MARKET POWER AND REGULATION: A SIMULTANEOUS APPROACH

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reprinted from:

The Journal of Industrial Economics

Volume XXXII March 1984 No. 3

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THE JOURNAL OF INDUSTRIAL ECONOMICS
Volume XXXII March 1984
0022-1821 $2.00
No. 3

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AMONG THE reasons for limiting conglomerate mergers, none carries more political weight than the fear of the social and political influence which large firms may wield. The underlying assumption for this apprehension—that firms' size generates political power—has led to public policy proposals such as Sen. Kennedy's bill to restrict mergers.

Yet to economists and political scientists, the relation of economic size and political influence has never been unambiguously clear (Bartlett [1], Kaysen [12]) once they abandoned the broad sweep of general discussions (Lindblom [14]; Galbraith [11]). After all, some politically very powerful industries consist of small firms (e.g., the funeral business) while the giant firms of the automobile industry have experienced a long string of legislative defeats on matters of pollution, safety, and energy conservation.

Despite the importance of the question of economic size and political power, it has seen surprisingly little research. A review of the literature (Epstein [7]) states that

> since rigorous analytical research regarding the political and social activities of American Business has long been a backwater of intellectual effort among political scientists and other scholars, there is no tradition of scientific research which has generated a coherent body of theoretical and methodological writing in this area. . . . Similarly, most of the published research has not examined possible relationship between firm size, structure, and market position and business political influence. So there is much to learn. . . .

It is an important question which of the characteristics of market structure exerts an impact on regulatory policy. Firms size *per se*, as a measure of economic power, is often considered to provide the ability to influence public decision making, since large firms have a particularly large economic stake and the means for political action (Blake [3]). On the other hand, large and visible firms may arouse more opposition and legal restrictions to their activities. Similar arguments can be made for the size of the entire industry.

Market concentration is the other major measure that may facilitate political effectiveness. For one, possible monopoly rents may be available to influ-

* The author wishes to thank G. Tullock, J. Quigley, R. Ventre, and an anonymous referee for their help, and the Columbia University Center for Law and Economic Studies for its support.

> partitions significantly. A carpenter's union would benefit from opposing such a code provision and other similar labor saving code changes." (Keating [13])

Builders, on the other hand, usually benefit from liberal codes since they reduce the cost of construction and the reliance on unionized labor. In contrast to the intense concerns of builders and unions, the interest of the general public in building codes is limited, perhaps due to their low visibility and high technicality (President's Commission on Housing [25]).

Building codes are almost always subject to local regulation and are typically administered by building departments. Political pressures are pervasive in the process. "Code design and code enforcement do not take place within a political vacuum. Building codes have important economic meaning to those favored or not favored by the specific standard." (Field and Ventre [9]).

As these authors observe in their wide-ranging study of building departments, concerning the political nature of regulatory decision making

> Most local building officials . . . are very sensitive to political pressure. . . . Thus it is that building departments, by and large, have acquired reputations . . . for being responsive to the needs of their clients, the members of the local building community. Despite the tenuous hold that building officials have on their positions, their official actions have powerful economic consequences for a sizable portion of the local economy . . . builders are widely known for their aggressiveness and political sophistication. . . . One can readily visualize (the) pressures that converge on the local building officials in these circumstances. [9, p. 139]

Unions are similarly forceful: "When Kansas City changed . . . the building code to allow for the use of plastic and copper materials, the A.F.L.-C.I.O. cancelled a scheduled convention in the city and the local plumbers' union collected signatures to force a referendum on the issues." (Fortune, 1968). Similarly, the classic study of New York governance (Sayre and Kaufman [28]) finds that

> Without . . . allies of weight and influence, without opportunities to form a broadly supporting public opinion, each Commissioner of Buildings is brought back, whatever his initial aspirations, to the necessity of a settlement with the groups whose activities he regulates. It is with them that he must make his peace [28, p. 272].

Building codes are thus a good example of regulation in an environment affected by interest group politics. They also provide, by their local nature and wide variability (Seidel [29]), an excellent case for an empirical investigation. An unusually good data set is available, collected in a 1970 survey of building codes by the International City Managers Association (ICMA) for over 1100 American cities and towns, and described by Field and Rivkin [8]

The restrictiveness R of regulation is defined by the number of prohibitions among the major restrictive provisions listed by a Presidential Commission (the Douglas Commission on Urban Problems [6])[5] and their cost to builders.[6]

Several control variables X_i take account of factors that may also have a bearing on a locality's regulatory restrictiveness.[7] First, the extent to which local governments are susceptible to pressure may be related to their governmental system of governance, and a city manager form of government may be less affected by interest group strength than that of an elected mayor with executive powers. Second, the regulatory agency itself may be less insulated from politics when the agency head is a political appointee subject to continuous recall, rather than officiating with a secure term of office.

Third, the personal characteristics of the building official himself may have an effect on the regulatory policy adopted. This pertains, in particular, to his professional competence, expressed here by years of education (President's Commission on Housing [25]), and by a professional affiliation—and hence possible identification—with either of the two interest groups prior to his becoming a building official.

Furthermore, regulations may also be affected by the economic conditions in the housing market. Where housing is in short supply (as measured by the rate of vacancies), building codes may be less restrictive in order to encourage construction. Similarly, the density of population may be a factor in the setting of the code, since it may call for different types of construction.

Finally, the political attitudes of the locality and the regulatory standards that prevail in the surrounding area may influence regulatory strictness. Where the electorate is politically conservative,[8] an anti-regulatory attitude may exist that affects building codes. At the least, this is a testable subsidiary hypothesis. Similarly, if a locality is in a region in which the strictness of regulation is high, its own regulation may be affected by it, both because it may be a reflection of regional circumstances such as climate, and because there are efficiencies to builders in having local regulations that are similar to those of the adjoining localities (weighted average SMSA strictness was used).

In the second equation, market structure is explained by regulatory strictness, among other factors. The market structure variables F_j, such as size, concentration etc., and the regulatory strictness R are defined as before, as is

[5] These code provisions are: Nonmetallic sheathed electrical cable; prefabricated metal chimneys; preassembled electrical wiring; wood roof trusses placed 24" apart; plastic pipe in plumbing systems; bathrooms or toilet continuous air space; single plates in non-load-bearing interior partitions; 2" × 3" studs in non-load-bearing interior partitions; 2" × 4" of 1" in lieu of corner bracing; wood frame exterior walls in multi-family structures.

[6] Let regulatory strictness R_i be defined by an index $R_i = \sum_j C_j$ where C_j is the cost of the restriction to construction firms. Cost figures are from Douglas Commission [6, p. 271 ff]. Where no specific cost was given in that source, it was approximated by extrapolation of the ranking of seriousness surveyed from home manufacturers (Field and Rivkin [8, p. 82]), for the restrictions, with the Douglas figures of cost, where available, as the calibration.

[7] Data, unless noted otherwise, are from survey, note 2.

[8] Defined as percentage of vote in the 1964 presidential election for Barry Goldwater.

concentration is associated with a reduced effectiveness in achieving industry goals. The costs of organizing for political action, the difficulty of achieving agreement, the lack of a history of oligopolistic cooperation, the ease of free-ridership (Olson [20]), the potential presence of monopoly rents, and the greater incentive for dominant firms to take a leadership role (Siegfried [31]), all combine to give unconcentrated local industry problems in achieving its objectives. These effects apparently more than offset the potential advantages of unconcentrated industries to exert pressure at more numerous points (Caves [4]). The findings of greater political effectiveness of concentration parallel those of Mann and McCormick [16] who observe increasing lobbying expenditures on lobbying with greater concentration.

Similarly, the size of the industry and of firms is associated with more favorable regulation. This is not surprising, given the greater resources available for the production of influence. The coefficients of size relative to population, unlike those of absolute size, are not significant. Because there are scale economies and fixed costs in the generation of influence, advantages accrue to those with a high absolute size of resources, rather than relative to population. To give an illustration: a legal brief or an expert opinion are not appreciably cheaper to produce for a medium sized city than they are for a large metropolis.[10]

A second question is whether economic size exhibits diminishing returns in its effect on regulation. The results do not support such a hypothesis, at least for building code regulation. To be unrejected, the square of the term for economic power would have to be positive, good-sized, and significant. However, the coefficients for F^2 fulfil none of these conditions.[11]

If the results show that measures of economic size and power explain regulatory outcomes, so does the power of the *opposing* influence group. Construction unions prefer a strict building code, and the stronger they are, the stricter the code is found to be.

Most of the remaining control variables are not observed to contribute much to the explanation of regulatory strictness. A city manager form of government and a secure term appointment for the agency head are not

[10] Furthermore, the correlation of per capita size of industry and firms with concentration is uncertain. Average firm size per capita is a ratio of industry size and of the product of the number of firms with population. All of these parameters are positively correlated, i.e., denominator and nominator move in the same direction. The average firms size per capita grows only with industry size if the number of firms increases at a slower rate, holding population constant. A larger *per capita* industry may hence be less concentrated, at least often enough to result in an uncertain statistical association with policy outcomes. It may also be the case that there is a need, in the case of highly technical issues such as building code provisions, to persuade public decision makers rather than the public at large but both the ratios of decision makers to population and that of per capita industry decreases with city size. Hence, the two trends cancel each other out, causing an uncertain and weak statistical association of size per capita of population with regulatory strictness.

[11] The square terms can therefore be left out. When this is done, the remaining results are similar. Without the square terms, logarithmic equations can be estimated for the elasticities of regulation w.r.t. firm size, etc. These elasticities are, for concentration: -0.5179; for average firm size: -0.0519; and for industry volume: -0.3241.

Alternative Measures of Economic Power	*Business Volume per Firm*	*Business Volume/ Capita Population*	*Employees per Firm/Capita Population*	*Large Firms/ Capita Population*
Measure of Economic Power (F)	−0.1941	0.2147	0.5407	0.1927
	(1.8727)	(0.1471)	(0.8743)	(0.2411)
F^2	−0.0004	−0.0000	−1.1603	−0.0278
	(1.2602)	(0.2092)	(0.3855)	(0.4112)
Construction Union Strength (U)	0.0032	0.0109	0.0272	0.0394
	(1.8964)	(1.6494)	(1.7254)	(1.6474
U^2	−0.0004	−0.0003	−0.0004	−0.0007
	(0.7282)	(0.4922)	(0.5671)	(0.3191)
City Manager Form of Government	−0.0247	0.0182	−0.0127	−0.0942
	(0.1751)	(1.2502)	(0.2523)	(1.2004)
Agency Chief—Appointment to Fixed Term	−0.2719	−0.2729	−0.4177	−0.3511
	(0.5922)	(1.2656)	(0.6741)	(0.5977)
Agency Chief—Years of Education	−0.0012	−0.0000	−0.0162	−0.0261
	(1.7426)	(1.6295)	(2.1346)	(1.8263)
Agency Chief—Prior Union Association	0.0271	0.0009	0.0001	0.0000
	(0.3677)	(0.2591)	(0.4267)	(0.2908)
Vacancy Rate	−0.4660	0.7212	−0.4739	−0.5192
	(0.5102)	(0.4100)	(0.3501)	(0.3966)
Political Conservativism	−0.0049	−0.0029	−0.0022	−0.0054
	(0.4697)	(0.5644)	(0.1260)	(0.2947)
Regional Strictness	0.6220	0.4166	0.7094	0.6624
	(4.0562)	(4.1593)	(4.3027)	(4.0277)
R^2	0.3722	0.3598	0.3619	0.3522

(t-statistics in parentheses).

relation of public policy to the industry. It has been argued in this paper that regulation itself shapes market structures. Hence, these effects should be observable from the data. The results, given in Table II, do not reject this hypothesis. The first line of the table shows the coefficients of market structure with respect to regulatory strictness. There is a strong association of strictness with the concentration ratio. The coefficient is negative, meaning that with stricter regulation the share of large firms is smaller. This can be explained in that building code regulation may reduce the efficiencies of scale, e.g., by preventing large-volume preassembly (President's Commission on Housing 1982 [25], Keating [13]) thus helping small and middle sized firms to hold their own against large competitors. Similar results can be observed for the other industry measures. Strict building code regulation is associated with smaller sized firms, a smaller number of firms, and a smaller total volume of industry activity. Building codes therefore seem to act in part as barriers to entry, and a constraint on business activities. Again, the size measures per capita of population are statistically insignificant. Expressed as elasticities, the association of regulation is, on concentration: -0.7092; on average firm size: -0.0341; on industry volume: -0.4122.

It is interesting to observe, in the second line of Table II, the coefficients of construction unions on the market structure of firms. It is negative on firm size, concentration ratio and number of large firms. It is positive in its association with the total number of firms. This result is at odds with the Galbraithian theory of "countervailing power," according to which the strength of one interest group induces the development of the strength of the opposing group. Instead, we find that unionization is associated with smaller firms, at least in the building industry. A small and related effect can be observed for the SMSA-wide wage level for construction workers, which is associated, at moderate levels of significance, with a smaller number of firms, and a more concentrated industry.

Of the other variables, the size of the market has a positive and significant association with market strictness variables. Neither the growth of the market, nor the age of the code has such an effect.

SUMMARY

Findings for the building codes of more than 1100 American cities and towns show how different measures of construction industry structure explain the strictness of local building regulation. It is observed that most of these structural measures are in fact associated with the strictness of regulatory policy, and that several measures—industry concentration, total industry size, and average firm size—have a particularly significant statistical association. These effects appear to be linear, and diminishing returns for the effects of firm size are not observed.

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