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The Market for Corporate Charters: "Unhealthy Competition" versus Federal Regulation*

I. Introduction

Corporate charters embody contracts between corporations and their stockholders by defining the rights of stockholders and the authority of the officers of the corporation. For example, corporate charters specify, among other things: the voting rights of stockholders, the rules governing the election of directors, the approval process required for mergers, and sales of assets of the corporation.

In the United States, laws relating to the incorporation of companies are the province of the separate states. State incorporation codes and case law set minimum standards for corporate charters by requiring that stockholders be granted certain rights. Once incorporated in a particular state, a corporation may, for the most part, do business in any other state and continue to be governed by the corporate code of the state

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This paper examines the impact on stockholder wealth of management's decision to change the firm's state of incorporation. Proponents of federal chartering legislation contend that the existing competition among states for corporate charters enables management to exploit stockholders. Our results show that, contrary to the exploitation hypothesis, management's decision to reincorporate in another state does not reduce stockholder wealth. We find no evidence of negative abnormal returns to stockholders at the time of reincorporation or subsequently. Prior to the change in state of incorporation, stockholders earn positive abnormal returns. The evidence is consistent with our hypothesis that management incorporates in the state where the costs of the firm's planned production-investment and financing activities are minimized.

of incorporation.¹ Corporate codes vary across states and have varied over time within states.

Corporate chartering generates substantial revenue for some state treasuries, and some states compete for charters. For example, Cary (1974, p. 663) cites the preamble to the Delaware code which maintains that the state's policy of providing a "favorable climate" for corporate charters provides a "leading source of revenue" for the state.²

Competition among states for corporate charters is criticized in the legal literature where it is viewed as "unhealthy" because it supposedly results in a trend toward promanagement ("permissive") statutes.³ It is alleged that some states, in their quest to make their statutes more appealing to corporate management, provide management with so much freedom from stockholder control that shareholders receive inadequate protection. In support of their allegations, critics focus on the predominance of Delaware in the market for corporate charters and argue that the appeal of that state's corporation code to management is its disregard for the rights of stockholders. It is claimed that other states compete by offering similar codes, and Cary (1974) protests that Delaware is leading a "movement towards the least common denominator" and winning a "race for the bottom."⁴

The proposed remedy for the deterioration of stockholder protection is federal intervention, with a body such as the Securities and Exchange Commission responsible for granting and regulating the content of corporate charters. Only a central authority offers a solution to the "voting with the feet" problem, it is claimed, and congressional hearings have been held with a view to establishing federal chartering regulations.⁵

Proponents of federal chartering present no empirical evidence to support their claims that stockholders of companies incorporated in Delaware (or in any of its counterparts) are at the mercy of management. The purpose of this paper is to investigate the case for federal chartering of corporations by examining evidence of the effect of the choice of a state of incorporation on the wealth of stockholders.

There are two fundamental premises of this paper. The first is that management's choice of a particular state of incorporation is an economic decision, not a legally mandated one. Management is assumed to make the choice with due consideration of the costs and benefits of alternative state codes using, in principle, the same cost-benefit calculus that is involved in other decisions such as selecting plant sites.

1. See Winter 1977, p. 252.

2. In 1971, corporate franchise taxes represented 25% of Delaware's tax collections (see U.S. Department of Commerce 1972). In 1967, according to May (1968), franchise taxes constituted the second largest revenue item in Delaware's budget.

3. E.g., see Cary 1974 and Nader, Green, and Seligman 1976.

4. Cary 1974, pp. 663, 707.

5. U.S. Senate 1976.

The second premise is that investors weigh the costs and benefits of alternative state corporation codes when they consider investments in securities of firms incorporated in particular states.

The evidence presented here lends no support to the arguments that stockholders are harmed by management's choice of a state of incorporation. Stockholders do not earn negative abnormal returns when managements initiate a change in the state of incorporation to a state which is supposedly more promanagement (such as Delaware). Indeed the change follows a period of abnormal positive returns. Subsequent to the change, stockholders earn normal returns, contrary to the basic arguments of the proponents of federal chartering regulation.

Outline of the Paper

In Section II, "The Market for Corporate Charters," we present evidence concerning the number of corporate charters issued by the various states for initial incorporation of firms and for corporations which are changing their state of incorporation. We conclude that Delaware predominates in both markets, but we argue that predominance itself does not necessarily imply that stockholders of Delaware corporations are exploited by managers. Section III, "The Lure of Delaware: Competing Hypotheses," contains two alternative hypotheses which explain why firms change their state of incorporation to Delaware. We label them the "stockholder-exploitation hypothesis" and the "cost-avoidance hypothesis." The data we use to discriminate between these hypotheses are described in Section IV, "Description of the Data." Section V, "Methodology and Results," explains the methodology we use to test them and discusses the results of the tests. In Section VI, "Interpretation and Extension of the Results," we subject our data to further tests to isolate the effects of the reincorporation decision itself on stockholder wealth, and brief conclusions are contained in Section VII.

II. The Market for Corporate Charters

Initial Incorporations

The numbers in table 1 support the contention that Delaware is a major supplier of corporate charters. In 1977, 436,170 companies were newly incorporated in the United States, and 14,836 (3.40%) of these obtained their charters in Delaware. Only six states supplied more charters than Delaware, and each of these states is much larger than Delaware.⁶ When the states' chartering activity is scaled by population (as a measure of size, albeit crude), Delaware's chartering activity clearly

6. The six states and the percentage of charters they supplied are New York (11.77), California (9.88), Florida (8.06), Texas (5.80), New Jersey (4.44), and Illinois (4.19).

TABLE 1 1977 New Incorporations by State: Numbers in Absolute Terms and Scaled by State Population

State	Incorporations (Thousands)	% of Total	Population (Millions)	Rank		Population/ Incorporations
				Incorp.	Pop.	
New York	51.333	11.77	18.214	1	2	355
California	43.073	9.88	20.652	2	1	479
Florida	35.149	8.06	7.745	3	8	220
Texas	25.296	5.80	11.828	4	4	468
New Jersey	19.366	4.44	7.325	5	9	378
Illinois	18.291	4.19	11.176	6	5	611
Delaware	14.838	3.40	.573	7	46	39
Ohio	13.972	3.20	10.743	8	6	769
Michigan	13.291	3.05	9.061	9	7	682
Pennsylvania	12.573	2.88	11.862	10	3	943
Other	188.988	43.33	100.664	...	...	533
Total U.S.	436.170	100.00	209.843	...	...	481

SOURCE.—*Dun and Bradstreet News* April 1, 1978, and *Book of the States* 1977.

dominates that of other states. Table 1 reveals that, in 1977, one company incorporated in Delaware for every 39 people in the state, compared with one company for every 220 people in Florida, the state with the next smallest ratio. Moreover, the dominance prevails across time. During the period 1945–77, Delaware's share of new charters did not fall below 2.13% per year and rose as high as 4.48% per year.⁷ When the state of incorporation of larger corporations is considered, the dominance of Delaware is striking, even in absolute numbers. For example, of all the firms listed on the New York Stock Exchange (NYSE) in 1977, approximately 40% were incorporated in Delaware.⁸

Delaware's chartering activity is indeed impressive, especially for a state of its size. However, the sheer weight of numbers does not constitute evidence that stockholders of Delaware corporations suffer at the hands of management. The welfare of stockholders of Delaware corporations is not affected by the degree of protection afforded by the Delaware code, even if that code allows management to misappropriate stockholders' funds. Stockholders have an alternative means of protection—the price they are prepared to pay for the stock. The supposed lack of protection offered by the Delaware code is well publicized. Provided stockholders' expectations are unbiased, the prices of shares of firms incorporated in any state reflect the costs that are expected to be imposed on stockholders by management.⁹ If, in the

7. These percentages are based on numbers contained in *Dunn and Bradstreet News* (various dates 1945–77).

8. Based on information contained in *NYSE Directory* (1977).

9. See Fama (1976, chap. 5) for a discussion of the hypothesis that stock prices reflect all available information.

extreme, a particular state offered no protection at all (even to the extent of not enabling voluntary contracts to be enforced), shares of firms incorporated in that state would not sell for a positive price. This price-protection argument represents an a priori challenge to the allegation that stockholders of firms incorporated in Delaware are disadvantaged.¹⁰

Reincorporations

Even if a firm is incorporated in a state which offers shareholders extensive protection from management exploitation, shareholders cannot take that level of protection for granted. Firms can change their state of incorporation. Reincorporation in another state is usually achieved by establishing a subsidiary with the same name in the desired state. The parent is then merged into the subsidiary, and the subsidiary becomes the surviving corporation. According to the price-protection argument, stockholders make unbiased estimates of the cost and probability of such switches when they make their initial purchase of the corporation's stock. When the switch to another state occurs (strictly, when it becomes known), most of the uncertainty associated with the event is resolved. If there is less protection for stockholders in the new state, the price of the stock falls to reflect the resolution of uncertainty, and holders of the stock suffer a wealth loss. However, even in this scenario, stockholders are in no way fooled or exploited.

To assess the significance of Delaware in the market for reincorporations, we collected a sample of 140 NYSE-listed firms which changed their state of incorporation during the period 1927-77.¹¹ The distribution of the switches across states is presented in table 2. The role played by Delaware is indeed overwhelming. Of the total of 140 switching firms, 126 (90.0%) changed to Delaware and only six (4.3%) left Delaware for other states. The states receiving the next largest number of changes were Connecticut, New Jersey, New York, and Pennsylvania, each of which received only two (1.4%) switches. The time series of the total number of switches is presented in table 3, together with the time series of switches to Delaware. The switching activity of the sample is heavily concentrated in the 1966-77 period, but the dominance of Delaware persists during the entire time period.

The dominance of Delaware in the market for reincorporations raises some interesting questions. Given that Delaware plays a large role in the market for new incorporations, but has some competitors, why does it have so little competition in the market for reincorporations? Why do switching firms incorporate elsewhere and then reincorporate in Delaware, and why does this behavior persist through time? We

10. Posner (1977) and Winter (1977) provide a thorough discussion of this a priori challenge.

11. The source of these data is described in Sec. IV of the paper.

TABLE 2 (Continued)

From/To	CA	CT	DE	MI	MN	NJ	NY	OH	PA	Other	Total
Nebraska (NE)			1								1
Nevada (NV)											0
New Hampshire (NH)											0
New Jersey (NJ)		2	20						1		23
New Mexico (NM)											0
New York (NY)			17			1					18
North Carolina (NC)											0
North Dakota (ND)											0
Ohio (OH)			5							1	7
Oklahoma (OK)	1										0
Oregon (OR)											0
Pennsylvania (PA)			7				1				8
Rhode Island (RI)			2								2
South Carolina (SC)											0
South Dakota (SD)											0
Tennessee (TN)											0
Texas (TX)			2								2
Utah (UT)											0
Vermont (VT)											0
Virginia (VA)											0
Washington (WA)			1								1
West Virginia (WV)			1								0
Wisconsin (WI)			2								1
Wyoming (WY)											2
Dist. of Columbia (DC)											0
Total	1	2	126	1	1	2	2	1	2	2	140

TABLE 3 Time Series of Changes in State of Incorporation by 140 NYSE Firms, including 126 Changes to Delaware

Year	To Delaware	Total	Year	To Delaware	Total
1928	1	1	1953	1	1
1929	1	1	1954	0	0
1930	2	2	1955	0	0
1931	0	0	1956	2	3
1932	0	0	1957	0	0
1933	1	1	1958	3	3
1934	1	1	1959	2	2
1935	0	0	1960	2	3
1936	1	1	1961	0	0
1937	1	1	1962	1	1
1938	1	1	1963	1	1
1939	0	0	1964	2	2
1940	0	0	1965	2	2
1941	0	0	1966	10	10
1942	0	0	1967	9	9
1943	0	0	1968	22	22
1944	0	0	1969	19	19
1945	0	1	1970	6	6
1946	0	1	1971	5	6
1947	3	3	1972	6	7
1948	0	0	1973	5	7
1949	0	1	1974	2	2
1950	1	1	1975	4	5
1951	1	1	1976	6	10
1952	1	1	1977	1	1
			Total	126	140

address these questions in the next section and develop competing hypotheses concerning what motivates firms to incur the costs of changing their state of incorporation.

III. The Lure of Delaware: Competing Hypotheses

We discuss the following competing hypotheses concerning why firms change their state of incorporation to Delaware: (i) stockholder-exploitation hypothesis, and (ii) cost-avoidance hypothesis.

Stockholder-Exploitation Hypothesis

Proponents of federal regulation of corporate charters argue that managers of firms change the state of incorporation to enrich themselves at the expense of stockholders. This hypothesis, which we call the stockholder-exploitation hypothesis, has testable implications. Shareholders of firms which reincorporate in Delaware will, on average, suffer losses as the value of their shares falls to reflect an increase in the expected costs of exploitation by management. Note that, although we call this the exploitation hypothesis, it is entirely consistent with the

price-protection argument addressed above, and no one is fooled or exploited.

Those who propose arguments similar to the exploitation hypothesis allege that the predominance of Delaware in the market for charter switches is itself evidence in support of their arguments. Predominance, they contend, is consistent with the view that Delaware's appeal lies in the relative ease with which the state's code allows managers to exploit stockholders.

Cost-Avoidance Hypothesis

We propose an alternative hypothesis to explain management's decision to change the state of incorporation. According to our cost-avoidance hypothesis, management selects a state where the corporate code minimizes the expected costs of the firm's production-investment and financing activities. The attraction of a particular state may be not only the state code per se but rather the interpretation of that code by the courts. For example, an often-quoted advantage of incorporation in Delaware is the long history of established precedents and predictable rulings of the Delaware judiciary.¹² The predictability of court rulings lowers the legal costs of bringing and defending actions.

A decision to change the state of incorporation to avoid costs can be induced by two distinct types of events. First, the corporate code of the present "home" state or a potential "destination" state might have changed, resulting in lower costs for the firm in the destination state. Second, a particular firm can anticipate a change in its activities which results in a potential cost saving from switching states, given the states' corporate codes. For example, if a firm decides to undertake a policy of expanding by merger, it can switch to a state which reduces the cost of a merger by requiring a smaller percentage of stockholders to approve mergers.

If firms are switching, on average, in response to a change in the code of their home state or a potential destination state, we expect to observe a pattern of firms leaving particular states and selecting others. That pattern should correspond to changes in corporation codes. No such pattern is implied if firms switch because of contemplated changes in activities, except to the extent that such changes are induced by economy-wide factors.¹³

The data in table 3 indicate that the switches for our sample are spread over the entire 50-year period, with a higher frequency in the late 1960s—66 (47.1%) of the 140 switches occur in the period 1966–70 (all of them to Delaware). The Delaware corporate code underwent a major

12. See, e.g., Kaplan 1968 and Folk 1976.

13. To the extent that changes in corporate code and expected changes in firms' activities are not independent, the two types of events are not distinguishable from an empirical point of view.

revision in 1967, and the Delaware Corporate Law Revision Commission clearly saw its purpose as attracting corporations to incorporate in Delaware.¹⁴ The revised code offered "... great ease of charter amendment and less restriction on selling assets, mortgaging, leasing, and merging, due to the lower percentage of shareholder approval required and also by virtue of lesser rights of appraisal for dissenting minority shareholders."¹⁵

However, the late 1960s was the beginning of a major merger and tender-offer wave.¹⁶ A well-documented advantage of the Delaware code, both before and after the 1967 revision, was its relatively "permissive" attitude toward mergers and tender offers.¹⁷ Thus, the observed frequency of switches to Delaware in the late 1960s is also consistent with the alternative form of the cost-avoidance hypothesis, that is, switching firms contemplated a change in their takeover activity and reincorporated in Delaware to reduce the cost of that activity.

Whatever the event which is the source of the real cost savings, the cost-avoidance hypothesis has empirical implications which are distinct from those of the shareholder-exploitation hypothesis. If there are real cost savings associated with a switch, shareholders will not suffer losses when the switch is announced. To the contrary, the value of their shares could even increase. Whether shareholders of reincorporating firms on average suffer losses or reap gains is testable and enables us to discriminate between the two hypotheses advanced above. In the next section we describe the data we use to test the hypotheses.

IV. Description of the Data

Moody's Industrial Manual (Moody's) provides a concise summary of the incorporation histories of industrial firms listed on the NYSE, American Stock Exchange, and regional exchanges. Utilities, transportation firms, banks, and finance corporations are not included in the manual.

We searched the 1977 edition of *Moody's* and discovered 199 NYSE firms which had changed their state of incorporation since 1927. That sample is neither complete nor unbiased, since it is comprised of surviving firms only, that is, it does not include firms which have been delisted as a result of mergers or bankruptcy. To complete the sample, we collected a sample of switches for nonsurviving NYSE firms during

14. See Cary 1969, p. 13.

15. See Kaplan 1968, p. 332.

16. See Dodd and Ruback 1977.

17. Winter (1977, p. 288) explains this advantage of the Delaware code.

TABLE 4 Sample of 280 NYSE Firms Switching State of Incorporation during 1927-77

	Original Sample	Eligible Sample (Satisfying Data Requirements)
Surviving	199	114
Nonsurviving	81	26
Total	280	140

the period 1927-77. Using the CRSP file of monthly security prices,¹⁸ we obtained the names of all firms delisted from the NYSE since 1927. There were 1,147 such corporations, and we searched the history of incorporation for each of those corporations in the edition of *Moody's* immediately prior to its delisting. This process yields a sample of 81 switches for nonsurviving NYSE firms, resulting in a total sample of 280 switches.

Our methodology requires information concerning the stock prices of the sample firms for months prior to and after the announcement of the change in state of incorporation. When we imposed these minimum data requirements on the firms, our eligible sample size fell to 140, of which 26 were nonsurvivors. The origin of the original sample and the eligible sample are summarized in table 4. The distribution of the switches across states and the time series of the switches are discussed above for the 140 firms in the eligible sample and are summarized in tables 2 and 3.

Initially, we obtained the month of the switch from *Moody's* also. Subsequently, we searched the *Wall Street Journal Index* for the period 1958-77 for each firm in our sample to obtain the earliest date of the announcement of management's intention to change states. For each of our 140 sample firms, we used the earliest date of announcement we were able to discover. The dates included in our study refer to the date of mailing proxy material to stockholders, the date of stockholder approval of the merger with the dummy corporation, or the date of formal registration of the new charter.¹⁹

In the next section, we outline the methodology we use to test the hypotheses and present the results of our analysis.

18. Center for Research in Security Prices, University of Chicago (1978).

19. We were able to obtain 50 announcements in the *Wall Street Journal* which referred to forthcoming stockholder meetings to approve plans to reincorporate in another state. We exploit these more precise announcement dates in a refinement of our hypothesis testing below.

V. Methodology and Results

*Methodology*²⁰

To discriminate between the competing hypotheses concerning why firms change their state of incorporation, we consider the impact of the change on the rate of return on the shares of switching corporations. On the assumption that security returns are distributed multivariate normal, we use the following market model:

$$\tilde{R}_{jt} = \alpha_j + \beta_j \tilde{R}_{mt} + \tilde{\epsilon}_{jt} \quad (1)$$

where:

$\tilde{R}_{jt}$ = rate of return on security j over period t (in this section of the paper, period t is 1 month);

$\tilde{R}_{mt}$ = rate of return on a value weighted market portfolio over period t ;

$\alpha_j = E(\tilde{R}_j) - \beta_j E(\tilde{R}_m)$;

ϵ_{jt} = disturbance term of security j at period t , and $E(\tilde{\epsilon}_{jt}) = 0$;

$\beta_j = \frac{\text{covar}(\tilde{R}_{jt}, \tilde{R}_{mt})}{\text{var}(\tilde{R}_{mt})}$.

The market model plays an important role in the empirical literature of finance. The disturbance term, $\tilde{\epsilon}_{jt}$, is interpreted as a measure of the abnormal return to stockholders of firm j for period t . It is an abnormal return in the sense that it represents the deviation of the monthly return on the security from its expected return, given the return earned by the market index during that period. That part of the return to security j represented by $\beta_j \tilde{R}_{mt}$ is presumed to be caused by market-wide or common variables, and the disturbance term captures the effects of firm-specific variables. When a large sample of firms experiences the same economic change or event, such as reincorporation in another state, the average disturbance of the sample is interpreted as capturing the economic impact of that event.

To test the cost-avoidance and stockholder-exploitation hypotheses, we use the market model, equation (1), to calculate prediction errors for each firm j , PE_j , for each of the 24 months before and after the month of the announcement of switch in state of incorporation, where $PE_{jt} = R_{jt} - \hat{\alpha}_j - \hat{\beta}_j R_{mt}$, for $t = -24, \dots, 0, \dots, +24$.

The prediction errors, PE_{jt} , are estimates of the abnormal returns to

20. Fama et al. (1969) were responsible for introducing this type of methodology into the finance literature. For subsequent applications and variations of their methodology, see Ball and Brown (1968), Scholes (1972), Largay and West (1973), Jaffe (1974), Mandelker (1974), and Dodd and Ruback (1977). Fama (1976, pp. 151-68) provides a summary of applications of the methodology.

the stockholders for the switching firms in those months. When estimating α_j and β_j from equation (1), the 24 months before and after the announcement are excluded from the estimation. These data are excluded because, under either the cost-avoidance or the stockholder-exploitation hypothesis, the expected value of the disturbance term, $E(\tilde{\epsilon}_{jt})$, is not equal to zero around the time of the switch.²¹

When estimating α_j and β_j we allow for possible shifts in the functional relationship in (1) that may be associated with the switch in state of incorporation. If $\hat{\alpha}_j$ and $\hat{\beta}_j$ are estimated using data pooled from before and after the switch, and in fact there have been changes in the coefficients α_j and β_j , the prediction errors, PE_{jt} , will include measurement errors that are induced solely by this shift. In a later section of this paper we report a significant number of shifts in $\hat{\beta}_j$ for our sample, which implies that some allowance for the shifts must be made when calculating abnormal returns.

Consequently we calculate prediction errors from the market model (1) using coefficients estimated before and after the reincorporation in another state. For each firm in our sample with at least 48 months of data available before and 48 months of data available after the switch, two separate market models are estimated. The α_j and β_j coefficients estimated from the data before the event are used to calculate prediction errors only for the 60 months before the switch and for the month of the switch. The α_j and β_j coefficients estimated from data after the event are used to calculate prediction errors for the 60 months after the switch. For those firms which do not have 48 months of data available before and after the switch, one market model is estimated using data from both before and after. For all firms, α_j and β_j are estimated using a minimum of 24 and a maximum of 60 months.

The market model is applied to all firms in the sample for each month, τ , relative to the event month, and an average prediction error (APE) for each month is calculated as

$$APE_{\tau} = \frac{1}{N} \sum_{j=1}^N PE_{j\tau}$$

where N is the number of firms which have prediction errors in month τ , and $PE_{j\tau}$ is the estimated prediction error. These average prediction errors are summed over event time ($\tau = -60, \dots, 0, \dots, +60$) to obtain cumulative average prediction errors (CPE). The maximum number of firms in our sample which meet the data availability requirements for

21. With this methodology, the exclusion period is, to some extent, arbitrary (see Fama et al. 1969, n. 9). To ensure that the results reported in this section are not highly sensitive to the length of the exclusion period, we replicated the tests using an exclusion period of 12 months rather than 24. The results were similar to those reported, and the conclusions of the paper are unaffected.

the CPE study for any 1 month is 140, and the minimum number is 109. Of these 140 firms, 126 switched to Delaware, and more than one half of the switches occurred in the period 1967-77.

Results

The major results of this study are summarized in table 5 and figure 1 where the monthly average prediction errors and cumulative monthly

TABLE 5 Percentage Monthly Average Prediction Errors (APE), Cumulative Average Prediction Errors (CPE), and Sample Sizes (*N*) for Firms Switching State of Incorporation for 60 Months Before and After the Switch

Month	APE	CPE	<i>N</i>	Month	APE	CPE	<i>N</i>
-60	1.12	1.12	100	+ 1	.39	36.54	140
-59	-.43	.69	101	+ 2	-.25	36.29	140
-58	.47	1.16	103	+ 3	.54	36.83	140
-57	.26	1.42	104	+ 4	-.29	36.54	140
-56	-.15	1.27	104	+ 5	-1.27	35.27	140
-55	.16	1.43	105	+ 6	1.06	36.33	140
-54	-1.01	.42	105	+ 7	.19	36.52	140
-53	.11	.53	106	+ 8	.34	36.86	140
-52	-.44	.09	106	+ 9	1.92	38.78	140
-51	.66	.75	106	+10	1.66	40.44	140
-50	.00	.75	107	+11	-.74	39.70	139
-49	.39	1.14	109	+12	-.13	39.57	139
-48	-.89	.25	109	+13	.38	39.95	139
-47	.73	.98	109	+14	-.08	39.87	139
-46	-1.48	-.50	109	+15	.59	40.46	138
-45	-.68	-1.18	109	+16	-.67	39.79	137
-44	.22	-.96	111	+17	-.31	39.48	137
-43	-1.05	-2.01	112	+18	.37	39.85	136
-42	-.55	-2.56	112	+19	-1.36	38.49	136
-41	.43	-2.13	113	+20	1.44	39.93	135
-40	.53	-1.60	115	+21	-1.46	38.47	135
-39	.31	-1.29	117	+22	1.38	39.85	135
-38	.23	-1.06	118	+23	.94	40.79	135
-37	-.01	-1.07	119	+24	-.48	40.31	135
-36	1.35	.28	120	+25	.86	41.17	135
-35	-.50	-.22	120	+26	-1.19	39.98	135
-34	.45	.23	121	+27	-.49	39.49	134
-33	.35	.58	122	+28	.37	39.86	134
-32	.57	1.15	123	+29	-1.19	38.67	132
-31	.14	1.29	124	+30	-.40	38.27	131
-30	.50	1.79	124	+31	.71	38.98	129
-29	.74	2.53	125	+32	.31	39.29	128
-28	-.65	1.88	126	+33	-.50	38.79	126
-27	2.03	3.91	126	+34	-.31	38.48	126
-26	.86	4.77	126	+35	-.30	38.18	126
-25	1.13	5.90	127	+36	-1.93	36.25	125
-24	.96	6.86	127	+37	-.60	35.65	124
-23	2.22	9.08	127	+38	.00	35.65	124
-22	.98	10.06	129	+39	-2.03	33.62	122
-21	1.82	11.88	129	+40	.70	34.32	122

TABLE 5
(Continued)

Month	APE	CPE	N	Month	APE	CPE	N
-20	.37	12.25	129	+41	-.90	33.42	121
-19	.06	12.31	129	+42	.15	33.57	121
-18	.75	13.06	133	+43	.19	33.76	118
-17	1.02	14.08	133	+44	.63	34.39	117
-16	1.84	15.92	133	+45	-1.02	33.37	115
-15	2.29	18.21	133	+46	-.13	33.24	115
-14	2.57	20.78	133	+47	-.93	32.31	115
-13	2.14	22.92	133	+48	-1.95	30.36	115
-12	1.58	24.50	133	+49	3.76	34.12	115
-11	.20	24.70	134	+50	-2.34	31.78	115
-10	1.03	25.73	134	+51	.81	32.59	114
-9	1.64	27.37	136	+52	-.46	32.13	114
-8	.70	28.07	136	+53	-.34	31.79	113
-7	.78	28.85	137	+54	-.41	31.38	113
-6	.41	29.26	138	+55	-.39	30.99	113
-5	2.22	31.48	138	+56	.47	31.46	113
-4	-.19	31.29	139	+57	.77	32.23	112
-3	.34	31.63	139	+58	1.35	33.58	111
-2	2.01	33.64	139	+59	-.37	33.21	109
-1	.93	34.57	138	+60	.32	33.53	109
0	1.58	36.15	139				

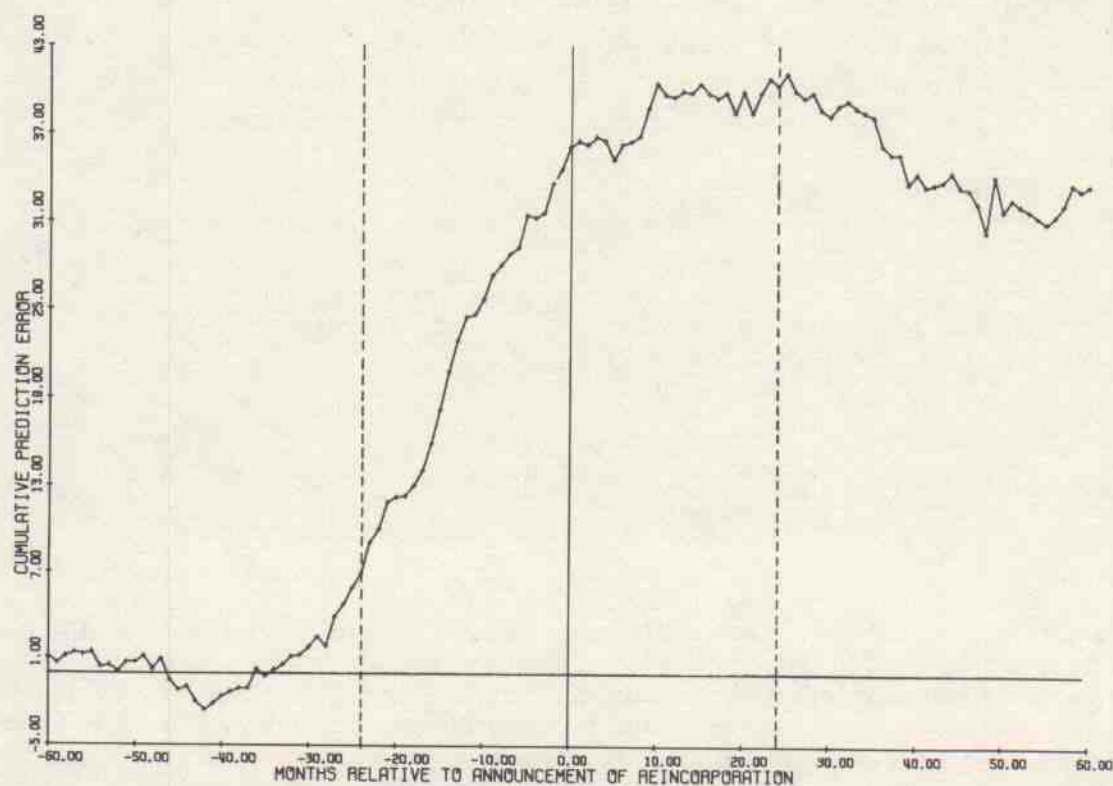


FIG. 1.—Plot of cumulative average prediction errors for the 120 months surrounding the month of change in state of incorporation for 140 NYSE firms.

average prediction errors for 60 months before and after the month of change in state of incorporation are presented. The cumulative average prediction error can be interpreted as an index of the total abnormal price changes from 60 months prior to the switch. These cumulative average prediction errors are the sum of the monthly average prediction errors from month -60 (i.e., from 60 months before the switch).

The most striking aspect of the data in table 5 and figure 1 is that shareholders of switching firms earn persistent positive abnormal returns over the 25-month period prior to and including the month of the switch. The cumulative average prediction error for this period is 30.25%. These positive abnormal returns follow a period of slight positive performance from months -60 to -25 where the cumulative average prediction error rises from zero to 5.90%.

After the switch, the average prediction errors fluctuate randomly around zero, and there is no obvious pattern in the cumulative average prediction error. This postswitch behavior is as expected in an efficient capital market where the stock price reflects all publicly available information.²²

To determine whether the cumulative average prediction errors in table 5 are significantly different from zero, we require some probability tests. The null hypothesis we wish to test is that the observed abnormal performance is not different from zero (i.e., the results are not a chance occurrence). The periods of interest are the preswitch period from month -24 to month 0, inclusive, and the postswitch period from month +1 to month +24, inclusive.²³ The test statistic used is $t = \overline{APE} / \sigma \overline{APE}$ where, for the preswitch period,

$$\begin{aligned}\overline{APE} &= \frac{1}{25} \sum_{\tau=-24}^0 APE_{\tau}, \\ \sigma \overline{APE} &= \frac{1}{5} \sqrt{\frac{1}{24} \left[\sum_{\tau=-49}^{-25} (APE_{\tau} - \overline{APE}_1)^2 \right]}, \\ \overline{APE}_1 &= \frac{1}{25} \sum_{\tau=-49}^{-25} APE_{\tau}.\end{aligned}$$

22. Similar results are obtained by analyzing the abnormal performance of the 126 firms that switched to Delaware. The cumulative average prediction error for those firms for the 25-month period to and including the month of the switch is 29.48%. After month zero, the average prediction errors for those firms fluctuate randomly around zero, and there is no obvious pattern in the cumulative average prediction error.

23. We use the same estimate of the standard error of the average prediction errors to test both pre- and postswitch performance. The estimate is calculated over 25 months prior to the preswitch period, i.e., from month -49 through -25 inclusively.

Under the null hypothesis that the average prediction errors are independent and normally distributed, this statistic has a Student's t -distribution with 24 degrees of freedom.

For the 24 months after the switch, the t -statistic is 1.09, which is not significant at the 10% level. We cannot reject the hypothesis that those firms earn normal returns over the 24-month period subsequent to the switch. For the preswitch period -24 to 0, the t -statistic is 7.90 and is significant at the 1% level. We can reject the hypothesis that our sample of switching firms earns zero abnormal return over the 25-month preswitch period.

VI. Interpretation and Extension of the Results

Preswitch Performance

The two hypotheses tested in this study have distinctly different predictions concerning the effect of a change in state of incorporation on stockholder returns. The stockholder-exploitation hypothesis predicts negative returns to stockholders, and the cost-avoidance hypothesis predicts positive returns. The results above are consistent with the cost-avoidance hypothesis. There is no evidence of any negative market reaction after reincorporation. Stockholders of switching firms earn positive abnormal returns of 30.25% over the 25-month period preceding and including the month of the change.

The absolute magnitude and pattern of preswitch positive performance raise some interesting questions. If the announcement of a change in the state of incorporation is viewed as good news for stockholders, we expect to see a discrete positive reaction in the month that the information becomes known. From table 5, it can be seen that the average prediction error in the month of the change (our month 0) is 1.58%. There are nine larger monthly average prediction errors during the 24 months prior to the event. One interpretation of this persistent abnormal performance is that these firms switched after experiencing a period of abnormally good performance. However, before accepting that interpretation we investigate an alternative explanation.

It is possible that our results are induced by the procedure we use to select our month 0. As noted in Section IV, our sample of incorporation changes is taken from *Moody's*, with some cross-checking to the *Wall Street Journal*. The date we use sometimes refers to the date of first public announcement of the proposed reincorporation, but, in many instances, it is the date of the merger of the former corporation with a dummy corporation established in the new state to effect the change. Thus, our month 0 does not always represent the initial public announcement of the switch.

Because the month we designate as our event month is subsequent to

TABLE 6 Percentage Monthly Average Prediction Errors (APE) and Cumulative Average Prediction Errors (CPE) for Firms Switching State of Incorporation for 24 Months Before the Switch—Original and Revised Calculations

Month	Original Calculations		Revised Calculations		Firms with Maximum Residual in the Month (N)
	APE	CPE	APE	CPE	
-24	.96	.96	.37	.37	4
-23	2.22	3.18	1.31	1.68	5
-22	.98	4.16	-.57	1.11	7
-21	1.82	5.98	.81	1.92	8
-20	.37	6.35	-.78	1.14	4
-19	.06	6.41	.06	1.20	0
-18	.75	7.16	-.04	1.16	5
-17	1.02	8.18	.03	1.19	7
-16	1.84	10.02	.54	1.73	6
-15	2.29	12.31	1.54	3.27	4
-14	2.57	14.88	1.05	4.32	9
-13	2.14	17.02	.81	5.13	6
-12	1.58	18.60	.31	5.44	7
-11	.20	18.80	-.36	5.08	3
-10	1.03	19.83	.01	5.09	7
-9	1.64	21.47	.41	5.50	9
-8	.70	22.17	-.36	5.14	5
-7	.78	22.95	.28	5.42	3
-6	.41	23.36	-.30	5.12	5
-5	2.22	25.58	1.04	6.16	5
-4	-.19	25.39	-.40	5.76	2
-3	.34	25.73	-.95	4.81	7
-2	2.01	27.74	.31	5.12	9
-1	.93	28.67	.09	5.21	5
0	1.58	30.25	.57	5.78	7

the month of the first public announcement of the event, the persistent positive abnormal returns prior to our month 0 could be induced by the lag in the data. The gradual increase in the cumulative average prediction error would then imply that, across our sample, the initial knowledge of the change is uniformly distributed over the 24 months prior to our month 0.

To obtain more insight into the persistent preswitch abnormal positive performance, we revise our calculations of the CPE for months -24 to 0. For each firm, we eliminate the largest prediction error for months -24 to 0, inclusive, and then recalculate the monthly average prediction errors and cumulative average prediction errors over this 25-month period. Table 6 contains the average prediction errors and cumulative average prediction errors calculated over the period -24 to 0 for the original method (as described in the previous section) and for the revised method (excluding the maximum prediction error for each firm). If the maximum prediction error is removed, the CPE rises to only 5.78% at month 0, far short of its level of 30.25% at month 0 when

all observations are included. Over 80% of the abnormal performance of the sample over the period from -24 to 0 is accounted for by one observation for each firm. It appears that in the 25 months up to and including the switch each firm in our sample was the subject of one piece of particularly good "news." Moreover, the timing of that news announcement was spread uniformly over the 25-month period. Table 6 reports the month when the maximum prediction error occurred for the firms in the sample. For example, the maximum prediction errors occurred for four firms in month -24 and seven firms in month 0. We use a χ^2 test to determine whether the distribution of the occurrences of the maximum across months differs from a uniform distribution. The χ^2 value we obtain by combining adjacent observations into five cells is 2.04 with 4 degrees of freedom, which is not significant at the 90% level. Thus we are not able to reject the hypothesis that the maximum prediction errors are spread uniformly over the 25-month period.

Performance on Announcement Days

The piece of particularly good news that affected the firms in our sample over the 25-month period prior to month 0 could be news of the switch itself or news of some other event affecting the firms. Undoubtedly information about the proposed reincorporation was released sometime prior to our month 0. However, it is unlikely that this earlier announcement would precede our month 0 by more than 6 months. With precise announcement dates it is possible to determine the impact of the switch per se. We do not have such precise dates for our sample of 140 firms, but we do have more accurate announcement dates for a subset of 50 firms in our sample.

To isolate the reaction to the announcement of the switch in state of incorporation, equation (1) is estimated for the 50 firms for which accurate announcement dates are available, using daily data. When estimating the coefficients α_j and β_j we use a maximum of 300 and a minimum of 100 days of data and exclude the 100 days on either side of the event day. The average and cumulative average prediction errors for the 40 days before and after the switch are reported in table 7. Over the 80-day period around the announcement, there is evidence of slight positive abnormal performance, and the cumulative average prediction error is 2.89% at day +40. There is no evidence of any market reaction to the announcement itself, and the average prediction error at day 0 is -0.01%. For this same subsample of 50 firms the cumulative average prediction error over the 24 months prior to the announcement is 11.65%. It appears that firms switch state of incorporation after experiencing a period of positive abnormal returns. Again there is no evidence of any negative market reaction to the switch, and the results of this subsample are consistent with the cost-avoidance hypothesis.

TABLE 7 Percentage Daily Average Prediction Errors (APE), Cumulative Average Prediction Errors (CPE), and Sample Sizes (*N*) for Firms Switching State of Incorporation for 40 Days Before and After the Switch

Day	APE	CPE	<i>N</i>	Day	APE	CPE	<i>N</i>
-40	.22	.22	49	+ 1	.08	1.39	50
-39	.28	.50	49	+ 2	.12	1.51	50
-38	.29	.79	49	+ 3	.19	1.70	50
-37	-.09	.70	50	+ 4	-.27	1.43	50
-36	.75	1.45	50	+ 5	.19	1.62	50
-35	.46	1.91	50	+ 6	.06	1.68	50
-34	.66	2.57	50	+ 7	-.18	1.50	50
-33	.27	2.84	50	+ 8	.21	1.71	50
-32	.44	3.28	50	+ 9	.29	2.00	50
-31	-.30	2.98	50	+10	-.38	1.62	50
-30	.06	3.04	50	+11	-.16	1.46	50
-29	-.29	2.75	50	+12	.08	1.54	50
-28	-.35	2.40	50	+13	.54	2.08	50
-27	-.13	2.27	50	+14	-.07	2.01	50
-26	-.03	2.24	50	+15	.86	2.87	50
-25	.17	2.41	50	+16	-.13	2.74	50
-24	-.26	2.15	50	+17	.11	2.85	50
-23	.33	2.48	50	+18	.09	2.94	50
-22	-.46	2.02	50	+19	.27	3.21	50
-21	.13	2.15	50	+20	-.43	2.78	50
-20	.33	2.48	50	+21	-.31	2.47	50
-19	.12	2.60	50	+22	.20	2.67	50
-18	.02	2.62	50	+23	.23	2.90	50
-17	-.17	2.45	50	+24	.67	3.57	50
-16	-.01	2.44	50	+25	-.31	3.26	50
-15	-.36	2.08	50	+26	-.29	2.97	50
-14	-.18	1.90	50	+27	-.32	2.65	50
-13	.46	2.36	50	+28	.28	2.93	50
-12	-.04	2.32	50	+29	.26	3.19	50
-11	.21	2.53	50	+30	-.40	2.79	50
-10	-.18	2.35	50	+31	-.41	2.38	50
- 9	-.32	2.03	50	+32	-.24	2.14	50
- 8	.06	2.09	50	+33	.38	2.52	50
- 7	-.41	1.68	50	+34	-.17	2.35	50
- 6	-.27	1.41	50	+35	.05	2.40	50
- 5	.02	1.43	50	+36	.01	2.41	50
- 4	.53	1.96	50	+37	.12	2.53	50
- 3	-.12	1.84	50	+38	.20	2.73	50
- 2	-.60	1.24	50	+39	.02	2.75	50
- 1	.08	1.32	50	+40	.14	2.89	50
0	-.01	1.31	50				

Changes in Production-Investment and Financing Activities

If firms switch states to reduce the costs of expanding their activities, there are explicit implications for the relationship between the decision to reincorporate and the riskiness of the firm. In the market model (1), the slope coefficient, β_j , can be interpreted as a measure of the systematic risk of security j , and is a weighted average of the systematic risks of all the firm's production-investment activities and a function of its

TABLE 8 Significant t -Statistics for β Shift Tests. Increases and Decreases in Sample of 87 Firms Switching State of Incorporation

Significance Level (%)	Significant t -Statistics in Sample of 87 Firms			%
	Increases	Decreases	Total	
2	7	1	8	9.20
5	9	7	16	18.39
10	11	11	22	25.29

capital structure.²⁴ Consequently, a shift in the firm's systematic risk is induced by changes in either the production-investment or financing activities of the firm. An observed change in the risk parameter, β_j , at the time of the change in state of incorporation, is evidence of a change in the firm's activities.²⁵

To test for possible risk shifts around the time of changing states, we estimate the coefficients of the following dummy variable regression for each security in our sample:

$$\tilde{R}_{jt} = a_j + a'_j D_t + b_j \tilde{R}_{mt} + b'_j D_t \tilde{R}_{mt} + \tilde{e}_{jt}. \quad (2)$$

The regressions are run using 120 months of data: 60 months before and 60 months after the switch excluding the 12 months either side of the event. The regressions use data from month -72 through month -13 , and from month $+13$ through month $+72$, where month 0 is the month of the switch. The dummy variable is set equal to zero for the period before the event and equal to one after the event. The t -statistic on the coefficient b'_j is used to test for risk shifts.²⁶

The null hypothesis that there are no changes in β_j implies that the coefficient of b'_j is zero. A significant negative t -statistic indicates a decrease in β_j , and a significant positive t -statistic indicates an increase in β_j after the switch. Table 8 contains the results of the dummy-variable test. At the 5% level, 16 (18.39%) of the 87 firms for which we have sufficient data to estimate (2) show evidence of significant risk shifts. At the 10% level, there are 22 such firms, 25.29% of the total of 87.²⁷

24. See Fama and Miller 1972 and Galai and Masulis 1976.

25. A change in the production-investment or financing activities of the firm is not sufficient to ensure that the systematic risk of the firm changes. E.g., an expansion in the scale of a firm's operations that is financed in proportion to the current capital structure does not alter the systematic risk of the firm. It is also possible that nonstationarities in the joint distribution of returns of all assets can induce risk shifts for the firm, even if the firm's activities are unchanged. However, we assume such economy-wide shifts in relative risks do not coincide with reincorporations.

26. The square of this statistic is equivalent to an F -test for shifts in β_j , where the intercepts are allowed to vary (see Johnston 1972, pp. 204-9).

27. The results in table 8 are not independent across significance levels.

TABLE 9 Significant t -Statistics for β Shift Tests. Comparison of Actual Number and Proportion in Sample of 87 Firms with Mean Number and Proportion in 400 Random Samples of 87 Firms

Significance Level (%)	Significant t -Statistics in Actual Sample of 87 Firms		Significant t -Statistics in 400 Random Samples of 87 Firms			
	N	Proportion	Mean		Standard Error	
			N	Proportion	N	Proportion
2%	8	.0920	7.26	.0834	1.20	.0138
5%	16	.1839	12.09	.1390	1.51	.0173
10%	22	.2529	18.85	.2167	1.79	.0206

At first glance, these results indicate a statistically significant number of risk shifts for our sample of firms. However, before drawing any conclusions about the alternative hypotheses on the basis of these results, we must reconsider the null hypothesis. A number of earlier studies investigate risk changes (see, e.g., Ball 1972; Mandelker 1974; and Dodd and Ruback 1977). In those papers, the authors are concerned primarily with abstracting from the effects of risk changes when measuring abnormal performance, and they do not use evidence of changes in risk to discriminate between competing hypotheses concerning firm behavior. For our purposes, the null hypothesis is *not* that the number of risk shifts in our sample is zero. It *is* that the number of risk shifts in our sample is no different from the number expected in a random sample of firms selected from the CRSP file. To date, no one has provided any evidence as to the frequency of risk shifts present in such a random drawing.

To estimate the number of risk shifts expected under the null hypothesis, we selected 400 samples of 87 firms which had sufficient data on the CRSP file to enable us to estimate equation (2). For each sample of 87 firms, we ensured that the time series of month 0 matches the time series of event dates in our sample of switching firms. For example, five firms in our sample have event dates in 1972, and, in each of the 400 random samples, five firms have those event dates in 1972 designated as month 0 for the purposes of equation (2). We determined the number of significant t -statistics (at the 2%, 5%, and 10% levels) for each random sample of 87 firms. Table 9 contains a summary of the results of the simulation. On average, a random sample of 87 firms produces 12.09 (13.90%) t -statistics which are significant at the 5% level, and that average has a standard error of 1.51 (1.73%). Our sample of switching firms yields 16 (18.39%) firms with t -statistics which are

significant at the 5% level. The observed sample value of 16 lies 2.60 times the standard error from the estimate of the population mean obtained from the simulation. When significance levels of 2% and 10% are investigated, the observed values lie 0.62 and 1.76 times the standard error from the estimate of the population mean, but the results are not independent across significance levels.

We infer from our analysis that the incidence of risk shifts in our sample of switching firms is among the highest levels of risk shifts exhibited by random samples drawn from the population of NYSE firms. To this extent, the results suggest that firms change their production-investment or financing activities around the time they change the state of incorporation. This evidence is consistent with the hypothesis that the decision to reincorporate is motivated by the desire to minimize the costs of the new set of activities. As such, it offers further support for the cost-avoidance hypothesis. To date the proponents of the stockholder-exploitation hypothesis have not claimed that such changes in firms' production-investment and financing activities are necessarily associated with the alleged exploitation.

VII. Conclusions

Proponents of federal chartering of corporations contend that the existing competition among states for corporate charters results in an inadequate standard of protection for stockholders. They argue that federal intervention is required to prevent managements from electing to incorporate in states offering less restrictive corporate charters. In support of these claims, they cite the predominance of Delaware in the market for corporate charters. That predominance, they conjecture, is a direct result of Delaware's corporate code which allows management to expropriate stockholder wealth.

We examine Delaware's share of the market for corporate charters, and conclude that it has a disproportionate share of new incorporations and clearly dominates the market of reincorporations. We offer evidence that, contrary to the allegations of the supporters of federal regulation, stockholders are not made worse off when firms switch state of incorporation, even when they switch to that much-maligned state of Delaware. Surprisingly, over the 2 years preceding the month of the switch, stockholders earn positive abnormal returns. Although we do reject the stockholder-exploitation hypothesis, we are not able to identify the economic events causing this positive preswitch performance of our sample firms. When daily abnormal returns are estimated for a subsample of firms, there is evidence of only slight positive performance around the day of announcement of the change in state of incorporation. It appears that firms reincorporate following a period of

positive abnormal performance. At the date of the switch, and subsequently, there is no evidence of any negative impact on stockholder wealth.

Our study reveals that the case for federal chartering is not supported by the evidence. The evidence is consistent with our hypothesis that managers of a firm take advantage of the competition among states to locate in a state which offers an efficient set of restrictions on the firm, given the firm's anticipated production-investment and financing decisions.

We suggest that the market for corporate charters poses some fascinating questions for those interested in the positive aspect of the competition between states. In particular, we note that there is no satisfactory explanation of Delaware's success in capturing such a large share of that market for such an extended period of time.

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