State Sales Below Cost Laws: Hunting Sheep in Wolves Clothing

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ABSTRACT. This paper examines whether state laws to prevent below cost sales provide protection for small businesses beyond the protection afforded by the federal antitrust laws. The paper first identifies the theoretical implications of state sales below cost laws. I find that there are various circumstances when the state law will provide additional protection to the federal predatory pricing laws. The uniqueness of the empirical section of this paper is based on the functional form of the tests and the distinctive features of the state laws used to discern the laws impact on small businesses. I find that state laws do have a small impact on the viability of small businesses in certain industries. Additionally, the differences among the state laws also have an impact on the percentage of small businesses in a state. However, it does not appear that these laws are reducing the pricing behavior that could be deemed predatory. This implies that the effects of these laws are potentially inconsistent with the goals of competition (K12).

I. Introduction

Twenty-nine states enacted legislation forbidding sales of goods below cost by 1941. States enacted these laws to address the rapid expansion of large chain stores that occurred throughout the 1930's (Ross 1986). Some states enacted SBC laws to protect small businesses by preventing firms from selling goods below cost with the intent of injuring competitors, competition or deceiving consumers, while others simply forbid loss leader selling practices (*See*, Cal Bus. & Prof Code §§ 17030 and 17044).

States enacted SBC laws despite the fact that federal legislation already prevented monopolization and attempts to monopolize. SBC laws differed from the federal laws at their time of inception because actual or potential monopolization was never required for a violation of the state laws. This distinction between the state and federal laws became even more profound as the interpretation of federal predatory pricing laws

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evolved.

The sales below cost laws have not received the same notoriety as predatory pricing in either legal or economic journals. The vast majority of legal publications tend to discuss the constitutionality of the state laws (Dougherty 1985). This paper recognizes that SBC laws have not attracted significant attention in the literature, while acknowledging that these claims are more likely to be successful and often provide remedies differing from their federal counterparts. The state laws have been empirically examined only a few times, and typically examine gasoline specific legislation. Studies by Houston (1981) and Anderson and Johnson (1999) empirically tested the effects of SBC laws utilizing cross-sectional data, while Skidmore, Peltier, and Alm (2005) utilized a panel data approach. These papers all contribute to the literature pertaining to SBC laws, but do not relate the effects back to the federal laws prohibiting predatory pricing.

This paper differs from previous studies in that it attempts to examine whether these state laws have become a prominent substitute for the federal laws as the ability for plaintiffs to succeed on predatory pricing claims has diminished. The purpose of this paper is to develop a theoretical model that exemplifies why the state claims will have a tendency to produce results differing from a federal predatory pricing action, and empirically examine whether SBC laws condemn conduct that is typically condoned by the federal laws and not predatory in nature.

This study is organized as follows. I first analyze the legal framework of federal predatory pricing and state sales below cost laws. I then offer a theoretical discussion of the application of SBC laws compared with the federal standard of predatory pricing. These theoretical hypotheses are then empirically tested by examining the effects of the state SBC laws on small businesses.

II. The Legal Distinction between Predatory Pricing and SBC Laws

"Predatory pricing claims are rarely tried, and even more rarely successful". This statement in the case *Matsushita Electric Industrial Co., v. Zenith Radio Corp.* is representative of the Court's attitude towards predatory pricing claims since 1986. Since the *Matsushita* case was decided, federal claims for predatory pricing became more difficult

for plaintiffs to pursue as the Court began scrutinizing these cases to a greater extent, while economists often criticized the reasonableness and feasibility of predatory pricing (Easterbrook 1981 and Posner 1992).

A claim of predatory pricing is enforceable under both Section 2 of the Sherman Antitrust Act and the Robinson-Patman Act. However, the legal analysis relating to predatory pricing has changed significantly since the acts' respective inceptions. Prior to 1975, predatory pricing was treated as an attempt to monopolize. However, the economic and legal interpretations began to focus on consumer welfare subsequent to that year with three major events. First, the Areeda-Turner average variable cost test became prevalent and increased the difficulty of proving predation in terms of cost (Areeda and Turner 1975). Second, the Supreme Court decided the *Matsushita* case in 1986, which was a Sherman Act Claim, and began requiring evidence that a defendant would be capable of recouping its losses from the predatory investment by later charging prices in excess of the competitive level. Third, the Supreme Court applied the *Matsushita* recoupment standard to primary line price discrimination claims under the Robinson-Patman Act in its 1993 *Brooke* decision.

It is clear that the alteration of the federal standards have affected predatory pricing litigation. A case study on predatory pricing cases before the year 1975 demonstrated that predatory pricing claims were filed one hundred and twenty-eight times beginning with the Standard Oil and American Tobacco cases in 1911. Courts found that defendants engaged in predatory pricing in ninety- five of these instances (Koller II 1971). Thus, plaintiffs regularly filed predatory pricing claims between the enactment of the Sherman Act and the year 1975, and often succeeded. In the period between the inception of Areeda-Turner and the Supreme Court's decision in *Matsushita,* fifty- five predatory pricing claims were filed in the federal courts and twenty seven journal articles were written on the subject (Liebeler 1986). However, the current requirements of the recoupment test have proved demanding, as no plaintiff has recovered on the grounds of predatory pricing in federal court since *Brooke Group* was decided (Edlin 2002).

The federal antitrust laws are not the only avenues of litigation for firms that have fallen prey to predatory pricing. Many states enacted legislation specifically designed to prohibit sales below cost. These claims may or may not also violate either the Sherman Act or the Robinson-Patman Act. States typically enacted these laws with the

purpose of protecting small businesses and preventing the use of loss leader selling (Johnson 1999). Table 1 illustrates the state enactments.

TABLE 1–State Sales Below Cost Laws

State	Legislation	Enacted	Repealed	Retailer's Markup
Arizona	Ariz. Rev. Stat. Ann. § 44-1461	1937	1982	12%
Arkansas	Ar. Stat. § 4-75-201-11	1937		
California	Cal. Bus & Prof. Code § 17028, § 17019 17044	1935		6% in 1953
Colorado	Col. Stat. Ann. § 6-2-105	1937		
Connecticut	Ct. St. § 35-27	1949	1969	6%
Hawaii***	Haw. Rev. Stat. § 481-3	1955		6%
Idaho	Idaho Code § 48-401	1939		6% in 1955
Kansas	50-401	1941	1961	6%
Kentucky	Ky. St. § 365-030	1936		
Louisiana	La. Rev. St. § 51-422	1942		6%
Maine	10 Me. St. § 1204-A	1939		6%
Maryland	Md Comm. Law § 11-404	1939/1957	1951	5%
Massachusetts	Mass. St. 93 § 14E	1938		6%
Minnesota	Mn. St. § 325D.04	1937		
Montana	Mt. St. § 30-14-209	1937		
Nebraska	Neb. Stat. 59-1201	1905	1972	6%
New Hampshire	N.H. Stat. Chapter 358	1941	1977	6%
New Jersey	N.J. Stat 56-4-2	1938	1975	6%
North Dakota	N.D. St. 51-10-04	1941		
Oklahoma	15 Ok. St. § 598.1	1941		6%
Oregon	Oregon Stat. 50-656.010-646.180	1937	1975	6%
Pennsylvania	73 Pa. St. § 213	1937		4%
Rhode Island	R.I. St. § 6-13-4	1939		6%
South Carolina	S.C.S. § 39-3-150	1902		
Tennessee	Tn. St. § 39-3-150	1937		6%
Utah	Utah Code 13-5-1	1937		6%
Virginia	Va. Chapter 259	1938	1976	6%
Washington	Wash. St. § 19.86	1939	1983	
West Virginia	W.V. St. § 47-11A-2	1939		7%
Wisconsin	Wis. Stat. Ann. 100.30	1939		6% until 1985
Wyoming	Wyo. Stat. Ann. 40-4-101	1937		

***Statehood in 1959, Act passed in 1939
Source: State Legislation Commercial Clearing House (CCH), Trade Regulation Reporter

The state provisions differ from the federal laws because they do not

require an injury to competition to the same extent as the federal laws. While the state laws were not specifically designed to act as a surrogate for predatory pricing, they do appear to give potential defendants alternative avenues to attack a firm selling below cost, whether or not the conduct is actually predatory. Specifically, these laws penalize below cost sales practices, regardless of whether the offender can recoup losses or whether it imposes harm on competition. Injury to a single competitor is often sufficient for an SBC claim (Perkins 1999). In Oklahoma, the appellate court reasoned that the act of pricing below cost alone infers that the defendant substantially lessened competition (*Star Fuel Marts* 2003).

Another significant distinction between the federal and state laws is the determination of cost. While average variable cost is the standard for predatory pricing, the state laws condemn prices that are made below average total cost. Additionally, many of the state provisions incorporate a minimum markup provision. These provisions are intended to act as a measure of fixed cost. The state enactments all require a price above average total cost, but the inclusion of a minimum markup provision allows potential plaintiffs to observe a potential violation straightforwardly, as a price below the relevant markup is presumed to be illegal. Table 1 illustrates the relevant minimum markup provisions.

Given that state enactments are far more inclusive than their federal counterparts, it should be the case that more actions are likely to be tried on state grounds than under a predation theory and they should be easier to win. State laws are not designed to promote efficiency akin to the federal laws, but do highly value the protection of small firms in the market. The only advantage to a plaintiff under the federal laws is the application of treble (three times) damages. Only some state laws afford plaintiffs treble damages (Oller 2008).

III. Theoretical Implications of the Sales Below Cost Laws

The federal and state laws have a common nexus regarding below cost pricing, but are not intended to condemn the same behavior. The purpose of sales below cost legislation is to protect small businesses. Federal predatory pricing is applied to increase consumer welfare (*Brooke* 1992). The result is that state sales below cost laws will condemn any activity that is considered predatory pricing. However, conduct that constitutes a violation of a state SBC law is not necessarily predatory pricing

(*Cargill* 1986).

The three significant differences between federal predatory pricing and state sales below cost laws occur with respect to determination of cost, the federal law's imposition of treble damages and the federal requirement that the predator recoup its losses from the below cost sales. I examine whether these differences affect an incumbent's decision to embark on a predatory scheme, and whether sales below cost legislation will alter a rival's entry decision. I provide a general model illustrating when SBC laws provide additional incentives beyond the protection of the federal laws against conduct that is clearly predatory pricing. I then evaluate when SBC laws may condemn pricing practices that may not necessarily be predatory.

The model begins with the premise that if predatory pricing is a rational strategy the incumbent's profits will be $\alpha+\delta M$, where α is the firm's first period losses from the below cost sales and δM is the firm's discounted future monopoly profits. If p is the firm's probability of facing liability under the federal law and s is the firm's probability of incurring liability under the state law, then the state law will provide additional deterrence against predatory pricing if:

$$p(\alpha+\delta A-3\gamma) + (1-p)(\alpha+\delta M) > s(\alpha+\delta A-\gamma) + (1-s)(\alpha+\delta M), \quad (1)$$

where A is the firm's profits from sharing the market, γ is the entrant's loss from the incumbent's predatory campaign and δ is the discount rate. This equation implies that an incumbent liable under either the federal or state law will lose its initial investment, forego monopoly profits in future periods and pay actual or treble damages. The equation may be simplified to:

$$s - p > \frac{3p\gamma - s\gamma}{\delta M - \delta A}. \quad (2)$$

The discrepancy between monopoly and accommodation (the denominator in equation (2)) profits does give an incentive for large firms to utilize predatory pricing. However, if predatory pricing is ever a viable strategy, equation (2) suggests that larger discrepancies between monopoly and accommodation profits will increase the effectiveness of the SBC law in deterring predatory conduct.

Based on the theoretical assessments there are two hypotheses that may be drawn. First, SBC laws should provide additional protection for small businesses regardless of whether the sale below cost is predatory, if selling below cost is a strategy utilized by large stores. Second, SBC laws should provide additional protection for small firms as the probability of succeeding under the federal antitrust laws has diminished.

A set of testable hypotheses can be formed from the theoretical work in this section to focus the scope of the empirical study. The purpose of these hypotheses is to analyze if and how state sales below cost laws will extend beyond the federal predatory pricing laws to protect small businesses. The testable hypotheses are as follows:

1. SBC laws should increase the presence of small firms in industries where pricing below cost is common as it deters both predatory and non predatory sales below cost.
2. If predatory pricing is a viable strategy, small firms should have a larger presence in states that enacted a SBC law during the years when the predatory pricing became a more difficult offense to prove.
3. If predatory pricing is not a viable strategy, the deterioration of the federal law should have a minimal effect on the presence of small firms.

IV. The Empirical Tests of SBC Laws

The empirical tests are designed to examine whether state sales below cost laws protect small businesses. Small businesses should be more prevalent in states with sales below cost laws if these laws are effective. Additionally, the SBC laws effect on small businesses should be more profound during the years when the predatory pricing laws became a more difficult cause of action to prove.

Three different dependant variables were used to measure small businesses. The first set of dependent variables delineates small firms on the basis of single unit establishments relative to the total number of establishments in the *Census of Business* from 1929-1967, which contains eight censuses. By examining the percentage of small businesses, the regression could predict negative percents or unrealistic values above 100%, so a logit transformation was performed on this dependent variable. Five different industries are examined from this data set including; grocery stores (SIC 541), variety stores (SIC 533), tire stores

(SIC 553), furniture stores (SIC 5712) and hardware stores (SIC 5251). Data for grocery stores and variety stores were available in every time period. Data for the remaining industries examined were available for seven of the eight years.

This data from 1929-1967 are only relevant to testing the first hypothesis that SBC laws will increase the presence of small businesses, because the sample does not incorporate data from the years following *Matsushita*. This is a large period of time and the interpretations of the laws were subject to change. An attempted solution for this problem was to control for constitutionality of the laws, but the results produced illogical results, such as unconstitutional laws significantly affecting small business while constitutional laws did not (Oller 2008). A likely reason for the failure to observe meaningful results is that the unconstitutional provisions were often remedied through legislation or repealed within a short period of time and the effect of the interpretation did not have time to adjust the competitive structure of the market. Nevertheless, further study on the effects of litigation on SBC laws does appear to be an interesting challenge for further studies as litigation results should alter the effectiveness of the laws.

The second measure used to identify small and large businesses is data that depicts establishment size based on the total number of employees per establishment. This data was available on an annual basis from 1977-1997. An examination was made of the national distribution of firms across the various employment sizes, and the data was parsed into small or large establishments in order to calculate the percentage of small businesses using these data. I then performed a logit transformation on this dependent variable as well. The five industries examined in this context are: Building materials & garden supplies (SIC 52); Food stores (SIC 54); Automotive dealers & service stations (SIC 55); General merchandise stores (SIC 53); and Furniture and home furnishings stores (SIC 57)[1].

The five industries selected in the sample from 1977-1997 were primarily a function of the availability of data. A data set was needed that incorporated several years by state and the only available data was given in the form of the broader 2 digit SIC codes. While these categories are broader than the industries utilized in the sample from 1929-1967, I attempted to select industries that had some relationship to the industries with available data from 1929-1967. However, these broad classifications may explain differences in regression results from the two time periods,

as the larger classifications may contain some industries that may be more prone to loss leading and predation, while including others that are less prone to observe such conduct. The automotive industry would be an example of this as it incorporates both car dealers and service stations.

It was important to select industries that sold multiple products, such as the grocery industry, as these firms will be more prone to utilize loss leaders (Areeda & Hovencamp). Industries with durable goods, such as furniture stores, were also utilized because they are sellers that would be less prone to engage in loss leader strategies, and SBC laws should not be as significant with viable federal predation laws.

A third measure also utilizing employment data from 1977-1997 was used for robustness. This variable measures the average employment size of firms by industry in a state. The same five industries used in the variable containing employment data are also used for this variable. An examination of SBC laws during this time period is crucial because the major transformation of federal predatory pricing laws began with *Matsushita* in 1986. The state law should be an alternative cause of action for small firms; so those firms should utilize the state laws more during these years if they perceive potential illegal pricing by dominant firms. Thus, the tests for this time period should capture whether firms used the state law as an alternative to the federal law in predatory pricing cases.

The model is a basic linear model with panel data with state fixed effects[2]. The functional form of the model is:

$$\text{Logit}\ (\%\text{Small}_{it}) = \gamma \text{SBC}_{it} + X_{it}\beta + \alpha_i + \eta_t + \varepsilon_{it}.^{3} \quad (3)$$

where α_i represents the state fixed effects and η_t represents the time effects. Of course, one time dummy is not included to avoid multicollinearity. X_{it} represents the explanatory variables for state i in time t. SBC_{it} represents the status of the law in state i at time t.

In this study the following variables are used:

SBC- This is a dummy variable which equals one if the state had a general SBC law during a given year. This variable should increase small businesses if SBC laws provide effective protection for small businesses. This variable provides a test of general effectiveness of the laws.

Markup- This dummy variable equals one if the state has a general SBC

law with a provision in the law that sales must include a minimum markup.

No Markup- This dummy variable equals one if the state has a general SBC law but does not contain a provision in the law that firms must include a minimum markup in the price.

SBCBefore and SBCAfter- these variables are time dummy variables applied to states with that had an SBC laws before *Matsushita* and those that had an SBC law after *Matsushita*. The variables are used to examine the effectiveness of the state statutes before and after the significant change to the federal predatory pricing law.

Control variables were also included to accurately represent the effect of state SBC laws on small businesses. I attempted to select variables that were discussed in the literature as relevant to predicting entry by large firms similar to Wal-Mart, such as retail sales, the size and density of population, as well as age and income distributions (Jia 2008, Holmes 2006). The variables utilized in Skidmore, et. al. (2005) included variables relevant to the gasoline industry in addition to those mentioned above. However, many of those were not significant in the regressions on the retail price of gasoline, and do not appear relevant to the presence of small businesses in this study. Population is mentioned as a factor inducing entry by large firms. However, the dependent variable in this study measures the proportion of small businesses rather than total number of small businesses, which limits the usefulness of incorporating population as an explanatory variable. For example, if a large state with a large proportion of chain stores merged with a small state with a large presence small firms, the population would increase, but the proportion of large stores would actually decline. The resulting control variables employed in this study are retail sales adjusted for inflation in the state, real per capita income, the percentage of the population between the ages of 15 and 65, and percentage of the population living in urbanized areas.

In addition to control variables, a dummy variable was included in each data set to account for time variation in the dependent variable. The variable controls for business cycle effects and other year specific shocks. In the regressions examining the period from 1929-1967, a time dummy variable was used for every census period. For example, a time dummy was included for 1929, 1935, 1939, etc. In the sample from 1977-1997, a time dummy variable was included for year in the sample.

V. Results

The results are broken into two categories: First, whether the SBC laws are successful in protecting small businesses. Second, whether a change in the federal interpretation of the federal laws changed the effectiveness of the state laws. Tables 2-4 illustrate the effects of the general SBC laws on small businesses.

A. PROTECTION OF SMALL BUSINESSES

The fact that remains most consistent throughout the models is the fact that SBC laws do tend to result in a greater presence of small businesses in the food and grocery industries at a five percent significance level based on all three dependant variables. In Tables 2 and 3 it should be noted that the dependent variable is a logit transformation of the percentage of small businesses. Exponentiation of the coefficient would be interpreted as the percent increase in the proportion of small to large businesses. For example, in Table 2, the coefficient for the SBC variable for grocery was .078545. Exponentiation would yield a value of 1.082, which should be interpreted as an 8.2% increase in the proportion of small to large business will result from an SBC enactment. This value increased in the sample from 1977-1997, yielding a coefficient of .623. Additionally, when minimum markup provisions are included as part of the state legislation, the presence of small businesses increases more dramatically in the food industry. This is consistent in all regressions. The only result that is unexpected is that the no markup provision is positive and has a p-value of .0796 when examining the average number of employees per firm. This suggests that the SBC law without a markup provision increased the average firm size beyond a state with no law.

In three of the industries, it appears that market definition is an important empirical factor. The variety, hardware, and automotive industries responded to the SBC variable in a similar fashion as the grocery market. In Table 2, SBC laws had a positive and significant effect on small businesses in both the variety and hardware industries from 1929-1967, however they did not show the same significance when the broader industries were examined in Table 3. This is likely due to the fact that the more narrowly defined industries encompass stores more likely to engage in loss leader selling, but the broader industries entail markets that sell more durable goods that are not as prone to loss leading activity[4].

The automotive industry shows opposite results in that the SBC law was positive and significant in the broader industry, but not the narrow industry. An important distinction is that the broader automotive industry includes gasoline service stations, which have been one of the primary targets of SBC laws (Johnson, 1999)

Additionally, the markup provisions for these industries were less consistent than the grocery industry. The general merchandise results are interesting because there are some unexpected results. The markup provision tested differently than expected with variety stores because the provisions with no markup were the only ones that were significant. With respect to general merchandise, the markup provisions in Table 4 were significant when examining average employment size, but not in Table 3 when the proportion of small business was examined[5]. The hardware industry yielded a p-value of .0605 for markup provisions, and but those provisions were not significant when examining the broader industries. The fact that the lack of markup provisions showed some results differently than expected in the grocery and variety store market would make a specific examination of these provisions an interesting subject for future study.

The furniture industry produces results that would also be an interesting topic for a more detailed examination. Furniture is a durable good and should be less prone to loss leader sales, which implies that the SBC variable should not produce significant results comparable to the other industries. The SBC variable in the furniture industry did not increase the presence of small firms in any industry; however, the variable actually increased the presence of large firms in Table 4. This result was also observed in states that did not have markup provisions. While the law may not theoretically protect small firms in this industry, it would be interesting to examine why the law benefitted large firms.

B. CHANGE IN PREDATION LAWS

While the laws did tend to promote small businesses in several of the industries examined, it does not appear that the results were due to the deterrence of predatory pricing. The variables for the *SBCBefore* and *SBCAfter* were used to capture the effectiveness of the law as predatory pricing claims became a less viable cause of action. The coefficients were then tested under the null hypothesis of equality.

TABLE 2

Dependent Variable: Log Proportion of Small to Large Firms										
Test of General SBC Laws										
	Grocery		Variety		Furniture		Hardware		Tire	
Variable	Coefft.	Prob.	Coefft.	Prob.	Coefft.	Prob.	Coefft.	Prob.	Coefft.	Prob.
Retail	-0.0000908	0.0626	0.000223	0.0000	-0.0000733	0.6055	-0.000254	0.0160	-0.00039	0.0000
Urban	-4.054828	0.0000	-2.564572	0.0000	-0.109493	0.8922	2.336382	0.0005	0.193075	0.6660
PCPI	-0.0000779	0.0001	-0.0000914	0.0000	-0.0000508	0.5656	-0.0000345	0.5465	0.000151	0.0014
Age	5.017874	0.0000	3.051851	0.0007	8.168863	0.0188	5.959819	0.0016	5.865979	0.0007
SBC	0.078545	0.0202	0.072596	0.0413	0.184091	0.251	0.213383	0.0146	-0.123061	0.2211
R-Sq	0.847987		0.821135		0.570777		0.641974		0.645984	
Adj. R-Sq.	0.820305		0.788564		0.480903		0.567009		0.57159	

Test of SBC Laws with Minimum Markup Provisions										
	Grocery		Variety		Furniture		Hardware		Tire	
Variable	Coefft.	Prob.	Coefft.	Prob.	Coefft.	Prob.	Coefft.	Prob.	Coefft.	Prob.
Retail	-0.0000955	0.0537	0.000208	0.0000	-0.000109	0.3984	-0.000184	0.1837	-0.000377	0.0000
Urban	-4.069359	0.0000	-2.610945	0.0000	-0.27364	0.7370	2.888211	0.0015	0.222383	0.6214
PCPI	-0.0000766	0.0001	-0.0000871	0.0000	-0.0000448	0.6081	-0.000125	0.0850	0.000147	0.0019
Age	5.106294	0.0000	3.493767	0.0001	9.062905	0.0074	3.533963	0.2925	5.685335	0.0014
Markup	0.104077	0.0117	0.03932	0.2928	0.088416	0.5447	0.277301	0.0605	-0.090776	0.3602
No Markup	0.066581	0.3110	0.189731	0.0009	0.372083	0.1639	0.00681	0.0278	-0.202678	0.1426
R-Sq	0.848111		0.824895		0.574029		0.642952		0.647574	
Adj. R-Sq.	0.819896		0.792368		0.48297		0.566626		0.571963	

TABLE 3

Impact of State Sales Below Cost Laws on Small Firms

Dependent Variable: Log Proportion of Small to Large Firms based on Employment Size

Test of General SBC Laws

	Food		Gen. Merchandise		Automotive		Building Materials		Furniture	
Variable	Coefft.	Prob.	Coefft.	Prob.	Coefft.	Prob.	Coefft.	Prob.	Coefft.	Prob.
Retail	-0.0000798	0.0004	-0.000166	0.0000	-1.05E-04	0.0000	-0.00014	0.0000	-0.0000732	0.0024
Urban	-2.568112	0.0000	0.106622	0.7432	-0.28771	0.0302	0.190615	0.5832	0.144455	0.7271
PCPI	0.0000631	0.0000	0.000129	0.0000	2.877E-06	0.0215	0.0000029	0.6846	-0.0000067	0.4834
Age	-8.371422	0.0000	-9.028706	0.0000	-1.088847	0.0422	-2.729724	0.0452	-6.647899	0.0000
SBC	0.162686	0.0000	0.053291	0.1188	0.088737	0.0008	-0.109252	0.0952	0.014634	0.6877
R-Sq	0.84756		0.920442		0.947098		0.872829		0.816229	
Adj. R-Sq.	0.83599		0.914404		0.943083		0.863177		0.802281	

Test of SBC Laws with Minimum Markup Provisions

Variable	Coefft.	Prob.	Coefft.	Prob.	Coefft.	Prob.	Coefft.	Prob.	Coefft.	Prob.
Retail	-0.0000748	0.0007	-0.000164	0.0000	-0.000103	0.0000	-0.000139	0.0000	-0.0000762	0.0020
Urban	-2.571947	0.0000	0.097476	0.7652	-0.287559	0.0300	0.190368	0.5836	0.146685	0.8232
PCPI	0.0000608	0.0000	0.000128	0.0000	0.00000552	0.0536	0.00000282	0.7016	-0.00000535	0.5802
Age	-8.487423	0.0000	-9.055662	0.0000	-1.175518	0.0294	-2.737186	0.0448	-6.580451	0.0000
Markup	0.281562	0.0000	0.06747	0.0880	0.129079	0.0000	-0.101605	0.2070	-0.054486	0.1931
No Markup	0.06621	0.0821	0.044876	0.2016	0.053535	0.0378	-0.115459	0.0818	0.070729	0.0521
R-Sq	0.849158		0.920458		0.947313		0.872835		0.81678	
Adj. R-Sq.	0.837543		0.914333		0.943256		0.863043		0.802672	

Test of SBC Laws Following A Change in Predatory Pricing Laws

Variable	Coefft.	Prob.	Coefft.	Prob.	Coefft.	Prob.	Coefft.	Prob.	Coefft.	Prob.
Retail	-0.0000854	0.0000	-0.000166	0.0000	-0.000107	0.0000	-0.000139	0.0000	-0.000072	0.0030
Urban	-2.120864	0.0000	0.010505	0.9740	-0.27365	0.0469	0.233753	0.5064	0.248729	0.5457
PCPI	0.000068	0.0000	0.000128	0.0000	0.0000071	0.0133	0.00000341	0.6425	-0.0000056	0.5598
Age	-4.022427	0.0009	-9.121835	0.0000	-1.079011	0.0457	-2.746302	0.0439	-6.687972	0.0000
Markup	0.205947	0.0000	0.071608	0.0405	0.87785	0.0010	-0.114664	0.0835	0.001553	0.9669
No Markup	0.218685	0.0000	0.035243	0.3204	0.092828	0.0006	-0.097928	0.1408	0.042006	0.2791
R-Sq	0.917597		0.920849		0.946617		0.872907		0.816737	
Adj. R-Sq.	0.911252		0.914755		0.942507		0.863121		0.802626	

TABLE 4

	Food		Gen. Merchandise		Automotive		Building Materials		Furniture	
Variable	Coefft.	Prob.	Coefft.	Prob.	Coefft.	Prob.	Coefft.	Prob.	Coefft.	Prob.
Retail	0.000822	0.0000	0.004858	0.0000	5.22E-04	0.0000	0.000328	0.0000	0.000212	0.0000
Urban	11.61392	0.0000	8.264952	0.4343	-2.818509	0.0898	4.288139	0.0017	3.341151	0.0000
PCPI	-0.000147	0.0003	-0.002788	0.0000	-0.000519	0.0000	0.000216	0.0000	0.0000394	0.0147
Age	25.31808	0.0035	216.0858	0.0000	30.63003	0.0000	5.01048	0.3308	11.51418	0.0003
SBC	-0.741199	0.0126	-4.070765	0.0497	-0.760551	0.0056	0.4422	0.1579	0.23719	0.0490
R-Sq	0.90808		0.917069		0.862436		0.912964		0.865707	
Adj. R-Sq.	0.901104		0.910774		0.851996		0.906359		0.855514	
Test of SBC Laws with Minimum Markup Provisions										
Retail	0.000776	0.0000	0.004814	0.0000	5.22E-04	0.0000	0.000332	0.0000	0.00021	0.0000
Urban	11.62839	0.0000	8.278721	0.4333	-2.828605	0.0900	4.290018	0.0017	3.341931	0.0000
PCPI	-0.000127	0.0018	-0.002769	0.0000	-0.00052	0.0000	0.000219	0.0000	0.0000405	0.0127
Age	25.1937	0.0035	215.9675	0.0000	30.63086	0.0000	4.99433	0.3326	11.50747	0.0003
Markup	-2.135965	0.0000	-5.398264	0.0183	-0.75126	0.0175	0.261101	0.4810	0.162037	0.2913
No Markup	0.398221	0.0796	-2.986298	0.1616	-0.768141	0.0066	0.590144	0.0824	0.298585	0.0112
R-Sq	0.911868		0.917193		0.862437		0.913129		0.865844	
Adj. R-Sq.	0.905081		0.910817		0.851844		0.90644		0.855514	
Test of SBC Laws Following a Change in Federal Predatory Pricing Laws										
Retail	0.000808	0.0000	0.004964	0.0000	5.44E-04	0.0000	0.000324	0.0000	0.000208	0.0000
Urban	11.0782	0.0000	12.43686	0.2534	-1.961257	0.2499	4.157515	0.0025	3.185633	0.0001
PCPI	-0.000149	0.0002	-0.002771	0.0000	-1.961257	0.0000	0.000216	0.0000	0.0000388	0.0166
Age	25.28657	0.0035	216.3313	0.0000	30.68046	0.0000	5.002797	0.3318	11.50503	0.0003
SBCBefore	-0.691493	0.0035	-4.457849	0.0353	-0.840089	0.0029	0.454319	0.1482	0.25162	0.0382
SBCAfter	-0.86044	0.0054	-3.142179	0.1444	-0.569743	0.0489	0.413125	0.1950	0.202575	0.1065
R-Sq	0.908225		0.917387		0.863333		0.912986		0.865859	
Adj. R-Sq.	0.901158		0.911025		0.852809		0.906286		0.85553	

The data cannot support a conclusion that the SBC laws improved the presence of small businesses following the *Matsushita* case in any industry. The coefficients were shown to be significantly different on three occasions. These were in general merchandise for Table 3 and 4, as well as the automotive industry for Table 4. However, the *SBCBefore* variable was more prone to protect small businesses in each of these instances. In the food industry, both variables were significant, but the coefficients were not significantly different. The *SBCBefore* variable actually reduced small businesses in the furniture industry in Table 4, which further demonstrates that the results are different than expected for that market. These results tend to indicate that state laws are effective in promoting small business, but not as a result of preventing predatory pricing.

VI. Conclusion

The state SBC laws are designed to protect small businesses. This paper examined whether these laws are in fact effective at protecting small businesses, and whether that protection is the result of deterring predatory pricing. If predatory pricing is a rational strategy that is exploited by large businesses, the SBC laws should be effective in deterring the conduct. Additionally, as the federal protection against predatory pricing weakened subsequent to 1986, the state laws should have been utilized more as a means of deterring predation.

The results of this study show that the state laws have been effective at protecting small businesses in certain industries, but not necessarily from conduct that would constitute predatory pricing. The SBC laws do not appear to act as a substitute for predatory pricing, because the effectiveness of state enactments did not improve after the change in the federal laws.

There is significant policy implications arising from the fact that the SBC laws do not tend to capture predatory practices, which likely reflects the fact that predation is indeed rare. Predatory pricing is problematic because it injures consumer welfare through future monopoly pricing. SBC laws that only serve to punish non-predatory sales below cost penalize loss leader selling practices, which may be beneficial to society as consumers receive the benefit of lower prices without a subsequent price increase (Areeda and Hovencamp 1995). It is apparent that SBC laws can protect small businesses; however, the costs of this

protectionism are in the form of punishing firms that are not acting in a predatory manner and increased prices to consumers. The Federal Trade Commission addressed this issue in an opinion on SBC laws to the Virginia Legislature and discouraged the implementation of the provisions[6].

Perhaps a social benefit of an SBC law that does not address predatory pricing would be to limit deceptive pricing practices. State statutes frequently mention deceptive sales as a justification for the statutes. While this paper does not address deceptive loss leader practices, an examination of the relationship between SBC laws and loss leader selling appears to be a topic for future consideration since the laws are protecting small businesses, but likely not against predation.

Appendix

Descriptive Statistics

Summary Statistics of Data from 1929-1969

Variable	Mean	St. Dev.
Logit Grocery	2.17	.58
Logit Variety	.21	.497
Logit Hardware	2.98	.86
Logit Tire	1.37	.44
Logit Furniture	2.44	.86
Retail	4687.48	1627.29
Urban	.55	.18
PCPI	8187.32	3331.35
Age	.63	.04
SBC	.46	.499

Number of Observations: 384
Degrees of Freedom: 331

Summary Statistics of Data from 1977-1997

Variable	Mean	St. Dev.
Logit Food	2.53	.43
Logit General Merchandise	1.61	.64
Logit Building Materials	2.33	.45
Logit Automotive	2.23	.27
Logit Furniture	3.11	.43
Avg. Emp. Food	15.51	3.32
Avg. Emp. General Merchandise	52.14	17.4
Avg. Emp. Building Materials	9.02	2.07
Avg. Emp. Automotive	8.04	2.13
Avg. Emp. Furniture	6.39	.94
Retail	8393.41	1281.52
Urban	.68	.14
PCPI	21013.71	4075.79
Age	.655	.018
SBC	.45	.498

Number of Observations: 1050
Degrees of Freedom: 975

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Endnotes

1. The closest corresponding NAICS codes are as follows: Grocery (NAICS 44511), Variety (NAICS 45299), Tire (NAICS 44532), Furniture (NAICS 44211), Hardware (NAICS 44413), Food (NAUCS 445), Building Materials (NAICS 444), General Merchandise (NAICS 452), Automotive (NAICS 441), Furniture (442).
2. This application of fixed effects is also consistent with the literature testing the effects of SBC laws in a panel data set (Skidmore et al 2005). The functional form of the regression model was tested and specified before including SBC variables in the regressions. The dependent variables in every industry revealed the same finding that the proper functional form should include state fixed effects.
3. The logit transformation performed takes the form of logit (%Small)=1n(p/(1-p)). The model also assumes that the data were robust in heteroskedasticity, given the nature of the cross-sectional component of the data. Nevertheless, variances were tested for equality. As a result of the robust standard errors, White Standard errors were utilized to correct for heteroskedasticity.

   Another pertinent issues with respect to testing these laws is in regards to endogeniety. Skidmore (2005) illustrates that high prices did not cause SBC laws, but that creation of SBC laws was correlated with Democrats in office. They utilized a Hausman test that resulted in a failure to reject the null hypothesis that the SBC variable was exogenous to price markups. The authors also test the effects of SBC laws on market structure and treat the SBC law as exogenous to the total number of establishments. This supports our treatment of the SBC laws as exogenous variables. Additionally, all of the current literature on empirical testing of SBC laws treats the laws as exogenous.
4. The broader industry for general merchandise includes department stores and the broader industry for building materials includes industries such as mobile homes and lumber.
5. However, the variable is significant at the 10% level.
6. This opinion was expressed by the Federal Trade Commission in letter to Delegate McDonnell of the Virginia House of Delegates. The letter was written on February 15, 2002 and accessed at http://www.ftc.gov/be/V020011.shtm on July 23rd, 2009.