Why Do OTC Traded Companies Initiate Dividends?

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Abstract

This article analyzes three alternative hypotheses -cash flow signalling, free cash flow and the ownership structure- as explanations of the dividend initiation decision of newly-public firms that trade in the OTC market. Using a sample of 207 companies that made an underwritten, firm commitment, initial public stock offering in the period 1980-1985, we tried to explain why some of them (26 firms) started paying dividens after going public. We found that the presence of free cash flow, plus the absence of venture capitalists in the ownership structure, are able to explain the dividend initiation decision of OTC traded companies.

Extracto

El artículo analiza tres hipótesis -señal de flujo de caja, flujo de caja libre y estructura de propiedad- como explicaciones alternativas a la decisión de inicio de dividendos de empresas cuyas acciones son transadas por primera vez en el mercado bursátil OTC. El estudio considera una muestra de 207 ofertas públicas iniciales realizadas entre 1980 y 1985, con el objeto de explicar por qué algunas de ellas (26 firmas) comienzan a pagar dividendos posteriormente a la oferta pública de sus acciones.

Este trabajo muestra que la presencia de flujos de caja libre y la
ausencia de capitalistas de riesgo en la estructura de propiedad de las
empresas pueden explicar la decisión de iniciar dividendos de
empresas transadas fuera de bolsa (OTC).

1. Introduction

The main objective of this study is to explain why OTC traded firms start paying
dividends after going public. We exploit the often noted fact that, while most
large publicly-traded firms regularly pay out a large fraction of their operating
profits as cash dividends, very few private or newly-public companies pay any
dividends at all. We attempt to identify what makes newly-public firms to begin
paying dividends even when they realize such step is essentially irreversible.
We consider three alternative hypotheses -cash flow signalling, free cash flow
and the ownership structure- as explanations of the dividend initiation decision.
The first hypothesis states that a firm will initiate dividend payments to convey
information to outsiders about the future cash flows of the firm. Firms with
positive unexpected earnings will probably initiate dividend payments. Under
the second hypothesis, a firm with a free cash flow problem (cash flow in
excess of positive NPV investment opportunities) will probably initiate dividend
payments to mitigate agency problems resulting from these free cash flows.
Finally, we study two hypotheses with respect to the ownership structure of the
firm. First, we argue that firms with highly concentrated ownership structures
will not initiate dividend payments because they have fewer agency problems
if compared to firms with less concentrated ownership. Second, non-venture
capital backed firms will probably initiate dividend payments as a substitute
mechanism for the role played by venture capitalists in conveying information
to the market.

Walker and Petty 1978 report major differences between dividend policies
of large publicly held firms and private firms. They compare a group of small
firms to a sample of large firms using information provided in the prospectuses
for the small firm sample. Dividend payments are significantly lower in small
firms (2.91% of earnings) than in large firms (40.52% of earnings). Dwyer and
Lynn 1989 report, for a sample of NYSE stocks during the period 1975-1980,
that small firms paid 25.9% of their net income in dividends. Fazzari, Hubbard
and Petersen 1988 study a sample of manufacturing firms and find that small

firms retain 80% of their earnings, while large firms retain 50%. This information suggests that small private firms pay few dividends; however, once they go public the probability of initiating dividend payments increases.

There are at least three motivations for this study. First, we do not know of any article in which all these hypotheses are tested with the same sample. Moreover, we have not found any studies that test both the free cash flow hypothesis and the cash flow signalling hypothesis, with the exception of Lang and Litzenberger 1989. However, they do not consider the issue of dividend initiation. Second, the data set used in this study is unique and contains important information about the firms before they went public. Finally, in previous studies the ownership structure has never been considered as a relevant variable in the definition of the dividend policy. The results reported in this study show that both the insider participation and the presence of venture capitalists in the ownership structure of the firm are important variables to be considered in the dividend initiation decision. The sample consists of 207 firms that went public in the period 1980-1985. We use financial information reported in both the prospectus of the public offering and COMPUSTAT files. Twenty-six firms of this sample initiated dividend payments in the period 1980-1989.

We find that the presence of free cash flow and characteristics of the firm's ownership structure are able to explain the dividend initiation decision. Most of the firms that initiate dividend payments are non-venture capital backed firms. Furthermore, firms initiate dividends to compensate for the negative information effect produced by the reduction in the insider participation in the ownership structure. Firms with free cash flow problems and without the participation of venture capitalists are more likely to initiate dividends. This study is organized as follows: first, the hypotheses and the sample selection criteria are presented; then, the empirical results are discussed, to close with the conclusions.

2. Theoretical Approach and Sample Selection

Alternative theories have been offered to explain why a firm may decide to initiate dividend payments. However, in empirical studies about dividend initiations researchers have only concentrated on testing the asymmetric

information hypothesis formally proposed by Miller and Rock 1985, and all of these empirical studies employed event study methodology to examine the market's reaction to dividend initiation. Our study will instead try to answer why firms which heretofore have not paid dividends decide to adopt a regular cash dividend policy.

Given that a dividend payout regime, once adopted, is very costly to reduce or eliminate, paying the first regular cash dividend is the financial equivalent of "crossing the Rubicon" for most companies, and is thus a decision they will likely reach only after careful thought and in response to pressing need. Since there are competitive explanations to the establishment of a dividend policy, we want to examine three important hypotheses.

A. ASYMMETRIC INFORMATION: CASH FLOW SIGNALLING

There is an asymmetric information problem between managers and stockholders with respect to the expected future cash flows of the firms, since managers possess better information than shareholders. Therefore, the managers need to create a mechanism to convey the information to the market. The signal generated by this mechanism will be credible if, and only if, the signal is costly. According to Miller and Rock 1985, dividend policy serves as an effective mechanism to solve the asymmetric information problem. If the stockholders receive cash dividends they will be able to construct the firm's sources and uses of funds statement. Then they can infer not only the current earnings but also the future cash flows of the firm. Since the managers are reluctant to cut dividends, the established dividend policy will serve to forecast the future cash flows. Furthermore, the dividend policy will be a credible signal because of the costs that this will impose on both the firm and the stockholders.[1]

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[1]First, in those periods when the firm will not generate enough internal cash flows to finance its operation it will be necessary to obtain funds from external sources at a higher cost. Second, as a result of this problem it might not be possible to reach the optimal capital structure of the firm which will increase the cost of capital. All these problems may have a negative impact on the investment policy and on the value of the firm. Finally, if dividend payments are subject to a personal tax rate higher than capital gains, receiving cash dividends is costly.

Much of the existing empirical evidence supports this hypothesis. Asquith and Mullins 1983; Kane, Lee and Marcus 1984; Richardson, Sefcik and Thompson 1986; Healy and Palepu 1988, and Venkatesh 1989, all consider dividend initiations and show that dividend payments and earning announcements are partial substitutes. Unfortunately, none of them intend to test other hypotheses. When we consider small firms like IPOs which grow at an extraordinarily fast rate, we can argue that an important proportion of the operational cash flows and market valuations are generated from their growth opportunities. Therefore, we will expect the future cash flows of the firm to be highly correlated with the past growth rates of the firm which will capture in some measure the new investment incorporated into the company. Thus, we can state the cash flow signalling hypothesis as follows:

H1: Firms with high growth rates (high growth opportunities) will initiate cash dividend payments to signal that their cash flows will remain high in the future. On the other hand, firms with low growth rates will not introduce dividend payments, because they would not be able to support ongoing dividend payments in the future, and thus have no incentive to signal falsely.

B. AGENCY PROBLEMS: FREE CASH FLOWS

There are some firms which generate cash flows in excess of the total funds required to invest in all projects with positive net present value (NPV). Jensen 1986 calls these excess funds "free cash flows", and proposes that dividend policy can be used to mitigate this agency problem between managers and stockholders. Dividends will be paid to eliminate free cash flows and the market will perceive the firm as healthy, investing funds in positive NPV projects. On the other hand, firms with high growth opportunities will not experience the free cash flows problem. Consequently, they will not initiate dividend payments and may even need external resources to finance their operations, reducing the agency cost through the monitoring function of the financial market, as Easterbrook 1984 has argued. While Lang and Litzenberger

1989 support the free cash flow hypothesis against the cash flow signalling hypothesis, they do not study dividend initiations.

In the context of our dividend initiation study, the free cash flows hypothesis says:

> H2: Firms with high free cash flow (low growth opportunities) will initiate dividend payments, and those firms with low or zero free cash flow (high growth opportunities) will not pay cash dividends.

C. Corporate Control: Ownership Structure

Many researchers have tried to understand problems arising from the separation of ownership and control. However, not many have studied the relationship between ownership structure and dividend policy. Rozeff 1982 finds a negative correlation between dividend payout ratio and the fraction of shares held by insiders. In this sense, dividend policy appears to be an effective mechanism to reduce agency costs. The more concentrated the ownership structure, the fewer the agency problems.

Jensen and Meckling 1976 focus on manager's incentives and argue that the value of a firm is positively related to his level of ownership in the firm. As inside ownership falls, the cost to managers (insiders) to consume more perquisites also falls. Therefore, the perquisite consumption increases and agency costs also increase. We postulate that dividend policy may serve as a mechanism to reduce the agency costs generated by a reduction in insider ownership. If the firm starts paying dividends, less funds will be available to be used by managers to consume perquisites, and therefore the agency costs will eventually be reduced.

On the other hand, considering the ownership structure as a signal of the value of a firm, Leland and Pyle 1977 conclude that the higher proportion of shares held by insiders, the higher the value of the firm perceived by outsiders. This signal reduces the asymmetric information problem between managers and stockholders with respect to the future cash flows of the firm. Therefore, firms may use the dividend policy as a complementary signal to communicate the

value of the firm. The lower the proportion of shares held by insiders, the more likely the initiation of dividend payments to reduce information asymmetry.

Some corporate control studies have shown that both insider vs. outsider ownership and the structure of the outside ownership are important. A large individual shareholder or a block of large shareholders will more effectively monitor management's actions. According to Shleifer and Vishny 1986, we would expect a negative relationship between the size of the largest block of shares held by an outsider and agency costs. Monitoring becomes more profitable as the largest block held by an outsider increases. Brickley, Lease and Smith 1988 also find that institutional investors and other outside blockholders vote for value-increasing but against value-decreasing proposals more frequently than nonblockholders. These large blockholders have clear incentives to participate in the voting process, since they capture most of the benefits coming from good decisions.[2]

Among the owners of the firm, venture capitalists can play an important role in IPOs, as shown by Megginson and Weiss 1990. They analyze the certification role of venture capitalists (VC) in initial public offerings. They argue that these investors certify the quality of the firm in the offering. They find that venture capitalists reduce the degree of IPO underpricing and the underwriting spread charged by the investment banker. Furthermore, Sahlman 1990 reports that venture capitalists play an active role in monitoring and managing the businesses in which they invest.

In terms of dividend policy, we can argue that the presence of a VC in the ownership structure of the firm will reduce the probability of dividend initiation, assuming that dividends and VC participation are substitutes in terms of conveying information to outside investors. The agency problems will be reduced if venture capitalists are efficient monitors. Considering the ownership structure of the firm we can state the following hypotheses:

> H3: Firms with a high proportion of shares held by insiders will not initiate dividend payments, while those firms with a diffuse ownership structure will initiate dividend payments.

[2]Recently, Wruck 1989 finds evidence to support the positive relationship between firm value and the ownership concentration of nonmanagement shareholders (outsiders). She studies a sample of private sales of equity instead of public offerings.

Furthermore, the more concentrated the outside ownership structure (the greater the number and holdings of large-block shareholders), the less probable the dividend initiation to mitigate agency and asymmetric information problems.

H4: The presence of venture capitalists in the ownership structure will reduce the probability of initiating dividend payments, and vice versa.

Because hypothesis 3 does not presume that insiders will have concentrated ownership position in either high or low growth opportunity companies, we should expect dividend initiating firms to be randomly distributed in terms of growth opportunities. For hypothesis 4 we expect that venture capitalists will invest in firms with high growth rates, as reported by Megginson and Mull 1991. This is because venture capitalists provide funds to firms which offer a high expected return and the prospect of ultimately going public. At the same time, the credibility provided by the participation of venture capitalists will facilitate obtaining external funds for investment opportunities, as is argued by Sahlman 1990.

D. SAMPLE OF INITIAL PUBLIC OFFERINGS

The sample consists of 207 companies which made an underwritten, firm-commitment, initial public stock offering in the period 1980-1985. These firms are listed in *Investment Dealers Digest* and *COMPUSTAT Over the Counter File*. We initially obtained a sample of 218 firms based on the following criteria: 1) the firm was listed in the *COMPUSTAT Over The Counter File*, 2) the financial information for the firm was reported in the IPO Prospectus,[3] 3) the firm

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[3]Most companies must file a detailed registration statement containing the prospectus with the Security and Exchange Commission (SEC) at the time of the IPO. The prospectus provides a summary of the operation for the preceding five years (or as long as the firm has been in existence), as well as audited statements of income and sources and uses of funds for the preceding three fiscal years. The prospectus also includes a description of the company's business, officers and directors, contracts between the firm and its management and other parties, capitalization, use of proceeds and dividend policy.

offers only common shares (unit offerings were excluded). A total of 207 companies in this group were listed in either the COMPUSTAT full coverage file or the COMPUSTAT annual industrial file for 1989.

The population of initial public offerings during the period 1980-1985 consists of 2,032 companies.[4] Table 2 shows a description of our sample. More firms went public in 1983 than during any other year (39%), while only 6.35% of the firms had their IPO in 1980. The sample consists of 132 non-venture-capital-backed firms (65%), which will turn out to be an important issue in the results presented in the next section. Furthermore, most of the firms that initiate dividend payments are non-venture capital backed firms.

a. *Dividend Initiations and Control Sample*

We define dividend initiation as the first regular dividend payment of the company after it has gone public. This definition does not include those companies that only paid either special dividends or nominal dividends, whether before or after they went public. We consulted *Moody's Dividends Report, The Wall Street Journal Index, COMPUSTAT*, as well as the firm's IPO prospectus and subsequent annual reports, to determine the initial dividend payment dates.

Twenty-six firms in the sample initiated dividend payments in the study period 1980 to 1989. Only six companies in this group paid either special dividends or nominal dividends before they went public. The rest of the firms never paid dividends before the public offering date. These firms are listed in

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[4]The following information corresponds to the number of firms with public offerings (IPO) in the period 1980-1985.

YEAR	NUMBER OF FIRMS	VENTURE CAPITAL BACKED
1980	152	27
1981	355	68
1982	124	27
1983	688	121
1984	354	53
1985	359	47
Total	2032	343

The information was obtained from *Investment Dealers Digest* and *Venture Capital Journal* (January 1988).

Appendix I. Most of the firms paid dividends for at least four consecutive years.

It is important to notice that 22 firms in this group are non-venture-capital-backed companies. Additionally, the firms start paying dividends on average three years after they go public. Only five firms initiate dividend payments at the time they go public.

To test the hypotheses, we constructed a control sample of a group of firms that did not initiate dividend payments. We matched both groups according to the IPO date and the initial dividend payment date. For a given IPO year, we consider the distribution of firms that subsequently initiate dividend payments and then match the non-dividend-paying firms which went public the same year with the dividend payers.[5]

3. Empirical Results: Nonparametric Tests and Logit Model

This section presents an analysis of the hypotheses using nonparametric statistics and then LOGIT models. For both analyses, we will study two samples: the full sample and the non-venture-capital-backed sample.

A. NONPARAMETRIC TESTS

We report the mean and median for each of the proxies used to test the three hypotheses. Furthermore, we run some nonparametric test statistics which lead to the same conclusions. The Wilcoxon test is reported for every proxy.

[5]For example, if for a given IPO year 25% of the group of firms with initial dividend payments start paying three years after they went public, then we apply the same percentage for the nondividend-paying firms in that year as the reference date to construct the proxies. None of the firms that went public in 1980 initiated dividend payments, and therefore the date of the offering is considered as the reference date to construct the proxies for this group.

a. Cash Flow Signalling

Firms with higher growth rates should initiate dividend payments to signal about their future cash flow position.

Using information from the prospectus, we measure growth in average annual increase in total assets (ASSETGR) and average annual increase in sales (SALESGR). Additionally, other measures -capital expenditure (CES), research and development (R&DS) and marketing expenses (ADM.SAL.)- were considered. The last three measures are relative to sales.[6] These proxies have been previously used by Titman and Wessels 1988, Lehn, Netter and Poulsen 1990, and Lehn and Poulsen 1989.

For every proxy we compute the averages during the five years preceding the dividend initiation date. We also calculate the average for the four years, three years, two years and one year immediately preceding the dividend initiation date.

The mean and median of the measures for one year, four year and five year averages, classified according to the decision to initiate dividends are shown in Table 2. The results for the two and three year averages are not reported, since they lead to the same conclusions.

The Wilcoxon test shows that the average growth in total assets is significantly higher for firms that do not initiate dividend payments for the one, two and three year averages preceding the dividend initiation. The median for the group of dividend payers is 21%, as compared to 30% for nondividend payers (year preceding). Marketing intensity is significantly higher for nondividend payers, the median for nondividend payers is 23% of net sales, against 16% for dividend payers (year preceding).

On the other hand, we do not find significant differences between the two groups when we consider the other proxies, except for the capital expenditure measure, which is significantly higher for the nondividend payers (preceding 4 years).

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[6]The corresponding items in COMPUSTAT used to construct the proxies are the following: Total Assets (COMPUSTAT item # 6), Sales (net) (COMPUSTAT item # 12), Capital Expenditures (COMPUSTAT item # 128), Research and Development (COMPUSTAT item # 46), and Selling, General and Administrative Expenses (COMPUSTAT item # 132). This item was used to proxy for marketing intensity. This is used instead of advertising intensity, since the prospectus does not contain this information for most of the firms.

b. Free Cash Flows

Firms with free cash flows should initiate dividend payments to mitigate agency problems between managers and stockholders. Since free cash flows (FCF) are those in excess of the total funds required to invest in all projects with positive net present value (NPV), it becomes empirically difficult to find an accurate proxy to measure them. We measure FCF through two different proxies: undistributed cash flow relative to market equity (CF/EQUITY) and a Tobin's Q proxy (TOBINQ).

The undistributed cash flow measure was first used by Lehn and Poulsen 1989. They find that the undistributed cash flows are significantly higher for firms that go private (through an LBO) as compared to a control sample of firms that remain publicly traded. Firms that go private also have lower growth rates. Both effects imply that firms that go private have free cash flow problems. Lehn, Netter and Poulsen 1991 later use the same measure to explain the choice between Dual-Class Recapitalization and Leveraged Buyouts. They do not find a significant difference for the undistributed cash flow measure between the two groups. Furthermore, Lang, Stulz and Walkling 1989 utilize a similar measure to analyze the returns obtained in successful tender offers. They find that free cash flows are an important determinant of bidder returns.

The measure used here is defined as

$$CFEQ = \frac{OPINC - TAX - INTEXP - PFDIV - COMDIV}{EQUITY}$$

where:

OPINC   = Operating income before depreciation (Compustat item #13)
TAX   = Total income taxes (Compustat item #16),[7]
INTEXP   = Gross interest expense (Compustat item #15)
PFDIV   = Total amount of preferred dividend requirement (Compustat item #19)

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[7]Lehn and Poulsen 1989 subtract from the total income taxes the change in deferred taxes from the previous year (COMPUSTAT item # 35). Since this variable is available for few firms, we could not compute the proxy as they did.

COMDIV = Total dollar amount of dividends declared on common stock (Compustat item #21)

EQUITY = Market value of common equity-product of common shares outstanding (Compustat item #25) and close price (Compustat item #24)

CFEQ measures after-tax cash flow which was not distributed to security-holders as either interest or dividend payments relative to the market value of common equity (*EQUITY*) at the end of the fiscal year before the dividend initiation. If firms with higher undistributed cash flows have lower growth rates (growth opportunities), then they may have free cash flow problems.

In Table 2 (Panel B), the mean, median and Wilcoxon Test statistics are reported. The initiation group has *CFEQ* equal to 10% of its equity market value, as compared to 6% for nondividend initiation group. The Wilcoxon test shows that firms initiating dividend payments have a significantly higher level of undistributed cash flows. At the same time, these firms have lower growth rates that provide some support for the free cash flows hypothesis.

In addition to the undistributed cash flow proxy, we construct another variable to capture agency problems proxied by Tobin's Q.[8] This is the ratio between the firm's market value and the book value of its assets. Despite this measure's sensitivity to accounting principles, Amit, Livnat and Zarowin 1989 find a significant and large correlation between market-to-book ratios and the Tobin's Q. Other researchers, such as Lang, Stulz and Walkling 1989, and Morck, Shleifer and Vishny 1988 use similar proxies to measure Tobin's Q. The proxy in this study is defined as the ratio of market value of equity, plus the book value of long-term debt and preferred stock, to the book value of assets. This proxy is also used by Lehn, Netter and Poulsen 1990. They find significant differences in this measure between *LBO* and dual-class firms. We will expect a good managerial performance for firms with high Q, but not for low Q firms. The results reported in Table 2 (Panel B) show an insignificant

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[8]Tobin's Q is defined as the ratio of the market value of the firm's equity and debt to the replacement cost of its assets.

difference between the groups under analysis. The median for dividend payers is 1.44, against 1.28 for nondividend payers.[9]

c. Ownership Structure

The more atomized the ownership structure, the higher the probability that the firms will initiate dividend payments to mitigate agency problems. To measure insider ownership, we consider the percentage of common shares held by managers and officers (INSIDERS) in the year the firm initiates dividend payments. Most of this information is obtained from proxy statements. For firms that initiate dividend payments either before or at the moment they go public, we use the insider ownership participation after the public offering, which is reported in the Prospectus.

We measure outsider ownership participation using the percentage of common shares held by institutional investors (OUTSIDERS). This information is obtained from *Spectrum 3*. For most of the firms, the data collected correspond to the quarter preceding the dividend initiation. The quarter corresponding to the initial public offering date is used for those firms that start paying at the moment they go public. These measures have been traditionally used in the area of corporate control theory.[10]

We report in Table 2 (Panel C) the mean, the median and Wilcoxon test statistics for the percentage of shares held by both insiders and outsiders. With respect to insiders, the median for firms with dividend initiation is 50.95%, as compared to 34.1% for the other group. The Wilcoxon test shows that firms that initiate dividend payments have a significantly higher insider participation in the firm's ownership structure. In relation to the outsider ownership structure, we do not find significant differences

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[9]Lang, Stulz and Walkling 1989 argue that firms with low Q and high undistributed cash flows (CF/EQUITY variable) will probably have free cash flow problems. On the other hand, they expect high Q firms to use CF/EQUITY as well. They consider firms with $Q < 1$ to be low Q firms. Following this line of thought, since we use a proxy for Tobin's Q, it would be difficult to draw conclusions with respect to the free cash flows problem under the analysis of this variable. Lehn, Netter and Poulsen (1990) find a Tobin's Q less than 1 for both groups (LBOs and dual-class recapitalization). They argue that the dual-class recapitalization group has a significantly higher market-to-book ratio, which implies to have fewer agency problems as compared to the LBO group.

[10]Bricley, Lease, and Smith 1988; Shleifer and Vishny 1986, and Stulz 1988.

between both groups. This is also reported in Table 2 (Panel C). These results do not support the first hypothesis with respect to the ownership structure.

However, when we study the impact of the venture capitalist's presence on the dividend initiation decision, we find that their presence in the ownership structure of the firm may convey positive information to the market, since most of the firms with VC participation do no initiate dividend payments. Therefore non-VC-backed firms will tend to initiate dividends more frequently than VC-backed firms, and they will have a higher level of insider participation in the ownership structure of the firm to convey information to the market. Most of the firms that initiate dividend payments are nonventure-capital-backed firms (22 firms) and they have a higher level of insider ownership as compared to the non-dividend initiation group. Both groups also had experienced a reduction in the insider ownership since they went public, as reported in Table 2 (Panel C). Moreover, there are significant differences in terms of insider participation between the VC backed firms and non-VC-backed firms. The median for the first group is 22.7%, against 44.9% for the second group. These results are shown in Table 3 (Panel C). Another interesting feature of the data is the change in the levels of the insider and outsider participation. Comparing the participation at the public offering date to the dividend initiation date, we observe a significant decrease in the insider participation for VC and non-VC-backed firms which will require to initiate dividend payments to complement the informational role played by the insider participation.

On the other hand, the non-VC-backed group has free cash flows, since it has lower growth rates and higher undistributed cash flows than the VC group, as can be inferred from the results shown in Table 3 (Panels A and B). This will increase the probability of initiating dividend payments in the non-VC-backed group. Some non-VC-backed firms may initiate dividend payments to substitute for the reduction in the insider ownership participation since they went public, which results in a negative effect on the value of the company. This effect might be aggravated if the firms which initiate dividends have free cash flows. The non-VC-backed firms which initiate dividend payments appear to have lower growth rates than the nondividend payers. This is reported in Table 4 (Panel A).

On the other hand, if venture capitalists can efficiently monitor the manager's activity it will no longer be necessary for the insiders (managers) to keep a significant participation in the ownership structure to convey positive information to the outside investors. VC-backed firms have fewer free cash flow problems, which reduce the agency problems to be monitored by venture capitalists.

Considering the different proxies for the alternative hypotheses, we do not find strong differences between dividend initiation (DV) firms and non-dividend initiation (non-DV) firms in the non-VC-backed group. Non-DV firms have higher growth rates and tend to have more concentrated ownership structures (insiders plus institutional investors). This is reported in Table 4 (Panel C). Despite the lack of significant differences between DV firms and non-DV firms with respect to the insider participation in the ownership structure, the non-DV firms have a lower equity market value as compared to DV firms.[11] This may imply a higher opportunity cost in terms of portfolio diversification for insiders in DV firms, assuming types of insiders having similar wealth levels.

B. LOGIT ANALYSIS

Several logit models were considered using all the different proxies constructed to test the hypotheses. The dependent variable in all cases is 0 for the non-DV firms (control sample) and 1 for the firms with dividend initiation. In addition to the variables described in the previous section, we add a dummy variable to capture the presence of venture capitalists in the firm's ownership structure.

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[11]For the sample of non-VC-backed firms we find that the market value of the equity for the firms that initiate dividend payments is significantly higher than for the other group.

GROUP	EQUITY MARKET VALUE (in millions)	
	Mean	Median
DV	109.76	80.22
Non-DV	88.82	45.15

Wilcoxon Test 2.14 (significantly at the 5% of confidence level)

This variable (VENT.CAPT.) is 1 for the firms that have at least one venture capitalist in the ownership structure and 0 for the firms without venture capitalists immediately after the initial public offering. Since venture capitalists tend to keep their participation in the firm after it goes public (as reported by Megginson and Weiss 1990), we consider this measure a good proxy for the same variable at the time the firm starts paying dividends.

Table 5 shows the results using different proxies for agency problems (free cash flows) and insider participation in the ownership structure considering the full sample. The growth rates are expressed in terms of annual averages. The numbers 4, 3, 2, and 1 reflect the average rates for the variable in the four years, three years, two years and one year preceding the dividend initiation. ASSETGR is negatively related to the probability of dividend initiation. This relation is statistically significant for all the cases, except for ASSETGR4.[12] On the other hand, INSIDERS is directly related to the likelihood of dividend initiation. At the same time, this variable is statistically significant no matter what the growth rates and free cash flows proxies are. The results presented in Table 5 also reveal a direct relationship between CF/EQUITY and the likelihood of initiating dividend payments. However, this relation is not statistically significant in any of the equations. When the variable TOBINQ is considered instead of CF/EQUITY, the parameter estimate for it also turns out to be insignificant; such result is influenced by the high correlation between this variable and the growth rate variables. This is 32% for the variable ASSETGR4, which is significantly different from zero at the 0.01% confidence level (Pearson correlation test). In all cases, the correlation is statistically significant at least at the 1% confidence level.

Using OUTSIDERS ownership, we report in Table 6 the results of the models for which the explanatory power is significantly different from zero. The free cash flow proxies are not significant in any of the equations. ASSETGR turns out to be significant using TOBINQ, but ASSETGR2 is not significant when

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[12]The results are similar when we use growth in sales and growth in administrative expenses. On the other hand, when we use capital expenditures and R&D as proxies for growth rates we find in some cases similar results and in other cases the models are not able to explain the dividend initiation decision. There are fewer observations available for both variables, which restricts the comparisons among the growth rate proxies.

we use CF/EQUITY.[13] Therefore, the outsider participation in the ownership structure does not play a significant role in the dividend initiation decision of the firm.

Since most of the companies that initiate dividend payments are non-VC-backed firms, we used the same models for the non-VC-backed group. The major problem with this analysis is the lack of significant explanatory power of most of the equations. We report the most powerful models in Table 7. In this table, we find that ASSETGR1 is significant and negatively correlated with the likelihood of dividend payouts. TOBINQ and CF/EQUITY are not significant, whereas INSIDERS is only significant for the model that includes ASSETGR1 and TOBINQ. Moreover, the explanatory power of the models is not significant in six out of eight equations resulting from all the possible combinations of the proxies. This does not allow for stronger conclusions.[14]

Given that the free cash flow problem is captured throughout the combination of either growth rates and undistributed cash flows or Tobin's Q and undistributed cash flows, it is difficult to obtain stronger results from the logit models presented above. On the other hand, most of the firms that start paying dividends are non-VC-backed firms, but the analysis of the latter does not provide much information, given the low explanatory power of the models.

The results presented in Table 3 (Panels A, B and C) show that VC-backed firms have higher growth rates and do not have free cash flows problems as compared with the non-VC-backed group. Therefore, we believe that variable VC captures the growth rates and the other proxies for agency problems.

In Table 8 we report the results using the VC variable and INSIDERS. This shows that the fact of being a venture-capital-backed firm reduces the probability of initiating dividend payments. This variable turns out to be

[13]When we consider the percentage of shares held by insiders and outsiders together, we find results similar to those obtained for the INSIDERS equations. The growth rates are negatively related to the likelihood of the decision to start paying dividends. The more concentrated the ownership structure, the higher the probability that the firm will initiate dividend payments. These results are reported in Table 6.

[14]When we consider the same model using the OUTSIDER variable instead of INSIDERS, we observe that OUTSIDERS do not play any significant role in the decision to initiate dividend payments. Furthermore, ASSETGR1 is significant when TOBINQ is used to proxy for agency problems. However, the equation lacks any statistically significant explanatory power. On the other hand, the concentration of the ownership structure (INS + OUT) is significant and positively related to the probability of dividend initiation. Moreover, ASSETGR1 is statistically significant in two of the four equations.

significant in all the equations. Moreover, the equations that include TOBINQ underestimate the significance of the variables, since there is a significant and negative correlation between TOBINQ and VC (-25.5%), in the Pearson correlation test. Furthermore, in two out of four equations INSIDERS is significant and has a direct relation to the likelihood of dividend initiation. Therefore, non-VC-backed firms require insiders to keep a high percentage of the firm's equity to convey information to the market, which is not necessary in VC-backed firms. In the case of these firms, the venture capitalists monitor the activities of the managers, thereby reducing agency problems. It is then no longer important for insiders to maintain a high percentage of the firm's equity. In fact, this percentage is significantly lower than in non-VC firms.

The need for insider participation in the equity is even more necessary for non-VC-backed firms, since they have more free cash flows if compared to VC-backed firms. Since it is costly to keep a high percentage of the equity, this will induce these firms to initiate dividend payments at certain points in time.[15]

4. Conclusions

The results reported by this study show that the dividend initiation decision is explained by free cash flows and the ownership structure hypotheses. If venture capitalists are included in the ownership, the probability of initiating dividend payments will be lower.

Venture capitalists, as sophisticated investors, play an active role in monitoring managerial activities. They may serve not only as a signal to reduce the information asymmetry problems between managers and outside investors, but also to reduce the agency problems throughout the monitoring activity. Therefore, to be a non-VC-backed firm requires a higher participation of insiders in the ownership structure, as a way to reduce either agency problems or information asymmetries. However, to keep a high percentage of shares in the company implies fewer diversification benefits. Therefore, it would be necessary to initiate dividend payments to substitute for insider participation.

[15]Variable VC is still significant when INSIDERS is replaced by OUTSIDERS; however, outsiders is not statistically significant. In addition, the concentration of the ownership structure (INS + OUT) is directly related to the likelihood of dividend initiation, and VC is significant.

Since we do not find strong results when we study the non-VC-backed group, we are not able to separate the role played by VC from the other hypotheses to explain the dividend initiation decision. However, those firms that initiate dividend payments have significantly lower growth rates, as compared to the control sample. This may provide partial support for the free cash flow hypothesis. Thus, the dividend policy may play an important role in reducing the agency costs of the firm.

Table 1

Description of the Sample: Initial Public
Offerings (1980-1985)

YEAR OF OFFERING	NUMBER OF GOING PUBLIC FIRMS	NUMBER OF VC-NON-VC*		NUMBER OF DIV.INIT.FIRMS
1980	13	6	7	0
1981	39	19	20	6
1982	18	11	7	4
1983	81	22	59	11
1984	30	8	22	3
1985	26	6	20	2
Total number of firms	207	72	135	26

* VC means venture-capital-backed firm with at least one venture capitalist in its ownership structure.

Table 2

*Mean and Median Values of Variables Describing Dividend
and Nondividend Initiation Group and Corresponding Wilcoxon
Test Statistics for Differences in Distribution
(full sample)*

VARIABLE	DIV.INITIATION FIRM			NON DIV.INIT.FIRM			WILCOXON TEST
Panel A: *Cash Flow Variables*							
Average increase in sales:	Mean	Median		Mean	Median		Z
Preceding year	0.24	0.25	(25)	0.51	0.31	(173)	-1.46
Preceding 4 years	0.32	0.29	(24)	0.64	0.33	(143)	-1.32
Preceding 5 years	0.31	0.30	(21)	0.65	0.33	(114)	-1.19
Average increase in total assets:							
Preceding year	0.21	0.21	(25)	0.69	0.30	(166)	-1.75*
Preceding 4 years	0.39	0.35	(24)	0.77	0.39	(136)	-1.18
Preceding 5 years	0.40	0.36	(22)	1.17	0.42	(115)	-1.39
Marketing exp./sales:							
Preceding year	0.17	0.16	(22)	0.34	0.23	(136)	-2.01**
Preceding 4 years	0.18	0.16	(22)	0.39	0.24	(108)	-2.33**
Preceding 5 years	0.19	0.17	(17)	0.42	0.25	(88)	-1.84*
Capital exp./sales:							
Preceding year	0.17	0.04	(25)	0.18	0.06	(175)	-1.39
Preceding 4 years	0.20	0.05	(23)	0.21	0.08	(130)	-1.66*
Preceding 5 years	0.23	0.07	(13)	0.21	0.09	(85)	-1.34
R&D expenditure/sales:							
Preceding year	0.08	0.04	(15)	0.29	0.07	(141)	-1.01
Preceding 4 years	0.08	0.07	(9)	0.30	0.08	(76)	-0.89
Preceding 5 years	0.09	0.07	(6)	0.41	0.08	(62)	-0.68

(Continues)

*   Significantly different at the 10% confidence level.
**   Significantly different at the 5% confidence level.
( ) Numbers in parentheses indicate number of firms with available information.

Table 2 (Cont.)

Panel B:
FREE CASH FLOWS
VARIABLES

Cash Flow/Equity (CEFQ):	Mean	Median		Mean	Median		Z
Preceding year	0.11	0.10	(22)	0.03	0.06	(159)	2.46***

Market/Book Val. Assets (Tobin's Q):							
Preceding year	2.28	1.44	(26)	1.91	1.28	(174)	0.17

Panel C:
OWNERSHIP STRUCTURE

Insiders (prospectus data):

	Mean	Median		Mean	Median		Z
Immediately after going public	55.91	56.9	(24)	45.36	47.9	(179)	2.46***

Insiders:

Preceding year	46.36	50.95	(26)	35.84	34.1	(179)	2.17**

Outsiders:

Preceding year	23.7	17.05	(24)	18.9	13.9	(174)	1.31

Insiders + outsiders:

Preceding year	70.9	73.15	(24)	54.2	55.4	(172)	3.56***

*   Significantly different at the 10% level.
** Significantly different at the 5% level.
*** Significantly different at the 1% level.
( ) Numbers in parentheses indicate number of firms with available information.

Table 3

*Mean and Median Values of Variables Describing Venture
and Nonventure Capitalist Firms and Corresponding Wilcoxon
Test Statistics for Differences in Distribution*
(full sample)

VARIABLE	VENTURE CAPITAL FIRM			NON VENT. CAPITAL FIRM			WILC.TEST

Panel A:
*Cash
Flow Variables*

Average increase in sales:	Mean	Median		Mean	Median		Z
Preceding year	0.74	0.47	(72)	0.32	0.27	(126)	3.56***
Preceding 4 years	1.16	0.56	(54)	0.33	0.29	(113)	4.57***
Preceding 5 years	1.37	0.67	(34)	0.34	0.29	(101)	3.90***

Average increase in total assets:							
Preceding year	0.98	0.35	(70)	0.42	0.26	(121)	2.50***
Preceding 4 years	1.14	0.61	(54)	0.50	0.33	(106)	3.98***
Preceding 5 years	2.25	0.67	(40)	0.55	0.37	(97)	3.38***

Marketing exp./sales:							
Preceding year	0.45	0.31	(57)	0.24	0.19	(101)	3.47***
Preceding 4 years	0.56	0.28	(42)	0.25	0.19	(88)	3.05***
Preceding 5 years	0.67	0.34	(32)	0.25	0.19	(73)	3.37***

Capital exp./sales:							
Preceding year	0.23	0.08	(73)	0.15	0.05	(127)	3.38***
Preceding 4 years	0.37	0.11	(47)	0.13	0.06	(106)	4.15***
Preceding 5 years	0.32	0.12	(32)	0.16	0.07	(66)	2.43***

R&D expenditure/sales:							
Preceding year	0.43	0.09	(67)	0.14	0.04	(89)	2.86***
Preceding 4 years	0.39	0.10	(42)	0.16	0.06	(43)	2.62***
Preceding 5 years	0.56	0.10	(36)	0.18	0.07	(32)	-2.37***

(Continues)

*** Significantly different at the 1% confidence level.
( ) Numbers in parentheses indicate number of firms with available information.

Table 3 (Cont.)

Panel B:
*Free Cash Flows
Variables*

Cash Flow/Equity (CEFQ):	Mean	Median		Mean	Median		Z
Preceding year	0.01	0.03	(61)	0.05	0.08	(120)	-4.58***
Market/Book Val. Assets (Tobin's Q):							
Preceding year	2.44	1.78	(71)	1.69	1.24	(129)	1.92**

Panel C:
Ownership Structure

Insiders (prospectus data):	Mean	Median		Mean	Median		Z
Immediately after going public	36.43	35.1	(74)	52.45	56.4	(129)	-3.35***
Insiders:							
Preceding year	29.50	22.70	(74)	41.52	44.9	(131)	-3.65***
Outsiders:							
Preceding year	20.73	14.55	(70)	18.76	13.45	(128)	0.86
Insiders + Outsiders:							
Preceding year	49.39	51.20	(70)	60.0	63.0	(126)	-3.51***

** Significantly different at the 5% level.
*** Significantly different at the 1% level.
( ) Numbers in parentheses indicate number of firms with available information.

Table 4

Mean and Median Values of Variables Describing Dividend and Nondividend Initiation Group and Corresponding Wilcoxon Test Statistics for Differences in Distribution (nonventure sample)

VARIABLE	DIV. INITIATION FIRM			NON DIV.INIT.FIRM			WILC.TEST
Panel A: *Cash* *Flow Variables*							
Average increase in sales:	Mean	Median		Mean	Median		Z
Preceding year	0.25	0.28	(22)	0.34	0.27	(104)	-0.09
Preceding 4 years	0.32	0.29	(22)	0.33	0.29	(91)	-0.03
Preceding 5 years	0.32	0.30	(20)	0.34	0.29	(81)	0.06
Average increase in total assets:							
Preceding year	0.20	0.25	(22)	0.47	0.26	(99)	-1.75*
Preceding 4 years	0.40	0.35	(22)	0.52	0.33	(84)	0.10
Preceding 5 years	0.40	0.36	(20)	0.59	0.37	(77)	-0.36
Marketing exp./sales:							
Preceding year	0.16	0.15	(19)	0.26	0.19	(82)	-1.53
Preceding 4 years	0.16	0.16	(19)	0.28	0.21	(69)	-1.92*
Preceding 5 years	0.16	0.17	(15)	0.28	0.21	(58)	-1.60
Capital exp./sales:							
Preceding year	0.16	0.04	(22)	0.14	0.05	(105)	-0.67
Preceding 4 years	0.17	0.05	(21)	0.12	0.06	(85)	-1.09
Preceding 5 years	0.24	0.06	(12)	0.14	0.07	(54)	-0.84
R&D expenditure/sales:							
Preceding year	0.07	0.03	(13)	0.16	0.04	(76)	-0.40
Preceding 4 years	0.07	0.05	(7)	0.18	0.07	(36)	-0.31
Preceding 5 years	0.08	0.05	(4)	0.19	0.07	(28)	-0.26

(Continues)

* Significantly different at the 10% confidence level.
( ) Numbers in parentheses indicate number of firms with available information.

Table 4 (Cont.)

Panel B:
Free Cash Flows Variables

Cash Flow/Equity (CEFQ):	Mean	Median		Mean	Median		Z
Preceding year	0.11	0.10	(20)	0.04	0.08	(100)	1.29

Market/Book Val. Assets (Tobin's Q):							
Preceding year	1.48	1.40	(22)	1.73	1.19	(107)	0.07

Panel C:
Ownership Structure

Insiders (prospectus data):							
Immediately after going public	56.66	59.8	(20)	51.68	56.0	(109)	1.22

Insiders:							
Preceding year	46.67	54.35	(22)	40.48	42.1	(109)	1.23

Outsiders:							
Preceding year	22.8	17.05	(20)	18.01	12.95	(108)	1.34

Insiders + outsiders:							
Preceding year	70.46	73.15	(20)	58.03	61.3	(106)	2.30**

** Significantly different at the 5% level.
( ) Numbers in parentheses indicate number of firms with available information.

Table 5

Logistic Regression Analysis of Likelihood
that Firm Initiate Dividend Payments
(chi-square statistics in parentheses)

FULL SAMPLE (growth assets)

INTERCEPT	-2.67	-2.50	-2.50	-2.41
	(24.37)***	(21.23)***	(20.44)***	(18.01)***
ASSETGR1	-1.91			
	(5.68)***			
ASSETGR2		-1.55		
		(3.86)**		
ASSETGR3			-1.08	
			(2.76)*	
ASSETGR4				-0.74
				(1.55)
CF/EQUITY	1.89	1.61	1.58	1.32
	(2.21)	(1.61)	(1.30)	(0.99)
INSIDERS	0.03	0.03	0.03	0.02
	(6.94)***	(6.14)***	(5.80)**	(4.95)**
N	176	166	163	150
MODEL CHI-SQUARE	16.86***	14.42***	12.0***	9.73**

FULL SAMPLE (growth assets-Tobin's *Q*)

INTERCEPT	-2.78	-2.57	-2.42	-2.42
	(25.49)***	(23.41)***	(20.95)***	(19.47)***
ASSETGR1	-1.81			
	(6.13)***			
ASSETGR2		-1.78		
		(5.01)**		
ASSETGR3			-1.44	
			(4.17)**	
ASSETGR4				-0.98
				(2.33)
TOBINQ	0.10	0.11	0.06	0.09
	(0.29)	(0.32)	(0.11)	(0.25)
INSIDERS	0.03	0.03	0.03	0.03
	(9.10)***	(8.22)***	(7.65)***	(5.98)**
N	189	178	174	159
MODEL CHI-SQUARE	17.85***	16.45***	14.11***	11.21***

* Statistically significant at the 10% level.
** Statistically significant at the 5% level.
*** Statistically significant at the 1% level.

Table 6

Logistic Regression Analysis of Likelihood
that Firm Initiate Dividend Payments
(Chi-square Statistics in parentheses)

FULL SAMPLE (growth assets)

INTERCEPT	-1.77 (15.14)***	-1.73 (14.15)***	-1.96 (17.84)***	-1.87 (16.05)***
ASSETGR1	-1.14 (2.83)*		-1.31 (4.03)**	
ASSETGR2		-0.99 (2.32)		-1.42 (3.97)**
TOBINQ			0.24 (1.42)	0.27 (1.82)
CF/EQUITY	1.83 (2.00)	1.56 (1.53)		
OUTSIDERS	0.003 (0.06)	0.005 (0.13)	0.003 (0.08)	0.005 (0.14)
N		170	161	182172
MODEL CHI-SQUARE	7.61*	6.83*	7.48*	7.71*

*   Statistically significant at the 10% level.
**   Statistically significant at the 5% level.
***   Statistically significant at the 1% level.

Table 7

*Logistic Regression Analysis of Likelihood
that Firm Initiate Dividend Payments
(chi-square statistics in parentheses)*

NON-VENTURE SAMPLE (growth assets)

INTERCEPT	-1.88	-1.85	-1.87	-1.85
	(10.76)***	(10.45)***	(10.68)***	(10.20)***
ASSETGR1	-1.68			
	(3.80)**			
ASSETGR2		-1.03		
		(1.58)		
ASSETGR3			-0.54	
			(0.75)	
ASSETGR4				-0.19
				(0.15)
CF/EQUITY	1.78	1.63	1.61	1.28
	(1.27)	(0.99)	(0.89)	(0.62)
INSIDERS	0.02	0.01	0.01	0.01
	(1.70)	(1.34)	(1.08)	(0.82)
N	116	109	107	102
MODEL CHI-SQUARE	7.96**	4.55	3.22	2.24

NON-VENTURE SAMPLE (growth assets-Tobin's *Q*)

INTERCEPT	-2.22	-2.02	-1.88	-1.84
	(12.53)***	(12.13)***	(10.93)***	(10.30)***
ASSETGR1	-1.82			
	(4.52)**			
ASSETGR2		-1.17		
		(1.90)		
ASSETGR3			-0.70	
			(1.14)	
ASSETGR4				-0.28
				(0.25)
TOBINQ	0.30	0.16	0.08	0.06
	(1.12)	(0.50)	(0.16)	(0.10)
INSIDERS	0.02	0.02	0.02	0.01
	(2.75)*	(2.39)	(1.99)	(1.44)
N	120	113	110	105
MODEL CHI-SQUARE	7.89**	4.56	3.13	2.12

* Statistically significant at the 10% level.
** Statistically significant at the 5% level.
*** Statistically significant at the 1% level.

Table 8

*Logistic Regression Analysis of Likelihood
that Firm Initiate Dividend Payments
(chi-square statistics in parentheses)*

FULL SAMPLE (venture capitalist)

INTERCEPT	-2.44 (20.71)***	-2.38 (17.00)***	-2.30 (19.85)***	-2.43 (15.67)***
VENT.CAPT.	-1.17 (3.78)**	-1.51 (3.77)**	-1.07 (3.43)*	-1.57 (3.70)**
CF/EQUITY		1.78 (1.14)		-1.92 (1.13)
TOBINQ	0.10 (1.38)			0.05 (0.07)
INSIDERS	0.02 (2.52)*	0.01 (1.79)	0.02 (2.64)*	0.01 (1.52)
N	199	180	205	180
MODEL CHI-SQUARE	10.03**	12.07***	8.96***	12.13**

*　　Statistically significant at the 10% level.
**　Statistically significant at the 5% level.
***　Statistically significant at the 1% level.

APPENDIX I

IPOs with Initial Dividend Payments
1980-1985

CUSIP	COMPANY NAME	PROSPECTUS DATE	DIVIDEND INIT. DATE
002535	Aaron Rents, Inc	821104	8606
006874	Adia Services Inc	841002	8503
055442	BGS Systems	830603	8702
076590	Beeba's Creations Inc.	850918	8712
089009	Big Bear Inc	830804	8712
104674	Brady (WH)	840628	8410
230215	Culp	830830	8406
233860	Dairy Mart Convenience	830722	8808
242728	Deb Shops	830406	8405
350060	Foster (LB) Corp.	810609	8102
404100	H.B.O. & Company	810630	8204
447324	Hurco Co., Inc.	810325	8911
457662	Insittuform East, Inc.	811020	8907
45881K	Intermet	850712	8501
459745	Intl. Lease Finance Corp	830309	8802
472318	Jefferies Group, Inc.	831013	8809
475086	Jefferson Smurfit Corporation	831110	8505
482047	Juno Lighting, Inc.	830901	8709
485795	Kasler Corporation	820316	8206
704326	Paychex	830826	8911
784117	SEI Corp.	810325	8802
871904	Systematics, Inc.	810812	8402
872241	TCA Cable	820430	8207
904724	Uniforce Temporary	840323	8805
913562	Universal Furniture	831005	8708
925817	Vicorp Restaurants Inc.	820826	8303

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