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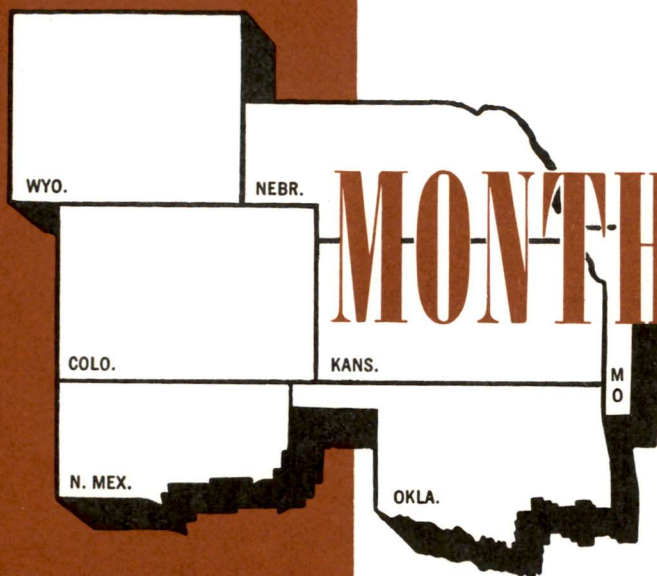
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ADMINISTRATION

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**FEDERAL RESERVE BANK
OF KANSAS CITY**

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Relationship of Bank Size And Bank Earnings—

Some Further Considerations

THE DECEMBER 1961 issue of the *Monthly Review* discussed in some detail the income advantage of large-scale banking operations, as reflected in ratios of net current earnings to assets at member banks in the Tenth Federal Reserve District. Among a large sample of District members, average ratios of net current earnings to assets during the 4 years 1956-59 were found to be about one-eighth higher for banks with \$100 million in assets than for banks with \$1 million in assets. This earnings differential, which appears to stem from differences in the efficiency with which ordinary banking functions are performed, continues to grow with further progression up the size scale of District banks.

While the ratio of net current earnings to assets commands wide respect as a guide to profitability in commercial banking, it is not the only measure of bank income that deserves attention. Ratios of profits before and after taxes to assets, for example, convey a somewhat different impression of the size-earnings relationship, and it is worthwhile to consider why this is the case. Another interesting line of investigation involves exploring the association between bank size and income when income is measured in relation to capital accounts. As will be indicated, the superior earnings position of large District banks appears much greater if bank income is measured as a percentage of capital rather than as a percentage of assets.

This latter fact raises intriguing questions concerning the risk of enterprise at large versus

small banks and the degree to which capital ratios reflect these risk differences. These questions involve such complex issues that definitive answers cannot reasonably be expected from a study of the present scope. Nevertheless, they are questions that bear importantly on the interpretation of the relationship between size and profitability in banking, and a significant share of this article is devoted to them.

The analysis first compares ratios of profits to assets with ratios of net current earnings to assets, as these ratios are related to bank size, and then turns to a consideration of bank income measured as a per cent of capital. As in previous articles in this series, technical material of interest to a limited number of readers is confined to footnotes or to notes under the charts and tables.

BANK SIZE AND RATIOS OF PROFITS TO ASSETS

Adjustments to net current earnings made by banks in calculating net profits before taxes, as recorded in member bank earnings reports, involve some items which have significance to the question of bank size and profitability, while others depend heavily upon accounting conventions that vary markedly from one bank to another and from one time to another. Actual losses or recoveries on loans are in the former category, while the latter type includes such items as transfers to and from valuation reserves and realized losses or profits on securities sold. These adjustments as a group merit extensive investigation only if ratios of

Bank Size

profits before taxes to assets show a significantly different relation to bank size than ratios of net current earnings to assets.

Table 1 provides data that bear upon this question. Ratios of net current earnings to assets and of profits before taxes to assets shown in the table were obtained by deriving, through statistical techniques, lines of average relationship between bank size and the two measures of income over the period 1956-59 for the group of sample banks on which this study is based. Points along these lines indicate average income ratios for banks of a particular size. For example, the first row of the table indicates that banks with \$1 million in assets had net current earnings averaging 1.25 per cent of assets over the 4 years, while their profits before taxes averaged 1.05 per cent of assets.¹

A close inspection of the income to asset ratios of Table 1 reveals that average ratios of net current earnings to assets rise somewhat more rapidly with increasing bank size than do average ratios of profits before taxes to assets.

¹ The average ratios shown represent points on the lines of simple regression between each measure of earnings (as the dependent variable) and bank size, with the size variable measured in logarithmic terms. As indicated in the December 1961 issue of the *Review*, multiple regression analysis using ratios of net current earnings to assets as the dependent variable and employing structural characteristics of bank assets and liabilities—in addition to bank size—as independent variables does not yield a regression coefficient for bank size that is materially different from the simple regression coefficient. This is also true with ratios of profits before and after taxes to assets.

The simple correlation coefficient for bank size and the ratio of net current earnings to assets was .108, which is statistically significant at the 5 per cent level. For bank size and the ratio of net profits before taxes to assets, the simple correlation coefficient was .065, which is not statistically significant at the 5 per cent level. Use of multiple regression analysis employing such additional variables as the ratio of loans to total assets, the ratio of cash to total assets, the ratio of consumer to total loans, and the ratio of time to total deposits yields partial correlation coefficients for the size variable that are significant at the 5 per cent level in both cases.

Table 1

AVERAGE RATIOS OF EARNINGS TO TOTAL ASSETS FOR SELECTED BANK SIZES

Sample of Tenth District Member Banks, 1956-59

Bank Size (Assets in Millions of Dollars)	Average Ratio to Total Assets (in per cent)	
	Net Current Earnings	Profits Before Taxes
1	1.25	1.05
10	1.32	1.09
100	1.39	1.13
200	1.41	1.14
300	1.43	1.15

Thus, while banks with \$100 million of assets have an average net current earnings ratio about 12 per cent higher than those with \$1 million of assets, their average pretax profit ratio is about 8 per cent higher. This difference, however, is not large enough to be statistically significant, which suggests that total deductions from net current earnings bear no important relationship to size of bank.

Ratios of profits *after* taxes to assets, on the other hand, are associated with bank size in a way that is quite different from the relationship between size and pretax income. As indicated in Table 2, it is the very smallest banks in the Tenth District, and not the largest, whose aftertax income is the highest in relation to their assets. On the average, the lowest after-tax profit ratios are found among banks in the \$25-\$50 million asset size class.

This alteration of the association between bank size and profitability stems from the operation of the Federal tax on corporate income, which assesses the first \$25,000 of profits at a rate of 30 per cent, and each dollar

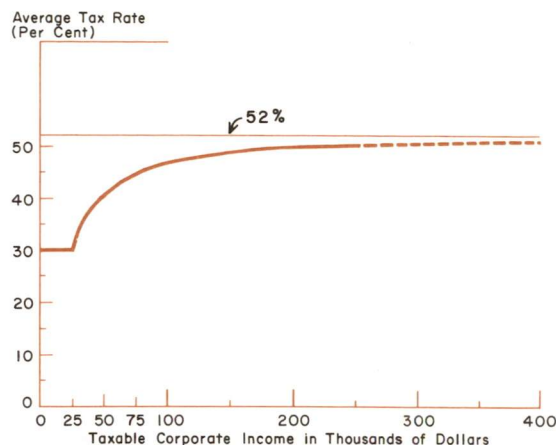
Table 2

AVERAGE RATIOS OF PROFITS AFTER TAXES TO ASSETS BY SIZE CLASS OF BANK

Sample of Tenth District Member Banks, 1956-59

Bank Size (Assets in Millions of Dollars)	Average Ratio of Profits After Taxes to Assets	Number of Sample Banks in Size Class
0-5	.77	114
5-10	.70	53
10-25	.66	50
25-50	.55	24
50-100	.59	7
Over 100	.69	13

Chart 1
AVERAGE TAX RATE ON CORPORATE
TAXABLE INCOME



in excess of \$25,000 at 52 per cent. The effect of this tax structure is to increase average tax rates as corporate taxable income rises above \$25,000. As shown in Chart 1, the increase in average rates is most pronounced for corporations with taxable income just over \$25,000. Over a significant range of the size distribution of District member banks, the rise in the tax bite as the size of bank increases is so great that it more than offsets the rise in average ratios of pretax profits to assets. This is the reason that ratios of aftertax profits to assets shown in Table 2 tend to decline with bank size at the lower end of the size scale, but then begin to rise again.

THE QUESTION OF RISK

These statistical measures indicate that, were it not for the influence of the corporate profits tax, ratios of net current earnings, net profits before taxes, and net profits after taxes to assets all would tend to rise with increasing bank size among District member banks, reflecting the ability of larger banks to operate with lower expenses per dollar of assets. There is another advantage of large-scale operations in banking, however, which may be just as im-

portant in the interpretation of bank size and profitability as the reduction in expenses per dollar of assets with increasing bank size. This advantage grows out of differences in the degree of risk at large and small banks. If, as is generally believed, the risks of enterprise are significantly less at large banks, ratios of income to assets appropriately adjusted for risk differences would show a much steeper rise with increasing bank size than do actual ratios of income to assets.

It seems reasonable to assume that differences in risk at large and small banks are associated principally with the probability of substantial losses due to defaults on outstanding loans. While a variety of other factors give rise to uncertainty about the future profits of a bank, potential losses on loans are a dominant source of risk in commercial banking and, in any case, a source which seems likely to be related in an important way to bank size.

Two principal reasons exist for expecting that the risks of lending may be inversely related to bank size. First, larger banks tend to lend more heavily to large borrowers with prime credit ratings, while small banks typically make small loans to small borrowers. The result is that average loss rates on loans tend to be higher at small banks, and the likelihood of very large relative losses in any given period is also increased. But even if the risk of default on loans was no less, dollar for dollar, at large than at small banks, the ability of large banks to diversify their loan portfolios by type and geographical location of borrower would reduce the risks of lending. Portfolio diversification is a widely practiced means of limiting risk in all types of asset management, and the ability to diversify is directly related to the size of the portfolio.

Loan Loss Ratios

A measure that is relevant to the degree of risk associated with defaults on loans at the sample banks is the ratio of actual net losses or recoveries on loans to net current

Bank Size

Table 3
**AVERAGE ACTUAL NET LOSSES OR
RECOVERIES ON LOANS AS A PER CENT
OF NET CURRENT EARNINGS**

Sample of Tenth District Member Banks, 1956-59

Bank Size (Assets in Millions of Dollars)	All Sample Banks	Banks with Actual Net Losses
0-5	3.18	6.71
5-10	.59	5.04
10-25	.39	3.25
25-50	3.66	4.09
Over 50	2.37	2.55

earnings. Actual net losses or recoveries on loans at each sample bank were aggregated for the 4 years 1956-59 and expressed as a per cent of total net current earnings over the 4 years. Table 3 shows averages of these ratios by bank size classes.

These average ratios for all sample banks — the middle column of Table 3 — show little relationship to size of bank.² However, if banks that had actual net recoveries on loans over the 4 years as a whole are removed before an average is taken, a distinctly different relationship appears. Thus, in the right column, which shows average ratios for only those sample banks that had actual net losses on loans, the ratios decline quite uniformly with increasing bank size.

The difference between the figures in the two columns of the table expresses the fact that, especially among smaller banks, a rather large proportion of the loans written off as bad debts in the years prior to 1956 subsequently proved to be collectible. Such a fortunate experience cannot, of course, be expected to prevail under all circumstances. Thus, had the years 1956-59 been years of serious economic adversity, those recoveries on loans might not have been possible. It seems wise,

² Simple correlation analysis applied to the individual bank data indicates that loan loss ratios are not significantly associated with size of bank. The simple correlation coefficient between bank size and the ratio of actual net losses or recoveries on loans to net current earnings was .041, which is not significant at the 5 per cent level.

therefore, to focus attention on sample banks with actual net losses on loans during the 1956-59 period to gauge the differences in lender's risk at large and small banks.

The figures in the right column of Table 3 therefore are the more relevant ones to the question at issue. Yet, while these averages indicate higher loss rates at the smaller banks, they conceal a diversity of loss experience which bears importantly on the interpretation of risk considerations. This diversity may be seen in Table 4, which shows the distribution of loan loss rates by size of bank for those banks which had actual net loan losses over the 4 years 1956-59.

This distribution indicates that although there were no sample banks with over \$50 million in assets whose loan losses exceeded 10 per cent of their net current earnings dur-

Table 4
**DISTRIBUTION OF LOAN LOSS RATES BY SIZE
OF BANK FOR BANKS WITH ACTUAL
NET LOSSES**

Sample of Tenth District Member Banks, 1956-59

Actual Net Loan Losses as a Per Cent of Net Current Earnings	Bank Size (Assets in Millions of Dollars)				
	0-5	5-10	10-25	25-50	Over 50
	Number of Banks				
0-5	50*	26	29	15	15
5-10	19	4	9	4	4
10-15	4	2	1	3	0
15-20	3	3	0	0	0
20-30	3	1	0	0	0
Over 30	2	0	0	0	0
Number of Banks with Actual Net Losses	81*	36	39	22	19
Number of Banks with Actual Net Recoveries	33	17	11	2	1
Total Number of Banks in Size Class	114	53	50	24	20
Maximum Loss as a Per Cent of Net Current Earnings	81.26	22.90	12.51	12.37	8.28

*Includes three banks whose actual net losses during the 4 years were exactly zero.

NOTE: The variances of the distribution of loan loss rates, for banks with actual net losses, are as follows: 136.39 for banks with \$0-\$5 million in assets; 34.01 for banks with \$5-\$10 million in assets; 8.79 for banks with \$10-\$25 million in assets; 17.85 for banks with \$25-\$50 million in assets; and 5.81 for banks with over \$50 million in assets.

ing these 4 years, losses of that amount or larger are not uncommon among the smaller sample banks. More than 1 in 10 of the total number of sample banks with assets of \$5 million or less experienced losses exceeding 10 per cent of their net current earnings, and 2 of the 114 banks in that size group had loan losses equal to more than 30 per cent of their net current earnings. It seems evident from these data that the smaller is the size of bank, the greater is the likelihood of very large losses relative to net current earnings.

In appraising the significance of this fact for risk considerations, it should be noted that the seriousness of loan losses may tend to increase much more than in proportion to the size of the loss relative to net current earnings. For example, if a bank's loss rate jumps suddenly from 10 per cent to 50 per cent of net current earnings, the consequences may go no further than the immediate loss of income. But the possibility always exists that doubts may be raised concerning the financial stability of the enterprise, and customers may react in such a way as to affect permanently the earnings potential of the bank. The probability of this type of adverse development tends to increase directly with the magnitude of loan losses.

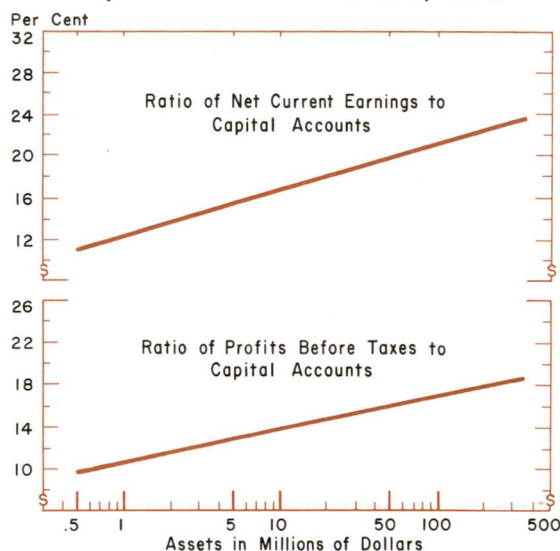
RATIOS OF EARNINGS TO CAPITAL

Because differences in the risks of enterprise at large and small banks are widely recognized, both by the banks themselves and by supervisory authorities, capitalization ratios tend to be substantially greater among small banks than among the larger firms in the industry. Condition report ratios of capital to assets overstate these differences to some degree, because they do not take into account the fact that bad debt reserves are relatively greater among the larger banks. Variations in capitalization ratios by size of bank, nevertheless, are quite significant. For the sample banks used in the study, capital accounts averaged

Chart 2

RELATIONSHIP OF BANK SIZE TO RATIOS OF NET CURRENT EARNINGS AND NET PROFITS BEFORE TAXES TO CAPITAL ACCOUNTS

Sample of Tenth District Member Banks, 1956-59



NOTE: The lines of average relationship shown are based on the simple regression functions: (1) $X_1 = 12.475 + 4.340 \log X_2$; (2) $X_1 = 10.517 + 3.287 \log X_2$; where X_1 is the ratio of net current earnings to capital in equation (1), and the ratio of net profits before taxes to capital in equation (2); and X_2 is assets in millions of dollars in both equations. Ratios are expressed in percentage terms. The simple correlation coefficients are .478 for the first equation and .382 for the second; in both cases the association is significant at the 5 per cent level.

about 10 per cent of assets for banks with \$1 million in assets; for those with \$100 million in assets, the average was just under 6½ per cent, or approximately 35 per cent lower. As a result of these differences in capitalization, the increase with larger bank size in ratios of earnings to capital is steeper than the rise in ratios of earnings to assets. Chart 2 portrays the association between size and ratios of earnings to capital among the sample banks.

Shown in the chart are lines of average relationship between bank size and two measures of earnings (net current earnings and net profits before taxes) expressed as a per cent of bank capital. Differences in earnings ability of large and small banks judged by these ratios prove to be very substantial indeed. Compar-

Bank Size

ing banks with \$100 million in assets to those with \$1 million in assets, for example, ratios of net current earnings to capital are about 70 per cent higher and ratios of beforetax profits to capital about 60 per cent higher. These differences in profitability by bank size, it should be noted, are far greater than those suggested by ratios of net current earnings or net profits before taxes to assets.

Due to the effect of the corporate income tax noted earlier, the association between bank size and ratios of aftertax profits to capital is not accurately portrayed by a simple line of average relationship such as the two in Chart 2. The data in Table 5 indicate, however, that ratios of aftertax profits to capital accounts generally tend to rise with increasing bank size, and are highest for the largest banks in the District.

Table 5
**AVERAGE RATIOS OF PROFITS AFTER TAXES
TO CAPITAL BY SIZE OF BANK**

Sample of Tenth District Member Banks, 1956-59

Bank Size (Assets in Millions of Dollars)	Average Ratio of Aftertax Profits to Capital (Per Cent)	Number of Sample Banks in Size Class
0-5	8.24	114
5-10	8.88	53
10-25	8.59	50
25-50	8.78	24
50-100	9.24	7
Over 100	9.26	13

It is possible that the lines of average relationship plotted in Chart 2 and the data in Table 5 may be interpreted as portraying the association between bank size and profitability after due allowance has been made for the risks of enterprise at small and large banks. It is also conceivable, however, that the higher income-to-capital ratios of the larger banks stem in part from the willingness or the ability of stockholders of the larger banks to assume greater risks. The first interpretation would be correct if variations in capital ratios by size of bank were an accurate reflection of the in-

herent risks associated with the provision of banking services at large and small banks. The second interpretation would be appropriate if, relative to the degree of risk assumed, smaller banks tended to be the more heavily capitalized.

DO CAPITAL RATIOS REFLECT DEGREES OF RISK?

To determine with any degree of conclusiveness whether differences in capital ratios by size of bank reflect differences in the risk of enterprise would require an undertaking far beyond the scope of this article. Indeed, the question cannot be answered fully by reference to empirical data. As noted earlier, the degree of risk faced by a bank depends to an important degree on the reactions of bank customers to evidences of financial adversity, and these reactions cannot be known with any degree of certainty. Nevertheless, gaining some perspective on the problem is itself a worthwhile goal, and the data for the sample of banks used in the analysis can be exploited for this purpose.

One way to search for an answer is to ask a still broader question: Are variations in ratios of capital to assets among the sample banks closely associated with characteristics other than size which might reasonably be expected to imply risk differences? For example, are capital ratios closely associated with the percentage of assets in the form of loans? Again, are capital ratios associated with the percentage of loans made to consumers? One would expect a positive association in each of these cases, since loans are the most risky of the major classes of bank assets, and consumer loans are generally regarded as a type of bank loan that entails considerable risk.

If such characteristics of the sample banks were quite closely related to capitalization ratios, and differences in capital ratios among the sample banks could be explained reasonably well by reference to such characteristics, then the assumption that differences in capital

ratios by size of bank reflect differences in risk would be at least plausible.

Following this line of reasoning, a statistical analysis was undertaken to discover the relation between capital-to-asset ratios of the sample banks during the period 1956-59 and the following characteristics of the banks: (1) the percentage of assets in the form of loans; (2) the percentage of assets held as cash balances; (3) the percentage of assets consisting of securities other than Treasury issues; (4) the proportion of total loans consisting of consumer credits; (5) the proportion of total loans in the form of real-estate loans; (6) the percentage of time deposits to total deposit accounts; (7) bank size; (8) the growth rate of the bank from 1947 to 1959; and (9) the ratio of profits after taxes to assets. These last two characteristics were included in the analysis, not because they were believed to be associated with the risk of enterprise, but because they were expected to affect capital ratios for different reasons. High growth rates tend to be inversely associated with capital ratios because it is more difficult for banks that grow rapidly to keep the expansion of capital in step with the growth of deposit liabilities. Conversely, high aftertax profits tend to be positively associated with ratios of capital to assets because high profits facilitate additions to capital from retained earnings.

Manifestly, these nine factors do not exhaust the list of measurable characteristics that might show some relation to bank capital ratios, but one would expect them to explain a large proportion of the variation in capital ratios among the sample banks. When multiple correlation analysis was applied to the sample bank data, however, it was found that only 45 per cent of the variation in capital ratios was accounted for by these nine characteristics. More than half of the observed variation was left unexplained.

Perhaps a more basic consideration is the relative importance of these nine characteris-

tics in explaining variations in capital ratios. The statistical analysis indicated that, apart from bank size, the two most significant characteristics in explaining differences in capital ratios among the sample banks were growth rates of the banks and ratios of aftertax profits to assets.³ These two characteristics, it should be remembered, were included in the analysis not because they were thought to reflect risk considerations, but because they influenced bank capitalization for other reasons. Indeed, among the first six characteristics listed above, only two—the ratio of loans to total assets and the ratio of real-estate to total loans—displayed an association with capital ratios strong enough to be statistically significant.⁴

The evidence, then, suggests that one cannot accept without question the assumption that variations in ratios of capital to assets among the sample banks accurately reflect differences in the risk of enterprise. Capitalization ratios vary partly for reasons that have little apparent connection with risk considerations; they also vary for reasons that cannot readily be identified except by much more detailed study of the characteristics of individual banks.

SUMMARY AND CONCLUSIONS

The lack of assurance that bank capitalization ratios adequately reflect risk positions means that differences in ratios of bank in-

³ In the multiple correlation analysis using the ratio of capital to assets as the dependent variable and the nine characteristics indicated above as independent variables, the highest partial correlation coefficient was for the ratio of aftertax profits to assets (.355). The second highest was for bank size (— .306), and the third highest for the growth rate variable (— .292).

⁴ The ratio of total loans to total assets and the ratio of real-estate to total loans were both significant at the 1 per cent level; none of the other four variables were significant at the 5 per cent level. Interestingly, the association between capital ratios and the ratio of real-estate to total loans is negative, possibly because of the rather substantial proportion of real-estate loans backed by Government guarantees.

Bank Size and Bank Earnings

come to capital need not represent accurately differences in profitability of banks after due allowance for risk considerations. The appropriate allowance for risk that should be made in comparing earnings positions of large and small banks remains uncertain.

What appears to be clear from the data on loan losses, however, is that small banks do indeed face risks that are in excess of those encountered by larger banks. Consequently, comparisons of rates of return on assets by size of bank—which make no allowance for risk considerations—understate the profits ad-

vantage of increasing size by an unknown, but perhaps very considerable, amount. Large-scale operations in banking, by permitting the selection of earning assets of higher credit quality and enabling greater portfolio diversification, confer a profits advantage by reducing uncertainties concerning the future as well as by permitting the adoption of more efficient ways to organize and conduct banking operations. The certainty of profits, as well as the magnitude of profits, clearly is an important consideration to banks and their stockholders.



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NB

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Ave:

~~184, 658~~

184, 658, 190 rented acres.

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Conc.p. 20 - fig 1
By area, more conc. ? 1900
~~2,500 a.~~

5107

			% area	% owners
.2 % owners rented from have	10.5 % area	Class over 2500 a.	10.5	.2
.9 %	17.9	1,000 - 2,499	7.4	.7
3.4	29.2	500 - 999	11.3	2.5
18.2	58.2	200 - 499	29.0	14.8
44.6	83.4	100 - 199	25.2	26.4
100.0	100.0	Under 100 a.	16.6	55.4

Lowest ~~55.4 %~~ owners, under 100 a, have ~~16.6 %~~ area.

The holdings of 38.8 % landlords did not exceed \$1,000 in value.

Lery observes replacement
of labor by machine
contributes to concentration.

Because machine has to
be bought, labor can be
hired.

✓ Why can't machine be
hired? Neglected maintenance?

~~opt. size.~~

Your Money's Worth

The Toughest Hurdle For Small Business

Sylvia Porter

THE TABLE is buried on page 375 of a 549-page report of the Federal Reserve System to four powerful committees of the Senate and House on "Financing Small Business." The study itself has received scant attention in the press, the table hasn't even been mentioned and the probability is few Congressmen and reporters (if any) have bothered even to read as far as page 375 of the report.

Yet, in my opinion, this table includes some of the most significant proof ever put together of the grim inadequacy of small business financing facilities in our land today.

It underlines a "discrimination" which almost automatically develops against the small business borrower during any period when loans are tough and expensive to get.

It is dramatic evidence that a destructive gap does exist in small business financing—and if we are going to pay more than lip service to a thriving small business community in America we must waste no more time in filling the gap.

The table is a deceptively simple one. It shows the amount, number and average size of loans to business by Federal Reserve member banks from 1955 through 1957—years when businesses of all sizes were hammering at the doors of lenders for money, loan rates were zooming, our central bank was aggressively pursuing a tight money policy. In the column tracing the dollar amount of loans made the following is revealed:

☆ ☆ ☆

IN THE 1955-57 period of tight money loans to businesses with assets of \$100 million or more soared 66.4 per cent.

Loans to borrowers in the \$25 million to \$100 million class jumped 51.1 per cent.

Loans to borrowers in the next three smaller classes—ranging from \$250,000 to \$25 million—rose between 21 and 25 per cent.

Loans to businesses in the \$50,000 to \$250,000 classification climbed 16.7 per cent.

Loans to business borrowers in the class under \$50,000 declined 3 per cent.

That's it—the proof, the clincher on all the rest of the evidence we have that adequate financing is one of the greatest obstacles small businesses face in this Nation.

Even in the 1955-57 period large businesses willing to pay the price for loans obviously were able to get them. Not only did the dollar amount of loans to them skyrocket; the number and average size of loans to them increased sharply, too.

But businesses in the small classification — which surely also wanted to expand, modernize, grow—weren't able to get the loans. In years of unprecedented boom the dollar volume of loans to them fell, the average size of loans to them shriveled, the number of loans to them crept upward by only a tiny 0.3 per cent.

☆ ☆ ☆

THE FAULT is not that of our existing financial institutions; most of them strained their lending capacities to the limit.

The fault lies in the lack of financing institutions to which small businesses can go for long-term capital.

As A. D. H. Kaplan of the Brookings Institution and Dr. Paul H. Banner put it in one section of the report, small business gets its long-term capital in a haphazard way today because there is no other way it can get it. Small business doesn't plan its growth on a sound, long-term basis because it knows the type of capital required for this is just not available. As for the Small Business Administration in Washington—well, it's a distress, bail-out organization, to which small business turns after it finds it impossible to obtain loans elsewhere.

There's a hint of progress. Congress is working on legislation that would permit the SBA to charter new small business investment companies. The SBA would get a \$250 million revolving fund from the Treasury out of which it could make loans to the new investment companies, and these in turn would provide long-term capital to small concerns.

But this still is a piecemeal approach to the issue. The broad, deep attack on the whole problem has not yet been made. This is one field in which Government leadership and experiment is imperative.

Diversification, supposed
ec. to scale. Because reduces
risks. Main advantage
wd. be makes easier to
borrow. - buy land.

370 Technical economies of scale: "It ought now, however, to be ~~xxxxxxxx~~ clear that these are technical matters in a single establishment and have nothing to do with merger, which is almost entirely a matter of the proprietary (financial) unification of separate plants. "

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377 Cites NY Times Oct 29 1930: when stock prices are soaring, mergers frequent. Technical economies claimed. But when stocks fall, times tough, economies would be welcome, no mergers. "The apparent anomaly is said to provide material for those who charge that mergers are frequently effected for reasons of other than economy. "

586

No techn. ec.,
conclusive

Low i.r. policy, even if didn't
stop cap. fntn, As conc.

For people wld. hold more in
liquid form, thru banks etc

Less in inv. directly, risk takers.

FTC WILL PROBE MERGER GROWTH

Chairman Says Thorough Investigation Will Be Conducted Speedily

WASHINGTON, Oct. 25 (AP) — Chairman Edward F. Howrey of the Federal Trade Commission announced today the FTC has ordered "a speedy but thorough investigation of the current wave of mergers."

Howrey said the purpose would be to provide facts for the commission, the Department of Justice, Congress and the public about the "post-Korea merger pattern."

Atty. Gen. Brownell, and Stanley M. Barnes, assistant attorney general in charge of antitrust activities, have both said recently the Justice Department is keeping an eye on mergers.

Howrey said the FTC currently has under study 209 mergers or company acquisitions, and noted that the commission has field charges in three cases in the baking, paper, and steel scrap fields.

Recalling "the trust forming era of 1887-1904" and "a significant merger movement in the 1920s," Howrey said:

"Both the earlier waves were regarded with considerable alarm by the public and in turn by Congress. There is no question that the present merger movement must be carefully assessed."

A report is expected within a few months.

Howrey directed the com-

See MERGERS, Page Three.

Continued

MERGERS

(Continued from Page One.)

mission's Bureau of Economics to make the study. He gave these highlights of mergers and company acquisitions in the fields of manufacturing and mining since 1919:

During the 1920s, mergers and acquisitions never dropped below 300 a year except in 1922, when the total was 297. In 1928 and 1929 they reached their numerical peak, with 1,028 and 1,216 consolidations.

Mergers fell off through the 1930s to a low of 87 in 1939, but rose again during the '40s, to 419 in 1946, after which they declined to 137 in 1949.

Consolidations Jump.

In 1951 the number of consolidations jumped to 703, the largest total since 1930, and rose again in 1952 to 822, then fell to 793 in 1953.

During the first two quarters of this year, according to the FTC figures, there were 295 mergers or acquisitions of businesses in the manufacturing and mining fields.

Howrey's announcement indicated the FTC study would not be limited to manufacturing and mining, but would take in the entire corporate field.

He said the FTC will look into recent mergers with the following specific points in mind:

1. The desire for more diversified products.
2. The desire to lessen competition.
3. The desire of small and medium size firms to grow rapidly by business consolidations in the interest of being able to compete more effectively with already established larger firms.
4. The extent to which acquisitions were caused by the financial failure of firms acquired.
5. The desire of firms to integrate into their own operations a higher stage of fabrication or production of raw materials.

The announcement added that up to now the merger increase appeared to have taken place particularly in the baking, paper, textiles, dairy, chemical, automobile and primary metals industries.

FTC has instituted proceedings under the Clayton Antitrust Act following acquisitions by Pillsbury Mills, Inc., Minneapolis, of Ballard & Ballard Co., Louisville, and American Home Foods, Inc., New York City; the acquisition by Crown Zerllerbach Corp., of St. Helen's Pulp & Paper Co., St. Helen's, Ore.; and the acquisitions by Luria Bros., Inc., Philadelphia, of a number of companies in the business of buying and selling steel scrap.

If mergers were due to
technology, they wdn't
come in waves.

Govt. could lower opt size by refraining from
protecting stockholders of large outfits.

For ability to agglomerate cap. is big causal
factor, & limiting factor.

ch. 8

Heady, 5124 pp 376^{or} ff., says pref. about risk, as much as tech op's ec.s, det. firm size.

True. Risk re what? Re firm's title. So ownership unit has independent determinants, & then overweighs op's ec.s

Merger Is Solution For Canada's Small Oil Firms

Small Canadian oil companies have found a way to solve some of their money problems—they merge with one another and become dollar stocks instead of penny stocks.

This was the explanation given here yesterday by a lawyer from Calgary, Alberta, who handles the legal business of some 40 Canadian and American oil firms. He is M. E. Jones, who is here to consult with officials of Bishop Oil Co., which has a Canadian subsidiary, Canadian Bishop Oil, Ltd.

Jones said the merger rate of the smaller companies has picked up as the penny-stock companies found it difficult to market new stock offerings. By combining assets they find wider acceptance for their shares.

The lawyer from Calgary manages to keep himself busy. Last year, he said, he incorporated over 20 oil and gas companies, most of them for individuals who have no intention of selling stock to the public.

1950
 5185-1 p. 1180-83

% of form in
 class which
 are: ~~the same~~

	I	II	III	IV	V	VI	Other
Tnts	18.3	28.7	29.7	30.0	32.9	33.6	16.7
Mgs	6.4	1.5	0.7	0.2	0.1	0.1	0.2
Pt. Annon	39.0	32.1	26.1	19.8	14.2	10.5	6.7
Full Annon	36.4	37.7	43.5	50.0	52.8	58.8	76.4

1900 Ag Census
Pt. 1, p. Lxii;

Fms by value of products
not fed to livestock.

Shows trts in medium sizes.

How did they handle this?

b. Value figs - is it always low

5137
1950 Census of Agric., Vol. V, pt. 6 "Fragmentary data only - chide.

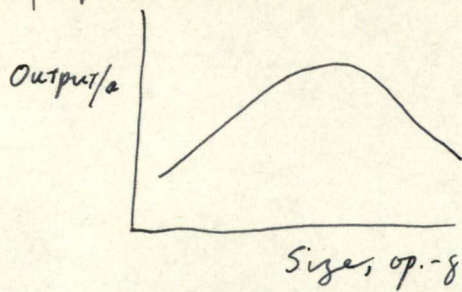
p. 65. Graph on tenures by class of farm. From which I estimate figures.

	all I	II	III	IV	V	VI	Total
all tnts	0.5	2.9	5.9	7.0	8.0	6.4	30.7
Full Owners	1.090	3.9	8.4	11.9	12.8	10.8	48.8
Part Owners	1.1	3.2	5.1	4.8	3.4	2.0	19.6
							↓
all fms (by add-n)	2.6	10.0	19.4	23.7	24.2	19.2	99.1
							↓
all fms (from 5138, p. 90 of classes I-VI)	1.9 2.758	7.1	13.4	16.4	16.9	13.3	68.9
							↓
							100.0
							↓
% of all fms in the class which are tnts	19.2%	29.0	30.4	29.5	33.1	33.3	$\frac{30.7}{99.1} = 31.0$

These data underestimate, but omit mgrs.

Hi fig. in class 6 due to south. in N&W, are many fewer tnts in lowest groups --- and, as smallest s-n tnts are a form of hired labor probly, can conclude they also ~~are~~ lower in smallest group?
Not nec. - don't emphasize that.

Conflict of op. v. finance.



The 2 conflicting forces.

*Financial
motives*

95 Great corp.s did not achieve size by growth, testing the growth by competition; but by sudden merger of previously independent concerns. Motives not related to efficiency. "Suppression of competition & the desire for promotional & underwriting profits have often been the chief lure for creating size in business.".....

584

"The bigger the business, the easier it is to magnify its prospects & to sell to the public its securities at inflated values."

375 "Industrial statesmanship" comes to consist in acquiring the co.s competitors, "a process not justified by increasing technical efficiency, but only ~~by~~ the added control it gives over price policies, by the dominating power it gives to a single enterprise, and perhaps by the speculative gains it makes possible in the stock market."

586

Financial

p. 36 Most mammoth corps were born as giants; did not grow 5175
internally from reinvested profits of efficiency.

Burns, Arthur,

The Decline of Comp.

p. 9, ¹⁰40, 39, 419

(Check Fortune, on Koppers Co., etc) * sprawling monsters.

9. 'The corp. law.' ... has not only permitted the utilization of improved methods of production calling for units of large size; it has also facilitated the formation of units larger than those necessary to permit the most economical methods of production.'

Non-res.s.

253 6.4m\$ ass value owned by non-residents of Ill.: 3.7 ground, 2.7 improvements. Mass., NY, Ky, biggest states. (That is %? 571)

\$4.8m^{ass.} ground, (held by class 1, 1892) was 20.50% ass. all ground, 1892 (p. 244-5) So
p 198-9

total ass. ground was: $\frac{4.8m}{x} = \frac{20.5}{100m}$; $x = \frac{480m}{20.5} = c. 24m, or 23.5m$

Land is more improved!

24 | 3.7
24
130
vs. by assessor

So 15% ground value absentee owned. A smaller % improvements
&c. 18% improvements .. ! shoots it. over

\$3.4 m imp. were 23.3% all.

$$\begin{array}{r} 14.6 \\ 14.6 \overline{) 210.18} \\ \underline{146} \\ 1240 \end{array}$$

$$\begin{array}{r} 14.8 \\ 23 \overline{) 340.} \\ \underline{23} \\ 110 \\ \underline{92} \\ 180 \\ \underline{161} \\ 190 \end{array}$$

\$14.6 m, total imp.

Too big

111 Cite Dewing's study, 1921, of mergers, 35 -- made less than before -- despite new mnpy power. Made less, both immediately, & for 10 yrs. & later 10 yrs, for USS at least, were more prosperous than earlier.

584

(but capital gains, & lower mr, make diff)

111-124, many quotes on units too large. & their directors, besides partly directing something too big for them, are directors of other corps, too!

584

Not
Techn.

128, cite Brandeis, Louis D., "Other People's Money" But relatively few large issues were made necessary by great improvements undertaken or by industrial development. Improvements & development usually proceed slowly. For them, even where the enterprise involves large expenditures, a series of smaller issues is usually more appropriate than single large ones.The 'great' security issues in which bankers have cooperated were, with relatively few exceptions, made either for the purpose of effecting combinations or as a consequence of such combinations." his p. 110, 111 about 1913

584

Financial
dom.
cause
of merger

Ernest S. Suffern, NY Times Analyst, Nov 3, 1913: "Knowledge & technical ability have given place to financial influence.."
This sentence sums it up well.

584

Industrial

Hearst & Koppers (Mellon). Already had far more assets than cd mng. Spilled out in all directions. MP very low. -- los'g M. Yet borrowed more! There you see results of allow'g credit by sec, not MP.

Conc. of
holdings,
certain

cties.
Agenda:
Of op-ns.

5180 p. 196, Table 5. They have gathered data on proprietorships, from tax digests of various counties. By size of holding. Now if I had data on conc. of operations in those counties, could compare. Could get them, by taking county data from 1930, or 35 census. If Estelle would take the time, it would be good stuff.

Here is Table 5:

3-10 acres	5.1 5.1%
10	6.2
20	23.6
50	25.5
100	19.2
175	8.3
260	7.7
500 & up	4.4

But must know
% of acreage, too.

For these counties:

NC: Cleveland, Edgecombe
Greene, Halifax, Iredell,
Johnston, Lincoln, Robeson,
Rutherford, Union, Wilson.

Ga: Banks, Berrien, Burke, Butts, Clay, Coweta,
Decatur, Dougherty, Forsyth, Greene, Jasper,
Johnson, Lincoln, Lowndes, Madison, Newton, Paulding, Polk
Putnam, Sumter, Talbot, Telfair, Troup, Wilkes

Miss: Adams, Carroll, Clay, Coahoma, Quitman, Warren, Washington, Yazoo.

Own-p vs op. units.

Stokdyk, E.A.

Corp. Fms or peasantry?

Northwest Miller (N7CL)

S 337

153: 1092.

1928.

298.8 N81

Corp. fms do well in gaining Δ l.v.; ^(via p.u. improvements, self-made) then op. factors det. size,
becomes smaller.

D

p. 81 ~~11~~ Many corps were formed expressly to liquidate lands.

Land &
corps. 5398 Banks formed, * to take "bad paper" from files. Or unload
D on public via beautifully engraved certificates.

5349 Gordon, 'Enterprise Profits,
& the Modern Corp-n.'

D. he says "the supply of
enterprise, when ownership
is also necessary, may be
more restricted than when
enterprise is not combined
w. ownership." ch. 3 is
elab. on that idea.

& where are combined,
"the incentive of possible
fortuitous gains may be
greater than that of
surely fixed returns, w the
result that the nature &
intensity of productive
activity may be affected."
&c. ... good P, his next to
last, penultimate.

Finance,
motive

233 191 Merger of various cement co.s had not produced ~~an~~
operating profits. Why? That wasn't its motive. But, rather, to
increase value of stocks, so owners could sell out on open mkt at
good return. 584

Ideally, given time, I shd reorganize D of chap. 3.

Reasoning shd follow like this:

1. Where title-hldg & op-n are separate, ^{holding} former tends to extremes. Now present evidence, establish this pt, (before moving on to owner-op-ns of d. to tncy - which I now start off with.)

2. Where own-op, tends to extremes of to tnt op-n. (but not as cfd to pure holdings - I shd. cf. conc. of holdings of rented fms where available, vs conc. of o-op. fms in those yrs. Wd take some more work, & I already have enough else on pt.)

Instead, I ~~seem~~ have inverted 1 & 2 --- which cd. be ok

1. Tnts are medium of o-op.

This indicates holding pulls o-op from opt op.
Give e.g., of So-n pl-ns, 1910 - [this section poorly done, integration not clear.] where home farm ~~path~~ is stretched out by holdg.

2. Holdings divorced from op-ns are more conc. than op-ns

a. Tnt op-ns vs landlord hold'gs

b. More comprehensive data

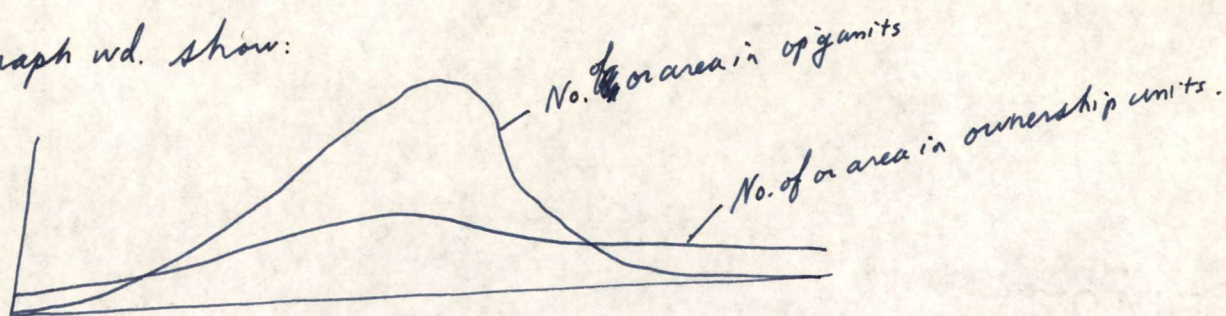
c. The large extreme

3. Summary p 91

(1 TP)

See e.g. of extreme conc. of
spec. lands, in futures more
conc.

a graph wd. show:



Only fly in ointment. Under 1 ha, & 1-3 ha, ave. opj unit a little smaller than ave. prop. But very slight. & ave. may conceal trend within the group, can't be trusted. Trend as between groups is signific. (S154)

Pattern is natural outcome
of Bask statement - hence
probably universal.

Leasg of Agric. Prop., 1907, by size
% of land in holding leased out.

50 -	24.90
100 -	50
500 -	58
1,000 -	58
3,000 -	73
5000 & over	72

(No figure on under 50 ha.)

(Original source: E.D. Creangă, 'Grundbesitzverteilung und Bauernfrage in Rumänien', in Staats- und sozialwissenschaftliche Forschungen, Heft 129 Leipzig 1907. p. 140)

1941 Census, p. 17 (covering c. $\frac{1}{2}$ Rumania.) (omitting mainly pasture, forest, & "other" land)

Size.	Extent of Properties as % of all area	Extent of Exploitations	No. of Expl.s	No. of Props.
Under 1 ha.	2.290	1.8	20.690	23.3
1-3	15.090	13.9	33.5	35.1
3-5	16.1	16.4	19.5	18.4
5-	26.0	29.5	19.8	16.9
10	12.9	14.3	5.1	4.5
20	8.5	6.8	1.1	1.4
50	3.0	3.1	0.2	0.2
100	3.3	14.2	0.1	0.1
200 -	5.0		0.1	0.1
500 & over	8.0		0.0	0.0

N.B. Opig units, higher % of land in medium sizes, than ownership units.
Total no. of props: 2,251,050. Total area: 10,419,000 ha.
" " " expl.s: 2,263,963.

Chap 12, Czechoslovakia, Antonin Basch

p. 309. Before reform of early 20s, 2,000 "establishments" with over 500 ha. had 1/3 total area of Czechoslovakia. There were 2m ag est.s in all; more than half were less than 2 ha.

Entail protected the large ones.

Ch. 3 p. 310 "In general it might be said that there existed vast estates on one side and very small farms on the other. This situation of landownership led to a growing number of tenancies, both large and small."

5152

239. All groups smaller than 250 acres on balance rent in more than 5/52-a
they rent out. Only ~~xxxxx~~ holdings over 250 acres are, on balance,
rented out. (So fn. of tncy is clearly to transfer operating control
from large ownership units to smaller operating units)

p. 241 "The existence of a comparatively large stratum of
undersized farms in Sweden's agriculture cannot be blamed,
therefore, on unhealthy tenancy conditions but rather on the
inclination of farmer-owners toward carving up their landed property
into small plots."

Study thus shows that holdings are much more conc. than op-ns.
That holdings are larger on better land. e.g. in E. Sw, 43.6% crop-
land is in holdings over 250 acres; in Skane, 31.5%; in Smaland
16.9%, W. Sw. 21.5%, N. Sw. 11.8%.

5152-a

In each region, ~~% of operations over 250 acres is much less than~~
~~% of hold~~ % of land in op-ns over 250 acres is much less
than % of land in holdings over 250 acres.

p. 237-8 A statistical windfall. 1919 Swedish census. Shows clearly that larger holders rent out more of their holdings.

acres of cropland owned	No. of holding	acres owned	acres rented out (as % of acres owned)	Acres of cropland operated	No. of op. ns	Acres op.	Acres rented in, as % of acres op.
0.6 - 12.4	51.8%	11.5%	5.7%	Same as Col. 1	55.1%	14.4%	23.2%
12.5 - 49.9	40.1%	35.5	8.2		36.2	40.8%	19.1%
50.0 - 124.9	7.0	19.4	17.7		6.9	23.3%	31.1%
125.0 - 249.9	1.2	7.2	25.8		1.2	9.7%	39.3
250.0 & over	0.7	26.8	63.5		0.6	11.8%	29.4
					100%	100%	
Total	100%	100%	25.6%				

p 238. In all, there were c. 350,000 ownip units; cf. 428,000 op. units.

all incorp.-d elsewhere. -- all the
presently useful stuff, i.e.

187, conc. of ownership.

1. ~~Owner-ops smaller~~ The owned acreage of owner-ops, including those who rent other land, is generally much smaller than the owned acreage of landlords & o-op-landlords.

2. Those owner-ops who rent other land too, own more land ^{on ave.} than those owner-ops who do not. That is odd. Perhaps figs. erroneously include land they rent. Perhaps pure o-op. fig. is brought way down by residential & pt.-time farms - no doubt that is a very big factor.

3. In West, as of. to other 3 divisions they give, an unusually high % of holdings are very small & very large. In No. Central, more in medium.

4. In all regions, the biggest holders are owner-op-lands. & next are pure lands. There is no exception to that rule. That is, a hi % of the lands & o-op-lands were in big sizes. A hi % of o-ops ~~was~~ & pt.-o-ops were in small sizes.

This tends to prove hold'g units > op. units? Otherwise, lands wd. be small holders, o-ops big. But residential disrupt.?

We have problem that regular census shows ops just as com. as hold'gs. But here we see most of the big hold'gs are rented out. So the big op'ns are not contiguous w big hld'gs. Indeed, census evidently made those some 'large farms' which were not op-g units - included much unused land - woodland. Big op'ns then must have rented land to be big.

I cannot say, then, that hold'gs tend to extremes more than op'ns. But that big hold'gs are genly > op'ns, etc -- is a good pattern of own-p div. from op'n in large sizes.

5. In South, pure Landlords are exceptionally big. Is only region where they > pt-own-op's.

6. Why are pt-owner-op so big? a. Possible error of including land they borrow b. If one is personally fitted to be a big op., he will expand all ways he can, buy or lease. The bigger the op-n, the more likely to get land both ways. Not correct to say figs show opt. op. size genly bigger than hold'gs.

For individuals who borrow land, it is; for those who land it, opposite.

We know there are, in genl, more op'ns than hold'gs. So hold'gs more too big than too small. The % of hold'gs in various size groups seems about same as % of op'ns, for all U.S. But there are fewer hld'gs in each size group.

& the bigger hold'gs are more let-out than are smaller ones, this study shows over.

→ These figs are incontrovertible — others ambiguous. So use these, make point.

In man & Fippin.

This page proves little, except that owner-ops are smaller.

Acreage owned, 1946. p. 59, Table 43.

ops add up horizontally. - thus telling the % of all in one category, how distrib. & not how they of with co. other in size.

	Under 10	10-29	30-69	70-139	140-219	220-499	5,000-999	1,000-1,499	1,500 over
North East All owners	14	16	21	28	13	7	1	< 1/2	< 1/2
owner op (o-op)	16	16	22	27	12	6	1	< 1/2	< 1/2
owner-op-lord	6	14	23	30	14	9	2	1	1
Lord	8	11	22	35	16	7	1	< 1/2	< 1/2
North Central	4	6	15	31	22	16	4	1	1
o-op & pt o-op	6	8	17	33	20	12	3	< 1/2	1
o-op-lord	2	4	13	27	19	23	8	2	2
Lord	2	3	11	29	26	22	5	1	1
South	7	13	22	24	13	13	5	1	2
o-op & pt o-op	7	13	22	24	13	13	5	1	2
o-op-lord									
lord									
South	7	13	22	24	13	13	5	1	2
o-op & pt o-op	11	17	25	24	11	9	2	< 1/2	1
o-op-lord	1	4	13	24	17	22	11	3	5
lord	2	8	19	23	18	17	7	2	4
West	16	18	15	13	10	12	8	3	5
o-op & pt o-op	20	21	15	12	9	10	7	2	4
o-op-lord	2	12	12	13	13	16	13	6	13
lord	6	11	15	17	12	19	11	4	5
U.S.	8	11	19	26	16	13	4	3	3

Women

They break it down by men & women too, for each group. Women tend to be much smaller. Suggesting pure parasite is smaller.

p. 58. Ave. acreage per owner.

	pt-owner-op	o-op	o-op-lord	lord
U.S.	322	135	437	280
No. E.	106	51	113	86
No. C.	253	133	300	216
So.	262	139	459	381
W	821	194	997	382

Lords > o-op.
Interesting that pt-owner-op > o-op, all regions. Those who own more tend to lease more too?

In man & Fippin.

p 57, have % of owners, by acreage owned, by states. Get, & of with op's conc. by regions. To get regions & of, wd have to weight concs. So take states.

→ I cf'd a few states. If anything, op's were more conc.

("v" means $< \frac{1}{2}$)

Acreage owned

	<10	10-29	30-69	70-139	140-219	220-499	500-999	1,000 & over
U.S.	8%	11	19	26	16	13	4	3
							$< \frac{1}{2}$	$< \frac{1}{2}$
NY, Pa, N.J.	50	23	24	19	6	4	$< \frac{1}{2}$	$< \frac{1}{2}$
CT	24	23	24	30 30	30 13	13 6	1	✓
Ma.	12	14	24	14	5	2	✓	✓
Mass.	32	26	21	14	6	3	✓	✓
N.J.	27	27	19	18	6	5	✓	✓
Pa.	15	15	24	30	11	2	2	✓
R.I.	25	20	25	19	7	2		

It may very well be that holdings $> 1,000$ acres are surely much larger than op's $> 1,000$ acres, & that prevents conc. showing up in these figures. So they do not prove hold'gs not more conc. Fact that so many ^{bigger ones} are let out seems to prove hld'gs are more conc.

But figs on next p. disprove that - if they are true.

But big hold'gs may still be more vble than big op's.

Ch~~2~~ 9

Where op unit takes more land,
get fewer hold'gs near opt. size.
Get more very big & very small,
more divorce of own-p & op-n.

Until very small squeezed out by
op's size too big - only very
big remain.

Cf. dispersion of hold'gs around ave.
in Vt, vs. Ill, or city.

Why do corps spill out all over?

Why work so hard to prove ec.s of scale?

Bes are laws prohibiting finl insts from hld'g a.e. not in own bus. Yet is continual pressure from investors to buy securities of such ~~corps~~ inst. Hence conglomerate corps.

Check into these laws.

Turner Clip

p. 46 184 selected cities believed rep-va. Figures gathered in 1920
 Own-ship 1900, rented from of U.S. held by lords whose hldgs are. 1.54 rented from: 1470/owner
 more conc. 1.65 " " : 165 a/owner
 than op-n. 1920
 S107 See below for much higher figure.
 (i.e., ownership more conc. than op., even by this whitewash repr) (& Δ's)
 "Further, many things suggest this was a whitewash repr, trying to understate conc. Style of writg. Stat. simply method.
 N-S Few large hold'gs of rented farms in N. common in S. Largest in 'cotton plantation'
 contrasts cities' p. 46
 S107 'Rented hold'gs of hi. val. are on com. in th N-n as in th S-n states
 bec. of th much greater val/a & th large size of rented farms in th N-n states
 p. 46-7
 Conc. In Cal. & ^{area which they studied} $\frac{12}{14}$ S. areas studied, over 10% rented farms owned by those w 5 or 7
 S107 rented farms.
 (note, ~~don't~~ no ~~any~~ explicit stmt tht this is unusual conc. Other
 figures are ave, nt conc.)
 g) In 4 areas - c. Ill., nw Ia, Miss delta, Sacto V., ~~> 20% acreage~~
 > $\frac{1}{2}$ value held by those hvg \$15,000 or more. of rented farm prop.
 In 4 areas - Dak. s., Ala, Miss, Cal - > 20% rented area held by those
 with > 1,000 a. rented.
 S107
 Simply method
 S107 p. 6. Figures dubious. Finter sent questionnaire to ~~own~~ owners, 24,373
 replied. They ave'd 2.33 tenants each, & 265 a. for each owner
 They got lower figure, 165 a., from tenants end, & for some reason not
 clear took it as was. ~~Because of duplication among consolidating tenants~~
 no doubt. So lower figure of
 then omitted part owners.
 No mention of landowners hvg land outside the areas studied.
 Here is big fallacy of their spot method. When you double area you do not
 double no. of owners, as some own ~~area~~ in both areas. If 10 men owned whole
 country, study 1 city in which all own some, get ave. Study 2 cities get double the
 ave.
 So their method seems almost deliberately calc. to understate conc.
 See S104 p. 13

Notes of families from 1900 census & 1920 survey. Use of ave, not com. figures; understatement of Δ conc. by directly cfs 1900 census & 1920 survey. & is some concealed ownership; mortgaged land.

5107 p. 16 Table 9 & p 17 table 10
1920 Sample

	<u>% value - of rented farms</u>	<u>% holders</u>
> \$250,000	8.9	.6
> 15 —	31.6	1.3
> 25 —	11.1	31.4
> 10 —	93.3	58.3
5 - 10	4.5	17.2
< 5	2.2	24.5

Everything adds up to
more than 100.!!
rectack source.

Error ??? No,
cumulative
categories

By area

Tables 7 & 8, pp 14 & 15

	<u>% area</u>	<u>% holders</u>
> 2,500 acres	4.4	.2
> 1,000	12.5	1.4
> 500	27.8	5.7
> 200	63.3	27.4
100 - 200	26.2	33.2
< 200	10.5	39.4

Error?

By no. of farms

Tables 5 & 6, p 12 & 13

	<u>% farms</u>	<u>% holders</u>
> 20 farms	12.8	.5
> 10	18.7	1.3
> 5	27.0	3.5
> 3	37.9	9.0
2	14.2	11.8
1	47.9	79.2

Def. no recognition of distortion due to sample.

Conc. p. 9 table. 1900, 8.6% landlords had 3 or 7 rented fms, comprising 33.2% ^{rented} fms
 5107 24% area
 18% value

1920 9% 37.9% ^{rented} fms
 (includes south, with smaller ent. of units.) 22.9% area
 22% value

p. 10 Concentration of ownership of rented fms, 1920, ~~esp. in~~ hi in

	By no of farms	By area	By value
No. Centr. States			✓
So Centr	✓	✓	✓
Cal		✓	✓

p. 19 fig 6

1900, 15,606 persons owned farms in U.S. worth \$25,000 ^{or more}. They were 1.2%
 no. of owners, owned 17.4% value rented fm r.e. ~~(higher % l.v.)~~ (because ^{it} fms on better land with lower improvements?)

p. 20 1900

Upper 8.1% - those having \$10,000 & up owners held 43.8% rented fm value. -- (not so diff. fm inc. conc.?) (but this is 'fm value', not land value)
 lowest 38.8% owners held 4.4% rented fm value (those hold'g under \$1,000)

(note how little grt maj. of landowners have to lose fm l.v.)

(Grad. tax not nec. & hd to administer. Small ones are more improved, gain more thn lose)

PVT hits
 rich 5107

Abnente
own.

p. 6 Took some samples, found 4.3% land value owned out of state, mostly by

corps. '40

563

Showing non res. ownership is more com.

S 401

Stephenson, George M., "The Political History of the Public Lands",
Boston, Richard G. Badger, 1917

Chap 6

p. 98, referring to specs: "Through his superior financial
resources.....the speculator frequently got the best of the settler."

In a new country money is almost always "tight" and in order
to secure the amount necessary to consummate the title settlers were
often obliged to borrow money at exorbitant rates of interest, some-
times as high as 50% or 100%

S 401

et seq, frequent references to "Eastern millionaires" etc as
specs. Very sharp, shrewd criticism of them by author, who is good
stuff.

Resolve contradiction:

Who borrows higher % of
equity, large or small?

Large can; small often
has to, hence does.

Do large grow more by
plowbacks than by borrowing &
agglomerating?

Get study of conc. of landhold'g
in one state. Cf to op'ns.

Probably not use
See

5:73
Cited in Schultz, p. 305

Tracy & Chi ~~low~~ fm. value.

Horton, Donald C., "The Pattern of Farm Financial Structure", NY, Nat. Bureau of Ec. Research Inc., May 1951, preliminary draft.

Table 5

Pairs	Physical assets per farm	Rep. by the interest of		
		Operator	Landlord	Creditors
Douglas, Ill Trumbull, O.	\$28,500	31	50	19
	5,700	72	11	17
Coahoma, Miss Warren, Miss	24,400	23	46	30
	3,000	54	24	22
Odama, Wash Douglas, Ore.	39,100	46	39	15
	7,800	70	14	16
Webb, Tex. Upshur, Tex.	37,900	41	46	13
	2,800	60	22	18

Horton states: "The capital structure of large-unit agriculture is characterized by relatively high outside interests (landlord and creditor); and these outside interests are largely those of investors who operate as part of a relatively broad capital market. Small-unit agriculture, on the other hand, appears to be financed to a greater extent by operator's equity, supplemented by credit from local lenders, notably commercial banks."

I think he's wrong about large unit ag using more credit. His figures don't show much diff. & I think large farms probably use less credit - judging from E. Eur. figures. How about large use less credit per acre, but more per farm?

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Edited at the Department of Economics, University of California, Los Angeles

efficiency.⁹ Conglomerate mergers may produce growth in earnings per share without any real efficiency.

II. STATISTICAL TESTS OF THE MERGER PROFIT HYPOTHESIS

The merger profit hypothesis outlined above suggests that one of the prime causes of the present conglomerate merger movement is pursuit of merger profit arising out of price-earnings differentials and perhaps augmented by leverage. If this position is valid, then we should expect to find that for conglomerate mergers the price-earnings ratio of acquiring firms is significantly greater than the price-earnings ratio of acquired firms. This expectation may be evaluated by testing the null hypothesis that the geometric mean of the ratio $(P_A/E_A) / (P_B/E_B)$ is unity against the alternate hypothesis that that ratio is greater than unity. From the Federal Trade Commission compilation of all mining and manufacturing mergers involving acquired firms with assets of \$10 million or more we have examined all mergers listed during the period from January 1, 1967 through June 30, 1968. The 122 mergers listed during this period are classified into three groups: horizontal, vertical and conglomerate.¹⁰ Price-earnings ratios for both merger partners were calculated three months prior to the announcement of a merger. The three-month lead was used to avoid the price effect of a rumored merger. The ratio $(P_A/E_A) / (P_B/E_B)$ was then computed for each merger. For the 104 conglomerate mergers, the geometric mean of that ratio was 1.40. In the absence of the hypothesized relationship, we would expect a random distribution of the ratio of price-earnings ratios to have a geometric mean of 1.00. We find that the observed geometric mean deviates from the expected value more than can be accounted for by chance variation alone where a 0.05 significance level is employed (Student's $t = 6.08$). This test clearly establishes that the geometric mean of the ratio of P/E ratios for conglomerate mergers is significantly greater than unity. Accordingly, we reject the null hypothesis.¹¹

Among the 122 mergers in the sample, 18 were classified by the Federal Trade Commission as horizontal or vertical mergers. The geometric mean of

⁹An attempt was made for a group of conglomerate merging firms to identify the sum of merger profits and residual operating profit reflected in their records of earnings per share. The study revealed that merging firms do not make sufficient information available to the public to permit an identification of merger profit. For the six leading conglomerate merging firms a total of 258 mergers were identified covering the period January 1, 1961, through June 30, 1968. Sufficient data were available in only 37 of these to permit a calculation of merger profit. The publication of financial data on mergers is governed by Securities and Exchange Commission rules. The Commission requires that detailed information on mergers must be submitted to the SEC for all mergers involving a "significant amount of assets." SEC regulations [25] then define a "significant amount of assets" as those situations in which "the book value of such assets or the amount paid or received therefor . . . exceeded 15% of the total assets of the [acquiring firm] and its consolidated subsidiaries or if it involved the acquisition . . . of a business whose gross revenues . . . exceeded 15% of [the acquiring firm] and its consolidated subsidiaries . . ." Where the assets acquired are not significant as defined above, reports need not be filed with SEC and information on financial values of the merger need not be made public.

¹⁰The 122 mergers included 7 horizontal, 11 vertical, 79 product extension conglomerate, and 25 "other conglomerate" mergers. There were no "market extension" conglomerate mergers in the sample.

their relative price-earnings ratios is 1.08. This mean is not significantly different from unity (Student's $t = 0.66$). Apparently, horizontal and vertical mergers take place for reasons other than a favorable price-earnings relationship.

Finally, we should expect to find that the geometric mean of the relative P/E ratio for conglomerate mergers is significantly greater than that mean for horizontal and vertical mergers. A test of the significance of the difference between the two mean values (a one-tailed test) confirmed this expectation at a 5% level of significance (Student's $t = 1.76$).

III. ECONOMIC IMPLICATIONS OF THE MERGER PROFIT THEORY

Having established that conglomerate mergers are characterized as cases in which there is a price-earnings differential favorable to the acquiring firm, and having made a logical case in support of the argument that a series of mergers in producing merger profit can create a record of growth in earnings per share without efficiency, we shall explore the economic implications of the merger profit theory.

1. *The "addiction effect"*. High price-earnings multiples are conferred upon companies with demonstrated and anticipated continued growth in earnings per share. This consideration, together with the pride and prestige of heading a dynamic growth company, places a great pressure on management to perpetuate its record of growth. Once started, growth develops its own pressure. But, if merger profit is an important component in the growth record of a firm and if new sources of operating efficiency cannot be substituted for earnings growth due to merger profit, then mergers must continue. Further, the amount of merger profit was shown to be a function of the relative size of acquired firm. Thus, in order to maintain a constant earnings per share growth rate, the size of the annual acquisitions must increase at a compound growth rate.¹²

2. *Withdrawal pains*. If the management of the acquiring firm is unable to increase its acquisition rate (or the size of its total annual acquisitions) and is not able to offset the growth in earnings formerly contributed by merger profit, then its earnings per share growth rate will decline. But stock prices and P/E multiples are based on anticipated and actual earnings.

¹¹Certain merger costs not shown in this differential P/E ratio analysis will reduce merger profit to the acquiring firm. First, there is commonly a premium paid to the acquired firm stockholders above the preannouncement market price of their stock. This premium averaged 13 percent in 1964 [28, p. 12] and rose to 20 percent in 1967 [21, p. 38]. Second, there may be a side payment to the chief executives of the acquired firm to induce them to support the merger. Manne [9, p. 118] noted that "The most obvious kind of side payment to managers is a position within the new structure either paying a salary or making them privy to valuable market information." Third, there may be substantial finders fees and legal costs incurred in the merger process. On the other hand, frequent use is made of leverage as part of the financial package, having the effect of increasing merger profit. To what extent these factors may be offsetting is not known.

¹²Managers of conglomerate firms may be more concerned about maximizing earnings per share than are non-conglomerate managers. Mr. J. J. Ling [24, p. 95] of Ling-Temco-Vought stated he has the general objective of increasing the "total earning capacity" of LTV, "the ultimate expression of which would be in the increased earnings per share."

Where anticipations are not met, the penalty is normally a sharp downward market re-evaluation of the firm's stock.¹³

3. *The ultimate payoff of addiction.* There are limits to growth by merger. Over time, the surviving conglomerate firm will have acquired positions in a variety of industries. In turn, the large firms that might be acquired tend to be multiple product firms. The probability of finding low *P/E* firms that can be acquired and do not involve forbidden horizontal relationships declines. Further, even if horizontal relationships can be avoided, large conglomerate acquisitions are now subject to antitrust constraints. The Department of Justice "guidelines" [27, pp. 20-27], issued in 1968, announced that the Department will ordinarily challenge any conglomerate merger between one of the most likely entrants into a concentrated industry and one of the eight largest firms in that industry. In addition, the Department will challenge mergers likely to increase reciprocal buying, to entrench or increase market power, or to raise barriers to entry. Thus, there are terminal conditions which seem likely to bring an end to growth by merger for individual firms.

A firm having one of its major sources of growth blocked by antitrust action, or by its inability to find acceptable merger partners with *P/E* ratios lower than its own, might be expected to seek out new sources of earnings growth, initially through increased internal efficiency. This solution may not be possible. Recent studies of the relative efficiency of conglomerate merging firms, including studies that fail to correct for the merger profit component present in the record of reported earnings, either conclude that conglomerate merging firms have a relatively poor performance record or raise doubts about conglomerate efficiency.¹⁴

If increased internal efficiency is not promising, accounting devices may be exploited to show higher current year reported earnings, usually at the expense of future earnings reports. A commonly-used device is to shift from an accelerated to a straight-line method of depreciation accounting. Also, a

¹³As a prime example, the year-end 1967 *P/E* for Litton Industries was 43. The Litton common stock price was 108 and earnings were \$2.54. First quarter 1968 earnings failed to meet expectations by a large margin and all of calendar 1968 was disappointing. By mid-1969 the Litton *P/E* had declined sharply to 18. Price was 43 as of August 14, 1969, and twelve-month earnings were \$2.35.

¹⁴Reid's study of mergers taking place in the years 1951-61 found that the rates of growth in market price per share of common stock and in profitability were significantly higher in firms relying on internal growth only, compared to firms involved in one or more mergers [14, p. 158]. In a more refined classification, Reid [14, p. 201] found that the increase in the share of profits attributable to the base period stockholders relative to base period assets was significantly higher in "aggressive pure internal growth" firms than in "offensive conglomerates." Similarly, Hogarty [5, p. 6] concluded that "the investment performance of highly merging firms is significantly worse than the average performance of firms in their respective industry." Kelly [7, p. 57], on the other hand, found that for his matched pairs of firms, growth in rate of return and in market valuation were not significantly related to the form of expansion (by merger or internal growth). Similar neutral results were developed in a *Fortune* study [13, p. 176] involving growth rates by firms between 1956 and 1966. This study concluded that "there isn't any relationship to speak of between diversification and earnings growth." A forthcoming study by J. Fred Weston tentatively concludes that conglomerate earnings on equity (not earnings per share) are relatively favorable. The history of conglomerate merging firms is too short to permit a definitive statement concerning their relative efficiency.

Figure 2

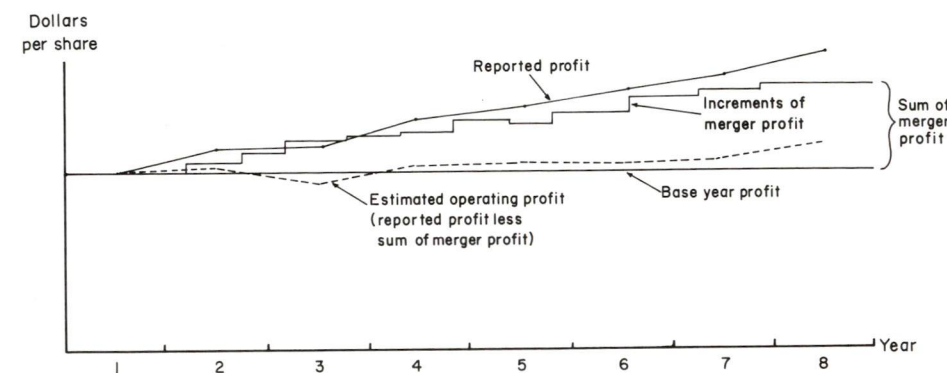


FIGURE 2—REPORTED PROFIT, INCREMENTS OF MERGER PROFIT, AND ESTIMATED OPERATING PROFIT FOR A FIRM ENGAGED IN A SERIES OF MERGERS.

share may therefore show a record of growth on the basis of merger profit alone.⁸

Reported profit in the terminal year may be more or less than the sum of base year profit plus merger profit as shown in Figure 2. In the former case, the excess could reflect growth in the parent company from its separate operations, growth in any of the acquired firms, or new economies of scale. The term "synergism" has been coined to describe this third kind of efficiency. Synergism is defined as the " $2 + 2 = 5$ " effect. J. Fred Weston [18, p. 130] described the situation in the following example: "When Merck merged with Sharp and Dohme, synergistic effects were said to be present. Merck was said to have a very strong research organization; Sharp and Dohme was said to have a very strong sales organization. Each, in the combined firm, was able to contribute a particular competence that the other did not have." Thus, the synergy concept is an efficiency rationalization. However, the model shown in Figure 2 suggests that the growth in earnings per share, frequently cited as evidence of synergy, may simply reflect instantaneous merger profit and may be totally independent of any efficiency that accrues with the passage of time. What has been called synergy should be subdivided into (1) instantaneous merger profit that is independent of efficiency, and (2) operating efficiencies that result from synergy. In any event, the observed behavior of earnings per share of a firm involved in a series of mergers is itself a conglomerate of merger profit and operating

⁸Investors are normally impressed with a demonstrated growth in earnings per share and may accord such a firm an even higher price-earnings ratio.

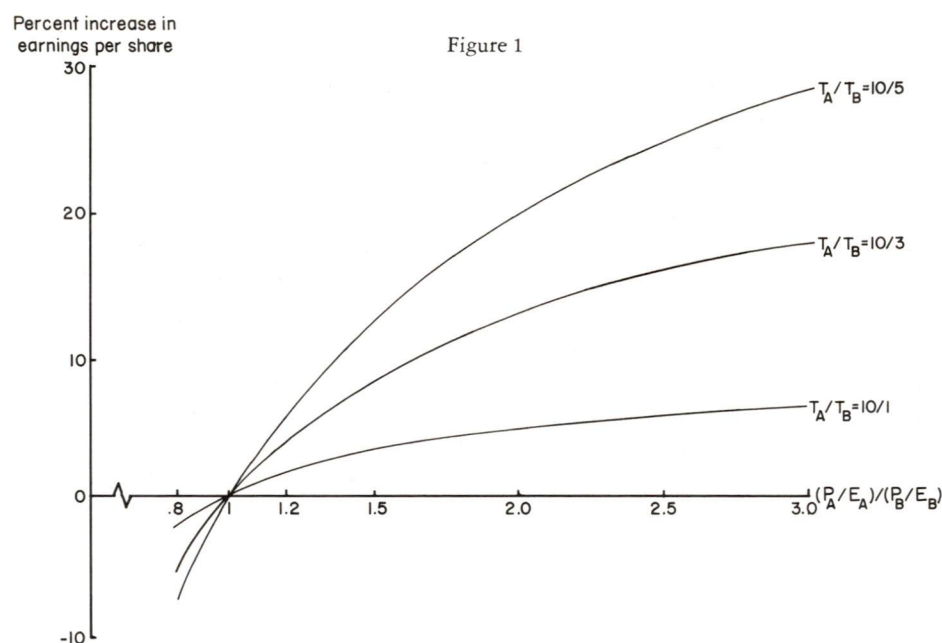


FIGURE 1—MERGER PROFIT (PERCENT INCREASE IN EARNINGS PER SHARE) OF THE BUYING FIRM AND THE PRICE-EARNINGS DIFFERENTIAL FOR VARIOUS VALUES OF RELATIVE TOTAL PROFITS.

In the absence of a favorable P/E differential an acquiring firm may increase its profit by financing the merger with senior securities or cash, that is, through the use of leverage. Thus any merger profit attained through a favorable P/E differential may be further augmented by the use of leverage. In addition to the possible use of common stock to pay for the acquired company, the acquiring company may utilize any combination of the following: preferred stock (convertible or non-convertible), debentures (convertible or non-convertible), warrants and cash.⁷

Through a series of mergers each yielding a merger profit an appearance of growth and efficiency may be created in the absence of any real efficiency. The point is illustrated by a graphic model in Figure 2. Let us suppose that beginning with the base year the acquiring and all acquired firms have completely static earnings per share from their separate operations, and that there are no economies of scale introduced as a result of merger. The terminal year earnings per share of the surviving company is the sum of base year profit plus all increments in the form of merger profit. Earnings per

⁷The opportunity of showing merger profits through issuing convertible securities as part of the merger price was limited in 1968 and 1969 when the Securities and Exchange Commission required that reported earnings per share show the effect of conversion of any convertible securities and warrants. The use of additional leverage to increase earnings per share of common stock, while frequently part of a merger package, may of course be undertaken independent of any merger.

pooling-of-interest method of asset valuation in mergers may be exploited for similar ends.¹⁵ The first alternative source of growth (internal efficiency) is yet to be demonstrated. The second source (accounting devices), though widely used among conglomerate firms, consists of short-term expediences that have led to the charge that some conglomerate merging firms are "houses of cards." Thus, merger profit is not a sustainable source of growth, and internal efficiency may not be available as a substitute.

4. *Economic instability.* The use of debentures and preferred stock as a means of financing mergers and augmenting merger profit may raise problems of financial instability for individual firms and for the economy in general. Many of the conglomerate merging firms are merely holding-companies that control securities of operating companies acquired through merger. For the twenty-four leading conglomerate merging firms, common stock and surplus represents, on average, 53.3 percent of their total capitalization (see Appendix B). This figure is significantly below the 74.6 percent average equity base for other industrial firms. Further, use of leverage by conglomerate merging firms has been increasing (the equity base has been decreasing). In 1960, 60.2 percent of their capitalization was represented by common stock and surplus. This percentage had declined to 53.3 percent by 1968 (see Appendix B). Debt must be serviced on penalty of possible bankruptcy proceedings. In the event of a widespread decline in business activity, heavily leveraged firms are vulnerable. The experience of the 1930's with heavily leveraged public utility firms in particular demonstrated the spillover social cost due to excessive leverage in individual firms.

5. *Inadequate public information.* Parties to a merger, unless required by Security Exchange Commission regulations, do not make sufficient information available to the public to permit an evaluation of merger profit. An effective capital market requires that information be available to the investing public. The social cost of inadequate information is resource misallocation. Where security prices are inappropriately high due to inadequate information, expansion may be inappropriately encouraged. Similarly, security prices that are unduly low may retard desirable expansion. Further, until trends in reported earnings can be adjusted for merger profit, the performance of merging firms cannot be effectively compared with nonmerging firms.

The conglomerate merger is a new phenomenon on the corporate combination scene. Merger motives cited by scholars to account for past merger waves do not appear to explain the current merger wave adequately. Pursuit of instantaneous merger profit appears to be a major though not exclusive motive for conglomerate mergers. An understanding of both the merger profit concept and the economic implications of a series of these financially-oriented mergers is a necessary prerequisite to an understanding of the extremely high level of conglomerate mergers, and to the development of public policy regarding conglomerate mergers.

¹⁵See Brilloff [1], [2] and Mosich [11].

APPENDIX A—MERGER PROFIT AS A FUNCTION OF PRICE-EARNINGS RATIO DIFFERENTIALS AND TOTAL PROFIT RATIOS

Ratio of total profit, buying firm to selling firm	Item	P/E differential — buying firm P/E ratio divided by selling firm acquisition P/E ratio ¹			
		30/10=3.0		12/10=1.2	
		Buying firm	Selling firm	Buying firm	Selling firm
10/5	Before merger				
	1. Total profit available for common stock	\$10,000	\$5,000	\$10,000	\$5,000
	2. Shares of common stock outstanding	20,000	2,000	20,000	2,000
	3. Earnings per share (line 1 ÷ 2)	\$0.50	\$2.50	\$0.50	\$2.50
	4. Price per share (line 3 times P/E ratio)	\$15.00	\$25.00	\$6.00	\$25.00
10/1	After merger	1.667/1		4.167/1	
	6. Total profit available for common stock	\$15,000		\$15,000	
	7. Total shares of common stock outstanding ²	23,333		28,333	
	8. Pro-forma earnings per share (line 6 ÷ 7)	\$0.64		\$0.53	
	Before merger				
10/1	1. Total profit available for common stock	\$10,000	\$1,000	\$10,000	\$1,000
	2. Shares of common stock outstanding	20,000	2,000	20,000	2,000
	3. Earnings per share (line 1 ÷ 2)	\$0.50	\$0.50	\$0.50	\$0.50
	4. Price per share (line 3 times P/E ratio)	\$15.00	\$5.00	\$6.00	\$5.00
	5. Exchange ratio for common stocks ²	0.333/1		0.833/1	
10/1	After merger				
	6. Total profit available for common stock	\$11,000		\$11,000	
	7. Total shares of common stock outstanding ³	20,667		21,667	
	8. Pro-forma earnings per share (line 6 ÷ 7)	\$0.53		\$0.51	

¹The term "acquisition price-earnings ratio" refers to the price actually paid for each dollar of acquired firm earnings per share. This includes any premium offered above market price for the acquired firm.

²The exchange ratio is the number of buying firm shares that must be paid in exchange for each share of the selling firm stock in order to give the selling stockholder value equal to the premerger value of his shares (or to an agreed upon value reflected by an acquisition price-earnings ratio). This ratio is obtained by dividing the market price (or buying price) per share of the selling firm stock by the market price of the buying firm stock.

³Total shares outstanding is the sum of the premerger shares of the buying firm common stock and the new shares issued to the selling firm stockholders. The number of new shares is obtained by multiplying the number of selling firm common stock shares outstanding by the exchange ratio.

advanced in this paper is that pursuit of instantaneous merger profit is a major cause of the present conglomerate merger wave.⁴ The effect on the total earnings and the earnings per share of the acquiring company may be shown as a pro-forma restatement of current years earnings. As a restatement of earnings, merger profit is achieved independent of time, whereas improvements in earnings per share due to operating efficiency require the passage of time.⁵

The amount of merger profit is a function of (1) a favorable price-earnings ratio differential and (2) relative firm size (measured by total earnings). Where an acquiring firm has a price-earnings ratio (P_A/E_A) that is high relative to that of the acquired firm (P_B/E_B) a merger involving a simple exchange of common stock can produce an instantaneous increase in earnings per share for the acquiring firm. A relatively high price-earnings multiple simply means that a share of common stock has a relatively high buying power per dollar of earnings in purchasing earnings through the merger process. A merger of this kind increases the acquiring firm's total profit more than it increases its outstanding common stock.

Given a price-earnings ratio differential favorable to the acquiring firm ($P_A/E_A > P_B/E_B$), the amount of merger profit depends on the relative size of the merging firms. The larger the acquired firms (relative to the acquiring firm) the greater will be the merger profit. Where the price-earnings ratios of the merging firms are of equal value and the merger involves a simple exchange of common stock, merger profit will be zero regardless of the relative size factor.

Several hypothetical examples of the merger profit calculation are shown in Appendix A. Figure 1 illustrates the functional relationship between relative P/E ratios and total profit ratios, as independent variables, and the percentage increase in the buying firm's earnings per share, as the dependent variable.⁶

⁴I do not assert that pursuit of merger profit is the only factor leading to conglomerate mergers. In some cases, a reduction of tax liability through tax loss carry-forwards is the dominant motive. In others, quick entry into a new field (instant product diversification) is the dominant motive.

⁵Price-earnings differentials as a source of quick profit through merging have been discussed recently by financial writers, and to a lesser degree by academic economists. See Smalter and Lancey [15], Zwerdling [19], *Business Week* [20], [21], *Financial World* [23], Lewis [8], Halbkat [4, pp. 95-106], Weston [18, pp. 117-38], and Jacoby [6]. In their extensive study of mergers taking place during the period 1940-49, Butters, Lintner and Cary [3] made no references to price-earnings differentials either as a motive or a characteristic of mergers.

⁶To compute pro-forma earnings per share, E , following a merger based on a simple exchange of common stock, the following data are needed: (1) Total profit of the acquiring firm before the merger, T_A , (2) total profit of the acquired firm, T_B , (3) shares of common stock outstanding of the acquiring firms, S_A , (4) shares of common stock outstanding of the acquired firm, S_B , (5) market price of the acquiring firm's common stock, P_A , and (6) acquisition price of the acquired firm's common stock, P_B . The pro-forma earnings per share for the acquiring firm may be computed with the formula: $E = [T_A + T_B] / [S_A + S_B(P_B/P_A)]$. The term P_B/P_A in the equation defines the exchange ratio—the number of acquiring firm shares that must be given for each share of the acquired firm. Merger profit is the difference between the computed pro-forma earnings per share, E , and the pre-merger earnings per share for the acquiring firm, for the same period. The percentage increase in the buyer firm's earnings per share, I , computed in Appendix A and plotted in Figure 1 is: $I = [(E/P) - 1] (100)$ where P is pre-merger earnings per share of the acquiring firm.

firms nearly doubled (increased 92 percent).

Perhaps of even greater significance is the change in the character of mergers. Whereas earlier merger waves were among horizontally and to a lesser degree vertically related firms, the current merger wave has become predominantly conglomerate in character. This trend has accelerated throughout the third merger wave. In the four-year base period, 1948-51, 41.4 percent of the asset value of all large (acquired firms with assets of \$10 million or more) mergers were between horizontally related firms. By 1968 horizontal mergers accounted for only 2.5 percent of the total [26, p. 77]. In the base period conglomerate mergers accounted for 38.1 percent of the total, and this share increased to 90.7 percent by 1968.³

The shift from horizontal and vertical to conglomerate mergers is probably fully explained by recent Supreme Court decisions. In 1918 the Supreme Court ruled in favor of United Shoe Machinery Company although it had acquired 60 independent firms, mostly horizontally or vertically related, and produced 95 percent of the shoe-making machinery available in the U.S. The probability of merging large horizontally and vertically related firms with impunity diminished sharply following passage of the Celler-Kefauver Anti-Merger Amendment to the Clayton Act in 1950. Further, the Supreme Court has increasingly followed a hard line on mergers; indeed, since the landmark DuPont-General Motors case in 1957, all merger cases reaching the Supreme Court have been ruled violations of antitrust laws.

The scope of possible horizontal and vertical mergers is relatively limited. First, recent antitrust prosecution has severely restricted potential mergers involving market power and perhaps many more not guilty of this offense. Second, if horizontal and vertical mergers are to yield economies of scale and subsequent profits, the merging firms must pass a profitability test. In contrast, the range of potential conglomerate acquisitions is extremely wide. Industrial classification by definition is no longer relevant. Conglomerate acquisitions have ranged over almost the entire spectrum of American and foreign business. Further, until 1968 the fear of antitrust action was not a limiting force. Unconstrained by some of the time-honored considerations leading to selection of a merger partner, acquiring firms may seek out those acquisitions that guarantee an immediate merger profit.

I. THE MERGER PROFIT HYPOTHESIS

Merger profit is defined here as an instantaneous increase in the earnings per share of an acquiring company, due solely to the merger and totally independent of operating efficiency, market power, or other causes of increased profitability that may accrue with the passage of time. The theory

³Reid [14, p. 126] has argued that the three major merger waves can be further characterized by the "kind of promoters dominant in the merger activity." He observed that "the outside professional promoter played a major role during the era of consolidations at the turn of the century. During the late 1920's the investment banker moved into the forefront of merger activity. The current wave is dominated by the professional managers of the firms involved in merger activity. This is the most striking development during the current wave and is partially accounted for by the increased freedom of management from stockholder control."

APPENDIX B—COMMON STOCK AND SURPLUS AS A PERCENT OF TOTAL CAPITALIZATION

Twenty-four leading conglomerate merging firms			Twenty-five firm random sample of non-conglomerate merging industrial corporations, 1968 ¹	
Firm name	1960 or first year data are available	1968	Firm name	1968
Automatic Sprinkler	35.3	33.3	Atlantic Richfield	79.7
Bangor Punta	100.0	29.1	Beech Aircraft	100.0
Consolidated Foods	37.4	71.2	Brown Co.	30.3
FMC	71.1	66.9	Celanese Corp.	36.7
General Dynamics	57.2	69.9	Cleveland Cliffs Iron	76.9
Glen Alden	74.8	51.9	Fairchild-Hiller	60.7
W. R. Grace	55.3	48.5	Ferro Corp.	68.9
Gulf & Western	76.7	32.2	Foster Wheeler	76.2
Indian Head Mills	48.8	44.1	General Refractories	64.5
ITT	66.8	46.1	Gould National Batteries	75.7
Walter Kidde	70.4	66.8	Gulton Industries	73.2
LTV	24.3	13.8	Hoffman Electronics	100.0
Litton Ind.	58.9	59.9	Inland Container Corp.	98.9
McGraw Edison	96.0	97.9	Jonathan Logan	61.0
National Distillers & Chemical	58.6	55.8	Leeds Northrup	68.1
North American Rockwell	100.0	83.9	Marathon Oil	79.3
Norton Simon	60.6	46.2	McLouth Steel	78.2
Olin Mathieson	52.9	67.4	Norwich Pharmaceutical	99.0
SCM	56.4	54.9	Polaroid Corp.	100.0
Teledyne	50.1	57.8	Shoe Corp. of America	56.0
Tenneco	24.4	28.1	Smith, Kline & French	100.0
Textron	60.3	67.9	Standard Register	75.0
TRW	69.4	59.8	Union Tank Car	37.0
White Consolidated Ind.	40.0	26.3	U. S. Gypsum	88.1
			Witco Chemical	80.6
Unweighted arithmetic mean	60.2	53.3		74.6

Sources: Moody's *Handbook of Common Stocks*, First Quarter, 1961; Fourth Quarter, 1968; and Moody's *Industrials* for stocks not listed in the *Handbook*.

¹The twenty-four leading conglomerate merging firms were identified as follows: From the Federal Trade Commission list of mining and manufacturing mergers involving acquired firms with assets of \$10 million or more over the period 1948 through June 30, 1969, the "product extension" and "other conglomerate" mergers by firms involved in five or more mergers were listed.

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INSTANTANEOUS MERGER PROFIT AS A CONGLOMERATE MERGER MOTIVE

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The quantity and quality of the third major U.S. merger wave is significantly different from the two prior merger waves in the United States. The number of firms acquired through merger in 1968 was approximately twice the previous peak level, and current merger activity is characterized as conglomerate whereas prior merger waves were primarily horizontal and to a lesser degree vertical. The purposes of this paper are (1) to develop the concept of "merger profit" and to explore the hypothesis that pursuit of merger profit is a major motive accounting for the high level of current merger activity, (2) to test a hypothesis regarding the character of recent mergers, and (3) to explore some of the economic implications of the merger profit theory. No attempt will be made to appraise the entire range of motives leading to conglomerate mergers, or to evaluate the social costs and benefits of conglomerate mergers.

The first major U.S. merger wave took place around the turn of the century and was described by George J. Stigler [16, p. 27] as "the era of merger for monopoly." In its peak year approximately 1,200 firms were acquired through the merger process. The second merger wave occurred during the 1920's, and again approximately 1,200 firms were acquired during the peak year 1929. Stigler [16, pp. 31-32] observed that "the new goal of merger was oligopoly" and "the Sherman law seems to have been the fundamental cause for the shift from merger for monopoly to merger for oligopoly."¹

The third merger wave began with the end of the second World War, has been at a sustained level for the last ten years, and has accelerated rapidly in the last two years. From 1959 through 1966 nearly 1,000 firms were absorbed each year through the merger process. Then in 1967 and 1968 the tempo of merger activity increased sharply. In 1968, 2,442 mining and manufacturing firms were acquired by merger [22, p. 9]. In addition to the sharp increase in number of mergers, the very large firms have increasingly been involved in merger activity, both as acquiring and acquired firms.² From 1959 through 1968 the average deflated asset size of acquired

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¹While Weston [17, p. 32] holds that ascribing a single motivation to this merger wave is "incautious," he concludes that "the main effect of mergers around 1900 was the emergence of dominance of a single firm," a condition that he describes as "partial monopoly." Nelson [12, p. 103] provides an even more cautious statement of motive. His interpretation of the data is that "they tend to demonstrate the existence of a fairly strong desire to avoid rigorous competition."

²Assistant Attorney General McLaren [10, p. 8] recently pointed out that 110 of *Fortune* magazine's 500 largest industrials of 1962 disappeared from the 1968 list after having been acquired through merger usually by an even larger firm.