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Imprecise information disclosure and truthful certification☆

Martin Pollrich[a,*], Lilo Wagner[b]

[a] Humboldt-Universität zu Berlin, Germany
[b] DIW Berlin, Germany

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ABSTRACT

This article studies the interaction of information disclosure and reputational concerns in certification markets. We argue that by revealing information less precisely, a certifier reduces the threat of capture because this reduces her gains from selling fraudulent certificates. As a result, only imprecise disclosure rules are implementable for intermediate discount factors. Our results therefore suggest that contrary to the common view, imprecise disclosure may be socially desirable. Regulatory intervention may provoke market failure especially in industries where certifier reputational rents are low.

1. Introduction

Informational asymmetries in markets give rise to the emergence of certification intermediaries. By inspecting products and revealing quality information to the public, certifiers contribute an important share to prevent breakdowns of trade. Yet, albeit at hand, information is typically not fully revealed. For instance, certifiers of organic food dispose of precise information concerning animal housing and breeding. However, certification is mostly based on a Pass/Fail decision. Similarly, restaurant raters, eco-labels, rating agencies, wine certifiers or technical inspectors do not reveal all information at hand. Why?

A rich literature starting with Lizzeri (1999) identifies profit concerns as the motive for adopting such imprecise information disclosure.[1] We call attention to a different explanation. We show that imprecise disclosure rules can serve as a safeguard against fraud: certifiers may be tempted to accept bribes for releasing favorable certificates. Such behavior, called capture, enables the certifier to extract payments other than the certification fee. If consumers are aware of this threat of capture, the certifier must find ways to credibly commit to reveal her information truthfully, that is, according to some

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* Corresponding author.
E-mail addresses: martin.pollrich@hu-berlin.de (M. Pollrich), lwagner@diw.de (L. Wagner).

[1] Roughly speaking, disclosing information less precisely is an optimal strategy for a profit maximizing certifier because this induces more sellers to pay for certification. See also the related literature section.

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previously announced disclosure rule. One way to do so is to employ an imprecise disclosure rule. Stated differently, a certifier adopts an imprecise disclosure rule not to increase her profits, but to generate positive profits at all. In contrast to earlier findings, imprecise disclosure may thus be socially desirable—regulatory intervention that enforces a more transparent disclosure may provoke market failure.

To get an intuition for this result, consider the following infinitely repeated certification game: in each period, short-lived sellers first make an investment choice, which probabilistically determines their good's quality. Contingent on the quality outcome, sellers decide whether or not to apply for certification, which is costly. Products are then inspected and certificates are awarded according to some preset disclosure rule. In the absence of a threat of capture—the certifier commits to disclose according to the announced disclosure rule and does not face any reputational concerns—full disclosure maximizes certifier profits.[2]

If the certifier is threatened by capture, she may offer sellers to release favorable certificates, against the payment of a bribe. When the true quality experienced after consumption does not match the awarded certificate, capture is detected and punished in future periods. This makes the certifier face a classical reputation dilemma: she trades off short-run gains from capture against future profits. With information being fully disclosed, the short-run gains from capture are large because low quality sellers are willing to pay high bribes in order to be awarded the most valuable certificate.

By contrast, imprecision reduces this willingness to pay. When different qualities are pooled into the same certificate, a good carrying this certificate is worth less on the market than a good which is unambiguously identified as the highest quality good. Also, imprecision increases demand for certification services. If the certifier, when being captured, forgoes regular fee payments, short-run gains from capture are further reduced.

We show that these two levers can be used without affecting certifier profits. As a result, the threat of capture is reduced as compared to full disclosure.

Our results provide important insights into the role of certifiers as providers of transparency in markets with imperfect information. The literature has so far emphasized that certifier profit concerns are usually in conflict with a social desire for transparency. This calls for regulatory intervention.[3] However, transparency enforcement may evoke adverse effects, namely if it confines market functionality. This is an implication of our analysis.

The remainder of the article is organized as follows. The following section reviews the related literature. Section 3 presents the model. Section 4 analyzes certification in the stage game without capture. The capture problem is analyzed in Section 5, where we present our main results. Section 6 reviews the model with multiple quality specifications. A discussion of our modeling assumptions is provided in Section 7. Section 8 concludes. All proofs are presented in the appendix.

2. Related literature

A stream of literature identifies profit concerns as the cause for imprecise information revelation in private certification markets (Lizzeri, 1999; Albano and Lizzeri, 2001; Rayo and Segal, 2010; Kartasheva and Yilmaz, 2013; Farhi et al., 2013; Faure-Grimaud et al., 2009; Pagano and Volpin, 2012). Here, the certifier is committed to reveal information according to her disclosure policy, the possibility of capture is ruled out by assumption. As opposed to the present study, these works suggest that market regulation which seeks to reduce asymmetries of information improves welfare.

Lizzeri (1999) finds that it is optimal for a monopolistic certifier in a static adverse selection environment to reveal almost no information. Albano and Lizzeri (2001) study optimal disclosure rules in a static model with endogenous quality. Some information disclosure is required to create incentives for quality provision. Optimal disclosure is noisy, when only flat certification fees are feasible. In a very general setting, Rayo and Segal (2010) show that when products are exogenously characterized by their value to the certifier and the buyer, disclosure is typically coarse: products with different characteristics are pooled into the same certificate. Kartasheva and Yilmaz (2013) demonstrate how imprecision improves certifier profits when some buyers are informed and sellers have heterogeneous reservation prices. In Kartasheva and Yilmaz (2013), as in the present article, the quality space is finite discrete and imprecision refers to a noisy disclosure of information.

In Farhi et al. (2013) and Faure-Grimaud et al. (2009), information disclosure is referred to as the potential concealment of certificates or certification procedures while the disclosure rule—as it is defined in the present article—is exogenously given.

In Pagano and Volpin (2012), it is the seller who decides to release imprecise information. In their model of rating

[2] In fact, the setting is chosen such that full disclosure maximizes certifier profits. As mentioned earlier, previous studies have demonstrated how coarseness can result in higher certifier profits. A setting in which full disclosure is optimal helps us to differentiate the reputational effect which arises due to the threat of capture. The basic insights however apply to much more general settings.

[3] For instance the Dodd-Frank Wall Street Reform and Consumer Protection Act finds that credit rating agencies are "*matters of national public interest*" (SEC. 931 (1)). SEC 931 (5) directly addresses inaccuracy of ratings: "*In the recent financial crisis, the ratings on structured financial products have proven to be inaccurate. This inaccuracy contributed significantly to the mismanagement of risks by financial institutions and investors, which in turn adversely impacted the health of the economy in the United States and around the world. Such inaccuracy necessitates increased accountability on the part of credit rating agencies.*" SEC. 932 directly addresses transparency of ratings: "*The rules of the Commission under this subsection shall require, at a minimum, disclosures that […] (B) are clear and informative for investors having a wide range of sophistication who use or might use credit ratings; (C) include performance information over a range of years and for a variety of types of credit ratings, including for credit ratings withdrawn by the nationally recognized statistical rating organization […]*"