The "obscure puzzle" of management control. Any remedy?

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The "obscure puzzle" of management control. Any remedy?*

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Abstract
With the advent of managerial capitalism the problem of control of management has grown and widened in scope, from enforcing strict shareholders' value maximisation to more general requirements of best practices, ethics or social responsibility. Yet "there is a continuous and seemingly endless stream of reports of value-destroying behavior by individuals, groups, and organizations (...) The fact that these scandals keep arising in spite of the ongoing and varied attempts to curtail such behavior amounts to an 'obscure puzzle' " (Erhard and Jensen 2014, p.4). By means of a simple model where opportunistic managers under the veil of asymmetric information can appropriate resources of shareholders and make the stock market inefficient, I provide an accessible guidance to the key issues at stake. I also review the theoretical (and practical) limits of the "classical" remedies: market discipline, incentive schemes, ownership concentration, delegated monitoring, rule of the law. The paper is closed by claiming a role for managers' self-control, i.e. promotion of business ethics in particular intrinsic motivations as part of managerial culture and identity.

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1. Introduction

With the advent of *managerial capitalism*, foreshadowed by Bearl and Means (1932) with the increasing separation of ownership and control, the entirely new figure of the corporate manager has become crucial (Marris 1964, Chandler 1977). Broadly speaking, the quality of management has become a key "production factor" as important as physical capital, labour and technology for the efficiency and prosperity of the economic system (Erhard and Jensen 2014). Management quality includes a broad range of dimensions, from personal skills and talents affecting firm's technical efficiency, to loyal and honest behaviour towards shareholders, employees, customers and other relevant subjects, to respect of the law. Management poor quality or misbehaviour, even when not strictly illegal, not only may destroy value but may also generate negative spillovers onto other subjects holding a stake in the firm, and onto economic efficiency in general. In parallel, the problem of control of management has grown and widened in scope, from enforcing strict shareholders' value maximisation to more general requirements of best practices, ethics or social responsibility (Erhard and Jensen 2014, Morck and Yeung 2010, Kitzmueller and Shimshack 2012).

It is worth bearing in mind that in the ideal view of firm's value maximisation in a perfect capital market, the problem of management control is solved externally by means of disciplining market forces (and possibly the rule of law). Jensen and Meckling (1976), recasting the classical issues of the separation between ownership and control in terms of principal (shareholders) - agent (managers) problem, warned that a "small friction" like asymmetric information (AI) in favour of managers may inhibit internal control by shareholders as well as external control by market forces and the law. Thereafter, a large academic and professional literature has flourished focusing on corporate governance design as, *inter alia*, an internal means to control management. In a celebrated survey of corporate governance, Shleifer and Vishny (1997) write

Corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment. How do the suppliers of finance get managers to return some of the profits to them? How do they make sure that managers do not steal the capital they supply or invest it in bad projects? How do suppliers of finance control managers? At first glance, it is not entirely obvious why the suppliers of capital get anything back (p. 737)
The prominent instrument has been seen in incentive schemes aimed at keeping managers' behaviour aligned with shareholders' interests. Likewise, some important features of corporate governance and financial systems around the world — such as ownership concentration or delegated monitoring to intermediaries — have been traced back to the problem of management control.¹ Nowadays, the initial optimism with the foregoing "classical" solutions to the problem has fainted.

There is a continuous and seemingly endless stream of reports of value-destroying behavior by individuals, groups, and organizations (...). The fact that these scandals keep arising in spite of the ongoing and varied attempts to curtail such behavior amounts to an "obscure puzzle". The persistence of these scandals in spite of all of the efforts to curtail them (a perfect example of what Thomas Kuhn calls "anomalies and crises" within the prevailing paradigm) is, we argue, strong evidence that the prevailing paradigm of financial economics requires some transformation (Erhard and Jensen 2014, p. 4).

The noteworthy part of this quotation is the quest for a change in the prevailing paradigm of (financial) economics by one of its most influential architects. My view is that the point of the paradigm under question, common to all the "classical" solutions to the management control problem recalled above, is the theory of the manager as *homo economicus* with its three pillars. First, *substantive rationality* meant as the achievement at highest possible degree of a given subjective end. Second, *selfishness*, i.e. pursuit of the given end regardless of the consequences on others². Third, individual motivations *taken as given and invariant*, and excluded from "manipulation". The consequent prescription is that correct behaviour towards others — shareholders, employees, customers, etc. — or even respect of the law when the alternative presents a utility gain, should be enforced by means of incentive/disincentive mechanisms, i.e. it should result from...

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¹ In addition to Shleifer and Vishny (1997), more recent surveys are Becht et al. (2005), Morck and Yeung (2010).
² Some authors (e.g. Sen 1987a) aptly clarify that the last qualification (regardless of the consequences on others) is crucial to obtain the standard utility maximisation theory: the utility function excludes arguments defining the state of others. Thus note that I use selfishness as a stricter concept than *self-interest*, which may well be inclusive of the state of others to the extent that the individual enjoys personal well-being from these. In this broader view, selfishness is not a necessary assumption for economics to be based on the principle of individual utility maximising behaviour. Nonetheless, selfishness is the orthodox assumption, whereas alternative assumptions are un-orthodox and should be carefully justified (further discussion in section 3.5 below).
personal cost-benefit optimisation under the conditions set by such mechanisms.

If the alarming evidence of managers' misbehaviour seems supportive of the *homo economicus* hypothesis, and if economising on ethics (unconditional correct behaviour) may be a cautious strategy of governance design, yet it turns out that treating managers as pure selfish optimisers and taking their motivations as given and untouchable has been harmful for positive analysis as well as for normative design (also Akerlof 2007). On one hand, managers, like all other human beings, can have better motivations than pure selfishness. On the other, economists' selfishness hypothesis seems to elicit a self-fulfilling tendency (Frey and Meier 2003, Wang et al. 2011, Zingales 2015). With managers really growing selfish, controlling them with standard incentive/disincentive mechanism has become a Sisyphus Fatigue.

This paper does not have the ambition to solve the problem of management control, let alone to put forward a new paradigm. Its aim is to provide the interested reader with an accessible guidance to the key issues at stake and the limits of the "classical" solutions. The message is that we have to embrace a wider view of managers' motivations in positive analysis and pursue business ethics, in particular non-selfish intrinsic motivations, in normative design. In a word, we should enhance the *self*-control of managers.

To begin with, in section 2 I present a simple model of managers' misbehaviour, namely opportunism elicited by AI between the managers and the shareholders of stock companies. Among the many possible variations on this theme, I have selected those that best fit the purpose of the paper. First, the model is set in a system of stylised "public companies": a large number of stock companies characterised by widespread ownership of small shareholders (small in a sense to be qualified below) who delegate the operation of the company to a manager. Public companies have been chosen as they represent the ideal type of managerial capitalism. Second, AI is the single bug in the system: it concerns the true state of end-year profit of the company. The manager knows it, whereas each shareholder has to bear a cost to know it. Third, the kind of manager's incorrect behavior that may arise behind the veil of AI is misreporting of accounts in the specific form of embezzlement: a manager may seize the opportunity to report lower than actual profit and appropriate company's resources for personal benefit. Fourth, in order to focus on motivations, not all managers are motivated
exclusively by selfishness and hence prone to opportunism: some managers are ethic, i.e. they are unconditionally honest and always report the true profit.

A few qualifications are in order. For illustrative purposes, the model picks up a single dimension of management quality – the relationship with shareholders – and it examines a particular illegal behaviour. As a matter of fact, various kinds of embezzlement are frequent and alarming phenomena (Shleifer and Vishny 1997, Spaventa 2005, Coffee 2005). Embezzlement through misreporting is a major instance of the integrity problem analysed by Erhard and Jensen (2014). Wider and more popular attention is attracted by misreporting of *higher* than actual profit aimed at inflating managers' earnings under performance-based incentive schemes (Erhard and Jensen 2014, sec. 4). The model can easily be adapted to this kind of misbehaviour, and a brief discussion of incentive schemes will follow in section 3. Non strictly illegal misbehaviour is no less significant and perhaps more frequent. Though it is not treated explicitly, the key results of the model do not strictly depend on the illegality of the behaviour and apply in other different contexts.

The core of the model is the notion of no-control equilibrium. There is a combination of (high) control costs, (low) ownership share and expected loss from embezzlement such that no shareholder has the incentive to control the company's manager. This is an instance of the so-called small

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3 "In our positive theory of integrity, integrity is defined as: 'the state of being hole, complete, unbroken, unimpaired, sound, in perfect condition' [...] For a person or a human entity (such as a corporation) to be whole and complete that person's or human entity's word must be whole and complete" (p. 3). Erhard and Jensen argue that managers' lack of integrity is against their own personal interest too. Hence, it is a form of irrationality, according to the paradigmatic *homo economicus*, which however is not immediately perceived as such by the misbehaving individuals (pp. 6 and ff.). I find this argument unpersuasive. The authors' own examples of lack of integrity clearly involve a personal payoff for the managers who misbehave. Hence, the classical idea of conflict of interests between the manager as rational agent and his/her principal(s) within and outside the firm remains central.

4 As to external subjects, high social concern is raised especially by malpractices to the damage of consumers (e.g. Akerlof and Shiller 2015). The origin may be captured by shifting AI from shareholders to consumers (Stiglitz 1985a), to which exploitation of consumer bounded rationality can be added (Akerlof and Shiller 2015). However, in most cases (think of the recent Volkswagen scandal), there is no a direct conflict of interest between the manager and the consumer, but rather a coalition of interests of the manager and the firm (e.g. larger profit = higher bonuses) to the damage of the consumer.
shareholder paradox (Stiglitz 1985b). In the no-control equilibrium no shareholder will ever know whether the dividends distributed by any company are the true ones, possibly reduced by unfavourable economic events, or whether they have been curtailed by a dishonest manager. Consequently, the true type of the manager of each company is never revealed. Some important consequences follow.

First, though AI lies within the company so that the shareholders with a dishonest manager suffer a primary loss, the model highlights the negative stock market spillovers of (the probability of) managers' dishonesty. The stock-market pricing efficiency is impaired: a lemon premium (Myers and Majluf 1984) is charged on all companies to the damage of the stock market, and the economy, as a whole. Managerial opportunism is a social problem beyond the boundaries of the firm. Second, it is also implied that the pure market forces are unable to discriminate dishonest from honest managers, to punish the former and reward the latter.

Section 3 reviews possible remedies. The "classical" remedies are examined. We start with incentive schemes, the most developed and popular internal solution to the problem of management control. A more radical internal remedy is the emergence of different ownership structures that may overcome the no-control equilibrium. Then we move to external solutions, such as delegated monitoring – to borrow the term from the celebrated paper by Diamond (1984) – provided by specialized financial intermediaries, and eventually legal enforcement of correct managerial practices and legal protection of minority shareholders. With the help of the model, we shall see the theoretical (and practical) limits of each of these remedies, which also surface from the evidence of persistent problems of managers' misbehaviour. This section is then closed by claiming a role for promotion of business ethics, in particular intrinsic motivations as part of managerial culture and identity.

2. A model of managerial opportunism

2.1. Asymmetric information between managers and shareholders

Let us consider a large population of stock companies $N$, each denoted by $n$, vis-à-vis a large population of shareholders $S$, each denoted by $s$. Each shareholder holds $k_{sn}$ of each company's capital which determines his/her claim on the company's profits.
Year profit is entirely distributed and consists of two components: a \textit{market component} $\pi$, deterministic and equal for all companies, and a \textit{specific component} $u_{nt}$, a zero mean random variable, $\mathbb{E}(u_{nt}) = 0$, uncorrelated over time and across companies. Hence, the actual year profit of each company is

\begin{equation}
\pi_{nt} = \pi + u_{nt}
\end{equation}

Profit distribution in each company takes place on the basis of the statement of accounts reported by the manager. The key assumption concerns the asymmetric information available to shareholders and managers. The deterministic component of profit is common knowledge, whereas the specific component of each company is observed by the manager but not by shareholders. With regard to the truthfulness of the statement of accounts, there are two types of managers in the population. A fraction $\alpha$ of dishonest managers will possibly under-report the value of profit and seize the difference; let this be $z_{nt}$, so that the reported profit by an opportunistic manager may be

\begin{equation}
\pi'_{nt} = \pi + u_{nt} - z_{nt}
\end{equation}

The fraction $1 - \alpha$ of honest managers will always report the true profit (1).

Consider as an example that $\pi = 100$. Suppose a good year arrives with $u_{nt} = 10$. The dishonest manager may cook up the books and report less than 110, actually even less than 100, pocketing the difference. Even if a bad year arrives with $u_{nt} = -10$, the dishonest manager may still report less than 90. Remember that the shocks $u_{nt}$ are company specific and uncorrelated so that shareholders, even if they held shares in several companies or had information on distributed dividends in other companies, have no way to disentangle $z_{nt}$ from $u_{nt}$ in each company.

In order to have an idea of the informational problem involved, Figure 1 shows the graph of a simulation of 100 rounds of the distributed dividends of two companies where $\pi = 100$ and $u_{nt}$ is a random value extracted from a uniform distribution between $+50$ and $-50$. H is the graph of the distributed dividends by a honest manager, i.e. $\pi_{nt}$, D is the graph in the case of a dishonest manager, i.e. $\pi'_{nt}$ where $z_{nt}$ is in turn a random value in an uniform distribution between 0 and 10. At first sight the two series are indistinguishable (later we shall discuss what information could be extracted statistically); note, also, that in some rounds company D distributes higher dividends than company H. However it is unrealistic to
let \( z_{nt} \) be totally boundless, and we shall later see that it is possible to provide a rational limit to it.

The shareholders can prevent dishonest behaviour only by bearing the individual auditing cost \( c \) to know the true profits. This cost is equal for all shareholders and companies. In this setup, the dividends \( d_{sn} \) earned by any shareholder \( s \) in any company \( n \) are a three-state dependent variable. Two states are determined by the shareholder's choosing auditing \( A \), no auditing \( B \). In the latter state, the shareholder may face a dishonest manager \( D \) or a honest one \( H \). The resulting dividends are summarized in the following tree (for notational simplicity the time index will now be dropped):

\[
\begin{align*}
  d_{sn} &= \begin{cases} 
    A: \pi_n k_{sn} - c \\
    B: \pi'_n k_{sn} \\
    H: \pi_n k_{sn}
  \end{cases}
\end{align*}
\]

The shareholder's decision about auditing or not should be taken \textit{ex ante}, i.e. on the basis of the expected value of dividends. The information available to the shareholder is that \( E(u_n) = 0 \) in all states, state \( D \) has probability \( \alpha \), and state \( H \) has probability \( 1 - \alpha \). However, the shareholder should also form a conjecture about \( z_n \) in the event of state \( D \). For the time being let this be some \( z^e_n \), and leave further refinements for later. Developing the expressions in 0 using all the relevant information, we obtain

\[
\begin{align*}
  E(d_{sn}) &= \begin{cases} 
    A: \pi k_{sn} - c \\
    B: (\pi - \alpha z^e_n) k_{sn}
  \end{cases}
\end{align*}
\]
2.2. Is it worth controlling managers? The small shareholder paradox

We are now in a position to find the shareholder’s rational decision about auditing or not. The long-standing important question to address in the core model of capitalist governance, the large public company, is whether shareholders do have incentive, beyond interest, to control managers. The simple answer given by (4) is that the individual incentive for any shareholder to control the manager of the \( n \)th company exists up to

\[
E(d_{sn} | A) \geq 0, \text{ i.e. } \pi k_{sn} - c \geq (\pi - \alpha z e_{n}) k_{sn}
\]

which we can rearrange as follows

\[(5) \quad c \leq \alpha z e_{n} k_{sn}\]

This is a simple but insightful result that can be expressed in the following proposition:

*Any shareholder has the individual incentive to control if and only if the audit cost does not exceed the expected loss from non auditing a dishonest manager.*

By contrast we can see what factors, relative to the others, may inhibit the incentive to control, namely

- a low probability of dishonest managers \( \alpha \)
- a low expectation of embezzlement \( z e_{n} \)
- a high individual audit cost \( c \)
- a low share in the company \( k_{n} \)

If these factors compound to violate condition (5), no shareholder ever has the individual incentive to control because he/she expects the eventual loss to be lower than the sure cost of control. Even in case of complete diversification of shareholders across companies, which would make individual risk aversion irrelevant, it can be noted that no risk averse shareholder would accept auditing as an insurance against dishonesty.

The four factors regulating the control or no-control choice can be distinguished in two types: the first two characterize the quality of the business environment, the second two characterize the corporate governance. From this perspective, one may say that the lack of control may be "justified" by a good quality of the environment: low probability of facing, and the expectation of low greed of, dishonest managers.
More critical is the role of the factors characterizing the governance structure. Suppose now a low quality of the business environment; nonetheless, high auditing cost and low stake in the company may disincentivise control even when the expected loss may be substantial. This is in essence the so-called *small shareholder paradox* (Stiglitz 1987b). It should be added that the paradox is exacerbated by the typical collective action problem involved. If auditing the manager by a single shareholder is sufficient to disclose information on the true profits, a public good problem arises where no individual agent may be willing to bear the cost to the advantage of all the others.

2.3. No-control equilibrium

Is there any rational reference for the conjectural variable $z^e_n$? From the managers' viewpoint, the model may be "closed" with a simple application of the notion of sub-game perfection. Dishonest managers are not foolishly greedy; if they know the audit threshold of their shareholders (5), they will push embezzlement up to the point where they are audited, i.e.

\[ z^*_n \leq c/\alpha kL_{sn} \]

where $kL_{sn}$ is the capital share of the largest shareholder. If the largest shareholder does not audit, no one else will. The result obviously holds if all shareholders have the same share. As is intuitive, the embezzlement limit is higher when the factors that inhibit auditing are stronger (high $c$, low $\alpha$ and low $kL_{sn}$). On the other hand, each shareholder, too, will base his/her conjecture $z^e_n$ on the notion that, if embezzlement occurs, it will not exceed $z^*_n$, which makes it the least costly alternative.

The implication is that (5) and (6) can be seen as a *no-control equilibrium*. Note that in the no-control equilibrium no shareholder will ever know whether the distributed dividends are the true ones, possibly reduced by unfavourable economic events, or they have been curtailed by a dishonest manager. Consequently, the true type of the manager is never revealed.

Condition (6) holds for each company, which means that each manager faces his/her own threshold. It is convenient, however, to investigate other features of the no-control equilibrium in the simplest case in which all shareholders in the economy have the same share $k$, so that $z^* = c/\alpha k$ holds for all companies. We will relax this assumption later on, when we examine possible remedies and limitations to managerial opportunism.
2.4. Is it worth being honest?

A popular idea of the merits of the market is that it rewards high quality and punishes low quality. Quality may refer to products as well as to firms or their managers, and it may include material factors (e.g. technology, design, etc.) as well as immaterial ones (organization, competence, skills, etc.). Honesty is certainly part of this view. Of course, honesty is also supported, and dishonesty inhibited, by the rule of law. However, an oft-heard argument is that the market may go a long way to discipline managerial behaviour thus limiting the necessity of a heavy and intrusive law apparatus. Likewise, direct action on business ethics education or codes is seen as even less necessary, if not harmful. Thus, the small shareholder paradox may be resolved, or at least minimised, by the invisible hand of the market. While remaining quite popular in the pro-market propaganda, this view has been seriously impaired by the AI revolution at the academic level. Here I provide an example: in the AI setup introduced above the market does not reward honest managers.

The market reward is here measured not with reference to the manager's personal benefits, but to the company as a whole, specifically in terms of the cost of capital. The hypothesis is that the market will reward the companies managed honestly with lower cost of capital. This will allow such companies to have more profits and/or more investments, to grow faster and seize markets shares from those managed dishonestly. Indirectly, these benefits may also translate themselves into personal benefits for the honest managers, but we shall return to this point in the next section.

To examine this hypothesis, it is first necessary to introduce the notion of cost of capital in simple and manageable form. To this end, let us define the cost of equity capital for a stock company as the ratio between the expected profit generated by its capital (or an additional investment) and its market value. In our AI setup, the profit expectation is conditional upon the available information. Let us begin with the fully informed agents, i.e. the managers. To each of them the true expected profit is \( \pi \). Each company's market value is defined as the present value of its expected stream of dividends discounted with the market return rate \( r \). In the no-control scenario, dividend earners in each company expect the numerator to be the constant value \( E(d_n | B) \) given by (4) (the individual shareholder's index \( s \) is omitted because all shareholders are on the same footing), so that the total
distributed dividends are expected to be $\pi - \alpha z^*$. The term $\alpha z^*$ is the expected loss from embezzlement; let us call it $\lambda^*$. In a long term horizon, the perpetual discount factor $1/r$ can be used. Therefore,

$$V = \frac{\pi - \lambda^*}{r}$$

As a consequence, all companies (or managers) face the same cost of capital given by

$$q = \frac{\pi}{(\pi - \lambda^*)^r}$$

This result entails two straightforward violations of the Modigliani-Miller theorem:

- the cost of capital is higher than the market return rate for all firms
- hence the market penalises the companies with honest managers as much as those with dishonest managers

Clearly, the problem arises because the market, under AI and inability to discriminate, discounts $\lambda^*$ from all companies' dividends, thus raising the cost of capital for all. It is easy to see here an instance of the well-known "lemon premium" that, after Akerlof's path breaking case of second-hand cars, has been extended to finance (Myers and Majluf 1984). The lemons here are the dishonest managers, and the lemon premium is in fact a risk premium charged by shareholders to all companies as a hedge against the probability $\alpha$ to undergo the loss $z^*$. The lemon premium measured by $q - r$ is an increasing function of $\lambda^*$, meaning that the combination of a high fraction of dishonest manager and their high expected greed, on the one hand discourages control and on the other introduces a substantial penalty for economic efficiency. Note, however, that in a no-control equilibrium $\lambda^* = c/k$, i.e. the ultimate determinants of the lemon premium are the cost of control and the representative capital share. A corporate system with high cost of control relative to small capital shares will settle down in a no-control equilibrium with high lemon premium.

### 2.5. Opportunism and inefficiency

Let us focus closer on the implications of opportunism for market efficiency due to the lemon premium in the cost of capital (equation (8)). To this end, let us consider the case in which companies wish to finance investment. All companies present themselves in the market with a (long-term) investment project that costs $I$. In this simple setup it is easy to apply the net present value (NPV) rule: a profitable investment has $\text{NPV} \geq 0$, and
only profitable investments should be financed. The NPV of the investment project $I$ of company $n$ with constant expected profits $\pi_n$ for $T$ years and cost of capital $q_n$ is

$$
\sum_{t=1}^{T} \frac{\pi_n}{(1 + q_n)^t} - I
$$

which, as $T \to \infty$, reduces to

$$
\frac{\pi_n}{q_n} - I
$$

Now consider the internal rate of return (IRR) of the investment, i.e. the discount rate $\rho_n$ such that $\pi_n/\rho_n - I = 0$. Since $\rho_n = \pi_n/I$, the IRR is also the profit rate of the investment. Therefore, the NPV rule is satisfied as long as $\rho_n \geq q_n$ or the cost of capital does not exceed the IRR of the investment.

Without loss of generality let $I$ be normalised to 1. Maintaining that profits are fully distributed, in the no-control equilibrium investors in the market face companies with honest managers who will always pay off the true profit, so that the expected total dividends are $\pi$ per year, as well as companies with dishonest managers for which it is rational to expect total dividends equal to $\pi - \lambda^*$ per year. Consequently, we have seen that the cost of capital $q$ is given by (8) for all companies. On the other hand, each type of manager has the private information that the true expected year profit is $\pi$, and hence $\rho = \pi$. For investments to be profitable in the efficient market ($\lambda^* = 0$), it should be $\rho \geq r$. Therefore, we can represent the investment decision strategy of managers in the Cartesian plan of Figure 2.

Figure 2. Two inefficient regimes of the stock market in the no-control equilibrium

The vertical axis measures the IRR $\rho$, the market interest rate $r$ and the cost of capital $q$, which are common to all companies. The horizontal axis measures the investors' expected loss due to dishonest managers. As shown by (8), this generates a concave function $q(\lambda^*)$, with $q(0) = r$, which is
therefore bound to intersect the $\rho$ line.\footnote{At the intersection point $\lambda^* = \pi - r$.} The intersection point creates two investment regimes, which are both inefficient.

On the left, $\rho > q$, we have an overinvestment regime in which all managers decide to invest at the cost $q$. This regime is inefficient in the sense of excess investment because both types of managers are financed. Honest managers can invest as they should, but also dishonest managers invest whilst they should not. Investors who by chance finance honest managers will then earn the true year profit which, on average, grants the full NPV of the investment ($\rho - q$). Note, however, the this NPV is squeezed by the lemon premium as $\lambda^*$ and $q$ rise. The investors who finance dishonest managers will instead receive dividends curtailed by $z^*$ each year on average, thus earning less than the full NPV of the investment. Note that the true profitability condition $\rho - q$ (known by the manager) also grants that $\pi > z^*$, i.e. $z^*$ is feasible on average. Since the market is in a no-control equilibrium, this regime is stable: investors will never control and the true type of their managers will never be discovered. On the right of the intersection point, $\rho < q$, we have an underinvestment regime in which no manager decides to invest given the cost $q$. In fact now dishonest managers no longer invest because $z^*$ is unfeasible on average and even the true expected profit does not cover the cost of capital, but honest managers cannot invest either. The two regimes show from a different angle that the stock market subject to managerial opportunism is unable to punish dishonesty and reward honesty. Allocative inefficiency arises, and if the lemon premium grows sufficiently large, aggregate investment in the economy may fall apart.

3. Any remedy?

In the corporate governance literature, the small shareholder paradox has long been emphasised as a major negative implication for the governance of the classic public company, and more generally, for the quality of management. Indeed, so far we have seen the negative consequences of AI and managerial opportunism for small shareholders and the efficiency of the economy at large. We have also seen that market forces alone are unable to reward honest managers and their companies, and drive dishonest managers out of the market. Low quality and lack of control may
reinforce each other in a perverse loop. In this section we shall review the more common "classical" solutions to the problem of management control. They may be internal or external to the company, but they are all "extrinsic" with respect to the individuals, i.e. they operate as an incentive or as a constraint vis-à-vis the manager's selfish behaviour. We shall finally highlight instead the importance of eliciting "intrinsic" motivation, i.e. the attitude towards unconditional honesty.

3.1. Incentives

As soon as the managers-shareholders agency problem was put at the centre of the stage, a large academic and professional literature took off with the aim to design incentives seeking to realign managers' behaviour with shareholders' (and other broader stakeholders') interests.

As we have seen in section 2, AI is sufficient to inhibit the alleged market's ability to discriminate across companies and reward those honestly managed with lower cost of capital. This result can be extended to managers' personal rewards. It is easy to show that, in the no-control equilibrium, one of the most popular (or unpopular) remuneration schemes, stock options, is totally ineffective. The idea behind the stock option schemes is simply that well managed firms are highly valued by the stock market so that the manager endowed with a bunch of shares has the incentive to manage at his/her best. The problem in the present context lies in equation (7): the market value of all firms is undercut by the expected loss from embezzlement \( \lambda^* \), and in no way can honest managers gain higher market value for their companies. Indeed, they are paid with undervalued shares!

The second main typology of remuneration schemes are those linking extra-salary bonuses to performance targets. Abundant evidence has been found of manipulation practices that embellish corporate earning reports in order to meet remuneration schemes (Ehrard and Jensen 2014, pp. 35 and ff.). Can we say that dishonest managers are inhibited from misreporting lower than true profit?

Look at Figure 3, that stylises the typical features of these schemes. Remuneration consists of a base salary up to a performance target threshold beyond which it is increased in proportion to the performance measure up to a maximum (bonus cap). In our stylised setup, the threshold target can only be the deterministic component of profits \( \pi \). No manager can systematically
do better than $\pi$, since (true) ups and downs are due to the exogenous random components $u_{nt}$. It may be argued that any scheme punishing (or rewarding) managers for events that are independent of their will would be perceived (with some reason) as unfair and rejected. However, the remuneration committee ought to be able to disentangle the extent of performance due to the manager's behaviour from that due to exogenous factors, which is precisely precluded by AI. Now, let us first consider that the scheme increases the salary above the target but does not reduce it below the target. Clearly this asymmetry does not inhibit the dishonest manager from subtracting $z^*$ even when $u_{nt}$ is negative (recall that $u_{nt}$ is not systematically negative, so that the dishonest manager does not appear to be systematically below the target). When $u_{nt}$ is positive, the scheme is binding only insofar as the extra-salary results to be greater than $z^*$, otherwise the manager prefers to report the target and seize $z^*$ as can be seen in Figure 3. Hence performance-based schemes (under AI) offer limited protection to shareholders, and, paradoxically, bonuses should be more generous the higher is $z^*$. This may suggest a reason why we have observed the growth of bonuses going hand in hand with evidence of managers' misbehaviour.

Figure 3. A typical performance target remuneration scheme in the case it is not binding

Quite apart from recent popular protests against "golden bonuses" of top managers, Bebchuck and Grinstein (2005) have shown that in the US
managerial total compensations have grown significantly since 1993, reaching almost 10% of corporate earnings. This may become a Sisyphus Fatigue, and it may well be the case that the cost of disincentivising dishonesty exceeds the benefit in terms of profits accruing to shareholders.

3.2. Ownership structure

A more radical internal solution to the small shareholder paradox, and to the managerial control problem, may involve a change in the ownership structure. The control problem has thus provided a valuable approach to understand differences in the ownership structure (Shleifer and Vishny 1997). In fact, as the present model shows, larger shareholding mitigates managerial opportunism and it may prevent the insurgence of the no-control equilibrium or limit its effects. A direct implication is that small shareholding may not be a stable ownership configuration. The worse is the quality of management, the less attractive is small shareholding. As small shareholders give up, ownership becomes more concentrated. As a matter of fact, ownership concentration greatly differs across the world as testified by the wide literature on the "varieties of capitalism" (e.g. La Porta et al. 1998, La Porta et al. 1999, Allen 2005)

![Figure 4. Ownership share of top 3 shareholders in top 10 quoted companies](image)

Source: La Porta et al. (1998)

Figure 4 exemplifies how three paradigmatic European continental countries (France, Germany and Italy) are characterised by much higher concentration than Japan and the two leading Anglo-Saxon countries, UK
analogous outcomes can be obtained if small shareholders seek to overcome the collective action problem of control. They may succeed in forming a cost-benefit sharing coalition with sufficient incentive to control the manager. Various legislations allow shareholders to join in a variety of pacts and agreements. The other side of the coin is that when one or more shareholders do bear the cost of control, they also feel legitimated to extract a private rent from the possess of the relevant information. This can be obtained by sharing the benefits of opportunism with the manager to the expense of the non-informed shareholders. The conflict of interests between coalitions of shareholders plus management and small shareholders is another well-known critical issue in corporate governance (Shleifer and Vishny 1997, sec. IV).

3.3. Delegated monitoring.

In a path-breaking study of the so-called "New Theory of Banking" based on the implications of AI, Diamond (1984) explained the specific role of the bank as an intermediary that solves the problem of control efficiently (see also Stiglitz 1985b). By offering standard debt contracts to borrowers, the bank

- **centralises control**, i.e. the bank overcomes the collective action problem of control by acting as single controller of each borrower for many different ultimate lenders (its depositors), and at the same it exploits economies of scale by controlling a large number of borrowers
- **minimises auditing** to the sole cases of (true) insolvency, i.e. when the borrowers' return to the investment falls short of the debt repayment; the insolvency risk is only due to the exogenous random factors (pure credit risk)

This latter feature of bank intermediation in control deserves particular attention. In this respect, the key feature of the bank debt contract is that it sets a repayment commitment in fixed amount to the exclusion of participation rights in profit distribution. Hence the bank should not audit the borrower's true state systematically, but in the subset of states in which
he/she declares insolvency. The bank's depositors obtain a safe return with no auditing costs (no opportunism risk, only pure credit risk transferred to the bank). By contrast, the shareholder, being entitled to the whole profit distribution, should audit the company systematically to ascertain its true state or alternatively bear the opportunism risk as measured by $\lambda^*$ in the model.

This new perspective on bank intermediation as delegated monitoring has offered important explanations for the systematic evidence of the so-called "financial hierarchy" or "pecking order" in the financial structure of firms, i.e. the composition of their financial resources (a literature grown large after the original works by Fazzari et al. 1988). Contrary to the irrelevance of the financial structure established by the Modigliani-Miller theorem, and quite apart from distortions due to non-neutral taxation of corporate payments to investors, the evidence is that firms seek to optimise their financial structure in an effort to "pecking" the cheapest resources. The typical hierarchy of financial resources for new investments is that internal resources come first, whereas bank debt comes first among the external resources and equity capital is residual. It has been shown that the "lemon premia" related to AI play an important role in determining different costs of financial resources.

In this context, bank delegated monitoring figures as a prominent explanation. On closer inspection, however, its role appears more nuanced in the case at hand. Let us consider again new investment finance as in section 2.5. Now each manager has the option to choose bank debt instead of issuing new equity capital. We know that the cost of the latter is given by (8). Let the cost of bank debt be $r^b$. Hence, the realised net profit by each firm in each year is now

$$\pi_{nt} = \pi + u_{nt} - r^b I.$$  

The participation constraint for the firm is $E(\pi_{nt}) = \pi - r^b I \geq 0$, which implies the usual condition $\rho \geq r^b$. For the bank, the pure credit risk is the insolvency event $\pi_{nt} < 0$, i.e. $\text{Prob}(u_{nt} < r^b I - \pi < 0) = p$.\footnote{This probability may be firm specific or not, depending on whether the probability distribution of the exogenous shocks is firm specific or not. We can skip this detail here noting that the properties of the exogenous shocks that have been posited in a long-run investment plan we can drop the share of principal to be repaid each year.} The bank audits the
managers only if they declare insolvency, i.e. with probability $p$. When the bank audits, it is entitled to receive up to $r_I$, while shareholders bear the equity loss $\pi_{nt} < 0$. All managers are on the same footing, and there is no opportunity for the dishonest managers to seize anything. Therefore, it is true that bank debt disincentivises opportunism, but only to a limited extent, namely up to the limit of insolvency (i.e. $\pi'_{nt} = \pi_{nt} - z_{nt} = 0$, $z_{nt}^b = \pi_{nt}$). Since with probability $p$ insolvency occurs, embezzlement occurs only with probability $1-p$, and with upper limit $z_{nt}^b$. Whether this upper limit is higher or lower than $z^*$ cannot be established in general.

It is therefore unclear whether anyone in the stock company system has a positive incentive to go for bank debt. Incumbent shareholders may appreciate that bank delegated monitoring may set a limit to managerial opportunism. Dishonest managers, for opposite reasons, may prefer not to choose bank debt. What about honest managers? Since they do not seek the largest set of opportunity for embezzlement, they are exclusively focused on the cost of capital. Hence the key point for them is whether the cost of bank debt $r_b$ is lower than that of equity capital $q$. The bank earns $r_I$ in solvency states, it can recover $r_I$ at the cost $c$ in insolvency states, and it pays depositors the market rate $r$. Hence, at the competitive break-even,

$$r_b = r + cp$$

Recalling the expression of $q$ (8), it is easy to see that $r_b < q$ obtains the lower are $c$ and $p$, and the higher is $\lambda^*$. Therefore, for a given pure credit risk $p$, honest managers definitely have an incentive to go for bank debt whenever the bank has comparatively low information costs and the expected loss from embezzlement is high. This result is in the spirit of the literature on bank debt as a signalling device for managerial quality (e.g. Ross 1977). However, once again, this result does not exclude that dishonest managers, too, may find bank debt attractive. In fact, if on the one hand the insolvency clause sets an upper limit to embezzlement, on the other $r_b < q$ implies that the NPV of the investment is larger than with equity capital so the model hold also in the case they are extracted from a single probability distribution.

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8 We need not consider here the extreme case in which the equity loss wipes out the whole capital, i.e. bankruptcy.

9 Though it can be argued that dishonest managers can hardly report zero net profits systematically.
that the margin for embezzlement is larger too. In few words, the bank debt contract protects the bank from embezzlement, but protects incumbent shareholders to a limited extent.

Delegated monitoring can be exerted by other, non-bank intermediaries operating in the stock market, also known as "institutional investors". It is widely believed that large investment and pension funds, holding substantial stakes in quoted companies, have sufficient incentive to exert control over managers. Moreover, since their aim is the return owed to their own subscribers, institutional investors are not concerned with control per se, but rather as a means to ensure the correct behaviour of managers. It is also widely believed that this role of institutional investors is particularly well developed in the US system, where both institutional investors and the stock market are better developed than elsewhere. This sort of common wisdom for instance surfaces in recent legislative initiatives in the European Union (EU). A proposal for a Directive of the EU Parliament and of the Council (EU Commission 2014) aims to amend previous Directives (2007/36/EC and 2013/34/EU) concerning the engagement of long-term shareholders and related aspects of corporate governance. Key to the proposal is to promote the active "engagement of long-term shareholders" as the best suited actors in the role of granting the correct behaviour of managers and fostering a real "shareholders democracy" (Denozza 2015). It is clear that best candidates in this role are institutional investors. However, this common wisdom need be reconsidered, too, in the light of our model.

At first sight institutional investors may indeed overcome the no-control equilibrium of small shareholders simply because they typically hold large shares in stock companies, can speak loud in general assemblies and may have representatives elected in the boards. In addition, institutional investors, as a result of their search for, and comparative advantage in, diversification can be present in a much wider array of companies than single small shareholder. This may provide them with additional comparative information on manager's behaviour which may be precluded to small, poorly diversified, shareholders. Not to mention the technical competences to handle statistical information. Yet all these are necessary but not sufficient conditions, as testified by the fact that the actual

10 I wish to thank prof. Francesco Denozza for drawing my attention to this point.
engagement of institutional investors in the governance of companies is declining in the US too. One reason seems that the cost of active participation may be quite high also for institutional investors, precisely because it is multiplied by the large numbers of companies where each of them is present. Moreover, depending on the "mission" of the institutional investor its actual benefit from control may not be so obviously large (Shleifer and Vishny 1997, sec. V).

Whatever the meaning and merit of shareholders endowed with a long-term view (see Denozza 2105 for a discussion), it is questionable that institutional investors aim at long-term marriages with companies as their core business, and even more questionable is that their core business includes the control of management. Their core business is to create and manage structured "products" that combine return with risk efficiently and suitably according to their clients' preferences. The return component may come from the search for high dividends in a long-run perspective as well as from the search for capital gains in a short-run perspective. In the latter case, the key variable is the fluctuation of the prices of the stocks rather than their long-run generation of dividends. The fact that prices may fluctuate around a wrong fundamental valuation ($q$ in expression (8)) is less of a concern. In the example of Figure 1, in the long run company H distributes dividends that on average tend to $\pi = 100$ (98.5 in the sample), whereas in company D, where embezzlement is randomised around an average of 5, they tend to 95 (96.9 in the sample). Now suppose that stock prices change one to one with distributed profits. Then the important information is not the average distributed profits of the two companies, but the average return (and standard deviation) generated by changes in stock prices, i.e. 13.2% (54.4) for stock H, and 9.9% (48.8) for stock D. Note that, as is expected from finance principles, higher return happens to be associated with higher risk; since the stocks are uncorrelated (0.17 in the sample) both are good candidates to be picked up in an efficient portfolio.

In conclusion, delegated monitoring, whether exercised by bank or non-bank intermediaries, may to some extent constrain managerial opportunism, but overall it does not seem able to provide the final solution to the problem.
3.4 The rule of law

Far from being substituted by pure market forces, hard, and possibly soft, laws are the next candidate to underpin managerial efficiency, quality and ethics. On the hard law ground, in one of the seminal papers in the "law and finance" research area, La Porta et al. (1998) argue that the rights attached to securities become critical when managers of companies act in their own interest. These rights give investors the power to extract from managers the returns on their investment (...) Without these rights, investors would not be able to get paid, and therefore firms would find it harder to raise external finance. But the view that securities are inherently characterised by some intrinsic rights is incomplete as well. It ignores the fact that these rights depend on the legal rules of the jurisdictions in which securities are issued.

These scholars relate the resilience of the public company as a leading model of corporate governance in the Anglo-Saxon countries with respect to other regions (typically continental Europe) to the fact that the corporate laws in the Common Law tradition have developed a normative body specifically oriented towards the protection of minority shareholders. In the spectrum between the two main foundations of law in the Western world, Common Law and Civil Law, La Porta et al. identify four "Legal Families", Anglo-Saxon, French, German, and Scandinavian.

![Figure 5. Average score of minority shareholder protection in different Legal Families](image)

Source: my calculations on La Porta et al. (1998)

They consider 49 countries, and each is classified in one of the Legal Families. With regard to the relevant legal rules, the authors identify a list of six. Each item in the list receives a score ranging from 0 (no protection of
shareholders) to 1 (full protection). Such a taxonomic and classification effort may raise several doubts since nuances are numerous and important, however the general picture offered by this study has been considered valuable and informative.

Figure 5 summarises the results showing the average score of the countries belonging to each Legal Family for each legal rule, and a global score across the rules (my own calculations). For almost all rules and the global score, the Anglo-Saxon systems outperform the French and German ones. By contrast, these authors show that the latter systems offer better protection to creditors, consistently with the prevalence of this corporate finance source in the relevant countries.

While the study by La Porta et al. may be criticised with regard to the accuracy of the legal indicators employed or to the explanatory power of legal indicators, some authors have pointed out that notwithstanding the relative higher level of investor protection and legal enforcement in the Anglo-Saxon systems, evidence of managerial misbehaviour remains large and persistent in the US relative to Europe (Spaventa 2005, Coffee 2015). According to Coffee, the AI problems and costs of management control remain substantial in the US corporate system. By contrast, ownership concentration in Europe seems more effective in aligning managers’ behaviour to majority controllers, though, as suggested previously, this creates its own specific problems for minority shareholders.11 “Firms need charters, regulations and laws to restrain those entrusted with their governance, just as economies need constitutions and independent judiciaries to restrain those entrusted with government” (Morck and Yeung 2010, p. 1). However, hard law does not seem sufficient as a means to fully prevent managerial misbehaviour. The *homo economicus* itself explains why: finding the right mix of entity of penalty, probability of identification, and incentive compatibility when the return to illegal behaviour is conspicuous is quite hard in practice.

Overall, one may arrive to the gloomy conclusion that neither each of the "classical" devices of management control that we have explored so far (the market, incentives, ownership structure, delegated monitoring, legal

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11 An interesting observation by Coffee is that managers' illegal behaviour tends to be different on the two sides of the Atlantic. In the US renown scandals consist of accounting manipulations aimed at inflating managerial benefits, whereas in Europe embezzlement is more common.
enforcement), nor the wide variety of combinations of these devices that we observe in the advanced economies seem fully effective – the "obscure puzzle" in Erhard and Jensen’s initial quotation persists.

3.5. Intrinsic motivations

A step towards the solution of the "obscure puzzle" may be to recognise the other side of the puzzle: "The professional managers or entrepreneurs who run the firm might as well abscond with the money. Although they sometimes do, usually they do not" (Shleifer and Vishny 1997, p. 737; my italics). One explanation may be that "most advanced market economies have solved the problem of corporate governance reasonably well [though] this does not imply that they have solved [it] perfectly" (ibid.). This explanation, however, falls short of theoretical consistency: either the corporate governance design is perfect and tight (no margin for opportunistic behaviour is left) or it is not (all margins for opportunistic behaviour are exploited systematically). How can we explain that in the midland of imperfect controls some managers misbehave, but enough of them do not?

An alternative explanation may look at what Akerlof (2007) has called "missing motivation" in the standard theory of the homo economicus. A long-standing critique to this theory raised by almost all other social and human sciences is that human beings respond to much wider motivations or imperatives which may lead to unconditional ethical behaviour (e.g. Sen 1977, 1987a, 1987b) – the idea captured by the presence of honest managers in the model. May in the previous sentence is an important qualification because, contrary to the other questionable pillar of homo economicus, motivations cannot be taken as given and invariant once and for all. To put it in simple words, "good motivations" can rise and flourish, if cultivated and protected. The entrenched idea that economics should be based exclusively on the homo economicus has demonstrably led to inaccurate analyses and wrong prescriptions with self-fulfilling harmful consequences (e.g. Sen 1987a, Akerlof 2007, Zingales 2015). A different approach is needed grafted onto actual human beings.

A well-known concept in psychological studies is intrinsic motivation. Broadly speaking, this concept encompasses action drivers that arise from inside the individual him/herself (Cofer and Mortimer 1967, Deci 1975, Deci and Ryan 2000). Intrinsic motivation is now integral part of human resource
management. When an action, or better the consequence(s) of that action, falls into the domain of intrinsic motivations, the individual need no external (or extrinsic) drivers (e.g. economic incentives) in order to choose that action.\textsuperscript{12} This does not mean that intrinsic motivations make the individual totally insensitive to external rewards (a worker with intrinsic motivations towards his/her job expects a fair pay like any other worker).

The key differences with the logic of the \textit{homo economicus} are that immaterial rewards may be more important than economic ones, and that the action to be rewarded does not entail a utility loss (so the reward should not be thought of as the marginal benefit that compensates for the marginal cost of the action). Though intrinsic motivation is usually associated with \textit{doing}, the concept can be extended to \textit{not-doing}, i.e. actions with consequences classified as \textit{intrinsically negative}, to abstain from which no external punishment is required.\textsuperscript{13}

Psychologists distinguish between "rational" and "natural" drivers of intrinsic motivation; the rational drivers – such as instrumentality, meaningfulness and self-identity – are particularly relevant to the economic domain. From this point of view intrinsic motivations can be viewed in a relationship with the broader notion of \textit{norms} that rule human behaviour in society.\textsuperscript{14} Though important differences may be drawn between the two notions and within the realm of norms as well, for our purposes here we may think of intrinsic motivations as the product of some norms that define an \textit{ideal-typical standard} of behaviour to which people tend to conform (Akerlof 2007, pp. 8-9).

\textsuperscript{12} Nobel Prize-winning physicist Feynman on intrinsic motivation: "I don't know anything about the Nobel Prize. I don't understand what it's about, or what it's worth ... I don't like honors. I'm appreciated for the work that I did and I've noticed that other physicists use my work. I don't need anything else. I don't think there's any sense to anything else. I don't see that it makes any point that someone in the Swedish Academy decides that this work is "Nobel" enough to receive a prize. I've already got the prize. The prize is the pleasure of finding the thing out, the kick in the discovery, the observation that other people use it. Those are the real things. The honors are unreal to me." (Feynman 1981)

\textsuperscript{13} The boundary between doing and not-doing is indeed tenuous. If as part of my sense of duty I feel the intrinsic motivation to deliver in time, I \textit{will work} hard regardless of work hours and I \textit{will not shirk} during work hours.

\textsuperscript{14} The study of norms in society has long engaged research across the board of social sciences. See e.g. the entry "Social Norms" in the \textit{Stanford Encyclopedia of Philosophy}, \url{http://plato.stanford.edu/entries/social-norms/}
The *homo sapiens*, unlike the *homo economicus*, acquires a set of unconditional "do" and "don't do" that define his/her personality, self-identity and morality *in relation to his/her community* so that pure selfishness is inhibited. Compliance with these motivations is consistent with the rationality of means and ends since it is driven by the vital necessity of the same individual to preserve his/her own personality, self-identity and morality.\(^{15}\) This necessity is, *normally*, immune from the calculation of personal economic costs and benefits.\(^{16}\) Nonetheless, no sane person who, say, does not violate the law or any relevant commitment towards others even when it would be profitable feels, or indeed is, irrational. As argued by Stout (2008), any psychiatrist examining *homo economicus* according to the protocols of the American Psychiatric Association would diagnose a syndrome of disturbed personality with antisocial tendencies. Moreover, as the present model shows and is also stressed by a wide literature (Sen 1987a), pursuit of pure selfishness may turn out to be harmful to society whereas non-selfish intrinsic motivations generate benefits to society (e.g. in terms of cutting costs of control, punishments and rewards), and to some extent they are necessary for society to survive.

Of course, good intrinsic motivations are not ubiquitous, uncompromising and rock solid. Extrinsic rewards and punishments are integral part of orderly social life. To the extent that intrinsic motivations are connected with norms, say those that define and rule the behaviour of the ideal-typical manager, they are challenged by the same questions: How do they arise? How do they elicit compliance? How can they be preserved? These questions have overarching importance for scientific explanation, though they should not mislead us to forget that such norms do exist and persist. A point worth mentioning here is that, once again, among human beings norms eliciting non-selfish intrinsic motivations are more likely to emerge than predicted by models based on the *homo economicus*.\(^{17}\) Particularly favourable are closely knit communities or social groups with clearly defined common

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\(^{15}\) The natural drivers are, in contrast, those that are not under the direct, conscious control of the individual, such as physical needs.

\(^{16}\) Though one may say that the psychological benefits from complying with, and costs of deviating from, intrinsically motivated actions are extremely large.

\(^{17}\) It has been shown both theoretically and experimentally that two characteristics of human beings play a crucial role: the conditional preference for conformity and the belief that other people will conform too (Schelling 1978, Bicchieri 2006, Faillo and Sacconi 2008, 2010)
characteristics. Hence, what is currently called "business ethics" or more specifically "managerial culture" is best understood as key vehicle to generate appropriate norms for managers' self-control.\(^\text{18}\)

As far as the normative side of economics is involved, therefore, the correct approach should consider non-selfish intrinsic motivations as a resource albeit a limited one. In fact, if norms can thrive and spread, they can also die out. As Erhard & Jensen 2014 write, out-of-integrity behavior has become virtually institutionalized. The environment of low integrity is so pervasive it seems nothing more than business as usual, or just a part of the nature of finance. Forstmoser's (2006) first three indicators of the lack of integrity, 'Everyone else is doing it', 'We've always done it', and 'This is the way this business works', illustrate this environment (p.45).

This quotation seems to describe a perverse degeneration of managerial culture in the opposite direction of managers' self-control towards the ideal type of the pure selfish homo economicus – e.g. Gordon Gekko in Oliver Stone's movie Wall Street. In this degenerated managerial culture, the professional sphere is seen as a totally a-moral space in society, where personal interest with no consideration for the consequences on others is pursued to an extent that in other spheres would be regarded as despicable.

Reasons why norms degenerate and die out is matter of unsettled research. An explanation in the field under consideration here is the so-called "crowding out" of intrinsic motivations that may be produced by ill designed or applied reward/punishment mechanisms (Frey and Jegen 2001). Wider explanations focus on two key features of social norms: the first is that they are largely a social construct; the second is that, as a consequence, their extent and robustness are conditioned by the social context and interaction. As these mechanisms can "prime" the individual's motivations for good, they can also do it for bad, as testified by Erhard and Jensen.\(^\text{19}\)

But doesn't this idea of the economy as a-moral space in society sound familiar after Mandeville's parable of private vices and public virtues, and Smith's praise of the selfishness of the baker and the brewer? The degeneration of managerial culture presents a striking correlation with the parable of the selfishness hypothesis in economic theory. Whereas Smith's

\(^{18}\) For the notion of self-control in connection with intrinsic motivations see e.g. Baumeister and Vohs (2004)

\(^{19}\) On the contextuality of motivations and choice drivers see recent works by Stiglitz and Hoff (2015), Kirman and Teschl (2015)
celebrated sentence was just a rhetorical paradox amid a philosophical view of free economic activity as a manifestation of human moral attitudes, the selfishness hypothesis grew in importance as much as in ambiguity (Sen 1987a, Kirman and Teschl 2015). Is it an empirical fact that provides solid foundation for economic theory? Or is it just that Smith's rhetorical paradox makes model-based economic theory more tractable and assertive than more realistic hypotheses? Does the Fundamental Welfare Theorem – competitive equilibrium of trades in a mass of selfish individuals achieves the best possible (Paretian) allocation of resources – also demonstrates that the economy can indeed be a "morally free zone, a zone in which the constraints of morality would have no place" (Gauthier 1986, p. 84)? Does this theory justifies, or even praise, reckless selfishness in the economic sphere?

Let me leave these questions open and accompany them with the following considerations by Luigi Zingales in his 2015 Presidential Address to the American Financial Association, in the section entitled "What can we do in teaching?"

[...] the moral standards in the financial industry are very low. One possible reason is self-selection. After all, as Rajan (2011) argues, money is the only metric in the financial world. Thus, people motivated by other goals may prefer to enter different businesses. There is some evidence (Frey and Meier 2003) that business economics students are more selfish than the average student and that this higher level of selfishness is due to self-selection, not indoctrination. Yet, indoctrination seems to be playing a role. [...] Are we training people to be (more) dishonest?

Our standard defence is that we are scientists, not moral philosophers. Just like physicists do not teach how atoms should behave, but rather how they do behave, so should we. Yet, physicists do not teach to atoms and atoms do not have free will. If they did, physicists would be concerned about how the atoms being instructed could change their behavior and affect the universe. Shouldn't we be concerned about the effect of our 'scientific' teaching?

[...] We label as 'irrational' not committing a crime when the expected benefit exceeds the expected punishment. Most people call this behavior moral. Is being agnostic subtly teaching students the most amoral behavior, without us taking any responsibility?

I fear so. We should not relegate our prescriptive analysis to separate, poorly attended ethics courses, validating the implicit assumption that social norms are a matter of interest only for the less bright students. Several social norms are crucial to the flourishing of a market economy. We should teach them in our regular classes, at the very least emphasizing how violating these norms has a negative effect on reputation. (pp. 1358-59).
4. Concluding remarks

With the advent of managerial capitalism, the quality of management has become a key "production factor" as important as physical capital, labour and technology for the efficiency and prosperity of the economic system. Management poor quality or misbehaviour, even when not strictly illegal, not only may destroy value but may also generate negative spillovers onto other subjects holding a stake in the firm, and onto economic efficiency in general. In parallel, the problem of control of management has grown and widened in scope, from enforcing strict shareholders' value maximisation to more general requirements of best practices, ethics or social responsibility. Nowadays, the initial optimism with the "classical" solutions to the problem (market discipline, incentive mechanisms, ownership structure, delegated monitoring, rule of law) has fainted. Neither each single device nor the combinations of theme that we observe in advanced economies seem able to countervail the "obscure puzzle" of ongoing degeneration of managerial quality up to openly illegal behaviour.

By means of a simple model where opportunistic managers under the veil of asymmetric information can appropriate resources of shareholders and make the stock market inefficient, I have provided a guidance to the key issues at stake. I have also reviewed the theoretical (and practical) limits of the "classical" remedies. The paper is closed by claiming a role for promotion of business ethics, in particular intrinsic motivations as part of managerial culture and identity.

The premise of this claim is that the "obscure puzzle" lies in the theory of the manager as *homo economicus*, and its too narrow assumption (that sometimes is perceived as a prescription) of rationality in terms of pursuit of purely selfish interests. It turns out that treating (or raising) managers as pure selfish optimisers and taking their motivations as given and untouchable has been harmful for positive analysis as well as for normative design. As far as the normative side is concerned, the correct approach should rather consider that among human beings norms eliciting non-selfish intrinsic motivations do arise and survive in society; they are therefore a resource, albeit limited by their dependence on social context and interaction. To put it in simple words, "good motivations" should be cultivated and protected. Hence, what is currently called "business ethics" or
more specifically "managerial culture" are key vehicles to generate appropriate norms for managers' self-control.

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