The Life-Cycle Theory of Regulatory Agencies Revisited

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ABSTRACT

This note tests the regulatory "life-cycle" theory, according to which regulatory agencies become co-opted by the regulated industry over time. A quantitative investigation, using data for more than 1100 US localities, finds that while there is a pronounced effect of interest group strength on regulatory strictness, there is no evidence in the data for a "life-cycle" or secular trend in these groups' impact. At least for building codes, Marver Bernstein's influential thesis finds no support.

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In the analysis of the American regulatory system, few works have been as influential as Marver Bernstein's "Regulating Business by Independent Commission" (1955). In this classic study, Bernstein postulates a life-cycle theory of independent regulatory commissions in which he describes these agencies as declining from birth and youthful strength to old age and decay. According to Bernstein, the mechanism at work is that the reform-minded political constituency which creates agencies tends to turn to other concerns, leaving the agency to deal on its own with well-organized and determined industry groups. Soon, "a subtle relationship in which the mores, attitudes, and thinking of those regulated come to prevail in the approach and thinking of many commissioners" is established. Bernstein describes this process as the "decay" or "capture" of a regulatory agency.

Over time, Bernstein's thesis, questioning the regulatory commission--the institutional corner-stone of the New Deal--has become received dogma. But how factually true is the hypothesis? Bernstein supplied no empirical evidence, an omission he acknowledged in a later publication (Bernstein 1961). Other writers discussed extensively the influence of interest groups on regulated industries,[1] but their analyses are either case-study oriented (Redford 1956, Krasnow 1973, Engler 1977, Fritschler 1969, Margolis 1977), or theoretical (Key 1964, Salisbury 1969, Lowi 1964). No quantitative test of Bernstein's thesis has yet been offered. While a few economic studies have tested the effect of interest group power on public policy empirically (Caves 1976, Coolidge and Tullock 1979, Frey 1978, Pincus 1975, Rose 1976, Salamon and Siegfried 1977), none deals with regulatory agencies.

The purpose of this note is therefore to provide such a quantitative test of the life-cycle hypothesis of regulatory agencies. To do so, a simple model is specified and tested, using data for building code regulations and regulatory agencies for 1,100 American cities and towns.

The Model

Let us assume a form of regulation set by a regulatory agency at some level of restrictiveness R, where R is a continuous variable set to respond to certain objective economic conditions P_i. Expected strictness E(R) is

$$E(R) = R(P_i) = a_0 + a_{1i}P_i \tag{1}$$

The closer the actual strictness R is to the expected one, the more responsive the agency is to the economic conditions which the regulation has been created to address. To the extent that the actual R differs from the expected E(R), we speak of the deviation D

$$D = R - E(R) \tag{2}$$

Let there also be a regulated industry with political strength F, and an opposing interest group of strength L, and let this power affect deviation D. Let furthermore this deviation be affected by the statutory independence of the agency, I, and, by hypothesis, by the time t that has passed since the original enactment of a building code in the locality. This time enters in two ways: first, as a secular trend in the strictness of building codes. Secondly, if Bernstein's thesis is correct, the impact of the regulated construction industry on the strictness of codes should increase over time as capture and decay take effect. These relationships are described by

$$D = b_0 + b_1F + b_2L + b_3I + b_4t \tag{3}$$

$$b_1 = c_0 + c_1t \tag{4}$$

so that

$$D = b_0 + (c_0 + c_1 t)F + b_2 L + b_3 I + b_4 t \tag{5}$$

Hence we have

$$R = E(R) + D$$

$$= (a_0 + b_0) + a_{1i} P_i + c_0 F + c_1 tF + b_2 L + b_3 I + b_4 t \tag{6}$$

This equation can be subjected to empirical estimation. If we find that the coefficient c_0 is negative and statistically significant, it would support the hypothesis that the strength of the regulated industry affects the strictness of regulation. If c_1 is similarly negative and statistically significant, it would support the existence of "capture" over time, since it would indicate an increasing effect of the regulated industry on regulatory policy.

Depending on the sign of b_3, the independent status of the agency acts either as a check against pressure by the regulated industries or as their amplifier.

Empirical Estimation

The regulations that are chosen are building codes, a form of local regulation. Building codes set the regulatory standards for the construction of houses and other structures. They are of great importance to construction firms since they determine the materials and building techniques that can be used by them (Oster and Quigley 1977). A non-Federal regulation is methodologically a superior object for measurement, since simultaneous observations are available, obviating a cross-section analysis over very different types of regulation. Also avoided is a time series analysis that must account for a multitude of intervening factors over time.

The strictness of a building code is defined by the number of prohibitions among the fourteen major restrictions that are enumerated by the Douglas Commission on the American City (1969), weighed by their importance and the relative time period of their existence.[2]

The economic, demographic, and local variables P_i of equation (1) are the following: vacancy rate of housing;[3] the construction permits granted per year; the construction volume per year; population increase per year; the median value of houses and the median income; the political conservativism[4] prevailing in the locality; the the regulatory strictness that prevails in the region (SMSA).

The strength of construction firms is defined as total construction volume times the concentration ratio of building firms, normalized for national average (U.S. Department of Commerce 1972; Oster and Quigley 1977). The strength of construction unions is the percentage of unionization in building crafts times the number of construction workers, normalized for national average.[5] Time t is the time elapsed since the adoption of the original code. This period reflects the length of time since the "birth" (in Bernstein's term) of the code.[6] The independence I of the regulating agencies is described by whether the agency head is appointed to fixed (and therefore protected) term, whether he is a political appointee, or whether the locality operates under a city manager form of government.

It is now possible to estimate equation (6). The data used is information on more than 1,100 American cities and towns, collected by the International City Managers Association.[7]

Results

The results of the OLS estimation are given by the left column of Table 1. They show, first that there are statistically significant and negative effects to the strength of

construction firms on the strictness of building codes. That interest groups affect regulatory policy is also confirmed by the positive and fairly significant coefficient for union strength. There is also a small effect of independence of an agency on the strictness of regulation. Yet while effects of interest groups are found, there is no evidence at all for a "decay" of regulatory strictness over time. The time trend variable b_4 is very small and statistically insignificant. And c_1, coefficient for a change in the influence of the regulated industry, is small, statistically insignificant, and has a counter-intuitive sign.

A subsidiary test looked at the number of "social meetings" that was reported to exist between officials of the building agencies and those of the construction companies. If Bernstein's thesis is correct, one would expect such interaction to increase over time as personal ties grow. The ICMA data can provide answers to this issue as well. As can be seen from the results that are reported in the right column of Table 1, the explanatory power of the time on the frequency of socializing is very low, with coefficients that are small and insignificant. Indeed, there seem to be no factors that explain the frequency of socializing, and the overall explanatory power of the equation is very low ($R^2 = .0314$).

Conclusion

This study does not confirm decay in the strictness of regulation over time. What the results do suggest is this: while the strength of the interest groups affected by building codes has an influence on the latters' strictness, there is no evidence for a "life-cycle" or secular trend in these groups' impact. At least for building codes, Bernstein's thesis finds no support.

The results admittedly apply to local, not Federal agencies. Thus the outcomes could be different on the Federal level. Yet one would seem likely to encounter more capture on the federal level, both because it is further removed from electoral control, and because the incentives to citizen action are smaller (Olson 1966).

Table 1
Explanatory Variables for the Strictness of Building Codes and for the Social Interaction of Building Agency Officials with Construction Firm Personnel
(t-statistics in parentheses)

	Strictness of Regulation	Frequency of Socializing
Firm strength	-.1174 (1.9025)	-.0263 (.3416)
Union strength (L)	.0439 (2.1180)	.0067 (.2683)
Time since Adoption of Code (t)	.0182 (.2363)	.0016 (.1852)
Effect of Time on the Effect of Firm Strength (c_1)	-.0382 (.1582)	.0171 (.4302
Vacancy Rate	-.3269 (-.4296)	
Construction Permits	-.0000 (-1.1265)	.0000 (.9216)
% Population Increase	-.0041 (1.9215)	
Median Value of Houses	.0000 (.2316)	.0126 (1.9713)
Median Income (in thousands)	.0022 (.4903)	.0042 (.5063)
Political Conservatism	-.0014 (-.3552)	-.0026 (.4188)
Regional Regulation	.7342 (8.6352)	
Fixed Term Appointment of Agency Head	-.1655 (2.3267)	.1721 (1.2845)
City Manager Form of Government	-.1269 (1.8923)	.1218 (.8260)
Political Appointment of Agency Head	-.0629 (1.2617)	.0114 (.0926)
R^2	.3216	.0314

FOOTNOTES

1. For excellent summaries of the literature, see Sabatier (1975) and Epstein (1980).

2. The 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" x 3" studs in non-load-bearing interior partitions; 2" x 4" or 1" in lieu of corner bracing; wood frame exterior walls in multi-family structures. Weights for these restrictions are from a ranking in a survey of home manufacturers (Field and Rivkin 1975, p. 82).

3. Data, unless noted otherwise, are from ICMA survey, note 8.

4. Defined as percentage of vote in the 1964 Presidential election for Barry Goldwater.

5. U.S. Department of Labor 1972, 1975), provided by J. Quigley.

6. Since their original enactment, codes are regularly updated and amended. See Field and Rivkin, op. cit.

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