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AN IMPLICIT CLIENTELE TEST OF THE RELATIONSHIP BETWEEN TAXATION AND CAPITAL STRUCTURE

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ABSTRACT

This paper presents a test for the existence of debt clienteles in which the latter are represented by progressive personal tax brackets. The test generates some evidence consistent with the implication of debt clientele theory that, over time, firms' debt ratios should vary with the relative tax incentives which their investors have to hold debt. Changes in the relative structure of taxes, however, at best only partially account for the time series behavior of debt ratios, especially in the case of high debt firms.

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AN IMPLICIT CLIENTELE TEST OF THE RELATIONSHIP BETWEEN TAXATION AND CAPITAL STRUCTURE

1. INTRODUCTION

An implication of Miller's theory [6] on the relationship between debt and taxes is the existence of financial leverage clienteles. Investors with low personal tax rates tend to hold the common stock of highly levered firms, whereas high bracket investors hold the stock of firms with little or no leverage. Changes in tax structure affect investor preferences at the margin and, hence, the balance between the debt and equity clienteles. A change in relative taxes shifts the equilibrium level of debt for companies as a whole at the macro level.

The existence of financial leverage clienteles has been tested for by Kim, Lewellen & McConnell [4] who found only weak supporting evidence. However, their formulation of clienteles was based upon cross-sectional survey data of individual investors and ignored institutional investors who hold about 40% of outstanding common stock. Since the institutional type with the greatest common stock holdings (pension funds) - is tax exempt, the omission of institutions eliminated a major source of variation in the clientele distribution. By contrast a strong association over time between relative tax rates and the mean debt ratio of corporations was found by Grier and Strebel [2]. Although these results are consistent with Miller's theory, it is difficult to draw any inference of causality since both the debt ratio and the debt incentive tax ratio, measuring the gains from leverage, are subject to a strong secular trend.

The purpose of this paper is to test for the implicit existence of separate clienteles for corporations with differing leverage rations, by ex-

amining the relationship between the time series behavior of debt ratio deciles and various categories of debt incentive tax ratio. The latter are obtained from Miller's expression [4] for the tax benefit of debt, net of both corporate and personal taxes. Ranges of the debt incentive tax ratio are used to represent investor clienteles in the corresponding tax brackets. To test whether these tax clienteles are true financial leverage clienteles, two empirical hypotheses are formulated in Section 2. The data and the results obtained from the tests are discussed in Section 3 and conclusions summarized in Section 4.

2. TAX INDUCED SHIFTS IN FINANCIAL LEVERAGE CLIENTELES

Although others have made the argument that the tax subsidy on interest payments at the corporate level may be offset by the tax subsidy on equity income at the personal level [1, 10], Miller was the first to analyze this question in a macroeconomic equilibrium framework. His theory is based on the following assumptions: First, the personal tax on capital gains is zero; second, there are no limitations on personal interest deductions, apart from the no arbitrage rule preventing borrowing to hold risk free tax-exempt bonds; and third, the tax on ordinary personal income is progressive with a range on both sides of the corporate tax rate. Miller argues that corporations have an incentive to issue bonds provided that the tax savings associated with the interest payments offset costs associated with the higher interest rates necessary to induce investors to switch from tax-free municipal bonds to corporate bonds. The equilibrium level of corporate debt at the macro level is determined by the point at which the tax savings on interest payments are equal to the incremental interest needed to induce the marginal investor to hold bonds. This is considered to be the optimal macro level of corporate

debt. At the micro level, however, no optimal capital structure exists, since owing to clientele switching, no company is able to increase its market value by changing its capital structure.

Investors who choose to lend, that is, bondholders, can be grouped into two categories. The first consists of those with marginal personal tax rates less than the corporate rate who prefer corporate bonds, because the tax savings at the corporate level exceed the additional taxes on interest income at the personal level. The second consists of bondholders with tax rates greater than the corporate rate who prefer tax-free municipal bonds. In addition, as shown by KLM [4], stockholders have an incentive in Miller's framework to "demand extreme corporate financial leverage policies." Low tax bracket stockholders tend to gravitate toward extremely levered firms, because they obtain greater tax savings by borrowing through the corporation than on their own account. Those who prefer less risk exposure can unlever unwanted corporate borrowing by purchasing corporate bonds and, thus, obtain the bondholder surplus which is related to the difference between the corporate tax savings and the personal taxes on interest income. Correspondingly, high bracket stockholders gravitate to firms with either zero leverage or net lending positions, because in that situation they can reduce their tax rate on interest income to the corporate rate. High bracket stockholders who desire to borrow do so on their own account, because they obtain greater tax savings on personal than corporate borrowing.

A possible implication of extreme capital structure policies, is a bimodal distribution of debt ratios across firms. KLM found some evidence of such a distribution. However, they find little additional support for the existence of financial leverage clienteles based upon personal income tax brackets. As previously suggested, this may be a result of their failure to take into account tax exempt financial institutions. Their inclusion would

probably result in a clientele distribution across tax brackets not unlike the distributions shown in Figures 1 and 2 of KLM's paper and Figure 1 of this paper.

In contrast to KLM's cross-sectional test based on somewhat problematical survey data[1], we present an implicit longitudinal test of Miller's debt clientele theory. The test is implicit because we do not attempt to identify directly the financial leverage clienteles. Rather, the hypothetical clienteles are represented by progressive personal tax brackets which are assumed to affect clienteles' net tax incentive to hold firms with varying degrees of leverage.

Investors' debt incentive tax ratios are derived from Miller's [6] exression for the difference, δ, in the after tax present value of a before tax flow of operating income through the levered and unlevered forms of the same corporation:

$$\delta = 1 - (1-\tau_c)(1-\tau_s)/(1-\tau_b) \qquad (1)$$

where τ_c is the corporate income tax rate, τ_s, the personal tax rate applicable to stock income, and τ_b, the personal tax applicable to bond income. When there are no taxes ($\tau_c = \tau_s = \tau_b = 0$), the original Modigliani and Miller (M & M [8]) result is obtained, while when only corporate taxes are considered ($\tau_b = \tau_b = 0$, $\tau_c \neq 0$) the later M & M [9] result applies. Since δ reflects the firm's tax incentive to issue debt on behalf of its stockholders, we shall call δ the debt incentive tax ratio. According to Miller's theory, changes in δ should reflect changes in the degree of financial leverage preferred by investors.[2]

Given the relationship between tax rates in (1), a change in taxation policy will have a differential impact on the investor clienteles in different tax brackets. For example, an increase in the capital gains tax rate will have a significant effect upon high income investors. Such an increase in the capital gains tax rate relative to other tax rates, causes an increase in the demand for debt and a reduction in the demand for equity, especially by high bracket clienteles. This creates a temporary disequilibrium in the securities market, with excess demand for debt and an excess supply of equity. The effect is a temporary increase in the price of debt and a decline in the price of equity leading to a reduction in the cost of debt and an increase in the cost of equity. Companies desiring to raise new capital take advantage of the situation by selling more debt and less equity than they otherwise would. This corporate reaction, of course, brings the market back into equilibrium, but with a greater total amount of debt outstanding than existed previously.

In the absence of transaction costs, any firm could change its capital structure to accommodate the shift in clienteles. and, thereby, re-equilibrate the market. The affected investors would be able to revise their portfolios without cost. In the presence of transaction costs, however, investors are better off, if the firms in their portfolio facilitate a minimization of portfolio revision by altering their capital structures to reflect the changes in tax structure. In effect, portfolio revision costs encourage clientele loyalty. Tax induced changes in the degree of financial leverage preferred by investors clienteles should be correlated, therefore, with the changes in debt ratio of the affected clientele firms over time.

In estimating the clientele debt incentive tax ratio, δ, for a given period, the marginal corporate income tax, τ_c, is assumed to be identical for all corporations and is taken as the nominal corporate tax rate during

the period. The range of τ_b, the marginal tax rate on bond income is used to delineate eleven different investor clienteles. Two consist of the extreme cases (zero tax and the maximum personal income tax rate during the period). The remaining nine correspond to nine equally spaced points between zero and the maximum τ_b for the period. Two different estimates of τ_s, the marginal tax on stock income, are considered. First, it is taken to be zero and, second, it is approximated by the maximum nominal capital gains tax rate for each clientele. The first estimate is based on the argument that the marginal tax on stock income is close to zero, because the realization of capital gains can be deferred and dividend income can be sheltered using the interest cost of investor borrowing [7].

The companies in the sample are ranked according to their initial debt ratios at the beginning of the 15 year period and placed into 11 categories: one category consisting of firms with zero debt and the remaining 10, comprising equal deciles of approximately 60 companies each, based on their debt ratio rankings. The correlation over-time between each clientele's debt incentive tax ratio and the mean debt ratio of each financial leverage category is then computed. Initially, the highest personal tax bracket is matched with the zero debt companies, the lowest bracket with the most highly levered firms and the intermediate brackets in sequence with firms of intermediate leverage. The initial assignment of tax brackets to debt ratio categories is then altered and the correlation analyses repeated, until all possible assignments have been exhausted. The following hypothesis is used as a basis for testing whether the tax clienteles are true financial leverage clienteles:

H_1: The debt incentive tax ratios of high (low) tax bracket investors are more strongly correlated over time with the mean debt ratio of low (high) debt ratio deciles than with the high (low) deciles.

If financial leverage clienteles exist, then all the firms serving a particular clientele have a similar incentive to alter their capital structures to accommodate tax induced changes in the level of corporate debt preferred by their clientele. Thus, not only should the mean debt ratio of each company decile move with the approporate debt incentive tax ratio, but the standard deviation of the decile debt ratios should not change significantly over time. To facilitate the testing of this implication, the following hypothesis is employed:

H_2: The standard deviations of the debt ratio deciles remain constant over time.

3. DATA AND EMPIRICAL RESULTS

Annual data on the debt ratio for all companies listed on the NYSE having no preferred stock were obtained for the period 1962-76. Companies with preferred stock were excluded because of the indeterminate nature of preferred stock (relative to equity and debt). The number of companies for which complete data was available for the years 1962-76 was 864. The debt ratio used below is the book value of long term debt divided by the sum of the book value of equity and long term debt. It is assumed that factors tending to overstate book debt ratios, such as undervaluation of inventories and plant, are largely offset by factors tending to understate book debt ratios, such as off-balance sheet financing [5].

For comparison with KLM's data, the 1970 distribution of debt ratios is provided in Exhibit 1. It exhibits a similar bimodal structure, largely as a result of the relatively high number of zero debt companies. As discussed earlier, a bimodal distribution of debt ratios is consistent with Miller's clientele theory. Exhibit 2 lists the mean and standard deviation of the debt ratio distributions over the 15-year period studied. A strong trend towards higher mean debt ratios is apparent in Exhibit 2. Previously,

Grier and Strebel [2], reported a significant relationship between the debt incentive tax ratio for the highest tax bracket clientele and the mean debt ratio. [Exhibit 3]. However, any inference of causality had to be made with extreme caution owing to the common secular drift in both the ratios.

To overcome the serial correlation problem, the disaggregated implicit clientele test embodied in H_1 was developed. This test takes advantage of the differences in the direction of the mean trend of debt ratio subsamples over the period analyzed. As is evident from Exhibit 4, while the lower debt ratio deciles (numbers 0 to 6 comprising firms with debt ratios from zero to .225 in 1962) displayed an increase in mean debt ratio between 1962 and 1976, the higher debt deciles (numbers 7 to 10 comprising firms with debt ratios from .271 to .886 in 1962) exhibited a decline in mean debt ratio over the same period. The increase in the mean debt ratios of the lower debt deciles and the decline in the mean ratios of the higher debt deciles suggests the possibility of reversion to the mean. This would imply a declining standard deviation of debt ratios for the entire sample over time. However, the standard deviation of the total sample distribution is stable over time [see Exhibit 2].

The clientele debt incentive tax ratios, based on the assumption that income from stock is taxed at the nominal capital gains rate, are shown in Exhibit 5. They also exhibit different trend directions over the period with the lower bracket clientele categories (0-2) having small declines in their debt incentive tax ratios between 1962 and 1976 and the remaining categories (3-10) experiencing increases throughout the period.[3] The reason for the difference in trend is that the increase in personal taxes over the period more strongly affects the higher bracket tax ratios, whereas the slight decline in corporate tax rates has a greater impact on the lower bracket tax ratios. Similar results are obtained when the marginal tax on stock income

is assumed to be zero.

Given the imputed clientele tax ratios and the firm debt ratios, we may proceed to test the first hypothesis H_1. The mean debt ratio over time for each of the 11 company deciles was regressed separately with the debt incentive tax ratio over time for each of the 11 debt clientele categories. These regressions were estimated both for debt incentive tax ratios computed assuming zero marginal tax on personal income from stock and assuming a marginal stock income tax equal to the nominal tax on capital gains. If Miller's theory is correct, the time series correlations should be strongest between the mean debt ratios of the lower (higher) debt deciles and the debt incentive tax ratios of the higher (lower) debt deciles. Results are presented in Exhibit 6 where the marginal tax on personal income from stock is assumed to be zero and Exhibit 7 where the marginal stock income tax is assumed to be equal to the nominal capital gains rate.

Visual inspection of Exhibits 6 and 7 indicates four basic combinations of clientele tax ratios and decile debt ratios. The most significant is the positive correlation between the high bracket tax ratios corresponding to clienteles 3 to 10 and the low debt ratio deciles, 0 to 6. This block of correlation coefficients reflects the positive secular trend in both the highest bracket tax ratio and the total sample debt ratio shown in Exhibit 3. In Exhibits 6 and 7, however, the common positive secular trend is clearly restricted to the higher tax brackets and lower debt ratios, in accordance with the debt clientele theory . The other block of positive correlation coefficients in the two exhibits corresponds to the negative secular trend in both the lower bracket tax ratios, 0 to 2, and the higher debt ratio deciles, 7 to 10. The remaining blocks of correlation coefficients contain mainly negative entries. The overall relationship between inputed clientele tax ratios and decile debt ratio over the period 1962 to 1976, is consistent with hypothesis H_1.

Assuming independence, the random chance that personal tax rates would exhibit a positive trend, thereby pushing the higher bracket tax ratios upwards, while corporate rates exhibit a negative trend, pushing the lower bracket tax ratios downwards is 1/4. Moreover, in the absence of reversion to the mean, the random chance that high debt ratios would move upwards and low debt ratios downwards, is also 1/4. Therefore, the observed relationship between clientele tax ratios and decile debt ratios can be said to differ from a null hypothesis of no relationship at approximately the 6% level of significance.

Alternatively, the results may be summarized by considering the two block diagonals separately. The first diagonal (D_1) containing the lower left and upper right blocks of correlation coefficients, corresponds to debt deciles and clientele debt incentive tax ratios matched in accordance with Miller's theory. The other diagonal (D_2) containing the upper left and lower right blocks reflects a matching exactly opposite to the one hypothesized by the clientele theory. If the regressions between clientele tax ratios and decile debt ratios were random and independent between blocks, the expected number of positive correlation coefficients different from zero at the 1% level of significance would be 1/2 x .01 times the number of correlation coefficients on either block diagonal, or .34 on D_1 and .26 on D_2. A χ^2 test of the difference between the number of positive and significant correlation coefficents and the number expected by chance was highly significant for D_1 and insignificant for D_2. Since the observed empirical relationships are consistent with the theory and cannot be attributed to chance, H_1 cannot be rejected.

The second hypothesis (H_2) concerning the constancy of decile standard deviations can be tested by means of the data presented in Exhibit 3. Increases in decile standard deviations are readily apparent. While, in 1962, all of the differences between adjacent decile means are greater than the standard deviation for each decile, in 1976, the differences between the means of the deciles were well within the respective decile standard deviations.

Moreover, an F-test on the difference between the 1962 decile debt ratio variance and the 1976 decile debt ratio variance was significant (at the 1% level) for all 11 deciles. Consequently, H_2 must be rejected. It follows that, contrary to the implication of the debt clientele theory, there is little evidence of strong uniform clientele loyalty over time within the debt ratio deciles.

4. CONCLUSION

In the presence of transaction costs, debt clientele theory suggests that, over time, the firm's debt ratio should vary with the tax incentive which its clientele has to hold debt. In accordance with the theory, the results of the implicit clientele test indicate that the debt incentive tax ratios of high bracket clienteles are more strongly correlated with the mean debt ratio of low debt firms than high debt firms. Although, the corresponding results for low tax brackets have the correct sign, they are much less significant statistically. Moreover, contrary to the theory, there is little evidence of uniform clientele loyalty within debt ratio deciles over time. Overall, the implicit clientele test generates somewhat stronger support for the existence of financial leverage clienteles than the data reported by KLM. Changes in the relative structure of taxes, however, at best only partially account for the time series behavior of debt ratios, especially, in the case of high debt firms.

Several explanations of the discrepancy between the above results and the predictions of debt clientele theory are possible. First, the overall methodology of the imputed clientele test may be inadequate. However, the similarity between our results and those reported by KLM using an entirely different methodology reduces the likelihood of this explanation. Second, the problem may lie with the assumption of clientele loyalty generated by

FOOTNOTES

1. As KLM acknowledge, survey data is subject to measurement error, for example, "individuals at the lower end of the income-and-wealth scale tend to overstate the level of their earnings and assets, whereas the reverse is true for individuals at the other end of the scale." More important, however, for testing the existence of debt clienteles is KLM's omission of institutional data.

2. In his equlibrium analysis of the market for corporate debt, Miller assumes that the personal tax rate on stock income is zero ($\tau_s = 0$). When τ_s is not zero, the equilibrium becomes a function of the wealth distribution of personal tax rates and has yet to be properly specified. In this paper, we consider the value of δ for different tax brackets both for $\tau_s = 0$ and $\tau_s > 0$.

3. Exhibit 5 shows that between 1963 and 1964 the debt incentive tax ratio for the higher tax brackets increases dramatically (from -3.0 to -.63 for clientele 10). The results reported below are not significantly affected by omitting the 1963/64 tax ratios from the data set for the higher bracket clienteles.

EXHIBIT 1
HISTOGRAM OF 1970 DEBT RATIOS

FREQUENCY BAR CHARTS

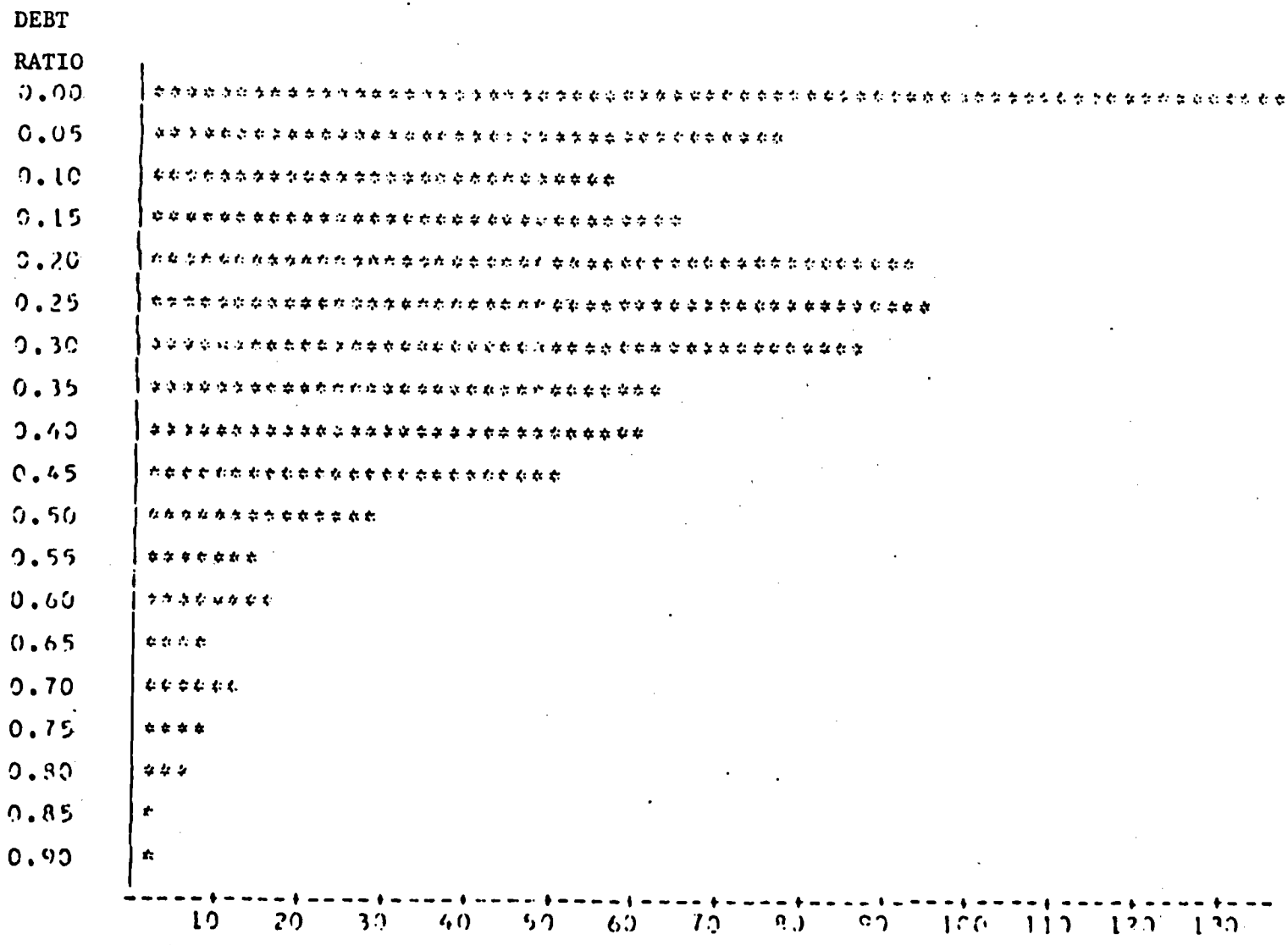

EXHIBIT 2

MEAN DEBT RATIO AND STANDARD DEVIATION OF DEBT RATIO OF TOTAL SAMPLE

	Mean Debt Ratio	Standard Deviation of Debt Ratio
1962	.151	.174
1963	.160	.170
1964	.162	.177
1965	.175	.179
1966	.188	.181
1967	.198	.180
1968	.210	.182
1969	.213	.182
1970	.224	.185
1971	.225	.186
1972	.228	.188
1973	.232	.187
1974	.244	.189
1975	.245	.186
1976	.240	.184

EXHIBIT 3

Net Debt Incentive Tax Ratio and the
Mean Debt Ratio of the Entire Sample

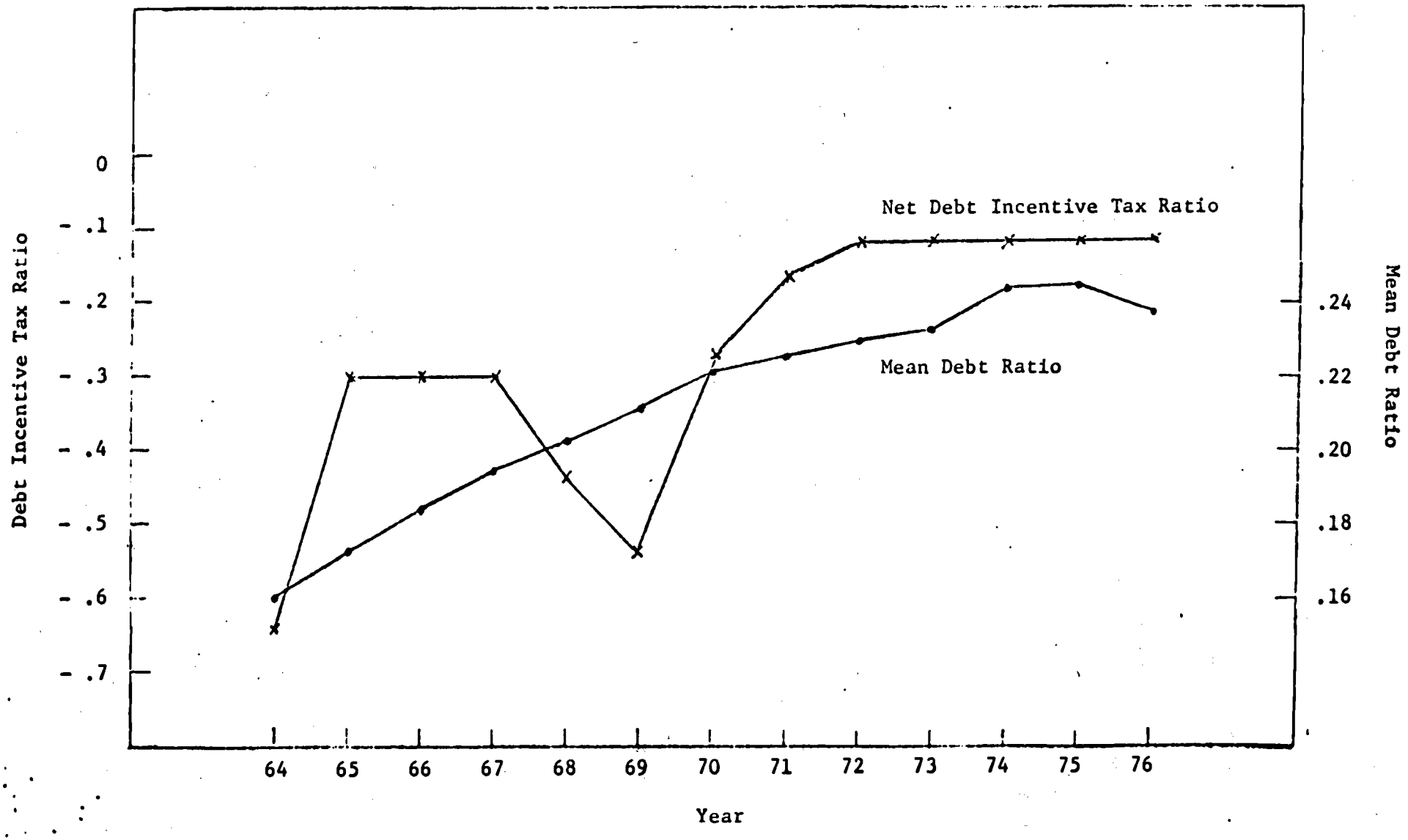

EXHIBIT 4

MEAN DEBT RATIO AND STANDARD DEVIATION OF DEBT RATIO BY DECILES

1962 & 1976

	1962			1976	
Decile	1962 Decile Debt Ratio Cut Off	Mean Debt Ratio	Standard Deviation Of debt ratio	Mean Debt Ratio	Standard Deviation of Debt Ratio
0	0	0	0	.185	.180
1	.041	.022	.011	.213	.176
2	.074	.060	.010	.223	.175
3	.104	.091	.009	.189	.140
4	.148	.126	.013	.240	.165
5	.182	.166	.010	.258	.176
6	.225	.202	.013	.240	.140
7	.271	.250	.015	.238	.173
8	.257	.304	.023	.262	.137
9	.470	.404	.031	.345	.177
10	.886	.591	.093	.444	.190

EXHIBIT 5

ANNUAL CLIENTELE DEBT INCENTIVE TAX RATIOS

(Assuming that the marginal tax on stock income is equal to the nominal capital gains rate)

	CLIENTELE CATEGORY										
YEAR	0	1	2	3	4	5	6	7	8	9	10
1962	.52	.476	.443	.389	.321	.215	.081	-.122	-.466	-1.175	-3.
1963	.52	.486	.443	.389	.321	.215	.081	-.122	-.466	-1.175	-3.
1964	.500	.472	.445	.399	.350	.289	.210	-.105	-0.042	-.262	-.630
1965	.480	.454	.425	.391	.350	.300	.288	.158	.054	-.084	-.300
1966	.480	.454	.425	.391	.350	.300	.288	.158	.054	-.084	-.300
1967	.480	.454	.425	.391	.350	.300	.288	.158	.054	-.084	-.300
1968	.528	.502	.436	.436	.392	.338	.269	.178	.051	-.133	-.439
1969	.528	.501	.476	.432	.386	.328	.254	.155	.017	-.192	-.539
1970	.492	.469	.442	.410	.372	.325	.266	.191	.089	-.053	-.268
1971	.480	.459	.435	.406	.372	.330	.278	.212	.125	.006	-.170
1972	.48	.46	.438	.415	.379	.34	.292	.23	.149	.037	-.127
1973	.48	.46	.438	.415	.379	.34	.292	.23	.149	.037	-.127
1974	.48	.46	.438	.415	.379	.34	.292	.23	.149	.037	-.127
1975	.48	.46	.438	.415	.379	.34	.292	.23	.149	.037	-.127
1976	.48	.46	.438	.415	.379	.34	.292	.23	.149	.037	-.127

EXHIBIT 6

CORRELATION COEFFICIENTS BETWEEN CLIENTELE DEBT INCENTIVE TAX RATIOS AND DECILE MEAN DEBT RATIOS

(Assuming a zero marginal tax on stock income)

Clientele Tax Ratio		Lowest 0	1	2	3	4	5	6	7	8	9	Highest 10
Lowest	0	-.527*	-.468	-.414	-.383	-.483	-.507*	-.295	.160	.638**	.338	.461
	1	-.357	-.293	-.233	-.216	-.307	-.338	-.132	.205	.538*	.239	.286
	2	.009	.083	.151	.142	.083	.027	.188	.167	.217	-.072	-.119
	3	.601*	.667**	.718**	.678**	.669**	.619**	.675**	.131	-.293	-.447	-.693
	4	.874**	.916**	.940**	.889**	.931**	.888**	.835**	-.003	-.652**	-.666**	-.947
	5	.895**	.924**	.932**	.887**	.951**	.908**	.803**	-.129	-.789**	-.741**	-.967
	6	.883**	.905**	.905**	.863**	.935**	.896**	.771**	-.176	-.825**	-.748**	-.909
	7	.858**	.879**	.876**	.839**	.913**	.873**	.740**	-.517	-.841**	-.757**	-.928
	8	.828**	.850**	.846**	.814**	.888**	.845**	.709**	-.263	-.852**	-.771**	-.906
	9	.790**	.816**	.814**	.787**	.861**	.811**	.678**	-.310	-.853**	-.790**	-.883
Highest	10	.776**	.767**	.802**	.696**	.790**	.718**	.664**	-.408	-.447	-.385	-.777

* Significantly different from zero at the 5% level of significance

** Significantly different from zero at the 1% level of significance

EXHIBIT 7

CORRELATION COEFFICIENTS BETWEEN CLIENTELE DEBT INCENTIVE TAX RATIOS AND DECILE MEAN DEBT RATIOS

(Assuming that the marginal tax rate on stock income is equal to the nominal capital gains tax rate)

Clientele Tax Ratio		Lowest 0	1	2	3	4	5	6	7	8	9	Highest 10
Lowest	0	-.527*	-.468	-.414	-.383	-.483	-.507*	-.295	.16	.638*	.339	.462
	1	-.439	-.365	-.306	-.270	-.374	-.407	-.194	.097	.544*	.217	.345
	2	-.283	-.189	-.124	-.085	-.187	-.234	-.031	.370	.370	.012	.147
	3	.025	.140	.206	.247	-.161	.095	.255	-.184	.021	-.338	-.214
	4	.405	.518*	.564*	.602*	.557*	.484	.552*	-.357	-.421	-.692**	-.611
	5	.612**	.701**	.731**	.751**	.748**	.681**	.664**	-.424	-.677	-.831**	-.795
	6	.690**	.751**	.775**	.784**	.807**	.748**	.682**	-.431	-.782**	-.854**	-.846
	7	.716**	.772**	.779**	.781**	.826**	.767**	.673**	-.424	-.822**	-.845**	-.854
	8	.519*	.596*	.612*	.643**	.662**	.587*	.534*	-.574*	-.754**	-.857**	-.701
	9	.696**	.740**	.746**	.737**	.796**	.731**	.622**	-.413	-.833**	-.836**	-.831
Highest	10	.703**	.745**	.749**	.740**	.800**	.739**	.625**	-.410	-.839**	-.831**	-.833

D_θ

1

* Significantly different from zero at the 5% level of significance

** Significantly different from zero at the 1% level of significance

FOOTNOTES

1. As KLM acknowledge, survey data is subject to measurement error, for example, "individuals at the lower end of the income-and-wealth scale tend to overstate the level of their earnings and assets, whereas the reverse is true for individuals at the other end of the scale." More important, however, for testing the existence of debt clienteles is KLM's omission of institutional data.

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3. Exhibit 5 shows that between 1963 and 1964 the debt incentive tax ratio for the higher tax brackets increases dramatically (from -3.0 to -.63 for clientele 10). The results reported below are not significantly affected by omitting the 1963/64 tax ratios from the data set for the higher bracket clienteles.

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