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A note on the optimal scope of professional self-regulation

Abstract
Professions such as doctors and lawyers often enjoy some degree of self-regulation, i.e. they can set the codes of conduct in the market and even determine the rules for joining the profession. We address the problem of the optimal scope of self-regulation. Specifically, we model a profession that can decide about the quality of the service, and we examine if the profession should also be allowed to determine the number of suppliers. We assume that a larger number of professionals reduce the fixed cost of providing quality, and hence the motive to restrict entry is mitigated. Nonetheless, we find that for well-behaved fixed costs functions, the size of the profession preferred by the professionals is smaller than the socially optimal one. Still, if the only alternative to self-regulation is free entry to the profession, then self-regulation is the preferable regime. These findings are relevant for the services that are difficult to substitute by the services produced outside the profession.

Keywords
professions | self-regulation | oligopoly | vertical product differentiation

JEL Codes
L13, L84, D69

1 Introduction

Some markets pose a challenge for governments because of a high degree of specialist knowledge necessary to regulate them. In particular, the markets for professionals services, such as these offered by doctors and lawyers are difficult and expensive to regulate. This is probably one of the reasons why professionals have traditionally enjoyed a large degree of self-regulation, with bodies such as medical boards or bar associations responsible for formulating and executing some of the rules. However, the risk of self-regulation is that the profession will exploit its status to acquire rents, e.g. by restricting the competition in the marketplace (cf. Van den Bergh, 2006). Therefore, the problem of the optimal scope of self-regulation is important from the policy point of view.

In this paper, we analyse a simple model of a self-regulated market based on the Baron's (2011) model of markets for goods with credence attributes, and we analyse two dimensions of self-regulation that have traditionally been important in professional markets: the size of the profession, and the quality of the service.[1] Specifically, we ask the following question: assuming that the self-regulatory organisation of professionals has the privilege of determining the quality of the services offered in the market, should it also be allowed to determine the number of suppliers?

The paper is structured as follows. In the next section, we briefly review the economic and sociological literature on professions and professional self-regulation. Then, in Section 3, we present the model of a self-regulated market. In Section 4, we analyse the profession's decision concerning the number of suppliers, and we confront it with the socially optimal number in Section 5. Conclusions are offered in the final section.

1 The context of Baron's study is different from ours: he investigates businesses not professions. He also focuses on the social pressure from consumer groups.

2 A review of the literature on professionalism

While doctors and lawyers are handy examples of professions, several other occupational groups can be regarded as professions, and the empirical literature in sociology has looked at such groups as nurses, dentists, academics, chartered accountants, engineers and others. Based on the empirical studies of professions, including Freidson (2001), Larson (2013), and Krause (2016), the following key characteristics of professions can be identified (cf. Szczygielski 2018):

a) the subject of the contract between a professional and his customer is a service, not a good;

b) this service is characterized by a high level of information asymmetry: only to a very limited extent can the client assess the quality of the service delivered;

c) professional occupations usually enjoy a high degree of social respect;

d) professions often have a codified or tacit ethical code;

e) any person willing to be a professional is required to undergo a more or less formalised training course, which frequently includes not only a university education but also some kind of internship;

f) there is a system of admission to the profession which – at least in theory – consists in verifying the competence of a candidate acquired in the course of the process described in the previous point;

g) a professional group is not a loose set of professionals; to the contrary, it performs functions that are key in the lives of professionals: in particular, a professional group offers mutual support (including financial) for its members; it can influence, in a formalised or informal way, the education and job admission systems mentioned previously; it can represent the professionals vis-a-vis the government and other actors in the society; and finally it often takes some of the judiciary duty concerning its members.

The origins of professionalism are an issue intensively debated in social sciences (cf. Abbot, 1983, 2014; Larson, 2013). The functionalist approach focuses on the role the professions play in addressing the informational problems associated with the provision of specific services. By contrast, the monopoly approach to professionalism stresses the barriers to entry to service markets created by professions. Finally, the status approach sees professionalism as a way for certain middle-class occupational groups to retain respect, honour and dignity in the age of corporate capitalism and salaried employment (cf. Abbot, 1983, p. 865). As argued below, the two first streams of thought have had a strong presence in economic research on professionalism as well.

All three approaches predict the existence of formal and informal rules that restrict the conduct of professionals. From the functionalist perspective, it is the very sense of professionalism to protect the consumers from the abuse of informational asymmetry. Moreover, it is the professionals who have the necessary knowledge to judge the quality of the service provided by a colleague. From the point of view of the monopoly approach, ethical codes help professional organisations demonstrate their commitment to fight abuse, which increases the social trust in the profession, reinforces the case for professional autonomy and prevents the government from stepping in. Finally, formal and informal rules can enhance the social status of professionals by attributing to them moral conduct.

Theoretical studies in economics to some extent reflected these considerations. Thus, several studies demonstrated that professional self-regulation could improve the efficiency of the market, as the functionalist approach would predict. Leland (1979) presents a model along the lines suggested by Akerlof (1970) to show that quality will be underprovided in a market with asymmetric information; he specifies the conditions necessary for the imposition of minimum-quality standards to be welfare-improving. Gehrig and Jost (1995) analyse a two-period model to show that reputation concerns can motivate producers to form a certifying organisation: this will lead to a higher standard of the good offered if only consumers switch the providers often enough. In a similar spirit, Chaserant and Harnay (2015) demonstrate that in Tirole's (1996) overlapping generation model with varying quality levels, it will be easier to attain the higher-quality and higher-profit steady-state if some additional control mechanism is introduced. Further studies have looked at the optimal policies of the self-regulatory organisations (SROs) concerning setting minimum quality standards (cf. Leland, 1979; Shaked and Sutton, 1981; DeMarzo, Fishman, & Hagerty, 2005). Finally, Baron (2010) looks at a different function of

self-regulatory organisations: he regards them as ways for the actors (in our case – professionals) to enhance the level of mutual loyalty. Baron distinguishes between "assurance organisations" (that collect fees and fine misbehaving members), and "informational organisations" (that group, at a fee, actors of the same high level of altruism, and thus help them in avoiding the free-rider problem).[2]

Other economic models regarded professional self-regulation as a way to remain in control of the market, as the monopoly approach would suggest (the classical empirical read is, of course, Friedman and Kuznets (1954)). Several theoretical studies demonstrated that the prospect of possible government regulation, or the risk of entering a political fight, can influence the SROs in their decisions to set and execute the quality standards (DeMarzo et al., 2005; Heyes, 2005; Grajzl & Murrell, 2009; Maxwell, Lyon, & Hackett, 2000; Baron, 2011). For a wider discussion of self-regulation from the law-and-economics point of view see Ogus (1995, 2000), and for a more detailed review of formal approaches see Szczygielski (2018). [3]

In this paper, we focus on two functions of the professional self-regulatory organisations: their role as quality guarantors (see points (b), (d), (e), and (g) in the list above), and their role as gatekeepers influencing the entry to the profession, and so its size (point (f)). While the intuition suggests that the size of the profession determined by the professionals themselves can be socially suboptimal, this hypothesis becomes less compelling in a market for products that are differentiated by quality. Shaked and Sutton (1981) assume that the size of the profession is inversely related to the quality of the service, and they demonstrate that even then, the self-regulated profession ends up too small. On the other hand, Willner (1985) regards the quality of the service, and the size of the profession, as two distinct decisions made by the professional self-regulatory organisation. He finds that the number of suppliers, as determined by the profession, depends on the properties of the demand for professional services (and, implicitly, it can be both too small and too large). However, Willner's model ignores the costs of providing quality.

The model offered here regards the quality of the service and the number of professionals as two distinct dimensions of regulation, that are however both related to the cost of providing quality. The self-regulatory organisation can decide about the quality of the professional service, but there are different possible regimes of determining the number of professionals: self-regulation, government regulation, and no regulation. We compare these regimes with respect to the total welfare they imply.

3 The model

We model the self-regulated professional market by assuming a vertically differentiated oligopoly model in which one actor (interpreted as the self-regulatory organisation, SRO) decides about quality. This is the framework proposed by Baron (2011) in his analysis of credence good markets: it assumes that the consumers simply trust the SRO about the quality of the good ("the level of credence attributes" in Baron's paper).

Suppose there is a continuum of consumers of mass 1. Let w denote the consumer type, which is distributed uniformly on $[0,\overline{w}]$. We consider a vertically differentiated service, which is available in two varieties: basic service of quality s_0 and the professional service quality s. We assume that the basic service is produced outside of the profession in a perfectly competitive market, and without a loss of generality we set its price to zero. On the other hand, professional service is offered at a positive price p.

Each consumer purchases one unit of the good and receives a utility u, which equals

$$u = \begin{cases} w_0 & \text{if } s_0 \text{ is consumed}, \\ w_0 + ws - p & \text{if } s \text{ is consumed}. \end{cases}$$

We will assume that $w_0 = 0$, which will simplify our analysis: the role of this assumption will be discussed later. There are $n \geq 1$ symmetric providers who serve the professional market and who compete in quantities. The variable cost of producing q_i units of the service by a professional i is given by $q_i \gamma s$. In a departure from the original Baron's model, we assume that the fixed cost depends both on the quality and on the number of professionals, and we take that

$$K_i(s,n) = \frac{1}{2} e^{-f(n)} s^2, \tag{1}$$

2 However, the experiment by Krawczyk and Szczygielski (2019) did not confirm that the members of professions were free-riding less when interacting with fellow professionals.

3 See also Dulleck and Kerschbamer (2006) for a more general review of works on credence goods.

where f is a continuously differentiable increasing function, $0 \le f < M$, and M is a constant. The cost function reflects two assumptions about providing the quality of professional services. First, it is assumed that the fixed cost is increasing and convex in quality. Second, it is decreasing in the number of suppliers. To justify the latter assumption we think about the factors of quality costs in professional markets. One factor is education: it is more costly to educate a more qualified doctor or lawyer. However, since professionals are often educated according to an apprenticeship model (see the previous section), a larger number of suppliers lowers the cost of the training. Another cost factor is related to the risk of a professional error. This cost is, again, lower in a larger profession because of the opportunity to pool the risk (e.g. it should be less costly to ensure professional liability when there are more providers). We assume, however, that the fixed cost does not decline infinitely. Observe that the fixed cost function assumed by Baron is the special case of (1) with $f(n) = -\ln k$, for some $k > 0$.

The profit of a single professional is given by

$$\pi_i = pq_i - s\gamma q_i - \frac{1}{2}\mathrm{e}^{-f(n)}s^2. \tag{2}$$

We assume that – in any scenario – the quality s is set by the self-regulatory organisation (SRO) to maximize π_i. Then the professionals compete in a Cournot framework. As shown by Baron (2011), the optimal quantity of the professional service is independent of the quality and it is equal to

$$q_i^* = \frac{\overline{w} - \gamma}{(n+1)\overline{w}}, \tag{3}$$

which translates into the equilibrium price given by

$$p^*(s) = \gamma s + \frac{(\overline{w} - \gamma)s}{n+1}. \tag{4}$$

The average profit in equilibrium equals (cf. (2))

$$\pi_i = \frac{(\overline{w} - \gamma)^2 s}{(n+1)^2\ \overline{w}} - \frac{1}{2}\mathrm{e}^{-f(n)}s^2. \tag{5}$$

Next, we consider alternative ways of regulating entry to the profession: self-regulation, government regulation and free entry.

4 Self-regulation and the size of the profession

We start by considering the scenario when SRO (the self-regulatory organisation of professionals) determines both the quality and the number of suppliers. Consequently, we maximize π_i with respect to both s and n. It will be convenient to calculate first the derivative concerning quality because at the optimum we have that

$$\frac{d\pi_i}{ds} = \frac{(\overline{w} - \gamma)^2}{(n+1)^2\ \overline{w}} - \mathrm{e}^{-f(n)}s = 0,$$

hence, for a given n, the average profit is maximised for the quality level given by

$$s^* = \frac{(\overline{w} - \gamma)^2\, \mathrm{e}^{f(n)}}{(n+1)^2\ \overline{w}}. \tag{6}$$

On substituting the above formula for s into (5) and rearranging we obtain that

$$\pi_i(n) = \frac{(\overline{w} - \gamma)^4\, \mathrm{e}^{f(n)}}{2(n+1)^4\ \overline{w}^2}. \tag{7}$$

To find the optimal size of the profession, we differentiate (7) and we find that

$$\pi_i'(n) = \frac{(\overline{w} - \gamma)^4\, \mathrm{e}^{f(n)}\left[(n+1)f'(n) - 4\right]}{2(n+1)^5\ \overline{w}^2}. \tag{8}$$

The reader might object to the fact that we are differentiating with respect to a variable that is interpreted as an integer (n). However, our main goal is to analyse the shape of function $\pi_i(\cdot)$. Our results (Claims 1-3 below) could be reinterpreted in terms of floor and ceiling functions: we will not do it for transparency.

The sign of $\pi_i'(n)$ is the same as the sign of the bracketed expression in the numerator of (8). By implication, $\pi_i'(n) > 0$ if and only if we have that

$$f'(n) > \frac{4}{n+1}. \tag{9}$$

Let us define $g(x)=\frac{4}{x+1}$. Note that g is a decreasing function and we have that $g(1)=2$. Therefore the following results hold true.

Claim 1. *Suppose that* $f'(1)>2$ *and the equality*

$$f'(n)=\frac{4}{n+1}. \tag{10}$$

is true for exactly one value of $n>1$. *Then (10) implicitly defines* n^*, *the optimum size of a self-regulated profession.*

To see that the Claim is true, note that we only consider $n\geq 1$. If $f'(1)\geq g(1)=2$, then inequality (9) is observed for any $n<n^*$, by the continuity of f', and it is violated if $n>n^*$. By implication π_i is maximised for $n=n^*$, and by (7) we have that $\pi_i(n^*)>0$. We will call n^* the "SRO-optimal" size of profession.

We note that, if we had $f'(x)>g(x)$ for all $x\geq 1$, then, the optimal size of the profession would be infinity. However we disregard this case as unrealistic: in fact, we would expect f, the rate of decline of fixed quality cost, to flatten out for sufficiently large n, implying $f'(n)\approx 0<g(n)$.

5 The socially optimal size of the profession

Consider the alternative scenario. The benevolent government decides about the size of the profession and lets the profession decide about the quality of the service. The government maximises total welfare defined as the sum of profits and consumer surplus[4]

$$W(n)=n\pi_i+\int_0^{\overline{w}}\max\{0,ws^*-p^*\}\frac{dw}{\overline{w}}. \tag{11}$$

Total welfare is a function of *n* only because the quality of the service is determined by the SRO for a given *n*: observe that this quality still meets condition (6). We note that consumers with $w<w^*$, where $w^*=\frac{p^*}{s^*}$ prefer the basic service over the professional service. Utilizing (7) we can rewrite (11) as follows

$$W(n)=\frac{n(\overline{w}-\gamma)^4\,e^{f(n)}}{2(n+1)^4\,\overline{w}}+\int_{w^*}^{\overline{w}}(ws^*-p^*)\frac{dw}{\overline{w}}=$$
$$=\frac{n(\overline{w}-\gamma)^4\,e^{f(n)}}{2(n+1)^4\,\overline{w}^2}+\frac{s^*}{2\overline{w}}(\overline{w}^2-w^{*2})-\frac{p^*}{\overline{w}}(\overline{w}-w^*).$$

Recalling (4) we find that $w^*=\gamma+\frac{\overline{w}-\gamma}{n+1}$, hence $\overline{w}-w^*=\frac{n(\overline{w}-\gamma)}{n+1}$ and $\overline{w}+w^*=\frac{(n+2)\overline{w}+n\gamma}{n+1}$. By implication, formula (12) can be transformed as follows

$$W(n)=\frac{n(\overline{w}-\gamma)^4e^{f(n)}}{2(n+1)^4\overline{w}}+\frac{s^*}{2\overline{w}}\frac{n(\overline{w}-\gamma)}{n+1}\frac{(n+2)\overline{w}+n\gamma}{n+1}-\frac{s^*}{\overline{w}}\frac{\overline{w}+n\gamma n}{n+1}\frac{\overline{w}-\gamma}{n+1}$$
$$=\frac{n(\overline{w}-\gamma)^4e^{f(n)}}{2(n+1)^4\overline{w}}+\frac{s^*n(\overline{w}-\gamma)[(n+2)\overline{w}+n\gamma-2\overline{w}-2n\gamma]}{2(n+1)^2\overline{w}}$$
$$=\frac{n(\overline{w}-\gamma)^4e^{f(n)}}{2(n+1)^4\overline{w}}+s^*\frac{n^2(\overline{w}-\gamma)^2}{2(n+1)^2\overline{w}}. \tag{13}$$

Finally, on substituting for s^* from (6) we get that

$$W(n)=\frac{n(\overline{w}-\gamma)^4\,e^{f(n)}}{2(n+1)^4\,\overline{w}}+\frac{(\overline{w}-\gamma)^2\,e^{f(n)}}{(n+1)^2\,\overline{w}}\frac{n^2(\overline{w}-\gamma)^2}{2(n+1)^2\,\overline{w}}=$$
$$=\frac{(n^2+n)(\overline{w}-\gamma)^4\,e^{f(n)}}{2(n+1)^4\,\overline{w}^2}=\frac{n(\overline{w}-\gamma)^4\,e^{f(n)}}{2(n+1)^3\,\overline{w}^2}. \tag{14}$$

Upon differentiating (14) we find that

$$W'(n)=\frac{(\overline{w}-\gamma)^4\,e^{f(n)}\left[-2n+1+n(n+1)f'(n)\right]}{2(n+1)^4\,\overline{w}^2}. \tag{10}$$

Again, we define $h(x)=\frac{2x-1}{x(x+1)}$. Note that we have $h(1)=\frac{1}{2}$. By analogy to Claim 1, we find the following.

Claim 2. *Suppose that* $f'(1)>\frac{1}{2}$ *and the equality*

$$f'(n)=\frac{2n-1}{n(n+1)}. \tag{15}$$

is true for exactly one value of $n>1$. *Then (15) implicitly defines* n^{**} *the socially optimal size of a profession.*

Finally, it is straightforward to see that for any $x>0$, we have that $g(x)>h(x)$. Indeed, this inequality is equivalent to $4>2-\frac{1}{x}$, which is true. An implication of $g(x)>h(x)$ is that if f' intersects both g and h exactly once, and if $f'(1)>g(1)=2$, then the intersection of f' and *h* is more to the right than the intersection of f' and *g*. This is illustrated in Figure 1, where functions *f*, *g*, and *h* are plotted.

4 Welfare analysis is not a part of the original Baron (2011) framework, which focuses on the level of equilibrium quality, and the total supply of quality, instead.

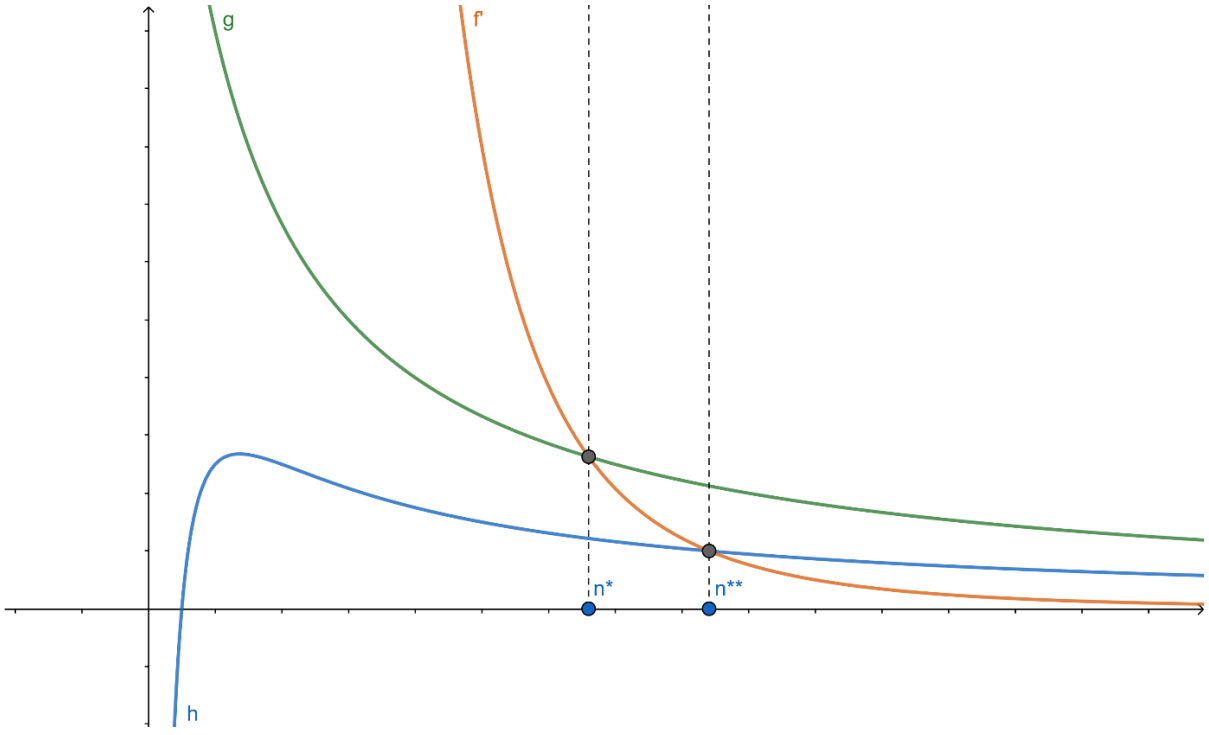

Fig. 1. The location of n* and n**.

We have just established the following Claim.

Claim 3. *Suppose that the conditions in Claims 1 and 2 hold true. Then both the SRO-optimal and the socially optimal sizes of the profession are uniquely determined, and the socially optimal size of the profession is higher than the SRO-optimal one, namely* $n^* < n^{**}$.

6 Self-regulation versus no regulation

So far we were comparing the socially optimal size of the profession to the size preferred by the professionals. But what if the government is reluctant to intervene, for instance, due to the monetary or political costs of regulation? Then there are two options: let the SRO decide about the number of professionals in the market, or abolish any entry limits. Which of these options is preferable from the welfare point of view?

The answer is it is better to let the SRO decide. This is because under free entry there is no limit on the size of the profession: note that by (7) we have that $\pi_i(n) > 0$ for any $n \geq 1$. On the other hand, on examining the function of aggregate welfare given by formula (14), and on recalling that $f(n)$ is bounded from above, it is straightforward to verify that $\lim_{n\to\infty} W(n) = 0$.

Claim 4. *Suppose that the assumptions of Claim 1 are met. Then letting the SRO decide about the size of the profession is socially preferable to lifting the entry limits.*

The problem with free entry is that it would drive the price and quality of the professional service to zero, thus reducing the utility of the consumers who are ready to pay for the quality.

7 Conclusions

In this paper, we offer a welfare analysis of markets for professional services, and we study the socially optimal scope of professional self-regulation. In real-world it is easier for the government to control the number of professionals than the quality standard of their work: that is why we assume that an SRO of professionals decides about the quality of the service, and we consider different policy options regarding the entry to the profession.

The novel characteristic of the model is that we consider the effects of the size of the profession on the fixed costs of producing professional services. We assume that a larger number of professionals reduce the fixed cost of providing quality due to the opportunity to pool costs and risks – hence the suppliers' motive to

restrict entry is less profound. Nonetheless, we find that for a well-behaved fixed costs function, the size of the profession preferred by the SRO is smaller than the socially optimal one. Still, if the only alternative to self-regulation is free entry to the profession, then self-regulation is the preferable regime. Our findings reinforce the case for the government oversight of professional self-regulation made in prior studies (e.g. DeMarzo et al., 2005; Nunez, 2007) by extending it to the decision on the size of the profession.

The model presented here rests on a modification and reinterpretation of the Baron's framework (Baron (2011)). Two deviations from the original framework should be stressed. First, we assumed that the fixed quality costs are declining in the number of suppliers. Secondly, we assumed that the utility from consuming the basic service is zero. While the latter assumption does not affect Claim 1, it matters for the remaining results. Therefore, our findings are relevant for markets for which the alternative, non-professional service is considerably worse than the professional service. For instance, while some basic health services can be substituted by home remedies or over-the-counter drugs, few people would give up attorney services for a pro se legal representation in serious criminal cases.

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References

Abbott, A. (1983). Professional ethics. *American Journal of Sociology, 88*(5), 855–885.

Abbott, A. (2014). *The system of professions: An essay on the division of expert labor.* Chicago, IL: University of Chicago Press.

Akerlof, G. A. (1970). The market for "Lemons": Quality uncertainty and the market mechanism. *The Quarterly Journal of Economics, 84*(3), 488–500.

Baron, D. P. (2010). Morally motivated self-regulation. *American Economic Review 100*(4), 1299–1329.

Baron, D. P. (2011). Credence attributes, voluntary organizations, and social pressure. *Journal of Public Economics, 95*(11–12), 1331–1338.

Chaserant, C., and Harnay, S. (2015). Self-regulation of the legal profession and quality in the market for legal services: An economic analysis of lawyers' reputation. *European Journal of Law and Economics, 39*(2), 431–449.

DeMarzo, P. M., Fishman, M. J., & Hagerty, K. M. (2005). Self-regulation and government oversight. *Review of Economic Studies, 72*(3), 687–706.

Dulleck, U., and Kerschbamer, R. (2006). On doctors, mechanics, and computer specialists: The economics of credence goods. *Journal of Economic Literature, XLVI*, 5–42.

Freidson, E. (2001). *Professionalism, the third logic: On the practice of knowledge.* Chicago: University of Chicago Press.

Friedman, M., & Kuznets, S. (1954). *Income from independent professional practice.* , Cambridge, MA.

Gehrig, T., & Jost, P. J. (1995). Quacks, lemons, and self-regulation: A welfare analysis. *Journal of Regulatory Economics, 7*(3), 309–325.

Grajzl, P., & Murrell, P. (2009). Allocating lawmaking powers: Self-regulation vs government regulation. *Journal of Comparative Economics, 35*, 520–545.

Heyes, A. G. (2005). A signaling motive for self-regulation in the shadow of coercion. *Journal of Economics and Business, 57*(3), 238–246.

Krause, E. A. (2016). *Death of the guilds: Professions, states, and the advance of capitalism, 1930 to the present.* New Haven, CT: Yale University Press.

Krawczyk, M., & Szczygielski, K. (2019). Do professions curb free-riding? An experiment. *European Journal of Law and Economics, 47*(3), 361–376.

Larson, M. S. (2013). *The rise of professionalism: Monopolies of competence and sheltered markets* (2nd ed.). Transaction Publishers, Piscataway, NJ

Leland, H. E. (1979). Quacks, lemons, and licensing: A theory of minimum quality standards. *Journal of Political Economy, 87*(6), 1328–1346.

Maxwell, J. W., Lyon, T.P., & Hackett, S. C. (2000). Self-regulation and social welfare: The political economy of corporate environmentalism. *The Journal of Law and Economics, 43*(2), 583–618.

Núñez, J. (2007). Can self-regulation work? A story of corruption, impunity and cover-up. *Journal of Regulatory Economics, 31*(2), 209–233.

Ogus, A. (1995). Rethinking self-regulation. *Oxford Journal of Legal Studies, 15*(1), 97–108.

Ogus, A. (2000). Self-regulation. In B. Bouckaert, & G. de Geest (Eds.), *Encyclopedia of Law and Economics* (Vol. 5, pp. 587–602), Edward Elgar Publishing, Cheltenham.

Shaked, A., & Sutton, J. (1981). The self-regulating profession. *The Review of Economic Studies, 48*(2), 217–234.

Szczygielski, K. (2018). Problem autonomii profesjonalnej jako przedmiot analizy ekonomicznej. *Studia Prawno-Ekonomiczne, 108*, 319–332.

Tirole, J. (1996). A theory of collective reputations (with applications to the persistence of corruption and to firm quality). *The Review of Economic Studies, 63*(1), 1–22.

Van den Bergh, R. (2006). Towards efficient self-regulation in markets for professional services. In C. D. Ehlerman, & I. Atanasiu (Eds.), *European Competition Law Annual 2004: The Relationship Between Competition Law and the (Liberal) Professions, chapter VII* (pp. 155–176). Hart Publishing, Oxford

Willner, J. (1985). Professional associations and their members: A study of the market for professional services when ability and size are independent. *International Journal of Industrial Organization, 3*(2), 179–195.