

The Political Economy of Regulation

0. What is regulation?

- Broad definition: Government intervention in firm decisions/market outcomes
 - Legal system (tort, contract, antitrust law)
 - Direct economic control of market outcomes (tariffs, quotas, price regulation, entry control, etc.)
 - Social/environmental regulation: control over processes, product offerings
 - Tax policy (Posner, BJE 1971: regulation as a special case of taxation)
 - Spending policies (agricultural subsidies)
 - Government ownership/operation of production

- Narrow definition:
 - Focus on administrative regulation: Regulation conducted through regulatory agencies with legislative mandates to oversee specific industries or targeted problems
 - "Economic regulation" (price and entry control)
 - Health/Safety/Risk
 - Environmental

14.272 focuses on the more narrow definition, particularly "economic regulation."

Types of Regulation

1. Economic Regulation: Usually involves regulatory commission oversight (state ownership may be a substitute for this)

- Price setting
- Entry restrictions (franchises, certificates of need/public convenience/necessity)
- Service obligations (varies)
- Oversight of costs, investment decisions

2. Environmental/Health/Safety Regulation:

- Regulatory forms are much more varied
- Historically, "command and control" approaches
- More recently, "market-based" or "incentive" approaches

Positive questions in regulatory economics:

1. Why do we observe regulation of particular industries?
2. What determines the institutional characteristics of particular regulatory systems?

Economic Rationales for Regulatory Intervention: Market Failure

- 1. Natural monopoly (or oligopoly)**
 - Economies of scale and/or scope; sunk costs
 - Natural market outcomes are imperfect
 - P,C too high OR destructive competition

- 2. Incomplete or missing markets**
 - Externalities, public goods
 - Poorly defined or costly to enforce property rights

- 3. Information failures/transaction costs/bounded rationality**
 - Information asymmetries
 - Information processing costs, etc.

Market failures may suggest government action to correct/mitigate economic inefficiencies.

But:

- (1) Government regulation isn't perfect either. Trade-off second-best (imperfect markets v. imperfect regulation).
- (2) Observations of regulation suggest it is not, in general, purely an efficient response to inefficient markets.

Empirical puzzles in explaining the origin of regulatory activity:

- (1) We observe regulatory activity where market failure rationales are not particularly compelling.
 - E.g., trucking in 1930s: what was problem?
 - Regulatory rent redistribution (industry protection, cross-subsidies among consumers or firms, labor rents, etc.) is prevalent.
 - Is regulation an alternative to revenue generation & redistribution through the tax system? (Posner, 1971; Hausman, 1997)

- (2) The structure or form of regulation often deviates substantially from cost-minimization/efficiency maximization
 - Complex, unwieldy administrative process
 - Uniform standards across dissimilar firms
 - e.g., Sulfur dioxide in 1977 CAA
 - Regulation doesn't look like min. cost way to achieve objectives, even if we take those objectives at face value

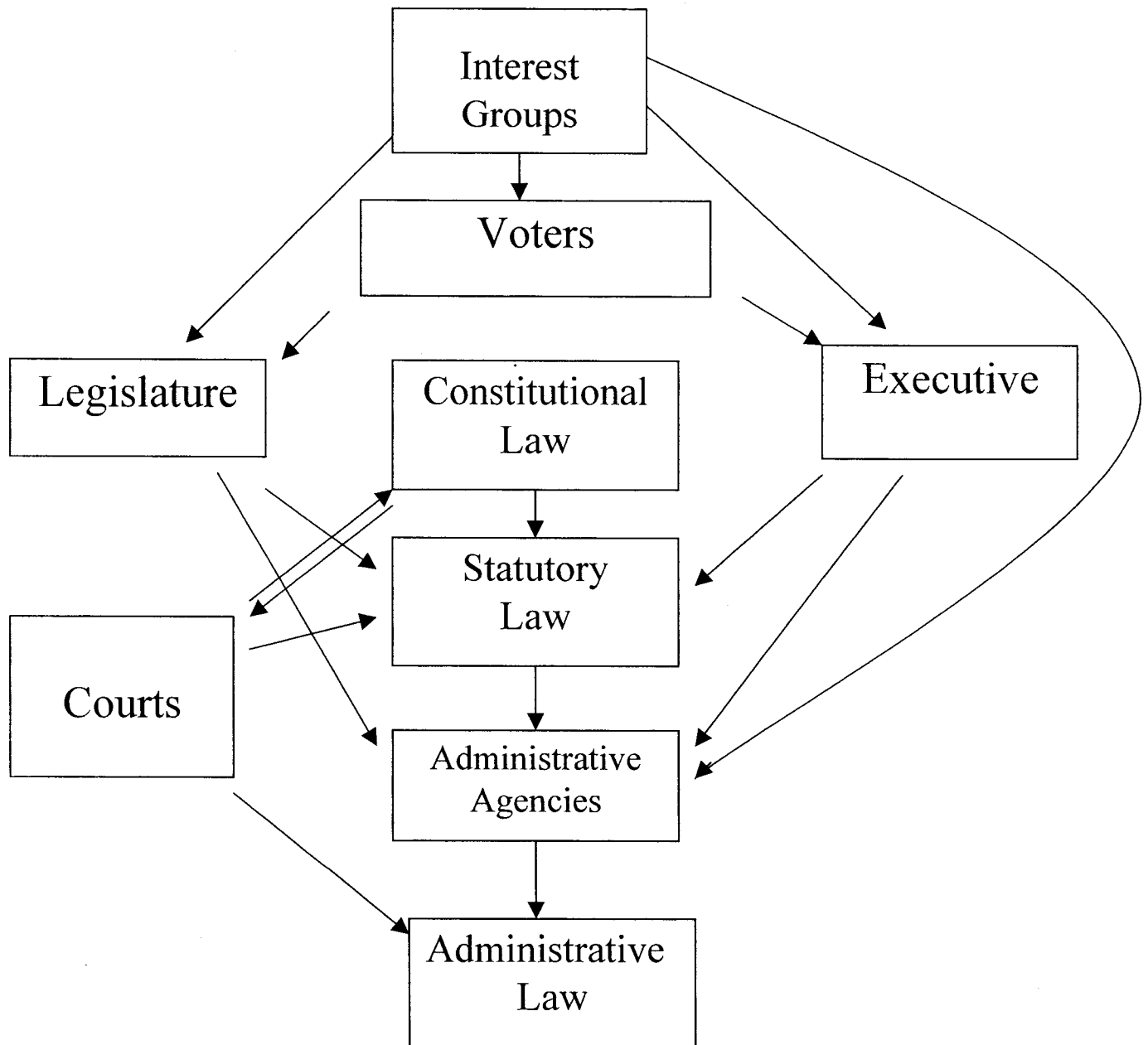
- (3) Regulatory cycles
 - We observe episodic major upheavals in regulatory system across sectors
 - Correlated across industries and in many cases across countries
 - Sudden correlated changes in simple market failure rationales? Or something more?

Regulatory Cycles

- (1) 1890-1910:
Initiation of regulation (government-ownership in Europe) in transportation, electricity, telephone sectors
- (2) 1930s: major economic regulatory activity
 - "destructive competition," "wasteful excess capacity," "stabilization"
 - In industries difficult to consider natural monopolies: trucking, airlines, banking
 - As well as some more plausible candidates: natural gas transmission, telephone, broadcasting.
 - Some e/h/s (enviro/health/safety) regulation: drugs, cosmetics
- (3) Late 1960s-1970s: significant e/h/s regulation
 - NHTSA (autos), OSHA (workplace), EPA (air/water/land), CPSC (consumer product)
- (4) Late 1970s-1980s: "deregulation"/ reform/ privatization, primarily of "competitive" industries
 - Airlines, freight transportation, energy, cable TV, banking
- (5) Mid-1980s - present: privatization/restructuring of traditional utility or "natural monopoly" sectors
 - Electricity, telecommunications, railroads

Why??

Modeling the Political Economy of Regulation The Regulatory Process



- Models of positive political economy often focus on just one piece of system (given complexity), but this can be misleading.
- Political process aggregates preferences, reaches allocation decisions, in a manner quite different from market allocation mechanism.

"Economic Theory of Regulation" (Stigler/Peltzman/Becker and more elaborate variants)

Stigler model: focuses on demand, very simple supply side

- ◆ Interest groups bid (with \$, votes) for use of state coercive power to extract rents. Influence is a function of resources, free-rider problems in collective action, etc.
- ◆ Demand = d(perceived benefits of regulation, costs of organizing, relative costs/benefits of government intervention v. private cartel)
- ◆ Theory of coalitions (optimal group size):
 - ◆ $\partial(\text{organizing cost})/\partial n > 0$
 - ◆ $\partial(\text{relative benefit of regulation})/\partial n > 0$
- ◆ Supply passive: highest "bidder" gets policy
- ◆ Peltzman & Becker have slightly more complex supply (consumer and/or competing interest groups)

Results:

- ◆ Regulatory forms dictated by attempts to restrict rents to interested incumbents
- ◆ Competition among interests may modify regulation ("something for everyone")
- ◆ Posner (1971) "Taxation by Regulation" variant:
 - State uses regulation as an alternative to tax system, to achieve distributional objectives
- ◆ Model is most successful in explaining regulation where benefits are concentrated among few firms

Limitations of the simple "economic theory of regulation"

- ◆ May be hard to generate falsifiable predictions ("these were the identified winners, so they must have been the most organized/had the most to gain.")
- ◆ Little/no supply side (politics as "black box")
- ◆ Ignores coalition-building, bargaining
 - Legislation requires majority vote
- ◆ Predicts clear statutes, little agency discretion; observe just the opposite
- ◆ Ignores role of regulatory agencies and courts

Empirical Tests of Economic Theory of Regulation:

1. Estimate distributional effects; assume these are intentional and reflect relative influence of different economic interests. Ex: Prager (1989).

Implicit assumption: Regulation benefits interest groups in ways inconsistent with pure public interest models.

Prager (1989 RJE): Interstate Commerce Act of 1887

Event study analysis:

Positive share price responses to regulation

Negative share price responses to court decisions weakening ICC

=> Regulation was intended to benefit railroads

Caveat: If one regards this as a test of the “public interest” theory, it needs a well-specified counterfactual. That is, what effect would an optimal regulatory scheme have had on the railroads?

2. Model support for regulation

Three steps:

- i) Identify ex ante winners and losers, using model of regulatory effects
- ii) Measure importance of these interests within jurisdiction
- iii) Estimate incidence of regulation, or support for regulation, as a function of these economic interests and other relevant factors

Two types of studies:

- i) Explain patterns of regulation across jurisdictions (countries, states, etc.) or over time
- ii) Explain votes for regulatory policies (e.g., within Congress)

2.1 Stigler (1971 Bell Journal)

Seeks to explain variation in the intensity of trucking regulation across states.

Assumption: Truck weight limits represent efforts to restrict the ability of trucks to compete with railroads.

Economic interests in regulation represented by:

- 1) Railroad interest in restricting competition decreases with average length of RR haul
- 2) Agricultural interest in expanding competition increases with use of trucks on farms
- 3) Public interest in weight limits decreases with quality of state highway system

Model:

Weight limit (1000 lbs) = f(

Trucks on farms per 1000 agric. employees +

Ave. length RR haul (miles) +

% Highways with High-type surface +

Stigler, (1971 BJE)

TABLE 2

REGRESSION ANALYSIS OF STATE WEIGHT LIMITS ON TRUCKS
(T VALUES UNDER REGRESSION COEFFICIENTS)

DEPENDENT VARIABLE	N	CONSTANT	trucks on farms X_3	ave RR haul X_4	% high surface roads X_5	R ²
X_1 weight limits	48	12.28 (4.87)	0.0336 (3.99)	0.0287 (2.77)	0.2641 (3.04)	0.502
X_2	46	10.34 (1.57)	0.0437 (2.01)	0.0788 (2.97)	0.2528 (1.15)	0.243

X_1 = WEIGHT LIMIT ON 4-WHEEL TRUCKS (THOUSANDS OF POUNDS), 1932-33
 X_2 = WEIGHT LIMIT ON 6-WHEEL TRUCKS (THOUSANDS OF POUNDS), 1932-33
 X_3 = TRUCKS ON FARMS PER 1,000 AGRICULTURAL LABOR FORCE, 1930
 X_4 = AVERAGE LENGTH OF RAILROAD HAUL OF FREIGHT (MILES), 1930
 X_5 = PERCENT OF STATE HIGHWAYS WITH HIGH-TYPE SURFACE, DEC. 31, 1930

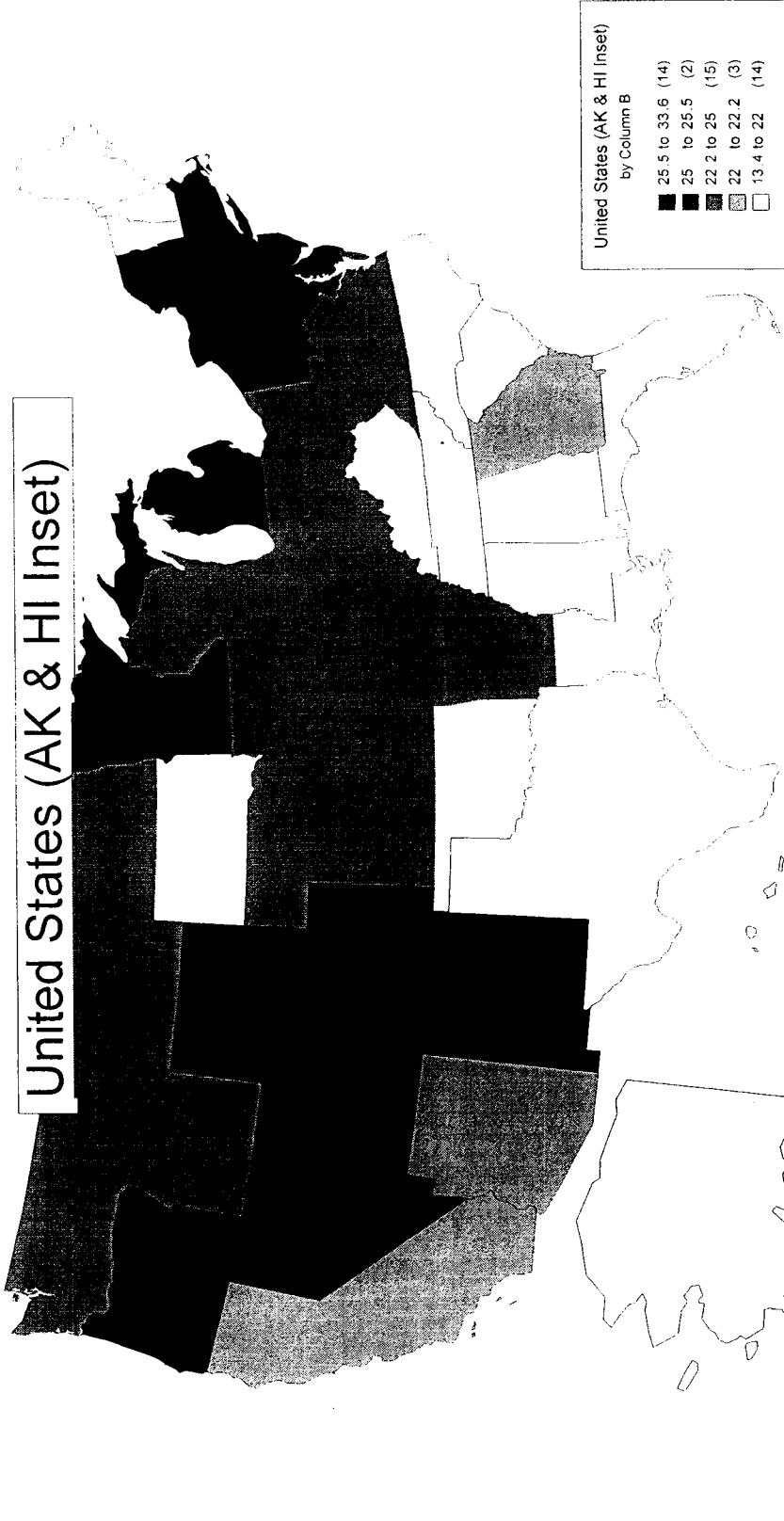
SOURCES: X_1 AND X_2 : THE MOTOR TRUCK RED BOOK AND DIRECTORY [11], 1934 EDITION, P. 85-102, AND U.S. DEPT. OF AGRIC., BUR. OF PUBLIC ROADS, DEC. 1932 [13].

X_3 : CENSUS OF AGRICULTURE, 1930, VOL. IV, [14].

X_4 : A.A.R.R., BUR. OF RAILWAY ECONOMICS, RAILWAY MILEAGE BY STATES, DEC. 31, 1930 [1] AND U.S.I.C.C., STATISTICS OF RAILWAYS IN THE U.S., 1930 [18].

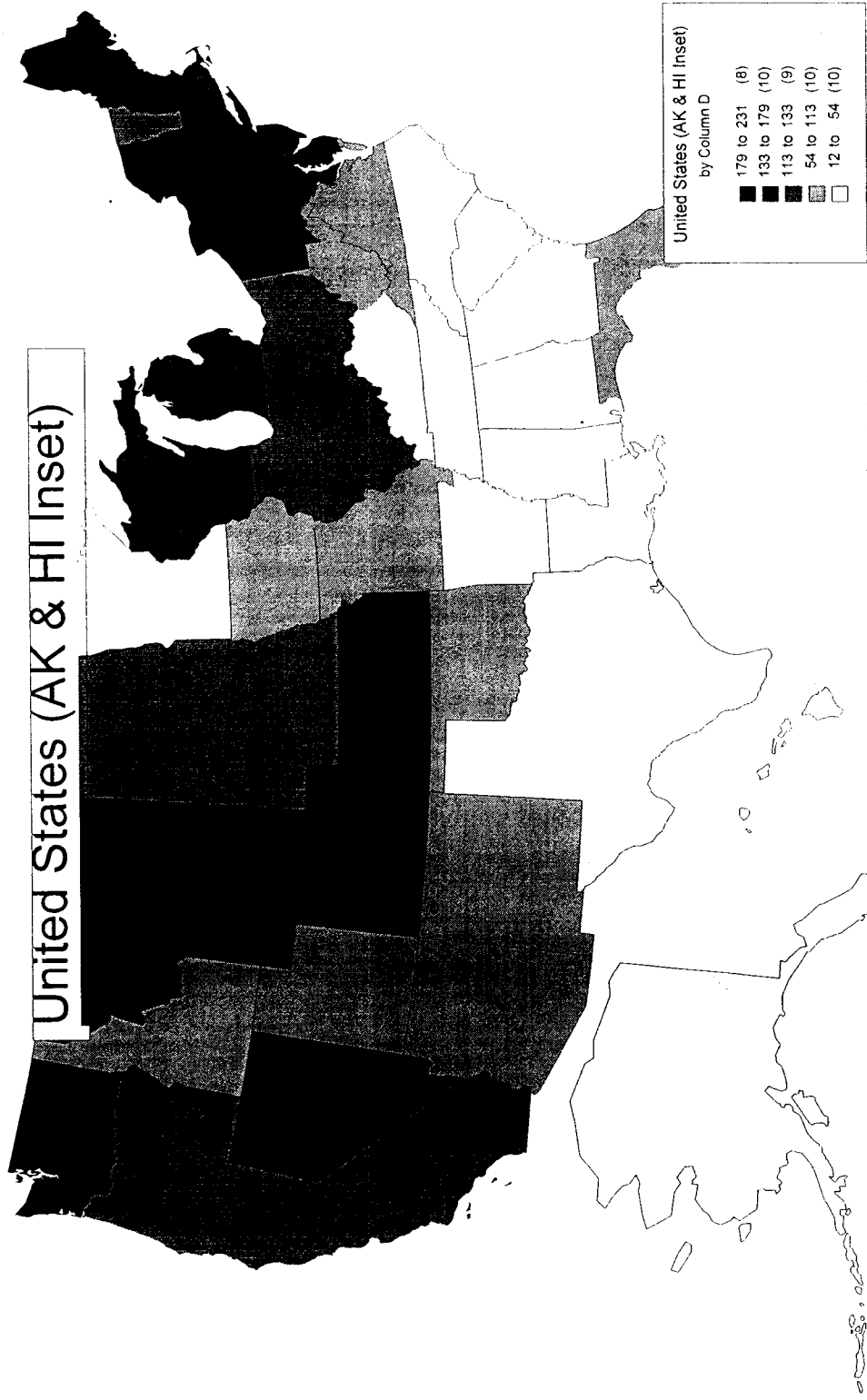
X_5 : STATISTICAL ABSTRACT OF THE U.S., 1932 [16].

United States (AK & HI Inset)



Weight Limits on 2-Axle Trucks, 1932-33
1,000 pounds

United States (AK & HI Inset)



Trucks on Farms/ 1000
Agricultural Workers

TABLE 3

INITIAL YEAR OF REGULATION AS A FUNCTION OF
RELATIVE SIZE OF OCCUPATION AND DEGREE OF URBANIZATION

OCCUPATION	NUMBER OF STATES LICENSING	MEDIAN CENSUS YEAR OF LICENSING	REGRESSION COEFFICIENTS (AND T-VALUES)		R ²
			SIZE OF OCCUPATION (RELATIVE TO LABOR FORCE)	URBANIZATION (SHARE OF OCCUPATION IN CITIES OVER 100,000*)	
BEAUTICIANS	48	1930	-4.03 (2.50)	5.90 (1.24)	0.125
ARCHITECTS	47	1930	-24.06 (2.15)	-6.29 (0.84)	0.184
BARBERS	46	1930	-1.31 (0.51)	-26.10 (2.37)	0.146
LAWYERS	29	1890	-0.26 (0.08)	-65.78 (1.70)	0.102
PHYSICIANS	43	1890	0.64 (0.65)	-23.80 (2.69)	0.165
EMBALMERS	37	1910	3.32 (0.36)	-4.24 (0.44)	0.007
REGISTERED NURSES	43	1910	-2.08 (2.28)	-3.36 (1.06)	0.176
DENTISTS	48	1900	2.51 (0.44)	-22.94 (2.19)	0.103
VETERINARIANS	40	1910	-10.69 (1.94)	-37.16 (4.20)	0.329
CHIROPRACTORS	48	1930	-17.70 (1.54)	11.69 (1.25)	0.079
PHARMACISTS	48	1900	-4.19 (1.50)	-6.84 (0.80)	0.082

SOURCES: THE COUNCIL OF STATE GOVERNMENTS, "OCCUPATIONAL LICENSING LEGISLATION IN THE STATES", 1952 [3], AND U.S. CENSUS OF POPULATION [15], VARIOUS YEARS.

* 50,000 IN 1890 AND 1900.

We expect these variables to be negatively associated with year of licensure, and each of the nine statistically significant regression coefficients is of the expected sign.

The results are not robust, however: the multiple correlation coefficients are small, and over half of the regression coefficients are not significant (and in these cases often of inappropriate sign). Urbanization is more strongly associated than size of occupation with licensure.¹³ The crudity of the data may be a large source of these disappointments: we measure, for example, the characteristics of the barbers in each state in 1930, but 14 states were licensing barbers by 1910. If the states which licensed barbering before 1910 had relatively more barbers, or more highly urbanized barbers, the predictions

¹³ We may pool the occupations and assign dummy variables for each occupation; the regression coefficients then are:

size of occupation relative to labor force: -0.450 ($t = 0.59$)
urbanization : -12.133 ($t = 4.00$).

Thus urbanization is highly significant, while size of occupation is not significant.