

Do market forces erode moral actions? Re-visiting Dewatripont and Tirole (2024)

Jean-Marie Baland, Giorgio Ferroni
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Jean-Marie Baland[†] Giorgio Ferroni[‡]

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Abstract

Dewatripont and Tirole (2024) show that firms' moral conduct in the market is independent of competitive pressure. We argue that such a result critically hinges on the assumption of perfect information about the firms' moral actions—an assumption that is, in general, unlikely to hold. Specifically, the number of firms and their size matter if consumers have only a general perception of morality in the market. In such a setting, morality becomes a public good: firms bear the full cost of their moral behaviour while capturing only a fraction of the benefits from increased consumer willingness to pay.

JEL classifications: D2, D4, D21

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1 Introduction

The role of market forces in eroding moral values is an old age debate in economics. In a recent paper, [Dewatripont and Tirole \(2024\)](#) revisit this question and propose a powerful and robust argument showing that the moral behaviour of firms is independent of the strength of competition on the market.¹ This "irrelevance result" relies on the idea that an ethical (consequentialist) firm producing goods can also choose some costly moral action which is perfectly observable by the consumers. It is motivated to do so by both its own intrinsic morality, but also by the possibility of charging higher prices to ethically minded consumers. By the envelope theorem, the amount of moral action chosen by producers in equilibrium is independent of the degree

*Dewatripont, Mathias and Jean Tirole, "The morality of markets," *Journal of Political Economy*, 2024, 132 (8), 2655–2694.

[†]DEFIPP, University of Namur, CRED, rempart de la Vierge 8, B-5000 Namur, Belgium, jean-marie.baland@unamur.be

[‡]DEFIPP, University of Namur, CERPE, rempart de la Vierge 8, B-5000 Namur, Belgium, giorgio.ferroni@unamur.be, corresponding author

¹This does not imply that the amount of moral action produced under market competition is optimal, but that the amount chosen by a particular firm is not affected by competition.

of competition they face.

In the present note, we qualify this result, by stressing the critical role played by the assumption of perfect information, according to which the moral action taken by the firm is perfectly observable by consumers (for instance because the firm is able to credibly communicate about it).² We instead consider here that consumers can only observe the "average" morality of a sector, and not the specific level of moral action chosen by a particular firm. In other words, moral action is conceived here as a common good to a sector, to which individual firms contribute voluntarily. When many firms compete on the same market, it is indeed hard for consumers to be informed on the particular action of a specific firm. They instead rely on a global perception or an average information about moral practices at work in the sector (such as child labor, fair market practices, product and labor safety, eco-friendly practices, labor conditions, use of corruption and influence, ...).

For example, many of the scandals that emerged recently (BP commitment to environmental standards and the Deepwater horizon, the contamination of organic food, Volkswagen emissions scandal, Nestle water bottles, blood diamonds, H&M "conscious" collections, ...) were the result of a particular firm misconduct that nevertheless shed doubts and tarnished the reputation of a whole sector. In this context, attempts by a particular firm to effectively communicate about its practices are not credible and are interpreted as green- or moral-washing.³ (Clearly, some moral actions by the firms, such as donations to charities, can be observed, but many are not. Eco- or fair trade- labelling is one way to remedy this problem ([Dragusanu, Giovannucci and Nunn \(2014\)](#); [Baland and Duprez \(2009\)](#); [Baland, Woitrin, Duprez and Gelade \(2024\)](#))).

Drawing on the basic model proposed by [Dewatripont and Tirole \(2024\)](#), we show that their irrelevance result does not hold when consumers cannot be informed about the moral actions of individual firms: an increase in competition does imply a fall in morality when consumers value it positively, while the reverse holds true if they have a negative valuation. Morality is a public good (bad), and the rationale for this result directly follows from the voluntary contribution argument, the amount of which decreases (increases) with the number of contributors ([Olson, 1968](#)).⁴

In connecting moral erosion to consumers' inability to identify firms' moral action the present note is related to the literature on collective reputation. Early works have shown that when group and individual characteristics are imperfectly observed, negative actions by earlier members can lead to stigmatisation of new members and generate a self-reinforcing cycle ([Tirole, 1996](#); [Levin, 2009](#)). More recent works have focused on the trade offs of collective branding. [Fishman, Finkelstein, Simhon and Yacouel \(2018\)](#) and [Nocke and Strausz \(2023\)](#) pinpoint what conditions guarantee that firms prefer to contribute to the brand reputation instead of free-riding on each other's effort since collective branding provides consumers with more information about the products' quality compared to single brands. [Neeman, Öry and Yu \(2019\)](#) show that while

²Actually, the results by [Dewatripont and Tirole \(2024\)](#) carry over even if a fraction of consumers is *completely* uninformed about or insensitive to the firms' moral conduct. Nevertheless, the point of this note remains valid

³Interestingly [Acharya, DeMarzo and Kremer \(2011\)](#) show that disclosure of bad market news (like toxic assets of some banks) can trigger release of information by individual firms to signal their relatively good state. In this context, the clustering information disclosure by relatively healthy firms may mitigate the fall in consumers' trust in the market

⁴Our result is related to the discussion provided by [Ponthière and Stevens \(2025\)](#), who focus on the idea that moral actions, when mediated by the market, lose part of their essence. They propose a version of the model with a parameter β , that we can re-interpret in our context as the probability of observing a firm's moral action. Under our argument, this probability falls in the number of firms in a sector.

collective branding generates incentives to free-ride on other firms' in the long run, it also acts as a commitment device mitigating the temptation to milk a good individual reputation in the short run; the quality of the signal structure and consumers' prior beliefs determine which effect will dominate.

In our note, however, we keep as close as possible to the original (Dewatripont and Tirole, 2024) paper, without delving into dynamic incentives and just assuming that consumers observe the average level of morality "produced" in the market.

2 The moral erosion result

2.1 The framework

The model follows closely the one proposed by Dewatripont and Tirole (2024). There are n suppliers, $i \in \{1, \dots, n\}$ and a mass 1 of unit-demand, price-taking clients. The outside option is indexed by 0. Suppliers compete in price and non-price dimensions. Supplier i selects its price p_i as well a moral or ethical choice a_i , both in R^+ , and faces a demand function $D_i(\hat{\mathbf{p}})$, where $\hat{\mathbf{p}} \equiv (\hat{p}_1, \dots, \hat{p}_n)$ denotes the vector of supplier net prices. The vector $(p_i; a_i)$ determines the "net price" \hat{p}_i perceived by the consumers, as described below (p_0 is the net price for the exogenous outside option).

Besides price p_i , supplier i picks a level of morality $a_i \in [0, \bar{a}_i]$ with $\bar{a}_i \leq +\infty$ per unit of output. This choice has an impact on the welfare of the firm, $W_i(a_i)$, with $W'_i(a_i) > 0$ and $W''_i(a_i) < 0$ on $[0, \bar{a}_i]$. The outside option, "good 0", generates an exogenous welfare $w_0 \equiv W_0(a_0)$. The vector $\mathbf{a} \equiv (a_1, \dots, a_n)$ represents the ethical choices of all suppliers. We denote $a^M = \frac{1}{n} \sum_j^n a_j$ the mean level of morality among the n suppliers⁵. Unless otherwise stated, we depart here from Dewatripont and Tirole (2024) and assume that the ethical choices made by individual producers are not observable, but the average level of morality of all firms in a given market is.

The consumers' cost or benefit of a moral action is captured through its monetary equivalent $\phi_i(a^M)$ with $\phi'_i \geq 0$, such that the consumers' demand for product i depends only on its net price p_i (and on the net prices charged by other suppliers):

$$\hat{p}_i \equiv p_i + \phi_i(a^M)$$

This is the only formal change we bring to Dewatripont and Tirole (2024)'s model, who instead assume $\hat{p}_i \equiv p_i + \phi_i(a_i)$. As in the original paper, the extent to which consumers care about a^M is independent of the price.

Firms care about profits, but also have social preferences, as reflected in their internalization of welfare. Supplier i 's internalization of social welfare, $W_i(\hat{\mathbf{p}}; \mathbf{a})$, depends on net prices and ethical choices. The unit cost of production, c_i , depends on the ethical actions taken by the firm a_i : $c_i(a_i)$, with $c'_i(a_i) \geq 0$ and $c''_i(a_i) > 0$

⁵Here we are implicitly assuming that consumers do not attribute more weight to any firm in the formation of the average "moral capital" of the market. This is a natural assumption if consumers are totally unaware of the moral choice of each firm. We could alternatively define $a^M \equiv \sum_j a_j D_j(\hat{\mathbf{p}}) / \sum_j D_j(\hat{\mathbf{p}})$, so that each firm contributes to the market's average morality proportionally to its production $D_i(\hat{\mathbf{p}})$

for all a_i . Each firm i maximizes a weighted sum of profits and social welfare.

$$V_i \equiv [p_i - c_i(a_i)]D_i(\hat{\mathbf{p}}) + \alpha_i \mathcal{W}_i(\hat{\mathbf{p}}, \mathbf{a})$$

where $\alpha_i \geq 0$ stands for her intrinsic ethics or the intensity of her social preferences, which is common knowledge. Suppliers "ethical welfare", $\mathcal{W}_i(\hat{\mathbf{p}}, \mathbf{a})$, is given by ⁶:

$$\mathcal{W}_i(\hat{\mathbf{p}}, \mathbf{a}) \equiv \sum_j^n W_j(a_j)D_j(\hat{\mathbf{p}})$$

2.2 The irrelevance result

We first reproduce here the results of [Dewatripont and Tirole \(2024\)](#), based on three key assumptions:

Assumption 1 (consequentialism). *All players (suppliers, consumers, workers, investors)' perception of the social impact of their trade is proportional to the size of this trade.*

Assumption 2 (flexible prices). *Prices are (locally) flexible at equilibrium price configuration p_i . At equilibrium choices $(p_j, a_j)_{j=1, \dots, n}$, any local change in ethical behavior Δa_i can be offset by a price change $\Delta p_i = -\phi'_i(a_i)\Delta a_i$ so as to keep supplier i 's net price and therefore demand constant.*

Assumption 3 (constant returns to scale). *A supplier's marginal cost of raising the morality of her production is proportional to her output: Her cost function can be written as $C_i(q_i; a_i) = c_i(a_i)q_i + d_i(q_i)$.*

Since, under perfect information, $\hat{p}_i \equiv p_i + \phi_i(a_i)$, we have:

Proposition 1 (Irrelevance ([Dewatripont and Tirole, 2024](#))). *Supplier i 's ethical behaviour a_i^* is uniquely defined by:*

$$\alpha_i W'_i(a_i^*) = c'_i(a_i^*) + \phi'_i(a_i^*) \quad (1)$$

Ethical behavior does not depend on the demand curve D_i faced by firm i , and is therefore independent of the intensity of competition.

Proof. Using the definition of net prices, we can rewrite supplier i 's objective function as

$$V_i = [\hat{p}_i - \phi_i(a_i) - c_i(a_i)]D_i(\hat{\mathbf{p}}) + \alpha_i \mathcal{W}_i(\hat{\mathbf{p}}, \mathbf{a}) \quad (2)$$

The proof is carried out by simply computing the first order condition of the objective function with respect to a_i and noting that, *at the equilibrium*, price flexibility implies $\frac{\partial \hat{p}_i}{\partial a_i} = 0$ and so $\frac{\partial D_i(\hat{\mathbf{p}})}{\partial a_i} = 0$ and $\frac{\partial D_j(\hat{\mathbf{p}})}{\partial a_i} = 0 \forall i, j$ ■

2.3 The relevance result

We now turn to our main result, using instead $\hat{p}_i \equiv p_i + \phi_i(a^M)$, where $a^M \equiv \frac{1}{n} \sum_j^n a_j$ is the average level of morality in the sector (again, assume for simplicity that consumers are agnostic about each firm's individual

⁶Note that this implies that, unlike consumers, suppliers are aware of each other's ethical choice. We could alternatively assume that individual moral choices are not known by suppliers, in which case we could write $\mathcal{W}_i(\hat{\mathbf{p}}, \mathbf{a}) \equiv \sum_j^n W_j(a^M)D_j(\hat{\mathbf{p}})$, while W_j remains common knowledge.

morality so the weight of each firm is the same). The price flexibility assumption becomes:

Assumption 2.1 (flexible prices revised). *Prices are (locally) flexible: any local change in ethical behavior Δa_i can be offset by a price change $\Delta p_i = -\frac{1}{n}\phi'_i(a^M)\Delta a_i$ so as to keep supplier i 's net price and therefore demand constant.*

We then have:

Proposition 2. *Supplier i 's ethical behavior a_i^* is uniquely defined by:*

$$\alpha_i W'_i(a_i^*) = c'_i(a_i^*) + \frac{1}{n}\phi'_i(a^{M*}) \quad (3)$$

The number of competitors in the sector affects the optimal level of moral actions chosen by each firm.

Proof. We rewrite firm i 's objective function as

$$V_i = [\hat{p}_i - \phi_i(a^M) - c_i(a_i)]D_i(\hat{\mathbf{p}}) + \alpha_i \mathcal{W}_i(\hat{\mathbf{p}}, \mathbf{a}) \quad (4)$$

The proof is carried out in the same way as the original irrelevance result, recognizing that $\frac{\partial \phi_i(a^M)}{\partial a_i} = \frac{1}{n}\phi'_i(a^M)$.⁷ ■

The level of competition now affects the equilibrium choice of morality a_i^* . Assuming that consumers are morally concerned (i.e. $\phi'(a^M) < 0$), as n increases, the marginal "net" cost of morality on the RHS of equation (3) gets larger while the marginal benefit on the LHS is unchanged. As a consequence, competing firms choose a lower level of morality. The rationale for this result is clear: since individual choices cannot be directly observed, morality is a public good: the marginal impact of a firm's moral choice on demand, $\phi'_i(a^{M*})$, contributes to the average morality of the market, but its cost is borne solely by that very firm. At one extreme, a monopolist would reap the whole benefit of his morality as in [Dewatripont and Tirole \(2024\)](#), at the other extreme, the ethical choices by firms under perfect competition (as $n \rightarrow +\infty$) do not depend on consumers' sensitivity to moral actions, $\phi_i(\cdot)$. It is also worth noting that each firm still acts according to its internalized social welfare, which does not depend on competition. The key mechanism under our result stems from the social ethics of *imperfectly informed* consumers.⁸

Interestingly, the result is reversed and firms behave more morally under increased competition when consumers are immoral, $\phi'_i(a^{M*}) > 0$. This is because the net cost of behaving morally decreases as the number of competitors increases since consumers only see the average morality in the market while the net benefit of morality does not change. In other words, firms prefer to behave more morally under competitive pressures because they value morality but cannot reap as much profit by behaving immorally as they would if consumers could see their individual "immoral choice".

The following graphs illustrate the impact on morality of competitive pressure in the presence of moral or immoral consumers.

⁷If instead we assumed that $a^M = \sum_j a_j D_j(\hat{\mathbf{p}}) / \sum_j D_j(\hat{\mathbf{p}})$, we would obtain $\frac{\partial(a^M)}{\partial a_i} = \frac{D_i(\hat{\mathbf{p}})}{\sum_j D_j(\hat{\mathbf{p}})} + a_i \frac{\partial D_i(\hat{\mathbf{p}})}{\partial a_i} (\sum_j D_j(\hat{\mathbf{p}}))^{-1} + \sum_j a_j D_j(\hat{\mathbf{p}}) \frac{\partial(\sum_j D_j(\hat{\mathbf{p}}))^{-1}}{\partial(\sum_j D_j(\hat{\mathbf{p}}))} \frac{\partial(\sum_j D_j(\hat{\mathbf{p}}))}{\partial D_i(\hat{\mathbf{p}})} \frac{\partial D_i(\hat{\mathbf{p}})}{\partial a_i} = \frac{D_i(\hat{\mathbf{p}})}{\sum_j D_j(\hat{\mathbf{p}})}$ since $\frac{\partial D_i(\hat{\mathbf{p}})}{\partial a_i} = 0$ by price flexibility, with similar implications.

⁸If instead we assumed that suppliers can't observe each other's morality choice, so that $\mathcal{W}_i(\hat{\mathbf{p}}, \mathbf{a}) = \sum_j^n W_j(a^M)D_j(\hat{\mathbf{p}})$ depends on a^M and not anymore on a_j , result (3) would become $\alpha_i \frac{1}{n} \sum_j^n W'_j(a^{M*})D_j(\hat{\mathbf{p}}) = c'_i(a_i^*) + \frac{1}{n}\phi'_i(a^{M*})$. In this case the firm's internalized welfare would depend on the conditions of demand, thus reinforcing the relevance result.

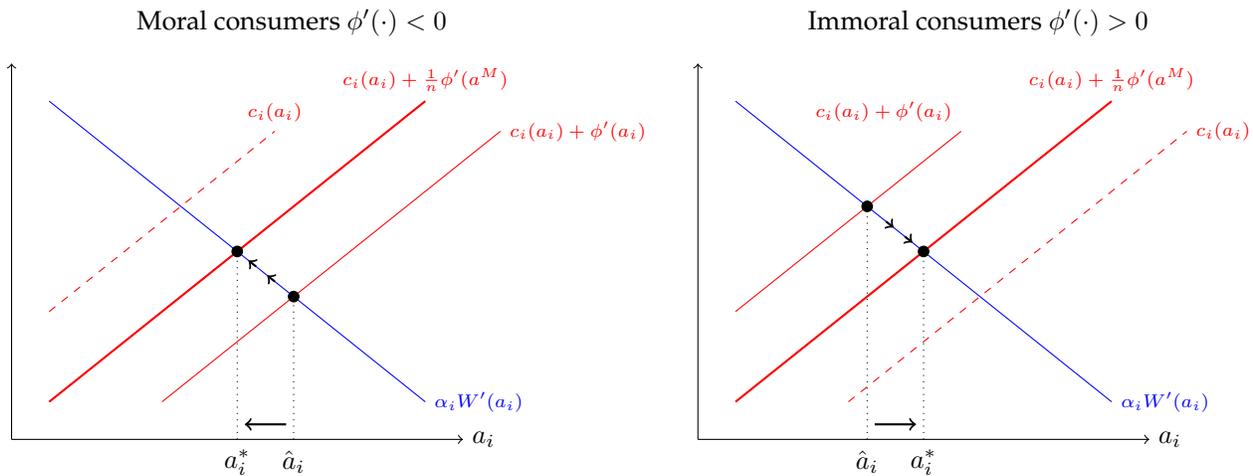


Figure 1: Equilibrium choice of morality by firm i with perfect information (\hat{a}_i) and incomplete information (a_i^*)

2.4 A Cournot example

We have so far focused on the average morality of the market as a whole to keep close to the original paper. Now we introduce a slight variation in the original model with the example of a particular sector producing a homogeneous good and characterized by a Cournot oligopoly. We assume that competitors are symmetric and consider the following functional forms: $C(a_i, q_i) = \frac{1}{2}a_i^2 q_i$, $\phi_i(a^M) = -\hat{\phi} \cdot a^M$ (where consumers are share the same valuation for morality and are ethically responsible: $\frac{\partial \phi_i(a^M)}{\partial a^M} = -\hat{\phi} < 0$), and welfare function $\mathcal{W}_i(\mathbf{q}, \mathbf{a}) = \alpha_i \left[\sum_j^n \ln(1 + a_j) q_j \right]$. In Cournot competition, for total quantity $Q = \sum_{j=1}^n q_j$, prices are equalized so that $P(Q) = \hat{p}_i = p_i + \phi_i(a^M)$ for each firm i . Each firm in the sector maximizes:

$$\Pi_i = \left(P(Q) + \hat{\phi} \cdot a^M - \frac{1}{2}a_i^2 \right) q_i + \alpha_i \ln(1 + a_i) q_i + \alpha_i \sum_{j \neq i} \ln(1 + a_j) q_j \tag{5}$$

The equilibrium level of morality is then given by:

$$a_i - \frac{1}{n} \hat{\phi} = \frac{\alpha_i}{1 + a_i} \tag{6}$$

and by the implicit function theorem ($F(a_i, n) = -a_i + \frac{1}{n} \hat{\phi} + \frac{\alpha_i}{1+a_i}$)

$$\frac{\partial a_i}{\partial n} = -\frac{\hat{\phi}}{n^2} \frac{(1 + a_i)^2}{(1 + a_i)^2 + \alpha_i} < 0 \tag{7}$$

As can be seen in this simple example, oligopolist firms competing à la Cournot in the same market will choose lower levels of moral actions as the number of firms n increases if consumers are responsible ($-\hat{\phi} < 0$). We now discuss two variations that allow for some forms of agreements between firms that partially

solve the "collective action" problem, namely the possibility of collusion and the case of cross participations. These two agreements affect differently the choice of morality by individual firm, according to its degree of internalization the overall market's morality

2.4.1 Tacit collusion

Under collusion, keeping with the assumption of *narrow bracketing* like Dewatripont and Tirole (2024) (i.e. $\mathcal{W}_i(\mathbf{q}, \mathbf{a}) = \mathcal{W}_i(q_i, a_i) = \ln(1 + a_i)q_i$)⁹, each firm i in the cartel selects the q_i and a_i that maximise the collusive payoff:

$$\Pi_i^{cartel} = \left(P(Q) + \hat{\phi} \cdot a^M - \frac{1}{2}a_i^2 \right) \frac{\sum_j q_j}{n} + \alpha_i \ln(1 + a_i) \frac{\sum_j q_j}{n} \quad (8)$$

On the other hand, sustainability requires that firms are better off remaining in the cartel than deviating by choosing a different level of output or morality:

$$\frac{\Pi_i^{cartel}}{1 - \delta} \geq \max_{q_i, a_i} \left\{ \left(P(Q) + \hat{\phi} \cdot a^M - \frac{1}{2}a_i^2 \right) q_i + \alpha_i \ln(1 + a_i)q_i + \frac{\delta}{1 - \delta} \Pi_i^{Nash} \right\} \quad (9)$$

where $\delta \in (0, 1)$ is the standard discount factor and Π_i^{Nash} is the Cournot-Nash static outcome firms revert to in case of deviation¹⁰. Assuming symmetric firms so that in equilibrium $q_i = q_j \forall i, j$, firms choose the same level of morality, defined by $a_i - \frac{1}{n}\hat{\phi} = \frac{\alpha_i}{1 + a_i}$, both when maximising the value of the cartel and when deciding whether to deviate.

In the case of collusion, the number of firms in the sector still influences each firm's morality choice, as collusion does not enhance consumers' perception of moral behavior by individual firms. Conversely, the absence of actual competition within the cartel does not alter moral choices, because each cartel member sells an equal share of the total output, with revenues proportional to *their own* perceived morality. Consequently, each firm's moral conduct is the same as in the oligopoly in (6).

2.4.2 Common ownership

Assuming narrow bracketing again, we can also assess the impact on morality of common ownership, which takes the form of cross participations λ_i among all firms in the sector. Each (identical) firm i now maximizes the weighted sum of its own profit and its share λ_i of the aggregate profit of all the other firms in the sector:

$$\Pi_i = \left(P(Q) + \hat{\phi} \cdot a^M - \frac{1}{2}a_i^2 \right) q_i + \alpha_i \ln(1 + a_i)q_i + \lambda_i \sum_{j \neq i} \left\{ \left(P(Q) + \hat{\phi} \cdot a^M - \frac{1}{2}a_j^2 \right) q_j + \alpha_j \ln(1 + a_j)q_j \right\} \quad (10)$$

so that the moral choice of firm i is given by¹¹: $a_i - \frac{1}{n}\hat{\phi} \left(1 + \lambda_i \sum_{j \neq i} \frac{q_j}{q_i} \right) = \frac{\alpha_i}{1 + a_i}$.

⁹By narrow bracketing, we refer to this behaviour by which firms care only about the social impact of their own activity, and not about the social impact of the industry's aggregate activity.

¹⁰We are implicitly assuming that time is discrete $t \in \{0, 1, 2, \dots\}$

¹¹Note that for this result to hold it is not necessary that firms internalize the welfare that their rivals get from morality, but rather their "net" profits

Assuming symmetric firms yields

$$a_i - \frac{1}{n} \hat{\phi} (1 + \lambda_i (n - 1)) = \frac{\alpha_i}{1 + a_i}. \quad (11)$$

The impact of competitive pressure is reduced under cross participation, and gets smaller as λ_i increases. Contrary to tacit collusion, firms now internalize part of the increase in competitors' profits, from both *their* sales and *their* perceived morality. As a consequence, the incentives to behave more morally increase as the rate of internalization λ_i rises.

In particular, the above equation implies, as before, the same moral behavior as a monopolist when λ_i approaches one: $a_i - \hat{\phi} = \frac{\alpha_i}{1 + a_i}$. However, the underlying mechanism is completely different. In the case of a monopoly, consumers do perfectly see the moral conduct of the monopolist which induces it to behave relatively more morally (if consumers value morality). By contrast, in the present case consumers don't see each individual firm's morality. Instead, each firm internalizes the sector's overall profits and, therefore, chooses a moral behavior which contributes to the sector's overall morality.

3 Conclusion

Do market forces erode morality? In a recent paper, [Dewatripont and Tirole \(2024\)](#) revisit this old-age issue in economics. They show that, contrary to a commonly held view, increased competition does not affect the moral behavior of the firms, which they call the "irrelevance result". In this note, we investigate the robustness of this result by considering the case in which the moral actions taken by a specific firm are not directly observable by the consumers, while the morality of a sector is.

As we demonstrate, as long as consumers are morally (immorally) motivated, increased competition does erode (increase) morality. Competition however does not affect the moral motivation directly internalized by the firm, for which the irrelevance result still holds. In particular, if consumers are not morally concerned and, thus, do not reward through higher prices firms that behave morally, the equilibrium level of morality is independent of the strength of competition.

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