THE FINANCIAL FACTORS INFLUENCING CASH DIVIDEND POLICY: A SAMPLE OF U.S. MANUFACTURING COMPANIES

by

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Abstract

The decision to adopt cash dividend policy is influenced by the environment of and the context of such decision. On average, companies that pay cash dividends are associated with higher liquidity ratios, higher profitability ratios, larger sized and higher research and developments than companies that do not pay dividends. Also, it is found that some companies with financial difficulties still paying cash dividends. Also, there are solid financial companies that do not pay cash dividends at all. It seems that managerial and behavioral issues are important factors to determine a company's cash dividend policy

INTRODUCTION

The decision to establish a stable cash dividend is, as any other decision making, influenced by the environment of and the context of such decision. The tendencies in cash dividend policy are not only influenced by internal factors such as investment opportunity, profitability and liquidity of companies, but also, influenced by external factors (Jensen &

Johnson, 1995; Jensen & Smith, 1984; Lintner, 1956). The uncertainty with respect to the world-wide policy, growth, macroeconomic problems, stability, technology and changes in consumers tastes influences managers' decision making (Roberto, 2002). Available information in the financial markets reduces the uncertainty and leads to better decisions about the company's performance.

Cash dividends studies are related to behavioral theories such as "Agency Theory" and "Signaling Theory" (Baker & Powell, 1999), or financial theories related to the performance, investment, and financing opportunities (Fama, 1974, 2001). This article is mainly concerned with the financial factors influenced and related to cash dividend policy. In differentiating between companies that adopt cash dividend policy and companies that do not adopt such policy, this article is organized as follows: the following section discusses the theoretical and empirical issues related to cash dividends. The data and methodology is described in section three. The data interpretation and results are given in section four. In section five, the main conclusions are presented.

Theoretical Background

Controversies among empirical studies related to cash dividend policy exist. Although the cash dividends decision affect the structure of capital (Gordon, 1959), the relation between cash dividend announcements and share prices is not obvious (Bernstein, 1996; Black, 1976; Dempsey, Laber & Rozeff, 1993; Holder, Langrehr & Hexter, 1998; Litzenberger & Ramaswamy, 1982; Miller, 1986; Brigham & Gapenski, 2002; Brealey & Myers, 2002; Van Horne, 2001).

Through cash dividend policy managers reduce principle-agent relationship costs (Ross, 1973; Jensen & Meckling, 1976; Rozeff, 1982; Easterbrook, 1984; Jensen, 1986; Alli, Khan &

Ramirez, 1993; Holder *et. al.*, 1998). The announcements of cash dividends signal information to investors that include the company's efficiency such as the profitability, liquidity and investment opportunity (Hansen, Kumar & Shome, 1994; Miller, 1999; Black, Ketcham & Schweitzer, 1995; DeAngelo & DeAngelo, 1990; Alli *et. al.*, 1993). According to Gonedes (1978) and Watts (1973, 1976), unexpected dividends do not influence the stock markets. Managers usually establish a stable cash dividend policy to avoid sending negative information to investors (Dewenter & Warther, 1998; Nadler, 1977; Escherich, 2000). Companies with an unstable cash flow pay a greater proportion of cash dividends than companies with stable cash flow (Bradley, Capozza & Sequin, 1998).

Asymmetry of information exists on the future of the company's profits and the effects of the announcement of cash dividend policy (Miller & Rock, 1985). The investors' reaction to changes in cash dividends influences companies to be caution to increase cash dividends except that the increase will remain for longer term (Dyl & Weigand, 1998; Holder et. al., 1998; Kallberg, Liu & Srinivasan, 2003; Lintner, 1956; Benartzi et. al., 1997; Fama & Babiak, 1968). It is assumed that companies with unstable profits pay little cash dividends to maintain cash dividends constant, to minimize the cost of external financing and to signal positive information to investors (Howe & Gronewoller, 1990; Kalay, 1980; Moh'd, Perry & Rimbey, 1995; Baker & Wurgler, 2002; Lipson et. al., 1998; Pan, 2001; Baker, Farrelly & Edelman, 1985; Baker & Powell, 1999). In this sense, it is expected to observe no significant change in cash dividends trends.

The theory of residual dividend suggests that a company will pay dividends only when generated gains that are not used for investment (e.g., Alli *et. al.*, 1993; Keown *et. al.*, 2002). Companies that are experimenting higher rate of growth will need to maintain minimum

payments of dividends to avoid external financing costs (Holder et. al., 1998; Rozeff, 1982). Easterbrook (1984) and Jensen (1986) state that investment opportunities an important factor affecting dividends policy. Ross (1977) and Bhattacharya (1979) argue that companies with profitable projects are able to pay higher dividends to be differentiated of those organizations with less profitable projects.

The relation between share price and dividends announcements depends on how much information is contained in the announcements and how much the information influences the investors' expectations (Black *et. al.*, 1995). For the vast majority of public companies, cash dividend announcement is an important factor to maximize the value of shareholders (Escherich, 2000; Keown *et. al.*, 2002). However, considerable judgmental and empirical studies suggest that the dividend policy is irrelevant (Black, 1976; Black & Scholes, 1974; Jose & Stevens, 1989; Miller & Scholes, 1978) where others expose that it affects the value of the company (Baker *et. al.*, 1985; Baker & Powell, 1999; Litzenberger & Ramaswamy, 1979; Long, 1978; Sterk & Vanderberg, 1990; Goshen, 1995; Keown *et. al.*, 2002).

Fama and French (2001) suggest three characteristics that affect the decision to pay dividends: the yield, the investment opportunity and the company's size. They studied the incidence of the companies that pay dividends during the period from the year 1926 to the year 1999, with special interest in the period (1972-1999). The proportion of companies that paid dividends diminished greatly after the year 1978, of 6.5% to 2.08% in the year 1999. The proportion of companies that pay dividends diminished partly because of the changing characteristics of the corporations that are quoted publicly. The population of these companies tends to be of smaller size, low yield and with investment opportunities. All these characteristics

are typical in companies that never have paid dividends. Fama and French (2001) argue that companies have become less motivated to pay dividends independently of its characteristics.

The announcement of cash dividends reflects the companies' investment plans. When a company has investment opportunities then there is no need to pay cash dividends, and the announcement of cash dividends may reflects that the company has less investment opportunities (Baker, 1989; Brook *et. al.*,1998; Baker & Wurgler, 2002; Pan, 2001). Financial risk is another factor that influence companies not adopt cash dividends (Ofek, 1993; Dyl & Weigand, 1998). DeAngelo and DeAngelo (1990) found that one third part of the companies studied that showing financial risk does not reduce dividends. These companies confront transaction costs and require other sources of financing to replace money assigned for cash dividends (Holder et. al., 1998).

The size of the company is an important factor to explain cash dividends. Larger-sized companies tend to have an easier access to capital markets. This is by reducing the dependency on funds generated internally and allows payment of higher rate of dividends (Holder *et. al.*, 1998; Lloyd, Jahera & Page, 1985; Vogt, 1994). A controversy about the relation between the company's size and cash dividend announcements exists. Mozes and Rapaccioli (1995) argue that the company's size is independent of the decision of dividends payments. However, Bajaj and Vijh (1990) argue that the effects in the share price due to changes in dividends are more significant for smaller sized companies. According to Gaver and Gaver (1993), the yield and payment of dividends is positively related to the size of the company. Dyl and Weigand (1998) found that the company's risk is significantly smaller immediately after the declaration of initial dividends. The change in risk is more pronouncing in larger sized companies than in smaller sized companies.

The theory of tax-preference explains why investors prefer dividends for contributing reasons since the capital gains in the U.S. contribute less than normal profit. This implies that companies maintain a lower rate of dividends payments to maximize share prices (Fama & French, 1998). Investors in low taxation levels prefer shares that pay high dividends when it compares to investors in high taxation levels (Brennan, 1970; DeAngelo & Masulis, 1980; Elton & Gruber, 1970; Litzenberger & Ramaswamy, 1979; Long, 1978).

Data and Methodology

The sample consists of 132 US manufacturing companies. The main source of data is from the SEC' 10K report of US manufacturing companies during the period started in the year 1994 and ended in the year 2003. About 60% of companies in the sample pertain to the industrial classification 35 that includes establishments engaged in manufacturing industrial and commercial machinery and equipment and computers. The remaining companies pertain to industrial classification 37 that includes establishments engaged in manufacturing equipment for transportation of passengers and cargo by land, air, and water.

The main objective of this article is to verify whether companies that adopt cash dividends policy and companies that do not adopt such policy have, on average, different financial characteristics. For this aim, we used several financial variables consist of, first, profitability ratios, second, liquidity ratios third, expansion and investment, fourth investors perceptions, fifth companies risk, and sixth, companies' size (see Table 1). The t-test were used to verify if the financial variables averages are the same between companies that pay dividends (CD) and companies that do not pay dividends (NCD).

Similar to Aivazian, Booth and Cleary (2001) and Fama and French (2001), the regression

model ($D_{it} = \alpha_i + \sum \beta_j X_{ijt} + \varepsilon_{it}$) is used. Where (i = 1, 2 … N; t = 1, 2 … T; N = 132; T is

number of variables). The dependent variable D_{it} is continuous and reflects the dividend paid by

company "i" in year "t". α_i is the intercept and X_{ijt} is the independent variable "j" for company

"i" in year "t". Different β's are the coefficients for the independent variables and ε_{it} is the error

term. Several tests were used to validate the regression model. First, we apply ordinary

regression to all observations [N x T (146 x 10)]. Durbin Watson test were used to verify the

model. The variable coefficient of this regression were used to calculate the regression residuals

($\varepsilon_{i,t}$) and to obtain $\hat{\rho}_i = \dfrac{\sum \varepsilon_{it} \varepsilon_{i,t-1}}{\sum \varepsilon_{i,t-1}^2}$ $(t = 2, 3, ..., T)$. After the transformation, the regression

model is as follows:

$$D_{it}^* = \beta_1 \left(\frac{OI}{TA} \right)_{it}^* + \beta_2 \left(\frac{CA}{CL} \right)_{it}^* + \beta_3 \ln(MVE)_{it}^* + \beta_4 \left(\frac{R \& D}{NS} \right)_{it}^* + \beta_5 Manuf_{it}^* + \beta_6 Multin_{it}^* + u_{it}^*$$

Where,

$D_{it}^* = D_{it} - \hat{\rho}_i D_{i,t-1}$,

$\left(\dfrac{OI}{TA} \right)_{it}^* = \left(\dfrac{OI}{TA} \right)_{it} - \hat{\rho}_i \left(\dfrac{OI}{TA} \right)_{i,t-1}$, $\left(\dfrac{CA}{CL} \right)_{it}^* = \left(\dfrac{CA}{CL} \right)_{it} - \hat{\rho}_i \left(\dfrac{CA}{CL} \right)_{i,t-1}$,

$\ln (MVE)_{it}^* = \ln (MVE)_{it} - \hat{\rho}_i \ln (MVE)_{i,t-1}$,

$\left(\dfrac{R \& D}{NS} \right)_{it}^* = \left(\dfrac{R \& D}{NS} \right)_{it} - \hat{\rho}_i \left(\dfrac{R \& D}{NS} \right)_{i,t-1}$,

$Manuf_{it}^* = Manuf_{it} - \hat{\rho}_i Manuf_{i,t-1}$,

$Multin_{it}^* = Multin_{it} - \hat{\rho}_i Multin_{i,t-1}$,

$u_{it}^* = \varepsilon_{it} - \hat{\rho}_i \varepsilon_{i,t-1}$,

(i = 1, 2, …, N; t = 2, 3, …, T).

The residuals $\hat{u}_{it}^*$ were used to estimate the variance of $\hat{u}_{it}^*$ to minimize the problem of

heteroskedasticity.

$$s_{ui}^2 = \frac{1}{T-K-1}\sum_{t=2}^{T}\hat{u}_{it}^{*2} \qquad (i = 1, 2, \ldots, N; \ T = 10; \ K = 6).$$

The second transformation is used to obtain the following model:

$$D_{it}^{**} = \beta_1\left(\frac{OI}{TA}\right)_{it}^{**} + \beta_2\left(\frac{CA}{CL}\right)_{it}^{**} + \beta_3 \ln(MVE)_{it}^{**} + \beta_4\left(\frac{R\&D}{NS}\right)_{it}^{**} + \beta_5 Manuf_{it}^{**} + \beta_6 Multin_{it}^{**} + u_{it}^{**}$$

Where,

$$D_{it}^{**} = \frac{D_{it}^{*}}{S_{ui}}$$

$$\left(\frac{OI}{TA}\right)_{it}^{**} = \frac{\left(\frac{OI}{TA}\right)_{it}^{*}}{S_{ui}},$$

$$\left(\frac{CA}{CL}\right)_{it}^{**} = \frac{\left(\frac{CA}{CL}\right)_{it}^{*}}{S_{ui}},$$

$$\ln(MVE)_{it}^{**} = \frac{\ln(MVE)_{it}^{*}}{S_{ui}},$$

$$\left(\frac{R\&D}{NS}\right)_{it}^{**} = \frac{\left(\frac{R\&D}{NS}\right)_{it}^{*}}{S_{ui}},$$

$$Manuf_{it}^{**} = \frac{Manuf_{it}^{*}}{S_{ui}},$$

$$Multin_{it}^{**} = \frac{Multin_{it}^{*}}{S_{ui}},$$

$$u_{it}^{**} = \frac{u_{it}^{*}}{S_{ui}},$$

$$(i = 1, 2, \ldots, N; \ t = 2, 3, \ldots, T).$$

Data Interpretation and Results

From the data, companies that have paid cash dividends represents about one third of the total companies in the sample. In the year 2000, the number of companies that have paid cash dividends increased to 48 and then decreased to reach 44 companies in year 2002 and 2003. It is assumed that the 9-11 event affected cash dividends trend as well as the profitability of

companies, but the data do not confirm that manufacturing companies, on average, are significantly changing the dividend trend. This contradicts the Fama and French (2001) argument that the number of companies paying dividends is decreasing significantly regardless of the characteristics of companies.

Not surprisingly, on average all companies reflect a decrease in operating profit and net income after the year 2000. In the period from the year 1994 to the year 2003, Operating income to total assets (OI/TA) average is 22.23% for companies that pay dividends and - 6% for companies that do not pay dividends. OI/TA average turned to negative after the year 1997 for companies that do not pay dividends. The net profit after tax to total assets (NPAT/TA) sign during all the period is negative and is decreasing after the year 2000 for companies that do not pay dividends. However, for companies that pay dividends, OI/TA ratio shows a slight decrease in the year 2001 and the trend is increasing in the whole period. The data shows that OI/TA ratio average and NPAT/TA ratio average differ between companies that do not pay dividends and companies that pay dividends (t-test is significant at the 1% level). This confirms the assertion that the profitability of companies, on average, is an important determinant for cash dividend decision.

However, from 48 companies that declared cash dividends in the sample, 25 companies were found with negative net income to total assets (NI/TA), at least, in one year where they declared cash dividends (seven companies in two years, two companies in three years, and one company in four years). For these particular companies cash dividends policy is stable and is not correlated with net income. One possible explanation is that these companies expect to have higher future cash flow and send a positive sign to investors about the companies' future performance and/or they are paying cash dividends from retained returns. Also, it is possible that

despite the negative expectations of net profit managers still want to communicate positive news to investors. This confirms the findings of DeAngelo and DeAngelo (1990).

The averages of current assets to current liabilities (CA/CL) are 48% for companies that pay dividends (PD) and 35% for companies that do not pay dividends (NPD). Both groups show a slightly increase in CA/CL in the year 2001. Total liabilities to total assets (TL/TA) averages in the sample are 28% for PD and 39% for NPD. The trend for companies that PD is ranged between 27% and 29%, but it is increasing for NPD and it ranges between 29% and 42%. This is consistent with the argument that the liquidity of companies is an important determinant for cash dividend decision.

The average for the measures of cash dividends to total assets (CD/TA) is 2% for PD. The average of cash dividends to net income (CD/NI) is 31%. The research and development (R&D) to net income (RD/NI) averages are 95% for PD and 89% for NPD. The RD/NI averages fluctuate from 50% to 234% for PD and from -159% to 286% for NPD. The cash dividend to R&D (CD/RD) average is 1.43% for PD. These results are consistent with the assumptions that companies that invest larger amounts in R&D have a trend to pay more dividends.

The market to book (M/B) averages are 93% for PD and 244% for NPD. The M/B average fluctuates from 71% to 119% for PD and from 169% to 267% for NPD. This confirms the assertion that investors perceive companies that do not pay dividends with higher opportunities of expansions and investments.

Beta averages are 88% for PD and 118% for NPD. Beta averages fluctuates from 74% to 107% for PD and from 89% to 178% for NPD. Therefore, investors consider companies that pay cash dividends are less risky than companies that do not pay cash dividends.

The natural logarithm of sales (LS) average is 7.76 for PD and 4.45 for NPD. The natural logarithm of market value (LMV) average is 7.18 for PD and 4.61 for NPD. The data shows that The LS average and The LMV average differ between companies that do not pay cash dividends and companies that pay cash dividends and t-test is significant at the 1% level. This confirms the assertion that larger sized companies, on average, pay more cash dividends than smaller sized companies.

To verify the previous results of the liquidity, profitability, and companies' size, regression model were used. The following is the obtained adjusted regression model:

$$D_{it} = 6.99\left(\frac{OI}{TA}\right)_{it,1} + 4.66\left(\frac{CA}{CL}\right)_{it,2} + 21.40\ln(MVE)_{it,3} - 6.04\left(\frac{R\&D}{NS}\right)_{it,4} + 53.18 Manuf_{it,5} + 15.62 Multin_{it,6} + \varepsilon_{it}$$

The R^2 and the adjusted R^2 are 74.4% and 74.2, respectively.

The variable OI/TA is correlated positively with dividend payment ($\beta = 6.987$, $\rho < .01$). this is consistent with Benartzi et al. (1997), DeAngelo, DeAngelo y Skinner (1992), Fama y Babiak (1968), Fama y French (1998) y Lintner (1956). The variable CA/CL has coefficient of 4.656 ($p < .01$). This is consistent with the importance of companies' liquidity to dividend decision Holder et al. (1998). MVE is a proxy for the company's size and it is significant at the 1% level ($\beta = 21.395$, $\rho < .01$). This is en accordance with Fama y French (2001), Holder et al. (1998), Lloyd et al. (1985) y Vogt (1994). Similar to Allí, Khan y Ramírez (1993) and Baker et al. (2001), R&D is negatively correlated with dividend payment and it is significant at the 1% level.

Conclusions

Internal and external factors influence the decision of pay cash dividends. The objective of this article is to verify whether, on average, different financial characteristics exist between companies that pay cash dividends and companies that do not pay cash dividends. For this

objective, the financial variables or ratios used are related to profitability ratios, liquidity ratios, expansion and investment, investors' perceptions, companies' risk and companies' size.

The data confirms the assertions that, on average, the profitability, liquidity and size of companies are important determinants for cash dividend decision. The Beta examined revealed that the investors consider companies that pay cash dividends are less risky than companies that do not pay dividends. The companies that have paid cash dividends represents about one third of the total companies in the sample. The data do not confirm that manufacturing companies on average are significantly changing the dividend trend. These disagree with previous studies of Fama y French (2001).

Managers' judgments influence cash dividend policy. From the total data, 48 companies were found that paid cash dividends, and 25 were found with negative net income at least in one year. This is an indication that managers may try to send a positive signal to investors despite that their companies are associated with net loss.

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Definitions of the financial variables

Profitability ratios

      Operating income to total assets (OI/TA)

      Net profit after tax to total assets (NPAT/TA)

Liquidity ratios

      Current assets to current liabilities (CA/CL)

      Total liabilities to total assets (TL/TA)

Expansion and investment

      Cash dividend to total assets (CD/TA)

      Cash dividend to net income (CD/NI)

      Research and development to net income (RD/NI)

      Cash dividend to research and development (CD/RD)

Investors' perceptions

      Market to book ratio (M/B)

Companies' risk

      Beta

Companies' size

      Natural logarithm of sales (in thousands) (LS)

      Natural logarithm of market value (in thousands) (LMV)

Table 1

Year	Statistic	LS	LMV	OI /TA	NPAT /TA	CA /CL	TL /TA	CD /TA	CD /NI	RD /NI	CD /RD	M/B	FS /NS	Beta
1994	Average	7.548	6.875	0.152	0.068	1.919	0.295	0.017	0.264	0.964	1.810	0.854	0.303	1.073
	ST Dev	2.290	1.951	0.073	0.063	1.070	0.106	0.014	0.670	1.973	4.661	0.568	0.238	0.443
	Number	44	44	44	44	44	43	44	44	43	43	41	28	40
1995	Average	7.401	6.907	0.208	0.064	2.029	0.282	0.036	0.435	0.804	2.804	0.926	0.309	0.972
	ST Dev	2.329	2.028	0.312	0.039	1.043	0.100	0.083	0.831	1.201	8.382	0.532	0.240	0.448
	Number	46	46	46	46	46	46	46	46	46	46	46	28	40
1996	Average	7.713	7.203	0.158	0.047	1.934	0.285	0.014	0.269	0.784	1.723	0.936	0.333	0.857
	ST Dev	2.141	2.093	0.100	0.055	0.994	0.102	0.011	0.177	1.049	3.295	0.590	0.235	0.433
	Number	44	44	44	44	44	44	44	44	44	44	44	29	40
1997	Average	7.678	7.396	0.180	0.063	2.130	0.285	0.017	0.236	0.695	1.244	1.183	0.336	0.812
	ST Dev	2.135	2.064	0.081	0.053	1.141	0.112	0.024	0.631	2.469	1.819	0.722	0.246	0.454
	Number	47	47	47	47	47	47	47	47	47	47	47	29	46
1998	Average	7.837	7.192	0.215	0.054	2.144	0.293	0.015	0.279	0.504	1.486	1.022	0.364	0.925
	ST Dev	2.058	2.028	0.175	0.037	1.158	0.108	0.011	0.330	1.326	2.452	0.803	0.261	0.400
	Number	46	46	46	46	46	46	46	46	46	46	46	33	45
1999	Average	7.906	7.158	0.217	0.065	2.136	0.283	0.014	0.240	0.554	1.247	0.887	0.360	0.906
	ST Dev	1.956	2.014	0.176	0.040	1.142	0.096	0.011	0.273	1.233	1.921	0.814	0.242	0.402
	Number	46	46	46	46	46	46	46	46	46	46	46	35	46
2000	Average	7.905	7.085	0.278	0.052	2.101	0.292	0.013	0.252	0.807	0.999	0.714	0.388	0.852
	ST Dev	1.958	2.018	0.577	0.048	1.236	0.115	0.011	0.532	2.379	1.462	0.501	0.257	0.456
	Number	48	48	48	48	48	48	48	48	48	48	48	39	48
2001	Average	7.922	7.224	0.212	0.021	2.028	0.281	0.013	0.126	0.839	0.750	0.787	0.405	0.903
	ST Dev	1.966	1.929	0.196	0.079	1.090	0.108	0.011	1.357	6.613	0.998	0.501	0.257	0.496
	Number	47	47	47	47	47	47	47	47	47	47	47	38	47
2002	Average	7.851	7.286	0.290	0.047	2.111	0.276	0.024	0.344	1.156	1.065	0.839	0.415	0.744
	ST Dev	1.984	1.740	0.652	0.044	1.138	0.096	0.070	0.994	4.302	2.310	0.527	0.245	0.445
	Number	44	44	44	44	44	44	44	44	43	43	43	35	43
2003	Average	7.808	7.509	0.324	0.055	2.625	0.254	0.016	0.644	2.360	1.192	1.195	0.476	0.770
	ST Dev	2.069	2.059	0.756	0.038	1.816	0.091	0.020	1.694	6.004	2.303	0.852	0.265	0.515
	Number	44	44	44	44	44	44	44	44	44	44	43	34	44

Table 2
Financial variables and ratios for companies that pay dividends

Year	Statistic	LS	LMV	OI /TA	NPAT /TA	CA /CL	TL /TA	RD /NI	M/B	FS /NS	Beta
1994	Average	4.009	4.635	0.107	-0.087	2.760	0.356	0.681	1.693	0.372	1.081
	ST Dev	2.311	1.577	0.323	0.347	2.683	0.230	3.523	1.551	0.216	0.921
	Number	76	86	86	76	86	76	74	57	28	40
1995	Average	4.245	4.586	0.066	-0.139	2.677	0.394	1.354	2.504	0.353	0.922
	ST Dev	2.280	1.860	0.331	0.532	1.720	0.379	6.718	3.345	0.180	0.978
	Number	85	86	86	85	86	86	85	72	34	49
1996	Average	4.300	4.598	0.045	-0.091	3.317	0.357	1.914	2.241	0.333	0.891
	ST Dev	2.180	2.052	0.304	0.521	2.781	0.360	8.951	2.299	0.214	0.908
	Number	87	87	87	87	87	87	87	78	32	52
1997	Average	4.429	4.641	-0.004	-0.125	3.388	0.347	2.863	2.665	0.349	1.039
	ST Dev	2.232	2.147	0.339	0.477	2.993	0.355	11.043	6.704	0.206	0.864
	Number	85	85	85	85	85	85	85	82	34	71
1998	Average	4.471	4.632	-0.050	-0.249	2.704	0.452	-0.812	2.604	0.379	1.088
	ST Dev	2.295	2.460	0.393	0.899	1.774	0.745	5.131	4.224	0.223	0.668
	Number	86	86	86	86	86	86	86	84	42	74
1999	Average	4.616	5.165	-0.031	-0.074	2.807	0.369	1.275	5.670	0.397	1.016
	ST Dev	2.351	2.561	0.281	0.462	1.913	0.364	4.588	15.440	0.210	0.866
	Number	86	86	86	86	86	86	86	84	49	78
2000	Average	4.577	4.470	-0.097	-0.115	3.306	0.356	-1.591	1.931	0.422	1.155
	ST Dev	2.321	2.626	0.339	0.334	3.790	0.444	16.347	3.244	0.214	0.834
	Number	82	82	82	82	82	82	82	80	48	78
2001	Average	4.495	4.466	-0.142	-0.231	2.803	0.405	0.521	1.902	0.384	1.282
	ST Dev	2.300	2.571	0.402	0.352	2.117	0.691	5.098	2.394	0.206	0.942
	Number	85	85	85	85	85	85	85	83	52	83
2002	Average	4.658	4.222	-0.202	-0.260	2.350	0.419	1.723	1.167	0.410	1.520
	ST Dev	2.461	2.634	0.485	0.611	1.980	0.374	12.675	1.188	0.248	1.006
	Number	87	87	87	87	87	87	87	87	56	87
2003	Average	4.730	4.686	-0.292	-0.107	2.329	0.449	0.965	2.015	0.399	1.782
	ST Dev	2.555	2.896	0.735	0.341	1.692	0.507	4.146	2.088	0.237	1.044
	Number	81	85	85	81	85	81	81	79	57	82

Table 3
Financial variables and ratios for companies that do not pay dividends

	Company	Ticker	Year	NI/TA
1	ITT INDUSTRIES INC	ITT	1998	-1.93%
2	APPLE COMPUTER INC	AAPL	1996	-15.21%
3	NEC CORP -ADR	NIPNY	1998	-3.17%
	NEC CORP -ADR	NIPNY	2001	-6.18%
4	NEOWARE SYSTEMS INC	NWRE	1994	-1.62%
5	EXABYTE CORP	3EXBT	2002	-40.31%
6	IOMEGA CORP	IOM	2003	-6.45%
7	CREATIVE TECHNOLOGY LTD	CREAF	2001	-19.34%
	CREATIVE TECHNOLOGY LTD	CREAF	2002	-2.96%
8	LOGITECH INTL S A -ADR	LOGI	1994	-9.82%
9	SYMBOL TECHNOLOGIES	SBL	2000	-3.29%
	SYMBOL TECHNOLOGIES	SBL	2001	-2.89%
	SYMBOL TECHNOLOGIES	SBL	2002	-2.86%
10	XEROX CORP	XRX	2000	-0.87%
	XEROX CORP	XRX	2001	-0.39%
	SANYO ELECTRIC CO LTD -ADR	SANYY	1998	-0.97%
11	SANYO ELECTRIC CO LTD -ADR	SANYY	2002	-2.65%
	WOODWARD GOVERNOR CO	WGOV	1994	-1.01%
12	FORD MOTOR CO	F	2001	-1.97%
13	OSHKOSH TRUCK CORP	OSK	1996	-0.06%
14	SPARTAN MOTORS INC	SPAR	1997	-16.15%
	SPARTAN MOTORS INC	SPAR	1999	-1.13%
15	VOLVO AB SWE -ADR	VOLVY	2001	-0.56%
16	DANA CORP	DCN	2001	-2.92%
17	FEDERAL-MOGUL CORP	3FDMLQ	1995	-0.57%
	FEDERAL-MOGUL CORP	3FDMLQ	1996	-14.18%
	FEDERAL-MOGUL CORP	3FDMLQ	2000	-2.75%
	FEDERAL-MOGUL CORP	3FDMLQ	2001	-11.86%
18	HAYES LEMMERZ INTL INC	HAYZ	1996	-5.54%
19	TRANSPRO INC	TPR	2000	-5.91%
20	WABASH NATIONAL CORP	WNC	2000	-0.86%
	WABASH NATIONAL CORP	WNC	2001	-33.53%
21	COACHMEN INDUSTRIES INC	COA	2001	-1.37%
22	BOEING CO	BA	1997	-0.47%
23	HONEYWELL INTERNATIONAL INC	HON	2001	-0.41%
	HONEYWELL INTERNATIONAL INC	HON	2002	-0.80%
24	LOCKHEED MARTIN CORP	LMT	2000	-1.40%
25	ASTRO-MED INC	A LOT	2001	-0.61%
	ASTRO-MED INC	A LOT	2002	-5.35%
	Average			-5.91%

**Table 4:
Companies paid cash dividends during a year with negative net income**