INVESTOR INFORMATION AND THE PERFORMANCE OF NEW ISSUES

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1. Introduction

This paper investigates the role of government intervention in markets where there may be asymmetric information between buyers and sellers regarding the quality of goods sold. Specifically, the market for new issues of common stock is examined before and after minimum disclosure of financial information was first required by the Securities Act of 1933. The oft-stated motivation behind the Act was to protect ill-informed investors from the fraudulent claims of better-informed sellers. Implicit in the 1933 Act is the assumption of private market failure.

Two questions are addressed. First, did the provisions of the 1933 Securities Act improve the information available to investors? Information, by its nature, must be measured indirectly by examining the consequences of informed decision-making. Better information should result in better investment decisions. Hence, *ceteris paribus*, changes in an investor's information set should be reflected in changes in the distribution of returns earned on his portfolio.

The economic effects of the 1933 Act have previously been studied by George Stigler [1964] and Gregg Jarrell [1981].[1] Motivated by the assertion that misrepresentation and fraud were consequences of unregulated markets, both studies focussed on whether mandated disclosure increased the average return earned by new-issues investors. Neither study finds evidence of a significant increase in average returns following disclosure regulation, leading both authors to conclude that federal regulation of new issues markets was ineffective, or at least superfluous given existent private

market sources of financial information.[2]

The existence of substantial uncertainty about the true value of a security need not imply that the issue will be, on average, over-valued or under-valued. Rather, the expectations of rational investors should be unbiased. The availability of quality information will, however, affect the riskiness of the purchase. As such, the effects of legislation aimed at increasing investor information should be reflected in changes in the dispersion of market-adjusted returns.[3] Accordingly, this study examines regulation-induced changes in both the **means and variances** of the distributions of returns earned by new-issues investors.

Second, this paper evaluates the extent to which private sources of investment-quality information were available in the absence of regulated disclosure. In general, consumers may obtain quality information directly from sellers, through experience with the good, or from third-party appraisers. Prior to SEC disclosure, investors formed expectations of future returns by relying on information obtained directly from brokers and underwriters, by observing a security's historic performance (if any) and/or through the reports and actions of independent appraisers, most notably the Listing Committee of the NYSE. The economic effects of minimum disclosure would be expected to be the greatest where, prior to the SEC, the private costs of obtaining and verifying information were highest. Specifically, this paper examines the effectiveness of the Act conditional upon the prior market seasoning of a security (experience) and whether the issue had been approved for listing by the NYSE (third-party appraisal).

2. The Role of Government Intervention

There are costs of generating and disseminating information. These costs are not homogeneous, hence, certain parties may have advantages in the production of quality information. Many economists have addressed the problem of market performance where sellers have information that buyers don't and product attributes (quality, durability, safety) can not be accurately assessed prior to purchase. (See Akerlof 1970; Darby and Karni 1973; Klein and Leffler 1981; Salop and Stiglitz 1977; and Shapiro 1982.) There are conditions which suggest a role for public intervention.

First, when sellers jointly produce the good itself and quality information about the good there is an incentive to overstate the quality of the product. This was the logic advanced by the framers of the Securities Act. Quality shading, or "cheating" can be deterred in several ways. In particular, the development of third-party appraisers is a logical supply response in markets characterized by asymmetric information (Akerlof 1970). Appraisal and other independent information services may be produced by an agency of the government -- the FDA, for example. Alternatively, independent private parties may be contracted with to provide quality information -- e.g., certified public accountants, real estate appraisers, or the Listing Committee of the NYSE. In the present case it is difficult to identify scale economies or externalities which would give public authorities a relative advantage in the efficient production of information services.

Alternatively, consider that information has many characteristics of a public good. Once gathered the same information may be consumed by several parties. The costs of extending information to potential users are small relative to the costs of gathering information. Low resale costs and free-rider problems may prevent the producers of information from contracting

with consumers at prices that reflect the value of the information and cover production costs. Private market forces may be inadequate to assure that socially optimal quantities of information are produced.[4]

3. Background on the Securities Act of 1933

Federal regulation of the securities markets began with the signing of the Securities Act of 1933. Passed by Congress in the wake of the market crash of 1929 and the ensuing Great Depression, the Act aspired to "provide full and fair disclosure of the character of securities sold in interstate commerce".[5] Underlying the rational for the Act was the belief that investors in new issues had been misled by exaggerated claims and inadequate disclosure of the true financial position of corporations. Presumably, lack of information had encouraged speculative purchases of stock, which fueled the euphoric boom of the 1920's and contributed to the sharp market contraction of the early 1930's.

The Act established uniform standards for the pre-sale disclosure of pertinent financial information by issuers and their agents, and set forth legal remedies and fixed penalties against parties failing to make full disclosure. The salient features of the 1933 Act were:

1. **Registration requirements.** All new issues that are publicly traded on a national exchange must have a registration statement approved by the SEC. The statement includes balance sheets, audited profit and loss statements and information as to the nature of business and intended use of funds. The same information must be provided to investors in the form of a prospectus prior to sale.

2. **Waiting Period.** A 20 day waiting period was required between the filing date and the date of first sale for the purpose of giving investors time to study the registration statement.

3. **Civil Liabilities.** The buyer was empowered to sue any person signing the registration statement (underwriters directors, accountants, etc.) for losses due to "omissions of fact" or "misleading" statements. The burden of proof rests with the defendants.

The effects these provisions had on material disclosure of financial information are unclear.[6] First, by 1933, all states (except Nevada) had enacted some form of Blue-Sky Laws regulating the intrastate sale of securities [Carosso p. 160-65,1970; Hilke 1984]. Kansas had the most comprehensive consumer protection statute of the day, with extensive financial disclosure requirements and significant penalties. However, the laws governing security sales in those states which made up the bulk of the corporate finance market -- New York, Delaware and Pennsylvania -- amounted to nothing more than vehicles for the registration of dealers and taxation of their activities. Overall, the state statutes suffered from the lack of uniform standards and under-funded enforcement agencies.

Inadequacies in state statutes notwithstanding, the investing public had information available from a number of private market sources prior to 1933. Note that the Act applied uniformly to all new equity issues -- seasoned and unseasoned. Seasoned issues are securities sold by a corporation that was trading on an organized exchange prior to the date of the new offering. Unseasoned issues are initial public offerings. Investors in seasoned issues may draw upon past corporate performance and security trading histories in estimating future returns. Investors in unseasoned issues, however, must rely almost exclusively upon the information and judgments produced by underwriters and brokers. The costs of generating and validating information are greater for investors buying unseasoned securities.

Prior to 1933, the NYSE supplied financial information on listed securities and, in part, signaled investment quality through its decisions on which securities to list. In fact, it is difficult to identify information required by the 1933 Act that had not been previously required by the

NYSE. Table 1 presents a partial chronology of the development of listing requirements on the NYSE. Members of the investment industry argued that there was adequate self-policing.[7] The lack of uniform regulations did not imply lack of information. Rather, financial disclosure "appropriate to the situation" was generally provided by brokers and its validity monitored by the exchanges [Berle and Means 1932, p.64].

> ...a brokers circular may be regarded as the most important document in the early history of a security....There are roughly three types of circulars. The first may be called full disclosure; it sets out the name of the corporation the security offered, the financial plan of the corporation, its capitalization, assets and a history, more or less complete, of its earnings. The second type approximates the first but it does not purport to give a full history of the company; confining its disclosure to the position of the security offered. The third type discloses very little, save the particular rights of the security. It is frequently used for public utilities; it is not a persuasive method, and can only be used by corporations well known to the market...
> ...In the case of a new issue the first type is almost essential...
>
> ...The disclosure is cross-checked where the stock is at the same time introduced to a respectable exchange, most notably the New York Stock Exchange, whose listing committee requires a most pains-taking disclosure of the material facts prior to a stock's trading. The NYSE insists on certain expert data, notably the opinion of independent counsel as to the validity of the securities and financial statements and a report of a qualified engineer covering the physical condition of the assets at a recent date...

If Berle and Means are correct regarding the monitoring function of major exchanges, then the effects of the 1933 Act would tend to be concentrated on issues traded on the smaller, regional exchanges for which no comparable listing requirements existed.

Finally, it is important note that there are confounding events during the period of study which add to the difficulties in evaluating the effects of the 1933 Securities Act. The period 1923-1939 corresponds to what was the most severe boom-to-bust financial cycle witnessed in modern history. Figures 1 and 2 illustrate trends in stock prices and volume during this

era. Activity in both new and outstanding issues reached a peak in 1929, not to be surpassed until 1959 (Friend and Herman 1964; U.S. Congress 1963). In sharp contrast, the market for new equity issues ground to a virtual standstill in the early 1930's, recovering slowly by the close of the decade. The methodology discussed in subsequent sections was developed specifically to address the influence of changing economic conditions on the performance of new equity issues.[8]

4.1 Methodology: Using Capital Markets Data To Evaluate the Effects of Regulation

The discussion in the preceding sections suggests that the effects of the Securities Act may be captured in terms of changes in the means and dispersion of returns earned by investors in new issues. Capital market data are used to evaluate the pre versus post-Act performance of publicly traded new issues of common stock. Abnormal returns are measured using the CAPM, extended to control for industry-specific effects, changes in the variance of the return on the market and cyclical parameter variation.

Two samples of issues are constructed. The "pre-regulation" sample contains new issues from the period 1926-33. The "post" sample is composed of common stock issues floated between 1934 and 1939. Monthly returns for the 5-year period following the date of issue have been collected for all issues in the sample. Both samples contain seasoned and unseasoned issues as well as stocks traded on the NYSE and stocks listed exclusively on regional exchanges. A detailed discussion of the data is contained in Section 5, below.

The efficient markets/rational expectations hypothesis posits that the price of a security incorporates all information available at a given point in time, yielding an unbiased estimate of future returns to investors. To

identify abnormal returns arising from the disclosure of unanticipated firm-specific information it is necessary to control for changes in security returns that are related to overall market movements. The CAPM (derived by Sharp 1964, and Lintner 1965) quantifies the equilibrium return on an asset as a function of its systematic (market-related) risk.

According to the CAPM, we can write the expected return on security, s, as a linear function of the return on the riskless asset and the expected return on a portfolio of all marketable assets.

$$E[R_{s,t}] = R_{f,t} + \beta_s(E[R_{m,t}] - R_{f,t}) \tag{1}$$

where, $E[R_{s,t}]$ is the expected return on security s in time t, conditional on information in time period t-1. $R_{f,t}$ is the return on the risk-free asset,[9] $E[R_{m,t}]$ is the expected return on the market portfolio, and β_s captures the systematic component of risk. For the relation in (1) to have predictive power, beta must be stationary over the time period in question.

The difference between the realized return on a security and the expected return predicted by the CAPM is defined as the abnormal return. Under the null hypothesis, that the absence of regulated disclosure had no effect on the average returns earned by investors, we expect to find abnormal returns distributed with a mean equal to zero. Under the alternative hypothesis, that the lack of uniform disclosure regulations permitted excessive claims on the part of underwriters and brokers, significant abnormal losses are expected. Abnormal returns -- or any shift in the returns-generating process -- can be modeled by including a set of event-time specific dummy variables in the CAPM equation.[10]

Let the return-generating process for each firm be given by

$$R_{i,t} - R_{f,t} = \alpha_i - \beta_i (R_{m,t} - R_{f,t}) + \sum_{j=1}^{4} \gamma_{j,i} D_{j,t} \qquad (2)$$

$$+ \delta_i [RIND_{i,t} - R_{m,t} - R_{f,t}] + \theta_i UVAR_t$$

$$+ \phi_i [CYCLE_t * (R_{m,t} - R_{f,t})] + \epsilon_{i,t}$$

where

$R_{i,t}$ — Return on the ith firm in time t, where t refers to the number of months since the date of issue.

$R_{f,t}$ — Risk free rate

$R_{m,t}$ — Return on a value weighted market portfolio.

$D_{j,t}$ — Time-specific dummy variables designed to pick up average abnormal performance over designated periods of time.

$D_{1,t}$ — 1 for t = 1,...,12 months following the date of issue, = 0, otherwise

$D_{2,t}$ — 1 for t = 13,...,18 months following the date of issue, = 0 otherwise

$D_{3,t}$ — 1 for t = 19,...,24 months following the date of issue, = 0 otherwise

$D_{4,t}$ — 1 for t = 25,...,36 months following the date of issue, = 0 otherwise

α_i — the constant, measures average abnormal performance over the estimation period. Under the efficient markets hypothesis the expected value of α_i is zero.

$RIND_{s,t}$ — the return on an equally-weighted portfolio of firms in the same 2-digit SIC as the firm issuing stock, is included to capture industry-specific returns. In this manner the firm-specific component of the abnormal returns -- i.e., that portion related to the new issue itself -- is clearly separated from any unanticipated changes in the fortunes of the industry.[11]

$UVAR_t$ — unanticipated component of the market variance in time period t. $UVAR_t$ is estimated as the residual from an ARIMA (1,0,1) model on the market variance (VAR_t). I.e.,

$$UVAR_t - VAR_t - .979VAR_{t-1} + .084e_{t-1}$$

and

$$VAR_t - \sum_{i=-11}^{0} [R_{m,t+i} - \bar{R}_{m,t}]^2/12$$

where $\bar{R}_{m,t}$ - average return on the market over $t - -11,\ldots,0$. Unanticipated changes in the variance of the market induce changes in the returns earned by equity investors. Because the CAPM assumes constant variance, and anticipated changes are presumably already factored into a security's price, the unanticipated component of market variance is included to control for subperiod changes in the market variance that shift the equilibrium return on common equity assets. For example, unanticipated increases in the variance of equity assets would make holding equity less desirable to the risk-averse investor than holding other market-able assets that have unchanged error variances.[12]

$CYCLE_t$ - cyclical component of general economic activity. Cycle is computed as the detrended value of the Index of Industrial Production over the period 1925-1945. $CYCLE_t$ is interacted with $(R_{m,t} - R_{f,t})$ to capture cyclical variations in beta due to changes over the business cycle in the market value Debt/Equity Ratio. As shown in Simon [1984], β may be expected to fluctuate (pro) countercyclically as the firm D/E is (less than) greater than the market average D/E.

The pattern of abnormal returns is captured, in a stepwise fashion, by the estimated values of the $\gamma_{1,i},\ldots,\gamma_{4,i}$, and α_i coefficients. Figure 3 illustrates the pattern for a hypothetical firm that suffers abnormal losses in the early months following the date of issue, with the magnitude of the losses declining over time.
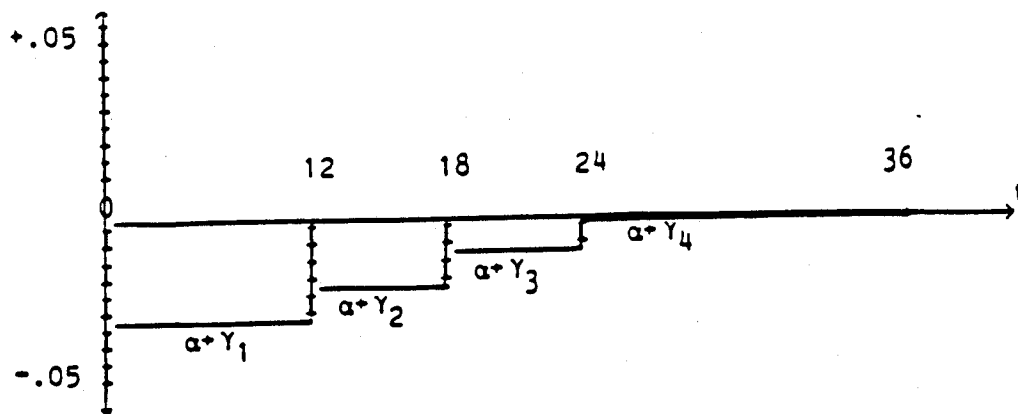
Fig. 3 -- Dummy Variable Representation of Excess Returns

4.2 Hypothesis Testing

The empirical hypotheses can be divided into two subsets: (1) tests regarding the effects of disclosure regulation on the _average_ return earned by investors, controlling for seasoning and the exchange on which the security traded and (2) tests regarding regulation-induced shifts in the _variance_ of abnormal gains and losses, again controlling for prior seasoning and exchange.

Two sets of average abnormal returns hypotheses are tested:

1. For each event-time period, j, dummy variable $\gamma_{i,j}$,

$$H_o: \sum_{i=1}^{n} \gamma_{i,j} = 0 \quad N = \# \text{ firms.}$$

That is, on average no abnormal returns are earned in a specific event-time period, j, over all issues, i.

2. $$H_o: \sum_{i=1}^{N} \alpha_i + \sum_{i}^{N} \sum_{j}^{4} \gamma_{i,j} = 0.$$

I.e., on average no abnormal returns are generated over the 60 months

following the date of issue.

In this manner abnormal returns can be directly compared across the pre and post-regulation subsamples of firms. By disaggregating the pre/post samples into samples of seasoned and unseasoned, or NYSE and non-NYSE issues the same methodology can be used to examine the effects of minimum disclosure regulation where information costs are expected to differ markedly.

Statistical tests are constructed as follows.[13] Represent the null hypothesis as a constraint on the model parameter vector:

$$R\beta - r$$

where r - a q-element vector, q - number of constraints, and, R - matrix of order $q \times (K_1 + K_2 +, \ldots, K_J)$, K_1 - number of estimated coefficients in the first equation.

The quadratic form

$$(r-R\hat{\beta})' \ [R(X'X)^{-1}X'(\hat{\Sigma} \oplus I)X(X'X)^{-1}R']^{-1} \ (r-R\hat{\beta})$$

is asymptotically distributed as $\chi^2(q)$, where q - number of constraints, and $\hat{\Sigma}$ is the estimated matrix of contemporaneous covariance terms.

To test for changes in the dispersion of returns, cross-sectional estimates of the variance of excess returns are computed. Separate variance estimates are calculated according to the time that has elapsed since the issue date -- e.g. 1-12 months, 13-24 months, etc. Again, issues are disaggregated according to prior seasoning and exchange. Let:

$$VAR_T - \text{estimated cross-sectional variance of excess returns.}$$

$$- \Sigma[AR_{T,i} - \overline{AR}_T]^2/(N-1)$$

where AR_T - abnormal return for issue i, over the first T months following the date of issue.

Standard tests for difference in estimated variances can be used to examine the hypothesis that information regulation affected the dispersion of excess returns. Specifically,

$$s_1^2/s_2^2 \sim F(n_1-1, n_2-1)$$

where s_1^2 = estimated variance, sample 1; s_2^2 = estimated variance, sample 2.

5. The Data

The data used in this study include virtually all new issues of common stock exceeding $1.95 million sold by manufacturing firms, railroads, retail and service establishments between 1926 and 1940. Salient characteristics of the pre and post-SEC samples are compared in Table 2.

Monthly returns data were collected for each security for 60 months following the date of issue. For issues traded on the NYSE, data were obtained from the Monthly Stock Returns tapes of the Center For Research in Securities Prices (CRSP). Monthly prices for new issues listed exclusively on other exchanges were obtained from the Commercial and Financial Chronicle.[14] Returns were computed from the price data.[15] Issues with less than 30 months of data were dropped from the analysis.[16] If data for a single month is missing, the 2-month return is computed and averaged over the period.[17]

6. Empirical Results

The intent of the Securities Act was to improve investor information. It has been postulated that such effects would be subsequently reflected in changes in the distribution of returns earned by investors. Accordingly, empirical tests may be categorized as follows:

1. Tests for changes in average gains or losses. Did investors earn, on average, superior returns given the disclosure provisions of the '33 Act? Average abnormal returns on post-SEC issues are compared to average abnormal returns on pre-SEC issues, disaggregating on the basis of prior seasoning and the exchange where traded.[18]

2. Tests for changes in the dispersion of abnormal returns, again, distinguishing between pre and post-SEC issues on the basis of exchange and seasoning.

6.1 Did Disclosure Regulation Change the Average Return Earned by Investors?

The aim of early disclosure regulation was to prevent overpricing by imposing financial reporting standards, liability clauses and establishing enforcement mechanisms. Effective consumer protection may be expected to lead to higher average investor returns in the post-1933 era.

The hypothesis that the large security exchanges -- in particular the NYSE -- effectively monitored the quality of new issues is also tested. In an environment where sellers can manipulate quality information, third-party appraisers emerge as a logical supply response to investor demand for independent expert opinion.

Using the methodology outlined in Section 4, abnormal gains and losses can be detected by examining the estimated values of the intercept (α) and dummy variable coefficients (γ_i) in the CAPM regression model.

Table 3 summarizes the main empirical results. Briefly, there is no evidence that, on average, either seasoned or unseasoned issues traded on the NYSE were significantly over or under-priced. Table 3 compares average excess (risk and market adjusted) monthly returns for various portfolios of new issues over 1-12 months, 13-18 months, 19-24 months and 25-36 months following the date of issue, as well as a 60-month cumulative average abnormal return. For both the samples of NYSE issues and the sample of seasoned issues traded on regional exchanges, prior to the SEC, measured

excess returns are not significantly different from zero.[19] There is no evidence that investors are being systematically mis-informed in these markets.

The evidence is quite different for unseasoned issues traded on the smaller regional exchanges. Prior to 1933, unseasoned, non-NYSE issues suffer statistically significant risk-adjusted losses. Over the first 12 months these issues lose a cumulative 15%, on average, and suffer another 24% cumulative loss over the second year. Cumulative 60-month excess risk-adjusted returns are equal to -52%.[20] All losses are statistically significant.

In contrast, there is no evidence of abnormal gains or losses among seasoned or unseasoned, NYSE or regional issues following 1933. Differences between the pre-SEC versus post-SEC are also reported in Table 3. Note that not only do post-SEC issues earn normal risk-adjusted returns, but there is a highly significant increase in the average returns earned by investors following regulation. Complete empirical results are presented in Tables A1-A4 in the Appendix and average values of the model coefficients are reported for each of the subsamples analyzed.[21]

6.2 Specification Tests: Are the Results Real?

That unseasoned, non-NYSE issues would be persistently and repeatedly overpriced is inconsistent with the notion that investors held even weakly rational expectations of future returns. Do confounding factors drive the results in the preceding section? In particular:

1. The pre-SEC period includes the market crash of '29 and the early years of the Great Depression. Severe economic shocks may disproportionately affect newer and smaller enterprises. The CAPM may perform poorly over extreme swings and economic cycles. Changing probabilities of bankruptcy may not be accurately captured in the CAPM.

2. The abnormal returns documented for unseasoned issues trading on regional exchanges may be attributed to unspecified characteristics of small firms, or small exchanges, and not to new issues, as posited.

In order to address the first issue, the empirical model was re-estimated on a subsample of new issues selected in a manner that would purge the market crash from the data. Only new issues floated in 1926-27 were included. Returns from the period October 1929 - September 1930 were excluded from the analysis. It was between 10/29 and 10/30 that the market lost nearly 40%.

Complete results are presented in Tables A5 and A6 in the Appendix. Comparing the "no-crash" estimates with the full sample estimates strongly suggests that the previous results were not driven by the market crash. The pattern, magnitude and timing of the abnormal returns in the '26-27 sample are very similar to those of the complete sample. Again, only unseasoned issues traded on regional exchanges earn significant abnormal returns. In the "no-crash" sample, unseasoned, non-NYSE issues <u>lose 39% over the first 60 months</u> following the date of issue. Losses are concentrated over the first 24 months, as in the full sample. The fact that the aggregate loss is smaller for the '26-27 subsample is consistent with the theory that the quality of a good is more difficult to detect in markets characterized by rapid increases in the number of buyers and sellers and sharp growth in sales.[22]

Turning to the second point, are the results merely picking up characteristics of small firms traded on less liquid exchanges? A baseline sample of 35 issues traded on the Chicago or Philadelphia Stock Exchanges was constructed for the period 1926-1933. Securities met the following criteria:

1. The security was common stock, trading exclusively on a single regional exchange.

2. The firm did not issue additional stock from 1926-33.

3. At least 30 months of price data were available over a 5 year window in the Commercial and Financial Chronicle.

4. Smaller firms were preferred to larger firms (measured by the market value of equity and/or trading volume).

Sixty consecutive months of price data were collected for each stock. Starting dates for the 60-month estimation window were selected randomly so to approximated the distribution of offering dates in the new issues sample. Equation (2) of Section 4 was estimated for each firm in the sample.

There is no evidence that the large significant losses documented for unseasoned, non-NYSE issues are characteristic of an "exchange effect" as opposed to a "new issues effect". Over the 60 months following the date of issue the non-NYSE sample earns normal risk adjusted returns. The 60 month cumulative abnormal return equals -7.6% and is not significantly different from zero. (See Table A7 in the Appendix.) Recall that the unseasoned, non-NYSE sample of new issues lost over 50% on a risk-adjusted basis.

6.3 Testing for Changes in the Dispersion of Returns

Using the methodology discussed above the dispersion of returns earned by investors is analyzed across regulatory regimes. Owing to differences in the costs of obtaining prior information we would expect that the variance of excess returns is higher for unseasoned than for seasoned issues, and that, likewise, investors' forecasts of issue performance are less informed for non-NYSE issues than they are for NYSE securities.

Test results are presented in Table 4. To provide a benchmark for comparing variance changes between periods, the cross-sectional variance of excess returns for a randomly selected sample of NYSE firms (not issuing stock) was computed for the pre and post-SEC eras.[23]

Results strongly suggest that the dispersion of abnormal returns was smaller in the period following the SEC than prior to the SEC. All subsamples of issues -- seasoned, unseasoned, NYSE and non-NYSE -- exhibit significantly smaller cross-sectional variances in excess returns (forecast errors) in the post 1934 era. If, in fact, the lower variance reflects increases in information regarding future issue performance, these results support the contention that while most investors held unbiased expectations of future returns before disclosure regulation, the information supporting the expectations was relatively poor. Priors were diffuse.

The cross-sectional error variance of the market portfolio also falls by 45% between the pre and post-SEC periods. This suggests that part of the decline in the dispersion of abnormal performance is due to factors unrelated to the Securities Act. The decline in the market error variance, however, is significantly less than the decline documented for the new issues samples. Specifically, the variance of the forecast errors for seasoned NYSE issues falls, on average, by 60%. For unseasoned NYSE issues the decline is approximately 56%. Similarly seasoned, non-NYSE issues exhibit an average decline in error variance equal to 75%, while for unseasoned, non-NYSE issues post-SEC forecast errors are 85% lower. Furthermore, segments of the market where private information may have been most costly before the SEC exhibit the largest declines in return forecast errors following the '33 Act.

Changes in the dispersion of excess returns can be seen graphically as well in Figures 4-7. Figures 4-7 illustrate the minimum, maximum and median values of the excess return coefficients (α and γ_i). As in Table 4, the graphic analysis reveals that there is a large, significant decline in the dispersion of abnormal returns between pre and post Act periods. Similarly,

investors in initial public offerings and investors in non-NYSE securities were subject to a relatively larger degree of initial pricing error. Again there appears to be a positive association between the magnitude of pricing errors and the cost of information.

Three factors may have contributed to apparent improvements in investor information following the '33 Act. First, as noted previously, both state and exchange-based examiners suffered from the lack of adequate enforcement resources. Second, information has many characteristics of a public good. Free-rider problems may have prevented the producers of financial information from contracting with consumers at prices that approach allocative efficiency. Finally, the Securities Act of 1933 and subsequent regulations contributed to the growth of the Over-the-Counter market as issuers sought lower cost, unregulated markets for their securities. Admittedly, excluding the OTC from this study may impart a selection bias on the findings. The magnitude of the bias is not severe, however and is in no way large enough to swamp the results. OTC issues remained a small fraction of total stock issues following 1933 (Goldsmith 1937). In 1925 OTC stocks accounted for 7% of the market value of traded equity, by 1935 this figure had risen to 12% (Friend, Hoffman and Winn 1958).

7. Summary and Conclusions

This paper has examined the effects of changes in financial disclosure attributed to the Securities Act of 1933. The regulation's effects should be most pronounced where, in the absence of the Act, private information costs were the greatest. Accordingly, the empirical tests for changes in the distribution of returns to investors are designed to control for: (1) differences between seasoned issues and initial public offerings,

and (2) the extent to which the major exchange of the day, the NYSE had adopted its own disclosure requirements prior to 1933.

The major empirical findings were:

1. On average, investors in seasoned securities and securities traded on the NYSE earned normal risk-adjusted returns both before and after the Securities Act. There is strong evidence, however, that initial public offerings on regional exchanges were significantly overpriced. The measured persistance of overpricing is robust with respect to econo-metric specifications, unrelated to the market crash and is uniquely attributed to initial public offerings. From a rational perspective, it is a mystery. There is no evidence of similar mis-pricing following the Securities Act. Hence, investors appeared to hold rational expectations in markets characterized by low information cost or the existence of 3rd-party appraisers.

2. The dispersion of abnormal returns (investors' forecast errors) is significantly lower following the Securities Act. This holds for all issues: seasoned and unseasoned, traded on or off the NYSE. The effect is strongest for unseasoned non-NYSE issues. Thus, even in markets where investors held unbiased expectations, evidence suggests that these expectations were not particularly well informed. Reductions in investor error may be linked to post-Act improvements in the quantity and quality of available financial information.

FOOTNOTES

[1]Stigler compares the average return earned on seasoned and unseasoned issues of common stock in the period 1923-1929 with returns earned from 1949-1953. Returns are examined over the 5 year period following the date of issue and are adjusted for the return on the S&P 500. Jarrell employs the Capital Asset Pricing Model (CAPM) to compute average abnormal (risk-adjusted) returns for samples of new issues, again over a 5 year period. Jarrell collects his sample of pre-SEC issues from 1926-1933 and post-SEC new issues from the period 1934-1939. Neither study distinguishes between seasoned and unseasoned issues, nor controls for differences in listing requirements among the various exchanges.

[2]A considerable body of theoretical and empirical literature has developed in the field of finance concerning the problem of the pricing of new stock issues. In general, these studies take as given the contemporary regulatory framework. The interested reader is referred to work by Ibottson [1975], Ibottson and Jaffee [1975], Rock [1982] and Ritter [1984].

[3]Consider a security which has a 50% chance of being worth $100 and a 50% chance of being worthless. The rational investor will be willing to pay $50 for the issue. (All risk is diversifiable.) Ex post, if ex ante expectations are correct 50% of the investor's portfolio is worth $0 and 50% is worth $100. There are no _average_ "abnormal" gains or losses. The effects of the investor's uncertainty, however, are reflected in the dispersion of returns. She has earned 100% on half of the securities and lost 100% on the remaining issues.

[4]The information produced by purely private market sources must be assessed in evaluating the role of public authorities. The seller's incentive to cheat is mitigated by the loss of repeat business and depreciation of reputation capital. Under the usual zero-profit assumptions of competitive markets repeat sales are not sufficient to prevent fraud (Klein and Leffler 1981). Rather, firms signal high quality by investing in non-salvagable firm-specific capital such that any short-run gains from cheating are inadequate to offset the costs of lost future business. In investment banking specific capital is mostly intangible, taking the form of long-term client relationships, human resources and extensive branding in products and services [Hayes, et. al. 1983 and Carosso 1970]. While intangible assets may be difficult to quantify they still serve to bond seller performance.

[5] Securities Act of 1933, Preamble, para, II[a].

[6]The costs imposed by the Act resulted in significant changes in other aspects of the organization of new issues markets. With respect to underwriting, the use of private placements increased sharply (Gourrich, 1937 and Carosso 1970). A trend towards the use of larger underwriting syndicates emerged. Through the syndicate underwriters could limit both the risk of civil liabilities and diversify the risk of adverse changes in specific business conditions during the waiting period. There is evidence of a decline in the proportion of underwriting contracts based on firm commitments in favor of best effort offerings. Prior to the Act the use of firm commitments, coupled with willingness of underwriters to maintain substantial inventory positions in a security could be viewed as a quality signal.

[7]The Investment Bankers Association was formed during the 1920's, calling for voluntary self-policing of underwriters and brokers. IBA members were required to maintain minimum equity positions and were urged to disclose pertinent financial information before making sales. "Fraudulent" practices and cases of poor price performance on issues floated by non-member firms were published in IBA investment newsletters [Carosso 1970, Goldsmith 1937].

[8]Confounding economic events will lead to econometric problems, affecting the results of previous studies [Stigler 1963, Jarrell 1981]. While earlier studies controlled for variations in the return on the market, other characteristics of the firms issuing stock (size, industry, etc.) varied between the pre and post periods. To the extent that multiple factors are required to explain equilibrium security returns, shifts in the composition of firms will confound the measured effects of the regulation. In addition, the notable volatility of the market during the 1920's-1930's will contribute to a lack of stationarity in the CAPM parameters [Simon 1984]. Parameter shifts can be attributed to cyclical variations in firm leverage, default probabilities or fluctuations in the variability of the market return. Again, estimated residuals will be affected, and conclusions based on the direction and magnitude of the abnormal returns are subject to question.

[9] The return on the riskless asset is measured as the nominal rate on prime bankers' acceptances. Treasury bills, the conventional measure of the riskless asset, are not used in this study because government-imposed rate restrictions were in effect over much of the period.

[10]This is a variant of the standard event-study framework. In most event-studies the CAPM is estimated over a period of time prior to the event in question. Abnormal performance is measured by using the model estimated over the prior period to generate forecast errors over the "event window". For unseasoned new issues there are no prior periods over which parameters can be estimated. Furthermore, standard event studies are unable to take into account exogenous shifts in the CAPM parameters which may occur during the event window. Estimated over the event period, a dummy variable configuration on excess returns avoids specification errors while giving the researcher the same information on the pattern and timing of excess returns that would be obtained from the conventional cumulative residual approach of event studies. For further information see H. Izan [1978] and Simon [1984, 1985].

[11]This index is computed from the returns on all firms listed on the CRSP Monthly Returns File. Firms included in this study have been excluded from the industry index computation.

[12]The importance of considering changes in the variance of the market return has been discussed previously by Merton [1980] and Pindyck [1984]. Neither study, however, has explicitly decomposed changes in the variance of the market return into anticipated and unanticipated components.

[13] See Theil, 1971, Chapter 7. The test statistic is derived in Appendix D. of Simon, 1985.

[14]The non-NYSE exchanges are (in order of most to fewest issues) the New York Curb Market, The Philadelphia Exchange, The Chicago Exchange, The Boston Exchange, The San Francisco Stock Exchange, The Delaware Exchange,

and Baltimore Exchange and the Los Angeles Stock Exchange.

[15]The hand-collected price data have been adjusted to account for stock splits and stock dividends. Since no authoritative source exists for corporate capital changes during this time period, the adjustments are likely to be incomplete.

[16]Issues had fewer than 30 months of data either because they were infrequently traded or they were delisted -- due to failure, merger, etc. The exclusion of firms which failed shortly after issue could bias the results towards finding no effect of the SEC Act. However, the number of issues that were dropped due to early failure is quite small and the proportion is not significantly different between the Pre- and Post-SEC samples. Prior to 1933, 6 of the 35 "dropped" issues (17%) were made by firms that had failed or were immanently failing. Following the SEC Act, one of the 10 ommitted issues (10%) was made by a failing firm. The remaining issues were dropped due to infrequent trading.

[17]An investigation of the securities with missing price data revealed that, on average, when prices were missing for one or more months the first price following the missing data was significantly lower than the last reported price. Omitting all months where the computed return depends on missing data would result, in price declines being edited out of the data more often than price increases.

[18]A security is defined as trading on the SEC is it was listed for more than 54 months during the 5 years following the date of issue. Results are not sensitive to the choice of the cut-off value within the range of 52-60 months. In general, companies listing on the NYSE within 6 months following

the date of issue would frequently have begun listing procedures at the time of issue.

[19]The significance level reported are based on asymptotic properties of the tests. Binder [1983, 1984] has investigated the small sample properties of tests traditionally used in the multivariate regression model. In small samples the Wald, F and likelihood ratio tests are all biased in favor of rejecting the null hypothesis. The degree of bias decreases with the number of observations and increases with the number of estimated equations. Large sample results are reported in this paper. In general, in the results that follow, where the null is rejected, rejection is by a large margin. The conclusions are robust with respect to the test statistic. Nonetheless, the significance levels are biased towards rejecting the null. Reported significance levels should be better viewed as offering benchmarks for comparison, rather than accurate statistical evidence.

[20]Cumulative abnormal returns are computed as the simple sum of the monthly average abnormal returns. The use of an arithmetic sum can exaggerate the magnitude of the losses. The -52% return translates to a -39% loss on a continuously compounded basis.

[21]There are numerous other implications of the model which corroborate suspicions that previous studies suffered from specification errors. The CYCLE variable -- introduced to control for cyclical variation in beta -- is significant on average in all the subsample tests on unseasoned issues. Futhermore the estimated coefficient is negative, which is consistent with the fact that smaller, newer firms are more highly leveraged. The unanticipated market variance term, UVAR also contributes significantly to the

explanation of equilibrium returns and is likewise consistent with theory. Finally, the industry beta enters significantly in all the subsample portfolios, again, confirming the importance of separating new-issue-specific events from the fortunes of the respective industries.

[22]The height of the new issues market occurred during the latter part of 1928 and early 1929 (Figure 1). During this period the number of companies going public was over five times higher than in previous years. Rapid entry into the brokerage and underwriting businesses is documented by numerous sources for 1927-29 (Gourrich 1937, Carosso 1970).

[23]The benchmark portfolio of 300 firms was selected from issues listed on the CRSP Monthly Stock Returns files from 1926-1945. Equation (2), section 4 was fit for all issues. Within the sample the starting date for the 60-month estimation window was chosen to match the distribution of issue dates in the new issues samples. The benchmark sample was selected from NYSE firms that were smaller than the median size of all NYSE firms, ranked on the basis of the total market value of common equity during the relevant time period.

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TABLE 1

Disclosure Requirements of the NYSE

Date	Requirement
1869	Committee on Stock List requires disclosure of financial conditions.
1870-1880	Committed on Stock List requires statement of 1890's condition and list of corporate officers.
1910	NYSE closes its Unlisted Department. Most firms apply for listing on the Exchange.
1910's	Committee on Stock List requests periodic financial statements and initial offering disclosure reports. Compliance is greatest among newer and smaller firms. Some established firms resist.
1924	Quarterly earnings statements become common in listing agreements.
1926	Increased detail in financial reporting required.
1927	Depreciation policies established.
1928	Independent audits required.
1930	Listing agreement includes pledge to supply "any reasonable" information requested by the Exchange.

Source: John C. Hilke, "Early Mandatory Disclosure Regulations," FTC Working Paper #111, June 1984.

Table 2

Characteristics of the Sample

	PRE-SEC	POST-SEC
Sample Size	325	78
Dropped (months < 30)	35	10
Remaining	290	68
Year Issued		
1926	34 (10.5%)	-
1927	37 (11.4%)	-
1928	95 (29.2%)	-
1929	131 (40.3%)	-
1930	20 (6.1%)	-
1931	2 (0.6%)	-
1932	3 (0.9%)	-
1933	3 (0.9%)	-
1934	-	3 (3.8%)
1935	-	3 (3.8%)
1936	-	25 (32.1%)
1937	-	23 (29.4%)
1938	-	10 (12.8%)
1939	-	13 (16.7%)
Seasoned	261	50
Unseasoned	64	28
NYSE - all months	191	36
NYSE - part	80	32
Non-NYSE	54	10
Utilities, R/R	20	3

Table 3

Summary of Excess Returns, Pre- Vs. Post-SEC New Issues

Disaggregated by Exchange

Time	NYSE			Non-NYSE		
	Pre-SEC	Post-SEC	Diff.	Pre-SEC	Post-SEC	Diff.
Seasoned Issues						
1-12 mo.	-.0085	-.0187	-.0102	-.0338	-.0641*	-.0303
13-18 mo	-.0116	.0674*	.0790	-.0145	-.0331	-.0186
19-24 mo	.0101	-.0115	-.0216	-.0312	.0012	-.0324
25-36 mo	.0279	-.0423	-.0704	-.0304	.0360	.0664*
1-60 mos.	.0551	-.0023	-.0573	-.1215	-.1124	.0091
Unseasoned Issues						
1-12 mo.	.0521	-.0712	-.1232	-.1490**	.0266	.1756**
13-18 mo	-.0140	.0765	.0905	-.1678**	.0775	.2453**
19-24 mo	.0233	-.0285	-.0518	-.0777*	.0269	.1057
25-36 mo	-.0431	.0234	.0665	-.0408	-.0516	-.0108
1-60 mos	-.0116	.0684	.0800	-.5261**	.0574	.5835**

Note: All abnormal returns are expressed as decimal percentages, i.e., .1215 equals a 12.15% cumulative loss over the period noted in the leftmost column.

* Statistically significant from zero at the .10 level

** Statistically significant from zero at the .05 level.

Table 4

Comparison of Cross-Sectional Variance of Excess Returns

Pre-SEC Vs. Post-SEC, Disaggregated by Seasoning, Exchange

Estimated Variance of Monthly Excess Return

		Pre-SEC	Post-SEC	F-statistic (for difference)
Seasoned Issues:				
NYSE:	1-12 mo.	.001852	.000854	2.16***
	13-18 mo.	.001633	.001590	1.03
	19-40 mo.	.001530	.000519	2.95***
	25-36 mo.	.001488	.000443	3.34***
	37-60 mo.	.000832	.000241	3.45***
Non-NYSE:	1-12	.002417	.001218	1.98**
	13-18	.004156	.001654	2.51***
	19-24	.002091	.000305	6.85***
	25-36	.002390	.000325	7.35***
	37-60	.001731	.000312	5.54***
Unseasoned Issues:				
NYSE:	1-12	.002501	.001272	1.97**
	13-18	.001815	.001108	1.80**
	19-24	.001665	.000705	2.36**
	25-36	.001026	.000876	1.17
	37-60	.000853	.000262	3.25***
Non-NYSE:	1-12	.004218	.001456	2.89**
	13-18	.007299	.000643	11.35***
	19-24	.003866	.000764	5.06***
	25-36	.003769	.000832	4.53***
	37-60	.001972	.000914	2.15**
Baseline Market Portfolio		.00049	.00028	1.75**

** Difference significant at .05

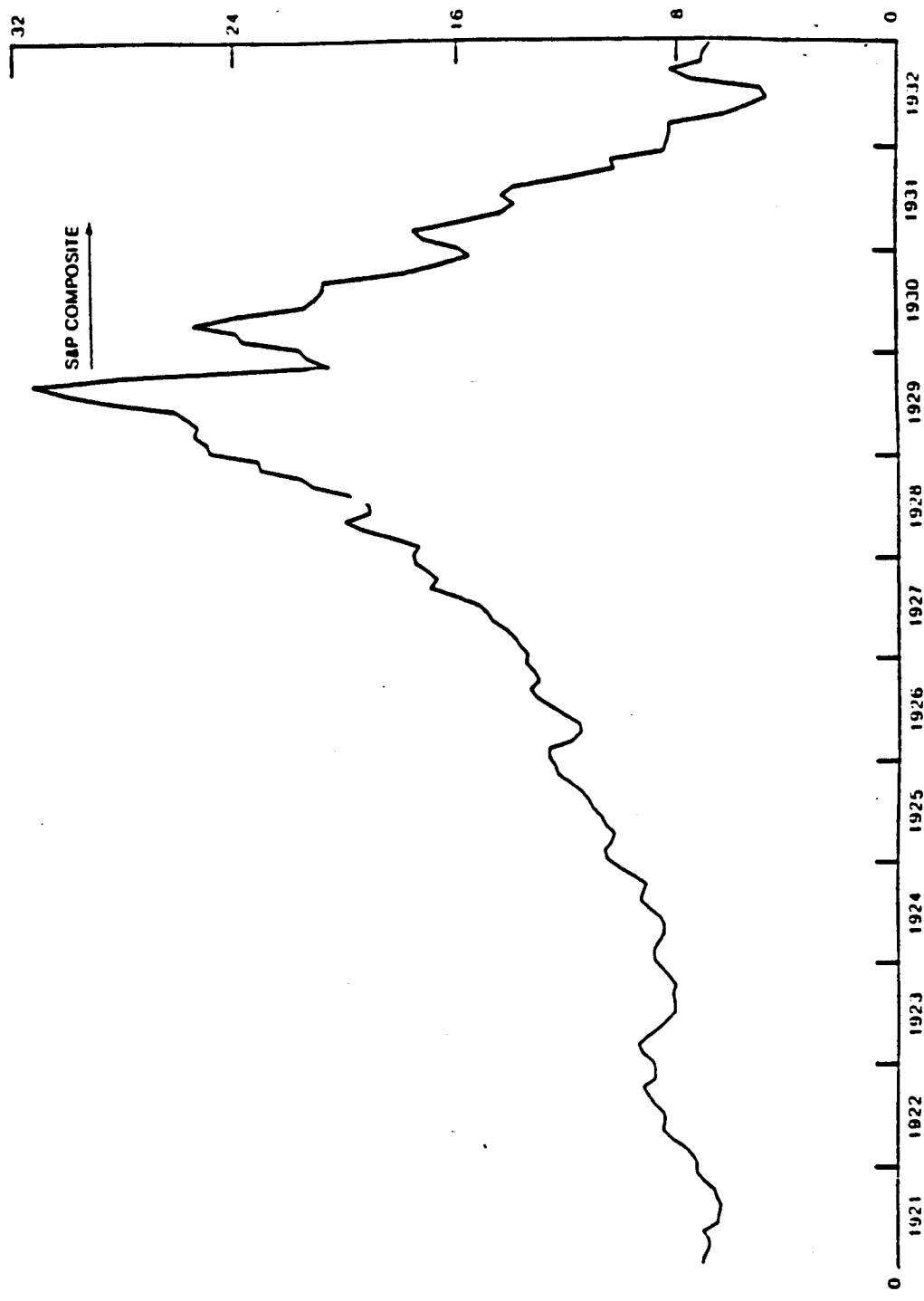*** Difference significant at .01.

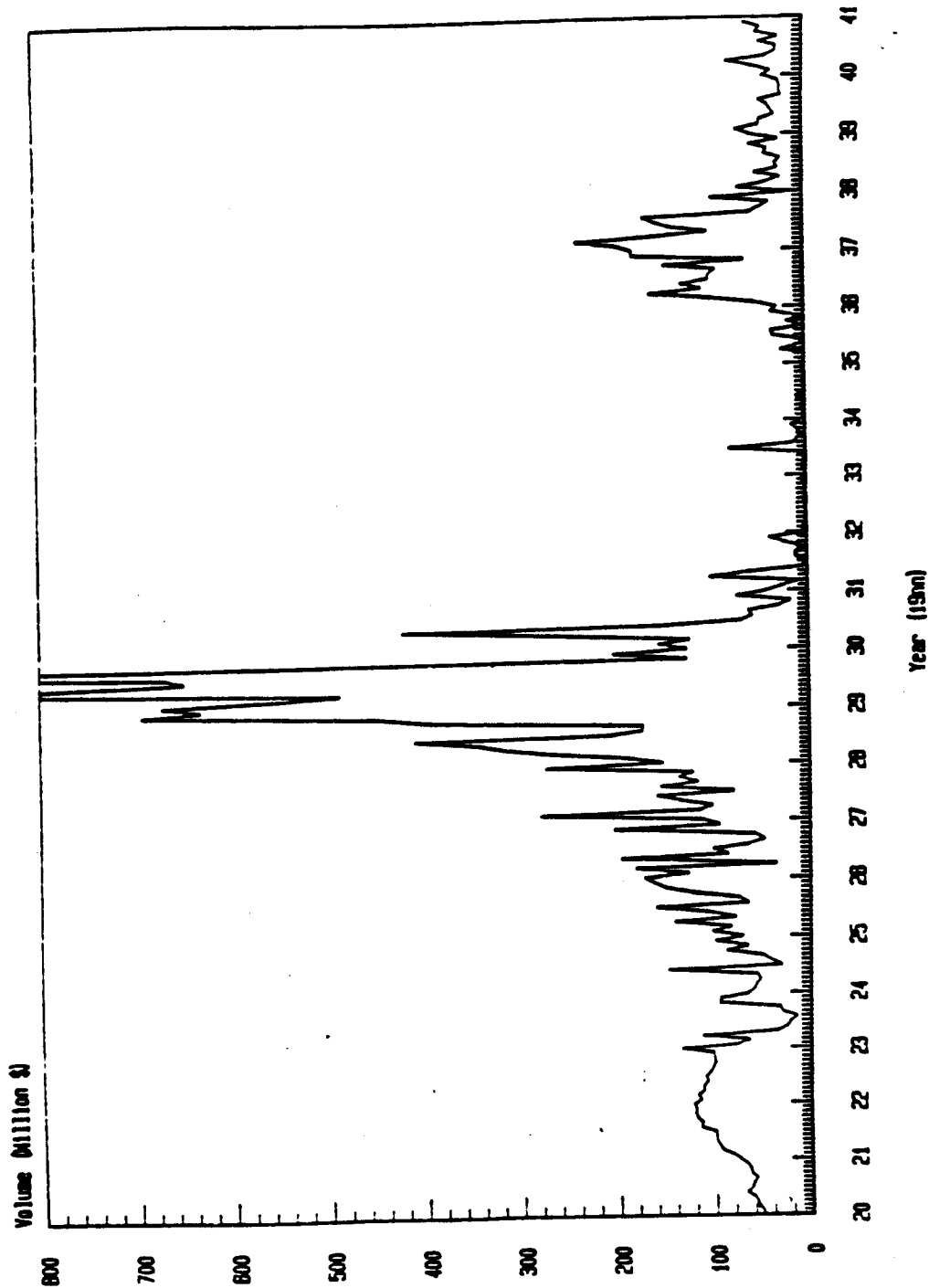Fig. 1. Standard and Poor's Monthly Composite Stock Index, 1921–1932

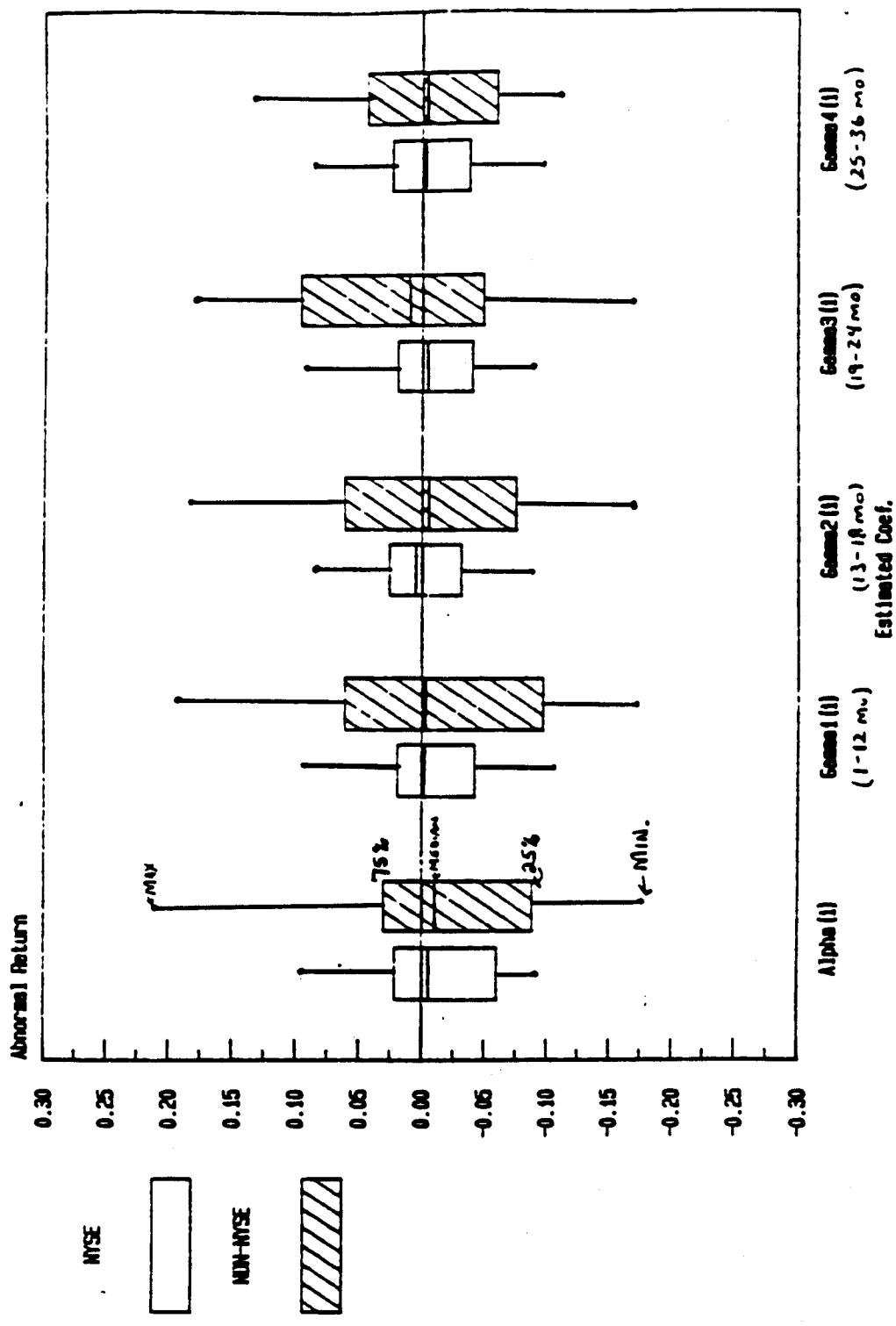Fig. 2.   Monthly volume of new equity issues, in millions of dollars; 1920–1941

Fig. 4. Distributions of estimated abnormal return coefficients; seasoned issues, pre-SEC; by months since date of issue and exchange
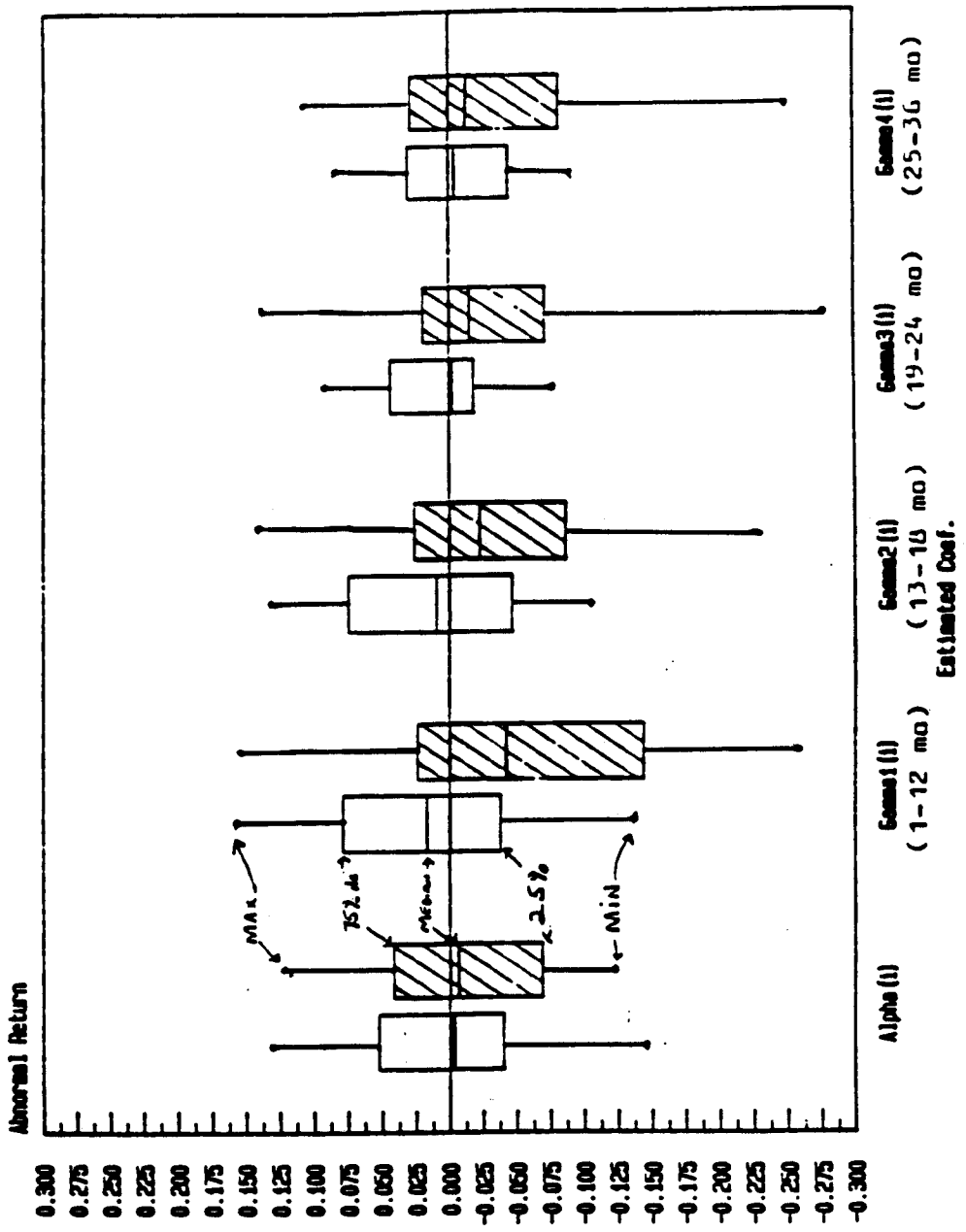
Fig. 5. Distributions of estimated abnormal return coefficients; unseasoned issues, pre-SEC; by months since date of issue and exchange.
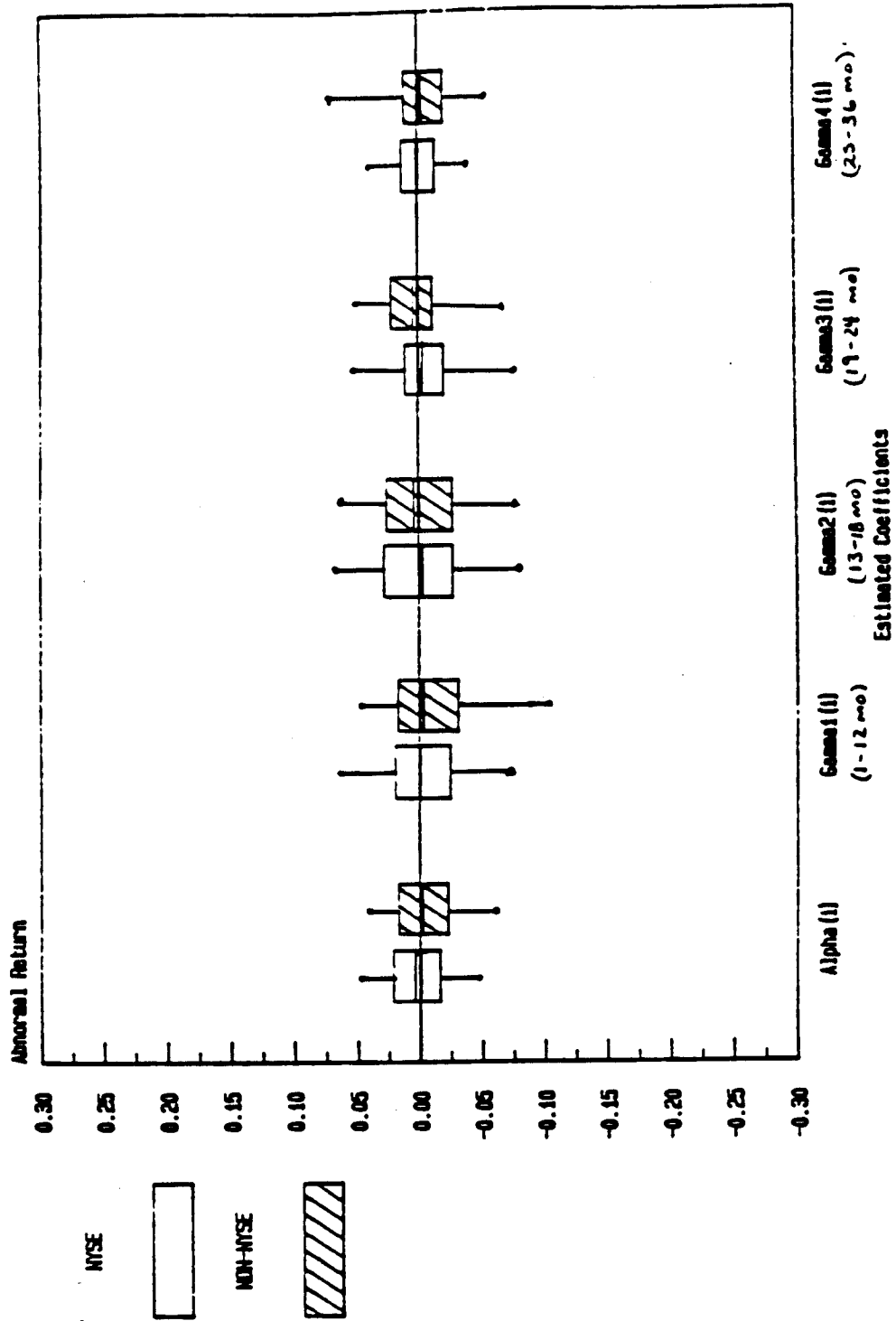
Fig. 6. Distributions of estimated abnormal return coefficients; seasoned issues, post-SEC; by months since date of issue and exchange.
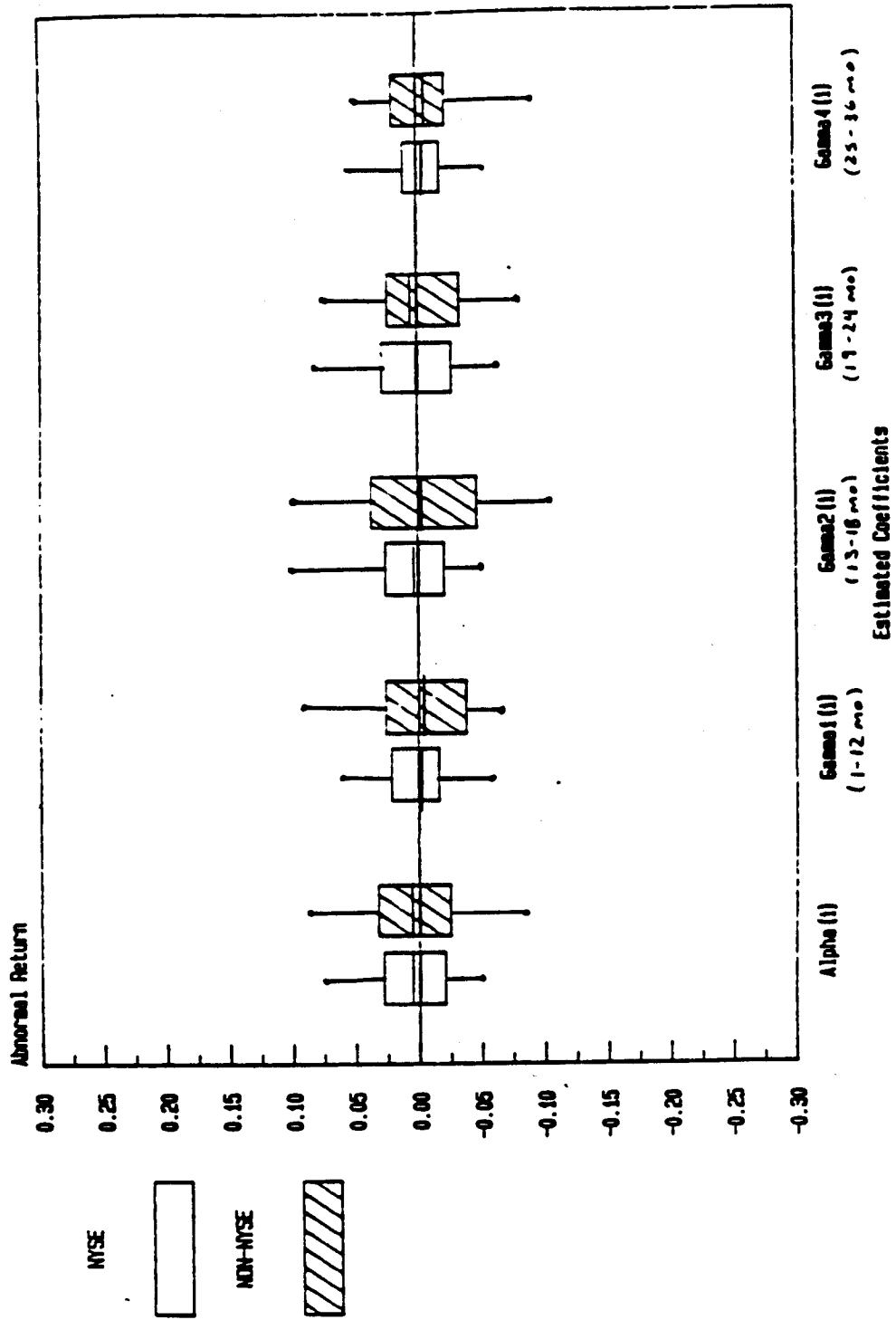
Fig. 7. Distributions of estimated abnormal return coefficients; unseasoned issues, post-SEC; by months since date of issue and exchange.

TABLE A-1

Average Coefficient Values: Eqn. (2)

Seasoned New Issues, Pre-SEC [1926-1933],

Disaggregated by Exchange

Variable	NYSE		REGIONAL EXCHANGES	
	Avg. Est. Coefficient	χ^2	Avg. Est. Coefficient	χ^2
Constant	.00219	.75	-.00058	.02
D_1 (1-12 months)	-.00292	.49	-.00275	3.63*
D_2 (13-18 mos.)	-.00555	1.12	-.00210	1.51
D_3 (19-24 mos.)	-.00052	.09	-.00536	.08
D_4 (25-36 mos.)	.00066	2.37	-.00261	2.17
R_m-R_f (Beta)	1.1166***	3936.35	.9285***	208.56
RIND-R_m-R_f (Industry)	.7735***	816.84	.6491***	68.36
$(R_m$-$R_f)$*Cycle Cyclical Beta	-.0082	3.55	-.03331**	4.78
UVAR (Unanticipated Mkt. Variance)	-7.2049***	54.71	-1.50110*	3.14
cum. 1-60 mo. (abnormal rtn.)	+.0551	0.48	-.1214	2.41
# of issues	196		43	

* Significant at the .10 level.

** Significant at the .05 level.

***Significant at the .01 level.

TABLE A-2

Average Coefficient Values: Eqn. (2)

Unseasoned New Issues, Pre-SEC [1926-1933],

Disaggregated by Exchange

Variable	NYSE		REGIONAL EXCHANGES	
	Avg. Est. Coefficient	χ^2	Avg. Est. Coefficient	χ^2
Constant	-.00142	.04	-.00511**	4.06
D_1 (1-12 months)	.0069	.43	-.0082*	3.08
D_2 (13-18 mos.)	-.00092	.01	-.02544**	3.99
D_3 (19-24 mos.)	.00531	.69	-.00835*	2.78
D_4 (25-36 mos.)	-.00257	3.21	.00124	.23
R_m-R_f (Beta)	.8772***	175.90	.9275***	185.9
RIND-R_m-R_f (Industry)	.8824***	65.30	.6142***	34.41
(R_m-R_f)*Cycle Cyclical Beta	-.0173	1.80	-.02101**	4.78
UVAR (Unanticipated Mkt. Variance)	-4.46***	19.97	-1.44706***	12.92
cum. 1-60 mo. (abnormal rtn.)	-.0116	0.68	-.5261**	4.11
# of issues	18		35	

* Significant at the .10 level.

** Significant at the .05 level.

***Significant at the .01 level.

TABLE A-3

Average Coefficient Values: Eqn. (2)

Seasoned New Issues, Post-SEC [1934-1940],

Disaggregated by Exchange

	NYSE		REGIONAL EXCHANGES	
Variable	Avg. Est. Coefficient	χ^2	Avg. Est. Coefficient	χ^2
Constant	.00012	.11	-.00540	.40
D_1 (1-12 months)	-.00198	.16	-.00205	1.31
D_2 (13-18 mos.)	.01315*	3.35	-.00089	.21
D_3 (19-24 mos.)	-.00211	.21	-.00563	.09
D_4 (25-36 mos.)	-.00370	0.64	.00181	.07
R_m-R_f (Beta)	.9687***	705.06	.7601***	41.11
RIND-R_m-R_f (Industry)	.8079***	247.27	1.0061***	31.87
$(R_m$-$R_f)$*Cycle Cyclical Beta	-.01183*	2.96	-.00315	1.93
UVAR (Unanticipated Mkt. Variance)	-.71434**	4.46	-3.42775*	2.85
cum. 1-60 mo. (abnormal rtn.)	-.0026	0.39	-.11237	1.36
# of issues	37		9	

* Significant at the .10 level.

** Significant at the .05 level.

***Significant at the .01 level.

TABLE A-4

Average Coefficient Values: Eqn. (2)

Unseasoned New Issues, Post-SEC [1934-1940],

Disaggregated by Exchange

Variable	NYSE		REGIONAL EXCHANGES	
	Avg. Est. Coefficient	χ^2	Avg. Est. Coefficient	χ^2
Constant	.00243	.19	-.00070	0.13
D_1 (1-12 months)	-.00898	.56	.00311	1.56
D_2 (13-18 mos.)	.01607	1.47	.01563	.54
D_3 (19-24 mos.)	-.00781	.37	.00609	.05
D_4 (25-36 mos.)	-.00034	.10	-.00411	.06
R_m-R_f (Beta)	.7774***	124.16	1.3617***	62.14
RIND-R_m-R_f (Industry)	.7711***	62.57	.2734	1.76
$(R_m$-$R_f)$*Cycle Cyclical Beta	.00209	1.02	-.0113***	8.42
UVAR (Unanticipated Mkt. Variance)	-2.597**	3.67	-14.7933**	4.01
cum. 1-60 mo. (abnormal rtn.)	.0684	.94	.0574	.73
# of issues	9		11	

* Significant at the .10 level.

** Significant at the .05 level.

***Significant at the .01 level.

TABLE A-5

Average Coefficient Values

Seasoned Issues, Pre-SEC, 1926-1927 Issues Only,

October 1929 - September 1930 Excluded

("No-Crash Sample")

Variable	NYSE		REGIONAL EXCHANGES	
	Avg. Est. Coefficient	χ^2	Avg. Est. Coefficient	χ^2
Constant	.00171	.71	.00050	.11
D_1 (1-12 months)	-.00111	1.96	-.00285	1.92*
D_2 (13-18 mos.)	-.00706	.46	-.00960	.19
D_3 (19-24 mos.)	-.00138	1.49	-.00276	.01
D_4 (25-36 mos.)	.00213	.06	.00884	.22
R_m-R_f (Beta)	1.0277***	404.35	.6869***	28.9
RIND-R_m-R_f (Industry)	.8764***	148.33	.6181***	29.00
$(R_m$-$R_f)$*Cycle Cyclical Beta	-.0074	.23	-.10166***	9.09
UVAR (Unanticipated Mkt. Variance)	-1.1817***	8.31	-2.20010**	5.44
cum. 1-60 mo. (abnormal rtn.)	+.0640	0.26	+.0284	0.33
# of issues	196		35	

* Significant at the .10 level.

** Significant at the .05 level.

***Significant at the .01 level.

TABLE A-6

Average Coefficient Values

Unseasoned Issues, Pre-SEC 1926-1927 Issues Only,

October 1929 - September 1930 Excluded

("No-Crash Sample")

Variable	NYSE Avg. Est. Coefficient	NYSE x^2	REGIONAL EXCHANGES Avg. Est. Coefficient	REGIONAL EXCHANGES x^2
Constant	-.00136	0.68	-.00125	2.22
D_1 (1-12 months)	.00228	2.27	-.00196	1.42
D_2 (13-18 mos.)	.00114	.39	-.03735**	3.73
D_3 (19-24 mos.)	.00148	0.63	-.02581**	4.05
D_4 (25-36 mos.)	.00820	.31	.00133	.10
R_m-R_f (Beta)	.9543***	94.64	1.0258***	40.18
RIND-R_m-R_f (Industry)	.6586***	27.62	.7122***	18.95
$(R_m$-$R_f)$*Cycle Cyclical Beta	-.0482	2.32	-.07491***	6.23
UVAR (Unanticipated Mkt. Variance)	-3.116***	27.57	1.0017	1.39
cum. 1-60 mo. (abnormal rtn.)	.0569	0.91	-.3924**	3.92
# of issues	8		7	

* Significant at the .10 level.

** Significant at the .05 level.

***Significant at the .01 level.

TABLE A-7

Average Coefficient Values

Non-NYSE Baseline Sample, Pre-SEC 1926-1933

Variable	Avg. Est. Coefficient	χ^2
Constant	-.0026	1.54
D_1 (1-12 months)	-.0131	1.15
D_2 (13-18 mos.)	.0027	1.84
D_3 (19-24 mos.)	-.0023	.84
D_4 (25-36 mos.)	.0115*	2.73
R_m-R_f (Beta)	.6126***	41.23
RIND-R_m-R_f (Industry)	.4701***	66.38
$(R_m$-$R_f)$*Cycle Cyclical Beta	.0161	.23
UVAR (Unanticipated Mkt. Variance)	-1.870**	3.77
cum. 1-60 mo. abnormal rtn.	-.0765	.89
# of issues	35	

* Significant at the .10 level.

** Significant at the .05 level.

***Significant at the .01 level.