

ECONOMIC IMPACT OF REGULATION IN LIBERAL PROFESSIONS

A Critique of the IHS Report

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1. INTRODUCTION

In January 2003, the IHS (Institute for Advanced Studies, Vienna) published a report entitled “Economic impact of regulation in the field of liberal professions in different Member States: Regulation of Professional Services”.

The report was prepared as a research paper for the European Commission, DG Competition. It considers the economic effects of the regulation in the provision of:

- legal services (lawyers and notaries);
- accountancy services (accountants, auditors and tax advisers);
- technical services (architects and consulting engineers); and
- pharmacy services (community pharmacists).

A description of the regulatory position of each of these professions across the EU is provided, with the focus on regulation governing entry into the profession and conduct within the profession. The report also gives descriptive case studies of the effects that regulation has had in some instances, and presents an economic “benchmarking” analysis carried out across all countries for which data is available.

This paper provides a critique of the IHS report. Attention is focused in particular on the economic analysis contained in the report. The remainder of the paper is organised as follows:

- Section 2 reviews the theoretical grounding for the report;
- Section 3 examines the methodology adopted in the report;
- Section 4 considers the results obtained;
- Section 5 looks at the interpretation of these results;
- Section 6 summarises our view of the study and concludes.

2. THEORETICAL GROUNDING

2.1 Summary of IHS Study

The IHS report is principally empirical, but it begins with a brief consideration of the theoretical justification for regulation. It distinguishes between theories that consider why services should be regulated at all (pro-regulation theories), and those that suggest there is too much regulation (contra-regulation theories).

2.1.1 Pro-regulation theories: asymmetric information, public goods and externalities

According to standard economic theory, in a “perfect market” an unregulated outcome is optimal in that consumer welfare can only be improved at the detriment of producer welfare, and vice versa.

Pro-regulation theories therefore focus on why markets deviate from the “perfect market” so that regulation can improve both producer and consumer welfare. There are many reasons why the provision of liberal services may not fit the ideal of the “perfect market”. These are so-called market failures.

Most notably, it is hard to test the quality of the services before, or even after, purchasing (in economic terminology, such goods are referred to as “experience” and “credence” goods, respectively). Such informational asymmetries between the buyer and seller can imply a suboptimal market outcome, which can be improved upon by regulatory intervention. The regulation intervention can take the form of quality regulation, which effectively “controls” entry to the profession by defining qualification and education standards.

Market failure may also arise because professional services are “public goods” – that is goods that can be used by all members of the public once they have been provided (this is the so-called “non-rivalry” feature of public goods). Professional services can be classed as a public good since once advice has been given, it can be passed on for free (this non-rivalrous nature may, however, be limited to the extent that advice is so specific that another client with slightly different circumstances may not be able to use the same advice).

Regulation may also be justified if the provision of professional services impacts on third parties (in economic terminology, they confer externalities). For example, a badly treated disease may continue to infect other citizens. As the impact on third parties is not taken into account by either the buyer or seller, this can also imply a market failure.

2.1.2 Contra-regulation theories: entry barriers, restriction of competition and regulatory “capture”

Contra-regulation theories predict that regulation serves to increase producer welfare at the expense of the consumer. Regulations reinforce cartel-like behaviour which allows firms to increase profits by collectively restricting output. In particular, regulation can act as an entry barrier, preventing new firms, or firms active in other areas from entering the market. Barriers to entry are required for a cartel to function effectively – where such barriers do not exist, the high prices will attract new entrants which can undercut the cartel. Even where no cartel exists, barriers to entry may reduce competition and support unilateral price increases. We note, however, that entry regulations do not necessarily imply supra-competitive fees – competitive prices can result even with barriers to entry due to competition between incumbents.

“Public choice” theories finally suggest that professional bodies have strong lobbying positions and so politicians, seeking re-election, will tend not to address the issue of regulation. Similarly, according to “capture” theories, regulators will tend to identify with the interests of the industry, rather than the public interest.

2.2 Critique

The theoretical overview provided by the IHS gives a broad outline of the economic explanations for regulating liberal services.

2.2.1 Insufficient coverage of regulation theory

However, it falls short of the full theoretical exposition which such a substantial amount of empirical work merits. The study discusses the theory of regulation at only a very broad level, and pays very little attention to the different types of regulation, their different motivations and effects. This is despite the fact that the empirical work clearly distinguishes between conduct and entry regulations. Moreover, the specific characteristics of each profession may imply a need for specific types of regulation. With regard to the legal profession, for example, lawyers maintain that regulation is necessary to guarantee independence and complete loyalty to clients. Such industry specific motivations for regulation are not considered in the report.

2.2.2 Apparent bias towards contra-regulation theories

The theoretical overview seems to have a bias towards the contra-regulation theories as the authors do not even consider the possibility that there could be too little regulation. Where there are both benefits and costs of regulation, it is clearly possible that, in an effort to curtail the costs, governments have reduced the level of regulation below the optimal level.

2.2.3 No framework for empirical analysis

In general, the theoretical discussion does not provide any framework for the empirical analysis. It therefore gives no clear guidance as to the relationships which should be investigated, and how the results arising from these relationships should be interpreted. In particular, the authors do not specify how it may be possible to decide whether there is too much or too little regulation within a profession. This would have been particularly helpful given the multitude of relationships they go on to consider; indeed, it might explain why such a large number of relationships were investigated.

3. METHODOLOGY

3.1 Summary of IHS Study

The IHS study is based around a regulatory index which reflects the degree of regulation in each country and profession. The study carries out the following steps:

- **Step 1:** Construct regulation indices;
- **Step 2a:** Identify key economic variables, including a “volume” or adjusted turnover measure;
- **Step 3a:** Check relationship (correlation) between regulation indices and key economic variables.

And varieties on steps 2a and 3a:

- **Step 2b:** Adjust key economic variables so as to isolate effects of professions from member state specific effects;
- **Step 3b:** Check relationship (correlation) between regulation indices and adjusted key economic variables.

Each of these steps is explained below in further detail

Step 1: construction of regulation indices

The index is constructed by considering the regulations that hold with regard to a number of categories to do with entry into the profession and conduct within the profession.¹ For each category, the authors then score the industries on a scale of 1 to 6, according to the severity of regulations. For example, if regulations regarding advertising of legal services in Spain are very lax, the Spanish legal profession might have a mark of 1 for that category. The authors then produce an overall regulatory index by constructing a weighted sum of the scores, with the weights reflecting a judgement regarding the relative importance of each category of regulation. This produces an overall score (between 0 and 12) reflecting the severity of regulations in each country and each profession.

Step 2a: Identification of key economic variables

¹ With regard to market entry, they consider regulations with regard to licensing, requirements in education, and quotas/economic needs test. For market conduct, they consider regulations with regard to price and fees, advertising, location, diversification, business and inter-professional co-operation.

The report then examines whether there is a relationship between the level of regulation in the professions, as measured by these indices, and some key economic variables. The variables considered were the number of firms, employees, and professionals within each industry, the total turnover of the industry, as well as the countries' total population and gross domestic product (GDP). In addition, the authors also measure the "volume" of services, which they calculate by adjusting turnover for differences in price levels and GDP.² The authors also calculated various ratios of these variables such as, turnover per employee, volume per firm etc. For each profession, the economic variables and regulation indices for the different countries are tabulated. On the basis of this cross-country comparison, some broad observations are made.

Step 3a: Relationship between regulation indices and economic variables

The authors then calculate the correlation of the regulation indices with the economic variables.³ For legal, accountancy and technical services (but not pharmacy services), the authors consider the correlation of the volume of output per firm and volume per employee with the regulation index. They calculate the correlation separately for each profession, but also calculate the correlation using the data points from all three professions grouped together.

Variety step 2b: Adjustment of key economic variables

The authors then conduct a so-called "Gap" analysis, in which the economic variables are adjusted to try to control for the differences between each member state.⁴ For example, there may be a tendency towards lower turnover per employee for all industries in a country because of shorter working hours. The reason for this adjustment is to attempt to filter out member state specific effects and thus isolate profession-specific effects. This way the profession-specific effects become more comparable between member states.

For each economic variable, the ratio of the value for each profession to the value for a wider group of business activities was calculated. Thus for variables with absolute values (eg the number of firms, turnover and employment) the figure obtained is the

² Some technical background as to how this "volume" indicator is constructed; volume is turnover expressed in POI-adjusted Euros, where POI stands for price and output indices. POIs were constructed as the product of PPP deflators which remove the effect of price level differences between countries, and GDP per capita in Purchasing Power Standards (PPS). One PPS - a 'standardised euro' based on an EU average - buys the same given average volume of goods and services in all countries. This adjusts for differences in price factors (i.e. whether one country is higher than the other) and the size of the GDP in each member state. GDP adjustment is needed because turnover of professional services depend upon the size of the business sector.

³ A correlation coefficient is a number between -1 and 1 that measures the degree to which two variables are linearly related. If there is positive correlation, when one variable has a high (low) value, the other variable also tends to be high (low). The higher the correlation, the stronger the relationship. If there is a perfect positive linear relationship between the two variables, the correlation coefficient is 1. A negative correlation indicates that when one variable has a high (low) value, the other tends to be low (high). If there is a perfect negative relationship between the two variables, the correlation coefficient is -1. A correlation coefficient of 0 means that there is no linear relationship between the variables.

⁴ The authors do not indicate where "gap" stands for – we presume the idea behind the name is that the statistic measures how different the professions are compared to other business activities in that sector, in other words it looks at how large the gap between the professions and all other business activities is.

proportion of total business services which the profession represents. For ratio variables (eg volume per firm) the figure represents the deviation of the profession from the average for all business services – the ratio is normalised so a value of 100 indicates the variable takes the same value as the average for the industry, and the higher the figure is above 100, the more a profession is above average for the variable in question, while, conversely, the lower the figure is below 100, the further below average it is.

Variety step 3b: Relationship between regulation indices and adjusted key economic variables

The authors calculate the correlation between the gap-adjusted volume per employee with the regulation index. Again, they consider only the legal, accountancy and technical services, looking, first, at each profession separately, and then calculating the correlation for all three professions. The authors also use the gap figures to calculate the correlation between the number of firms – in relation to the total number of firms in business services – and the level of regulation.

3.2 Critique

Our critique on the methodology applied in the study is that there are a number of serious methodological flaws (all of which are relatively technical in nature):

- The regulation indices are based on subjective assessments;
- The “volume” variable is misleading;
- There are statistical problems of spurious correlation;
- Better statistical techniques could and should have been used;
- Pooling of variables creates statistical problems;
- Potentially valuable information is lost due to gap-adjustment.

Below we will set out each of the points of criticism. These are without prejudice to criticism on the study’s approach which may be based on non-economic and non-statistical considerations.

3.2.1 Regulation indices

Purely from the point of view of economic analysis, the regulation indices appear carefully and conscientiously constructed. A degree of subjective judgement is used in constructing the index, with regard to both the score an industry is given within a category and the relative importance that the category has overall. However, the degree of subjectivity has been minimised by clearly stating the basis on which the judgements were made.

Nevertheless, given the subjective nature of the indices, it is vital that sensitivity testing is undertaken to see to what extent any results obtained are dependant on the assumptions made. The authors claim that there are no cases in which countries/professions originally classed as having a high degree of regulation (relative to the median) would be classed as having a low degree of regulation after an isolated re-weighting. However, they do not present the results of these tests, so it is impossible to know, for example, to what degree they re-weighted the indices. Furthermore, a more direct sensitivity test would have been to consider the stability of the final regression results rather than the stability of the classification of the indices.

One should also point out the main source of information for the regulation indices was questionnaires. In many cases, however, there were no questionnaire responses (eg. about half of the professions in accountancy services did not respond and about a quarter in legal and notary services) and the authors had to rely on other information sources in order to construct indices.

3.2.2 The “volume” variable

We also note that labelling turnover, as adjusted by price and GDP, as “volume” is misleading. The variable allows the value of services in different countries to be compared, with the effects of differences in GDP and overall price levels removed. However, it does not measure the output of the professions, in the same way as, for example, the number of cars a factory produces would be used were the service under question to be car manufacturing. This is because the same turnover may result both from a high level of output for a low price, or a low level of output at a high price. This mislabelling makes the interpretation of the results later in the report confusing (see Section 5.2.2 below).

3.2.3 Correlation analysis

In order to investigate the relationship between the variables, the authors conduct a simple correlation analysis. Any correlation analysis only considers the relationship between two variables. This means that a correlation between two variables can, in fact, be picking up the effect of a third variable, which is related to both variables. Such missing variables can produce misleading results. For example, a researcher investigating the relationship between a child’s reading ability and their height may find a significant positive correlation. However, this is probably mostly attributable to the fact that older children tend to be both taller and better at reading (rather than height having a direct positive effect on the ability to read). Thus where it is possible that outside variables are also correlated with both variables considered, it is hard to draw any inferences from the results.

The problem is likely to be particularly severe in this case as the authors investigate the relationship between regulation index and a number of economic variables, all of which are likely to be correlated with each other. Thus a high correlation may not indicate a causal relationship between the regulation and the value of that variable.

Rather, it may simply be that the variable is correlated with a third variable which does have a causal link with regulation. In particular, if the degree of regulation is positively correlated with GDP (so that richer countries have more developed regulatory structures), then a negative correlation between regulation and all the gap-adjusted variables will exist – not because there is a strong relationship between these two sets of variables but because both sets of variables both have a separate relationship with a common, third variable.

3.2.4 Alternative statistical analyses

Regression analysis would have allowed the effect of each relevant variable to be isolated. Thus, a regression of reading ability on age and height would have allowed the researcher to isolate the effect of height on reading ability, having removed the effect of age. This would have allowed inferences to be made about the effect of height on reading ability. Similarly, in the investigation of the effects of regulation, the effect of each relevant economic variable could have been isolated, and, in particular, the effects of GDP could have been removed.

The authors do not justify their reliance on correlation analysis, rather than a full regression analysis. It is true that to obtain accurate results regression analysis is best performed on larger data sets, in particular when the effect of many related variables is to be investigated. However, a small number of data points can bias the results of correlation analysis as well as a regression analysis.

In particular, the so-called “Pearson correlation” rests on the assumption that the underlying random variables are distributed according to the normal distribution. This assumption is generally not problematic when the sample is large (i.e. greater than 20 and 30 data points), but when the sample is small it can cause problems. In the IHS study, where the authors investigate the professions separately, there are only 13 data points. Since there is no *a priori* knowledge that the variables come from a normal distribution, and the authors do not test the validity of this assumption, the use of the Pearson correlation statistic may be invalid.

An alternative to the Pearson correlation is provided by the Spearman test, which is “non-parametric” – that is, it does not assume any particular form for the variables. In one case (the correlation analysis of the gap-adjusted volume per person) the authors present the results of both tests, but in most cases, they do not specify which test is used. If the results are based on the Pearson correlation, they may be misleading.

3.2.5 Pooling of variables

The authors try to overcome the problems presented by a small data set by grouping together all three professions and so expanding the number of data points. However, this seems highly spurious. Some professions may be more open to regulation than others if only because of common EC laws. Similarly, some professions will tend to attract higher turnover, or turnover per employee, across all countries perhaps

because that profession is more demanding. Thus the type of profession is likely to influence both the degree of regulation and the level of turnover. Any correlation between regulation and turnover per employee is simply likely to be picking up the effect of “profession” on both of these variables.

3.2.6 Valuable information lost due to gap adjustment

The use of the gap-adjusted variables is an imaginative means of correcting for the intrinsic differences between countries. By removing such differences, any effects due specifically to the degree of regulation should become clearer. However, to the extent that cross-country differences across the sector as a whole are due to differences in regulatory attitude towards industry as a whole, such correction may also remove some of the effects that the authors are trying to measure.

Moreover, the adjustment is a rather imperfect way of correcting for country specific factors. For example, one of the other activities included in the wider group of business activities is management consultancy. The size of the management consulting sector, relative to the economy as a whole, may differ widely from country to country. Assuming management consultancies tend to be large firms, in countries where the management consulting sector is large, the average firm size will be higher. Professional services firms will therefore be smaller relative to the average. However, the smaller relative size has nothing to do with regulatory differences or country specific factors which affect all firms equally. Thus the attempt to correct the variables using gap-techniques may only serve to introduce further inaccuracies into the analysis.

4. RESULTS

4.1 Summary of IHS Study

The results of the study are summarised in Table 1. This shows the correlation between regulation and economic variables for each of the professions, as well as the results obtained when the data points for accountancy, legal, and technical services were pooled. The first table (a) gives the correlations obtained using the unadjusted variables and the second (b) shows the results obtained using the gap-adjusted variables.

The correlations given are only statistical estimates of the true correlation. For example, a correlation of 0.0001 might be obtained as the correlation between two variables which are actually totally unrelated (and therefore have a true correlation of zero). However, it is possible to estimate the probability that there is in fact no true correlation between the variables using a *significance test*. Significance tests are either one or two tailed. In a one tailed significance test it is assumed that the correlation takes a particular sign, so, for example, the test is whether there is a significant negative relationship, and if not, it is assumed there is no relationship. A two tailed test looks for correlations in either direction. Where the probability that there is no true correlation is less than 5%, results are said to be *statistically significant at the 5% level*. This is generally taken as sufficient evidence that the variables are truly correlated. Two-tailed tests are more stringent than one-tailed tests – that is, a result which is significant in a two-tailed test is always significant in a one-tailed test, but not vice versa. In the table, results that are significant in a one-tailed test are marked with a star (*) and those that are significant in a two-tailed test are marked with a double star (**). In some cases, results are reported as significant, but it is not specified whether a one or two tailed test was used. These results are marked by a triple star (***)

The authors report a positive relationship between the degree of regulation and the volume of turnover per practising professional (ie the more regulation, the higher the volume of turnover per professional). Due to the lack of a comparator for the number of professionals in other business services, the authors cannot calculate the gap-adjusted figure for the volume per professional and the degree of regulation. It would, however, have been possible to calculate the correlations using the unadjusted variables, but the authors do not present this result. We assume therefore, that the reported relationship between regulation and volume per professional is based only on a casual observation of the results.

Using the unadjusted variables, the authors find negative correlations between the regulation index for legal, accountancy and technical services with the volume of output per firm (ie. the more regulation, the smaller the output per firm) and the

volume of output per employee (ie. the more regulation, the smaller the output per employee). The only exception is the accountancy index, which is positively correlated with volume per firm. However, in only one case – the relationship between technical services and volume per firm - is the relationship significant. When all three professions are grouped together, they find a significant negative correlation.

The authors also find negative correlations between the volume per employee and the regulation index for the legal, accountancy and technical services using the gap technique. These are significant for the legal and technical services. They also find a significant negative relationship when the data points from all three services are grouped together.

The gap-adjusted figures for the legal and technical services also produce a significant positive relationship between the number of firms to the level of regulation (ie. the more regulation, the more firms are present). Moreover, the volume and turnover per firm is negatively correlated with the index of regulation, so that firms are smaller in markets that are more restrictive (strictly regulated). They do not find significant results for accountancy. They explain this by saying that accountancy firms are already very concentrated, whereas concentration is much lower in the other industries.

Table 1: Summary of Results of Correlation with Regulation Index

a) Unadjusted Variables

	Legal	Accountancy	Technical	Pharmacy	Legal, accountancy, and technical
Volume per practising professional	Not reported	Not reported	Not reported	Not reported	Not reported
Volume per firm	-0.14	0.09	-0.49***	Not reported	Not reported
Volume per employee	-0.21	-0.28	-0.37	Not reported	-0.36***
Number of firms	Not reported	Not reported	Not reported	Not reported	Not reported
Turnover per Firm	Not reported	Not reported	Not reported	Not reported	Not reported

b) Gap adjusted Variables

	Legal	Accountancy	Technical	Pharmacy	Legal, accountancy, and technical
Volume per practising professional	No comparator	No comparator	No comparator	No comparator	No comparator
Volume per firm	-0.47*	0.35	-0.47*	Not reported	Not reported
Volume per employee	-0.53*	-0.43	-0.42*	Not reported	-0.5**
Number of firms	+0.56*	-0.04	+0.75**	Not reported	Not reported
Turnover per Firm	-0.47*	0.20	-0.47*	Not reported	Not reported

* significant in a one-tailed test

** significant in a two-tailed test

*** significant but not specified whether in one tailed or two tailed test

Reminder: "Volume" in the tables is turnover adjusted for differences between member states in GDP and price levels

4.2 Critique

Our main point of criticism on the results and the interpretation and presentation of the results is that they appear to be "biased".

4.2.1 Bias in analysis

The authors do not present any empirical support for the relationship between regulation and turnover per practising professional. We can therefore only surmise that the correlation coefficient between the regulation index and the (unadjusted) turnover/volume per professional was not significant, in which case it is ambiguous whether the study actually confirms the relationship.

Indeed, more generally, the report seems to suffer from "publication bias" - that is the results presented seem to have been chosen to produce conclusive results which support the hypothesis, which, from the outset, is that there is too much regulation. The authors have calculated and presented many economic variables, and give no *a priori* theoretical justification why some should be favoured over others. However, they have only presented the correlations for selected variables, and these results tend to support the contra-regulation theory.

Thus, in addition to omitting the correlations between regulation and turnover per practising professional, the authors do not provide an adequate explanation of why they did not consider pharmacy services stating only that it is set apart by conducting business in retail trading. Indeed, at some points, the authors seem to suggest that data was excluded because no relationships which supported the contra-regulation theories were observable in the initial exposition of the data.⁵ Such pre-filtering of the data is methodologically unsound; it will invalidate the significance testing and will bias the results in favour of finding the desired outcome.

4.2.2 Bias in testing

Moreover, even amongst the results which are presented, there seems to be a bias in the use of the tests. For example, the authors do not explain why they have presented both the Spearman and Pearson coefficients for the correlation analysis of the gap-adjusted volume per person, but only one (unspecified) correlation for the other results. We therefore assume that at worst the results that were not presented were not supportive of the reported results, or, at best, they showed no relationship.

Similarly, in some cases significance tests are one tailed (ie the authors test for a relationship in one direction only) whereas in other cases significance tests are two-

⁵ For example, on page 111, before conducting their correlation analysis, the authors state that "in the following we highlight links that appear to exist between output indicators and corresponding values of our calculated regulation index for the country".

tailed (ie the authors test for any relationship, either positive or negative). In some cases, the authors do not even specify which type of test is used. In particular, to investigate the relationship between regulation and (gap adjusted) number of firms, the authors used a two-tailed test for technical services, but a one-tailed test for legal services. Since two-tailed tests are more stringent than one-tailed tests, it is possible that the authors have used a one-tailed test where the two-tailed test failed. Moreover, as discussed in Section 5.2.2 below, there is no clear theoretical prior for the direction of the relationship, particularly with regard to the relationship between regulation and volume per employee. Thus a more-stringent two tailed test (ie a test for a significant relationship, either positive or negative) would have been more appropriate.

4.2.3 Results obtained are statistically very weak

Finally, the evidence in favour of the results presented is very weak. In the correlations between regulation and volume, when using the unadjusted variables, the authors only find a statistically significant result in two of seven relationships considered. Using the adjusted variables, the results are only significant for legal and technical services and not accountancy. The authors dismiss the insignificance of the “concentration effect” for accountancy services on the grounds that it is already much more concentrated than the other industries. However, this seems weak given that it is precisely such differences in concentration levels between industries that the authors are attempting to explain. Moreover, any such dismissal should have been made before the results of the test were obtained, rather than ex-post, when the correlations did not produce the expected sign.

5. INTERPRETATION

5.1 Summary of IHS Study

Ideally, the authors would like to test the relationship between regulation and excess profits – that is profits above the normal competitive level. In the absence of any profit data, this is not possible. However, the authors surmise a connection between turnover per professional and excess profit; if there are no technological differences between the countries which affect the cost of providing the services, higher turnover according to the authors will indicate higher profits. They therefore interpret the positive relationship between volume per practising professional (where volume refers to turnover adjusted for differences in GDP and price levels) and level of regulation as indicating higher profits in more regulated countries. This supports the idea that economic benefits are gained by highly regulated professions at the expense of consumer welfare.

The authors interpret volume per employee as being a measure of productivity in the industry. They therefore interpret the negative correlation between the degree of regulation and volume per employee as indicating a “shortfall in potential output among highly regulated countries and professions”. Note that the authors suggest that higher regulation will lead to higher volume per professional, but lower volume per employee.

The authors also suggest that where regulations are more strict, there is less competition, and therefore less incentive to exploit potential increases of productivity due to economies of scale. Conversely, where there is a high degree of competition, there is a tendency towards market “shake-out”. They propose that this explains why, with more regulation, there is a greater number of firms. Moreover, since firms are smaller in markets that are more restrictive, it also explains the negative relationship between volume per firm and the index of regulation. The authors therefore claim that these results also lend credence to theoretical predictions that output could be increased if regulation intensity were to be reduced.

5.2 Critique

Our main points of criticism on the part of the study where results are interpreted and conclusions drawn are that:

- Interpretations are based on assumptions which may not hold;
- Interpretations do not take account of possible quality differences;

- Results (in particular relating to volume) leave open various interpretations and not necessarily the ones presented in the study;
- Some interpretations are not consistent with interpretations and conclusions in other parts of the study.

These points are explained below.

5.2.1 Relationship between volume per professional and regulation

The authors' conclusion that regulation raises profits rests on the surmised link between higher turnover and higher profits. Although this holds if the costs of the services are the same in all countries, the conclusion is undermined if there are systematic differences between the costs. If higher regulation led to greater inefficiency because of excessive bureaucratic requirements, then a positive relationship between regulation and turnover would exist without any differences in profits.

Even assuming that there is a link between higher regulation and higher profits, this is not necessarily supportive of the contra-regulation theories. The relationship is also consistent with pro-regulation theories which predict that in more regulated countries, services are of a higher quality and fees are therefore higher.

The omission of quality and range of services is due to lack of data, and the authors acknowledge that this is regrettable. Nevertheless, they state that "since the economic outcomes of professional services in those member states where they are subject to lower degrees of regulation are comparable with professional services in more highly regulated member states, the predictions of public interest theory seem wide of the mark"⁶. However, it is not clear in what sense the economic indicators between highly regulated countries and less regulated countries are "comparable". If the results are indeed "comparable" then it is unclear in what respect regulation has had any detrimental effect.

The authors also state that "there have been no apparent signs of market breakdown in those member states which we have shown to be less regulated. There is thus no basis for questioning the high quality and essential values of existing professional services, regardless of the presence of high or low levels of regulation"⁷. However, pro-regulation theories only predict market breakdown in the most severe cases. In less severe situations, the market will exist, but with a suboptimally low level of quality. Alternatively, only certain segments of the market (such as the market for one-off, rather than repeat consumers) will fail. Thus the absence of total market failure does not imply that quality issues will not be of concern.

Thus the authors do not provide a convincing explanation of why quality issues should be dismissed, and, while we acknowledge the difficulty in obtaining data on

⁶ IHS Report, page 127 - 128

the range and quality of service, we believe that its omission is so severe as to undermine the whole premise of the report.

5.2.2 Relationship between volume per employee and regulation

As observed in Section 3.2, “volume” here is an adjusted turnover figure, and is therefore more indicative of the value of the services than the volume of output. As such, it encompasses both the level of output and the price charged for it.

Note that this implies the relationship between “volume” and regulation cannot support the idea that output has been restricted in order to drive up prices in the standard anti-competitive manner. This kind of hypothesis could be supported by a negative relationship between regulation and the actual physical output (for example, the number of cars would be used if the industry under discussion was car manufacturing). However, here the “volume” measures the value of the goods and this will always rise with an anti-competitive restriction in supply because of an increase in price. It is therefore not possible to interpret the “shortfall in potential output” as restricted supply (ie. in terms of quantities).

Instead, the authors interpret the negative relationship between regulation and “volume” per employee as stemming from an increase in inefficiency. That is, in highly regulated countries, the same level of output requires more people. This contrasts with the positive relationship between regulation and volume per professional which is interpreted as stemming from an increase in price.

It is hard to reconcile these two conclusions, and the authors do not attempt to do so in the report. The report seems to suggest that in highly regulated industries, professionals charge higher fees, but are then less efficient and require more non-professional employees (such as administrative staff). This drives down the turnover per employee to the extent that it is lower than in the less regulated countries, despite the higher fees.

However, in the absence of any significant positive correlations between the volume per professional and regulation, this conclusion seems far stretched. Moreover, if it is true, the higher cost of the admin staff may also drive down profits so that they are lower than in the less regulated countries. That is, it is inconsistent with the assumption discussed in Section 5.2.1 costs are the same, so that higher turnover does not necessarily imply higher profits.

5.2.3 Relationship between number of firms and regulation

The authors also conclude that lack of competition reduces incentives to make productivity gains from economies of scale, suggesting that this is why there tend to be a larger number of firms, and a lower turnover per firm, in more highly regulated countries.

⁷ IHS Report, Page 5

Again, this is inconsistent with the idea that the level of regulation does not affect costs. If, in more regulated countries, there are fewer economies of scale, costs will be higher, so that the higher turnover observed in these countries need not imply higher profits.

Many of the regulations have direct implications for the number of firms practising in the market. For example, where there are limits on the location of the business, the formation of MDPs, or the diversification of the firm, this may lead directly to a greater number of firms. To the extent that these regulations are designed to overcome specific market failures, they will be pro-competitive.

Finally, if the market is less concentrated where there is more regulation, it is likely to be more, rather than less, competitive.

5.2.4 General Comments

In all cases, the results are hard to interpret due to the lack of any information with regard to the causality in the relationship, and because of the underlying lack of any theoretical model to support the analysis. In particular, with no information on the causality in the relationships, it is dangerous to make any policy inferences. If it is the economic variables that determine the level of regulation, or the correlation is caused by an “outside” variable, forcing changes in the degree of regulation may not have any beneficial consequences.

6. SUMMARY AND CONCLUSIONS

The IHS study attempts to provide a thorough and detailed description of the regulation of the liberal professions in various EU states. The construction of the indices to measure the degree of regulation in each of these countries is considered and conscientious, although the questionnaire data on which the indices are based is patchy. Thus as a descriptive paper on the regulatory framework, the paper is commendable.

However, as an economic analysis of the effects of regulation, on which policy decisions could potentially be based, the study has major weaknesses, which make it inappropriate as a foundation for policy measures:

- First, the paper lacks any real theoretical framework – it is not clear at the outset what relationships the authors expect to find, and how to interpret any relationships they do find. The theoretical discussion is also biased in that it presupposes that there will always be too much regulation – the question of why there might be too little regulation is not addressed.
- Secondly, the analysis which has been carried out has major methodological flaws. In particular, by using only simple correlation techniques, and separately examining a number of related variables, the authors are highly likely to have produced “spurious” correlations. Both the significance and the sign of the correlations are likely to be misleading.
- Thirdly, the report presents only a selection of the results, leaving it open to the accusation of “publication bias”. The results presented tend to support the “contra-regulation” theories although the evidence that is presented seems weak. Furthermore, given the objective nature of the index, the results should have been more thoroughly tested for their sensitivity to the assumptions embodied in the index.
- Finally, the interpretation the authors put on the results is highly questionable, and is particularly ambiguous given the lack of any clear theoretical framework. With no data on quality, the result that higher fees are associated with more regulation could be equally supportive of both pro- and contra-regulation theories. Moreover, the interpretation of “volume” per employee as productivity is highly questionable. Indeed, in the absence of any correlation analysis on the volume of output per professional, the relationship could be interpreted as implying lower fees where there is higher regulation. Finally, given the lack of causality in the report, it is not possible to make any policy recommendations on the basis of the results.

In conclusion, while, as a first descriptive piece, the report appears useful, the economic analysis of the data has major weaknesses. Indeed, we feel these are so severe as to highly limit the usefulness of the report as a basis for policy recommendations.

RBB Economics
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