The Costs and Benefits of Financial Market Regulation

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Abstract

This paper revisits the controversy on regulation and applies its insights to the debate on corporate governance and mutual funds. The general result of this exercise is that a strong case can be made in favor of more mandatory disclosure. While theoretically there is scope also for other mandatory regulation, it is unclear whether its benefits exceed its costs. Furthermore, it is difficult to see how this ideal regulation could emerge from the political process, which tends to be dominated by incumbent firms. I propose a mechanism to reduce this bias.

Keywords: Pigou's theory, Coase's theorem, costs and benefits of regulation, financial markets, social welfare, enforcement costs, disclosure requirements, political pressures, mandatory rules, default rules, behavioral literature, corporate governance, mutual funds

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Referring to Pigou's theory of regulation, Coase in 1960 lamented: "it is strange that a doctrine as faulty as that developed by Pigou should have been so influential." Unfortunately, almost fifty years later Coase's statement still holds, not so much as the academic literature is concerned, but (more worrisome) in policy circles. Why have Coase's criticisms been ignored for so long? One could appeal to Keynes' idea that practical men are too often enslaved to dead economists. But that would be only a partial explanation. The real reason is that Coase's position is unappealing both for the true free-marketeer and for the advocates of intervention. In fact, contrary to most people's misconception, Coase never subscribed to the extreme laissez faire. In his seminal 1960 article he states "there is no reason why, on occasion, such governmental administrative regulation should not lead to an improvement in economic efficiency." Yet, Coase' s argument makes the case for regulation much more difficult to prove and hence his positions are not appreciated by interventionists either.

This paper starts by revisiting this debate with modern eyes. Consistent with Coase's position, I analyze the potential costs and benefits of regulation, especially when applied to financial markets. The most important costs of regulation are the resources spent to comply with it (Franks et al., 1998) and the burden imposed to firms that should not have been regulated, but nevertheless, are subject to it (Hart, 2004).

As far as the benefits are concerned, I distinguish between disclosure requirements and other requirements. Disclosure requirements are almost unequivocally good. By contrast, other restrictions can be justified in particular situations. Regulation improves outcome when enforcing contracts is very costly (Posner, 1998) or when limited liability restricts the ability to punish deviants (Shavell, 1984). Regulation has a

role also when contracts are incomplete and renegotiation is hampered, as it is often the case in financial markets where one party to the contracts (the shareholders) is often too dispersed to be able to coordinate (an important point that I have not seen raised in the literature). Recently, a new rationale for regulation has emerged in the context of the behavioral literature. If economic agents are subject to behavioral biases, then there is scope for some "paternalism" in the form of the choice of default rules (Thaler and Sustdein, 2003). If these defaults can be easily changed, this new form of paternalism has no cost and possibly substantial benefits.

These ideas find a fruitful area of application in financial markets. I discuss them in the context of the recent debate on Sarbanes Oxley and on the scandals in the U.S. mutual fund industry. The case for better disclosure is clear: potential costs are limited, while benefits substantial. The case for more external monitoring is weaker and requires more precise estimates of costs and benefits. As I discuss in Zingales (2004) a reward system for corporate whistleblowers can provide a very low cost alternative to external monitoring systems. Other forms of regulation have more dubious effect. In fact, the biggest gain can be probably obtained by eliminating the negative effects of pre-existing regulation.

Regulation, however, is not designed by economists on a clean slate. In modern democracies, it is the result of political pressures exerted by different lobbies. Unlike in Becker's (1983) model, however, not all these lobbies have an equal political power. In particular, incumbents tend to be better organized and, thus, more politically powerful. The weaker constituencies are always that of customers/investors and of new entrants. Hence, regulation tends to be biased against entry and competition. That does not mean

that all regulation is bad. It only means that in the real world even welfare enhancing legislation can have severe distortionary effects, and often not be worthwhile.

To offset this bias, I propose the creation of a new Government agency aimed at estimating and making clear the economic distortions caused by regulation. As the wolf in Phaedrus' fable, vested interests are not content of prevailing, they want the legitimacy on their side. In fact, this is even more so now than at Phaedrus' time. In modern democracies lobbies need economic arguments to legitimize their demands in front of the public opinion. Fortunately, the progress achieved by applied microeconomics allows us to subject many of these arguments to a test. If the power of lobbies was roughly homogenous, one could expect these tests to emerge as a result of the competition among lobbies. In most situations, however, the power of the lobbies is not homogenous and there is nobody defending the interest of markets and competition. Hence, an agency designed with this mandate can have some impact in readdressing this fundamental imbalance.

The rest of the paper proceeds as follows. Section 1 reviews the fallacy of the traditional argument in favor of regulation and lays down the foundation of the modern debate. Section 2 lays down the modern case for regulation. Section 3 describes what are the biases in regulation created by the political process. Section 4 applies this framework to explaining what could be done in corporate governance and to address the problems recently emerged in the mutual fund industry. Section 5 presents a simple proposal to try to reduce the political distortions of the regulatory process. Conclusions follow.

1. The Traditional Debate

Much of the public policy debate is still under the influence of the Pigovian tradition. It is useful, thus, to revisit how Pigou made his initial case for regulation and why that line of argument is fallacious.

1.1 The Traditional Argument Pro Regulation

In his *The Economics of Welfare* Pigou presents the concept of externality with an example of great practical importance at that time: the relation between railway companies and the farmers owning the fields near the tracks. Since railway companies were relaying on steam engines, they were likely to trigger fires in the fields near the tracks. Yet, in deciding how many trains to run railways consider only the net profits deriving form their operations, ignoring the cost imposed on the neighboring farmers,: at typical example of an externality. Pigou the argues that regulation is needed to force the railway to consider (i.e, "internalize") in its decision on the optimal number the damages produced to third parties.

This is the typical framework of much work on regulation: an externality makes competitive market outcome inefficient, only a Government intervention can fix the problem. On the basis of this logic, it is sufficient to identify an externality, to argue in favor of regulation. And since "a good economist needs no more than fifteen's minute notice to produce a market failure to explain any of these interventions", [1] the scope for regulation became enormous.

1.2 The Coasian Revolution

[1] Peltzman et al., 1989, p. 17.

Coase (1960) attack this approach on three grounds. First, Pigou's characterization of the status quo ante was incorrect. Under common liabilities rules, railway companies would be responsible for damages. If at the time Pigou writes (1932) they were not, it was only because the Railway Act of 1905 was exempting railway companies from fire liability caused by their steam engines if "an engine is constructed with the precautions which science suggests against fire and is used without negligence"[2] (an early example of Government intervention aimed at protecting special interests) .

This point may appear as an irrelevant pedantry, but it is not. Very often economists assume as "natural" and purely driven by market forces the existing situation. But the "status quo ante" is often neither "natural", nor driven by market forces: it is the product of the pre-existing laws and regulations. It is only the economists' ignorance of these laws that make them conclude the free market (and not the pre-existing regulation) has failed.

For example, in the current debate on the U.S. mutual fund industry many commentators (e.g., Mahoney, 2004) see the lack of a significant decrease in mutual fund fees as evidence of the failure of competitive markets. But the problem is more likely to arise from regulation. 30% of the funds is sold through companies' sponsored pension plans. In choosing funds sponsors look at aspects other than cost (for example, how easy it is for them to manage the accounts). Hence, it is hard to establish if we are dealing with a failure of markets or a failure of regulators.

The second point raised by Coase is that Pigou's analysis correctly answers a different question. If the question were: "is it desirable to run an additional train?", the answer derived by Pigou – imposing the liability on the railway company – will be the

[2] Coase, 1960, p.136.

correct one. By imposing on the railway the cost of damages, this regulation will reduce the number of trains running. But if the question is "what is the legal arrangement that maximizes social welfare?", then Pigou's approach can lead to the wrong answer, because it does not consider the possible adjustments that the farmers can take to minimize the damages. By reducing the amount (or changing the type) of crops grown the farmers can significantly reduce the expected cost of hazardous fires, making more trains socially desirable. Furthermore, showing one instance where imposing liability on the railway company leads to a socially preferable outcome does not prove that this is the case in general. In fact, Coase makes the following counterexample:

> *Imagine a town in which there are traffic lights. A motorist approaches an intersection and stops because the light is red. There are no cars approaching the intersection on the other street. If the motorist ignored the red signal, no accident would occur and the total product would increase because the motorist would arrive earlier at his destination. Why does he not do this? The reason is that if he ignored the light he would be fined. The private product from crossing the street is less than the social product. Should we conclude that from this that the total product would be greater if there were no fines for failing to obey traffic signals? The Pigovian analysis shows us that it is possible to conceive of better worlds that the one in which we live. But the problem is to devise practical arrangements which will correct defects in one part of the system without causing more serious harm in other parts.*[3]

This counterexample illustrates the shallowness of many arguments both in favor and against regulation. It is not sufficient to show one example where regulation works (or fails), it is necessary to do an overall calculation of the overall benefits of regulation versus its overall costs.

Consider, for example, the reaction to recent corporate scandals. Many people have argued in favor of more regulation. Others, e.g. Smith (2003), have dismissed it, repeating the Beckerian result that the optimal amount of fraud is not zero. Coase

reminds us that both positions are wrong. We need to compare the cost and benefits of different arrangements.[4] One of the proposed remedies, for instance, is mandatory turnover of external auditors. Supporters mention the enormous costs of the corporate scandals and the need to do something. Opponents cite the significant start-up costs - both financial and non-financial - that rotation entails for auditors. Both these terms, however can be quantified. Let's say that turnover adds 30 per cent to the auditing costs in each of the first two years, and rotation happens every five years. Given that the audit revenues of the big five accounting firms in 2000 were $10 bn the annual cost would be approximately $1.2bn. What are the benefits? Morgan Stanley estimates the loss in market capitalization from the failures of WorldCom, Tyco, Qwest, Enron and Computer Associates alone to be $460bn.[5] Such losses, however, do not occur every year. Let's say that they occur once every twenty years. Then the annual cost of these losses would be $23bn. According to this "back of the envelope" calculation, mandatory turnover of auditing firms would be justified if the probability *p* that mandatory turnover would avoid the fraud is such that

$$p\ 23 > 1.2$$

or $p > 5.2\%$.

Of course, I would not advocate introducing mandatory turnover on the basis of this back of the envelope calculation alone. But the point is that the case for (or against) regulation can and should be done on the basis of actual costs and benefits of alternative

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[3] Coase (1960) [1988] p. 142.
[4] The figures are taken from Thomas Healey, "The best safeguard against financial scandal" Financial Times; Mar 12, 2004.
[5] Ibid

systems, not on theoretical examples of market (or regulatory) failures. In the regulation debate this idea, which I will refer to as Coase principle, is at least as important as the Coase theorem, which I will discuss next.

The third main criticism raised by Coase (1960) is that Pigou fails to recognize the reciprocal nature of the problem. The Pigovian approach to regulation is how do we regulate the firms to avoid harm on consumers? Coase recasts the problem as should firms be allowed to harm consumers or should consumers be allowed to harm firms? Consider the return policy in the retail business. Consumers can harm firms by abusing the system as much as firms can harm consumers by having a no-return policy. The question, once again, is what is the legal arrangement that maximizes social welfare.

Looking at the problem from this perspective allows Coase to recast the problem of social cost in terms of the right to carry out a certain actions. The question of the externality produced by the railway should be thought of as who has the right of way. Should that right belong to the railway company, so that no damage will be paid to farmers, or should it belong to the farmers, in such a case the railway company has to pay? It is framing the problem in this way that Coase derives his greatest insight, labeled by Stigler as the Coase theorem. This theorem shows that in the absence of transaction costs either allocation of property rights will deliver the optimal social outcome, as long as these property rights are well defined and tradable.

Consider once again the railway example and assume that the expected cost of the fires produced by its passage is *d*. On the other hand, the cost of introducing a spark-safe engine is *c*. Clearly, the first best is to introduce more modern engine if and only if $c < d$. Which legal arrangement will implement the first best? The traditional answer, which

ignored the possibility to trade legal rights, is contingent on who owns the right of way. If farmers own it, then they will not allow the railway to pass through unless locomotives are equipped with the better type of engine. Hence, all railways will adopt the better engine, which is efficient is $c \leq d$, but inefficient is $c > d$.

By contrast, if railways own the right of way – continues the traditional analysis-- they will always use the cheaper engine, regardless of the damage. This is efficient if $c \geq d$, but inefficient when $c < d$. Hence, if $c \leq d$ allocating the right of way to farmers is efficient, while if $c \geq d$ allocating it to railway companys is efficient.

Coase overturns the traditional analysis by showing that the efficient outcome will always be reached, independent of the allocation of property rights, if property rights are *well defined* and can be *traded* without *any* transaction cost.

To see the power of Coase argument let see what happens when we strat from an allocation of property rights that according to the traditional view was leading to an inefficiency (i.e., $c>d$ and the farmers own the right of way, but we allow for the possibility of trading.

	Status quo	Selling right
Farmers' utility	0	$P^d - d$

	Status quo	Buying right
Railways utility	$-c$	$-P^s$

The farmers are willing to sell if and only if the price they receive for the right of way P^d exceeds the cost they will face, i.e., $P^d \geq d$. On the other hand, a railway is willing to buy the right of way if and only if the price paid P^s is less than the cost of taking

precautions, i.e., $P^s \leq c$. Since in a world without transaction costs trade will take place every time $P^s \leq P^d$, when $d<c$ (i.e., when the initial allocation was inefficient) trade will always take place (since $d \leq P^s \leq Pd \leq$ c) and lead to the efficient allocation and, hence, to the efficient outcome.

In the same way one can show that the same result holds when we start from the other inefficient allocation: $c<d$ and the railway company owns the right of way. The broader message of this example (and of the Coase theorem) is that any inefficiency generates an opportunity of trade that, in a world without transaction costs, will be exploited and lead to the efficient outcome.

1.3 Coase vs the Coasians

Coase reasoning was not aimed at concluding that the allocation of ownership was irrelevant. In fact, his interest was in emphasizing the importance of transaction costs. Since in the absence of transaction costs any discussion of regulation is moot, Coase thought that all the debate should focus on the transaction costs of alternative legal arrangements.

This is not the aspect emphasized by one of the most important followers and promoter of Coase's ideas: George Stigler. In his formulation of the Coase theorem, Stigler (1966) accepts as a reasonable approximation the assumption of zero transaction costs and emphasizes the result that the initial allocation of ownership is irrelevant. In doing so, Stigler provides a very strong ammunition to the antiregulation camp, but at the cost of distorting Coase's original message.

In fact, Coase is not ideologically against regulation. In his 1960 article he says "there is no reason why, on occasion, such governmental administrative regulation should

not lead to an improvement in economic efficiency." His battle was aimed at shifting the approach to the problem of regulation, not at eliminating any form of regulation. By using Coase's argument as a weapon against regulation, Stigler has contributed to weaken Coase's original message. As a result, Coase's message is too often ignored in the public policy debate. In what follows I will try to recast the modern debate on regulation in Coase's terms.

Before doing so, however, I would like to stress another important point, which is often ignored. Coase's argument (as generally any economists' argument) is only concerned about efficiency. He purposefully ignored any distributional consideration. But distributional considerations are important. They are important from a political point of view, since they determine the political support of different legal arrangements (Rajan and Zingales, 2003), but they are also important from an economic point of view if it is impossible or prohibitively expensive to reallocate these relative shares ex ante through contracts (Grossman and Hart, 1986). I will return to this issue later.

1.4 The Case against Regulation

It is easy to see how Coase's theorem, when taken literally, can be used to argue against regulation. In a world with no transaction costs, the parties will naturally achieve the efficient outcome, without any form of intervention. Regulation, then, is only bound to worsen the outcome, at the very least by imposing undue costs.

In the context of the railway example, this problem can be illustrated in the following way. Imagine that there are two railways: one where the expected damage d_1 is bigger than the cost of taking precautions (c), the other where the expected damage d is smaller than the cost of precautions, $d_2 < c$. Leaving contractual freedom to the parties,

will deliver the socially efficient outcome (the first railway will introduce the precautions, while the second will not). By contrast regulation will be unable to achieve this outcome unless the regulator has the information to differentiate between the expected damage produced by the two railways. Since in most cases regulators do not have this information, they will end up imposing a common standard. In this particular case the only binding standard is for every railway to introduce precautions. As a result, regulation will impose restrictions to a railway that does not need it, with a social cost equal to $c - d_2$.

In essence, this is the argument advanced by Hart (2004) against the recently introduced Sarbanes Oxley Act. Any form of regulatory intervention ends up imposing burdensome standards to some firms that do not need them. If we are willing to believe, as Hart implicitly does, that we are in a "Coasian" world (i.e., in a world of zero transaction costs where the Coase theorem applies), then these costs are not offset by any benefit of regulation, since contractual freedom already achieves the social optimum. Once again, if we want to defend regulation we need to explore where the assumptions of the Coase theorem fails.

1.5 Government Intervention in Defining Property Rights

That a competitive equilibrium delivers the socially efficient outcome does not imply the Government has no role. In fact, even in a world of zero transaction costs, the Government has a major role in defining what can be owned. All modern states, for instance, prohibit the ownership of other human beings. While undeniable good, this rule has effects on the workers' ability to commit to long term contracts. Similarly in the

United States there exists a prohibition of sale of a corporate office. Once again this restriction has very obvious justifications, but may lead to inefficient outcomes (for example a manager resisting a value enhancing takeover to protect his corporate perquisites).

Not only the Government prohibits certain assets to be owned, it also creates new assets by making certain ideas or processes patentable. For example, the United States are patenting (and thus creating property rights over) business models, such as Dell's built-to-order model and e-Bay auctioning system.

Similarly, the Government has a crucial role in assigning the right to own newly created assets. For example, in the United States the patent on new inventions belongs to the company, if the inventor is an employee dedicated to doing research, but belongs to the inventor if the employee's main task was not doing research (Merges, 1997).

Finally, the Government intervenes in defining the boundaries of the ownership rights. In the United States, for instance, business opportunities that arise in the normal course of business belong to the corporation generating them, in France no.

All these forms of intervention are extremely important and do have major efficiency consequences even in a "Coasian" world, because they affect the ability to trade certain rights.

1.6 Alternatives to regulation

Before we analyze how the modern case for regulation can be made, it is important to understand another of the shortcomings of the traditional (but often also of the current) debate on regulation. Very often this debate has been framed as an alternative

between complete laissez fair and government intervention. In fact, the problem can be best framed as a continuum. To begin with, the pure laissez faire is an abstraction. Even in Adam Smith's view the Government had a role in the administration of justice. The way justice is administered has, of course, important effects on the efficiency of the economic system.

Second, there exist milder forms of interventions by the Government. Let us review a few that are particularly important for financial markets. As I will make it clear, in a "Coasian" world these intermediate forms of regulation suffer of the same criticism as other stricter forms of regulation. Once transaction costs are factor in, however, they might attenuate some of the costs of regulation.

1.6.1 Opt Out Clauses

Instead of mandatory rules, regulation can take the form of default rules, which can be opted out from. For example, in many states, such as Pennsylvania, the antitakeover legislation leave firms the ability to opt out from the antitakeover protection. Of course, the devil is in the detail, i.e., in the mechanism through which firms can opt out. In the case of the Pennsylvania antitakeover law, it is sufficient a shareholder vote. In other cases, it is necessary to make a lump sum payment, in others all the affected parties have to agree.

The advantage of this type of rules is that minimize the burden imposed by regulation: firms for which the cost of complying is too high can opt out. The negative aspect is that an opt-out clause could make regulation completely ineffective. Consider again the railway example.

If there is uncertainty on the cost firms face for regulation, not on the amount of damage they impose on farmers (so that one firm has a cost $c_1 > d$ and another a cost $c_2 < d$), then the option to pay an amount *k* such that $c_1 > k > c_2$ reduces the deadweight cost of regulation. The low-cost-of –precaution firm will invest in the precaution, while the high-cost-of-precaution will pay the fee and not install the expensive engine. Thus, the opt-out close avoids the deadweight cost of regulation, which was equal to $c_1 - d$.

This happy result, however, is not always true. If the uncertainty regards the damage inflicted by trains, not the cost they face in introducing any precaution (so that $d_1 > c > d_2$), then an opt out close at any price *k*<*c* will maximize the deadweight cost of regulation. Both firms will choose to pay the fee and not invest in precautions.

Hence, the value of an opt-out clause depends crucially on the type of uncertainty faced by the regulator. If the uncertainty is in the cost of regulated firms, an opt-out clause increases flexibility and reduces the deadweight cost of regulation. If the uncertainty is about the damages, then opt-out options increase the inefficiency.

1.6.2 Privately enforced bright line rules

Another intermediate form of regulation is a privately enforced public rule. For example, the government can mandate specific disclosures by a company issuing shares, but then leave litigation to investors. This regulation works by lowering the burden of proof for suing investors. Without it, a suing investor would have to prove in a trial that a company has behaved with negligence in not disclosing certain information. By contrast, with mandatory disclosure it is sufficient to prove that the company did not disclose was it was supposed to disclose.

1.6.3 Self regulation

Finally, another intermediate form of regulation is self-regulation. Some groups, such as the New York Stock Exchange, are granted some regulatory authority vis-à-vis its members. The main benefit of self regulation is its flexibility in adaptation over time and the ability to tap into deeper industry knowledge in the design of the rules.

The major draw back of self-regulation is the risk of capture by powerful incumbents. As the recent problems at the NYSE show, it is very difficult for a self-regulator to discipline powerful insiders. It is also true that self regulation tends to have a more pro incumbent bias than public regulation.

2. The Modern Case for Regulation

Given the strength of Coase's argument, any serious attempt to justify regulation has to confront two challenges. First, since we know that as long as the Coase theorem holds, regulation will have no efficiency consequences, to make a case for regulation requires identifying which assumption (or assumptions) of the theorem does not hold in the particular situation considered. Second, and most important, a case for regulation has to satisfy what I call the Coase's principle: to compare two feasible alternatives, i.e., real world markets with real world regulations, not real world markets with idealized regulations.

This section investigates when a case for regulation can be made on the first ground, i.e., when the assumptions of the Coase theorem are likely to be violated.

2.1 The Easy Case for Mandatory Disclosure

Coase's analysis is based on the assumption that all the contracting parties are equally informed. In reality, this assumption often fails, especially in the financial arena. Firms, for instance, generally have more information about their future prospects than investors. If investors are aware of this problem, however, they will be reluctant to invest. Hence, each firm has an incentive to disclose its information, to reassure investors. Under what conditions firms will disclose all the information they have available? And if they do not, when can we make a case that mandatory disclosure is beneficial?

2.1.1 The Limits of Voluntary Disclosure

Grossman (1981) show that a firm will voluntarily disclose all its information if and only if three assumptions are satisfied: 1) investors know that firms have that information (for example, they know it has collected the level of revenues for that year); 2) firms cannot lie (albeit they can refuse to disclose their information); 3) disclosure is costless.

If one of these assumptions is violated, voluntary disclosure will be less than complete. Hence, there is scope to argue in favor of mandatory disclosure. Consider, for instance, the case of brokers selling different mutual funds. If funds differ in the fee they rebate to brokers, this will impact the willingness of the broker to promote one fund versus another. If the investor is not fully aware of this problem, he might be induced into buying the wrong fund (e.g, too expensive). So full disclosure is socially desirable. Many ordinary investors, however, will not be aware of the fact brokers may be awarded different fees. Hence, the first assumption does not hold and purely voluntary disclosure will only be partial.

Grossman (1981) result only shows that in presence of disclosure costs firms will not fully reveal their information. Whether it is optimal to force them to disclose depends very much on the source of these disclosure costs and their magnitude vis-à-vis the benefits of disclosure.

If the costs are simply the clerical costs of disclosing, then the analysis boils down to a comparison between the magnitude of these cost and the benefits of disclosure. Since information has a public good component, we can expect that in general firms will provide less disclosure than it is socially optimal. While firms internalize the benefits they can derive from disclosure they will not internalize the full value of social benefits. General motor disclosure helps investors evaluate Ford, but GM will never internalize this benefit. Given the falling clerical cost of disclosure and its great potential benefit, it is easy to make the case for mandatory disclosure.

The case is more complex if we consider other disclosure costs such as the dissemination of proprietary information, which might hurt a firm's competitive position. In the presence of these costs, firms will not fully reveal their information, but it is far from clear that, from a social welfare point of view, they should. Albeit a hypothetical social planner does not internalize the competitive position of each individual firm, he should internalize the incentive to invest in R&D. If mandatory disclosure discourages R&D investments, it is clearly not socially desirable.

In the financial industry this latter case is less frequent. One such an instance is the disclosure of portfolio composition by mutual funds. Portfolio composition can reveal the strategy followed by a mutual fund and, as such, undermines its profitability (as many others can copy it). The problem, however, can be easily bypassed through private

intermediaries, such as Morningstar. They obtain the portfolio compositions from the mutual funds, under an agreement not to reveal them to the large public, except for the five biggest holdings.

The only limitation of these types of agreements, vis-à-vis mandatory disclosure, is the ability to check the veracity of the numbers communicated. While a regulatory authority can more easily verify the veracity of the number disclosed, a private intermediary can only do it through a lawsuit, an avenue which is very slow and expensive.

2.1.2 Implementation Issues

The above argument suggests that even if firms always had the right incentives to disclose, the case in favor of regulation could be made on the ground of implementation issues. When disclosure is voluntary it is more difficult to check compliance and even more difficult to punish firms who lie.

A subtler reason in favor of regulation regards the benefit of standardization. Even assuming that firms cannot lie in their disclosure, they have several different ways to present the evidence. Each firm will naturally choose the format that is most favorable to its data, impairing investors' ability to make comparisons across firms. For example, in the U.S. private equity industry, which is not regulated, funds disclose their performance in term of internal rate of return (IRR) of their portfolio. There are, however, different ways to aggregate the IRR of individual investments into the IRR of a portfolio. These methods lead to significant different results, depending on the timing of the more successful investments. By making a direct comparison among funds more difficult,

these differences in standard impair the process of allocation of capital toward the more talented managers. Interestingly, this problem persists in spite of the relative sophistication of the players in this industry (endowments, pension funds, and very wealthy individuals).

2.1.3 Equal Access

Even when firms reveal all the relevant information in a truthful manner, an argument in favor of regulation can be built on the timing of this revelation. When the timing of the release matters (as it is the case in financial markets), firms can trade early access to information in exchange for some other favors. For example, before the introduction of regulation "full disclosure", U.S. firms were allowed to announce their earning in a conference call with few analysts of their choosing. Since the chosen analysts benefit from this position, there is a significant risk they will pay back the firm for the privilege through favorable future earning forecasts.

The same incestuous "quid pro quo" can occur between journalists and firms. The fewer public sources are available, the more a journalist will depend on privileged access to write good stories. Firms, then, will tend to concede or withdraw that access depending on the spin of the articles written by a certain journalists or newspaper. For example, the Financial Times correspondent from California lamented at a conference that Hewlett Packard was routinely excluding him from the interviews released by Carly Fiorina for his previous negative articles about her. Consistent with this claim, Dyck and Zingales (2003) show that newspapers' report of earnings are more biased towards companies when journalists have less access to source of information alternative to the company itself.

Hence, regulation disciplining the timing of and the equal access to information can improve the objectivity of analysts and journalists, contributing to the credibility of the whole financial system.

2.2 Problems in Enforcement

2.2.1 Enforcement cost

The Coase theorem holds under the assumption of no transaction costs. One of the most important real-word violations of this assumption is the existence of enforcement costs. Consider an investor who is mislead by his broker into buying a security that turns out to be worthless. The investor could sue the broker, but it will only do so if the expected award from the lawsuit is bigger than his cost of bringing the lawsuit. Since there is an important fixed cost component in bringing any lawsuit, small investors are unlikely to sue (Posner, 1998). If investors are unlikely to sue, brokers have an incentive to misbehave, especially when dealing with small investors. As a result, small investors will tend to stay away from more risky investments, where the possibilities of abuses or frauds are more severe.

It is precisely to avoid this withdrawal of small investors from the market that in the 1930 the United States created the Security and Exchange Commission, as an enforcement agency designed to protect small investors.

In addition to the SEC in the United States there are three legal institutions that make it easier to overcome the problem of fixed enforcement costs: contingency fees, punitive damages, and class action lawsuits.

Unlike in Italy, where this practice is explicitly forbidden by the civil code, in the United States lawyers can be paid conditional to the outcome of a lawsuit. Not only does

this institution reduce the risk a plaintiff faces in bringing a lawsuit (and thus promotes lawsuits brought by small investors who are more risk averse), but, coupled with punitive damages, motivates lawyers to seek plaintiff rather than the other way around. In fact, punitive damages (a penalty many times the actual damage inflicted to the plaintiff) have been introduced precisely with the idea of overcoming the problem of the fixed costs of enforcement. By multiplying the size of the award, punitive damages make more attractive (some people claims even too attractive) to sue companies. In fact, in the United States there are legal firms specialized in bringing cases against companies. They continuously monitor the stock market and whenever they see a large drop in a company stock price they immediately look for a shareholder in that company to represent in a lawsuit. Only later do the find a reason to bring the lawsuit. In this way shareholders do not have to pay the fixed cost of getting informed, lawyers do the job for them.

This practice is reinforced by the possibility of bringing class action lawsuits, i.e. lawsuits in the name of an entire group of individuals, such as investors, consumers, etc. By pooling the individual cases, class action lawsuits makes it bigger the size of the potential award, making more attractive for lawyers to pursue them. Of course, class action lawsuits multiply the effect of punitive damages.

While it is easy to criticize the excesses this system has brought, it would be dangerous to overlook its importance in providing an alternative to government intervention. The problem of fixed enforcement costs is very real and needs to be addressed, especially in financial markets. Countries like Italy, which do not allow contingency fees for lawyers, have to provide a good alternative. Unfortunately, it is not

easy to design one. The de facto bounty system existing in the United States have the advantage of decentralized the problem of enforcement, reducing problems of capture.

2.2.2 Limited liability

Another real-world problem that limits the working of private enforcement is, as pointed out by Shavell (1984), the existence of limited liability. The threat of a lawsuit, for instance, will not optimally deter an oil tanker from taking actions that might generate an oil spill, because oil tankers tend to be incorporated as separate companies with a limited amount of equity. Hence, in case of an oil spill the tanker's liability is de facto limited by the value of its equity.

Not only limited liability reduces the cost that a company has to pay, it also reduces the probability it has to pay it. As my previous discussion makes it clear, for private enforcement to work it is necessary that the plaintiff can count on a significant expected award. Limited liability, however, gets in the way. Lawyers will not aggressively pursue companies with shallow pockets because they do not expect to cover their cost of suing them.

Regulation can easily solve this problem, by mandating high capital requirements or some minimum level of insurance (or both). This type of regulation, however, has significant negative effects on the ability of new firms to enter. In the United States, for instance, gynecologists are progressively put out of business by the cost of liability insurance. High capital requirements could have even worse effects on entry. In this respect, some ex ante regulation that tries to prevent frauds or oil spills, might be more friendly to competition than a system of mandatory insurance.

2.3 Problems in Renegotiating Contractual Voids

Hart (2004) argues against any form of regulation in corporate governance on the ground that it reduces freedom of contract, causing more harm than good. His argument certainly holds when the contracting parties can write fully contingent contracts at not cost or they can renegotiate these contracts at no cost. In practice, both assumptions are likely to be violated, especially in the case of financial markets. When they are violated, the conclusion must be qualified.

When a founder writes the corporate charter of his company is unlikely to write in it all possible future contingencies. First of all, these are too many. Even at a limited cost per contingency, his cost of writing the charter would be prohibitive. Second, it is very difficult to anticipate all future contingencies. This is not necessarily a problem if ex post, when some of these contingencies get realized, the parties involved can easily renegotiate. But this is not the case for publicly traded companies. Shareholders are dispersed and many of them are too small even to become informed about the affairs of the company they own some shares in, let alone bargain over it.

In principle this is not a problem. Suppose a company is stuck with an inefficient corporate charter, which prevents a company from entering new profitable business areas. It is in the managers' interest to offer to his shareholders a way to renegotiate this inefficiency. Since renegotiating an inefficiency always generates a surplus, the manager can capture most of this surplus and still leave his shareholders better off.

But this possibility of renegotiation exists only as long as the offer made by the manager does not convey too much information about the managers' behavior. Imagine that the corporate charter was written at a time when derivatives were not in use.

Consider a company that has little or no benefits from using derivatives. Nevertheless, its managers might use them to manipulate the companies' performance. In this case, the company would be better off prohibiting its managers from using derivatives. Would this company be able to achieve this outcome through private contracting?

Possibly not. Since the managers are benefiting personally (through higher compensation and better career opportunities) by manipulating earnings through derivatives, even if this end up costing to the company, they will give up using them only if they are properly compensated. In principle, this is possible because by refraining from using derivatives these managers will increase performance sufficiently to pay for the higher salary (since I assumed that the use of derivatives was inefficient). The problem with this strategy is that when the managers offer to ban derivative in exchange for the higher salary they implicitly admit they have been using them to their own advantage. How else can they justify the increase in compensation? But once they have revealed this fact to the shareholders, what prevents a shareholder from suing them for breach of fiduciary duty?

In other words, by making the offer the managers give up the informational advantage they have (i.e., that is it difficult for outsiders to establish whether derivatives are useful or not) and with it their informational rent. To preserve this informational rent, managers will not offer this deal to the shareholders and the company will be stuck in an inefficient equilibrium.

In this situation regulation could help. Obviously, a generic ban on derivatives will be too costly. It would indiscriminately apply to companies that benefit from them and companies that do not, creating a huge deadweight cost.

A better solution would be a milder form of regulation that only changes the default option. Suppose that a law is passed that says companies cannot use derivatives unless their use is explicitly approved by shareholders. In companies where derivatives are useful, managers will actively campaign to pass an amendment authorizing their use. They are happy to bear the cost of this campaign because they will capture for example through their stock options) some of the value increase brought by the use of derivatives. By contrast, when authorizing derivatives will reduce the value of the company, managers will be more reluctant to campaign to remove the ban, because in addition to the cost they would have to bear part of the fall in value of the company. In other words, the default option matters, and a regulation changing it can significantly improve the final outcome.

2.4 Deviation from Rationality

Thus far, we have maintained the assumption, standard in the economic literature, that economic agents are rational and make choices that maximize their own welfare. A growing body of research, however, has challenged this assumption. People, for instance, are much more likely to participate in a retirement plan when the default rule is that they are enrolled than when the default rule is they are not enrolled, even if there is not cost of changing the default (Mandrian and Shea, 2001).

Using this evidence Thaler and Sustein (2003) argue in favor of a strategic choice of default options, aimed at maximizing social welfare. If these options are simply a default, which the parties involved can change at no cost, their strategy comes at no real cost to individual freedom. For this reason they label it “libertarian paternalism”.

Surprisingly enough, even this very bland form of paternalism seems impact final outcomes (Thaler and Bernartzi (2003)).

An interesting question, which they do not address, is to which point we want to push this paternalism. Default rules, for instance, have an enormous effect in framing competition among firms, especially in markets with high search cost. Consider introducing in the mutual fund industry the default that funds have to report on the first page of their prospectuses the total amount of fees charged to investor. Even if funds can opt out from this rule at no cost, this type of disclosure is likely to become the prevailing one, forcing mutual funds to compete more along this dimension. Which dimension should the regulator choose to emphasize? While it is probably safe to assume that the goal of a regulator should be to maximize competition because competition is welfare enhancing, if competition is multidimensional, it is unclear what dimension a regulator should prefer. And if this problem arises when the disclosure form is optional, it becomes even more complex if the regulator imposes a fixed disclosure format. These are questions that do not have a clear answer in the literature yet.

Finally, when we allow for the possibility that economic agents are not fully rational, the possibilities of welfare improving interventions by the Government seems to expand exponentially. It would be wrong, however, to relax only the assumption that individual are fully rational in making their economic choice, but maintain they are rational in their political choice. As I will discuss in Section 3.1, when the comparison is done on an equal footing, the answer still comes down against government intervention.

2.5 Summary

In this section we have maintained the assumption that the designers of regulation are disinterested social planners, whose only goal in life is to maximize social welfare. While it is hard to believe, this was the assumption under which both Pigou and Coase operated. Fortunately, it is not anymore the assumption prevailing in the literature and I will drop it momentarily. Before doing so, however it is useful to review what we learned from analyzing the problem from this perspective, which represents the best-case scenario for regulation. In this best-case scenario, the role for regulation is a limited but important one.

First, it is generally welfare enhancing to mandate high level of disclosure, unless these jeopardize the return to R&D investments. The real issue, thus, is not whether to mandate disclosure, but how to enforce it. In principle, disclosure could be enforced both publicly and privately. But in countries that prevent the use of contingencies fees for lawyers, some form of public enforcement is necessary.

Regulation is also beneficial when the damages or the potential fraud are very big with respect to the size of the business, because in these cases private enforcement is likely to be insufficient to restrain opportunistic behavior. While a combination of mandatory insurance and minimum capital requirement would suffice to address this problem (especially in countries that allow contingent fees for layers), it has negative side effect on competition. Hence, some form of mandatory external monitoring is desirable, especially in countries that do not allow contingent fees for lawyers.

The use of default rules seems highly desirable, since it improves on the status quo in several instances, with no major counterindication.

Except these cases, however, regulation appears to have significant costs, without significant benefits even ignoring the fact that real world regulation is likely to be very different than the idealized form we have analyzed so far.

3. The Political Problem of Regulation

3.1 The Nirvana Fallacy

One of Coase's criticisms to the traditional theory of regulation is that it compares real-world failures with an idealized form of government intervention: no surprise that the idealized form of regulation always dominates! Coase advocates imposing the same constraints both to markets and to regulators. If the market is affected by agency problems, so will be the regulator, if the market is plagued by informational problems, so will be the regulator, etc.

To illustrate this point, consider the possibility that individual choices are affected by well-established psychological biases, such as framing, overconfidence, etc. Overconfident investors will make choices that can easily be improved by a rational regulator, but why the regulator should not be affected by the same biases? In fact, Glaeser (2003) argues that biases in the political arena are likely to be bigger, more common, and more persistent than in the economic sphere. For every individual voter the cost of a mistake in choosing a candidate is trivial because he is unlikely to affect the result of any election. By contrast, individuals bear directly some of the cost of their biases in the economic sphere. Hence, ceteris paribus we expect false believe to be more common and persistent in the political than in the economic sphere, because people have less incentives to learn in the political sphere than in the economic sphere.

As a result, when we compare the outcomes that competitive markets and regulated ones can achieve in the presence of behavioral biases, the case in favor of laissez fair is likely to be strengthened rather than weakened

3.2 Regulatory Capture

As the discussion regarding the Coase theorem illustrates, different allocation of property rights might have small or nil efficiency consequences, but they have large distributional ones. Stigler (1971) is the first to emphasize the importance of this aspect in an economic theory of regulation. Self interested politicians and constituents care about their shares of the pie, not social welfare. Since regulatory decisions have a major impact on these shares, the different constituencies will bid, in money and votes, to capture the regulator. Stigler emphasizes two kinds of costs that constrain a group's ability to deliver these goods: information and organization costs. Larger groups have higher coordination costs, and thus they will be less effective in capturing the regulator. Similarly, only established players have all the information a regulator needs to operate. Hence, small groups of established producers tend to be disproportionately influential in shaping the design of the regulation and its implementation.

One interesting example of this phenomenon is provided by Mahoney (2000). The Securities Act of 1933 is easily one of the most admired pieces of regulation. Nevertheless, Mahoney (2000) shows that the way it disciplines initial public offerings is highly anticompetitive, helping the formation of cartels lead by the then most established investment banks. How did these banks succeed in influencing the highly ideologically-motivated New Deal Administration? In order to quickly draft the new legislation the Roosevelt Administration needed industry information it did not possess. Mahoney

(2000) argues that the established investment banks had that information and also had the political contacts to transfer this information to the legislators. Hence, they could easily trade their information in exchange for a regulation bias in their favor and against the new emerging commercial banks, such as the National City Company (the precursor to today's Citibank).

This finding does not necessarily make the Securities Act of 1933 a bad law. It only illustrates that even the best legislation tends to be biased in favor of small groups of industry insiders.

Subsequent evolutions of the economic theory of regulation (in particular Peltzman (1976) and Becker (1983)) have mitigated Stigler's result, showing that also efficiency considerations play an important role in the political process. In particular, since the political payoff to regulation arises from distributing wealth, Becker (1983) argues that the regulatory process is sensitive to deadweight losses. In other words, ceteris paribus the political process will favor more efficient regulation. Nevertheless, unless all lobbies have the same information and the same cost of coordination, a regulatory bias in favor of concentrated groups of established producers persists.

3.3 The Regulatory Business Cycle

An important aspect of regulation, which is often ignored, is its cyclicality. During boom periods it is very difficult to create a political coalition in favor of regulation. On the one hand, politicians will find little payoff in going after successful businesses. During booms, public perception of businesses runs high and politicians do not want to be blamed for a possible economic slowdown by proposing new regulation. Introducing regulation during a boom is like fighting a preemptive war, there is very little

political reward for it. On the other hand, during booms established businesses are less keen to lobby for restrictions to competition. With a rising demand, their main concern is to keep the economy working, not to protect their turf.

By contrast, during recessions the demand for intervention rises (Rajan and Zingales, 2003). First, recessionary times are times when scandals are more likely to emerge. Scandals undermine public trust toward markets and raise the political demand for intervention. Second, during downturns more people become economically distressed, raising the political demand for some form of public relief and decreasing the perceived cost of interfering in the working of the marketplace. Last but not least, during recessions expansion possibilities look less attractive and incumbents become more concerned to protect their market share, making them more amenable to a political deal.

Consistent with this idea, the Great Depression was followed by a major wave of regulation. And for the same reason today, following a major stock market downturn and the emergence of several corporate scandals, we are experiencing a new wave of regulation on both sides of the Atlantic.

There are three problems with this procyclicality of regulation. Being a response to current problems, regulation arising during recessions will overweight ex post considerations and underweight ex ante arguments. In the middle of a debt deflation, for instance, the burden impose by excessive debt levels appears much more important than the ex ante effect of debt forgiveness on the willingness to lend. With the first consideration prevailing on the second, regulation is bound to be biased in favor of the more politically powerful groups.

The second problem with regulation triggered by a crisis is that the political need to provide a fast response does not allow the time to study what the optimal response should be. Sarbanes Oxley was drafted in a hurry with very little consideration for the existing empirical evidence.[6]

But the most serious problem of crisis-driven intervention is that by providing an immediate response to the crisis regulation ends up preventing and often crowding out a private response to it. Consider for instance the recent wave of corporate scandals in the United States. They generated a huge demand for intervention not only at the political level but also in the marketplace. The U.S. legislator responded, quite hastily, with the Sarbanes-Oxley Act. There is very little in the Sarbenes-Oxley rules that would have contributed avoiding scandals such as Enron, WorldCom and Tyco. Nevertheless, the pressure to do something has subsided. Companies feel that by complying with Sarbenes Oxley they have done what was needed to reform their corporate governance system, As I will discuss, in Section 4.1, this is far from clear.

The situation is even worse in the recent mutual fund scandals in the United States. The revelations that several funds allowed late trading and market timing in their funds triggered a confidence crisis in the funds under investigation, leading to massive redemptions. Eliot Spitzer surprise settlement, where he agreed to drop charges in exchange for a reduction in future fees, contributed to reduce the impact of market discipline and at least delay the introduction of mechanisms to prevent the reoccurrence of the problem. Compare this with the reaction of the U.S. government to the problems at

[6] A remarkable exception is the reform of capital market regulation in the United Kingdom, which was triggered by the 1989 Maxwell scandal, but was implemented only many years later.

Arthur Andersen. By not intervening, they allowed the market to severely punish Arthur Andersen partners, scaring off the partners in all the other accounting firms.

3.5 Economic Ideas

Thus far, we have only focused on the role economic interests play in politics. Economic ideas, however, have a role too. In a democracy, reforms should be sold politically and they can be sold more easily if they are supported by economic reasoning and empirical evidence. That economic ideas are important in the political game is proven by the fact that politicians constantly use them to strengthen their arguments. In selling his reduction in the top marginal income tax rate, for instance, President Bush stressed the benefits these cuts will have on economic growth, not their redistributive effects in favor of the wealthy. Without the earlier economic justification, his proposal would have probably encountered much more political resistance.

Some cynics might object that economic ideas respond to economic needs. Probably, a shrewd politician can always find an economist supporting his policy views. I do not deny it. But like a better slogan can provide a candidate with an edge, the quality of the economic ideas underlying a proposal can increase his chances of success.

For too long the Pigovian welfare theory has provided the intellectual support for bad regulation, it is about time that Coase's ideas permeate the public policy debate.

3.6 Summary

Laws are like sausages, if one wants to continue trusting them it should never find out how they are made. In this section I have not followed this rule and I have lifted the

veil on the political incentives behind the introduction of regulation, reviewing the biases these incentives are likely to introduce.

The political process tends to generate too little regulation during booms and too much regulation during busts. Since most regulation is introduced at times of crises, when protecting your market share is more important than expanding it, regulation tends to protect the status quo, against new entrants. This bias is exacerbated from the asymmetry of lobbying powers between established firms and new potential entrants. In addition, regulation tends to crowd out the private response to crises.

While economic incentives play a big role in the regulatory process, economic ideas have a role too. Economic ideas help a politician sell a particular point of view to the general public. Hence, a better understanding of the general costs and benefits of regulation help produce better regulation by strengthening the point of view of the candidate with the best economic platform. A I will return to this point in Section 5.

4. Application to Financial Markets

In this section I apply the above framework to analyzing the costs and benefits of regulation in two areas of financial markets recently under the radar screen of regulators.

4.1. Corporate Governance

4.1.1 What Is the Problem?

As I defined elsewhere (Zingales, 1998), corporate governance is the set of rules that determine the distribution of the economic surplus generated by a firm among its stakeholders. Since firms arise when the price mechanism is relatively inefficient (Coase, 1937), the contribution provided by these stakeholders cannot be effectively priced by

using their outside market value. Hence, the need for bargaining. As in many other regulatory problems, the rules disciplining this bargaining have both distributional effects and efficiency consideration. As I discuss in Zingales (1998), corporate governance can affect the total surplus through two channels: by affecting the efficiency of the agreements reached among the stakeholders and by affecting the shares of the pie various stakeholders will gain, which in turn affect the amount of investments they are willing to make in the firm. In the context of the current debate, corporate governance rules can affect the division of surplus between managers and shareholders and this division affects the incentives these two parties have to maximize the value of the firm.

As I discussed in section 1, the first question we should ask is whether in this area we need regulation at all. By constraining contractual freedom regulation imposes clear costs, e.g., Hart (2004). Hence, we should evaluate the seriousness of the problems under consideration and whether regulation can improve them sufficiently to justify its costs. But even before entering this discussion, we need to ask whether the very problems we are dealing with aren't the results of pre-existing regulation. We do not want to fall into Pigous's mistake to advocate new regulation when eliminating the old could fix the problems.

4.1.2 How Much of the Problem Results from Previous Regulation?

Even in the United States the existing issues in corporate governance are not the result of market forces alone (e..g., Roe, 1994). U.S. corporate law, for instance, tends to assert the power of management over the power of shareholders. While shareholders have the right to appoint directors, they have limited rights to remove them without cause and almost no right to constrain their actions either ex ante (inserting in the corporate charter

binding rules) or ex post (suing them). In fact, the prevailing doctrine in the United States is the so-called "business judgment rule", which prevents shareholders from second guessing any business decision made by a manager, unless there is a conflict of interest.

The second major source of interference are state antitakeover laws, which empower managers to resist hostile acquisitions. While many of these laws are justified as a way to protect stakeholders, this is little more than an excuse. In fact, stakeholders' opinion generally is not required and it is left to incumbent managers to decide which merger is good for stakeholders.

4.1.3 Do We Need Any Regulation?

Reviewing the discussion in section 2, we can identify three areas where intervention is needed. First, in the area of disclosure: companies tend to have too little incentive to disclose. Second, in preventing corporate fraud. The litigation mechanism seems highly deficient here, for both of the reasons mentioned in section 2: in publicly traded companies shareholders face very high enforcement costs and limited liability reduces the punishment that can be inflicted in case of frauds. Third, as I will argue, in the last twenty years the business environment has significantly changed the terms of the conflict of interest between managers and shareholders. Hence, in publicly traded companies, where renegotiation of the initial contract is difficult, there might be scope for some intervention. In what follows I discuss what forms this intervention should take and I compare it with the direction regulation efforts are taking.

4.1.4 Why Has the Problem Become Worse?

I think that there are several forces that in the last twenty years have made the conflict of interest between managers and shareholders worse.

First, state antitakeover legislation has eliminated the major mechanism to discipline the power of management.

Second, the increased complexity of organizations makes it simpler to divert resources. Between 1996 and 2001, the number of foreign subsidiaries of Tyco, for example, grew from 154 to 1,750, making it impossible for all but a handful of people in the company to understand the whole picture. When a company is as opaque as that, hiding transactions from the board of directors is easier.

Third, fraud has also become more lucrative because of the general increase in market valuations. In 1980 a shameless manager who successfully manufactured $1 of earnings would have increased the value of his company, on average, by only $7, based on the S&P 500 price/earnings (P/E) ratio at the time. At the peak of the Internet bubble (when the S&P 500's P/E ratio reached 35), the same fraud would have paid five times as much. And a higher liquidity in the stock market has made it easier for managers to sell their shares after pumping up the earnings.

Finally, the greater availability of derivatives and of possibility of constructing complex transactions with special purpose entities have made it easier to manufacture earnings

4.1.5 What Should Be Done?

In the area of disclosure, the first obvious step is to force companies to expense stock options. While some people dismiss this step as irrelevant, I think this has

important corporate governance consequences. Many directors do not have PhD in accounting or finance. Hence, they can be easily confused on the cost of these options. And indeed they are. TIAA-CREF recently retained as a consultant two retired CEOs who sit on compensation committees of major American companies. One of the major facts they uncovered is that the argument that stock options "do not cost anything" is very often used in board meetings to justify bigger awards to the CEO. If directors might suffer of this money illusion, shareholders are likely to suffer as well. Hence, expensing stock options might change their attitude toward CEO compensation and thus their vote at the shareholders meeting.

A second important step in the area of disclosure is to force managers to pre-announce their intention to sell their company's stock. This will limit their ability to pump up their companies' earnings and leave.

Both these interventions are fairly easy to implement and they do not seem to have any major efficiency cost. The same cannot be said for intervention aimed at reducing corporate frauds. The least costly mechanism is probably that of increasing penalties for corporate frauds. All the other mechanisms aimed at increasing ex ante monitoring will significantly increase the regulatory burden on public companies. Even the simplest one (such as mandating turnover of external auditors) can have significant costs. As my previous calculation suggests, these costs might still be worth paying, but more precise estimates are needed before jumping to any conclusion.

As I have written elsewhere (Zingales, 2004), a cost-effective mechanism to reduce corporate fraud is to institute a reward system for whistle-blowers. Most of the corporate frauds that has recently emerged required the collaboration, or at least the

silence, of many employees. Most of those employees were not directly benefiting from the fraud. So why did no one speak up? Because blowing the whistle is too big a risk. Who wants to hire an employee who had "spied" on his previous employer? And within organizations, loyalty pays more than honesty. Inquisitive board members, for example, are often isolated and not asked to stay on. If people who ask questions are ostracized, whistle-blowers often face a much worse fate. A 1992 survey of 1,500 federal workers who reported misconduct provides a snapshot of the consequences: Twenty-five percent experienced verbal harassment and intimidation; 20 percent were shunned by co-workers and managers; 18 percent were assigned to less desirable duties; 11 percent were denied a promotion. A 1998 survey of 448 emergency physicians is even bleaker: Twenty-three percent of those who complained about an issue reported having been fired or threatened with termination.

Given that whistle-blowers are essential to detecting corporate fraud, the solution is to compensate the whistle-blowers financially. It is not enough to protect them against wrongful dismissal (as Sarbanes-Oxley does). To be effective, the award should be proportionate to the size of the fraud exposed. The Parmalat fraud would not have lasted 15 years if there had been a formal way of rewarding whoever helped identify the fraud.

There are several advantages of such a system with respect to more traditional forms of monitoring. First, it does not require to set up a costly structure. Second, by creating competition for enforcement, it reduces the chances that the potential enforcer is bought off. Finally, unlike traditional systems, this one does not cost anything if it is ineffective: if no valuable information is provided, no award is paid.

Other important forms of intervention would try to rebalance the CEOs' power vis-à-vis shareholders and board members. Forcing shareholders to explicitly approve CEOs' pay would definitely be the first step in this direction. The second step would be to reform the proxy rules, so to make it easier for shareholders to appoint directors of their choosing (not of the CEO's choosing). Finally, to make directors more effective would be useful to create an information channel from the company to the directors that bypass the CEO.

4.1.5 What Has Been Done

Interestingly, very few of these proposals have been implemented at the political level. In fact, for years U.S. congress has blocked any proposal by FSAB to mandate the expensing of stock options.

Much of the public policy debate on corporate governance has focused on independent directors, in spite of the fact that the academic evidence on their effectiveness is at best mixed.

The only aspects of Sarbenes-Oxley that are consistent with what should have been done are the increase in penalties for corporate fraud and the change in who appoints external auditors. Rather than leaving the CEO appoints them (making them implicitly loyal to him), external auditors now will be appointed by the audit committee, which should be formed only of independent directors. This goes in the direction of creating a direct information channel between the company and the board, bypassing the CEO.

That at the political level so few steps in the right direction have been taken should not be surprising. In rebalancing the power of CEOs, the proposals I discussed

would also tend to reduce their share of the surplus. Hence, there is very strong resistance at the political level. Ironically, CEOs can use shareholders' money to lobby politicians to protect them against any reform that will benefit the shareholders!

4.2. Mutual Funds

4.2.1 What is the problem?

Is there any similar problem in mutual funds? Looking at the current events in the United States it seems so. As with corporations, in mutual funds there is a conflict of interest between management and mutual fund shareholders. The four main areas where this conflict manifested itself are the following:

1) Stale price arbitrage

In the fall of 2003 a series of scandals brought to light a diffuse practice in the U.S. mutual fund industry: management companies were allowing favored investors to trade at stale prices in exchange for larger investment in the funds, which translated into larger commissions.

One form of stale price arbitrage is "late trade". The SEC requires any order received after 4:00 pm to be traded at the next day prices. By falsifying records some mutual funds were trading orders received after 4:00 pm of day t at the day t prices, giving to the favored investors the benefit of knowing information that became available between 4:00 pm and the time they placed their orders. The other main form of stale price arbitrage is "market timing". The idea is similar, but –unlike late trading—this practice is not prohibited by the SEC, although many funds explicitly say they try to prevent it. When a fund invests in non-US stocks, the daily net asset value is calculated using the

closing prices in the principal market where the stocks in its portfolio are traded. These prices are stale by the time the U.S. market closes. Investors, who benefit from observing the ADRs prices of foreign stock traded in the U.S., can place orders knowing that international stocks have gone up during the day, but still get their orders executed at the previous close.

2)Soft Commissions

The expense ratio disclosed in a mutual fund prospectus does not include the sums paid in brokerage commissions, bid-ask spreads, and custodian fees. These other transactions, however, generate other potential conflict of interests. In its portfolio transactions, for instance, the management company can choose a broker not for its attractive pricing, but because of his effort in selling fund's shares (a practice called "directed brokerage").

A broker can also provide research services to the management company together with trade execution and bundle the cost of these two services together, so that mutual fund shareholders pay for both (a practice known as "soft dollar").

3) Total Commissions

The SEC (2000) finds that the average mutual fund expense ratio rose from 1.14% of assets in 1979 to 1.36% in 1999, despite the growth in average fund size. Even very homogenous products, such as funds that track the S&P 500, have a high dispersion in fees. The 75^{th} percentile by cost is 3.1 times that of the 25^{th} percentile (Hortacsu and Syverson, 2003). If we exclude sales loads and other sale-related fees, the fees in this category of funds vary between 8 and 85 basis points. This induces some commentators

(e.g., Mahoney (2004)) to raise the question whether the real scandal is the total size of the fees.

4) Excessive Risk Taking

Morningstar studies have shown that managers of funds saddled with high commissions systematically take on greater risk than do managers of funds with lower expense ratios (Phillips (2004)). One possibility is that the higher fees pay for the greater expertise needed in taking on greater risk. Unfortunately, this greater exposure to risk does not translate into higher performance. Hence, an explanation more consistent with the evidence is that managers are trying to beat a benchmark, and when they start with the handicap of higher commissions they have to take on more risk to try to beat it.

4.2.2 How Much of the Problem Results from Previous Regulation?

The main source of all the conflicts of interest listed above is the structure of compensations. While investors benefit of the performance of the fund, management companies are rewarded on the basis of the assets under management. This difference is mainly due to regulation (Das and Sundaram (1998) and Golec (2003)). The Investment Adviser Act of 1940 de facto prohibits mutual fund advisory contracts to have a performance-based component. By contrast, in the private equity market, which operates outside of the constraint of the IAA, performance-based contracts are the norm.

Even the problem of large and increasing fees is due to regulation. The major components of fees are the so-called 12b-1 fees. SEC rule 12b-1 permits funds to charge mutual fund shareholders up to 100 basis points a year for certain marketing expenses. Adopted by the SEC in 1980, after a long period in which mutual funds had been losing

assets, this rule was considered a temporary measure to allow funds to reduce their front load fee and rebuild their asset base. But brokers benefited from this rule because give to the funds they are selling the appearance of lower cost. So this "temporary" measure survived to this day.

What keeps fees high is also the way a large fraction of funds is sold. Roughly 40 percent of them is sold through employer-sponsored retirement plans, which have been promoted and regulated by several pieces of legislation. Employers generally pick one or two fund families to offer to their employees. Hence, funds happily use 12b-1 fees (i.e., shareholders' money) to compete for employers' business, knowing that employees will then become captive customers.

4.2.3 Do We Need Any Regulation?

Besides the arguments made for corporations in general, there is an additional reason why competition alone should eliminate the agency problems in the mutual fund industry. Unlike in corporations, mutual fund shareholders can "fire" their managers every day by withdrawing their assets. This is the position taken by Manne (2004), who thinks that competition among funds and search by investors will assure that agency losses, including excessive management fees, will be minimized.

On the other hand, the ability to withdraw money at the NAV eliminates an important signal from the market: the price. When the managers of normal corporations misbehave, smart investors cannot withdraw their money, hence they sell the company's stock. This creates downward pressure in the stock price. Lower stock prices affect managers directly (through their holdings of stock and options) and indirectly (affecting the probability of takeovers). This important feedback mechanism, ironically first

identified by Manne (1965), allows ordinary investors to benefit from the monitoring performed by smart investors. In mutual funds nothing like that happens. When managers misbehave, smart investors withdraw their money and ordinary uninformed investors stay in. Paradoxically, this gives mutual fund managers the perverse incentive to behave even more opportunistically. Once they have lost their price-sensitive clientele, they can start increasing fees without losing assets managed. There is a famous example of that: the Steadman fund, also called dead-men fund. In spite of grossly underperforming the market every year, this fund continues increasing its management fee, because it knows the investors it has left are not paying attention (possibly many are estates of deceased people, hence its nickname).

A second important difference with respect to corporations is that the detterrance effect of lawsuits is even more limited. Mutual fund companies manage a disproportionate amount of assets with respect to their net wealth and hence they can cause damages far in excess of their capital. Zitzewitz (2003) estimates the cost of market timing to buy-and-hold investors in about $5 billion a year. Late trading is adding another $400 million to that. Given the magnitude of the losses, investors' hope of recovering them through lawsuits is limited.

Finally, investors tend to purchase shares in funds that performed well last period even if there is no evidence that they will outperform in the subsequent period (Sirri and Tufano, 1998). As economists we can dismiss this trend-chasing bias as irrational. Should we intervene to fix it?

4.2.4 Why Has the Problem Become Worse?

In the United States the mutual fund industry has grown from 73 funds and $1.2 billions in asset in 1945 to 8,000 funds and more than $6 trillions in assets at the end of 2002 (Investment company Institute, 2003). Today mutual funds represent a significant portion of long-term retirement plans for 90 million Americans.

This tremendous increase has three major implications. First, since mutual funds have a big fixed cost components, this growth increased the amount of rents available in the industry, with a potential increase in agency costs. Second, the diffusion of this type of instrument among unsophisticated investors has increased the risk of abuses. Third, the magnitude of the industry and its diffusion among ordinary people have raised the political stakes in this industry.

Finally, the opportunities for abuses have also increased tremendously. The diffusion of international funds has made the problem of stale prices more pervasive. And on line trading has opened up the opportunity of market timing even to small (sophisticated) investors. Allegedly Ziztewitz himself, an assistant professor at Stanford, was able to make more than half a million dollar through late trading.

4.2.5 What Should Be Done?

The case to mandate better disclosure is simple. Given the unsophisticated nature of mutual fund investors, however, even the format of this disclosure and the timing matter. Investors should be provided, before they make their purchase, with a dollar estimate of all the expenses charged to their investment, including the amount paid in trading commissions, broken down in commissions paid for trading and commissions paid for services. Since the clerical cost of these disclosures is small, it is very difficult to argue against making them mandatory.

Similarly, at the time of the purchase brokers should disclose the fee they receive on the different products they sell, including the "soft dollar" they receive in the form of higher trading costs.

Finally, funds' managers should disclose the trade they do in the funds on their own account as well as the compensation they receive.

While the case for mandatory disclosure is simple, the case for other forms of regulation is not. Given the size of the assets under management, it is difficult to fight potential frauds and abuses through higher capital requirements and mandatory insurance. It would be too expensive and would create big barriers to entry. Hence, there is the need to increase the amount of monitoring.

Competition among different enforcement authorities can help monitoring the funds more closely. When the SEC had become too complacent, possibly for the effect of regulatory capture, it was the General Attorney from New York State, Eliot Spitzer, to take the lead in the fight against frauds.

An extreme version of this idea of competition among enforcers is my idea to reward whistle blowers. All the frauds and irregularities I described above could not have occurred without the collaboration of several employees. Consistently, all the major cases of abuse in mutual funds that have recently emerged in the United States have been discovered thanks to the lead of an internal whistle blower. The problem is that the reward for these whistleblowers has been negative. They did not receive any compensation and they had to face the resentments of colleagues and traders who had been exposed by their revelations. Peter Scannell, for instance, who blew the whistle on Putnam Investments' alleged after-hours trading, sustained serious head injuries when he

was beaten by unknown assailants, who mentioned Putnam several times and warned him to shut up. Hence, establishing a monetary reward for employees that report irregularity to the public authority can be the most cost effective way to monitor also mutual funds.

A more delicate topic is whether to take a more paternalistic view toward investors who seem to behave in an uninformed or irrational way. At the very least, there is a strong case to apply some version of the "libertarian paternalism" a la Thaler and Sustein (2003), by introducing default options that favor low-cost indexed funds. For example, it could be required that every 401(k) plan contains at least one low-cost index fund, which should be the default option for investors, unless they specify otherwise.

I am concerned about any more "paternalism", because of the potential costs it might involve. As traditional paternalism might be more in the interest of the father than of the son, so regulatory paternalism might be the Trojan horse through which incumbent groups favor themselves.

It might be more effective (and less dangerous) to do an educational campaign sponsored by the Government, where investors are taught the rules of savvy investing. Given that the retirement benefits of more than 90 million Americans depend upon their ability to invest wisely, educating them how to invest should become a priority.

4.2.5 What Has Been Done

Given the recent nature of the mutual fund scandals, no regulatory action has been taken yet. Nevertheless, Eliot Spitzer has partly taken up the role of the regulator, with his settlement agreements.

His settlement with Alliance Capital Management, for instance, included a significant reduction in future fees. As I discussed earlier, this is an example of how the

political intervention tends to focus on the distributional aspect (the fees) rather than on the efficiency aspects (the agency conflict), because more politically rewarding. It is also an example of how incumbents are more willing to compromise when they receive a deal that protects their market position. Instead of compensating past investors (the victims of the alleged abuses), Alliance rewards future investors. In this way, it reduces the potential amount of withdrawals. This is extremely important. As a result of being involved in the scandal, Putnam lost $3.4 billions in assets as state pension funds withdrew their money. The four funds named in the Canary Capital investigation lost $7.9 billions in September alone. Withdrawals, however, are a very healthy market response to crises. It is watching the price investigated funds pay for their alleged misbehavior that other funds learn the cost of misbehaving. By helping reduce Alliance's loss of assets managed, Spitzer has compromised the effectiveness of market discipline in the foreseeable future. Another example of the distorted incentives of politically motivated intervention.

5. A Modest Proposal

At the beginning of their medical practice, physicians take Hippocrates' Oath. The first principle contained in this oath is "do not harm". This principle was never constructed as a "laissez faire" policy, but it is still used today to prevent any intervention that is more likely to hurt than to improve human health.

At the beginning of their career, policy makers should take the same oath. It will remind them to intervene only when they have reasonable chance to improve the situation and it will force them to seek more actively evidence that what they are proposing is indeed welfare enhancing.

It is in this spirit that I advance a simple proposal to try to minimize the distortions that actual regulation (i.e., regulation that emerges through the political process) has with respect to the ideal form of regulation. The goal of this proposal is to make as visible as possible these distortions and its beneficiaries. The ultimate defense in any democratic system is people's awareness. Unfortunately, it is rational for most people to remain ignorant about most policies decisions, because the cost of becoming informed exceeds the impact of this policy on their welfare (Downs, 1957). One way to offset this bias is to reduce the information costs.

What I propose is a new Government agency dedicated to estimate the costs and benefits of any new regulation. In the United States exists a similar body to estimate the future budgetary impact of any new piece of legislation. It is called the Congressional Budget Office (CBO). That is quite effective is proven by the fact that the recent tax cuts have been approved with a sunset provision to reduce the cost of these proposal the CBO will assess, because these estimates do carry some political weighs.

The Regulation Oversight Board (ROB) I propose should have two tasks. When new regulation is proposed, it should assess the cost of compliance, the estimated benefits, and the potential deadweight cost. Then, a few years after any new regulation has been imposed, it should re-estimate these numbers on the basis of the available evidence.

And since Government agencies work best when they have a clear single-minded purpose (Wilson, 1989) I will make the goal of the ROB to protect competition and new entrants. These are clearly the weak parties in the political process and they need an

advocate. The ROB should be such an advocate, which will assess the impact on competition and entry barriers of any new piece of regulation.

What could make the ROB even more effective would be a requirement that any new piece of regulation contain a clear statement about its goals and the mechanism through which this goal is expected to be achieved. For example, when Bush introduced his tax cut he claimed to do so to promote economic growth. His reasoning implicitly relied on two ideas: lower marginal tax rates induce people to work more and fewer taxes make them spend more. Had Bush be forced to state explicitly in his proposal how he expected his tax cut will work, it would have been easier now to estimate whether any of his claims were true. While educated economists can disagree (and they do), the level of sophistication of microeconometrics has achieved makes it almost an exact science.

I am not diluted that lobbying pressures will no be exerted on the RBO. My hope, however, is that bringing more economic theory and econometric evidence into the political discourse will make a bit more difficult to pass unsound economic policies and a bit more costly to introduce pro-incumbent legislation. Even a marginal improvement in this direction will more than pay the salary of the two dozen economists necessary for this purpose.

7. Conclusions

When it comes to regulation, and especially regulation of financial markets, academics tend to be divided into two opposite camps. On the one hand, there are the extreme libertarians (e,g., Smith, 2003) who oppose any type of regulation. On the other hand, there are the interventionists (e.g., Stiglitz, 1989) who see pervasive market failures and advocate massive intervention.

In this paper I advocate a skeptical middle ground. Identifying an externality is not a sufficient call for regulation. Apparent externalities might be due to existing regulation and even when they are not, they can be effectively dealt with by the market system unless transaction costs are very large. When these costs are indeed large (as are enforcement costs for dispersed shareholders) there is scope for welfare enhancing regulation.

That such a scope exists, it does not necessarily imply that welfare enhancing legislation can be designed and even less so that it can be approved via the legislative process. Even when the benefits of an ideal form regulation are large, the costs of its practical incarnation might be far in excess. Houses, for instance, can be effectively protected against burglars by eliminating windows, but we would not want to live in such houses.

Furthermore, we should be aware that the legislative process is heavily influenced by incumbents, especially in concentrated sectors. And any piece of regulation will be biased in their favor. As Justice Louis Brandeis, one of the leading figures of American progressive movement and the intellectual father of the New Deal financial legislation, reminds us:

"Do not pin too much faith in legislation. Remedial institutions are apt to fall under control of the enemy and to become instrument of oppression." [7]

Consistent with Brandeis' position, my stronger emphasis is in favor of mandatory disclosure. In Brandeis' words:

"Publicity is justly commended as a remedy for social and industrial diseases. Sunlight is said to be the best of disinfectants; electric light the most efficient policemen." [8]

[7] Louis D. Brandeis, letter to Robert W. Bruere, 1922, Columbia Law Review XXXI: 7.
[8] Louis D. Brandeis, 1933, *Other People's Money*, National Home Library Foundation: 62.

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