Lawyers, Legislation and Social Welfare

by

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Abstract

Efficiency considerations have played an increasing role in the development of legal doctrine over the last decades. Our paper investigates the consequences of the efficiency doctrine for the long run allocation of human resources between the legal profession and other professional activities. It is argued that a short run pursuit of the efficient scope of legislation may create an inefficient oversupply of lawyers under free entry into the legal profession. Self-regulation of entry into the legal profession by the bar association may provide higher aggregate welfare. Liberalization of professional entry can explain both the expansion of legislative activity and the unprecedented growth rate of the legal profession in many countries.

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"...and in our age there are stepped up a new sort of people called solicitors unknown to the records of the law who like the grasshoppers of Egypt devour the whole land"

Cock, *English Law*, anno 1651[1]

I. Introduction

The last few decades are marked by the tremendous growth of the legal profession in many industrialised countries. In 20 years, the number of American lawyers as a percentage of the US population grew by 130 percent. The share of this profession had been more or less constant for the previous 100 years. An international comparison indicates that the US is no exception. The growth of legal services is not restricted to common law countries such as England and the US but is also evident for some civil law countries such as Belgium and Germany.[2]

Parallel to the growth of the profession, legal doctrine has paid increasing attention to efficiency considerations.[3] Such efficiency considerations, however, typically focus on the microeconomic aspects of a particular statute or rule. They generally do not encompass the structural macroeconomic linkage between regulatory activity and professional choices. A legislative reform may well be efficient given the capacity of the legal profession to handle the new rules. This notion of efficiency, however, ignores the fact that the legislative reform also has feedback effects on professional choices. Accordingly, our framework emphasizes that the scope of the legislative project should be guided by efficiency considerations not only with respect to the legislative rules, but also with respect to the demand for legal services that determines rational professional choices. Our paper develops a simple general equilibrium

[1] Cited in Kirk (1976, p. 15).

[2] For the empirical evidence, see Figure 8 of this paper.

[3] Efforts to extend US liability law were originally inspired by economic arguments concerning cost internalization and insurance provision [Priest (1996)]. Regulatory agencies such as the US Federal Aviation Administration or the National Highway and Traffic Safety Administration apply cost-benefit analysis to the development of the new regulations [Viscusi (1996)]. And economic analysis contributes to the optimal structure of law enforcement, e.g. in criminal law [Shavell (1993)].

framework in which legislative and regulatory activities can be examined with its feedback effect on professional choices.

Nexus of Efficiency Gains and Redistribution

Central to our analysis is the dual nature of a lawyer's professional activity. On the one hand, legal counseling can enhance economic efficiency by designing efficient contracts or inducing desirable behavior. This dimension is also reflected in all kinds of non-partisan advocacy designed to reduce the costs of a dispute *ex ante*. This type of advocacy requires legal rules on which the design of such contracts can be based. Legislation is therefore complementary to the efficiency gains from legal services. On the other hand, legal counseling has the distributional dimension of redirecting rents. Where legal practice is concerned with rent sharing as opposed to rent creation, its private benefit exceeds the social benefit. The private incentive to become a lawyer differs from the social benefit which accrues from having lawyers. The latter consists only of the efficiency gain and does not include the redistributional dimensions of legal practice. Three examples of legislative projects may illustrate the nexus of efficiency gain and redistributional dimension:

Example 1: The goverment can create a divorce law regulating the termination of a marriage contract. The divorce law may eliminate contractual ambiguity with respect to ownership claims of a separating couple and, therefore, complete the marriage contract. To draw up a divorce contract that is in line with the divorce law, legal counseling will be required. Hence, the lawyer helps realize potential efficiency gains. To ensure that the procedure does not work to his or her disadvantage *each* partner will employ a lawyer for the divorce procedure. Overall, the efficiency gain is almost necessarily linked to the distributional struggle.[4]

Example 2: The government may issue general rules for leasing or licensing contracts, thus paving the way for new types of businesses. The law only provides the framework and contracting firms have to fill in the terms of the specific contract. Lawyers make an efficiency

[4] Dewatripont and Tirole (1999) pursue the question of why partisan advocates are used instead of neutral mediators to solve conflicting interests. How lawyers 'empower' divorcing parties to solve the case more effectively but also to make claims against each other is discussed in Ingleby (1992, pp. 139ff).

contribution by adapting the law to the current needs and by defining the precise rules of a transaction. The distributional dimension comes in when both contracting parties have lawyers at their disposal. When a contracting party hires a lawyer the bargaining position vis à vis the business partner will improve and will, therefore, lead to redistribution of rents.

Example 3: The government may pass anti-discrimination legislation forcing institutions (e.g. schools or universities) to grant equal access to all groups in society. This may enhance welfare if there is statistical discrimination in the absence of such regulatory intervention. Lawyers contribute to the efficiency gain as they are involved in designing the appropriate admission procedures. However, there is again a redistributional dimension. An individual who is denied access may be tempted to sue the institution for punitive damages. Additional lawyers are needed to defend educational institutions against such law suits.[5]

These three examples also illustrate the complementarity between legal counseling and the level of state regulation. Additional legislation tends to increase the demand for legal services and, more importantly, this demand follows the private (as opposed to social) benefit of legal services.[6]

Endogenous Legislation and Regulation

An important feature of our analysis is that the level of legislation is determined endogenously. We assume for simplicity that the government chooses the welfare optimal level of legislation. But in doing so it considers the professional distribution between lawyers and entrepreneurs as given. Professional choices tend to be long run decisions which are difficult to reverse if the invested human capital is specific to the profession. It follows that the professional distribution can hardly be altered in the short run. Things are different with

[5] This example also alludes to the conflict between creating incentives *ex ante* and inflicting costs *ex post*. It may be efficient to impose the *ex post* costs of distributional battles if the aim of this is to achieve *ex ante* incentive compatibility. This argument, however, does not contradict our view which states that, given the government imposes efficiency enhancing regulations, there is an incentive to compete for these rents. For the effects of anti-discrimination legislation on schools, see Kirp and Jensen (1983).

[6] In practice, legislation could also decrease the demand for legal services, if the new legislation defines a general rule that substitutes for bilateral agreements; see, for instance, Kaplow and Shavell (1996). Such legislative reform is always desirable. We assume that the scope for such legislation that is a substitute to legal counseling is already exploited.

the legislative process. The government can reverse previous decisions in the short run and often has an incentive to do so. The government's focus on short run welfare can best be motivated by the democratic process itself. The median voter has a life expectancy lower than the currently young who are just making their professional choices. Therefore, welfare considerations of a government are likely to underrepresent the long run interest of the currently young.[7] In other words the government might extend legislation if this increases the short run welfare of the electorate even though this induces excessive entry in the long run. This limitation of the political process is built into our model. We assume that the government decides on the socially optimal level of legislation only after professional choices have been made.

Main Results

Unlike much of the previous descriptive work on the legal profession, our model allows a simple welfare analysis to be made. To highlight the main findings we summarize the results in the three propositions of the paper:

Proposition 1 (Inefficient Professional Choices)

Due to the distributive effects of legal services, free entry into the legal profession results in an equilibrium with more lawyers than socially desirable.

A corollary of this proposition is that optimal efficiency oriented legislation will not correct for the excessive entry into the legal profession unless the government can commit itself to a certain level of future legislation. Moreover:

Proposition 2 (Inefficient Level of Legislation)

(a) If legal counseling is relatively unproductive compared to entrepreneurial activities, the economy is characterized by *excessive* legislation and excessive entry in the legal profession.

[7] The short term bias of the political process is emphasized in the political business cycle literature [Nordhaus (1989)]. Also large intergenerational transfers in the form of public debt point to a policy bias in favor of the old generation [Alesina and Perotti (1995)].

The complementarity relationship forces the government to react to the excessive laissez-faire entry by extending its legislation.

(b) If legal counseling is relatively productive compared to entrepreneurial activities, the government is forced to legislate for a *lower* level of regulations than it would if it also controlled professional entry.

Proposition 3 (Professional Self-Regulation)

Professional self-regulation reduces the number of lawyers relative to the free entry equilibrium and increases social welfare. A break-down of professional self-regulation, e.g. due to liberalization, therefore increases entry and reduces the overall welfare.

The rest of the paper is organized in the following way. In section II, we present the basic features of the model. In section III, we analyse the market outcome when occupational choices are made in a laissez-faire environment. Section IV derives the socially optimal allocation of human resources and discusses the distortions in an economy without entry barriers for lawyers. Efficiency enhancing policies are discussed in section V. We consider the role of a national bar association which can set entry barriers for the profession. These entry barriers include educational bottlenecks such as college access, apprenticeship requirements, and professional bar exams. Concluding remarks follow.

II. The Model

Our analysis starts from the premise that legislation and regulation can increase economic efficiency. It does so by allowing for a cost-efficient reduction of contractual incompleteness (Examples 1 and 2 of the introduction) or by deterring socially undesirable behavior (Example 3). This makes the provision of legislation by the state desirable but it also creates the problem of determining the level and scope of legislation. The choice problem becomes a particularly interesting one if we concede that legislation and regulation not only provide efficiency gains, but may also inherently widen the stage for redistributional conflicts in the courts. A higher level of legislation or regulation will then not only affect the demand for legal services, but

may also create a divergence between the social and private benefits of legal services. The following four stage game (see Figure 1) focuses on the allocation of human resources in a legal system with extensive rent competition.

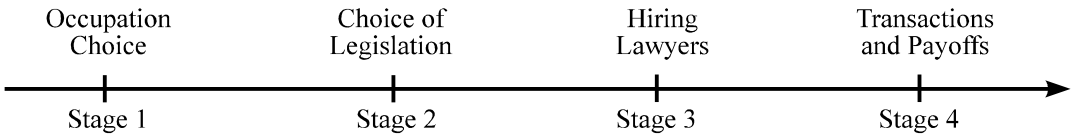

Figure 1. Time Structure

Stage 1: Professional Choice

In stage one, all individuals in our economy choose their profession. They choose to become either a lawyer or an entrepreneur. For simplicity, we normalize the total number of individuals to unity. The number of lawyers is given by a, whereas $1-a$ individuals choose to become entrepreneurs. The professional choice involves a long-term investment in human capital and is assumed to be irreversible. In making their professional choices, individuals maximize their future income.

Stage 2: Choosing the Level of Legislation

Given the occupational choices of stage one, the government chooses the optimal level of legislation. The only restriction imposed on the political process is that legislative decision are taken after professional choices are made. In the introduction we rationalize this sequencing of events with the long run nature of professional choices, the inability of governments to commit to long term legislative strategies and a policy preference for short-term results built into a democratic process. The set of economic and social transactions which may benefit from legislation are indexed by the unit interval T=[0,1]. A level r of legislation or regulation implies that all economic transactions of type $[0,r] \subset T$ are regulated and the complementary

set of transactions $(r,1]$ is not regulated. Regulation is costly as it requires a legislative process, implementation by regulatory agencies, and supervision by governmental institutions. To obtain a simple closed form solution we assume a quadratic cost function for government regulation given by[8]

$$c(r) = \tfrac{1}{2} \cdot \alpha \cdot r^2 \ . \qquad (1)$$

The government objective is to maximize welfare. We abstract from all distortions of the political process by special interest groups that might also affect the level of legislation and regulation.[9]

Stage 3: Hiring Lawyers

The level of legislation in the second stage determines the demand for lawyers. Entrepreneurs hire lawyers to interpret the legislation and to use it to the benefit of their firm. Each entrepreneur demands either a single lawyer or none; additional lawyers in a firm do not improve the profitability any further.[10] If the labour market clears, the a lawyers are matched with $1-a$ entrepreneurs each running a firm. (We use 'firms' and 'entrepreneurs' as synonyms here.) There will be a percentage of $a/(1-a)$ firms with lawyers and a percentage of $1-[a/(1-a)] = (1-2a)/(1-a)$ firms with entrepreneurs only. (Note that the number of firms with lawyers is a and without lawyers $1-2a$.) This supposes that the lawyers do not exceed the entrepreneurs in number ($a \leq \tfrac{1}{2}$) which is always true in equilibrium. We assume a frictionless labour market in which lawyers are paid their marginal product.[11]

[8] For an argument that the costs of legal rule making increase sharply in the level of output, see Ehrlich and Posner (1974).

[9] For a political economy point of view on regulation, see Noll (1989).

[10] As pointed out by a referee, the redistributive dimension is further aggravated by a frequent spiraling of costs as each party recognizes the need to match the investment in legal expertise of the other party. Our model provides only a very crude representation of the rent redistribution dimension.

[11] For simplicity we assume that all legal services are provided in-house or as *ex ante* legal advice [see Kaplow and Shavell (1992)] . The model could be extended so that legal services are obtained based on ex-post needs.

Stage 4: Transactions and Payoffs

Finally, we have to specify the payoff created by legal services in different types of economic transactions. In stage four, firms are matched randomly with each other to carry out a transaction. The paired firms randomly face either a regulated or unregulated transaction type. The transaction type is unknown *ex ante*. If the transaction type is unregulated, legal services are of no benefit for either party. The payoff in this case is given by π_o for each party.

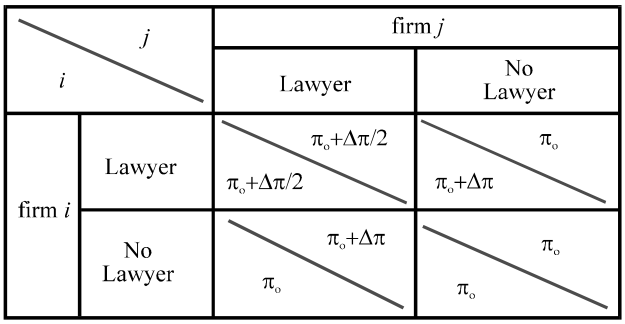

Figure 2. Payoffs for Regulated Transactions

If, on the other hand, the transaction type is regulated, legal services by a lawyer benefit the firm. Regulation and legal services are complements.[12] The efficiency gain from regulation is denoted by $\Delta\pi$. To capture the redistributive dimensions of legal services, we assume that a transaction party benefits disproportionally from the transaction if the counterpart does not have legal advice; that is the entrepreneur with a lawyer obtains $\pi_o + \Delta\pi$ and the transaction partner without lawyer only π_o. If both sides have lawyers the transaction payoffs are symmetric and both parties obtain $\pi_o + \Delta\pi / 2$.[13] Figure 2 illustrates the payoffs for two firms *i* and *j* in a regulated type of business transaction. Employment of lawyers creates a surplus, but it also leads to a redistribution of rents from firms without lawyers to those with a lawyer. The redistribution implies a private benefit of having a lawyer, but not a social benefit.

[12] As mentioned earlier in the paper, legislation and legal services can also be substitutes. We assume, however, that the government makes efficient use of the substitutability in these cases, cf. footnote 6.

[13] This payoff structure represents the extreme example where unilateral legal counseling has the maximum redistributional effect. More moderate redistributional assumptions do not affect the qualitative results.

We argue that redistributional effects are inherent in legislation or regulation and imply that the social and private benefits of a hiring a lawyer will generally differ.[14]

III. Regulation and Laissez-faire Occupational Choice

In this section, we will derive the size of the legal profession for a laissez-faire state with free professional choice. Individuals rationally anticipate future government regulation and the demand for legal services. The subgame perfect solution is obtained by solving backwards each of the four stages of the game.

Transactions and Payoffs

In the last stage of the game firms have either hired a lawyer or are without legal counseling. Each firm is matched randomly with one other firm and conducts a transaction which is randomly drawn from the set *T* of all possible economic transactions. It is straightforward to calculate the expected payoff for firms with and without a lawyer.

The expected payoff for a firm without a lawyer is simply $\Pi_{NL} = \pi_o$. It depends neither on the type of transaction partner nor on the transaction type. However, both the transaction type and the type of the transaction partner matter for firms which have hired a lawyer. Recall that the probability of carrying out a regulated transaction is *r*, while a share of (1–*r*) transactions is unregulated. In the case of a regulated transaction, the payoff also depends on the trading partner. The probability of encountering a firm with a lawyer in its ranks is $a/(1-a)$. In this case, the efficiency benefit has to be shared. The efficiency benefit of legislation accrues fully to the firm with the lawyer with a probability of $(1-2a) / (1-a)$. Hence, the expected gross payoff amounts to

[14] In our model the private benefit always exceeds the social benefit. Steven Shavell (1993) argues that a redistributional motive may increase private prosecution of wrongs and act as a desirable deterrence. The social benefit might then exceed the private benefit in spite of extensive rent redistribution. Our analysis ignores this special case.

$$\Pi_A = (1-r)\cdot\pi_o + r\cdot\left[\frac{a}{1-a}\cdot(\pi_o + \tfrac{1}{2}\cdot\Delta\pi) + \frac{1-2a}{1-a}\cdot(\pi_o + \Delta\pi)\right] =$$

$$= \pi_o + r\cdot\frac{1-\tfrac{3}{2}\cdot a}{1-a}\cdot\Delta\pi$$

To simplify notation, we define the average probability of obtaining the additional rent in a regulated state as $f(a) \equiv \left(1-\tfrac{3}{2}\cdot a\right)/(1-a)$. For a given level of regulation, the gross payoff to a firm hiring a lawyer is decreasing in the number of other firms that also try to benefit from legal skills because this increases the probability that the additional benefit has to be shared with the transaction partner.[15]

Hiring Lawyers

We assume a competitive labour market for lawyers.[16] Competition for lawyers ensures that their wage is equal to their contribution to the expected firm profit:

$$w = r\cdot f(a)\cdot\Delta\pi. \qquad (2)$$

This wage clears the labour market for lawyers. The equilibrium wage decreases in the supply of lawyers for any level of legislation as $\partial w/\partial a < 0$. Two special cases need to be discussed. If the number of lawyers exceeds the potential jobs (i.e. $a > ½$), the excess supply would drive wages to zero. This will never happen in equilibrium as the occupational decision is endogenized in stage 1. Finally, there is the borderline case $a = ½$. The marginal productivity of lawyers is discontinuous at this point. Here we simply assume that the lawyer wage equals the opportunity benefit of becoming an entrepreneur; thus $w(½) = \pi_o$.

[15] Frank and Cook (1995) discuss the competition for occupational rents in several industries. The authors stress that the crowding effect, i.e. excessive entry into occupations with few but high paying jobs, has become a more widespread phenomenon in the last decade and contributes to the rise in income inequality.

[16] For an econometric investigation of the determinants of lawyer income, see Rosen (1992).

Regulation Decision

Taking the occupation choice in stage 1 as given, the government maximizes the economy's welfare in stage 2 by choosing the socially optimal level of legislation or regulation. Social welfare is given by the sum of all payoffs net of the cost of legislation:

$$\max_{r} \; SW = (1-a)\cdot\pi_0 + a\cdot r\cdot f(a)\cdot\Delta\pi - c(r).$$

The term $(1-a)\cdot\pi_0$ denotes the fixed benefit generated by (1-*a*)/2 transactions where each partner gains π_0. This benefit goes to every firm, independent of the level of legislation and the firm's hiring decision. The second term represents the social welfare contribution of lawyers. Note that the probability of a match between two lawyer firms is $a^2/(1-a)^2$ and a match between a lawyer firm and a no lawyer firm occurs with probability $2\cdot a\cdot(1-2a)/(1-a)^2$. Only a share *r* of the (1-*a*)/2 bilateral transactions is undertaken in a regulated environment and generates the additional benefit $\Delta\pi$. The costs of legislation are defined in equation (1). Maximization with respect to *r* yields the optimal level of legislation:

$$r^*(a) = \frac{\Delta\pi\cdot a\cdot f(a)}{\alpha} \tag{3}$$

as a function of the previous occupational choice *a*. The government's legislative activity is at first increasing in the number of lawyers, reaches a maximum for $\hat{a} = 1-\sqrt{1/3}$, and is decreasing for high values of *a*: [17]

$$\frac{\partial r^*(a)}{\partial a} \gtreqless 0 \qquad \Leftrightarrow \qquad a \lesseqgtr 1-\sqrt{1/3}.$$

The social and the private benefit of a lawyer do not diverge substantially for a small percentage of lawyers. Each lawyer is likely to provide the full efficiency benefit of a regulated state for his firm and his redistributional role is relatively small. However, these few lawyers do not justify a high level of costly legislation as their small number limits their

[17] The upper limit for regulated states is 1 by definition. Therefore, the precise condition for the optimal number of regulations is $r^*(a) = \min\{\Delta\pi\cdot a\cdot f(a)/\alpha, 1\}$. In order to avoid carrying this additional constraint through all further calculations, we simply assume that the cost function is sufficiently convex thus ensuring an interior solution in any case. Therefore, the minimum constraint for the regulation function must not be binding even for $\hat{a}$: $[r^*(\hat{a}) \le 1]$, which leads to the constraint $\alpha \ge (2-\sqrt{3})\cdot\Delta\pi$ on the parameter values. If the cost function is sufficiently convex (high α), or the productivity of legal work in regulated states is not too high (low $\Delta\pi$), the government will always choose less than full regulation.

aggregate efficiency contribution. More legislation becomes desirable only as the number of lawyers increases, which explains the initial increase of regulation in the percentage of lawyers. As the number of lawyers grows, lawyers are also more likely to be involved in transactions in which both parties benefit from legal counseling. This implies that the return from the individual lawyer decreases. Each lawyer is more likely to divert rents than to create them. The private and social benefits of a lawyer diverge more substantially. This implies that a lower level of costly regulation becomes optimal and $r(a)$ decreases. Finally, we have to take into account that number of productive transactions is endogenous. More lawyers imply fewer entrepreneurs and this decreases the demand for efficiency enhancing legislation as the number of productive transactions decreases. The combination of these three effects results in a hump-shaped reaction function for the optimal level of legislation for variations in the number of lawyers.

Professional Choices

In the first stage of the game, all individuals make an income maximising, irreversible occupational choice. They rationally anticipate the level of government regulation. A lawyer's wage income depends on the optimal government regulation $r^*(a)$. Inserting the optimal regulation (3) into the equilibrium wage (2), we obtain the wage

$$w^*(a) = r^*(a) \cdot \Delta\pi \cdot f(a) = \frac{\Delta\pi^2 \cdot a \cdot f(a)^2}{\alpha} \qquad (4)$$

as a function of the share a of lawyers in the economy. The lawyer wage first increases and then decreases in the number of lawyers:

$$\frac{\partial w^*(a)}{\partial a} \gtreqless 0 \qquad \Leftrightarrow \qquad a \lesseqgtr \tfrac{1}{3}.$$

Figure 3 shows the wage rate w^* as a function of the professional choices. For a small percentage of lawyers ($a < \frac{1}{3}$), a marginal lawyer increases the social benefit of additional regulation and increased regulation enhances each lawyer's individual return. Lawyer wages therefore increase in the percentage of lawyers. For a larger number of lawyers, the relative

importance of rent redistribution increases. As each lawyer is more likely to face legal opponents with the same access to legal assistance, the efficiency benefit of his activity decreases and is replaced by the redistributional dimension. Moreover, the legislative response to the increasing discrepancy between private and social benefits is a reduction in the level of regulation (for $a > 1 - \sqrt{1/3}$) and this depresses lawyer wages further.

Figure 3 represents entrepreneurial profits as a horizontal line at the level π_o. Individuals choose the legal profession if the wage income w^* exceeds the return to entrepreneurs π_o.[18] It is straightforward to analyse the different equilibria which depend on the entrepreneurial profit.

Firstly, if the entrepreneurial profit exceeds the maximum lawyer compensation ($\pi_o > \frac{3}{16} \cdot \frac{\Delta\pi^2}{\alpha}$), no one will choose to become a lawyer. The only equilibrium is $a = 0$.

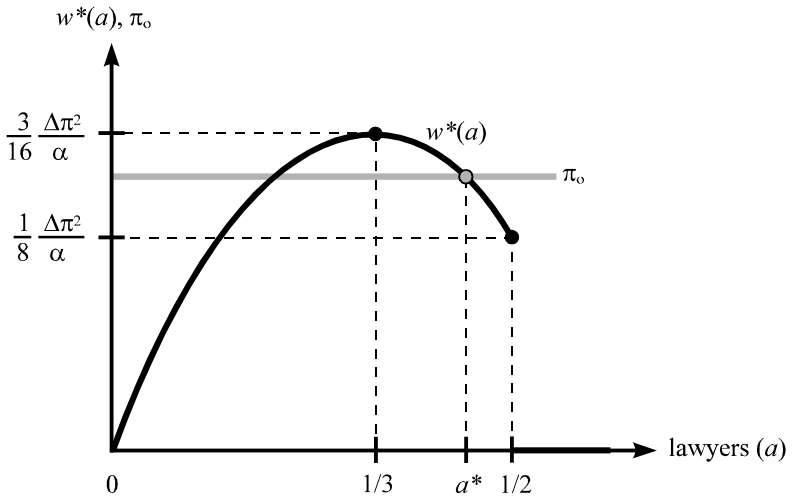

Figure 3. Laissez-faire Equilibrium

Secondly, two interior solutions and one corner solution exist for $\pi_o \in \left[\frac{1}{8} \cdot \frac{\Delta\pi^2}{\alpha}, \frac{3}{16} \cdot \frac{\Delta\pi^2}{\alpha}\right]$. Figure 3 depicts such an equilibrium at a^* where the wage curve intersects the (horizontal) line for the profit level. Up to this point, it pays for individuals to become lawyers as their wage exceeds the entrepreneurial profit. Additional entry into the

[18] On the relevance of expected income as a determinant of occupational decisions, see Freeman (1971). A discussion of preferences vs. prices as crucial factors in the career choice can be found in Easterlin (1995).

market for lawyers (beyond a^*) is not profitable as the wage would drop below the entrepreneurs' profit level. The intersection of the profit line with the upward sloping branch of the wage curve is not a stable equilibrium as a small increase in the number of lawyers would increase the wage and induce additional profitable entry by lawyers. However, there is a second stable equilibrium at $a = 0$. If nobody else chooses to become a lawyer, then doing the same is an optimal strategy. A small number of lawyers would induce only a low level of legislation. The resulting wage for lawyers remains on a level far below the return to an entrepreneur. In this situation of multiple equilibria, the outcome depends on whether a sufficiently large critical mass is expected to enter the labour market as lawyers.

Thirdly, two stable corner solutions will exist if the entrepreneurial profit is lower than the lawyer compensation ($\pi_o \in \left[0, \frac{1}{8} \cdot \frac{\Delta\pi^2}{\alpha}\right]$) even when the maximum number of individuals chooses the legal profession ($a = ½$). We get either the corner solution with $a^* = ½$ or an equilibrium where no one enters the legal profession ($a^* = 0$). In the remainder of the paper we will focus on the non-trivial equilibrium with a positive level of legislation and entry.[19]

IV. Socially Optimal Professional Choices

The following section compares the allocation of human resources under free professional choice with the socially optimal allocation of human resources by a central planner. The individual decision to become a lawyer does not incorporate the fact that some of the private benefits of becoming a lawyer involve rent redistribution and not surplus creation. Incentives for the professional choice are therefore distorted.

The rent distribution effect, which distorts the private entry incentives, is ignored by a social planner who maximizes the aggregate social surplus SW by determining both the level of regulation r and the professional choice a:

$$\max_{a,r} \; SW = (1-a)\cdot\pi_o + a\cdot r\cdot f(a)\cdot\Delta\pi - c(r).$$

[19] Extending the model to the case of heterogeneous abilities in legal or entrepreneurial activity may single out the case of positive entry as the only stable equilibrium.

Taking the derivatives with respect to these two variables and eliminating variable r by substitution leaves us with

$$\frac{\Delta\pi^2 \cdot a^{opt} \cdot f(a^{opt})}{\alpha} \cdot \left[f(a^{opt}) + a \cdot f'(a^{opt}) \right] = \pi_o \tag{5}$$

The first-order condition (5) characterizes the socially optimal number of lawyers a^{opt}. For notational convenience, we define the social benefit of a marginal lawyer as $y^*(a)$; that is $y^*(a) \equiv \Delta\pi^2 \cdot a \cdot f(a) / \alpha \cdot \left[f(a) + a \cdot f'(a) \right]$. Using the equilibrium wage (4), we can then rewrite the social benefit as

$$y^*(a) = w^*(a) + \frac{\Delta\pi^2 \cdot a \cdot f(a)}{\alpha} \cdot a \cdot f'(a). \tag{6}$$

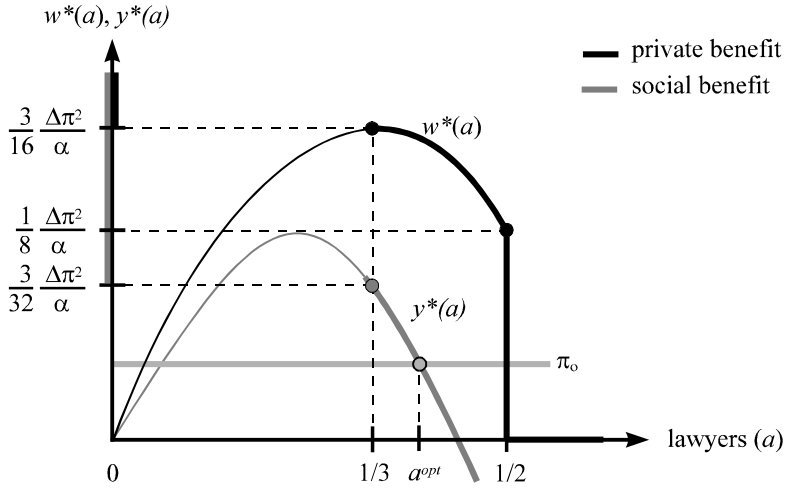

Figure 4. Social Optimum

The social benefit of a marginal lawyer consists of the private benefit measured by the lawyer wage rate w^* and a second term denoting the externality. This externality is negative as $f'(a)$ is strictly negative. Hence, for a given number of lawyers, the social marginal benefit of an additional lawyer is always less than the private benefit.[20] In Figure 4, the social marginal benefit curve y^* is strictly below the private marginal benefit w^*.[21]

[20] A parallel result exists in the industrial organization literature. The business stealing effect may result in excessive entry [Mankiw and Whinston (1986)].

[21] Further properties used in plotting the y^* curve in Figure 5 can easily be derived from (6): (a) The curve starts in the origin with a positive slope [$y^*(0)=0$, $y^{*\prime}(0)>0$]. (b) At $a = 1/3$, the slope is negative and the marginal

Proposition 1 (Inefficient Professional Choices)

Due to the distributive effects of legal services, free entry into the legal profession results in an equilibrium with more lawyers than socially desirable.

In solving the social planner's problem, we have to ensure that the local optimum is also a global one. This is not always the case because of a critical mass effect induced by the complementarity of regulation and legal counseling. With few regulations and a small number of lawyers, it is very unlikely that a firm which hires a lawyer will be involved in one of the few regulated transactions. Therefore, the social planner has to provide a sufficient number of lawyers and regulations to exploit the complementarity. To be a global optimum the social welfare for the policy (a^{opt}, $r^*(a^{opt})$) has to exceed the welfare for the corner solution $(0,r^*(0))$. Hence, the requirement for an interior solution is $SW(a^{opt}) > SW(a=0)$ or

$$\frac{1}{2\cdot\alpha}\cdot\Delta\pi^2\cdot a^{opt}\cdot f(a^{opt})^2 > \pi_o .$$

Using the condition at an interior solution (5) and replacing π_o allows us to simplify the requirement for an interior global optimum to $f(a^{opt})+2\cdot a^{opt}\cdot f'(a^{opt})<0$ which holds for all $a^{opt} > \frac{1}{3}$:

$$SW(a^{opt}) \gtreqless SW(a=0) \quad \Leftrightarrow \qquad a^{opt} \lesseqgtr \tfrac{1}{3}.$$

The social planner's optimal policy is therefore to choose the corner solution $(0,r^*(0))$ - no lawyer and no regulation - whenever $\pi_o \geq \frac{3}{32}\cdot\frac{\Delta\pi^2}{\alpha}$. If the legal activity is productive compared to the entrepreneurial efforts ($\pi_o < \frac{3}{32}\cdot\frac{\Delta\pi^2}{\alpha}$), the interior solution (a^{opt}, $r^*(a^{opt})$) is the social planner's best choice. Note, however, that the socially optimal number of lawyers always remains below the corner solution $a = \frac{1}{2}$.

We are now in a position to compare the outcome under laissez-faire occupational choices with the socially optimal allocation of human and legislative resources. The distortions in the labour market and in the regulatory environment are best illustrated in Figure 5 that summarizes our findings.

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benefit takes on the value $y^*(1/3) = (3/32)\cdot(\Delta\pi^2/\alpha)$. (c) For $a = 1-\sqrt{1/3}$, the curve intersects with the horizontal axis.

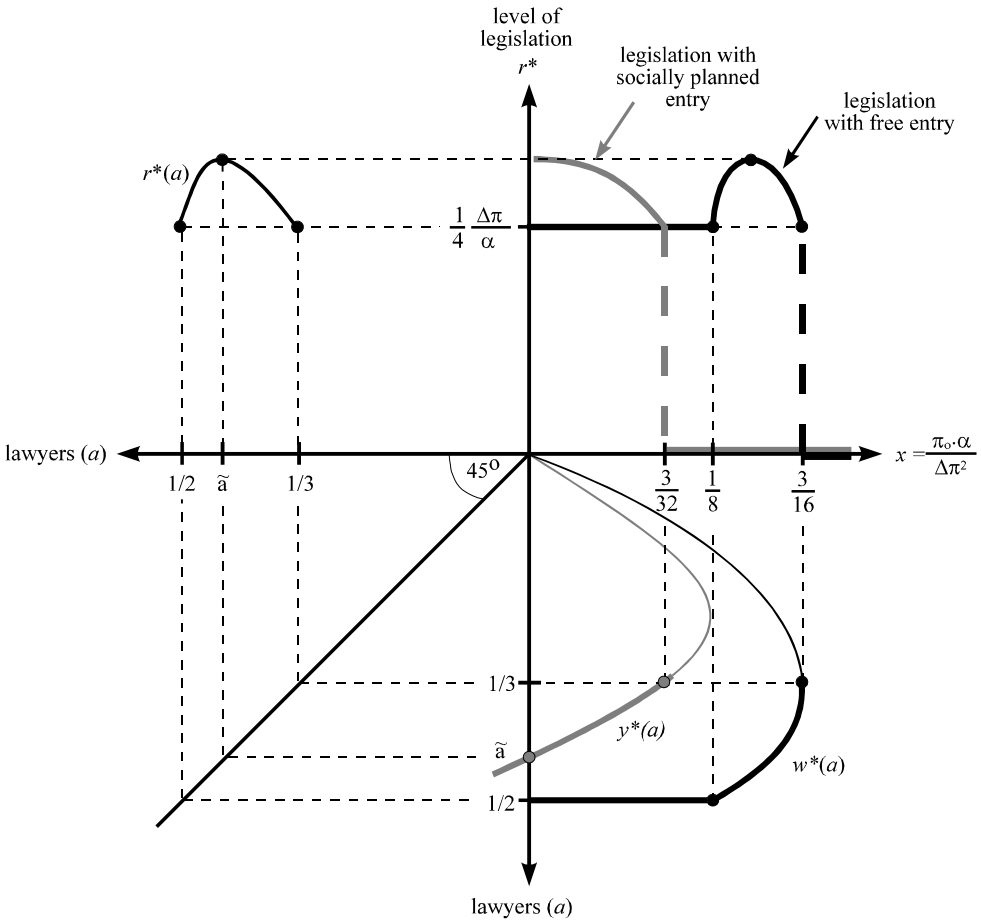


Figure 5. Distortions in the Occupational Choice and in the Regulatory System

To the right, the horizontal axis denotes the model's parameters in the variable $x \equiv \pi_o \cdot \alpha / \Delta\pi^2$ which reflects the productivity of entrepreneurs in relation to the gains through legal counseling. A high value for *x* indicates a high profitability of entrepreneurial activities. Legal services are relatively more productive for a low value of *x*. The second quadrant of the diagram (bottom right) shows the occupational choice as a function of the model's parameters. We are already familiar with this diagram as it exhibits the same relationship as Figure 4. The fourth quadrant (top left) describes the optimal level of legislation *r** as set by the government reacting to the professional choice *a*. We have developed this relationship in equation (3). Finally, the first quadrant (top right) combines all this information showing the optimal level of legislation as a function of the model's parameters.

If the entrepreneurial profits are high relative to the efficiency gains of legal counseling, i.e. for high values of *x*, both the social planner and the laissez-faire solution

produce no lawyer. Hence, there is no reason to introduce costly legislation ($r^*=0$). Below the threshold $x = 3/16$, multiple equilibria may arise in the laissez-faire case. For $x \in (1/8, 3/16)$, an economy without lawyers is still optimal but one of the two equilibria leads to an excessive number of lawyers [$a \in (1/3, 1/2)$]. The complementarity of lawyers and regulation implies that a positive number of lawyers exists for a positive level of legislation.

Below the second threshold $x = 1/8$, the laissez-faire solution reaches a maximum in the occupational choice when all firms have a lawyer; thus $a = 1/2$. As it is still optimal to undertake no legal activities [$x \in (3/32, 1/8)$], the economy is characterized by excessive legislation and an excessive entry into the legal profession.

Finally, below the third threshold $x = 3/32$, it becomes socially optimal to allocate human capital to the legal services. As the socially optimal number of lawyers becomes positive, the government has to introduce legislation as a complementary input. The laissez-faire solution still produces an excessive number of lawyers. In response to the excessive entry into the legal profession, the government is forced to legislate for a lower level of regulations than it would if it also controlled professional entry. In summary:

Proposition 2 (Inefficient Level of Legislation)

(a) If legal counseling is relatively unproductive compared to entrepreneurial activities, the economy is characterized by excessive legislation and excessive entry in the legal profession. The complementarity relationship forces the government to react to the excessive laissez-faire entry by extending its legislation.

(b) If legal counseling is relatively productive compared to entrepreneurial activities, the government is forced to legislate for a lower level of regulations than it would if it also controlled professional entry.

We can conclude that the orientation towards an efficient legal system alone will not correct the excessive entry into the legal profession unless the government can commit itself to a certain level of future legislation. Due to the redistributional dimension of the legal system, freedom of professional choice leads to an excessive entry into the legal sector. Note, however, that the consequences of this effect on the number of laws and regulations is

ambiguous. An increasing number of lawyers may well induce the government to reduce regulations.

V. Entry Barriers and Welfare

So far we have looked at the benchmark case of free professional choice for all individuals in the economy. In practice, the access to the legal profession is tightly regulated and constrained in many developed countries. The following section examines whether professional access barriers administered by a bar association can improve welfare. Then we provide an overview of restrictions on entry to the legal profession in various countries. Finally, we discuss the problems and challenges associated with restrictions on professional entry.

Welfare Effects of Professional Self-Regulation

The government may delegate professional decisions to the lawyers' bar association. Historically, this way of limiting entry into the profession played an important role.[22] In this case, insiders have a significant influence on the entry of new members. Hence, the bar association acts like a club that maximizes per capita income of its present members by limiting the access to the legal profession. By adjusting admissions, the profession can grow to the optimal club size.[23] To represent this policy to our static framework, we assume that stage one of the model consists of a continuous sequence of individual entry decisions with the set of past entrants as the insiders who decide on continued admission. All insiders form the bar association. At what point does the bar association stop accepting new members?

Assuming that the bar association maximizes the per capita income as defined in equation (4), there is an acceptance threshold

$$\frac{\partial w^*(a)}{\partial a} = 0 \qquad \Leftrightarrow \qquad a^{bar} = 1/3.$$

[22] Wolfram (1978) describes the effective insulation of the American legal profession from government regulation. See Laguette (1987) for a survey of the professional self-regulation in the European Union.

[23] Note that the lawyers will always earn their marginal product, i.e. there is competition among the existing lawyers. However, this marginal product is higher when the percentage of lawyers becomes smaller.

for all $x \leq \frac{3}{16}$. This entry threshold generates not only private benefits for those in the legal profession but also improves overall welfare as $SW(a^{bar}) > SW(a^*)$. The negative slope of the y^*-curve implies that the marginal benefit of a lawyer is negative in the laissez-faire equilibrium. Entry restrictions implemented by the bar associations provide a welfare improvement in the direction of a socially optimal allocation of human resources.

Proposition 3 (Professional Self-Regulation)

Professional self-regulation reduces the number of lawyers relative to the free entry equilibrium and increases social welfare. A break-down of professional self-regulation, e.g. due to liberalization, therefore increases entry and reduces the overall welfare.

Although the allocation of human resources becomes more efficient compared to the laissez-faire allocation, entry barriers by bar associations can only be a second-best policy. First, if the social planner chooses the corner solution $a^{opt} = 0$, the bar association will admit too many lawyers. The level of legislation will be excessive in this case. Second, the bar associations may be too restrictive in its entry policy for cases where the social planner would choose an interior solution. This forces the government to keep the level of legislation at a suboptimally low level compared to the solution with planned entry $[r(a^{bar}) \leq r(a^{opt})]$. [24]

Effective Entry Barriers in the Legal Profession

The previous section showed that a closed-shop strategy by powerful bar associations can be viewed as a second-best solution that dominates the outcome under freedom of professional choice. Two questions arise: first, what tools can be used by bar associations to limit entry into the profession? Second, are these tools effective in achieving the optimal club size?

In most countries, admission to the legal profession is indeed controlled by national or regional bar associations. In the official language, the purpose of this control is to verify that all candidates have the necessary *qualities of character*. The Law Society, the professional

[24] Of course, a first best policy would try to internalize the external effect by setting an appropriate tax on the lawyers' incomes. Such a tax could reduce the wage to the marginal social contribution of a lawyer, correct for the business stealing externality among lawyers and achieve a socially optimal professional choice. In practice such a discriminatory policy against a specific profession is likely to face constitutional challenges. Also, the level of taxation is hard to determine. Both aspects might explain why such discriminatory taxes are rarely observed.

organization for solicitors in England and Wales, requires that a candidate has the "character and suitability to become a solicitor" (Solicitor Act 1974). In Italy, the admission to the bar is granted if the person's "conduct is exemplary and untainted".[25] The influence of bar associations on the admission, however, extends far beyond these moral categories. In many countries, the professional associations can actually set the standards for the legal education and administer the qualifying examinations.

Figure 6 gives a brief overview of the main features of legal education in several countries. It abstracts from many country specific features of the entry process. However, the overview shows that bar associations have some influence over professional entry in many industrialized countries. In most countries (with the exception of England and Wales), the bar associations have successfully established a university qualification as a prerequisite for entry.

Furthermore, the bars control apprenticeships - directly by setting the standards for becoming a supervisor and indirectly by coordinating the apprenticeships in the district.[26] More importantly, the bar associations have a strong influence on the qualifying examinations. Either they are in the position to organize the bar examinations, or to have at least some of their members on the board of examiners as for example in France, Germany, and Italy. In all three countries, the bar association may exercise significant influence over the passing rates.

[25] See Laguette (1987) on the moral codex and the professional rules of conduct in the member states of the European Union.

[26] Boigeol (1988, p. 272) reports that the protectionist policy works better in smaller districts as it is easier to coordinate the bar members and the free-rider problem from accepting an additional apprentice is less severe.

Country	University Qualification		Apprenticeship Requirements			Professional Examination		
	Years	Attrition Rate	Years	Restrictions on Supervisors	Theoretical Training	Yes / No	Influence of Bar?	Attrition Rate
Belgium	5	50%	3	10 years of law practice	yes	no		
Denmark	4.5-6		3		2 years (voluntary)	no		
France	4	65 %	3 [1 before, 2 after final exam]		yes	yes	practitio-ners in the board of examiners	entrance exam 80 % (1982) final exam 3% (1982)
Germany	6 avg. [minimum 3.5]	50 %	2.5		no	yes	practitio-ners in the board of examiners	25 %
Greece	4		1.5		yes	yes	organized by the regional bars	
Italy	4		avg. 4-5 [minimum 2]		no	yes	practitio-ners in the board of examiners	30-87%
Luxembourg	4		3		no	yes		
Netherlands	4		3	7 years of law practice	yes	no		
England & Wales (Solicitor)	law degree (can be substituted)		2	5 years of law practice	?	yes	organized by the Law Society	48-74 %
Ireland (Solicitor)	Bachelor of Laws		1.5		yes	yes	organized by the Law Society	
USA	3 (from an ABA approved law school)	< 10 % (admission bottleneck: 40 % rejected)	no			yes	organized by a state's bar assoc.	10 %

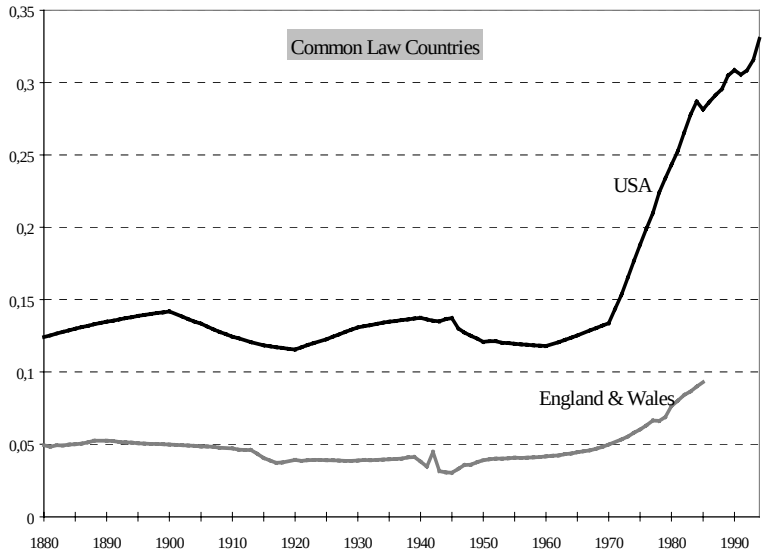
Sources: Abel (1988a, p. 32), Abel (1988b, pp. 194 and 196), Abel (1989, p. 66), Blankenburg and Schultz (1988, p. 131), Boigeol (1988, pp. 276 and 288), Grunsky (1991), Huyse (1988, p. 235), Laguette (1987, pp. 38-65), Olgiati and Pocar (1988, pp. 344-346).

Figure 6. An International Comparison of Legal Education

Problems of Self-Regulation

The second question relates to the effectiveness of these measures. Can bar associations pursue an effective closed-shop policy? In the civil law world, the traditional requirement of a university degree in law was a natural entry barrier. Only a small fraction of the population could afford and had access to higher education. In the common law tradition, an academic qualification for the legal profession did not exist and apprenticeship requirements functioned as a gatekeeper. The American Bar Association (ABA) successfully replaced the apprenticeship by a law degree from an ABA approved law school. This shift was almost completed in the 1920s. This policy, however, backfired when in the 1960s a larger proportion of the population got access to higher education. For the same reason, the traditional entry barrier in the civil law world became ineffective. Changes in the education system eliminated the most effective entry barrier to the legal profession. It could not be hoped that higher attrition rates associated with academic qualifications would offset the increased numbers wanting to enter the legal profession. The bar associations could approve the law schools, but, once approved, the latters' incentives differ significantly from the incentives of established lawyers.

Figure 7 shows how the number of lawyers as a percentage of population has grown over the last century in the US. While this number was fairly constant over a long time, the fall of entry barrier caused by the boom in education in the 1960s brought about explosive growth. This rapid growth of legal services is not restricted to the US. Within the common law world, England and Wales also experienced a doubling of the percentage of lawyers in 20 years. The number of lawyers there had fallen almost steadily until World War II and thereafter only increased moderately. As Figure 8 shows, the breakdown of entry barriers into the profession also affected the civil law world. Germany and Belgium faced an increase in the share of lawyers between 1960 and 1990 that is comparable to the development in the US.

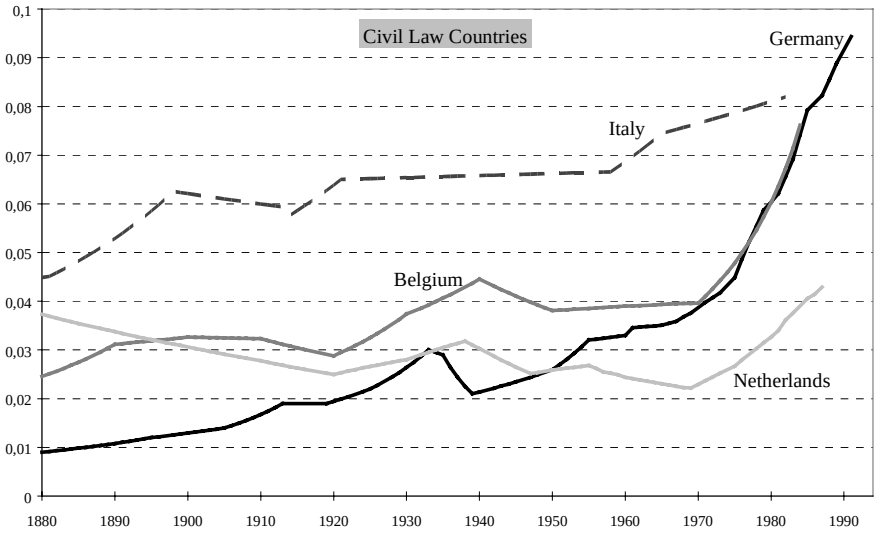


Sources: US Department of Commerce, *Statistical Abstract of the United States*, various issues; US Department of Commerce, *Historical Statistics of the United States*, 1975; Central Statistical Office (UK), *Annual Abstract of Statistics*, various issues; Abel (1988a, pp. 67-73).

Figure 7. Lawyers as a Percentage of Population in Common Law Countries.

The only effective instrument left to control entry into the profession appears to be the bar examination itself. Despite higher selectivity in most countries, this policy is only partially successful. Firstly, bar examinations are often carried out at a regional level. Allowing more students to pass the examinations creates an external effect on the income of lawyers in other regions if lawyers can move after being admitted in one region. This is, of course, the reason why bar associations try to limit the lawyers' professional activities to the region where they were admitted. Secondly, the board of examiners may not only be controlled by lawyers but also by other legal professions such as judges and state attorneys whose incentives are not in the bar association's interest. Thirdly, the bar associations may fear scrutiny under national antitrust laws and, therefore, moderate their practice of limiting access.[27]

[27] Not surprisingly, the empirical evidence on the link between bar exam pass rates and lawyer income is mixed. See e.g. Getz, Siegfried and Calvani (1981) for the US. Also Pashigian (1977, p. 73) concludes that the pass rates are not set to maximize lawyer earnings.



Sources: Olgiati and Pocar (1988, p. 358); Statistisches Bundesamt, *Statistisches Jahrbuch*, various issues; Blankenburg and Schultz (1988, p. 150); Central Bureau of Statistics, *Statistical Yearbook of the Netherlands*, various issues; Schuyt (1988, p. 216); Huyse (1988, p. 249).

Figure 8. Lawyers as a Percentage of Population in Civil Law Countries.

We can conclude that the traditional entry barriers into the legal profession have broken down and that in most countries the bar associations are not powerful enough to replace the natural entry barriers by effective artificial entry barriers. Hence, we cannot hope that the internal mechanisms will be able to prevent the excessive entry into the legal profession resulting from the redistributional effects.

VI. Conclusion

The conceptual framework developed in this paper emphasizes the complementarity of legislation and the creation of distributive rents.[28] In a world where professional choices are long-run decisions and a government cannot commit itself to a future level of legislation, this complementarity implies that free professional choices lead to an over supply of lawyers. We stress that the efficiency orientation taken by modern legal doctrine does not solve this

[28] This complementarity does not only affect the legal profession. Similar arguments can be made with respect to tax consultants. Their activity also depends on the provision of complementary tax rules and involves both the efficiency and the distributional dimension.

problem: the misallocation of human resources does not originate in an inefficient level of legislation, but in a time inconsistency between long-run professional choices and short-run legislative projects neglecting the feedback effect on professional choices.

We explore alternative institutional settings for their welfare implications. It is shown that self-regulation of professional entry by a bar association with its higher entry barriers may improve social welfare. However, such entry barriers face increasing challenges and their partial breakdown can explain the high growth rates of the profession in many countries.

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