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TIME-PATH VIABILITY OF S&L FIRMS -- PART ONE: FIRMS CHARACTERIZED BY ACCOUNTING SAVINGS GROWTH

BY
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GRADUATE SCHOOL OF BUSINESS ADMINISTRATION

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# TIME-PATH VIABILITY OF S&L FIRMS

## Part One: Firms Characterized by Accounting Data Only, With and Without Savings Growth

by

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ABSTRACT OF

"TIME-PATH VIABILITY OF S&L FIRMS
Part One: Firms Characterized by Accounting
Data Only, With and Without Savings Growth"

by

Frederick E. Balderston

This study follows from "Analysis of the Viability of S&L Firms" (Balderston,1982). The S&L firm is characterized by its accounting data (balance sheet and income statements), and each firm in the industry is first defined by its accounting status in the base year 1981. Once again, three interest-rate scenarios for the period from 1982 through 1985 are used to project the operating results for each firm.

First, we examine the timing at which firms achieve negative net worth (if at all) under each scenario, and the industry distribution of the timing of this event is generated. The first model is that of the S&L firm with no savings growth. Each of two modifications of the original base case model is considered: assignment of the (generally higher) long-term interest-rate to a portion of the firm's savings liability; and a shift in the composition of savings liability to above-passbook rate savings accounts when the differential between short-term and long-term interest rates increases. Then the two changes are combined; the timing at which negative net worth is attained is again examined for all firms.

The second half of this report consists of parallel analytical comparisons for the S&L firm, but we provide for growth in the amount of savings liability over time.

Introduction

In the earlier report, "Viability of S&L Firms" (Balderston,1982), we counted how many of the 3,730 active, insured S&L's attained negative net worth once, twice or three times in the projected environments of three interest-rate scenarios. This approach did not tell us, however, the timing of this event within the interval from 1982 through 1985, nor did it allow us to interpret with certainty the differential effects of the three interest-rate scenarios. These two issues are discussed here.

We will discuss first the specification of the model in which accounting data only are used ( no portfolio composition data are employed) and there is no provision for new savings inflow. In this model of the firm, the timing of viability is examined first for the "base case", as defined in Balderston, 1982. Then, each of two modifications of this model -- the first involving the use of the long-term rate of interest as the basis for interest expense on a portion of savings liability, and the second providing for a shift in the composition of savings liability away from accounts having pass-book rates -- is examined individually. Finally, we analyze the combined effect of these two changes in the model specification for the S&L firm. In all of these instances, the timing of negative net worth is examined under all three scenarios.

Then, we change the basic model of the S&L firm to reflect a process of savings growth. In the previous report,

"Viability..." (Balderston, 1982) we showed the savings growth assumptions in Table 4.4 and the summary results for this model of the firm with savings growth in Table 4.5. First, we will examine here the timing of viability (or of negative net worth) under the three interest-rate scenarios, for the base case previously reported. Then we will explore a parallel set of model changes to those just described for the no-savings growth model.

"Countdown" and"Countback" in the S&L Firm, Accounting Data only, No Savings Growth, the Base Case: The Frequencies of Net Worth Loss and Recovery

Reanalysis of this model (sometimes referred to as Version one) shows that 837 firms never experienced negative book net worth in the three projections. Of the population of 3,730 active firms, 71.8% experienced at least one occasion of negative net worth, but only 1.6% of the 3,730 firms in the industry recovered to positive net worth after going below zero.

Negative Net Worth: Timing in the Three Scenarios for the S&L Firm, Accounting Data Only, No Savings Growth

Table 4.6 shows how many firms first experienced negative net worth in each year under each scenario.

As Table 4.6 shows, the pessimistic scenario was so stressful that 77.6% of firms experienced negative net worth, and 46% of the firms, in fact, had negative net worth by 1983 or before. The dimensions of the onrushing disaster that actually threatened the nationwide S&L industry are clearly implied by

Table 4.6, Number of Firms Experiencing Negative Net Worth, By Year, Under each Scenario, the S&L Firm as Accounting Data Only, No Savings Growth

| Pessimistic Year | Number of Firms | Percent of Firms |
|---|---|---|
| none | 837 | 22.4% |
| 81 | 30 | 0.8 |
| 82 | 535 | 14.3 |
| 83 | 1183 | 31.7 |
| 84 | 758 | 20.3 |
| 85 | 387 | 10.4 |

| Optimistic Year | Number of Firms | Percent of Firms |
|---|---|---|
| none | 3645 | 97.7 |
| 81 | 30 | 0.8 |
| 82 | 49 | 1.3 |
| 83 | 6 | 0.2 |

| Cyclical Year | Number of Firms | Percent of Firms |
|---|---|---|
| none | 3515 | 94.2 |
| 81 | 30 | 0.8 |
| 82 | 68 | 1.8 |
| 83 | 24 | 0.6 |
| 84 | 34 | 0.9 |
| 85 | 59 | 1.6 |
| Totals | 3730 | 100.0 |

this behavior path. This table also confirms that it is the pessimistic scenario that accounts for the great bulk of instances of negative net worth in the earlier summary tables of the report entitled "Viability of S&L Firms"( Balderston, 1982).

The optimistic and cyclic scenarios present a very different picture of viability. Under the former, those few firms that are so weak as to be nearly failing are pushed to negative net worth within the first two years of the interval, and no additional cases appear in 1984 or 1985. The cyclical scenario is somewhat more punishing, and it results in negative net worth for 5.0% of the firms that started the interval with net worth above zero.

Changes in the Model to Reflect Higher Interest Rates on Some Savings and to Modify the Composition of Savings Liability

Review of the results reported in "Viability..." resulted in the potential criticism that the optimistic scenario allowed too great an average spread between interest income and cost of funds to occur, with the result that far too few firms experienced negative net worth. (In other words, the optimistic scenario may have been too optimistic!)

There would appear to be two plausible reasons why behavioral adjustments would occur in the savings markets to produce a less rosy situation than was earlier portrayed in the optimistic scenario. First, when short-term interest rates fall substantially below long rates, households seek better yields and are more willing to stretch out the maturity of their accounts to get it. Second, the savings accounts that are allowed to pay

rates above the regular rate may tend to be assigned interest rates closer to the long-term interest rate than to the short-term rate.

Here we describe and interpret the results of compositional change, of a higher assigned interest rate on the above-market accounts, and then of both types of changes together. This is done first for the model specification of Version One, that is, using accounting data only to characterize the firm, and not providing for savings growth. Then we apply the same changes to the model of Version Three, which differs from Version One in providing for savings growth. Once again, we examine the path of the industry for three interest-rate scenarios and over the interval from the base year, 1981, through 1985.

Version One, With Change of Applicable Interest Rate on Some Savings

In the pessimistic scenario, both long-term (LT) and short-term (ST) interest rates remained at the 14% level throughout the interval from 1982 through 1985. In the optimistic scenario, on the other hand, long-term and short-term rates were posited to fall substantially, with short-term rates falling further so that a gap of growing size would develop.

Savings account holders might react to this state of affairs by going for the higher rate. For the projections described here, we postulate an unchanging number of dollars of savings liability in accounts carrying interest at or below the regular rates, and no change in the dollar balances of above regular-rate

accounts. The assigned rate for the latter portion of savings liability, however, is changed from a rate equal to the short-term Treasury rate (ST) to a rate equal to the long-term Treasury rate (LT).

Table 4.7 shows the results of the three scenarios with only this single change in assumptions.

The situation worsens. While the same number of firms survives without going to negative net worth in any of the scenarios, the earlier Table 4.3 showed that 2,678 firms experienced only one occasion of negative net worth. Here, the number is 1,128. More firms experience negative net worth under more than a single scenario.

While this result is not unexpected, since no increases of revenues or assets take place while a significant cost increase does occur, the magnitude of the stress experienced from this change in a single parameter is of considerable interest.

We can also examine the timing at which trouble hits. This is done in Table 4.8.

While the optimistic scenario still leaves three-quarters of all firms unscathed, the other quarter experiences negative net worth. The number of firms having trouble reaches a peak in 1983 under this change of assumption. It is apparent that rate competition alone may cause continuing pressure upon financial firms as cost-sensitive as these are.

Table 4.7: Viability, Accounting Data only, No Savings Growth, Long-term Interest Rate on Some Savings

| Number of times with NW<0 | Number of Recoveries, NW>0 | Number of S&L Firms | Total Assets ($ billions) |
|---|---|---|---|
| 0 | 0 | 837 | $152.7 |
| 1 | 0 | 1128 | 234.0 |
| 2 | 0 | 827 | 144.6 |
| 3 | 2 | 1 | 0.0 |
| 3 | 1 | 89 | 16.1 |
| 3 | 0 | 818 | 97.3 |
| 4 | 3 | 1 | 0.0 |
| 4 | 1 | 1 | 0.0 |
| 4 | 0 | 28 | 2.6 |
| Totals | | 3730 | 650.5 |

Table 4.8: Timing of Negative Net Worth. Accounting Data only. No Savings Growth. Long-term Interest Rate on Some Savings

| Pessimistic Year | Number of Firms | Percent of Firms |
|---|---|---|
| none | 837 | 22.4% |
| 81 | 30 | 0.8 |
| 82 | 535 | 14.3 |
| 83 | 1183 | 31.7 |
| 84 | 758 | 20.3 |
| 85 | 387 | 10.4 |

| Optimistic Year | Number of Firms | Percent of Firms |
|---|---|---|
| none | 2792 | 74.9 |
| 81 | 30 | 0.8 |
| 82 | 255 | 6.9 |
| 83 | 421 | 11.3 |
| 84 | 205 | 5.5 |
| 85 | 27 | 0.7 |

| Cyclical Year | Number of Firms | Percent of firms |
|---|---|---|
| none | 1965 | 52.7 |
| 81 | 30 | 0.8 |
| 82 | 255 | 6.8 |
| 83 | 416 | 11.5 |
| 84 | 558 | 15.0 |
| 85 | 506 | 13.6 |
| Total | 3730 | 100.0 |

Version One: Change in Composition of Savings Liability Only

We have sought to reflect in a simple compositional rule the tendency of households to shift toward higher-rate accounts when short-term interest rates fall significantly below long rates. In the FHLBB semi-annual report for each S&L, there are two categories of savings accounts: those paying rates at or below the regular rate; and those paying more than the regular rate. (This reporting scheme is in part an artifact of the long period of regulatory rate ceilings, and it may disappear in due course to be replaced by more flexible and accurate descriptors of the account categories that matter most.) Here we continue to tie the rate paid on the above-regular rate account liability to the short-term U.S. Treasury rate. The composition of savings liability does undergo a shift, in this specification, according to the following rule:

$$\text{Change in below regular rate Savings Liability} = \text{Below regular rate Liability} * (1 - ST/LT)$$

The effect of this rule is to bring about no compositional change when the short-term rate is equal to the long-term rate, but to cause a percentage reduction in the below-regular rate liability that is equal to the ratio of the short-term to the long-term rate.

Table 4.9 shows the summary results.

As compared with the original results of Version One in Table 4.3, this shows a small decrease, from 2,678 to 2,602, in the number of firms that experienced only one instance of

Table 4.9: Summary Results, Accounting Data Only, No Savings Growth, With Change of Composition of Savings Liability

| Number of times with NW<0 | Number of Recoveries, NW>0 | Number of S&L Firms | Total Assets ($ billions) |
|---|---|---|---|
| 0 | 0 | 837 | $152.7 |
| 1 | 0 | 2602 | 452.0 |
| 2 | 1 | 5 | 0.4 |
| 2 | 0 | 185 | 32.0 |
| 3 | 1 | 49 | 8.8 |
| 3 | 0 | 22 | 1.8 |
| 4 | 3 | 1 | 0.0 |
| 4 | 2 | 3 | 0.8 |
| 4 | 1 | 9 | 0.1 |
| 4 | 0 | 17 | 1.3 |
| Totals | | 3730 | 650.4 |

negative net worth, and the redistribution of the difference to the categories farther down the table. The change is not a dramatic one.

As to timing, we report the first occasion of negative net worth in Table 4.10.

Under the pessimistic scenario, there is no difference in timing between this and the original Version One, and there is only a tiny increase in the number of firms showing negative net worth late in the interval for the optimistic scenario. An appreciable increase does show up, however, in the number of instances of negative net worth in later years under the cyclical scenario.

We now combine the two changes -- assignment of the long-term interest rate to the savings liability that is above regular rate, and shift of composition -- and show their impact when taken together. Table 4.11 shows the summary results.

A dramatic shift for the worse is evident. The combined effect of the two changes in the Version One model (accounting data only, no savings growth) is not to change the number of firms that are left unscathed, but rather to increase the number of firms having more than one instance of negative net worth. A large number -- a total of 1,572 firms -- had either three or four instances of negative net worth, and this encompassed more than one-third of the total assets of the industry. The combined effect of these changes is multiplicative rather than linearly additive in inducing distress among S&L firms.

Table 4.10: Timing of Negative Net Worth, Version One, No Savings Growth, With Change of Composition of Savings Liability

| Pessimistic Year | Number of Firms | Percent of Firms |
|---|---|---|
| none | 837 | 22.4 |
| 81 | 30 | 0.8 |
| 82 | 535 | 14.3 |
| 83 | 1183 | 31.7 |
| 84 | 758 | 20.3 |
| 85 | 387 | 10.4 |

| Optimistic Year | Number of Firms | Percent of Firms |
|---|---|---|
| none | 3629 | 97.3 |
| 81 | 30 | 0.8 |
| 82 | 54 | 1.5 |
| 83 | 15 | 0.4 |
| 84 | 1 | 0.0 |
| 85 | 1 | 0.0 |

| Cyclical Year | Number of Firms | Percent of Firms |
|---|---|---|
| none | 3439 | 92.2 |
| 81 | 30 | 0.8 |
| 82 | 75 | 2.0 |
| 83 | 31 | 0.8 |
| 84 | 46 | 1.2 |
| 85 | 109 | 2.9 |
| Totals | 3730 | 100.0 |

Table 4.11: Summary: Version One, Accounting Data Only, No Savings Growth, Combining Long-term Rate on Some Savings with Change of Composition of Savings Liability

| Number of times with NW<0 | Number of Recoveries, NW>0 | Number of S&L Firms | Total Assets ($ billions) |
|---|---|---|---|
| 0 | 0 | 836 | $152.7 |
| 1 | 0 | 636 | 137.2 |
| 2 | 0 | 686 | 131.3 |
| 3 | 1 | 23 | 9.1 |
| 3 | 0 | 1519 | 217.6 |
| 4 | 3 | 1 | 0.0 |
| 4 | 0 | 29 | 2.7 |
| Totals | | 3730 | 650.4 |

Table 4.12 shows the timing of negative net worth for this combined case.

Here again the dramatic shifts occur in the optimistic and cyclical scenarios, where the much greater numbers of instances of negative net worth show up in large numbers of cases during 1983, 1984, and 1985. Even the optimistic interest-rate scenario fails to be benign, and 41% of the industry's firms achieve negative net worth in the interval 1982 through 1985. The main reason, of course, is that in the optimistic and cyclical environments, the combined changes increase the cost of funds very substantially, while not increasing the income generated from loans and investments at all.

The S&L Firm, with Savings Growth: Performance under the Three Interest-rate Scenarios, and with Assignment of Long-Term Interest Rates and Changes in the Composition of Savings Liability in the Model of the S&L Firm

Summary results for the industry under this model of the firm were reported in Table 4.5 of "Viability..." (Balderston,1982). Savings growth proved to permit many more firms to survive all three interest rate scenarios unscathed. While 1,171 firms were totally unscathed, another 2,483 firms experienced only a single instance of negative net worth when savings growth was permitted to occur. Presumably, the worst problems occurred under the pessimistic interest-rate scenario. As will be seen below, this indeed proves to be the case.

The timing at which some firms did achieve negative net worth is reported below in Table 4.13.

Table 4.12: Timing of Negative Net Worth, Version One, Combined Changes

Pessimistic

| Year | Number of Firms | Percent of Firms |
|---|---|---|
| none | 837 | 22.4 |
| 81 | 30 | 0.8 |
| 82 | 535 | 14.3 |
| 83 | 1183 | 31.7 |
| 84 | 758 | 20.3 |
| 85 | 387 | 10.4 |

Optimistic

| Year | Number of firms | Percent of firms |
|---|---|---|
| none | 2158 | 57.9 |
| 81 | 30 | 0.8 |
| 82 | 299 | 8.0 |
| 83 | 635 | 17.0 |
| 84 | 459 | 12.3 |
| 85 | 149 | 4.0 |

Cyclical

| Year | Number of firms | Percent of Firms |
|---|---|---|
| none | 1471 | 39.4 |
| 81 | 30 | 0.8 |
| 82 | 282 | 7.6 |
| 83 | 560 | 15.0 |
| 84 | 749 | 20.1 |
| 85 | 638 | 17.1 |

Table 4.13, S&L Firms, Accounting Data Plus Savings Growth, Number Experiencing Negative Net Worth, By Year, Under Each Scenario

| Year | Number of Firms | Percent of Firms |
|---|---|---|
| **Pessimistic** | | |
| none | 1171 | 31.4 |
| 81 | 30 | 0.8 |
| 82 | 459 | 12.3 |
| 83 | 1052 | 28.2 |
| 84 | 666 | 17.9 |
| 85 | 352 | 9.4 |
| **Optimistic** | | |
| none | 3674 | 98.5 |
| 81 | 30 | 0.8 |
| 82 | 24 | 0.6 |
| 83 | 2 | 0.0 |
| 84 | -- | -- |
| 85 | -- | -- |
| **Cyclical** | | |
| none | 3655 | 98.0 |
| 81 | 30 | 0.8 |
| 82 | 40 | 1.1 |
| 83 | 1 | 0.0 |
| 84 | 1 | 0.0 |
| 85 | 3 | 0.1 |
| Totals | 3730 | 100.0 |

We now examine the effects, in the savings-growth model, of the same modified conditions of operation of the S&L firm: the long-term interest-rate is assigned to a portion of savings liability; and the composition of savings liability is made to change according to the same behavioral rule that was employed previously.

Table 4.14 shows summary results for the first case, involving assignment of the long-term interest rate to the portion of savings liability that is in accounts above the regular rate.

As compared with Version One (no savings growth) this specification shows many more firms surviving unscathed. While a greater number here have one occasion of negative net worth -- 1,871 versus 1,128 in the earlier case -- many fewer are distributed to the lower portions of the table.

By changing to payment at the long-term interest-rate for those savings accounts that are above the regular rate, we increase somewhat the stress upon the industry's firms in the optimistic and cyclical scenarios, while performance in the pessimistic scenario remains the same as in the base case (see the first portions of Table 4.14 and Table 4.15). In general, the timing at which negative net worth occurs, if it occurs at all, is during 1983-84 in the optimistic scenario, but the distress is distributed throughout the whole interval in the cyclical scenario. All of these timing results are shown in Table 4.15.

Table 4.14. Version Three: Accounting Data only, plus Savings Growth, Assigning Long-term Interest Rate to Some Savings

| Number of Times NW<0 | Number of Recoveries, NW>0 | Number of S&L Firms | Total Assets ($ billions) |
|---|---|---|---|
| 0 | 0 | 1171 | $219.3 |
| 1 | 1 | 1 | 0.0 |
| 1 | 0 | 1871 | 342.5 |
| 2 | 1 | 1 | 0.8 |
| 2 | 0 | 291 | 36.9 |
| 3 | 2 | 7 | 2.7 |
| 3 | 1 | 215 | 32.2 |
| 3 | 0 | 143 | 13.4 |
| 4 | 3 | 1 | 0.0 |
| 4 | 2 | 2 | 0.0 |
| 4 | 1 | 1 | 0.7 |
| 4 | 0 | 26 | 1.9 |
| Totals | | 3730 | 650.5 |

Table 4.15: Version Three, Long-term Rate on Some Savings, Timing of Negative Net Worth

| Pessimistic: Year | Number of Firms | Percent of Firms |
|---|---|---|
| none | 1171 | 31.4 |
| 81 | 30 | 0.8 |
| 82 | 459 | 12.3 |
| 83 | 1052 | 28.2 |
| 84 | 666 | 17.9 |
| 85 | 352 | 9.5 |

| Optimistic Year | Number of Firms | Percent of Firms |
|---|---|---|
| none | 3335 | 89.4 |
| 81 | 30 | 0.8 |
| 82 | 194 | 5.2 |
| 83 | 162 | 4.3 |
| 84 | 7 | 0.2 |
| 85 | 2 | 0.1 |

| Cyclical Year | Number of firms | Percent of firms |
|---|---|---|
| none | 3043 | 81.6 |
| 81 | 30 | 0.8 |
| 82 | 191 | 5.1 |
| 83 | 169 | 4.5 |
| 84 | 160 | 4.3 |
| 85 | 137 | 3.7 |
| Total | 3730 | 100.0 |

The second modification tested is a behavioral change in the composition of savings liability, to reflect the tendency of households to shift toward relatively higher-yielding accounts when the short-term interest rate falls substantially below the long-term rate. For Version Three, we show the summary results in Table 4.16.

Taken by itself, the change in composition of savings has a much less stressful effect upon S&L firms than does the cost-of-funds effect from assigning the long-term interest-rate to some savings liability. We see this by comparing Tables 4.14 and 4.16, where the numbers of firms experiencing no instances of negative net worth are identical, but the number having only a single instance of negative net worth is greater for the case of compositional change in savings liability.

The timing at which firms experience negative net worth in the three scenarios is shown in Table 4.17.

We now combine the two model changes and report in Table 4.18 their joint effect for the S&L firm with savings growth.

Comparison with Table 4.5, the original Version Three model, shows the same number of firms --1,171 -- unscathed, but a reduction from 2,483 to 1,530 in the number with one instance of negative net worth, 453 firms with two, 546 with three, and 28 with four instances (including 1981). We see that the combined changes of assumptions portray a more fragile industry.

We now examine the timing at which negative net worth occurs in the three scenarios. Table 4.19 shows the results.

Table 4.16. Summary,Version Three, Change in Composition of Savings Liability

| Number of times with NW<0 | Number of Recoveries, NW>0 | Number of S&L Firms | Total Assets ($ billions) |
|---|---|---|---|
| 0 | 0 | 1171 | $219.3 |
| 1 | 1 | 1 | 0.0 |
| 1 | 0 | 2471 | 420.3 |
| 2 | 1 | 12 | 1.9 |
| 2 | 0 | 16 | 4.3 |
| 3 | 2 | 9 | 0.2 |
| 3 | 1 | 18 | 1.4 |
| 3 | 0 | 2 | 0.3 |
| 4 | 3 | 1 | 0.0 |
| 4 | 2 | 11 | 1.3 |
| 4 | 1 | 11 | 0.8 |
| 4 | 0 | 7 | 0.5 |
| Totals | | 3730 | 650.5 |

Table 4.17: Timing of Negative Net Worth, Version Three, Change in Composition of Savings

| Pessimistic Year | Number of Firms | Percent of Firms |
|---|---|---|
| none | 1171 | 31.4 |
| 81 | 30 | 0.8 |
| 82 | 459 | 12.3 |
| 83 | 1052 | 28.2 |
| 84 | 666 | 17.9 |
| 85 | 352 | 9.4 |

| Optimistic Year | Number of Firms | Percent of Firms |
|---|---|---|
| none | 3671 | 98.4 |
| 81 | 30 | 0.8 |
| 82 | 28 | 0.8 |
| 83 | 1 | 0.0 |

| Cyclical Year | Number of firms | Percent of Firms |
|---|---|---|
| none | 3643 | 97.7 |
| 81 | 30 | 0.8 |
| 82 | 46 | 1.2 |
| 83 | 1 | 0.0 |
| 84 | 2 | 0.1 |
| 85 | 8 | 0.2 |
| Totals | 3730 | 100.0 |

Table 4.18: Summary, Accounting Data with Savings Growth, Assigning Long-term Rate to Some Savings, Shift in Composition of Savings

| Number of Times With NW<0 | Number of Recoveries, NW>0 | Number of S&L Firms | Total Assets ($ billions) |
|---|---|---|---|
| 0 | 0 | 1171 | 219.3 |
| 1 | 1 | 1 | 0.0 |
| 1 | 0 | 1529 | 292.6 |
| 2 | 0 | 453 | 56.4 |
| 3 | 2 | 3 | 0.1 |
| 3 | 1 | 252 | 36.7 |
| 3 | 0 | 291 | 42.7 |
| 4 | 3 | 1 | 0.0 |
| 4 | 2 | 1 | 0.0 |
| 4 | 1 | 2 | 0.7 |
| 4 | 0 | 26 | 1.9 |
| Total | | 3730 | 650.5 |

Table 4.19: Timing of Negative Net Worth, Version Three, Assigning Long-term Interest Rate to Some Savings and Providing for Shift in Composition of Savings

| Pessimistic Year | Number of Firms | Percent of Firms |
|---|---|---|
| none | 1171 | 31.4 |
| 81 | 30 | 0.8 |
| 82 | 459 | 12.3 |
| 83 | 1052 | 28.2 |
| 84 | 666 | 17.9 |
| 85 | 352 | 9.4 |

| Optimistic Year | Number of Firms | Percent of Firms |
|---|---|---|
| none | 3154 | 84.6 |
| 81 | 30 | 0.8 |
| 82 | 234 | 6.3 |
| 83 | 275 | 7.4 |
| 84 | 37 | 0.1 |
| 85 | -- | -- |

| Cyclical Year | Number of Firms | Percent of Firms |
|---|---|---|
| none | 2701 | 72.4 |
| 81 | 30 | 0.8 |
| 82 | 215 | 5.8 |
| 83 | 238 | 6.4 |
| 84 | 278 | 7.5 |
| 85 | 268 | 7.2 |
| Totals | 3730 | 100.0 |

We see here no change in the timing of negative net worth for the pessimistic scenario, as compared with the original Version Three. The big shifts come in the optimistic and cyclical scenarios. About eighty-four percent of the industry's firms remain unscathed in the optimistic scenario, and seventy-two percent are in this fortunate position in the cyclical scenario. The timing of negative net worth, if it occurs, is spread over 1983, 1984 and 1985 for the pessimistic and cyclical scenarios and extends only to 1984 in the optimistic scenario.

Summary and Conclusions Concerning the Timing of Negative Net Worth for S&L Firms Under Differing Assumptions

To facilitate comparison of the cases of no savings growth and of positive savings growth, and to include the effects of changes to the long-term interest rate on some savings and of a change in the composition of savings liability, we now examine two summary tables, Table 4.20, for all of the model specifications under conditions of no savings growth, and Table 4.21, for the model permitting savings growth.

Two generalizations come out of these two tables: with savings growth, S&L firms do better under each set of conditions than they do if no growth occurs; and, when the changes we have discussed are made in the basic model to assign the long-term rate to some savings and to modify the composition of savings liability, the most powerful consequences by far are found when the changes are combined. This may be seen in the right-most columns of the two tables.

Table 4.20: Percent of S&L Firms Experiencing Negative Net Worth, Under Different Interest-rate Scenarios, By Year, 1981-85.

| | Acctng.Data, No Growth | Version One + LT rate | Version One + Svgs.Comp. | Version One + LT +Comp |
|---|---|---|---|---|
| Pessimistic | | | | |
| none | 22.4 | 22.4 | 22.4 | 22.4 |
| 81 | 0.8 | 0.8 | 0.8 | 0.8 |
| 82 | 14.3 | 14.3 | 14.3 | 14.3 |
| 83 | 31.7 | 31.7 | 31.7 | 31.7 |
| 84 | 20.3 | 20.3 | 20.3 | 20.3 |
| 85 | 10.4 | 10.4 | 10.4 | 10.4 |
| Optimistic | | | | |
| none | 97.7 | 74.9 | 94.3 | 57.9 |
| 81 | 0.8 | 0.8 | 0.8 | 0.8 |
| 82 | 1.3 | 6.9 | 1.5 | 8.0 |
| 83 | 0.2 | 11.3 | 0.4 | 17.0 |
| 84 | -- | 5.5 | 0.0 | 12.3 |
| 85 | -- | 0.7 | 0.0 | 4.0 |
| Cyclical | | | | |
| none | 94.2 | 52.7 | 92.2 | 39.4 |
| 81 | 0.8 | 0.8 | 0.8 | 0.8 |
| 82 | 1.8 | 6.8 | 2.0 | 7.6 |
| 83 | 0.6 | 11.5 | 0.8 | 15.0 |
| 84 | 0.9 | 15.0 | 1.2 | 20.1 |
| 85 | 1.6 | 13.6 | 2.9 | 17.1 |

Note: Source of data: 1981 FHLB Semi-Annual Reports, Projections from 1982 through 1985 based on Three Interest-rate Scenarios, Table 4.1, Balderston (1982).

Table 4.21: Percent of S&L Firms Experiencing Negative Net Worth Under Three Interest-Rate Scenarios, By Year, for Version Three, Accounting Data plus Savings Growth.

| | Accting.Data, +Svngs Grwth | Svngs Grwth + LT rate | Svngs Grwth +Compn. | Svngs Grwth +LT+Compn. |
|---|---|---|---|---|
| Pessimistic | | | | |
| none | 31.4 | 31.4 | 31.4 | 31.4 |
| 81 | 0.8 | 0.8 | 0.8 | 0.8 |
| 82 | 12.3 | 12.3 | 12.3 | 12.3 |
| 83 | 28.2 | 28.2 | 28.2 | 28.2 |
| 84 | 17.9 | 17.9 | 17.9 | 17.9 |
| 85 | 9.4 | 9.4 | 9.4 | 9.4 |
| Optimistic | | | | |
| none | 98.5 | 89.4 | 98.4 | 84.6 |
| 81 | 0.8 | 0.8 | 0.8 | 0.8 |
| 82 | 0.6 | 5.2 | 0.8 | 6.3 |
| 83 | 0.1 | 4.3 | 0.0 | 7.4 |
| 84 | -- | 0.2 | -- | 1.0 |
| 85 | -- | 0.1 | -- | -- |
| Cyclical | | | | |
| none | 98.0 | 81.6 | 97.7 | 72.4 |
| 81 | 0.8 | 0.8 | 0.8 | 0.8 |
| 82 | 1.1 | 5.1 | 1.2 | 5.8 |
| 83 | 0.0 | 4.5 | 0.0 | 6.4 |
| 84 | 0.0 | 4.3 | 0.1 | 7.4 |
| 85 | 0.1 | 3.7 | 0.2 | 7.2 |

Note: Source of data: 1981 FHLBB Semi-annual Reports, Projections from 1982 through 1985 based on three interest rate scenarios, Table 4.1, Balderston, (1982).

S&L firms will in due course be very different in character from the structure of operation they displayed in 1981, the base year for these projections. As of the beginning of 1983, they have far greater flexibility in management of both assets and liabilities than they did in 1981. Decisions of the DIDC during 1981 and 1982 have conferred new flexibility in the offering of savings accounts. The Federal Home Loan Bank Board has relaxed many archaic restrictions on management's choice of loans and investments. The Garn-St. Germain Act, passed in the Fall of 1982, further broadened the ability to manage. But earnings capacity of S&L firms will be favorably affected by their new lending and investing powers only gradually, as they can gear up to make new types of loans and as they obtain cash inflows from savings and borrowings to permit more favorable lending and investing. Given a relatively slow rate of fundamental reshaping of the S&L firm, it would appear that for most if not all of the future horizon we have studied, S&L firms will remain partly imprisoned by their past (that is, unable to change their loan portfolios very rapidly) and quite sensitive to the future interest-rate environment.

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