_i d),$$

which, as long as $\alpha_i > 0$, simplifies to

$$(4) \quad \pi_{clean} > \pi_{dirty} - \lambda_i d.$$

Comparing (4) and social surplus, we see that the only difference is that consumer i puts weight λ_i rather than 1 on damages.

¹⁴ We ignore the cost of voting.

¹⁵ For a model of responsibility, see Engl (2017). People may try to avoid knowing about or being responsible for decisions in order to make selfish choices. On this, see Rabin (1995) and Benabou and Tirole (2010). But evading responsibility may be more difficult if you are voting on an issue.

¹⁶ We suppose that a consumer feels responsible for the share of social surplus corresponding to his shareholding in order to avoid a situation where the social surplus term overwhelms the profit term for a small shareholder. A similar assumption is made in Graff Zivin and Small (2005) and Baron (2007). The evidence in Schumacher et al. (2017) on dispersed benefits provides another explanation for why the social surplus term may fail to overwhelm the private payoff.

Let us turn now to final payoffs. We assume that once the consumer has made his decision—taking externalities into account—he is no longer plagued by this decision. He neither suffers from the externalities resulting from it nor receives a warm glow from avoiding them¹⁷. Thus consumer i 's final payoff is $\alpha_i \pi_{clean}$ if the clean action is implemented and $\alpha_i \pi_{dirty}$ if the dirty action is implemented. Later in the paper we will provide a fuller discussion of why we distinguish between decision payoffs and actual payoffs.

It follows from (4) that a consumer never votes for an action that is less profitable *and* also less socially efficient. More formally, we have

Proposition 1

(a) If $\pi_{clean} > \pi_{dirty}$, all consumers vote for *clean* over *dirty*.

(b) If $\pi_{clean} < \pi_{dirty} - d$, all consumers vote for *dirty* over *clean*.

To make the analysis interesting we assume a tension between profitability and social efficiency, i.e.

$$(5) \quad \pi_{dirty} > \pi_{clean} > \pi_{dirty} - d,$$

that is, neither (a) nor (b) applies.

Let us return to the situation of the founder F at date 0. We are interested in the case where F through a choice of governance structure can affect the determination of the decision at date 1. Thus F will see herself as responsible for the choice of action x . The simplest case is where F can choose x directly. What x does she want?

The x that F chooses will affect the market value of the shares at date 0 and hence the amount that F receives when she cashes out. The market value is given by π_{clean} if clean is chosen and π_{dirty} if dirty is chosen. As with any other person in the economy, F's decision payoff is a weighted average of profit and social surplus. Thus, if (4) holds, F will choose *clean* and if it does not, then F will choose *dirty*. In other words, F will choose *clean* if and only if

$$(6) \quad \lambda_F > \frac{\pi_{dirty} - \pi_{clean}}{d},$$

¹⁷ For a discussion of warm glow effects, see Andreoni (1990).

i.e., if and only if the weight F puts on social considerations is sufficiently large relative to the ratio of the difference in profits to damages. F 's final payoff is just given by the profit associated with the action chosen (absence of warm or cold glow).

One special case of our model is when *clean* is a lower profit, lower damage action, but is no more socially efficient than *dirty*, i.e.,

$$(7) \quad \pi_{clean} = \pi_{dirty} - d .$$

One interpretation is that choosing *clean* stands for giving some of the shareholders' money to a (environmental) charity. This is a situation where externalities are separable from money-making activities. Proposition 1(b) tells us that all shareholders would vote for *dirty* over *clean*, as would the founder. In such a case, our model says that value maximization is the appropriate objective of a company. Thus, we can see Friedman's conclusion that individuals rather than companies should give to charity as a special case of our model where externalities are separable from money-making activities.

So far we have assumed that F chooses x directly. In the next section we discuss how F 's choice might be implemented in practice.

3. Implementing the founder's choice

Before we turn to discussing how F could try to implement or at least influence the choice of x , it is important to analyze how the market for corporate control will affect this choice *in the absence of any restrictions*. Even though hostile bids are rare these days, we will analyze how they could impact the choice of x .

3.1 Amoral drift

Suppose that a board is expected to choose *clean*. Then the value of the company (just before date 1) will be π_{clean} . A bidder with $\lambda_i=0$ (or a low λ_i), that is, someone who cares only or mainly about money, could make an unconditional offer for the company at a price $\pi_{dirty} > p > \pi_{clean}$. At the same time he could announce that if successful (more than 50% of the shares are tendered), he plans to freeze-out non-tendering shareholders at a price between p and π_{clean} . If successful this unconditional offer nets the bidder a profit of $\pi_{dirty} - p$.

How will shareholders react to such a bid? We argue that even prosocial shareholders will tender. The reasoning is as follows. Each shareholder is small and so the chance that his tendering decision will determine the success of the bid is negligible. If a shareholder thinks that the bid will fail then it is better for him to tender since he will receive p and can always buy back his shares at π_{clean} . If the shareholder thinks that the bid will succeed then since he is extremely unlikely to be pivotal he will barely feel responsible for the outcome even if he tenders (to put it another way, the second term in his decision payoff, (1)-(2), will be weighted by the probability of his being pivotal). Thus, the second term in (1)-(2) drops out. Hence he compares p , the price he receives if he tenders, to the freeze-out price, which is lower. Thus, it is again better to tender.

So tendering is a dominant strategy even for a prosocial shareholder and the bid succeeds¹⁸. This is true even if the majority of shareholders have high λ_i 's and would have voted against the bid if given the opportunity. The bidder is taking advantage of the collective action problem to coerce dispersed shareholders into accepting an outcome that collectively they may not like. A prosocial shareholder with a high λ_i would vote for *clean* rather than *dirty* because he reasons to himself: If my vote is pivotal, and this is the only time it matters, I will be responsible for the dirty outcome if it occurs. I should put a lot of weight on the second term in (1)-(2), and the second term outweighs the first if my λ_i is high. However, such a shareholder will tender to a bidder even if he knows the bidder will choose *dirty* rather than *clean* because he reasons to himself: My decision is almost certain not to be pivotal and so the probability of my being responsible for the success of the bid is very low. Hence the second term in (1)-(2) gets very low weight and according to the first term I should tender.

Thus, the market for corporate control will push a board who wants to choose *clean* into a choice of *dirty*: we call this an “*amoral drift*”. An example of this amoral drift is provided by Shleifer and Summers (1988), who argue that a hostile bidder who gets control of a company might profit by reneging on implicit contracts made by previous managers with employees. Our model explains why prosocial shareholders might favor upholding the implicit contracts and yet might still tender to the bidder.

¹⁸This “pressure to tender” problem is well-known. For a discussion, see Bebchuk and Hart (2001), and, in the context of profit-seeking bidders and prosocial shareholders, Elhauge (2005). Note that a version of our argument also holds if the bidder makes a conditional offer at a price $p > \pi_{clean}$. Now there are two equilibria. If shareholders expect the bid to succeed they will tender and it will succeed. However, there is a second equilibrium where the shareholders expect the bid to fail, do not tender, and it fails.

It is important to note that the unrestricted takeover market just described is a thing of the past in the United States. First, as a result of a number of legal decisions it is now difficult, if not impossible, in Delaware for a bidder to make a two-tier offer where the freeze-out price is significantly below p . The closer the freeze-out price is to p the less inclined will be a shareholder who favors *clean* to tender if he thinks the bid will succeed. Second, the widespread use of poison pills effectively forces a bidder to hold a vote before taking over a company. This avoids the problem we have identified since prosocial shareholders can vote against a bid to turn a clean company into a dirty one.

For the same reasons, activist investors do not pose the same dangers for clean companies as bidders. An activist accumulates a toe-hold in a company but then relies on other shareholders to support its position, which is akin to a vote. Thus if the majority of shareholders favor a clean technology an activist investor should not be able to turn a clean company into a dirty one. We return to this question in Section 4.4.

Given the above the amoral drift may be less serious than it once was. At the same time we think that that an amoral drift may still exist to the extent that company boards and asset managers *think* (mistakenly in our opinion) that they have a fiduciary duty to maximize shareholder value, something that we discuss further below.

We see that an unfettered market for corporate control can imperil clean companies. Is the opposite true? If there are many consumers with high λ_i 's, might there not be at least one wealthy one who is willing to take over a company that is expected to choose *dirty* and turn it into one that will choose *clean*?

We believe that the answer is no. There is an important asymmetry here. First, when it comes to removing an externality, there is a collective action problem. Someone who takes over a profitable dirty company and converts it into a less profitable clean company will take a loss and so each prosocial consumer would prefer someone else to do the job. But there is a second issue. We have assumed that the second term in (1)-(2) enters a prosocial consumer's decision payoff only if he feels responsible for an action, and also that it does not enter his final payoff. Consider the bidder's calculation. If he does not make a bid his payoff is zero. If he does make a bid he will have to offer shareholders (at least) the current market price π_{dirty} to persuade them to

tender²⁰. Once the bidder has a majority of the shares, say he acquires 100%, he will feel responsible for the choice of x and so will choose according to (4). If his λ_i is high and he chooses *clean*, his final payoff is

$$(8) \quad -\pi_{dirty} + \pi_{clean} < 0,$$

i.e., he makes a loss. Thus it is better for him not to make a bid.

Note again the assumptions we have made. A consumer takes damage into account if and only if he feels responsible for an action causing the damage. But after he has chosen his (presumably correct) action the damage does not enter his final payoff as a negative term: there is no cold glow. Nor does the removal of damage enter as a positive term: there is no warm glow.

To use a numerical example, a prosocial consumer might vote to make \$100 profit and cause no pollution rather than to make \$150 profit and cause pollution equal to \$60. Indeed he will do so if his λ exceeds 5/6. His final payoff from doing so, however, will be \$100. Once he makes the right decision he does not feel good about the damage of \$60 that he is preventing.

For this reason the same prosocial consumer would not pay \$150 to change a company that is making \$150 profit and causing damage \$60 into one that makes \$100 profit and causes no damage. If he did so, his final payoff would be $-150+100<0$. There is something like the endowment effect at work here but the cause is different.

Of course, these assumptions about payoffs and behavior could be questioned. Some evidence consistent with them can be found in Lazear et al. (2012) and Della Vigna et al. (2012). In Lazear et al. (2012), half of the subjects exhibit a preference for avoiding a situation where they must decide whether to share the proceeds of a game. Similarly, in Della Vigna et al. (2012), between 10% and 25% of households do not answer the door bell when they have been warned that the visitor might be a fund raiser. Thus, people prefer to avoid situations where they have to make a prosocial decision.

This simple asymmetry has a very sharp implication: without any restrictions publicly traded companies will naturally drift towards social indifference, i.e., they will tend to put little weight on the externalities they produce. They will underweight social surplus much more than privately held companies.

²⁰ At any price below π_{dirty} it is a dominant strategy for a shareholder not to tender as long as any future freeze-out price has to exceed the pre-bid market price, π_{dirty} ; this is consistent with U.S. corporate law.

Ironically, in the United States proxy access rules are not designed to solve this problem—if anything they go in the opposite direction. Under rule 14a-8, the SEC requirement to include shareholders’ proposals in companies’ proxy material is limited to “proper subjects for action.” The SEC later opined that “proposals which deal with general political, social or economic matters are not, within the meaning of the Rule, ‘proper subjects for action by security holders²¹’”. Consistent with this approach, in 1951 a federal court upheld the exclusion of a proposal seeking desegregation of buses as an improper subject for shareholders (Peck v. Greyhound, 97 F. Supp. 679, 680, S.D.N.Y. 1951). In 1954, the SEC added the “ordinary business” exclusion, which further limited the ability of shareholders to introduce social considerations in proxy ballots.

In the late 1970’s the SEC introduced the idea that the “ordinary business exclusion” would not apply to matters with significant policy implications, such as tobacco to minors, nuclear power and the like (Andersen, 2016). The effective boundaries of this public policy exception are heavily litigated to this day (see the Walmart case mentioned above). Overall, it is fair to say that law and regulation have not helped to prevent the amoral drift.

3.2 *The founder’s choice*

The existence of this amoral drift makes it relatively simple for an F who wants to implement a *dirty* decision, but is worried that a future board might put too much weight on ethical concerns and choose *clean*: F should make hostile takeovers easy²². One way she can encourage takeovers is to put in place a non-staggered board²³.

F’s task is more difficult if she wants to implement *clean*. One possibility is to put in place a staggered board. Another possibility is to set up the company as a dual class one and retain voting control with relatively few income rights. We are seeing more and more efforts along these lines: Google and Facebook are prominent recent examples. But dual class companies have

²¹ The SEC Today Released An Opinion Of Baldwin B. Bane, Exchange Act Release No. 3638, at *1 (Jan. 3, 1945).

²² The founder could also encourage managers to pursue profit by placing a large amount of debt in the company’s capital structure or imposing high-powered profit-based incentive schemes.

²³ For a discussion of how staggered boards (often in combination with poison pills) can impede takeover bids, see Bebchuk and Cohen (2005). Daines et al. (2016) provide empirical evidence that staggered boards can increase shareholder welfare for reasons other than those emphasized here.

their own corporate governance problems, as one can see from the recent spat involving Viacom.²⁴

A third possibility is for F to write a charter that specifies the decision *clean* in advance. Of course, in practice this decision is not easy to describe and will be contingent on future states that are also hard to describe. Hence, the complete contracting/charter solution is probably infeasible. It is also the case that the courts might not uphold a charter that is set in stone, particularly if enough future shareholders want to change it.

Given that any actual corporate charter is likely to be incomplete, fiduciary duty, the duty of loyalty and care, which the future board will owe shareholders, becomes important. Everyone agrees that fiduciary duty means that the board (or executives) cannot enrich themselves at the shareholders' expense. Some have also interpreted it to mean that the board must pursue long-run shareholder value. But this is a narrow notion of fiduciary duty. Suppose that F puts a mission statement in the corporate charter, laying out the goals of the company. (A mission statement is just an incomplete version of a complete corporate charter.) The statement might say that future boards should put a lot of weight on environmental protection, should not deal with corrupt regimes, etc., or it might say the opposite: this company is dedicated to making money, while staying within the law. The courts could then interpret fiduciary duty to mean behavior that is consistent with the mission.

In other words, founders could choose whether to create a "Friedman" company or another type of company. A founder who prefers *dirty* would choose a "Friedman" charter that specifies profit maximization as the goal. A board that did not follow this would be open to breach of fiduciary duty suits by shareholders (presumably those with low λ_i 's). A founder who prefers *clean* would choose a charter that emphasizes broader goals. In this case, a board that focused too narrowly on profit maximization would be open to breach of fiduciary duty suits by shareholders (presumably those with high λ_i 's).

We are somewhat skeptical about this third solution. Even with "standard" corporations, where value maximization is taken to be the right goal, the business judgment rule effectively shields boards from most fiduciary duty suits (unless the board enriches itself or uses explicit language to the effect that it is not maximizing value). We can only imagine how much more

²⁴ For details see William D. Cohan "Inside The Raging Legal Battle Over Sumner Redstone's Final Days", Vanity Fair, April 2016 <http://www.vanityfair.com/news/2016/03/sumner-redstone-legal-battle-final-days>.

difficult it would be to sue for failure to stick to a mission statement, or to maximize shareholder *welfare*, a very slippery concept to define and measure.

For these reasons we wonder about the likely success of a new corporation that has emerged in the United States, the Benefit Corporation²⁵. A benefit corporation is a type of for-profit corporate entity that includes a positive impact on society and the environment in addition to profit as its legally defined goals. Rather than simply allowing management to take other considerations, e.g., ethical ones, into account, a benefit corporation *requires* them to take particular ones into account. Thus a benefit corporation can be seen as including the kind of mission statement that we have described above. Only time will tell whether founders can write mission statements that are clear, not too rigid, and can be enforced.

A fourth possibility is for F to entrench a board of like-minded individuals, allowing them to co-opt new like-minded board members in the future. This mechanism works well (and is very much used) in charitable foundations, where there is little or no external pressure towards efficiency. Of course there are examples, such as the Ford Foundation, where the wishes of the initial founder were later betrayed. By and large, however, these are exceptions rather than the rule.

In spite of tools like staggered boards and poison pills, this entrenchment strategy is less successful in corporate boards, because it comes with an important cost: it prevents the removal of incompetent or ineffective managers. In charitable foundations, most decisions are about allocation, not efficiency. In these decisions, taste is more important than competence. By contrast, in for-profit corporations the taste component is less important relative to the efficiency dimension. The cost of entrenching a particular management team can be so high that it is unwise for founders to try to do so. Even when they try, they rarely succeed because of the pressure of activist investors.

An interesting combination is when a large block of shares in a for-profit corporation is endowed to a charitable foundation, where the founder chooses the initial board members to reflect her preferences. An example of this dual structure is the Carlsberg Foundation.²⁶

We now turn to our final possibility: voting. One way that a prosocial founder could try to ensure *clean* is to encourage future shareholder voting. Suppose that the board of directors is

²⁵ For a discussion, see Cummings (2012).

²⁶ <http://www.carlsberggroup.com/Company/Foundations/CARLSBERGFOUNDATION/Pages/Default.aspx>.

required to bring matters of policy to a shareholder vote. Assume that it is known at date 0 that shareholders will vote between *clean* and *dirty*. Then *clean* will be the outcome as long as the median value of λ_i, λ_i^m say, satisfies

$$(9) \quad \lambda_i^m > \frac{\pi_{dirty} - \pi_{clean}}{d}.$$

In this case the date 0 market value of the firm will equal π_{clean} since investors will anticipate the date 1 choice of *clean*. The outcome is the same as if a prosocial F could choose x directly.

Of course, for this to work the founder F has to be confident that enough of the future shareholders will have similar preferences to him. If λ_i^m does not satisfy (9), the shareholders will vote for *dirty*. But the important point is that, in contrast to takeovers, there is no asymmetry in voting. If most shareholders put a lot of weight on money, they will vote for *dirty*. If most shareholders put a lot of weight on externalities, they will vote for *clean*. This is in contrast to takeovers where a bidder interested mainly in money has an incentive to take over a *clean* company and turn it into a *dirty* one, but a bidder with strong social concerns does not have an incentive to take over a *dirty* company and turn it into a *clean* one²⁷.

3.3 The impact of competition

So far we have considered a company operating in isolation. What happens if the company competes with others?

Consider first the case of perfect competition. Dirty choices by other companies will likely reduce marginal costs and force prices down, reducing this firm's profit, whichever technology it uses. To take a simple example, suppose that the company has a constant marginal cost that is c_1 if the company is dirty and c_2 if it is clean, where $c_1 < c_2$. Assume also that the company has a capacity constraint Q , and that the environmental damage is independent of company scale: it is a fixed social cost that depends only on the choice of technology. Then under perfect competition with a market price of p ,

$$(10) \quad \pi_{dirty} = (p - c_1)Q,$$

²⁷ Bebchuk and Hart (2001) also argue that voting can lead to better outcomes than takeover bids, although the reasons are different from those discussed here.

$$(11) \quad \pi_{clean} = (p - c_2)Q,$$

as long as $p > c_2$. Using (9), we see that a shareholder will vote *clean* if

$$(12) \quad \lambda_i > \frac{(c_2 - c_1)Q}{d}.$$

However, if p falls below c_2 , then $\pi_{clean} = 0$ (it is more profitable to close down than to use the clean technology), and so (12) is replaced by

$$(13) \quad \lambda_i > \frac{(p - c_1)Q}{d}.$$

Clearly the right-hand side of (13) is less than the right-hand side of (12) if $p < c_2$, and so a shareholder is *more* likely to vote *clean* as the environment becomes more competitive.

Of course, in reality, many other factors may be important. We have supposed that environmental damage does not depend on the scale of the company's operations, we have considered a very simple bang-bang technology where a company either operates at full capacity or not at all, and we have conducted a partial not a general equilibrium analysis. Also we have ignored any non-pecuniary benefits that managers or workers might enjoy. The latter might make survival of the company a first-order concern and might persuade shareholders to vote for a dirty technology if that is the only way for the company to keep going as p falls. Finally, we have ignored the possibility that as shareholders become poorer they may put less weight on ethical concerns, that is, morality is a normal good. For a discussion of this idea, see Shleifer (2004).

Still the above analysis does suggest that an often-made argument that competition drives out good behavior must be qualified.

A new effect arises once we depart from perfect competition. Suppose that our company A is in duopolistic competition with a second company B that has chosen a dirty technology. Assume that the companies produce a homogeneous good at constant marginal cost (with no capacity constraints) and that competition proceeds a la Bertrand. Then the shareholders of company A are faced with the following dilemma. If they choose clean, they will lose the market

to company B if B's marginal cost is lower and the consequence may be a large amount of environmental damage by B. On the other hand, if they choose dirty they may produce (possibly smaller) damage themselves and make money. Which is better?

A full analysis of this question is beyond the scope of this paper, but it clearly raises a number of fascinating issues including new moral ones: is it acceptable to do bad things yourself if others would do them anyway in your absence?

4. Practical issues

The question we try to answer in this paper is not just an academic one: it is very relevant for the debate on the fiduciary duty of both corporate directors and investment managers.

4.1 Corporate directors' fiduciary duty

There is considerable confusion about what the fiduciary duty of a corporate board is. It is not unusual for boards and CEOs to justify a controversial action on the grounds that fiduciary duty to shareholders requires them to do it. This was the case, for example, with the (former) CEO of Turing, Martin Shkreli, who was criticized for raising the price of Daraprim fifty-fold. According to a news article, "Turing opted to not lower the price of Daraprim in order to make money for Turing's shareholders. He [Shkreli] cited a Delaware law that he said states he must do everything to maximize the financial return for his shareholders—something he claimed was his fiduciary duty."²⁸

As we understand it, this is wrong. Shkreli could easily have refused to raise the price of Daraprim, without the fear of shareholder suits, on the grounds that the reputational effects would be disastrous (as they turned out to be). But the press reported the story as if Shkreli were, or at least might be, right. This muddled state of affairs does not seem to be desirable.

We think that part of the reason for this confusion is that the academic literature itself is confused. Under the current regime, where corporate directors are elected by shareholders to whom they owe a fiduciary duty, corporate directors have a duty to maximize shareholder *welfare*, not just shareholder value. If a company has a single shareholder, nobody would suggest that this single shareholder cannot instruct directors to maximize her utility, rather than her financial return. Why should things be different when there are multiple shareholders?

²⁸ <http://www.pharmalive.com/turings-says-he-should-have-increased-the-price-of-daraprim-higher-than-5000/>

One reasonable objection is the cost of reaching a consensus among investors on what objectives (other than money) a company has to pursue²⁹. We do not think that this problem is insurmountable. Directors can poll their members on some fundamental choices and then decide accordingly. For example, they can ask their investors if they are willing to sacrifice some of their returns to avoid the sale of tobacco to children or of high-capacity magazines to ordinary citizens (as in the Walmart case). In the contemporary wired world, these polls are extremely cheap and fast to arrange. Thus, we do not see any reason why directors and asset managers should not use them.

If there is a concern about the cognitive load of all these decisions on individual investors, then one solution is the formation of mutual fund companies specialized in voting on certain issues. Imagine an index fund, identical in every respect to all other mutual funds, with the exception that it votes against any sale of assault weapons and ammunition to ordinary citizens. The fund would eliminate the cognitive overload and would not be any more expensive than a standard index fund, which has to pay a proxy advisor anyway to direct it how to vote. Prosocial investors should rush to such product, ensuring its success in the market. In fact, the idea is so simple that one might wonder why we do not already see such products in the marketplace. We think that the answer can be found in the existing proxy access rules, which make difficult for moral issues to be put up for a shareholders' vote. If these rules were eased, we would expect this kind of ethical fund to arise.

4.2 Invest and Engage

The existing literature on social investing (e.g., Hong and Kacperczyk (2009)) assumes that some (but by no means all) investors are prosocial. Under this assumption, the strategy of divesting from stocks of companies engaging in unethical/sinful/polluting behavior seems at best ineffective, at worst counterproductive.

If the divestment of prosocial investors were to depress the stock price of a targeted company, the non-socially concerned investors would flock in droves to the stock, attracted by the higher yield, driving the price back to the pre-divestment level. Thus, unless the amount of

²⁹ Hansmann (1996) has argued that one benefit of allocating votes to shareholders is that shareholder preferences are relatively homogeneous in the monetary domain: all shareholders have a strong interest in maximizing profit.

wealth held by prosocial investors vastly exceeds the amount of wealth of selfish investors, divestments cannot have persistent effect on prices and the cost of capital.

If – in spite of the previous argument – divestment had an impact on prices, it would move controversial stocks into the hands of the least prosocial investors, who will maximize the negative externality.

For this reason, we think that a strategy of “invest and engage” is potentially much more successful. Yet, this strategy is available only if moral issues are regularly brought up for a shareholders’ vote, something that does not happen today.

One might wonder whether this strategy is compatible with prosocial investors who feel responsibility only if faced with a choice. Would not these investors try to avoid votes and engagement? There are two reasons not to worry about this. First, responsibility cannot be eliminated, it can only be transferred. So, if some retail investors try to avoid assuming responsibility by buying stocks only in companies where divisive future votes will not take place, prosocial founders will find it optimal to allocate their shares to institutional investors who take on that responsibility. Second, if a retail investor buys an index fund, she cannot avoid being confronted with the choices that companies make.

4.3 Asset managers’ fiduciary duty

When Friedman wrote his piece, 80% of publicly traded equity was owned by households and only 16% by institutional investors (Zingales (2009)). Now the numbers are reversed: only 27% of public equity is owned by households and 60% by institutional investors. The growing role of institutional investors in corporate governance has raised a new and important question: what should asset managers maximize? This question is particularly important when the funds are part of a retirement system, since they guarantee the support of older people.

In the United States the fiduciary duty of private pension funds is defined by the Employee Retirement Income Security Act (1974) (ERISA). While not obliged to do so, state pension funds, mutual funds, and endowments tend to follow the ERISA rules as well. Another important normative source that provides guidance on investment decisions for nonprofit and charitable organizations is the Uniform Prudent Management of Institutional Funds Act (abbreviated UPMIFA), currently adopted in 49 U.S. states.

The ERISA rules state that “a fiduciary shall discharge his duties with respect to a plan solely in the interest of the participants and beneficiaries and for the exclusive purpose of: (i) providing benefits to participants and their beneficiaries...” This obligation is generally expressed in financial terms given that the goal of these plans is to provide retirement benefits. UPMIFA, by contrast, provides more discretion to the fiduciary allowing him (or her) to “consider the charitable purposes of the institution and the purposes of the institutional fund” in managing an institutional fund. It allows him to consider also “an asset’s special relationship or special value, if any, to the charitable purposes of the institution.”

This ambiguity has generated an active debate on whether asset managers should (or even could) factor in other considerations (often defined as environmental, sustainability, and governance or ESG) in their investment decisions (Sullivan et al. (2015)). The intensity of the debate is driven by the fact that there are two opposite risks. On the one hand, if other considerations are allowed, there is the risk of transforming asset managers into political decision makers, without any accountability. On the other hand, preventing any considerations except financial ones will lead to an amoral drift in the way companies are run.

The solution depends upon the type of institutional investors. For mandatory retirement plans (like the California Public Employees Retirement fund), voting at the fund level is the only viable solution. Without a vote, asset managers will either ignore the preferences of investors for anything other than money or be forced to interpret investors’ preferences, running the risk of imposing their own preferences on investors.³⁰

If a fund is not part of a mandatory plan, then investors can vote with their feet, as long as there are funds offering alternative approaches. Indeed, there exist open funds aimed at attracting people with special preferences, such as reducing CO2 emissions.³¹ The strategy of these existing funds, however, is to divest from controversial stocks, not to invest and engage. As we stated earlier, we think that “engaged” funds have not arisen yet because proxy access rules do not favor votes on the issues in which investors want to engage.

As Dyck et al. (2016) show, institutional investors are having an impact on the Environmental & Sustainability performance of corporations, especially in Europe. In some

³⁰ For an interesting recent discussion of voting behavior of mutual funds, how this often seems to differ from the preferences of their investors, and what might be done about it, see Hirst (2017).

³¹ John Auther, “US pension funds raise the bar in low carbon investment,” Financial Times, December 9 2015. <https://www.ft.com/content/8d3e0ff4-9e37-11e5-8ce1-f6219b685d74>.

cases they even survey their investors (as we suggest in our paper), but in most cases they arbitrarily set their goals themselves.

4.4 Activists and takeovers

In the last decade hostile takeovers have been all but rare. A much more important mechanism to shape the governance of enterprises has been the acquisition of a toehold by activist investors (often hedge funds), who challenge the incumbent managers via a vote on directors.

Many commentators (e.g., Lipton, 2016) see activist investors as detrimental to corporations. Others (e.g., Brav, Jiang, and Kim 2015) attribute to them the same beneficial effects as produced by takeovers. Yet, both sides perceive them as a close substitute for hostile takeovers. Our model, however, points to an important difference: the amoral drift present with takeovers does not occur with activist investors. The reason is that activists rely on other shareholders to vote with them and voting allows shareholders to reject welfare-reducing decisions, even when these are wealth maximizing.

One qualification should be made. The support that activists rely on often comes from institutional investors who may believe that they have a fiduciary duty to *their* shareholders to vote for value-maximizing actions. Thus institutions may support an activist who wants to turn a clean company into a dirty one even if most shareholders are against this. This problem would disappear if the position advanced in this paper is accepted, that institutions have a broader fiduciary duty to maximize shareholder welfare rather than shareholder value.

5. Motivating our assumptions³²

We have chosen a particular way of modelling ethical concerns and it is worth saying more about our assumptions. First, a more standard approach would have treated the damage d caused by the company in the model of Section 2 as a public good. That is, we could assume that the pollution from firm j hurts all consumers in the economy including shareholders and write the payoff function of consumer i as

$$(14) \quad u_i(\alpha_i \pi_j, d_j).$$

³² We are very grateful to Niko Matouschek for his suggestions about this section.

We did not proceed in this way because it seems strong to assume that a consumer is affected by all the externalities in the economy. Rather we are interested in a situation where a consumer cares about things that he feels some responsibility for, even though they may not impact him directly (think about environmental damage in another country).

One way we have captured this responsibility is by multiplying the damage d by the shareholding α_i . The implication is that a small shareholder internalizes only a small part of the damage that a firm causes. He feels a responsibility that is proportional to his stake in the company.

But this is not all. We have also distinguished between decision payoffs and actual payoffs. The former includes the damage term (weighted by the shareholding), while the latter does not. The reason for this is that we are trying to model limitedly ethical behavior. We are interested in analyzing people who are willing to hold shares in tobacco or gun or oil companies, and indeed will pay full price for these shares, as long as they are not responsible for the company's actions. This is true in our model since consumers put a value π_{dirty} on these shares, their payoff from holding them. If a consumer's payoff included the damage term d , a consumer would be willing to pay only $\pi_{dirty} - d$.

The final piece of the picture is that the damage must appear somewhere in the consumer's payoff if ethical concerns are to have any bite. This is why we introduce the decision payoff that does contain the damage term.

A simple example can illustrate our approach. Consider someone who drops a piece of litter on the sidewalk by mistake. Should this person bend down to pick it up? The consumer in our model might do so because she feels responsible for the litter. Her decision payoff is $-\lambda_i d$ if she does not pick up the litter, where d is the social damage from the litter lying around, and $-c$ if she picks it up, where c is the cost of bending down. (There is nothing corresponding to the shareholding α_i in this example.) If $\lambda_i d > c$, her decision payoff is maximized if she picks up the litter and so she will do this. Her final payoff will be $-c$; she has incurred the cost of bending down, but by assumption there is no warm glow. On the other hand, if $\lambda_i d < c$, her decision payoff is maximized if she does not pick up the litter, and so she will not. Her final payoff is zero; the damage term drops out.

Now consider the same consumer who sees a piece of litter on the ground that she has not dropped. Will she pick it up? If she does, her decision payoff is $-c$ (this would also equal her final payoff), and if she does not, her decision payoff is 0 (since she does not feel responsible for the litter). Maximizing her decision payoff implies not picking up the litter, and her final payoff is zero.

This modelling choice corresponds to a philosophical assumption on the type of morality shown by prosocial investors. To appreciate this point, it is useful to rewrite the objective function described in (1) as

$$U_i = \alpha_i \pi_{dirty} - R_i \alpha_i \lambda_i d ,$$

where R_i is a “responsibility” function, which determines how a prosocial investor internalizes the social damage. In the paper we assume that $R_i = 1$ if i causes the externality by taking the action, but $R_i = 0$ if i causes the externality by not taking the action.

At first, this assumption may appear very ad hoc. Yet, there are two reasons why we consider it plausible. First, the moral distinction between omission and commission has been discussed at least since the time of Aquinas, who wrote that “transgression is a graver sin than omission” (Aquinas (2013)). Second, an investor who feels moral responsibility for omission would feel responsible also for all the companies she has not invested in, which is hard to imagine. Thus, even investors with a prosocial attitude have limits to what they feel responsible for.

Yet, this is not the only possible approach. Below we briefly explore the robustness of our results to two alternatives with a long intellectual tradition in moral philosophy.

5.1 Consequentialism

A different approach would have been to embrace consequentialism. The Oxford Dictionary defines consequentialism as “the doctrine that the morality of an action is to be judged solely by its consequences.” In terms of our responsibility function this can be written as $R_i = 1$ if i ’s action causes the externality and zero otherwise. No distinction is made between omission and commission: a consequentialist is as likely to pick up the litter someone else has dropped as litter she has dropped.

In what ways would a consequentialist shareholder behave differently from what we described in Section 3.1? If she owns a stake α_i in a non-polluting firm, she would feel responsible for selling to a bidder who buys the firm to start polluting only if she is pivotal, i.e., as before. On the other hand, if she was asked to vote on whether the firm should choose clean or dirty she would make her choice according to (3) and (4), again as before.

The one difference is when a consequentialist shareholder owns a share α_i of a polluting company and considers the possibility of launching a bid to transform the company into a clean one. In Section 3.1 we showed that the bidder's payoff from such an action is always negative. This is not the case anymore with a consequentialist shareholder, since she feels “guilty” about the pollution produced if she does not act to curb it. Since the utility cost of that guilt is equal to $\alpha_i \lambda_i d$ (we continue to assume that it is proportional to her shareholding), a consequentialist shareholder will become a bidder if $\pi_{dirty} - \pi_{clean} < \alpha_i \lambda_i d$. Therefore, with a consequentialist prosocial investor the amoral drift derived in Section 3 will exist only for moderately inefficient pollution (i.e., pollution such that $\frac{\pi_{dirty} - \pi_{clean}}{d} > \alpha_i \lambda_i$).

Notice that if the initial toehold of the potential social raider is zero, then the result is as in Section 3.1. Given that the potential bidders are few and the number of companies to fix is potentially large, then the amoral drift identified in Section 3.1 is largely robust to consequentialism.

5.2 Categorical Imperative

An alternative assumption about morality is that shareholders follow a Kantian categorical imperative: “Act only according to that maxim whereby you can, at the same time, will that it should become a universal law” (Kant (1993)). This approach will substantially change our conclusions. For example, a Kantian categorical imperative will deter inefficient takeovers, since social investors would feel moral responsibility even when they are not pivotal. Hence, they will tender to a bidder who wants to take over a non-polluting firm and turn it into a polluting one if and only if $p - \pi_{clean} > \lambda_i d$. In the extreme case of $\lambda_i = 1$, social investors with a Kantian categorical imperative will make all inefficient takeovers impossible.

Yet, prosocial agents following a Kantian categorical imperative change not only some of our results, but most of economic analysis. Pushed to its extreme consequences, the application of a Kantian categorical imperative will eliminate any problem of free riding, of collective action, even of adverse selection or moral hazard. Selling an overpriced car cannot become a universal law, thus agents will be restrained from doing it. The same can be said for shirking on the job.

6. Comparison to the literature

In this section we briefly compare our work with the relatively small theoretical literature on corporate social responsibility.

Many papers in this literature are concerned with charitable giving by a firm rather than with externalities that are inseparable from the firm's production decision. The main interest is whether charitable contributions by a firm completely crowd out private contributions. Leading examples in this vein are Graff Zivin and Small (2005) and Baron (2007). Both papers assume that individuals experience a warm glow from charitable giving. Graff Zivin and Small consider a public company that already exists while Baron considers the situation from the point of view of a founder. Both sets of authors identify conditions under which complete crowding out does not occur.

Apart from their focus on charitable giving, these papers do not assume that social concerns are present only if a person feels responsible for the decision in question. One significant implication of this is that Baron (2007) finds that prosocial bidders will have an incentive to buy up dirty companies and turn them into clean ones. In contrast we obtain an asymmetry: bidders will buy up clean companies and turn them into dirty ones but not the other way around.

A paper that does consider externalities that are inseparable from a firm's production decision is Morgan and Tumlinson (2012)³³. This paper supposes that, in our language, the damage caused by a firm is a public bad that enters every consumer's utility function, whether the consumer is a shareholder or not (and whether he is responsible for the damage or not). Morgan and Tumlinson consider a company that already exists and show that the company can

³³ See also Besley and Ghatak (2007).

overcome free-rider problems that arise in the provision of public goods. They obtain conditions under which corporate giving can have a positive role.

Most of these papers do not consider the implementation and practical issues that are the focus of Sections 3 and 4 (an exception is Baron (2007), who considers the market for corporate control but obtains different results from ours).

In spite of the various modeling differences we should stress that we reach conclusions that are broadly consistent with those of the above papers: shareholder value maximization is not the appropriate goal for a company in many circumstances.

7. Conclusions

Milton Friedman, in his celebrated 1970 article, argued that there should be a clear separation between the goals of companies and the goals of individuals and government. Public companies should focus on making money and leave ethical issues to individuals and government. In this paper we have argued that Friedman is right only if the profit-making and damage-generating activities of companies are separable or if government perfectly internalizes externalities through laws and regulations. Neither of these seems very plausible.

In the absence of these conditions we have argued that shareholder welfare and market value are not the same, and that companies should maximize the former not the latter. One way to facilitate this is to let shareholders vote on the broad outlines of corporate policy. Note that if profit-making and damage-generating activities *are* separable, or if government *has* internalized externalities, or if shareholders are *not* prosocial, then the vote will yield the Friedman outcome: the shareholders will favor value maximization. However, in other cases the outcome will be different and we believe superior.

Of course, there are costs associated with voting. One cost is the risk of too many frivolous proposals being put forward by shareholders, which will distract management. But this cost can be minimized (if not eliminated) by requiring that a certain percentage of shares (say 5%) be behind a proposal before it is put to a shareholder vote. The second potential cost is that company money will be spent in promoting management's point of view. Yet, the issues that we think should be put to a vote – such as the decision to sell high-capacity magazines in Walmart stores -- are a matter of individual preference, not of managerial expertise. Thus, company by-laws can reduce (and potentially eliminate) this cost by restricting management's ability to use

corporate resources for campaign purposes. Finally, in a wired world we regard the bureaucratic cost of administering proxy votes as trivial.

A more serious concern, identified in the social choice literature, has to do with whether voting is an appropriate method of aggregating individual tastes into social preferences. Given well-known collective choice problems, it is possible that market value maximization can be justified as a second-best objective in a world where the social preferences of shareholders are sufficiently heterogeneous. We cannot rule this out. But in the absence of evidence establishing this conclusion to be correct, we believe that shareholder welfare maximization should replace market value maximization as the proper objective of companies.

References

- Anderson, A. "The Policy Of Determining Significant Policy Under Rule 14a-8(I)(7)," *Denver Law Review* May 6, 2016. <http://www.denverlawreview.org/dlr-onlinearticle/2016/5/6/the-policy-of-determining-significant-policy-under-rule-14a.html>
- Andreoni, J., "Impure Altruism and Donations to Public Goods: A Theory of Warm-Glow Giving," *Economic Journal* (1990) 100(401): 464-477.
- Aquinas, Thomas, *Summa Theologica*, Volume 3, Cosimo Classics, New York, 2013.
- Azar, J., "Portfolio Diversification, Market Power, and the Theory of the Firm," Working paper, University of Navarra, 2017.
- Azar, J., M. Schmalz, and I. Tecu, "Anti-Competitive Effects of Common Ownership." Ross School of Business Paper No. 1235 (2017).
- Bainbridge Steven and James R. Copland, 2016, "Revitalizing SEC Rule 14a-8's Ordinary Business Exemption: Preventing Shareholder Micromanagement by Proposal," NYU working paper
- Barnea, A., R. Heinkel, and A. Kraus, "Corporate Social Responsibility, Stock Prices, and Tax Policy," *Canadian Journal of Economics*, (2013) 46(3): 1066-1084.
- Baron, D. "Corporate Social Responsibility and Social Entrepreneurship," *Journal of Economics & Management Strategy*, (2007) 16(3): 683-717.
- Bebchuk, L. and A. Cohen, "The Costs of Entrenched Boards," *Journal of Financial Economics* (2005) 78(2): 409-433.
- Bebchuk, L. and O. Hart, "Takeover Bids vs. Proxy Fights in Contests for Corporate Control," Harvard Law School, John M. Olin Discussion Paper No. 336, October 2001.
- Bénabou, R. and J. Tirole, "Individual and Corporate Social Responsibility," *Economica* (2010) 77(305): 1-19.
- Berle, A.A., "Corporate Powers as Powers in Trust," *Harvard Law Review* (1931) 44(7): 1049-1074.
- Besley, T. and M. Ghatak, "Retailing Public Goods: The Economics of Corporate Social Responsibility," *Journal of Public Economics* (2007) 91: 1645-1663.
- Blair, M. and L. Stout, "A Team Production Theory of Corporate Law," *Virginia Law Review* (1999) 85(2): 247-328.

Brav, A., W. Jiang and H. Kim, "The Real Effects of Hedge Fund Activism: Productivity, Asset Allocation, and Labor Outcomes," *Review of Financial Studies* (2015) 28(10): 2723-2769.

Cohan, W.D., "Inside The Raging Legal Battle Over Sumner Redstone's Final Days", Vanity Fair, April 2016 <http://www.vanityfair.com/news/2016/03/sumner-redstone-legal-battle-final-days>.

Cummings, B., "Benefit Corporations: How to Enforce a Mandate to Promote the Public Interest," *Columbia Law Review* (2012) 112(3): 578-612.

Daines, R., S. Li, and C. Wang, "Can Staggered Boards Improve Value? Evidence from the Massachusetts Natural Experiment," Harvard Business School Working Paper, No. 17-039 (2016).

DellaVigna, S., J. List, and U. Malmendier, "Testing for Altruism and Social Pressure in Charitable Giving," *Quarterly Journal of Economics* (2012) 127(1): 1-56.

Dyck, I. J. Alexander and Lins, Karl V. and Roth, Lukas and Wagner, Hannes F., 2016, "Do Institutional Investors Drive Corporate Social Responsibility? International Evidence." Rotman School of Management Working Paper No. 2708589

Dodd, M.E., "For Whom Are Corporate Managers Trustees?" *Harvard Law Review* (1932) 45(7): 1148-1163.

Elhauge, E., "Sacrificing Corporate Profits in the Public Interest," *New York University Law Review* (2005) 80(3): 733-869.

Engl, F., "A Theory of Causal Responsibility Attribution," Working paper, University of Cologne, 2017.

Farrell, J., "Owner-Consumers and Efficiency," *Economics Letters* (1985) 19(4): 303-306.

Friedman, M. *Capitalism and Freedom*. Chicago: University of Chicago Press, 1962.

Friedman, M., "The Social Responsibility of Business is to Increase Its Profits," *New York Times Magazine*, September 13, 1970, 32.

Gordon, R. "Do Publicly Traded Corporations Act in the Public Interest?" 1990 NBER working paper # 3303. <http://www.nber.org/papers/w3303>.

Graff Zivin, J. and A. Small, "A Modigliani-Miller Theory of Altruistic Corporate Social Responsibility," *Topics in Economic Analysis & Policy* (2005) 5(1): 1-19.

Hansmann, H. *The Ownership of Enterprise*. Harvard University Press, 1996.

Heinkel, R., A. Kraus, and J. Zechner, “The Effect of Green Investment on Corporate Behavior,” *Journal of Financial and Quantitative Analysis* (2001) 36(4): 431-449.

Hirst, Scott, “Social Responsibility Resolutions,” *The Journal of Corporation Law*, forthcoming 2017.

Hong, Harrison G. and Marcin T. Kacperczyk, “The price of sin: The effects of social norms on markets,” *Journal of Financial Economics*, 2009, 93 (1), 15 – 36.

Kant, Immanuel, *Grounding for the Metaphysics of Morals*. Translated by Ellington, James W. (3rd ed.), 1993.

Kitzmüller, M. and J. Shimshack, “Economic Perspectives on Corporate Social Responsibility,” *Journal of Economic Literature* (2012) 50(1): 51-84.

Lazear, E.P., U. Malmendier, and R.A. Weber, “Sorting in Experiments with Application to Social Preferences,” *American Economic Journal: Applied Economics* (2012) 4(1): 136-163.

Lipton, M., Some Thoughts for Boards of Directors in 2017, (2016)
<https://corpgov.law.harvard.edu/2016/12/08/some-thoughts-for-boards-of-directors-in-2017/>

Magill, M. and M. Quinzii. Incomplete Markets, Volume 1, Finite Horizon Economies, International Library of Critical Writings in Economics. Cheltenham, Edward Elgar Publishing Company, 2008.

Magill, M., M. Quinzii, and J.-C. Rochet, “A Theory of the Stakeholder Corporation,” *Econometrica* (2015) 83(5), 1685-1725.

Mayer, C. *Firm Commitment: Why the Corporation is Failing Us and How to Restore Trust in It*. Oxford: Oxford University Press, 2013

Morgan, J. and J. Tumlinson, “Corporate Provision of Public Goods,” Working paper, University of California, Berkeley, 2012.

Rabin, M., “Moral Preferences, Moral Constraints, and Self-Serving Biases,” Berkeley Department of Economics Working Paper No. 95-241, August 1995.

Rotemberg, J., “Financial Transaction Costs and Industrial Performance,” MIT, Working paper, 1984. <https://dspace.mit.edu/handle/1721.1/47993#files-area>

Schumacher, H., I. Kesternich, M. Kosfeld, and J. Winter, “One, Two, Many – Insensitivity to Group Size in Games with Concentrated Benefits and Dispersed Costs,” *The Review of Economic Studies*, forthcoming, 2017.

Shleifer, A. and L. Summers, “Breach of Trust in Hostile Takeovers,” in *Corporate Takeovers: Causes and Consequences*, ed. Alan J. Auerbach, (Chicago: University of Chicago Press, 1988).

Shleifer, A., 2004, “Does Competition Destroy Ethical Behavior?” *American Economic Review Papers and Proceedings* 94 (2): 414-418.

Skog, R. “The Importance of Profit in Company Law – a Comment from a Swedish Perspective,” *European Company & Financial Law Review* (2015) 12(4): 563-571.

Stout, L. *The Shareholder Value Myth*. (San Francisco: Berrett-Koehler Publishers, Inc., 2012).

Sullivan R., W. Martindale, E. Feller, and A. Bordon, (2015) “Fiduciary Duty In The 21st Century,” https://www.unpri.org/download_report/6131.

Zingales, Luigi “The Future of Securities Regulation,” *Journal of Accounting Research* (2009) 47(2): 391-426.