

# The Importance of Legitimacy

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## Abstract

Within organizations, there are typically limits to leaders' legitimacy. This paper explores how organizations are structured in the face of such constraints. The concept of legitimacy is formalized in the context of a single-agent moral hazard model. The principal can give the agent monetary incentives; in addition, he can give the agent an order. The agent finds it costly to disobey orders provided they are legitimate. We find that it may be optimal for the principal to take costly actions to bolster legitimacy. We argue that many organizational phenomena can be understood as attempts to bolster legitimacy. Examples include: rejection of overqualified workers, bureaucracy, merger decisions, and above-market-clearing wages.

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# 1 Introduction

It is widely recognized outside of economics that rules are easier to enforce when they are considered *legitimate*. There are three reasons that are commonly cited. First, when agents see rules as legitimate, they feel a sense of duty to obey them. Second, agents are motivated to punish violators of rules they consider legitimate (for instance, by reporting them to authorities). Finally, attempts to enforce illegitimate rules tend to provoke anger and resistance. This suggests that legitimacy is important and the need for it might serve as a constraint on the way in which organizations are structured. This paper builds a simple model to explore the implications of such constraints. It highlights a number of organizational features that may be explained by them, including: rejection of overqualified workers, bureaucracy, and above-market-clearing wages.

We formalize the concept of legitimacy by introducing it into a single-agent moral-hazard model. A principal can use variable wages to incentivize an agent to exert effort. He also has a second tool: he can give the agent an order. The agent finds it costly to disobey legitimate orders but it is costless to disobey illegitimate orders. Orders are only legitimate if they are not too tough: specifically, if the order ( $\theta$ ) is less than or equal to  $L$ , where  $L$  parameterizes the extent of the principal's legitimacy. We refer to the condition  $\theta \leq L$  as the "authority maintenance constraint."

Initially, we take legitimacy  $L$  as exogenous. When legitimacy is high, it is optimal to use orders to incentivize the agent. When legitimacy is low, it is better to use monetary – i.e., high-powered – incentives. We then examine the case where the principal can bolster legitimacy at a cost. The principal may find that cost worth incurring since this allows him to give the agent tougher orders. Specifically, we find it is optimal to bolster authority when legitimacy is in an intermediate range.

We will argue that a number of phenomena can be understood as attempts by organizations to bolster authority. To give just one example, firms' hiring decisions are often influenced by legitimacy considerations since workers may be more or less respectful of authority. Bewley (1999) suggests that firms tend to reject "overqualified workers" for this reason. In interviews he conducts with personnel managers, they point to disobedience as the key reason for rejecting overqualified workers. One tells him: "Overqualification is a problem, just as is underqualification. You cannot fulfill the needs of an

overqualified person. They will be unhappy and will be a problem.”<sup>1</sup>

While legitimacy has received relatively little attention in economics, several recent papers stress its importance and seek microfoundations (in particular, see Basu (2015), Akerlof (2015), and Bénabou and Tirole (2011)). Chen (2013), looking at a dataset of World War I deserters, also provides empirical support that legitimacy matters for rule enforcement. Legitimacy is highly stressed outside of economics: by legal scholars, political scientists, and sociologists, among others (see, for instance, Blau (1964), Kornhauser (1984), Ostrom (1990), Tyler (1990), and Fagan and Meares (2008)). For instance, Blau argues that in the absence of legitimacy, rules will be disobeyed because “coercive use of power engenders resistance.”<sup>2</sup> Ostrom (1990) suggests that “the legitimacy of rules...will reduce the costs of monitoring, and [its] absence will increase [the] costs.”<sup>3</sup> Fagan and Meares point out that the illegitimacy of the police in inner cities is a key reason why it is difficult to root out gang activity. This article contributes to the literature on legitimacy by suggesting that it serves as a constraint on the way in which organizations can be structured.<sup>4</sup>

The paper proceeds as follows. Section 2 presents the model. Section 3 discusses a range of organizational phenomena related to the model. Section 4 concludes. Proofs of formal results are contained in the Appendix.

## 2 A Simple Model

### 2.1 Statement of the Problem

Consider a setting with a risk-neutral principal and a risk-neutral agent. The principal’s payoff is given by  $\pi = a_1 - w$ , where  $a_1$  is an effort choice of the agent and  $w$  is the wage

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<sup>1</sup>Bewley (1999), p. 284.

<sup>2</sup>Blau (1964), p.199-200.

<sup>3</sup>Ostrom (1990), p. 204.

<sup>4</sup>While there is relatively little work in economics on legitimacy per se, a number of papers suggest reasons why leaders would take costly actions to increase authority over followers. For instance, costly actions sometimes help a leader persuade followers to obey (see Hermalin (1998), Majumdar and Mukand (2004), and Van den Steen (2009)). Bolton et al. (2013) argue that resoluteness can help a leader coordinate followers. Efficiency wage models also suggest that it may be worthwhile to pay above-market-wages in order to put in place effective punishments for disobedience (see, for instance, Shapiro and Stiglitz (1984)).

paid to the agent. The principal only observes an imperfect measure of  $a_1$ :  $q \in \{h, l\}$ . The probability  $q = h$  depends upon  $a_1$  and upon a second effort choice of the agent,  $a_2$ . Specifically,  $\Pr(q = h) = a_1 + \lambda a_2$ . One can think of  $a_2$  as effort to make  $q$  erroneously look good.  $\lambda \geq 0$  parameterizes the quality of  $q$  as a measure of  $a_1$ , where a higher value of  $\lambda$  corresponds to a worse measure.

One tool available to the principal to incentivize the agent is the wage, which can be made a function of  $q$ :  $w(q)$ . The principal also has a second tool. He can give an order to the agent ( $\theta$ ) regarding the level of  $a_1$  he would like.

The agent can participate or not. If he does not participate, he has an outside option that yields 0. If he does participate, the agent's payoff is given by:  $U = w - \frac{1}{2}(a_1^2 + a_2^2) - 1_{a_1 \neq \theta} \cdot D(\theta)$ .  $U$  is increasing in the wage ( $w$ ) and decreasing in effort ( $a_1$  and  $a_2$ ). The agent also suffers a loss  $D(\theta)$  if he disobeys the principal's order.

We assume it is only costly to disobey orders that are "legitimate." The principal's order is only legitimate if  $\theta \leq L$  (that is, if it is not too severe).  $L$  parameterizes the extent of the principal's legitimacy. Specifically,  $D(\theta) = \begin{cases} \infty, & \theta \leq L \\ 0, & \theta > L \end{cases}$ . We will refer to the condition  $\theta \leq L$  as the authority maintenance constraint – or AM constraint. If the AM constraint is satisfied, we will say the principal "maintains authority"; if it is violated, we will say the principal "eschews the use of authority."

## 2.2 Solution to the Principal's Problem

**First-best.** It serves as a useful benchmark to consider what would happen if effort were contractible (i.e., the first-best case). It is easy to show that the first-best levels of effort are:  $a_1^{FB} = 1$  and  $a_2^{FB} = 0$ .  $a_1^{FB} > 0$  since effort of type 1 is productive; on the other hand,  $a_2^{FB} = 0$  since effort of type 2 has no productive value (it simply distorts the measure  $q$ ).

**Second-best.** Now, let us turn to the principal's actual problem (i.e., the second-best case). The principal's problem is to choose a wage  $w(q)$  and order  $\theta$  so as to maximize his expected payoff  $E(\pi)$ . He maximizes subject to a participation constraint (PC) and an incentive compatibility constraint (IC). The participation constraint can be written as

follows:

$$E(U) = [w(l) + (a_1 + \lambda a_2)(w(h) - w(l))] - \frac{1}{2}a_1^2 - \frac{1}{2}a_2^2 - 1_{a_1 \neq \theta} \cdot D(\theta) \geq 0 \quad (\text{PC})$$

The incentive compatibility constraint the principal faces depends upon whether he maintains authority (satisfies the AM constraint) or not. If he satisfies AM, he faces the following IC constraint:

$$a_1 = \theta, a_2 = \lambda(w(h) - w(l)) \quad (\text{IC} - \text{AM})$$

The IC constraint if he violates AM is:

$$a_1 = w(h) - w(l), a_2 = \lambda(w(h) - w(l)) \quad (\text{IC} - \text{no AM})$$

Notice that, if the principal eschews the use of authority (violates AM), he can obtain productive effort ( $a_1$ ) by paying a variable wage ( $w(h) > w(l)$ ) – or put, differently, by using “high-powered incentives.” The problem with variable wages, though, is that they incentivize the agent to exert unproductive effort ( $a_2$ ) as well as productive effort. On the other hand, if the principal maintains authority (satisfies AM), he can use orders ( $\theta$ ) rather than a variable wage to incentivize the agent. Orders have the advantage that they do *not* incentivize unproductive effort ( $a_2$ ).

The principal therefore faces a tradeoff. He can meet the AM constraint, in which case he faces a better IC constraint; or, he can violate AM and face a worse IC constraint. Clearly, when AM is a more restrictive constraint – legitimacy ( $L$ ) is lower – the principal’s inclination to violate AM will be greater. This is the intuition that lies behind Proposition 1 (stated below). It shows that authority is maintained when  $L$  is high and eschewed when  $L$  is low.

**Proposition 1.** *The solution to the principal’s problem depends upon whether his legitimacy ( $L$ ) is low, medium, or high.*

1. **High legitimacy** ( $L \geq 1$ ): *The principal orders the first-best ( $\theta = 1$ ); incentives are low-powered ( $w(h) - w(l) = 0$ ); and effort is first-best ( $a_1 = 1, a_2 = 0$ ).*
2. **Medium legitimacy** ( $1 > L \geq 1 - \frac{\lambda}{\sqrt{1+\lambda^2}}$ ): *The principal gives the maximum legitimate*

order ( $\theta = L$ ); incentives are low-powered ( $w(h) - w(l) = 0$ ); and effort is  $a_1 = L$ ,  $a_2 = 0$ .

3. **Low legitimacy** ( $L < 1 - \frac{\lambda}{\sqrt{1+\lambda^2}}$ ): The principal eschews the use of authority; incentives are high-powered ( $w(h) - w(l) = \frac{1}{1+\lambda^2}$ ); and effort is  $a_1 = \frac{1}{1+\lambda^2}$ ,  $a_2 = \frac{\lambda}{1+\lambda^2}$ .

If the principal has sufficient legitimacy ( $L \geq 1$ ), he can achieve the first-best outcome, using authority rather than variable wages to incentivize the agent. Notice that, when  $L > 1$ , the AM constraint is actually non-binding (the principal has more authority than he needs). If the principal has an intermediate level of legitimacy, it is worth using authority rather than variable wages to incentivize the agent, but it is no longer possible to achieve the first-best. The AM constraint is binding in this case: or, put differently, the principal sets the maximum legitimate order ( $\theta = L$ ). When legitimacy is sufficiently low ( $L < 1 - \frac{\lambda}{\sqrt{1+\lambda^2}}$ ), it is no longer worth maintaining authority (the AM constraint is violated). The principal uses high-powered incentives rather than authority to obtain effort. Consequently, the agent exerts both productive effort ( $a_1$ ) and unproductive effort ( $a_2$ ).

### 2.3 Bolstering Authority

Now, suppose the principal can bolster his authority over the agent at a cost. Specifically, assume his legitimacy is given by  $L = L_0 + b$ , where  $b$  denotes the principal's effort to bolster his authority. The cost to the principal of bolstering is  $\frac{b^2}{2}$ . Proposition 2, stated below, characterizes the solution to the principal's problem in this case.

**Proposition 2.** *It is optimal for the principal to bolster authority if and only if he has an intermediate level of legitimacy:*

1. **High legitimacy** ( $L_0 \geq 1$ ): the principal does not bolster authority ( $b = 0$ ), gives the first-best order ( $\theta = 1$ ), and incentives are low-powered ( $w(h) - w(l) = 0$ ).
2. **Medium legitimacy** ( $1 - \sqrt{\frac{2\lambda^2}{1+\lambda^2}} \leq L_0 < 1$ ): the principal bolsters authority ( $b = \frac{1-L_0}{2}$ ), gives the maximum legitimate order ( $\theta = L = \frac{1+L_0}{2}$ ), and incentives are low-powered ( $w(h) - w(l) = 0$ ).
3. **Low legitimacy** ( $L_0 < 1 - \sqrt{\frac{2\lambda^2}{1+\lambda^2}}$ ): the principal does not bolster authority ( $b = 0$ ), eschews the use of authority, and incentives are high-powered ( $w(h) - w(l) = \frac{1}{1+\lambda^2}$ ).

We find that it is optimal for the principal to bolster his authority – choose  $b > 0$  – when he has an intermediate amount of legitimacy. When he has high legitimacy ( $L_0 \geq 1$ ), it is not worth bolstering because he can achieve the first-best without doing so. When he has low legitimacy ( $L_0 < 1 - \sqrt{\frac{2\lambda^2}{1+\lambda^2}}$ ), it is not optimal to bolster because he eschews the use of authority. He uses high-powered incentives rather than authority to obtain effort. But, when the principal has an intermediate amount of legitimacy, it is optimal to bolster because authority is worth maintaining and, by bolstering, the principal is able to give a tougher order to the agent. Put another way, bolstering is valuable because it loosens the AM constraint.

### 3 Applications

We will now discuss a range of real-world settings that correspond to the model. In particular, we will argue that a number of phenomena can be understood as attempts by organizations to bolster authority.

#### Who receives orders?

Firms' hiring decisions may be influenced by legitimacy considerations. Imagine, for example, a firm is deciding between hiring worker A and worker B. Worker A is more skilled/productive; but worker B is more respectful of authority (the firm has legitimacy  $L_B > L_A$  if it hires B). Hiring worker B is therefore a way in which the firm can bolster its authority. The model suggests that it may be optimal to hire B even though worker A is more skilled.

We mentioned in the introduction, for example, firms' disinclination to hire "overqualified workers." This disinclination has been documented by Bewley (1999) who finds that personnel managers are as wary of overqualification as they are of underqualification. While one could imagine other reasons for such wariness, such as adverse selection, Bewley's interviews suggest that the main concern is, in fact, lack of respect for authority.

#### Who gives orders?

Just as respect for authority may vary with the choice of worker, it may also vary with the *choice of manager*. Hence, legitimacy considerations come into play in the selection of managers – and, relatedly, the extent to which authority is delegated within firms. Imagine, for instance, a firm has a choice between having manager A give orders to workers and delegating authority to manager B. Suppose it is costly to delegate to B – for instance, because B’s preferences are not aligned with the firm’s – but manager B has more legitimacy ( $L_B > L_A$ ). The model suggests authority might be delegated despite the cost since doing so bolsters the firm’s authority. Alternatively, there might be benefits associated with delegation: for instance, manager B might have better information than manager A. When there are benefits to delegation, it can nonetheless be optimal for A to retain authority if A has greater legitimacy ( $L_A > L_B$ ).

The sociologist Alvin Gouldner’s study of the General Gypsum Company, entitled *Patterns of Industrial Bureaucracy*, provides an example. Gouldner was initially puzzled by the degree of bureaucracy within the firm; but he came to understand that it served a purpose. The General Gypsum Company had a serious problem at their Oscar Center Plant where there were “few rules...and fewer still that were strictly enforced.”<sup>5</sup> To deal with this problem, they initially tried installing a new plant manager, Vincent Peele; but, while Peele was well motivated, he lacked legitimacy, and consequently, his attempts to make reforms failed. When he tried to enforce a rule against absenteeism, for instance, workers were angered and retaliated by *increasing* their absences. Supervisors at the plant concluded the “rule just could not be enforced.”<sup>6</sup> The company eventually worked out a better arrangement. They realized that if, rather than delegating to Peele, the central office set the rules, they would be perceived as more legitimate. Thus, while the resulting organizational form was costly – highly centralized and bureaucratic – it helped the firm bolster its authority over workers.

## Multiple Agents

Suppose a principal wants to incentivize multiple agents rather than just one. What it takes to be seen as legitimate by one agent (A) might be different from what it takes to be seen as legitimate by another (B). For instance, legitimacy over A might be given by

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<sup>5</sup>Gouldner (1954), p. 51.

<sup>6</sup>Ibid., p. 142.



$L_A = L_0 + b$  while legitimacy over B might be given by  $L_B = L_0 - b$ . In such a setting, it may be optimal to eschew authority over one agent so as to bolster authority over the other.

Such considerations are highly relevant for mergers. When firms have different cultures, merging them may pose a problem of authority maintenance. It may be better for such firms to have a market relationship instead (akin, in the model, to eschewing authority over one agent and using high-powered incentives).

Buono et al. (1985) describe a case where these issues are at play. They examine a 1981 merger of two mutual savings banks. While the banks were in many ways similar, different cultures prevailed. In particular, the leadership style in Bank A was somewhat democratic and participative while the leadership style in Bank B was more authoritarian. Both banks took pride in their cultures and, in each bank, the style of leadership prior to the merger was viewed favorably by employees. Following the merger, the CEO of Bank B played the key role in managing the merged entity (the other CEO became COO). According to Buono et al., the merger was not a success: primarily because there was anger in Bank A post-merger and resistance to the Bank B CEO's authoritarian leadership style.

### **Wage-setting**

Legitimacy considerations are also relevant for wage-setting: since the level of pay within a firm – as well as pay dispersion – may impact upon legitimacy. Suppose, for instance, a firm's legitimacy is increasing in the expected wage it pays its workers ( $L = L_0 + f(E(w))$ ). It can be optimal to pay an above-market wage – that is, a wage that makes the participation constraint non-binding – since doing so bolsters authority. The model therefore suggests a reason for efficiency wages. Observe that the rationale for paying efficiency wages is distinct from other models, such as Shapiro and Stiglitz (1984).

## 4 Conclusion

This paper has argued that limited legitimacy of authority plays a significant role in determining organizational behavior and organizational structure. We formalized the concept of legitimacy in a single-agent moral hazard model. The model explains numerous organizational phenomena such as: rejection of overqualified workers, bureaucratic organization, merger decisions, and above-market-clearing wages.

The paper suggests a number of avenues for future research. We briefly mention three. First, there is a burgeoning literature on “persistent performance differences” (PPDs) across firms. To what extent might authority/legitimacy differences across firms explain PPDs – and, more widely, productivity differences across regions and countries? Heterogeneity in management practices are an important source of PPDs (see Bloom et al. (2013)). It has often been thought that heterogeneity in management practices is due to heterogeneity in managerial skill; but the model suggests they might also be accounted for by heterogeneity in legitimacy.

Second, the paper considers an environment where decreases in legitimacy reduce welfare. But, in some contexts, low legitimacy might be beneficial. For instance, it might prevent abuse of authority or allow for better information aggregation.<sup>7</sup>

Finally, the model in this paper is reduced form – since its goal is simply to show that legitimacy considerations matter – but there is a need for micro-foundations of legitimacy and for a deeper understanding of how orders come to be seen as more/less legitimate. Several papers mentioned in the introduction make a start towards this goal.

## 5 Appendix (For Online Publication)

*Proof of Proposition 1.* Let us consider the maximum profits the principal can obtain if he violates AM and the maximum profits he can obtain if he meets AM and compare.

If the principal violates AM, he maximizes  $E(\pi)$  subject to (PC) and (IC – no AM). It is easily shown that it is optimal to choose:  $w(h) = \frac{1}{2(1+\lambda^2)}$  and  $w(l) = -\frac{1}{2(1+\lambda^2)}$  (which implies  $w(h) - w(l) = \frac{1}{1+\lambda^2}$ ). The resulting payoff to the principal is  $E(\pi) = \frac{1}{2(1+\lambda^2)}$ .

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<sup>7</sup>See Landier et al. (2009) for one approach to this topic.

If the principal meets AM, he maximizes  $\pi$  subject to (PC) and (IC – AM). It is easily shown that it is optimal to choose:  $\theta = \min(1, L)$  and  $w(h) = w(l) = \frac{1}{2}(\min(1, L))^2$ . The resulting payoff to the principal is  $E(\pi) = \min(1, L) - \frac{1}{2}(\min(1, L))^2$ .

Observe that if  $L \geq 1$ , the principal's profits from meeting AM are  $\frac{1}{2} \geq \frac{1}{2(1+\lambda^2)}$ , so it is optimal to maintain authority in this region. Now suppose  $L < 1$ . His profits are higher from meeting AM than not if and only if  $L - \frac{1}{2}L^2 \geq \frac{1}{2(1+\lambda^2)}$ . It is easily shown this constraint is equivalent to:  $L \geq 1 - \frac{\lambda}{\sqrt{1+\lambda^2}}$ . This completes the proof.  $\square$

*Proof of Proposition 2.* Again, let us consider the maximum profits the principal can obtain if he violates AM and the maximum profits he can obtain if he meets AM and compare.

Suppose AM is violated. From the proof of Proposition 1 we know that the maximum payoff that can be obtained for a given value of  $b$  is  $\frac{1}{2(1+\lambda^2)} - \frac{b^2}{2}$ . Clearly, it is optimal to set  $b = 0$ , which results in a payoff of  $\frac{1}{2(1+\lambda^2)}$ .

Now suppose AM is not violated. From the proof of Proposition 1 we know that the maximum payoff that can be obtained for a given value of  $b$  is  $\theta = \min(1, L)$  and  $w(h) = w(l) = \frac{1}{2}(\min(1, L))^2$ , where  $L = L_0 + b$ . It is easily shown that it is optimal to set  $b = 0$  when  $L_0 \geq 0$  and set  $b = \frac{1-L_0}{2}$  when  $L_0 < 1$ . The resulting payoff to the principal is  $\frac{1}{2}$  when  $L_0 \geq 1$  and  $(\frac{1+L_0}{2}) - \frac{1}{2}(\frac{1+L_0}{2})^2 - \frac{1}{2}(\frac{1-L_0}{2})^2$  when  $L_0 < 1$ .

Profits are higher from meeting AM than violating AM when  $L_0 \geq 1$ : since  $\frac{1}{2} \geq \frac{1}{2(1+\lambda^2)}$ . Now suppose  $L_0 < 1$ . The principal's profits are higher from meeting AM than not if and only if  $(\frac{1+L_0}{2}) - \frac{1}{2}(\frac{1+L_0}{2})^2 - \frac{1}{2}(\frac{1-L_0}{2})^2 \geq \frac{1}{2(1+\lambda^2)}$ . It is easily shown this constraint is equivalent to:  $L_0 \geq 1 - \sqrt{\frac{2\lambda^2}{1+\lambda^2}}$ . This completes the proof.  $\square$

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