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VAG Trust Fund Adequacy

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An Evaluation Submitted

to

Michigan Voluntary Agency Group Plan for
Unemployment Compensation, Inc. [VAG]
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Detroit, Michigan 48226

by

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An Executive Summary

of

VAG TRUST FUND ADEQUACY

an evaluation prepared by

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The W.E. Upjohn Institute for Employment Research

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At the end of 1988 the VAG trust fund balance stood at $7.4 million. Historically, VAG's worst experience with unemployment occurred in 1976 when benefits equal to 1.8% of gross payrolls were paid. At the end of 1988 the VAG trust fund held reserves sufficient to pay unemployment benefits at the 1976 rate, that is 1.8% of gross payrolls, for nearly two years (1.9 years).

The number of years of recession level benefits in the fund is referred to as the high cost multiple. A UI trust fund is considered to be adequate if it contains funds equal to 1.5 years of recession level benefits. Since the high cost multiple was 1.9 for VAG at the end of 1988, the VAG trust fund was adequate.

The 1.5 rule was developed for evaluation of federal and state trust fund adequacy. For the following reasons it is appropriate to apply this rule to the VAG fund. First, the rule is stated in relative terms specific to the experience of the fund. So that the adequacy criterion for the fund is established by the fund's own experience. Second, VAG's benefit payout history has paralleled that for the nation. Therefore, the VAG

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fund faces the same relative risks as funds for which the 1.5 rule was developed.

Using data on 371 VAG agencies it was forecast that the trust fund will hold $8.1 million at the end of 1989 or 2.2 years of recession level benefits, if the layoff experience of VAG members remains unchanged from that in 1988.[2] If an increase in unemployment equivalent to the one experienced in 1976 occurs in 1990, VAG expenses will total $4.3 million exceeding income by $1.7 million.[3] If this occurs the VAG trust fund is projected to hold 1.8 years of recession level benefits. Therefore, the VAG trust fund will remain adequate even if a severe recession hits for one year; if the tax system remains unchanged from 1989.

If a second year of benefit payments equivalent to the 1976 rate occurs in 1991, immediately after a year of big charges in 1990, the VAG trust fund is projected to fall to $4.7 million or 1.3 years of recession level benefits. Again, a nearly adequate reserve remains in the fund even after two consecutive years of severe unemployment.

The report examines the appropriateness of the 1.5 high cost multiple rule, evaluates the historical experience of VAG trust fund adequacy, and presents trust fund balance simulation results under the 1989 tax schedule and two modest rate reductions.

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[2] Estimate based on agency data for the period July 1, 1987 to June 30, 1988.

[3] Under the 1989 tax system.

VAG TRUST FUND ADEQUACY

I. Introduction

This report presents the findings of an evaluation of the adequacy of the trust fund out of which administrative expenses and unemployment benefits to former employees of VAG member agencies are paid.

The evaluation is presented in three steps. First, an examination of the traditional VAG criterion of fund adequacy is undertaken. Second, a review of the historical experience of the VAG fund is done applying the adequacy standard. Third, the prospect for future fund adequacy under the present VAG tax schedule and modest adjustments is assessed using a computer simulation model. These items are discussed in turn in each of the next three sections of this report.

Review of the fund adequacy criterion and the historical experience of the fund relies on year end values of aggregate annual data on ten variables. This historical data is presented on the next page. Additional data on seven variables for 371 member agencies for the period July 1, 1987 to June 30, 1988 provides the initial conditions for the computer simulation analysis of prospects for future trust fund adequacy.

VAG Historical Data*

Year	Year End Reserves	Member Tax Contributions	Investment Income	Benefits Paid	Other Expenses
1972	233,361	280,335	3,038	26,524	23,488
1973	360,311	352,253	18,477	204,896	38,883
1974	450,158	415,910	44,981	325,022	46,023
1975	213,015	454,159	31,835	679,809	43,328
1976	17,360	952,540	11,883	1,082,200	77,878
1977	201,927	1,094,115	9,067	832,152	86,463
1978	789,573	1,302,821	25,707	625,608	115,274
1979	1,623,247	1,462,000	109,000	599,026	129,853
1980	2,687,400	1,455,000	256,500	1,493,400	163,400
1981	2,310,900	1,377,300	360,900	1,522,600	178,000
1982	1,932,200	1,221,000	275,200	1,930,900	181,000
1983	2,178,600	1,790,400	179,500	915,600	197,900
1984	3,917,000	2,381,200	290,100	1,058,700	216,000
1985	5,509,800	2,076,700	354,300	1,116,300	236,100
1986	6,842,300	2,132,600	461,300	950,600	275,600
1987	6,916,487	1,701,600	487,500	1,367,700	308,000
1988	7,427,619	1,627,600	574,800	1,176,300	360,900

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1972	INA	21,413,000	INA	INA	INA
1973	40,684,000	24,296,000	272	6,818	102
1974	48,326,000	27,727,000	280	6,732	124
1975	55,818,000	28,990,000	277	7,919	333
1976	60,974,000	36,486,000	285	7,885	361
1977	65,701,000	37,728,000	289	7,733	225
1978	77,556,000	47,430,000	303	8,595	156
1979	92,000,000	53,800,000	324	9,378	261
1980	104,584,000	58,302,000	332	10,213	454
1981	111,625,000	58,837,000	339	9,881	317
1982	117,219,000	57,627,000	344	10,068	405
1983	125,819,000	75,003,000	351	10,786	155
1984	139,696,000	84,003,000	351	11,427	145
1985	153,856,000	94,509,000	355	11,497	150
1986	173,070,062	105,855,976	354	13,278	202
1987	195,150,349	118,443,048	367	13,873	273
1988	215,694,400	128,593,300	376	15,753	199

* Year end totals, financial data on an accrual basis.
INA - Information not available.

II. A Criterion for VAG Fund Adequacy

In his letters providing advice to VAG on tax rates, Saul
Blaustein always considered trust fund adequacy. His letter of
July 24, 1981 applied "(t)he guideline recommended in Financial
Planning for VAG (October 23, 1978) [calling] for a reserve equal
to 2.7 percent of total payrolls, or 1.5 times the highest 4-
quarter benefit cost rate (1.8 percent) experienced by VAG."

The VAG guideline is an application of the popular norm of
state trust fund adequacy: the 1.5 high cost multiple rule.[4]
This rule states that reserves sufficient to pay 1.5 years of
recession level benefits should be maintained in state UI trust
funds.[5] The rule was developed following an analysis of the
average duration and benefit payments experience during the 1949,
1954 and 1958 recessions.[6] Other rules have been developed and
applied, however, every alternative standard of adequacy amounts

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[4] A fund's high cost multiple (HCM) is calculated by
computing the ratio of current fund reserves to current year
gross wages. And then dividing by the ratio of the largest
amount of total benefit payments made in a previous 12
consecutive month period to gross wages during the same period.

[5] In 1981 the U.S. Department of Labor recommended that
states maintain a high cost multiple for their UI trust funds of
between 1.5 and 3.0 (Employment and Training Administration,
1981).

[6] The study was done by a committee of the Interstate
Conference of Employment Security Agencies (ICESA). For a good
review of the rule's development see Barnow and Vroman (1987).

to essentially the same type of relative benchmark.[7] The 1.5
rule remains the minimum standard of UI fund adequacy recommended
by the U.S. Department of Labor.[8]

The 1.5 high cost multiple rule was developed for evaluation
of adequacy of the federal consolidated and state UI trust funds.
A variety of arguments may be offered for modification of this
standard when it is applied to the VAG trust fund.

Certain arguments may be advanced that trust fund adequacy
for VAG can be achieved at a high cost multiple smaller than 1.5.
1) Employees of VAG member agencies work mainly in service
occupations, and in the current labor market reemployment
opportunities for service workers are good suggesting lower than
average unemployment spell lengths for VAG layoffs. 2) VAG
exercises considerable discretion in agency membership, e.g., it
avoids non-profits with strongly seasonal employment patterns.
3) VAG is not subject to the usual decision lag faced by the

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[7] Barnow and Vroman (1987, pp. 47-57) review several of the
alternative trust fund adequacy criteria which have been
proposed. They conclude on page 56 that "(t)he literature has
not produced a major alternative to the 1.5 reserve ratio
multiple as a useful rule of thumb for assessing fund adequacy."

[8] See U.S. General Accounting Office (1988), p. 27. Also
see the testimony of the U.S. Department of Labor's Mary Ann
Wyrsch on May 24, 1989 before the U.S. House Ways and Means
Subcommittee on Human Resources. Wyrsch stated that "the
Department [of Labor has] encouraged states to measure their own
[UI] trust fund solvency against an informal guideline. This
guideline is commonly referred to as the 1.5 reserve multiple or
high cost multiple."

states when modifying their UI tax rate structure, therefore even with a smaller reserve, solvency can be maintained by prompt adjustment of VAG assessment rates.

Several arguments also exist for applying a greater high cost multiple as the VAG adequacy standard. 1) Since funding for many VAG member agencies is based on local contributions, funding may be quite sensitive to local employment patterns, suggesting that layoffs by VAG member agencies will respond sharply to local unemployment increases. 2) Unlike states which assess penalty fees for delinquent UI tax contributions, VAG assesses no penalty on its members and it is thereby more exposed to the risk of late tax payment. 3) While states with depleted reserves may obtain advances from the Federal unemployment account, if VAG becomes unable to pay for benefit charges it faces potential termination of election of reimbursable status or the requirement of posting a surety bond.[9]

The above arguments for modifying the 1.5 high cost multiple to assess VAG trust fund adequacy cannot be easily examined in an

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[9] VAG has contingency financing available, as do all Michigan establishments who employ UI covered workers. Section 15 of the Michigan Employment Security Act specifies that delinquent debt shall bear interest at the rate of 1% per month computed on a day to day basis. However, long term borrowing is not an option, and even frequent short term borrowing may result in revocation of reimbursable status. These consequences for reimbursable employers are detailed in Section 13d of the Michigan Employment Security Act.

objective and quantifiable manner. For the following reasons it
is appropriate to apply the 1.5 rule to the VAG fund.

First, the rule is stated in relative terms specific to the
experience of the fund. So that the adequacy criterion for the
fund is established by the fund's own experience.

Second, VAG's benefit payout history has paralleled that for
the aggregate of all state UI trust funds also known as the
consolidated Federal UI trust fund. Therefore, the VAG fund
faces the same relative risks as funds for which the 1.5 rule was
developed.

The denominator in the reserve ratio multiple or high cost
multiple (HCM) is the maximum fraction of gross payrolls ever
paid out of the fund during twelve consecutive months. In Figure
1 the ratio of benefits paid to gross payroll over the history of
VAG is summarized. While the proper computation involves monthly
data, the historical peak observed using annual data coincides
with the peak identified by Blaustein (1981) who used more
disaggregated data. The peak benefit payment rate was 1.8% of
gross payrolls in 1976; the second highest rate was 1.6% in 1982.
The three year average payment rate of 1.47% for the period 1980-
1982 is about the same as the rate of 1.43% for the period 1975-
1977. The two periods placed similar burdens on the trust fund
with the former having a larger single year.

Table 1.   Benefits Paid Relative to Gross Payroll

Year	Benefits Paid (BP)	Gross Payroll (GP)	BP/GP
1972	26,524.00		
1973	204,896.00	40,684,000.00	0.005
1974	325,022.00	48,326,000.00	0.007
1975	679,809.00	55,818,000.00	0.012
1976	1,082,200.00	60,974,000.00	0.018
1977	832,152.00	65,701,000.00	0.013
1978	625,608.00	77,556,000.00	0.008
1979	599,026.00	92,000,000.00	0.007
1980	1,493,400.00	104,584,000.00	0.014
1981	1,522,600.00	111,625,000.00	0.014
1982	1,930,900.00	117,219,000.00	0.016
1983	915,600.00	125,819,000.00	0.007
1984	1,058,700.00	139,696,000.00	0.008
1985	1,116,300.00	153,856,000.00	0.007
1986	950,600.00	173,070,062.00	0.005
1987	1,367,700.00	195,150,349.00	0.007
1988	1,176,300.00	215,694,400.00	0.005

Figure 1.

Benefits Paid/Gross Payroll
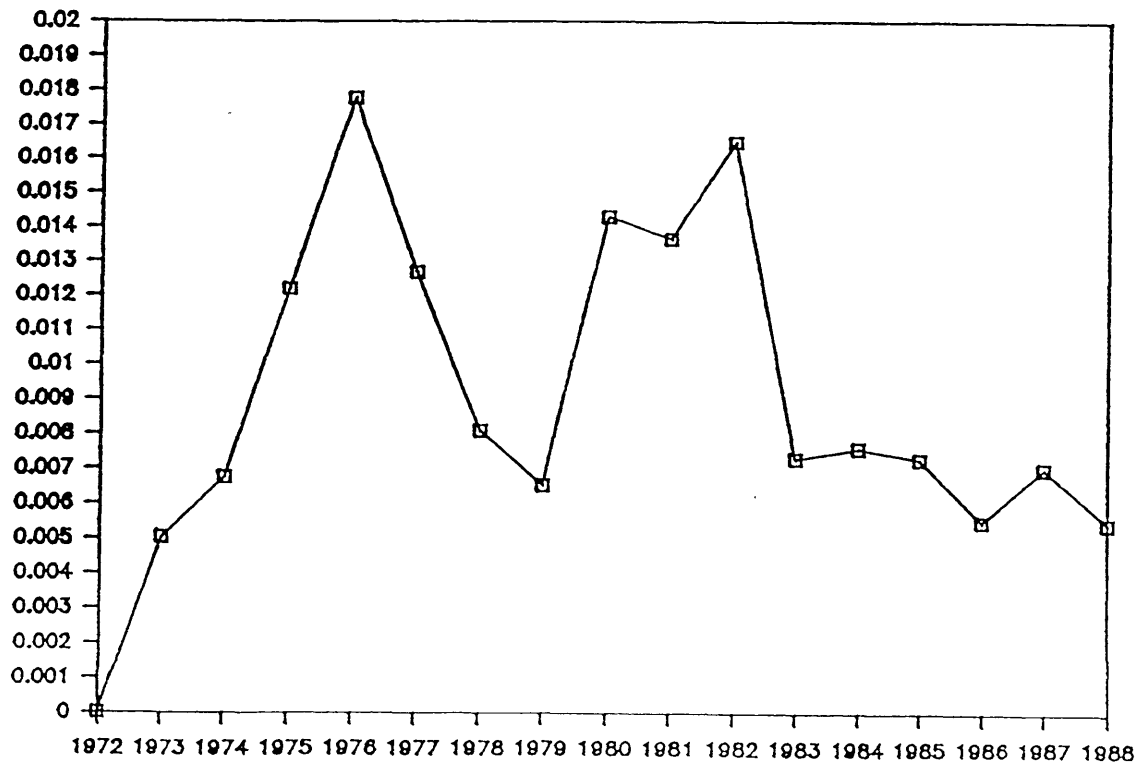
To objectively demonstrate the relevance of the 1.5 high

cost multiple rule for the VAG trust fund, Table 2 presents

annual data for the period 1973 to 1987 comparing the payout

experience of the consolidated U.S. trust fund and the VAG trust

fund. The data is on benefit payments as a proportion of gross

payrolls. From the graph of Figure 2, the payout patterns for

the two funds appear to move in lock step. Statistical tests, at

standard confidence levels, comparing the mean and standard

deviation of VAG and U.S. payout rates show no significant

difference.[10] Since the standard deviation is frequently used as

a measure of risk, it can be said that the average benefit payout

rate and risk of benefit payout are the same for the VAG and the

U.S. trust funds.

To be conservative in assessing adequacy, the largest

historical benefit payout rate of 1.8% of gross payrolls,

experienced in 1976, is used in assessing VAG trust fund

adequacy. Applying the 1.5 high cost multiple rule we have that

a reserve equal to 2.7 percent of gross payrolls, or 1.5 times

the highest benefit cost rate experienced by VAG (1.8 percent),

is the minimum required to satisfy the appropriate standard of

trust fund adequacy.

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[10] The hypotheses that the mean of benefit payout as a
proportion of gross payrolls and the variance of the same
quantity are the same for the VAG trust fund and the consolidated
federal UI trust fund cannot be rejected at the 5% level of
significance.

Table 2.   Benefits/Gross Pay

Year	VAG	U.S.	
1973	0.0050	0.0074	
1974	0.0067	0.0100	
1975	0.0122	0.0186	
1976	0.0177	0.0130	
1977	0.0127	0.0109	
1978	0.0081	0.0080	
1979	0.0065	0.0082	
1980	0.0143	0.0115	
1981	0.0136	0.0103	
1982	0.0165	0.0148	
1983	0.0073	0.0123	
1984	0.0076	0.0080	
1985	0.0073	0.0083	
1986	0.0055	0.0084	
1987	0.0070	0.0070	
	0.0099	0.0104	Mean
	0.0041	0.0031	Standard Deviation

U.S. Data from Employment and Training Administration
(1988), <u>Unemployment Insurance Financial Data</u>, ET
Handbook 394. VAG data from historical records as
summarized in Section I of this report.

Figure 2.   (Benefit Payments)/(Gross Payroll)

VAG and United States 1973-1987

□   VAG   +   United States
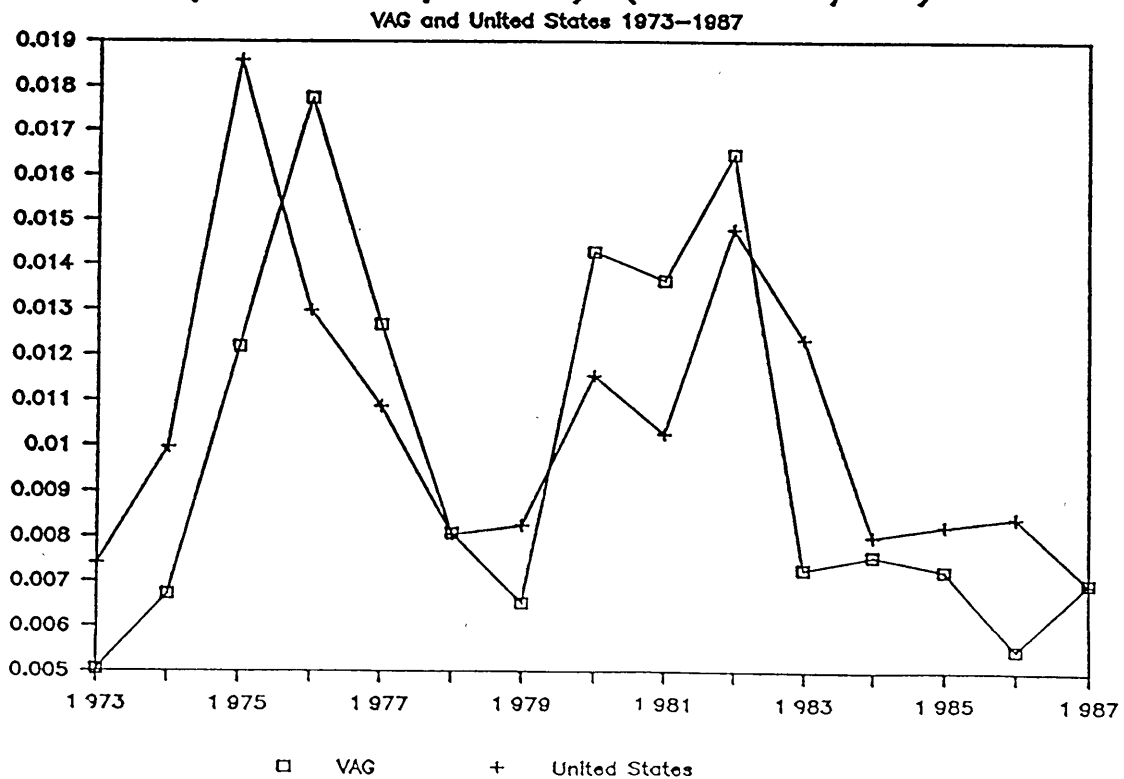
III. Historical Experience with VAG Fund Adequacy

Applying the 1.5 reserve ratio multiple rule the historical experience of the VAG trust fund may be usefully examined by considering Figure 3 and Table 3. These present the actual level of reserves and the target level of reserves. The target level of reserves for a given year is .027 times gross payroll for that year (2.7% of gross payroll).

By this criterion, reserves had been inadequate throughout the first twelve years of VAG's existence. The fund actually fell to zero in early 1976, when VAG effectively engaged in borrowing.[11]

Fund adequacy was nearly achieved just prior to the recession of 1980. The inadequate reserves prior to 1975 did not prevent insolvency in the subsequent recession, while the nearly adequate reserves of 1980 prevented any need for borrowing during the high unemployment period of 1980 - 1982. Since 1984 the fund has exceeded the target level by a comfortable margin.

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[11] The Michigan Employment Security Commission (MESC) allowed VAG to make no payment in March of 1976, in April of 1976 VAG made full payment for all outstanding debt.

Table 3.   Actual and Target VAG Reserves

Year	Actual Reserves	Gross Payroll	Target Reserves*
1972	233,361		
1973	360,311	40,684,000	1,098,468
1974	450,158	48,326,000	1,304,802
1975	213,015	55,818,000	1,507,086
1976	17,360	60,974,000	1,646,298
1977	201,927	65,701,000	1,773,927
1978	789,573	77,556,000	2,094,012
1979	1,623,247	92,000,000	2,484,000
1980	2,687,400	104,584,000	2,823,768
1981	2,310,900	111,625,000	3,013,875
1982	1,932,200	117,219,000	3,164,913
1983	2,178,600	125,819,000	3,397,113
1984	3,917,000	139,696,000	3,771,792
1985	5,509,800	153,856,000	4,154,112
1986	6,842,300	173,070,062	4,672,892
1987	6,916,487	195,150,349	5,269,059
1988	7,427,619	215,694,400	5,823,749

* Target Reserves = .027 * Gross Payroll

Figure 3.   Actual and Target VAG Reserves

□   Actual Reserves   +   Target Reserves
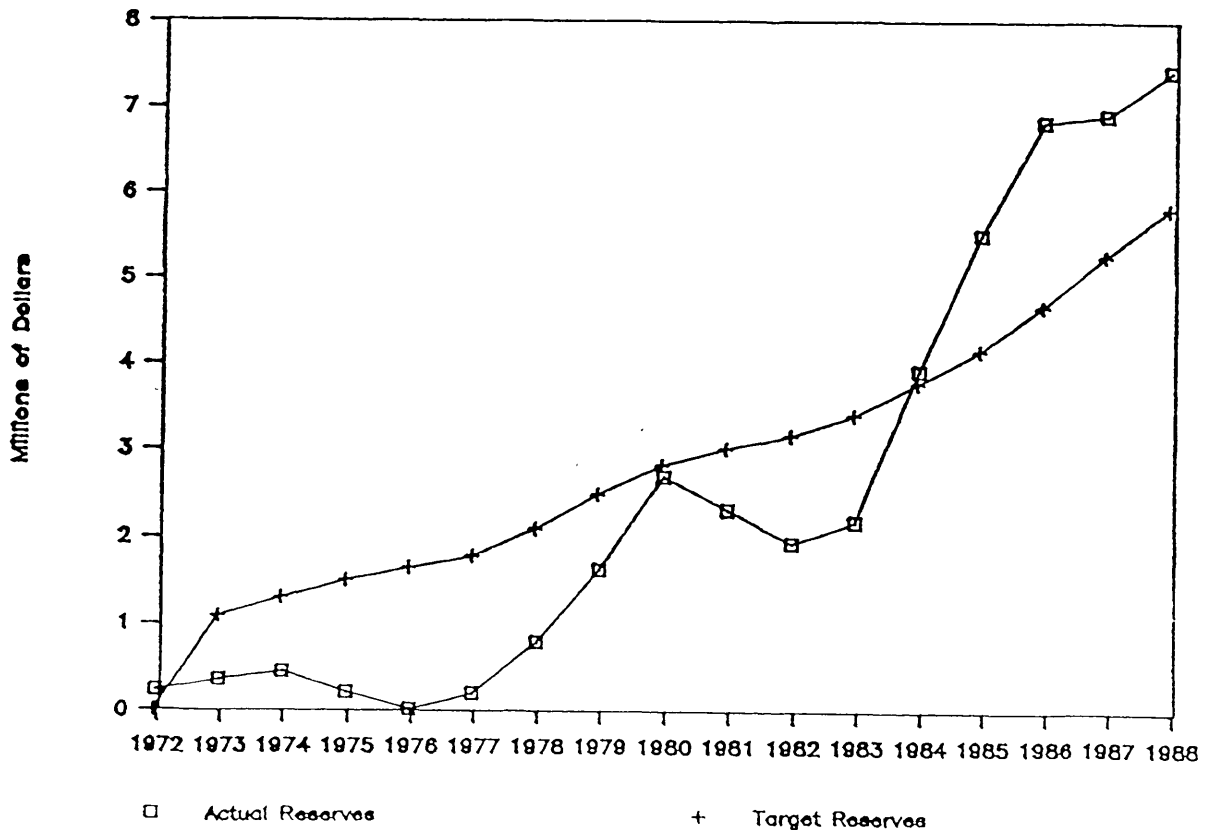
The same information may be presented graphically in a slightly different form which emphasizes the 1.5 high cost multiple (HCM) rule. Figure 4 shows the HCM directly. The HCM can be computed by dividing actual reserves for a given year by the product of the historical high benefit payment rate (.018) and gross payroll for a given year. The result is the number of recession level benefit payment years in the fund.

Figure 4 elucidates the timely action of VAG regarding assessment changes. The fund is quite adequate at present, however its size relative to gross payroll has declined in recent years; its HCM has fallen. Figure 4 clearly shows the effect of penalty rates introduced in 1977 for negative balance employers and rate reductions introduced in 1985 for positive balance employers.

Account histories are maintained for each VAG member agency. Accumulated contributions minus benefit charges divided by the member agency's taxable wages for the prior year is the reserve ratio, which may be negative or positive. In the early years of VAG, adjustments in the assessment rate were applied uniformly across all members. In 1977 a system of VAG tax rates based on the claims and contribution experience of each member agency began to evolve. Presently a rather extensive reserve ratio experience rating system of taxation is in place.

Table 4.   VAG Reserve History and High Cost Multiple (HCM)

Year	Actual Reserve	Gross Payroll	High Cost Multiple (HCM)
1973	360,311	40,684,000	0.492
1974	450,158	48,326,000	0.518
1975	213,015	55,818,000	0.212
1976	17,360	60,974,000	0.016
1977	201,927	65,701,000	0.171
1978	789,573	77,556,000	0.566
1979	1,623,247	92,000,000	0.980
1980	2,687,400	104,584,000	1.428
1981	2,310,900	111,625,000	1.150
1982	1,932,200	117,219,000	0.916
1983	2,178,600	125,819,000	0.962
1984	3,917,000	139,696,000	1.558
1985	5,509,800	153,856,000	1.990
1986	6,842,300	173,070,062	2.196
1987	6,916,487	195,150,349	1.969
1988	7,427,619	215,694,400	1.913

Figure 4.

Years of High Cost Benefits in Reserve

Target: 1.5 Years of High Benefits
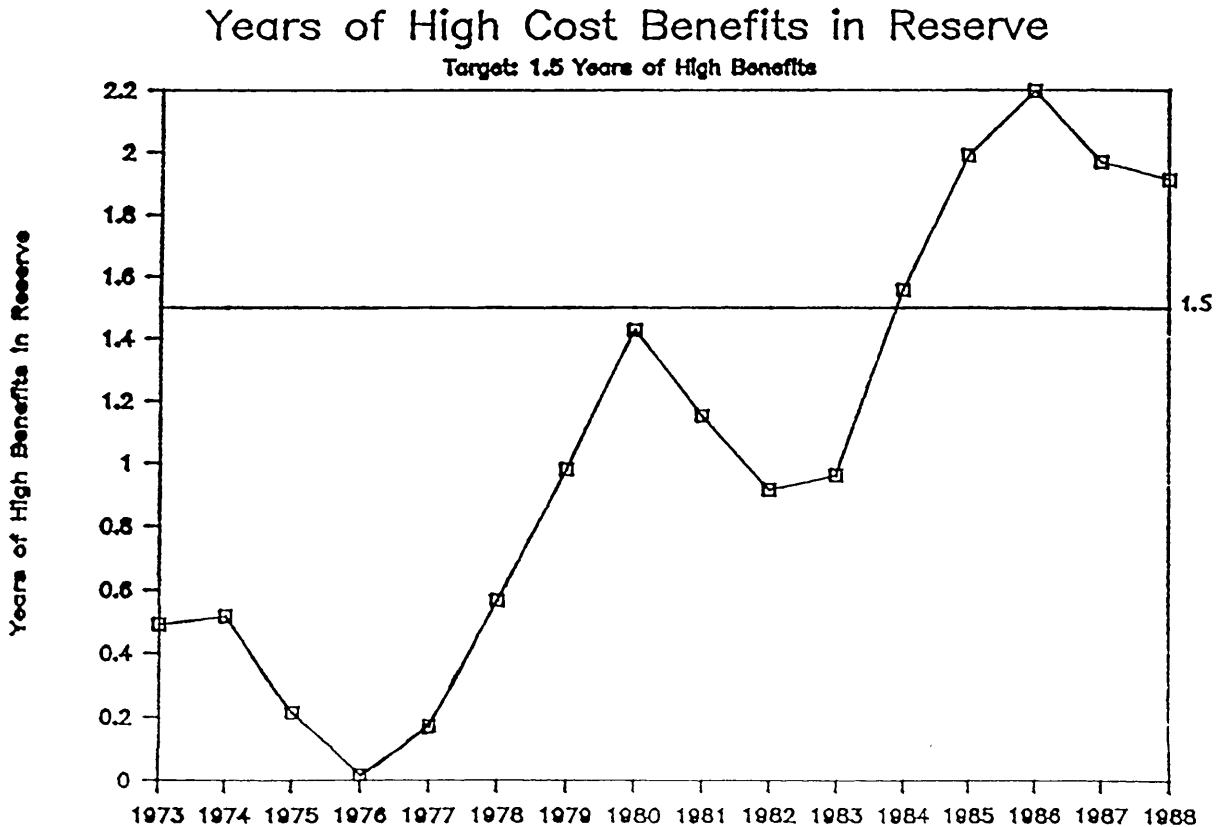
IV.   The Tax System and Prospects for Future Fund Adequacy

An entity wishing to maintain an adequate but not excessive UI trust fund may seek to achieve this either by periodic adjustment of tax rates or by implementation of a tax schedule under which revenues automatically adjust to financing contingencies. Originally VAG assessed uniform rates on the payrolls of member agencies. Over the years an experience rated tax system has been developed by VAG.[12] In this section the prospect for future fund adequacy under the present and two alternative tax systems is investigated using a computerized simulation model of the VAG trust fund. Details of this model are discussed in Appendix A.

The 1989 VAG tax assessment schedule, which is given in Table 5 and Figure 5, is a reserve ratio type experience rating system.[13] It is, in a sense, symmetric having six tax rates for positive balance member agencies and six for negative balance agencies. The schedule is consistent with the desires of the VAG board of directors which "is concerned about the contribution rate our members pay and want it to be equitable for all our

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[12] An unemployment insurance tax system is said to be experience rated when an increase in benefit charges against an employer leads to an increase in the employer's tax rate and vise versa.

[13] For an excellent discussion of the pros and cons of experience rating in UI see Becker (1972).

Table 5.   1989 Tax Schedule

Range of Reserve Ratio (RR)			Tax Rate
15.00 ≤ RR			0.25
12.50 ≤ RR <	15.00		0.50
10.00 ≤ RR <	12.50		0.75
7.50 ≤ RR <	10.00		1.00
1.00 ≤ RR <	7.50		1.25
.00 ≤ RR <	1.00		1.50
-1.00 ≤ RR <	.00		2.50
-7.50 ≤ RR <	-1.00		3.50
-10.00 ≤ RR <	-7.50		4.00
-12.50 ≤ RR <	-10.00		4.50
-15.00 ≤ RR <	-12.50		5.00
RR <	-15.00		5.50

Reserve Ratio: A member agency's account history as of June 30, 1988 divided by that agency's taxable wages during the prior year.

Figure 5.

1989 VAG Tax Schedule
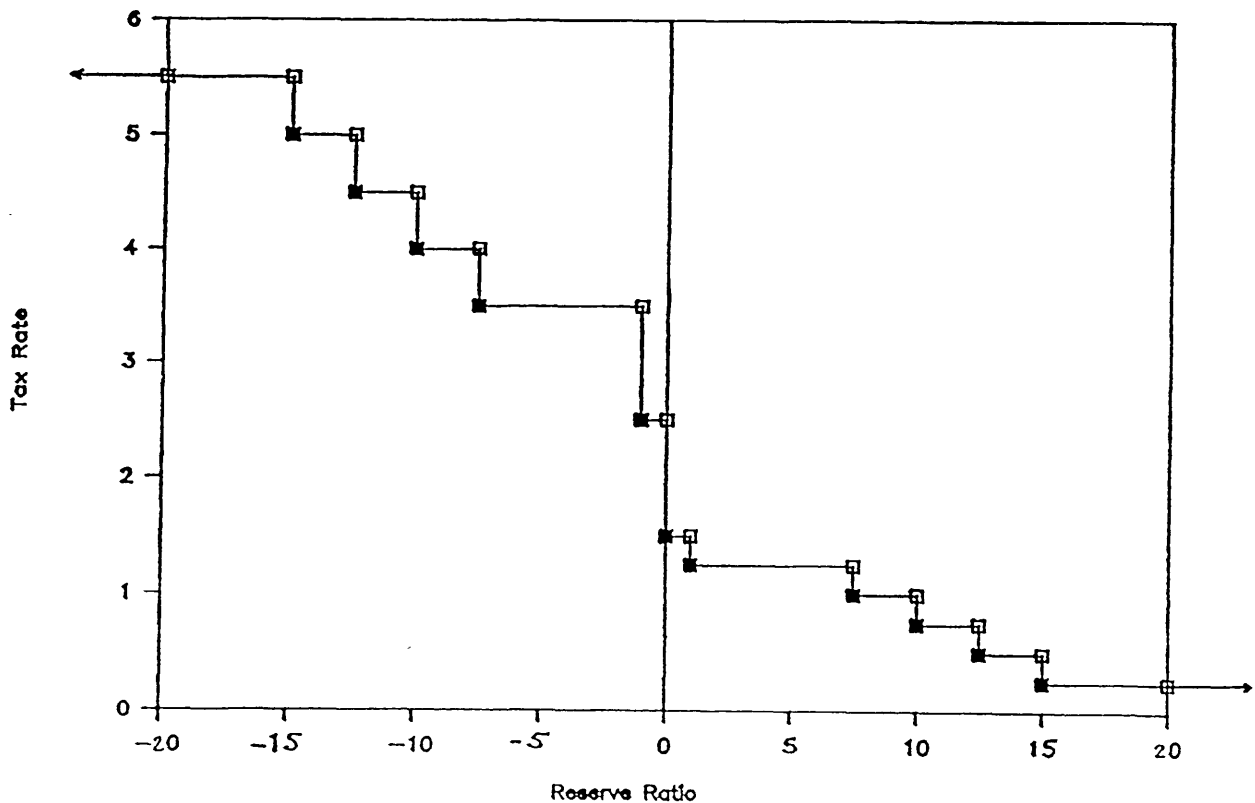
member agencies."[14] In its 1987 annual report the board stated its notion of equity as being consistent with experience rating. It "affirmed its belief as a matter of equity, that member-agencies with negative histories should continue to pay higher proportionate rates than those with positive histories."[15] The VAG schedule in place for 1989 also holds the prospect of automatically providing an appropriate level of reserves.

Presented here are summary figures from twenty simulation runs. The VAG trust fund balance is simulated for the period 1989 - 2000. Three tax schedules are considered. These are listed in Table 6 and are referred to as A, B, and C. Schedule A is the 1989 VAG tax schedule, for Schedule B all rates are reduced by .25 with the minimum rate being .05, and for Schedule C all rates are reduced by .50 with the minimum rate being .05.[16]

Five future unemployment rate scenarios are also considered. Scenario 1 maintains the rates experienced by VAG members during the data period July 1, 1987 to June 30, 1988, an aggregate rate of 1.4% for the entire simulation period 1989 - 2000. Scenario 2 adds to Scenario 1 a rate of 2.5% for each firm for 1990 bringing the aggregate rate for 1990 to 3.9%. This rate of insured

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[14] Beck (1988), p. 3.

[15] Beck (1987), p. 4.

[16] A minimum rate of .05 was imposed for tax schedules B and C since a zero rate was deemed unlikely due to positive minimum administrative expenses associated with VAG membership.

Table 6.   Tax Schedules for Simulations

Range of Reserve Ratio (RR)		Tax Schedule		
		A	B	C
15.00 ≤ RR		0.25	0.05	0.05
12.50 ≤ RR < 15.00		0.50	0.25	0.05
10.00 ≤ RR < 12.50		0.75	0.50	0.25
7.50 ≤ RR < 10.00		1.00	0.75	0.50
1.00 ≤ RR < 7.50		1.25	1.00	0.75
.00 ≤ RR < 1.00		1.50	1.25	1.00
-1.00 ≤ RR < .00		2.50	2.25	2.00
-7.50 ≤ RR < -1.00		3.50	3.25	3.00
-10.00 ≤ RR < -7.50		4.00	3.75	3.50
-12.50 ≤ RR < -10.00		4.50	4.25	4.00
-15.00 ≤ RR < -12.50		5.00	4.75	4.50
RR < -15.00		5.50	5.25	5.00

Schedule A: 1989 VAG Tax Schedule.

Schedule B: 1989 VAG Tax rates uniformly reduced by .25, with a minimum rate of .05.

Schedule C: 1989 VAG Tax rates uniformly reduced by .50, with a minimum rate of .05.

RR: Reserve Ratio: A member agency's account history as of June 30, 1988 divided by that agency's taxable wages during the prior year.

unemployment is adequate to generate a benefit draw of 1.8% of gross payrolls, a drain similar to the 1976 experience. Scenario 3 adds to Scenario 2 a rate of 2.5% for each firm for 1991. And Scenario 4 adds to Scenario 3 a rate of 2.5% for each firm for 1992. The set of scenarios 2, 3, and 4 allow the analyst to consider the affect of heavy benefit payment experiences which follow one after another with no adjustment in the tax schedule. Scenario 5 replicates the relative benefit draw experience of 1975 - 1985 during the period 1990 - 2000. This last unemployment scenario is the most severe among the five, as three recessions occurred in the period 1975 - 1985 including the two most severe business downturns since the great depression. A list of the aggregate average insured unemployment rates for each of the five scenarios is given in Table 7.

In Appendix B a full set of fifteen simulation results is presented for all of the various tax schedule - unemployment scenario combinations. Simulation results are also given for the 1989 tax schedule, that is Schedule A, and the five unemployment scenarios for a 2.9% increase in employment growth.[17] 2.9% is the average rate of employment growth experienced by VAG during the 1980s.

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[17] Employment growth is a simulation instrument, but the number of VAG agencies remains constant for all simulations. The simulation model would require substantial modification to allow for growth (or decline) in the number of VAG member agencies.

Table 7.   Average Unemployment Rate Scenarios for Simulations

Year	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
1988	1.4	1.4	1.4	1.4	1.4
1989	1.4	1.4	1.4	1.4	1.4
1990	1.4	3.9	3.9	3.9	3.1
1991	1.4	1.4	3.9	3.9	3.9
1992	1.4	1.4	1.4	3.9	3.2
1993	1.4	1.4	1.4	1.4	2.5
1994	1.4	1.4	1.4	1.4	2.3
1995	1.4	1.4	1.4	1.4	3.4
1996	1.4	1.4	1.4	1.4	3.3
1997	1.4	1.4	1.4	1.4	3.7
1998	1.4	1.4	1.4	1.4	2.4
1999	1.4	1.4	1.4	1.4	2.5
2000	1.4	1.4	1.4	1.4	2.4

Scenario 1:   The average unemployment rate experienced across
              the 371 agencies in the micro data base provided
              by VAG for the period July 1, 1987 to June 30,
              1988.   This is the baseline level of unemployment.

Scenario 2:   Unemployment is increased for one year (1990) from
              the baseline to a level which generates a relative
              claims experience equal to the largest in VAG's
              history.   The biggest spike occurred in 1976 and
              amounted to 1.8% of gross payroll.

Scenario 3:   Unemployment is increased from the baseline for
              two consecutive years (1990 and 1991) by the same
              amount as in Scenario 2.

Scenario 4:   Unemployment is increased from the baseline for
              three consecutive years (1990, 1991 and 1992) by
              the same amount as in Scenario 2.

Scenario 5:   Unemployment is increased from the baseline for
              each year in the period 1990 - 2000 to match the
              relative claims experience of the period 1975 -
              1985.

The trust fund balance estimates from the simulations can be thought of as being stated in 1989 constant dollars. No attempt is made to deal with future values of the maximum weekly benefit amount and taxable wage base. The model therefore assumes a symmetry for adjustments in these two parameters which has been argued for by Vroman (1986). Leaving the two unchanged or changing the two in step will both have a neutral affect on trust fund balances.

The tables presenting simulation results in Appendix B are numbered with B. as a prefix. Each table has three sections the top two sections report simulated future values for the ten items listed in the historical data given in Section I. The bottom section of each table lists the frequency distribution of VAG members in each of the tax rate groups.

The tables B.1 to B.5 report on simulations with the 1989 tax schedule, Schedule A, in place for the whole simulation period 1989 - 2000. These tables report on the simulated experience under each of the five unemployment scenarios. Tables B.6 to B.10 report on simulations with tax Schedule B (.25 rate reduction) in place and each of the five unemployment scenarios. And Tables B.11 - B.15 list results of simulations with tax Schedule C (.5 rate reduction) in effect and each of the five unemployment scenarios. Tables B.16 to B.20 give simulation results for the 1989 tax schedule (Schedule A) and each of the

five unemployment scenarios for a 2.9% increase in employment growth.

The tables listed in the Appendix are extremely informative because of their detail, however that detail also makes the collection of results difficult to summarize in a meaningful and concise way. Therefore, in the body of this section tables are included which summarize the year end trust fund balances and high cost multiples generated by the simulations. Tables 8 and 9 present these results for simulations which do not allow for employment growth, Tables 10 and 11 give results from simulations which allow for employment growth.

Under the 1989 tax system if the 1988 unemployment situation were to persist through the end of the century the trust fund would grow steadily reaching a reserve level of $23.2 million and a high cost multiple (HCM) of 6.30 in 2000. (Table B.1 indicates that this would occur along with a movement toward the lowest tax rates by the majority of VAG member-agencies.)

Considering unemployment scenario 2 under tax schedule A, it is seen that if unemployment rises in 1990 to cause a benefit draw equal to 1.8% of gross payrolls the trust fund reserve will fall to $6.4 million and the HCM to 1.79 in that year. The fund will then steadily grow thereafter when aggregate unemployment is returned to the 1988 level.

Table 8.   VAG Simulation Reserve Balance in Millions of Dollars
            by Tax Schedule and Unemployment Scenario

Tax Schedule A		Unemployment Scenario				
	Year	1	2	3	4	5
	1988	7.253	7.253	7.253	7.253	7.253
	1989	8.137	8.137	8.137	8.137	8.137
	1990	9.116	6.438	6.438	6.438	7.280
	1991	10.138	7.349	4.671	4.671	5.537
	1992	11.231	8.457	5.686	3.005	4.583
	1993	12.398	9.589	6.852	4.120	4.527
	1994	13.614	10.736	7.957	5.277	4.740
	1995	14.944	11.933	9.049	6.325	3.712
	1996	16.358	13.190	10.161	7.353	2.736
	1997	17.862	14.510	11.322	8.387	1.426
	1998	19.516	15.926	12.571	9.462	1.600
	1999	21.283	17.465	13.860	10.588	1.697
	2000	23.196	19.104	15.209	11.765	1.589
Schedule B						
	1988	7.253	7.253	7.253	7.253	7.253
	1989	7.806	7.806	7.806	7.806	7.805
	1990	8.425	5.752	5.752	5.752	6.596
	1991	9.096	6.319	3.645	3.645	4.519
	1992	9.831	7.096	4.317	1.639	3.239
	1993	10.643	7.875	5.182	2.380	2.843
	1994	11.551	8.638	5.910	3.271	2.689
	1995	12.479	9.417	6.594	3.899	1.279
	1996	13.477	10.247	7.291	4.479	-0.114
	1997	14.588	11.183	8.008	5.054	-1.714
	1998	15.772	12.161	8.805	5.635	-1.689
	1999	17.024	13.136	9.616	6.238	-1.793
	2000	18.365	14.185	10.471	6.878	-2.138
Schedule C						
	1988	7.253	7.253	7.253	7.253	7.253
	1989	7.483	7.483	7.483	7.483	7.483
	1990	7.760	5.090	5.090	5.090	5.930
	1991	8.089	5.311	2.639	2.639	3.521
	1992	8.485	5.756	2.977	0.301	1.920
	1993	8.957	6.196	3.500	0.741	1.189
	1994	9.495	6.592	3.856	1.398	0.706
	1995	10.075	6.991	4.130	1.665	-1.023
	1996	10.697	7.431	4.378	1.772	-2.560
	1997	11.375	7.945	4.659	1.842	-4.160
	1998	12.106	8.458	4.965	1.927	-4.001
	1999	12.910	8.984	5.283	2.015	-4.076
	2000	13.795	9.545	5.579	2.114	-4.586

Table 9.   VAG Simulation High Cost Multiples
            by Tax Schedule and Unemployment Scenario

Tax Schedule A	Year	Unemployment Scenario				
		1	2	3	4	5
	1988	1.97	1.97	1.97	1.97	1.97
	1989	2.21	2.21	2.21	2.21	2.21
	1990	2.48	1.79	1.79	1.79	2.01
	1991	2.76	2.00	1.30	1.30	1.54
	1992	3.05	2.30	1.55	0.84	1.27
	1993	3.37	2.61	1.86	1.12	1.24
	1994	3.70	2.92	2.16	1.43	1.30
	1995	4.06	3.24	2.46	1.72	1.03
	1996	4.45	3.59	2.76	2.00	0.76
	1997	4.85	3.94	3.08	2.28	0.40
	1998	5.30	4.33	3.42	2.57	0.44
	1999	5.78	4.75	3.77	2.88	0.47
	2000	6.30	5.19	4.13	3.20	0.44
Schedule B	1988	1.97	1.97	1.97	1.97	1.97
	1989	2.12	2.12	2.12	2.12	2.12
	1990	2.29	1.60	1.60	1.60	1.82
	1991	2.47	1.72	1.02	1.02	1.26
	1992	2.67	1.93	1.17	0.46	0.90
	1993	2.89	2.14	1.41	0.65	0.78
	1994	3.14	2.35	1.61	0.89	0.74
	1995	3.39	2.56	1.79	1.06	0.35
	1996	3.66	2.79	1.98	1.22	-0.03
	1997	3.96	3.04	2.18	1.37	-0.48
	1998	4.29	3.31	2.39	1.53	-0.46
	1999	4.63	3.57	2.61	1.70	-0.49
	2000	4.99	3.86	2.85	1.87	-0.59
Schedule C	1988	1.97	1.97	1.97	1.97	1.97
	1989	2.03	2.03	2.03	2.03	2.04
	1990	2.11	1.42	1.42	1.42	1.64
	1991	2.20	1.44	0.74	0.74	0.98
	1992	2.31	1.56	0.81	0.08	0.53
	1993	2.43	1.68	0.95	0.20	0.33
	1994	2.58	1.79	1.05	0.38	0.19
	1995	2.74	1.90	1.12	0.45	-0.28
	1996	2.91	2.02	1.19	0.48	-0.71
	1997	3.09	2.16	1.27	0.50	-1.16
	1998	3.29	2.30	1.35	0.52	-1.10
	1999	3.51	2.44	1.44	0.55	-1.12
	2000	3.75	2.59	1.52	0.57	-1.26

Results from the simulation for unemployment scenario 3 and
tax schedule A (scenario 2 plus an additional year of equivalent
high benefit payments) indicate that if the heaviest relative VAG
benefit draw is repeated in 1990 and 1991, the fund will fall to
$4.6 million at the end of 1991 meaning a HCM of 1.3. Again the
VAG fund will steadily grow in subsequent years reaching $15.2
million in 2000 if unemployment returns to the 1988 level in 1992
and remains there.

Under scenario 4 (scenario 3 plus an additional year of
equivalent high benefit payments) reserves will fall to $3.0
million at the end of 1992 with a HCM of 0.84. The fund will
automatically recover if unemployment returns to the 1988 level
and the 1989 tax structure remains unchanged.

Imposing an experience of unemployment in 1990 - 2000
similar to that which occurred in 1975 - 1985 (unemployment
scenario 5) would, under the 1989 VAG tax structure, cause the
HCM to steadily fall. However, the trust fund would remain
positive and have a HCM of 0.44 in the year 2000.

The second section in Tables 8 and 9 show the VAG reserve
balance and HCM under tax schedule B--a .25 across the board tax
rate cut--for the five unemployment scenarios. As would be
expected the fund is somewhat less well funded when compared to

levels observed for schedule A. Indeed, under the revised tax schedule insolvency is observed.

If benefit payouts equal to 1.8% of gross payroll are experienced for successive years the HCM will fall to 1.60 after the first year, 1.02 after the second, and 0.46 after the third. Even after three consecutive years of high benefit payments the fund would automatically recover to solvency, reaching a HCM of 1.53 in 1998 under tax schedule B if a return to the 1988 level of unemployment occurs in 1993

The simulation model predicts a steady erosion of trust funds under the tax rate reduction of Schedule B if the 1975 - 1985 unemployment scenario were to repeat itself during the decade of the 1990s. The fund would become inadequate in 1991 and debt would begin to accumulate in 1996. Under tax schedule B and unemployment scenario 5, VAG would be in debt $2.1 million for unemployment compensation at the turn of the century. Naturally, adjustments in the tax assessment schedule would be made long before this point is reached.

Under a larger across the board rate reduction of .5 the fund is forecast to rise to a HCM of 3.75 by 2000 if unemployment remains at 1988 levels throughout the coming decade. A benefit draw equal to 1.8% of gross payroll in 1990, 1991, and 1992 would drive the HCM down to 1.42, 0.74, and 0.08 at the end of those

respective years, but the fund would recover if the IUR falls

back to a steady 1.4%. And if the experience of 1975 - 1985 were

to be repeated with taxes having been reduced according to

Schedule C, insolvency would occur first in 1995 and get worse.

Simulation results which examine the effect of 2.9%

employment growth among VAG members over the period 1989 - 2000

are summarized in Tables 10 and 11. Comparing the top panel of

Table 8 with Table 10, it is seen that when spikes of

unemployment occur the dollar trust fund balances are slightly

lower with the employment growth, but the trust fund balances at

the end of the year 2000 are larger with employment growth with

the exception of unemployment scenario 5. On a year to year

basis unemployment spikes cause total benefit payments in excess

of tax payments to increase by a larger percentage with

employment growth, but over the years as employment grows,

increases in the total taxable wage base with a return to low

unemployment results in a modestly larger fund. Comparing the

top panel of Table 9 with Table 11, for the cases considered the

HCMs are almost always lower with employment growth. This is

because as employment grows, gross payroll increases, and so

does(.018*Gross Payroll) the denominator in the HCM based on the

VAG benefit payment experience.

Under the 1989 tax system (Schedule A) with 2.9% employment

growth the trust fund falls into insolvency in 1997 when the

Table 10.   VAG Simulation Reserve Balance in Millions of Dollars
             by Tax Schedule and Unemployment Scenario

	Unemployment Scenario				
Year	1	2	3	4	5
1988	7.253	7.253	7.253	7.253	7.253
1989	8.142	8.142	8.142	8.142	8.142
1990	9.138	6.304	6.304	6.304	7.194
1991	10.213	7.260	4.341	4.341	5.256
1992	11.379	8.436	5.440	2.434	4.175
1993	12.634	9.665	6.733	3.652	4.037
1994	14.004	10.923	7.968	4.940	4.189
1995	15.485	12.257	9.207	6.102	2.769
1996	17.077	13.664	10.490	7.249	1.425
1997	18.777	15.198	11.819	8.438	-0.354
1998	20.656	16.859	13.225	9.701	-0.149
1999	22.663	18.628	14.769	11.028	-0.206
2000	24.854	20.502	16.465	12.405	-0.571

Table 11.   Simulation High Cost Multiples
              Tax Schedule A with 2.9% Wage Growth

	Unemployment Scenario				
Year	1	2	3	4	5
1988	1.972	1.972	1.972	1.972	1.972
1989	2.151	2.151	2.151	2.151	2.155
1990	2.346	1.659	1.659	1.659	1.879
1991	2.548	1.811	1.110	1.110	1.344
1992	2.759	2.045	1.319	0.605	1.031
1993	2.977	2.277	1.586	0.860	0.962
1994	3.206	2.501	1.825	1.131	0.968
1995	3.446	2.727	2.049	1.358	0.628
1996	3.693	2.955	2.268	1.568	0.313
1997	3.946	3.194	2.484	1.773	-0.076
1998	4.219	3.443	2.701	1.981	-0.031
1999	4.498	3.697	2.931	2.189	-0.041
2000	4.794	3.954	3.176	2.393	-0.111

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1975 - 1985 unemployment history is imposed in the 1990s. This is because the total benefit payments in excess of tax payments increase by a larger percentage with employment growth, and this continues over the years as employment grows because continuing high unemployment and benefit charges persist in Scenario 5.

Only some of the many possible simulations have been presented and discussed. Of particular importance are simulation results for unemployment scenarios 2, 3, and 4. These provide information on the appropriateness of particular tax schedules in progressively deeper recessions. For example if tax rates are reduced to Schedule B for 1990 and a severe benefit payout (1.8% of gross payrolls) occurs in that year the HCM will be 1.60 at year end and rates need not be readjusted. If another year of similar benefit payments occurs the HCM falls to 1.02 and VAG tax rates should be adjusted upward, if a lower benefit payout occurs assessment rates may not require change. In short these simulation results provide guidance for year to year tax policy decisions--the interval at which VAG has historically adjusted tax rates.

The simulation results provide a systematic look at the likely long term effect on the trust fund of particular tax schedules under various unemployment experiences. Collectively these results should be useful to the VAG rate committee as it contemplates future tax policy.

APPENDIX A

Technical Details of VAGSIM

In this brief appendix some important details of the
computerized simulation model used to forecast the balance in the
VAG trust fund are described. The simulation model is called
VAGSIM.

VAGSIM is a structural simulation model designed to estimate
the year end VAG trust fund balance for each year in the period
1989 to 2000. The model is initialized using data on 371
individual member agencies for the period July 1, 1987 to June
30, 1988, as this is the period over which 1989 tax rates are
computed. This model employs the basic methodology of earlier UI
simulation models developed by Hunt (1986, 1987, and 1988) and
Hunt and O'Leary (1989).

VAGSIM was developed using SAS (Statistical Analysis System)
on the IBM mainframe computer at Western Michigan University.
This environment accommodated the size, and provided the required
flexibility to conduct necessary multi-period simulations.

In VAGSIM individual worker UI benefits are computed using
1989 Michigan provisions, and individual member agency VAG tax
assessments are determined using the 1989 VAG assessment

schedule. For purposes of trust fund simulations the model is
designed to allow three key factors to be changed for the various
simulations; these factors are: the insured unemployment rate,
the VAG tax schedule, and the employment growth rate.

Prior to specifying values of the simulation instruments
more basic modelling issues were considered. Decisions regarding
specification of the dependency status, exhaustion rate, and
claim duration of insured layoffs were made. In VAGSIM it is
assumed that former employees of an agency earned the average
wage for that agency and that one-half of the workers are married
with a working spouse and two dependents. For firms with average
wages below $13,000 it is assumed that none of the workers have
dependents. This is done since dependency status is known to
vary with income.[18] The average duration of insured
unemployment is assumed to be 12.73 weeks, this is the average
for individuals with claims against VAG member agencies at the
end of 1987. All workers are assumed to be eligible for the
maximum duration of benefits and to actually apply for benefits
if laid off. 31.7% of claimants are assumed to exhaust their
benefit entitlement.[19]

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[18] In 1978, in those states that had dependency allowances,
only about one-third of all beneficiaries claimed any dependents,
while that figure jumped to about one-half for workers receiving
the maximum weekly benefit amount. See the data in U.S.
Employment and Training Administration (1979), pp. 22-24.

[19] 31.7% is the four quarter average UI exhaustion rate for
Michigan for the period July 1, 1987 to June 30, 1988 as reported
in Employment and Training Administration (1988), p. 11. This

VAGSIM includes only provisions now in effect it does not include extended benefits. Furthermore, it does not include monetary and nonmonetary eligibility requirements, or special provisions for part-time workers, work-sharing, and seasonal workers. Turnover is limited to that implied by the firm's unemployment rate.

The tax assessment provisions of VAGSIM are a reasonably detailed representation of reality. To facilitate the iteration of the model for any number of annual periods, each employer's UI record is maintained as would VAG. The model accounts for the lag between the tax computation date and the effective date of tax rates. However, new VAG members are given only one year at a 2% tax rate before the VAG tax schedule is applied.

The simulation model is initialized with micro data on seven variables for 371 Member agencies for the period July 1, 1987 to June 30, 1988. Each member's reserve balance was recorded as of July 1, 1987 and the remaining variables were measured during the previous 12 months, these are: tax contributions, benefits paid, gross payroll, taxable payroll, number of employees and number of

exhaustion rate assumption combined with the assumed average duration of 12.73 weeks results in a difference of approximately 47 in the claimant count between 1988 and 1989 in the Appendix B simulation Tables B.1 to B.15.

UI beneficiaries. This data is supplemented by the historical
aggregate annual data listed in Section I.

Certain additional assumptions were necessary to aggregate
the micro data to arrive at year end VAG trust fund balances.
Investment income in any year is computed as a percentage of the
trust fund balance at the end of the previous year. Since the
yield computed in this way has averaged 10% during the 1980s,
which has included two recessions, this figure is used in the
simulations. The expense category Other which includes outlays
for administration, claims service, professional service,
management seminars, and investment service are computed as .18%
of gross payroll in the current year. This figure is slightly
higher than the rate implied by the 1988 historical data, so too
however, is the historical data's 1988 trust fund balance
slightly higher than the sum of the balances for the 371 firms in
the micro data.

APPENDIX B

Detailed results from trust fund simulations are presented in this appendix in tables numbered with B. as a prefix. Each table has three sections the top two sections report simulated future values for the ten items listed in the historical data given in Section I. The bottom section of each table lists the simulated frequency distribution of VAG members in each of the tax rate groups for the years 1990 to 2000.

Table B.1

Baseline Simulation Results
Tax Schedule A, Unemployment Scenario 1, Employment Growth 0

Year	Year End Reserves	Member Tax Contributions	Investment Income	Benefits Paid	Other Expenses
1988	7,253,197	1,688,050	574,800	1,258,208	360,900
1989	8,137,354	1,786,103	725,320	1,259,351	367,913
1990	9,115,523	1,791,698	813,735	1,259,351	367,913
1991	10,137,603	1,737,793	911,552	1,259,351	367,913
1992	11,231,442	1,707,343	1,013,760	1,259,351	367,913
1993	12,397,820	1,670,499	1,123,144	1,259,351	367,913
1994	13,614,003	1,603,666	1,239,782	1,259,351	367,913
1995	14,943,826	1,595,688	1,361,400	1,259,351	367,913
1996	16,357,947	1,547,002	1,494,383	1,259,351	367,913
1997	17,862,105	1,495,629	1,635,795	1,259,351	367,913
1998	19,515,819	1,494,767	1,786,211	1,259,351	367,913
1999	21,282,981	1,442,845	1,951,582	1,259,351	367,913
2000	23,195,895	1,411,881	2,128,298	1,259,351	367,913

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1988	204,370,666	125,042,460	371	15,090	783
1989	204,396,319	133,444,034	371	15,090	830
1990	204,396,319	133,444,034	371	15,090	830
1991	204,396,319	133,444,034	371	15,090	830
1992	204,396,319	133,444,034	371	15,090	830
1993	204,396,319	133,444,034	371	15,090	830
1994	204,396,319	133,444,034	371	15,090	830
1995	204,396,319	133,444,034	371	15,090	830
1996	204,396,319	133,444,034	371	15,090	830
1997	204,396,319	133,444,034	371	15,090	830
1998	204,396,319	133,444,034	371	15,090	830
1999	204,396,319	133,444,034	371	15,090	830
2000	204,396,319	133,444,034	371	15,090	830

VAG Tax Rate Groups

Year	0.25	0.50	0.75	1.00	1.25	1.50	2.50	3.50	4.00	4.50	5.00	5.50
1989	34	27	36	62	159	11	7	20	4	0	2	9
1990	29	25	48	68	153	7	6	19	2	1	2	11
1991	33	32	53	77	129	9	6	13	5	0	1	13
1992	37	42	62	72	110	9	7	10	5	4	2	11
1993	40	48	84	71	80	8	7	12	4	3	2	12
1994	48	62	81	78	52	9	11	10	2	3	4	11
1995	55	74	93	58	39	8	12	14	1	1	2	14
1996	70	89	91	33	34	11	10	14	1	2	2	14
1997	77	101	85	20	33	14	10	12	1	2	2	14
1998	89	117	61	17	32	10	13	10	4	1	3	14
1999	107	123	38	16	32	6	19	8	4	1	3	14
2000	131	112	29	14	30	11	12	10	4	1	2	15

Table B.2

Simulation Results
Tax Schedule A, Unemployment Scenario 2, Employment Growth 0

Year	Year End Reserves	Member Tax Contributions	Investment Income	Benefits Paid	Other Expenses
1988	7,253,197	1,688,050	574,800	1,258,208	360,900
1989	8,137,354	1,786,103	725,320	1,259,351	367,913
1990	6,438,389	1,769,028	813,735	3,922,858	358,871
1991	7,348,690	1,893,727	643,839	1,259,351	367,913
1992	8,457,112	2,000,818	734,869	1,259,351	367,913
1993	9,589,361	1,913,802	845,711	1,259,351	367,913
1994	10,736,063	1,815,031	958,936	1,259,351	367,913
1995	11,933,343	1,750,938	1,073,606	1,259,351	367,913
1996	13,190,048	1,690,636	1,193,334	1,259,351	367,913
1997	14,510,310	1,628,522	1,319,005	1,259,351	367,913
1998	15,925,994	1,591,918	1,451,031	1,259,351	367,913
1999	17,464,824	1,573,495	1,592,599	1,259,351	367,913
2000	19,104,067	1,520,026	1,746,482	1,259,351	367,913

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1988	204,370,666	125,042,460	371	15,090	783
1989	204,396,319	133,444,034	371	15,090	830
1990	199,372,539	131,894,025	371	14,717	2,300
1991	204,396,319	133,444,034	371	15,090	830
1992	204,396,319	133,444,034	371	15,090	830
1993	204,396,319	133,444,034	371	15,090	830
1994	204,396,319	133,444,034	371	15,090	830
1995	204,396,319	133,444,034	371	15,090	830
1996	204,396,319	133,444,034	371	15,090	830
1997	204,396,319	133,444,034	371	15,090	830
1998	204,396,319	133,444,034	371	15,090	830
1999	204,396,319	133,444,034	371	15,090	830
2000	204,396,319	133,444,034	371	15,090	830

VAG Tax Rate Groups

Year	0.25	0.50	0.75	1.00	1.25	1.50	2.50	3.50	4.00	4.50	5.00	5.50
1989	34	27	36	62	159	11	7	20	4	0	2	9
1990	29	25	48	68	153	7	6	19	2	1	2	11
1991	22	24	49	75	147	6	11	15	8	0	0	14
1992	18	21	36	91	147	6	8	22	2	5	3	12
1993	19	32	52	81	129	11	10	15	2	4	3	13
1994	23	36	78	85	92	16	4	15	3	2	4	13
1995	28	45	95	83	66	12	9	10	5	2	2	14
1996	34	64	99	68	50	9	16	8	5	1	3	14
1997	40	83	106	46	40	11	13	9	5	1	3	14
1998	53	104	91	31	37	12	11	9	5	1	3	14
1999	63	117	76	24	37	9	14	9	4	1	2	15
2000	83	126	53	20	32	11	17	7	4	1	2	15

Table B.3

Simulation Results
Tax Schedule A, Unemployment Scenario 3, Employment Growth 0

Year	Year End Reserves	Member Tax Contributions	Investment Income	Benefits Paid	Other Expenses
1988	7,253,197	1,688,050	574,800	1,258,208	360,900
1989	8,137,354	1,786,103	725,320	1,259,351	367,913
1990	6,438,389	1,769,028	813,735	3,922,858	358,871
1991	4,670,768	1,870,269	643,839	3,922,858	358,871
1992	5,685,747	2,175,166	467,077	1,259,351	367,913
1993	6,852,214	2,225,158	568,575	1,259,351	367,913
1994	7,956,532	2,046,361	685,221	1,259,351	367,913
1995	9,049,380	1,924,460	795,653	1,259,351	367,913
1996	10,161,491	1,834,438	904,938	1,259,351	367,913
1997	11,322,139	1,771,764	1,016,149	1,259,351	367,913
1998	12,571,087	1,743,999	1,132,214	1,259,351	367,913
1999	13,860,122	1,659,191	1,257,109	1,259,351	367,913
2000	15,209,390	1,590,521	1,386,012	1,259,351	367,913

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1988	204,370,666	125,042,460	371	15,090	783
1989	204,396,319	133,444,034	371	15,090	830
1990	199,372,539	131,894,025	371	14,717	2,300
1991	199,372,539	131,894,025	371	14,717	2,300
1992	204,396,319	133,444,034	371	15,090	830
1993	204,396,319	133,444,034	371	15,090	830
1994	204,396,319	133,444,034	371	15,090	830
1995	204,396,319	133,444,034	371	15,090	830
1996	204,396,319	133,444,034	371	15,090	830
1997	204,396,319	133,444,034	371	15,090	830
1998	204,396,319	133,444,034	371	15,090	830
1999	204,396,319	133,444,034	371	15,090	830
2000	204,396,319	133,444,034	371	15,090	830

VAG Tax Rate Groups

Year	0.25	0.50	0.75	1.00	1.25	1.50	2.50	3.50	4.00	4.50	5.00	5.50
1989	34	27	36	62	159	11	7	20	4	0	2	9
1990	29	25	48	68	153	7	6	19	2	1	2	11
1991	22	24	49	75	147	6	11	15	8	0	0	14
1992	13	15	32	63	175	12	12	26	1	5	4	13
1993	11	11	33	64	171	11	17	27	4	5	2	15
1994	12	20	39	87	141	19	10	17	7	1	2	16
1995	12	28	55	101	118	11	7	14	6	2	2	15
1996	15	33	95	85	90	10	6	14	5	1	2	15
1997	17	48	108	81	62	12	9	11	5	1	3	14
1998	25	64	115	59	53	9	16	7	5	1	2	15
1999	36	95	102	38	42	13	13	9	4	2	2	15
2000	41	124	84	26	39	14	11	10	4	1	2	15

Table B.4

Simulation Results
Tax Schedule A, Unemployment Scenario 4, Employment Growth 0

Year	Year End Reserves	Member Tax Contributions	Investment Income	Benefits Paid	Other Expenses
1988	7,253,197	1,688,050	574,800	1,258,208	360,900
1989	8,137,354	1,786,103	725,320	1,259,351	367,913
1990	6,438,389	1,769,028	813,735	3,922,858	358,871
1991	4,670,768	1,870,269	643,839	3,922,858	358,871
1992	3,005,300	2,149,184	467,077	3,922,858	358,871
1993	4,119,704	2,441,139	300,530	1,259,351	367,913
1994	5,276,820	2,372,411	411,970	1,259,351	367,913
1995	6,325,242	2,148,004	527,682	1,259,351	367,913
1996	7,352,586	2,022,085	632,524	1,259,351	367,913
1997	8,386,703	1,926,123	735,259	1,259,351	367,913
1998	9,462,082	1,863,973	838,670	1,259,351	367,913
1999	10,587,902	1,806,876	946,208	1,259,351	367,913
2000	11,764,851	1,745,424	1,058,790	1,259,351	367,913

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1988	204,370,666	125,042,460	371	15,090	783
1989	204,396,319	133,444,034	371	15,090	830
1990	199,372,539	131,894,025	371	14,717	2,300
1991	199,372,539	131,894,025	371	14,717	2,300
1992	199,372,539	131,894,025	371	14,717	2,300
1993	204,396,319	133,444,034	371	15,090	830
1994	204,396,319	133,444,034	371	15,090	830
1995	204,396,319	133,444,034	371	15,090	830
1996	204,396,319	133,444,034	371	15,090	830
1997	204,396,319	133,444,034	371	15,090	830
1998	204,396,319	133,444,034	371	15,090	830
1999	204,396,319	133,444,034	371	15,090	830
2000	204,396,319	133,444,034	371	15,090	830

VAG Tax Rate Groups

Year	0.25	0.50	0.75	1.00	1.25	1.50	2.50	3.50	4.00	4.50	5.00	5.50
1989	34	27	36	62	159	11	7	20	4	0	2	9
1990	29	25	48	68	153	7	6	19	2	1	2	11
1991	22	24	49	75	147	6	11	15	8	0	0	14
1992	13	15	32	63	175	12	12	26	1	5	4	13
1993	10	7	23	44	195	12	12	41	3	4	3	17
1994	6	8	22	50	185	18	22	33	2	6	2	17
1995	7	10	34	74	173	21	3	23	4	3	3	16
1996	8	15	43	97	151	11	4	17	4	4	0	17
1997	10	24	77	91	111	15	4	16	3	3	0	17
1998	11	36	96	80	92	13	7	13	5	1	1	16
1999	14	52	115	70	64	9	13	11	5	1	2	15
2000	20	86	102	54	51	12	14	9	4	2	2	15

Table B.5

<p style="text-align:center">Simulation Results
Tax Schedule A, Unemployment Scenario 5, Employment Growth 0</p>

Year	Year End Reserves	Member Tax Contributions	Investment Income	Benefits Paid	Other Expenses
1988	7,253,197	1,688,050	574,800	1,258,208	360,900
1989	8,137,024	1,785,454	725,320	1,259,274	367,673
1990	7,280,293	1,776,335	813,702	3,085,055	361,713
1991	5,537,060	1,810,466	728,029	3,922,858	358,871
1992	4,583,000	2,043,339	553,706	3,189,787	361,318
1993	4,526,769	2,297,321	458,300	2,447,993	363,859
1994	4,740,096	2,358,774	452,677	2,233,561	364,563
1995	3,711,609	2,258,458	474,010	3,400,323	360,631
1996	2,736,368	2,309,402	371,161	3,294,830	360,974
1997	1,425,579	2,489,182	273,637	3,714,052	359,556
1998	1,599,867	2,736,764	142,558	2,340,821	364,213
1999	1,696,970	2,748,969	159,987	2,447,993	363,859
2000	1,589,081	2,427,448	169,697	2,340,821	364,213

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1988	204,370,666	125,042,460	371	15,090	783
1989	204,262,570	133,362,357	371	15,081	831
1990	200,951,568	132,361,269	371	14,832	1,829
1991	199,372,539	131,894,025	371	14,717	2,300
1992	200,732,381	132,290,810	371	14,817	1,902
1993	202,143,766	132,710,977	371	14,919	1,477
1994	202,535,206	132,831,794	371	14,948	1,361
1995	200,350,491	132,179,924	371	14,789	2,016
1996	200,541,250	132,234,911	371	14,803	1,968
1997	199,753,068	132,002,722	371	14,746	2,195
1998	202,340,711	132,771,112	371	14,933	1,421
1999	202,143,766	132,710,977	371	14,919	1,477
2000	202,340,711	132,771,112	371	14,933	1,421

VAG Tax Rate Groups

Year	0.25	0.50	0.75	1.00	1.25	1.50	2.50	3.50	4.00	4.50	5.00	5.50
1989	34	27	36	62	159	11	7	20	4	0	2	9
1990	29	25	48	68	153	7	6	18	3	1	2	11
1991	25	25	51	83	135	8	9	13	8	0	0	14
1992	16	20	36	80	155	11	6	25	0	6	4	12
1993	11	10	32	61	176	8	12	35	4	3	4	15
1994	10	7	28	65	173	9	19	33	4	4	2	17
1995	7	6	34	68	165	27	12	25	4	4	2	17
1996	4	9	29	64	171	23	16	27	3	6	2	17
1997	4	5	20	64	172	14	29	33	5	4	4	17
1998	2	4	16	59	172	12	24	51	5	4	2	20
1999	3	1	16	59	162	21	39	39	3	4	4	20
2000	3	1	19	66	157	47	23	24	4	4	4	19

Table B.6

Simulation Results
Tax Schedule B, Unemployment Scenario 1, Employment Growth 0

Year	Year End Reserves	Member Tax Contributions	Investment Income	Benefits Paid	Other Expenses
1988	7,253,197	1,688,050	574,800	1,258,208	360,900
1989	7,805,542	1,454,290	725,320	1,259,351	367,913
1990	8,425,349	1,466,518	780,554	1,259,351	367,913
1991	9,095,931	1,455,312	842,535	1,259,351	367,913
1992	9,831,173	1,452,914	909,593	1,259,351	367,913
1993	10,643,046	1,456,020	983,117	1,259,351	367,913
1994	11,550,623	1,470,537	1,064,305	1,259,351	367,913
1995	12,479,303	1,400,882	1,155,062	1,259,351	367,913
1996	13,477,161	1,377,193	1,247,930	1,259,351	367,913
1997	14,587,613	1,390,001	1,347,716	1,259,351	367,913
1998	15,772,402	1,353,292	1,458,761	1,259,351	367,913
1999	17,023,887	1,301,510	1,577,240	1,259,351	367,913
2000	18,365,482	1,266,471	1,702,389	1,259,351	367,913

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1988	204,370,666	125,042,460	371	15,090	783
1989	204,396,319	133,444,034	371	15,090	830
1990	204,396,319	133,444,034	371	15,090	830
1991	204,396,319	133,444,034	371	15,090	830
1992	204,396,319	133,444,034	371	15,090	830
1993	204,396,319	133,444,034	371	15,090	830
1994	204,396,319	133,444,034	371	15,090	830
1995	204,396,319	133,444,034	371	15,090	830
1996	204,396,319	133,444,034	371	15,090	830
1997	204,396,319	133,444,034	371	15,090	830
1998	204,396,319	133,444,034	371	15,090	830
1999	204,396,319	133,444,034	371	15,090	830
2000	204,396,319	133,444,034	371	15,090	830

VAG Tax Rate Groups

Year	0.05	0.25	0.50	0.75	1.00	1.25	2.25	3.25	3.75	4.25	4.75	5.25
1989	34	27	36	62	159	11	7	20	4	0	2	9
1990	28	25	47	68	154	8	6	19	2	1	2	11
1991	29	29	52	78	132	11	6	13	7	0	1	13
1992	29	39	55	79	118	9	6	14	4	4	2	12
1993	33	43	62	82	95	10	12	12	4	3	2	13
1994	35	47	84	77	71	9	13	14	2	3	4	12
1995	37	49	94	82	50	13	10	17	1	2	2	14
1996	37	66	99	67	41	10	15	13	5	1	3	14
1997	42	72	104	54	38	10	17	11	5	1	1	16
1998	43	91	104	34	37	13	17	9	5	1	2	15
1999	49	106	94	26	33	17	13	10	5	1	2	15
2000	53	120	79	27	31	13	14	11	4	2	2	15

Table B.7   Simulation Results
Tax Schedule B, Unemployment Scenario 2, Employment Growth 0

Year	Year End Reserves	Member Tax Contributions	Investment Income	Benefits Paid	Other Expenses
1988	7,253,197	1,688,050	574,800	1,258,208	360,900
1989	7,805,542	1,454,290	725,320	1,259,351	367,913
1990	5,751,959	1,447,592	780,554	3,922,858	358,871
1991	6,319,338	1,619,448	575,196	1,259,351	367,913
1992	7,095,699	1,771,692	631,934	1,259,351	367,913
1993	7,874,847	1,696,844	709,570	1,259,351	367,913
1994	8,637,879	1,602,812	787,485	1,259,351	367,913
1995	9,416,524	1,542,122	863,788	1,259,351	367,913
1996	10,246,955	1,516,044	941,652	1,259,351	367,913
1997	11,183,462	1,539,077	1,024,696	1,259,351	367,913
1998	12,160,513	1,485,969	1,118,346	1,259,351	367,913
1999	13,135,948	1,386,649	1,216,051	1,259,351	367,913
2000	14,184,871	1,362,593	1,313,595	1,259,351	367,913

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1988	204,370,666	125,042,460	371	15,090	783
1989	204,396,319	133,444,034	371	15,090	830
1990	199,372,539	131,894,025	371	14,717	2,300
1991	204,396,319	133,444,034	371	15,090	830
1992	204,396,319	133,444,034	371	15,090	830
1993	204,396,319	133,444,034	371	15,090	830
1994	204,396,319	133,444,034	371	15,090	830
1995	204,396,319	133,444,034	371	15,090	830
1996	204,396,319	133,444,034	371	15,090	830
1997	204,396,319	133,444,034	371	15,090	830
1998	204,396,319	133,444,034	371	15,090	830
1999	204,396,319	133,444,034	371	15,090	830
2000	204,396,319	133,444,034	371	15,090	830

VAG Tax Rate Groups

Year	0.05	0.25	0.50	0.75	1.00	1.25	2.25	3.25	3.75	4.25	4.75	5.25
1989	34	27	36	62	159	11	7	20	4	0	2	9
1990	28	25	47	68	154	8	6	19	2	1	2	11
1991	21	22	41	73	155	10	7	19	7	2	0	14
1992	15	19	33	73	164	10	11	24	1	4	4	13
1993	15	21	42	93	128	17	12	19	3	5	3	13
1994	17	27	56	86	120	16	9	15	6	1	3	15
1995	17	35	65	94	100	14	11	10	7	1	2	15
1996	18	38	96	87	66	16	15	12	5	1	2	15
1997	19	47	102	84	52	15	17	12	5	1	1	16
1998	22	62	111	66	45	16	13	13	4	2	2	15
1999	26	77	118	46	40	17	14	10	2	4	2	15
2000	28	104	105	33	33	20	16	9	1	4	3	15

Table B.8

Simulation Results
Tax Schedule B, Unemployment Scenario 3, Employment Growth 0

Year	Year End Reserves	Member Tax Contributions	Investment Income	Benefits Paid	Other Expenses
1988	7,253,197	1,688,050	574,800	1,258,208	360,900
1989	7,805,542	1,454,290	725,320	1,259,351	367,913
1990	5,751,959	1,447,592	780,554	3,922,858	358,871
1991	3,644,685	1,599,259	575,196	3,922,858	358,871
1992	4,317,146	1,935,257	364,469	1,259,351	367,913
1993	5,181,688	2,060,092	431,715	1,259,351	367,913
1994	5,909,861	1,837,268	518,169	1,259,351	367,913
1995	6,594,481	1,720,899	590,986	1,259,351	367,913
1996	7,291,293	1,664,629	659,448	1,259,351	367,913
1997	8,008,078	1,614,920	729,129	1,259,351	367,913
1998	8,805,333	1,623,713	800,808	1,259,351	367,913
1999	9,615,512	1,556,911	880,533	1,259,351	367,913
2000	10,471,130	1,521,332	961,551	1,259,351	367,913

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1988	204,370,666	125,042,460	371	15,090	783
1989	204,396,319	133,444,034	371	15,090	830
1990	199,372,539	131,894,025	371	14,717	2,300
1991	199,372,539	131,894,025	371	14,717	2,300
1992	204,396,319	133,444,034	371	15,090	830
1993	204,396,319	133,444,034	371	15,090	830
1994	204,396,319	133,444,034	371	15,090	830
1995	204,396,319	133,444,034	371	15,090	830
1996	204,396,319	133,444,034	371	15,090	830
1997	204,396,319	133,444,034	371	15,090	830
1998	204,396,319	133,444,034	371	15,090	830
1999	204,396,319	133,444,034	371	15,090	830
2000	204,396,319	133,444,034	371	15,090	830

VAG Tax Rate Groups

Year	0.05	0.25	0.50	0.75	1.00	1.25	2.25	3.25	3.75	4.25	4.75	5.25
1989	34	27	36	62	159	11	7	20	4	0	2	9
1990	28	25	47	68	154	8	6	19	2	1	2	11
1991	21	22	41	73	155	10	7	19	7	2	0	14
1992	12	11	29	49	187	16	11	32	2	4	4	14
1993	10	8	24	43	195	12	17	35	4	2	6	15
1994	10	8	36	68	171	19	9	24	5	2	3	16
1995	9	15	39	90	154	13	7	19	4	4	1	16
1996	9	20	48	101	131	16	5	17	3	4	0	17
1997	11	26	86	79	101	22	8	15	1	4	2	16
1998	10	32	99	86	74	16	20	11	2	3	2	16
1999	11	43	117	77	52	17	21	10	2	4	0	17
2000	12	55	118	72	42	25	12	12	2	4	0	17

Table B.9

Year	Year End Reserves	Member Tax Contributions	Investment Income	Benefits Paid	Other Expenses
1988	7,253,197	1,688,050	574,800	1,258,208	360,900
1989	7,805,542	1,454,290	725,320	1,259,351	367,913
1990	5,751,959	1,447,592	780,554	3,922,858	358,871
1991	3,644,685	1,599,259	575,196	3,922,858	358,871
1992	1,639,221	1,911,796	364,469	3,922,858	358,871
1993	2,379,761	2,203,883	163,922	1,259,351	367,913
1994	3,271,087	2,280,615	237,976	1,259,351	367,913
1995	3,898,614	1,927,683	327,109	1,259,351	367,913
1996	4,479,333	1,818,123	389,861	1,259,351	367,913
1997	5,053,984	1,753,982	447,933	1,259,351	367,913
1998	5,635,260	1,703,142	505,398	1,259,351	367,913
1999	6,238,114	1,666,594	563,526	1,259,351	367,913
2000	6,878,337	1,643,676	623,811	1,259,351	367,913

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1988	204,370,666	125,042,460	371	15,090	783
1989	204,396,319	133,444,034	371	15,090	830
1990	199,372,539	131,894,025	371	14,717	2,300
1991	199,372,539	131,894,025	371	14,717	2,300
1992	199,372,539	131,894,025	371	14,717	2,300
1993	204,396,319	133,444,034	371	15,090	830
1994	204,396,319	133,444,034	371	15,090	830
1995	204,396,319	133,444,034	371	15,090	830
1996	204,396,319	133,444,034	371	15,090	830
1997	204,396,319	133,444,034	371	15,090	830
1998	204,396,319	133,444,034	371	15,090	830
1999	204,396,319	133,444,034	371	15,090	830
2000	204,396,319	133,444,034	371	15,090	830

VAG Tax Rate Groups

Year	0.05	0.25	0.50	0.75	1.00	1.25	2.25	3.25	3.75	4.25	4.75	5.25
1989	34	27	36	62	159	11	7	20	4	0	2	9
1990	28	25	47	68	154	8	6	19	2	1	2	11
1991	21	22	41	73	155	10	7	19	7	2	0	14
1992	12	11	29	49	187	16	11	32	2	4	4	14
1993	8	5	17	34	197	22	11	49	3	4	4	17
1994	5	6	14	35	194	21	24	43	2	8	1	18
1995	5	6	23	56	198	24	7	24	4	5	1	18
1996	6	7	29	72	191	13	5	21	3	6	1	17
1997	6	10	37	83	170	15	7	18	3	4	1	17
1998	6	13	66	87	131	18	11	14	4	3	1	17
1999	7	21	83	88	107	16	11	14	3	3	1	17
2000	8	26	101	85	83	17	13	15	1	4	1	17

Table B.10

Simulation Results
Tax Schedule B, Unemployment Scenario 5, Employment Growth 0

Year	Year End Reserves	Member Tax Contributions	Investment Income	Benefits Paid	Other Expenses
1988	7,253,197	1,688,050	574,800	1,258,208	360,900
1989	7,805,412	1,453,842	725,320	1,259,274	367,673
1990	6,595,641	1,456,456	780,541	3,085,055	361,713
1991	4,518,745	1,545,269	659,564	3,922,858	358,871
1992	3,238,835	1,819,320	451,875	3,189,787	361,318
1993	2,842,901	2,092,035	323,883	2,447,993	363,859
1994	2,689,097	2,160,030	284,290	2,233,561	364,563
1995	1,278,617	2,081,564	268,910	3,400,323	360,631
1996	-113,950	2,135,375	127,862	3,294,830	360,974
1997	-1,714,010	2,473,549	0	3,714,052	359,556
1998	-1,688,580	2,730,465	0	2,340,821	364,213
1999	-1,793,308	2,707,124	0	2,447,993	363,859
2000	-2,137,771	2,360,572	0	2,340,821	364,213

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1988	204,370,666	125,042,460	371	15,090	783
1989	204,262,570	133,362,357	371	15,081	831
1990	200,951,568	132,361,269	371	14,832	1,829
1991	199,372,539	131,894,025	371	14,717	2,300
1992	200,732,381	132,290,810	371	14,817	1,902
1993	202,143,766	132,710,977	371	14,919	1,477
1994	202,535,206	132,831,794	371	14,948	1,361
1995	200,350,491	132,179,924	371	14,789	2,016
1996	200,541,250	132,234,911	371	14,803	1,968
1997	199,753,068	132,002,722	371	14,746	2,195
1998	202,340,711	132,771,112	371	14,933	1,421
1999	202,143,766	132,710,977	371	14,919	1,477
2000	202,340,711	132,771,112	371	14,933	1,421

VAG Tax Rate Groups

Year	0.05	0.25	0.50	0.75	1.00	1.25	2.25	3.25	3.75	4.25	4.75	5.25
1989	34	27	36	62	159	11	7	20	4	0	2	9
1990	28	25	46	70	153	7	7	18	3	1	2	11
1991	22	24	45	74	151	6	12	15	7	1	0	14
1992	14	18	28	66	171	15	10	26	1	5	3	14
1993	11	6	24	42	197	11	11	42	4	3	4	16
1994	6	7	21	36	201	12	20	41	1	7	1	18
1995	5	6	18	50	188	25	21	27	6	5	2	18
1996	4	4	16	49	184	33	20	30	6	4	4	17
1997	2	3	10	39	184	21	35	43	7	5	3	19
1998	2	1	7	25	175	25	40	61	6	4	4	21
1999	1	2	6	20	160	41	64	39	9	3	5	21
2000	1	2	4	37	150	82	36	24	5	4	5	21

Table B.11

<p align="center">Simulation Results
Tax Schedule C, Unemployment Scenario 1, Employment Growth 0</p>

Year	Year End Reserves	Member Tax Contributions	Investment Income	Benefits Paid	Other Expenses
1988	7,253,197	1,688,050	574,800	1,258,208	360,900
1989	7,482,666	1,131,414	725,320	1,259,351	367,913
1990	7,759,557	1,155,890	748,267	1,259,351	367,913
1991	8,089,476	1,181,227	775,956	1,259,351	367,913
1992	8,484,989	1,213,831	808,948	1,259,351	367,913
1993	8,956,646	1,250,423	848,499	1,259,351	367,913
1994	9,494,627	1,269,581	895,665	1,259,351	367,913
1995	10,074,840	1,258,015	949,463	1,259,351	367,913
1996	10,696,527	1,241,468	1,007,484	1,259,351	367,913
1997	11,375,256	1,236,341	1,069,653	1,259,351	367,913
1998	12,105,545	1,220,028	1,137,526	1,259,351	367,913
1999	12,909,871	1,221,037	1,210,554	1,259,351	367,913
2000	13,795,107	1,221,513	1,290,987	1,259,351	367,913

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1988	204,370,666	125,042,460	371	15,090	783
1989	204,396,319	133,444,034	371	15,090	830
1990	204,396,319	133,444,034	371	15,090	830
1991	204,396,319	133,444,034	371	15,090	830
1992	204,396,319	133,444,034	371	15,090	830
1993	204,396,319	133,444,034	371	15,090	830
1994	204,396,319	133,444,034	371	15,090	830
1995	204,396,319	133,444,034	371	15,090	830
1996	204,396,319	133,444,034	371	15,090	830
1997	204,396,319	133,444,034	371	15,090	830
1998	204,396,319	133,444,034	371	15,090	830
1999	204,396,319	133,444,034	371	15,090	830
2000	204,396,319	133,444,034	371	15,090	830

VAG Tax Rate Groups

Year	0.05	0.25	0.50	0.75	1.00	2.00	3.00	3.50	4.00	4.50	5.00
1989	61	36	62	159	11	7	20	4	0	2	9
1990	52	46	66	158	6	8	18	3	1	2	11
1991	54	46	77	141	8	10	13	7	1	1	13
1992	57	49	81	129	8	8	17	4	4	2	12
1993	58	57	81	114	11	13	15	2	4	3	13
1994	63	60	83	99	13	16	13	5	2	3	14
1995	70	71	83	80	11	18	13	7	1	2	15
1996	71	89	77	65	12	16	18	4	2	1	16
1997	73	97	81	49	17	13	18	3	2	2	16
1998	75	104	78	43	19	15	14	1	4	1	17
1999	78	118	64	38	18	21	11	1	4	1	17
2000	85	122	51	36	22	19	13	1	4	1	17

<p align="center">44</p>

Table B.12

Simulation Results
Tax Schedule C, Unemployment Scenario 2, Employment Growth 0

Year	Year End Reserves	Member Tax Contributions	Investment Income	Benefits Paid	Other Expenses
1988	7,253,197	1,688,050	574,800	1,258,208	360,900
1989	7,482,666	1,131,414	725,320	1,259,351	367,913
1990	5,089,836	1,140,632	748,267	3,922,858	358,871
1991	5,310,513	1,338,958	508,984	1,259,351	367,913
1992	5,755,683	1,541,383	531,051	1,259,351	367,913
1993	6,195,513	1,491,527	575,568	1,259,351	367,913
1994	6,592,359	1,404,560	619,551	1,259,351	367,913
1995	6,991,147	1,366,817	659,236	1,259,351	367,913
1996	7,431,212	1,368,215	699,115	1,259,351	367,913
1997	7,944,875	1,397,807	743,121	1,259,351	367,913
1998	8,457,630	1,345,531	794,488	1,259,351	367,913
1999	8,983,964	1,307,837	845,763	1,259,351	367,913
2000	9,544,837	1,289,741	898,396	1,259,351	367,913

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1988	204,370,666	125,042,460	371	15,090	783
1989	204,396,319	133,444,034	371	15,090	830
1990	199,372,539	131,894,025	371	14,717	2,300
1991	204,396,319	133,444,034	371	15,090	830
1992	204,396,319	133,444,034	371	15,090	830
1993	204,396,319	133,444,034	371	15,090	830
1994	204,396,319	133,444,034	371	15,090	830
1995	204,396,319	133,444,034	371	15,090	830
1996	204,396,319	133,444,034	371	15,090	830
1997	204,396,319	133,444,034	371	15,090	830
1998	204,396,319	133,444,034	371	15,090	830
1999	204,396,319	133,444,034	371	15,090	830
2000	204,396,319	133,444,034	371	15,090	830

VAG Tax Rate Groups

Year	0.05	0.25	0.50	0.75	1.00	2.00	3.00	3.50	4.00	4.50	5.00
1989	61	36	62	159	11	7	20	4	0	2	9
1990	52	46	66	158	6	8	18	3	1	2	11
1991	41	36	66	165	10	9	21	6	3	0	14
1992	31	27	56	179	17	11	27	1	5	3	14
1993	32	31	78	153	15	14	22	4	4	3	15
1994	34	38	88	135	20	14	16	6	1	3	16
1995	35	48	91	122	23	10	17	5	2	2	16
1996	36	59	89	112	23	11	17	3	3	2	16
1997	39	75	92	86	20	18	18	0	5	1	17
1998	43	96	85	66	23	24	11	0	5	1	17
1999	44	107	90	50	21	23	12	2	4	1	17
2000	50	112	83	45	25	17	14	3	4	1	17

Table B.13

Simulation Results
Tax Schedule C, Unemployment Scenario 3, Employment Growth 0

Year	Year End Reserves	Member Tax Contributions	Investment Income	Benefits Paid	Other Expenses
1988	7,253,197	1,688,050	574,800	1,258,208	360,900
1989	7,482,666	1,131,414	725,320	1,259,351	367,913
1990	5,089,836	1,140,632	748,267	3,922,858	358,871
1991	2,639,200	1,322,109	508,984	3,922,858	358,871
1992	2,976,639	1,700,783	263,920	1,259,351	367,913
1993	3,500,128	1,853,090	297,664	1,259,351	367,913
1994	3,856,034	1,633,159	350,013	1,259,351	367,913
1995	4,129,722	1,515,349	385,603	1,259,351	367,913
1996	4,377,857	1,462,428	412,972	1,259,351	367,913
1997	4,658,596	1,470,217	437,786	1,259,351	367,913
1998	4,964,639	1,467,448	465,860	1,259,351	367,913
1999	5,283,072	1,449,234	496,464	1,259,351	367,913
2000	5,578,749	1,394,635	528,307	1,259,351	367,913

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1988	204,370,666	125,042,460	371	15,090	783
1989	204,396,319	133,444,034	371	15,090	830
1990	199,372,539	131,894,025	371	14,717	2,300
1991	199,372,539	131,894,025	371	14,717	2,300
1992	204,396,319	133,444,034	371	15,090	830
1993	204,396,319	133,444,034	371	15,090	830
1994	204,396,319	133,444,034	371	15,090	830
1995	204,396,319	133,444,034	371	15,090	830
1996	204,396,319	133,444,034	371	15,090	830
1997	204,396,319	133,444,034	371	15,090	830
1998	204,396,319	133,444,034	371	15,090	830
1999	204,396,319	133,444,034	371	15,090	830
2000	204,396,319	133,444,034	371	15,090	830

VAG Tax Rate Groups

Year	0.05	0.25	0.50	0.75	1.00	2.00	3.00	3.50	4.00	4.50	5.00
1989	61	36	62	159	11	7	20	4	0	2	9
1990	52	46	66	158	6	8	18	3	1	2	11
1991	41	36	66	165	10	9	21	6	3	0	14
1992	23	21	38	202	12	10	39	4	3	4	15
1993	16	21	32	201	13	17	44	3	3	5	16
1994	16	24	41	199	27	10	27	2	6	1	18
1995	16	29	71	181	18	9	21	2	5	2	17
1996	17	34	86	155	27	8	17	4	5	1	17
1997	21	38	93	140	24	12	18	2	5	1	17
1998	22	48	101	118	23	16	18	3	4	1	17
1999	24	68	93	105	23	19	13	4	4	1	17
2000	29	87	90	83	24	20	13	3	4	1	17

Table B.14

Simulation Results

Tax Schedule C, Unemployment Scenario 4, Employment Growth 0

Year	Year End Reserves	Member Tax Contributions	Investment Income	Benefits Paid	Other Expenses
1988	7,253,197	1,688,050	574,800·	1,258,208	360,900
1989	7,482,666	1,131,414	725,320	1,259,351	367,913
1990	5,089,836	1,140,632	748,267	3,922,858	358,871
1991	2,639,200	1,322,109	508,984	3,922,858	358,871
1992	301,217	1,679,825	263,920	3,922,858	358,871
1993	741,117	2,037,043	30,122	1,259,351	367,913
1994	1,398,222	2,210,258	74,112	1,259,351	367,913
1995	1,665,149	1,754,370	139,822	1,259,351	367,913
1996	1,772,027	1,567,628	166,515	1,259,351	367,913
1997	1,842,003	1,520,038	177,203	1,259,351	367,913
1998	1,927,322	1,528,383	184,200	1,259,351	367,913
1999	2,014,926	1,522,137	192,732	1,259,351	367,913
2000	2,113,718	1,524,564	201,493	1,259,351	367,913

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1988	204,370,666	125,042,460	371	15,090	783
1989	204,396,319	133,444,034	371	15,090	830
1990	199,372,539	131,894,025	371	14,717	2,300
1991	199,372,539	131,894,025	371	14,717	2,300
1992	199,372,539	131,894,025	371	14,717	2,300
1993	204,396,319	133,444,034	371	15,090	830
1994	204,396,319	133,444,034	371	15,090	830
1995	204,396,319	133,444,034	371	15,090	830
1996	204,396,319	133,444,034	371	15,090	830
1997	204,396,319	133,444,034	371	15,090	830
1998	204,396,319	133,444,034	371	15,090	830
1999	204,396,319	133,444,034	371	15,090	830
2000	204,396,319	133,444,034	371	15,090	830

VAG Tax Rate Groups

Year	0.05	0.25	0.50	0.75	1.00	2.00	3.00	3.50	4.00	4.50	5.00
1989	61	36	62	159	11	7	20	4	0	2	9
1990	52	46	66	158	6	8	18	3	1	2	11
1991	41	36	66	165	10	9	21	6	3	0	14
1992	23	21	38	202	12	10	39	4	3	4	15
1993	13	13	30	188	19	23	56	2	5	3	19
1994	11	8	28	188	25	30	50	4	6	2	19
1995	10	11	36	217	26	12	28	5	5	2	19
1996	10	17	43	227	16	9	19	6	4	3	17
1997	11	22	60	205	19	7	18	6	3	3	17
1998	11	27	74	179	24	12	18	3	4	2	17
1999	12	34	83	159	23	21	13	3	5	1	17
2000	12	48	89	139	23	19	12	6	5	1	17

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Table B.15

Simulation Results
Tax Schedule C, Unemployment Scenario 5, Employment Growth 0

Year	Year End Reserves	Member Tax Contributions	Investment Income	Benefits Paid	Other Expenses
1988	7,253,197	1,688,050	574,800	1,258,208	360,900
1989	7,482,725	1,131,155	725,320	1,259,274	367,673
1990	5,929,682	1,145,453	748,272	3,085,055	361,713
1991	3,520,510	1,279,588	592,968	3,922,858	358,871
1992	1,920,118	1,598,662	352,051	3,189,787	361,318
1993	1,189,438	1,889,160	192,012	2,447,993	363,859
1994	705,732	1,995,474	118,944	2,233,561	364,563
1995	-1,023,356	1,961,293	70,573	3,400,323	360,631
1996	-2,559,514	2,119,646	0	3,294,830	360,974
1997	-4,160,067	2,473,055	0	3,714,052	359,556
1998	-4,000,549	2,864,553	0	2,340,821	364,213
1999	-4,076,254	2,736,146	0	2,447,993	363,859
2000	-4,586,230	2,195,059	0	2,340,821	364,213

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1988	204,370,666	125,042,460	371	15,090	783
1989	204,262,570	133,362,357	371	15,081	831
1990	200,951,568	132,361,269	371	14,832	1,829
1991	199,372,539	131,894,025	371	14,717	2,300
1992	200,732,381	132,290,810	371	14,817	1,902
1993	202,143,766	132,710,977	371	14,919	1,477
1994	202,535,206	132,831,794	371	14,948	1,361
1995	200,350,491	132,179,924	371	14,789	2,016
1996	200,541,250	132,234,911	371	14,803	1,968
1997	199,753,068	132,002,722	371	14,746	2,195
1998	202,340,711	132,771,112	371	14,933	1,421
1999	202,143,766	132,710,977	371	14,919	1,477
2000	202,340,711	132,771,112	371	14,933	1,421

VAG Tax Rate Groups

Year	0.05	0.25	0.50	0.75	1.00	2.00	3.00	3.50	4.00	4.50	5.00
1989	61	36	62	159	11	7	20	4	0	2	9
1990	52	46	66	158	6	8	18	3	1	2	11
1991	45	38	72	157	8	10	18	7	2	0	14
1992	30	26	45	190	13	11	32	2	4	4	14
1993	16	20	31	200	13	12	52	2	4	4	17
1994	12	13	31	190	27	20	48	3	6	3	18
1995	10	10	32	190	36	27	34	6	3	4	19
1996	7	8	25	183	47	34	32	9	2	6	18
1997	4	6	15	173	27	58	51	7	5	5	20
1998	2	5	14	134	31	53	91	8	7	4	22
1999	2	3	10	123	40	79	74	8	4	4	24
2000	3	1	9	126	110	59	24	7	5	4	23

Table B.16

Simulation Results

Tax Schedule A, Unemployment Scenario 1, Employment Growth 2.9%

Year	Year End Reserves	Member Tax Contributions	Investment Income	Benefits Paid	Other Expenses
1988	7,253,197	1,688,050	574,800	1,258,208	360,900
1989	8,142,056	1,837,799	725,320	1,295,679	378,581
1990	9,138,205	1,904,612	814,206	1,333,108	389,560
1991	10,212,665	1,932,899	913,820	1,371,410	400,850
1992	11,379,006	1,968,954	1,021,266	1,411,404	412,474
1993	12,634,338	1,994,442	1,137,901	1,452,577	424,434
1994	14,003,842	2,037,430	1,263,434	1,494,616	436,742
1995	15,484,520	2,067,993	1,400,384	1,538,292	449,408
1996	17,077,095	2,089,285	1,548,452	1,582,724	462,437
1997	18,777,405	2,096,969	1,707,709	1,628,523	475,846
1998	20,656,136	2,166,469	1,877,740	1,675,837	489,640
1999	22,663,134	2,169,731	2,065,614	1,724,512	503,834
2000	24,854,163	2,217,803	2,266,313	1,774,642	518,446

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1988	204,370,666	125,042,460	371	15,090	783
1989	210,322,812	137,311,396	371	15,528	858
1990	216,422,174	141,294,174	371	15,978	885
1991	222,694,177	145,392,444	371	16,441	916
1992	229,152,308	149,606,360	371	16,918	938
1993	235,796,562	153,945,422	371	17,409	960
1994	242,634,662	158,410,557	371	17,914	994
1995	249,671,068	163,004,448	371	18,433	1,016
1996	256,909,718	167,731,528	371	18,968	1,049
1997	264,358,930	172,593,765	371	19,518	1,079
1998	272,022,488	177,599,571	371	20,084	1,109
1999	279,908,020	182,748,454	371	20,666	1,139
2000	288,025,352	188,048,617	371	21,265	1,171

VAG Tax Rate Groups

Year	0.25	0.50	0.75	1.00	1.25	1.50	2.50	3.50	4.00	4.50	5.00	5.50
1989	34	27	36	62	159	11	7	20	4	0	2	9
1990	25	26	47	68	157	7	7	18	2	1	2	11
1991	24	30	49	85	136	8	7	13	5	0	4	10
1992	23	34	59	89	118	7	10	11	5	3	2	10
1993	22	46	65	97	90	14	5	12	4	3	3	10
1994	23	50	93	88	65	11	10	13	2	1	4	11
1995	19	60	99	90	49	10	12	14	1	3	3	11
1996	19	65	124	64	43	12	13	13	1	2	3	12
1997	18	80	130	49	39	11	13	13	1	2	2	13
1998	17	96	130	36	37	10	14	13	1	2	1	14
1999	18	114	117	31	36	11	17	9	1	2	1	14
2000	17	138	97	29	33	12	14	12	2	2	1	14

Table B.17

Simulation Results
Tax Schedule A, Unemployment Scenario 2, Employment Growth 2.9%

Year	Year End Reserves	Member Tax Contributions	Investment Income	Benefits Paid	Other Expenses
1988	7,253,197	1,688,050	574,800	1,258,208	360,900
1989	8,142,056	1,837,799	725,320	1,295,679	378,581
1990	6,303,703	1,879,724	814,206	4,152,387	379,896
1991	7,259,773	2,097,959	630,370	1,371,410	400,850
1992	8,435,895	2,274,023	725,977	1,411,404	412,474
1993	9,665,133	2,262,660	843,589	1,452,577	424,434
1994	10,922,962	2,222,675	966,513	1,494,616	436,742
1995	12,257,186	2,229,628	1,092,296	1,538,292	449,408
1996	13,663,694	2,225,950	1,225,719	1,582,724	462,437
1997	15,198,157	2,272,463	1,366,369	1,628,523	475,846
1998	16,858,912	2,306,417	1,519,816	1,675,837	489,640
1999	18,627,860	2,311,403	1,685,891	1,724,512	503,834
2000	20,501,894	2,304,335	1,862,786	1,774,642	518,446

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1988	204,370,666	125,042,460	371	15,090	783
1989	210,322,812	137,311,396	371	15,528	858
1990	211,053,304	139,624,486	371	15,581	2,442
1991	222,694,177	145,392,444	371	16,441	916
1992	229,152,308	149,606,360	371	16,918	938
1993	235,796,562	153,945,422	371	17,409	960
1994	242,634,662	158,410,557	371	17,914	994
1995	249,671,068	163,004,448	371	18,433	1,016
1996	256,909,718	167,731,528	371	18,968	1,049
1997	264,358,930	172,593,765	371	19,518	1,079
1998	272,022,488	177,599,571	371	20,084	1,109
1999	279,908,020	182,748,454	371	20,666	1,139
2000	288,025,352	188,048,617	371	21,265	1,171

VAG Tax Rate Groups

Year	0.25	0.50	0.75	1.00	1.25	1.50	2.50	3.50	4.00	4.50	5.00	5.50
1989	34	27	36	62	159	11	7	20	4	0	2	9
1990	25	26	47	68	157	7	7	18	2	1	2	11
1991	18	24	40	79	155	7	11	15	7	1	0	14
1992	13	17	32	75	172	11	7	22	4	5	2	11
1993	13	18	42	99	135	16	12	14	4	3	3	12
1994	11	25	58	96	125	15	4	17	2	3	4	11
1995	11	27	79	106	92	12	11	15	0	3	3	12
1996	9	40	104	98	64	13	12	11	3	1	3	13
1997	10	43	124	86	52	11	13	11	4	2	1	14
1998	9	55	141	63	47	11	15	8	5	2	1	14
1999	10	72	149	41	42	12	16	7	4	3	1	14
2000	7	93	143	32	36	16	14	10	2	3	1	14

Table B.18

<div style="text-align:center">

Simulation Results

Tax Schedule A, Unemployment Scenario 3, Employment Growth 2.9%

</div>

Year	Year End Reserves	Member Tax Contributions	Investment Income	Benefits Paid	Other Expenses
1988	7,253,197	1,688,050	574,800	1,258,208	360,900
1989	8,142,056	1,837,799	725,320	1,295,679	378,581
1990	6,303,703	1,879,724	814,206	4,152,387	379,896
1991	4,340,913	2,072,387	630,370	4,274,556	390,991
1992	5,439,749	2,488,624	434,091	1,411,404	412,474
1993	6,732,617	2,625,904	543,975	1,452,577	424,434
1994	7,968,423	2,493,902	673,262	1,494,616	436,742
1995	9,207,373	2,429,809	796,842	1,538,292	449,408
1996	10,489,962	2,407,013	920,737	1,582,724	462,437
1997	11,819,380	2,384,791	1,048,996	1,628,523	475,846
1998	13,225,324	2,389,483	1,181,938	1,675,837	489,640
1999	14,769,061	2,449,551	1,322,532	1,724,512	503,834
2000	16,464,922	2,512,042	1,476,906	1,774,642	518,446

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1988	204,370,666	125,042,460	371	15,090	783
1989	210,322,812	137,311,396	371	15,528	858
1990	211,053,304	139,624,486	371	15,581	2,442
1991	217,217,498	143,716,749	371	16,036	2,506
1992	229,152,308	149,606,360	371	16,918	938
1993	235,796,562	153,945,422	371	17,409	960
1994	242,634,662	158,410,557	371	17,914	994
1995	249,671,068	163,004,448	371	18,433	1,016
1996	256,909,718	167,731,528	371	18,968	1,049
1997	264,358,930	172,593,765	371	19,518	1,079
1998	272,022,488	177,599,571	371	20,084	1,109
1999	279,908,020	182,748,454	371	20,666	1,139
2000	288,025,352	188,048,617	371	21,265	1,171

<div style="text-align:center">

VAG Tax Rate Groups

</div>

Year	0.25	0.50	0.75	1.00	1.25	1.50	2.50	3.50	4.00	4.50	5.00	5.50
1989	34	27	36	62	159	11	7	20	4	0	2	9
1990	25	26	47	68	157	7	7	18	2	1	2	11
1991	18	24	40	79	155	7	11	15	7	1	0	14
1992	10	9	33	46	197	12	15	27	1	4	5	12
1993	7	7	23	44	207	10	20	28	4	4	3	14
1994	6	8	31	83	172	19	9	18	6	2	4	13
1995	6	10	43	98	158	11	6	16	5	1	3	14
1996	6	13	57	117	122	14	6	13	6	1	2	14
1997	6	19	95	104	89	14	13	9	5	2	1	14
1998	5	25	119	100	65	14	12	10	4	2	1	14
1999	5	35	137	80	54	16	15	7	4	2	2	14
2000	5	47	150	60	48	14	13	12	4	3	1	14

Table B.19

Simulation Results

Tax Schedule A, Unemployment Scenario 4, Employment Growth 2.9%

Year	Year End Reserves	Member Tax Contribution	Investment Income	Benefits Paid	Other Expenses
1988	7,253,197	1,688,050	574,800	1,258,208	360,900
1989	8,142,056	1,837,799	725,320	1,295,679	378,581
1990	6,303,703	1,879,724	814,206	4,152,387	379,896
1991	4,340,913	2,072,387	630,370	4,274,556	390,991
1992	2,433,673	2,459,802	434,091	4,398,805	402,328
1993	3,651,585	2,851,555	243,367	1,452,577	424,434
1994	4,939,723	2,854,339	365,158	1,494,616	436,742
1995	6,101,638	2,655,643	493,972	1,538,292	449,408
1996	7,249,034	2,582,393	610,164	1,582,724	462,437
1997	8,438,339	2,568,770	724,903	1,628,523	475,846
1998	9,701,212	2,584,516	843,834	1,675,837	489,640
1999	11,028,113	2,585,126	970,121	1,724,512	503,834
2000	12,404,657	2,566,821	1,102,811	1,774,642	518,446

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1988	204,370,666	125,042,460	371	15,090	783
1989	210,322,812	137,311,396	371	15,528	858
1990	211,053,304	139,624,486	371	15,581	2,442
1991	217,217,498	143,716,749	371	16,036	2,506
1992	223,515,377	147,910,835	371	16,505	2,585
1993	235,796,562	153,945,422	371	17,409	960
1994	242,634,662	158,410,557	371	17,914	994
1995	249,671,068	163,004,448	371	18,433	1,016
1996	256,909,718	167,731,528	371	18,968	1,049
1997	264,358,930	172,593,765	371	19,518	1,079
1998	272,022,488	177,599,571	371	20,084	1,109
1999	279,908,020	182,748,454	371	20,666	1,139
2000	288,025,352	188,048,617	371	21,265	1,171

VAG Tax Rate Groups

Year	0.25	0.50	0.75	1.00	1.25	1.50	2.50	3.50	4.00	4.50	5.00	5.50
1989	34	27	36	62	159	11	7	20	4	0	2	9
1990	25	26	47	68	157	7	7	18	2	1	2	11
1991	18	24	40	79	155	7	11	15	7	1	0	14
1992	10	9	33	46	197	12	15	27	1	4	5	12
1993	6	7	15	34	211	13	14	44	5	4	4	14
1994	4	3	13	36	212	23	18	35	5	4	1	17
1995	3	5	19	60	211	21	3	24	5	3	3	14
1996	3	7	25	84	191	15	6	17	4	2	3	14
1997	3	8	40	109	153	16	5	14	5	1	3	14
1998	3	9	73	112	115	14	11	12	4	1	3	14
1999	4	11	100	106	90	13	16	9	4	2	2	14
2000	3	20	130	97	62	13	15	9	5	1	2	14

Table B.20

Year	Year End Reserves	Member Tax Contributions	Investment Income	Benefits Paid	Other Expenses
1988	7,253,197	1,688,050	574,800	1,258,208	360,900
1989	8,142,060	1,835,440	725,320	1,294,001	377,897
1990	7,193,751	1,886,421	814,206	3,266,034	382,902
1991	5,255,714	2,008,135	719,375	4,274,556	390,991
1992	4,174,686	2,375,019	525,571	3,576,544	405,073
1993	4,037,347	2,687,936	417,469	2,822,904	419,839
1994	4,189,188	2,832,550	403,735	2,651,544	432,899
1995	2,769,304	2,760,145	418,919	4,158,005	440,943
1996	1,425,034	2,978,812	276,930	4,145,403	454,609
1997	-353,588	3,353,996	142,503	4,809,660	465,462
1998	-148,919	3,804,857	0	3,115,134	485,053
1999	-205,988	3,798,210	0	3,356,498	498,781
2000	-570,603	3,448,527	0	3,299,512	513,630

Year	Gross Payroll	Taxable Payroll	Number of VAG Members	Number of Employees	Number of Claimants
1988	204,370,666	125,042,460	371	15,090	783
1989	209,942,509	137,125,502	371	15,507	858
1990	212,723,257	140,124,981	371	15,702	1,936
1991	217,217,498	143,716,749	371	16,036	2,506
1992	225,040,652	148,361,694	371	16,617	2,144
1993	233,244,119	153,159,946	371	17,218	1,726
1994	240,499,674	157,767,248	371	17,756	1,619
1995	244,968,164	161,582,611	371	18,077	2,463
1996	252,560,362	166,479,683	371	18,636	2,474
1997	258,589,785	170,851,172	371	19,086	2,844
1998	269,474,105	176,806,548	371	19,888	1,901
1999	277,100,577	181,891,977	371	20,447	2,034
2000	285,350,154	187,247,538	371	21,062	2,015

VAG Tax Rate Groups

Year	0.25	0.50	0.75	1.00	1.25	1.50	2.50	3.50	4.00	4.50	5.00	5.50
1989	34	27	36	62	159	11	7	20	4	0	2	9
1990	29	25	46	66	157	7	6	18	3	1	2	11
1991	24	22	43	77	153	6	11	14	7	0	0	14
1992	13	11	35	63	181	12	8	26	2	6	2	12
1993	8	8	25	37	210	10	10	38	3	5	3	14
1994	4	6	17	43	207	15	20	32	6	3	3	15
1995	3	4	19	49	201	32	10	27	5	4	2	15
1996	3	1	16	49	201	24	24	27	5	3	2	16
1997	1	2	6	42	202	19	33	38	4	4	3	17
1998	0	1	6	25	199	26	30	55	3	5	4	17
1999	0	1	2	23	194	31	54	36	5	4	4	17
2000	0	2	1	39	185	70	19	25	5	4	5	16

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