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Christopher J. O'Leary W.E. Upjohn Institute for Employment Research, oleary@upjohn.org

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Authors Christopher J. O'Leary, W.E. Upjohn Institute for Employment Research

Upjohn Author(s) ORCID Identifier

(i) https://orcid.org/0000-0002-3372-7527

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VAG TRUST FUND ADEQUACY

An Evaluation Submitted

to

Michigan Voluntary Agency Group Plan for Unemployment Compensation, Inc. [VAG] 200 First National Building Detroit, Michigan 48226

by

The W. E. Upjohn Institute for Employment Research 300 South Westnedge Avenue Kalamazoo, Michigan 49007 (616) 343-5541

> Christopher J. O'Leary* Project Director

> > August 1989

* Wei-Jang Huang provided excellent research assistance.

An Executive Summary

of

VAG TRUST FUND ADEQUACY

an evaluation prepared by

Christopher J. O'Leary¹ The W.E. Upjohn Institute for Employment Research

August, 1989

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

¹ Excellent research assistance was provided by Wei-Jang Huang.

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.

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.

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

VAG Historical Data*

* 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 <u>Financial</u> <u>Planning for VAG</u> (October 23, 1978) [calling] for a reserve equal to 2.7 percent of total payrolls, or 1.5 times the highest 4quarter 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

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

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

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.

Year	Benefits Paid (BP)	Gross Payroll (GP)	BP/GP	
1972	26,524.00	40.004.000.00	0.005	
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	
2,00	1,1,0,00000	213,034,400.00	0.005	

Table 1. Benefits Paid Relative to Gross Payroll

Figure 1.



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.

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.

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.



Table 2.

Benefits/Gross Pay

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.

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



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.

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

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





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

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.

Range of Reserve Ratio (RR)	Tax Rate	
$\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$	0.25 0.50 0.75 1.00 1.25 1.50 2.50 3.50 4.00 4.50 5.00 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.





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 memberagencies 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

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.

Denne of	Та	2	
Range or Reserve Ratio (RR)	A	В	с
15.00 <u><</u> RR	0.25	0.05	0.05
$12.50 \leq RR < 15.00$	0.50	0.25	0.05
$10.00 \leq RR < 12.50$	0.75	0.50	0.25
$7.50 \leq RR < 10.00$	1.00	0.75	0.50
$1.00 \leq RR < 7.50$	1.25	1.00	0.75
$.00 \leq RR < 1.00$	1.50	1.25	1.00
$-1.00 \leq RR < .00$	2.50	2.25	2.00
$-7.50 \leq RR < -1.00$	3.50	3.25	3.00
$-10.00 \leq RR < -7.50$	4.00	3.75	3.50
$-12.50 \leq RR < -10.00$	4.50	4.25	4.00
$-15.00 \leq RR < -12.50$	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.

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.

Year	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
1988	1 4	1 /		1 /	1 /
1989	1 /	1 /	1. 1	1 /	1.4
1909	1.4	7.4	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

Table 7. Average Unemployment Rate Scenarios for Simulations

- 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.

Tax			Unemploy	ment Scena	rio	
Schedule 2	A 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 1	В					
	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 (2					
	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	<u>2.639</u>	2.639	3.521
	1992	8.485	5.756	2.977	<u>0.301</u>	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 8.VAG Simulation Reserve Balance in Millions of Dollarsby Tax Schedule and Unemployment Scenario

Tax Schedule			Unemplo	yment Sce	nario	
A	Year	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	$\frac{1.12}{1.12}$	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 4 2	2.20	0.40
	1999	5.78	4.75	3.77	2.88	0.47
	2000	6.30	5.19	4.13	3.20	0.47
<u></u>			<u> </u>			
Schedule	1000	1	1			
В	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	<u>1.02</u>	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	1,10	0.48	-0 71
	1997	3,09	2.16	1 97	0.40	-1 16
	1998	3.09	2.10	1 25	0.50	_1 10
	1999	3.23	2.50	1 //	0.52	-1.10
	2000	3.75	2.59	1,52	0.57	-1.26

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

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

		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 10.VAG Simulation Reserve Balance in Millions of Dollarsby Tax Schedule and Unemployment Scenario

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

-

Year		Unemployment Scenario							
	. 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				

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

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.

Ŋ	lear	Yea	r End	Me	mber I	ax	Invest	ment	Bene	fits	Oth	er
		Res	erves	Cont	ributi	ons	Inco	me	Pa	id	Expe	nses
1	L988	7,25	3,197	1,	688,05	0	574,	800	1,258	,208	360	,900
1	L989	8,13	7,354	1,	786,10	3	725,	320	1,259	,351	367	,913
1	L990	9,11	5,523	1,	791,69	8	813,	735	1,259	,351	367	,913
1	1991	10.13	7.603	1.	737.79	3	911.	552	1,259	.351	367	.913
1	992	11.23	1.442	1.	707.34	3	1.013	760	1.259	.351	367	.913
1	993	12.39	7.820	1.	670.49	9	1.123.	144	1.259	.351	367	.913
1	994	13.61	4.003	1.	603.66	6	1.239.	782	1,259	.351	367	.913
- 1	995	14 94	3.826	-,	595,68	8	1 361	400	1,259	.351	367	.913
- 1	996	16 35	7 947	-,	547 00	2	1 494	383	1 259	351	367	913
1	997	17 86	2 105	-,	495 62	9	1 635	795	1 259	351	367	913
` 1	998	19 51	5 819	1	494 76	7	1 786	211	1 259	351	367	913
1	999	21 28	2 981	1	424,70	5	1 951	582	1 259	351	367	,913
2		21,20	5 805	1	442,04	1	2,751,	202	1 250	351	367	,) 1 J 01 J
4	.000		5.095	و ك	411,00	<u>, </u>	2,120,	270	1,233	, , , , , , , , , , , , , , , , , , , ,		, , , , , , , , , , , , , , , , , , , ,
``	loar	Gr	000	7	'avahla		Number	of	Numbe	r of	Numbo	r of
	car	Pau	v55	L L	anabie		AC Mom	borg	Fmplo	VOOG	Claim	ante
1	088	204 37	0 666	125	0/2 /6	<u> </u>	<u>AG Heil</u> 371	Ders	<u>15</u>	090	<u>-014111</u> 78	<u>वााएड</u> २
1	080	204,37	6 310	122,	<i>42,40</i>	4	371		15,	000	70 83	0
1	000	204,33	6 210	122,	444,03	··+	271		15	030	20	0
1	001	204,33	0,319 c 310	122,	444,03	4	271 271		1J,	090	00	0
1	1991	204,39	0,319	100,	444,03	4	371		15,	090	00	0
1	1992	204,39	0,319	122,	444,03	4	3/1		15,	090	60	0
1	2993	204,39	0,319	133,	444,03	4	3/1		15,	090	83	0
1	.994	204,39	6,319	133,	444,03	4	3/1		15,	090	83	0
1	1995	204,39	6,319	133,	444,03	4	3/1		15,	090	83	0
1	1996	204,39	6,319	133,	444,03	4	3/1		15,	090	83	0
1	.997	204,39	6,319	133,	444,03	4	371		15,	090	83	0
1	.998	204,39	6,319	133,	444,03	4	371		15,	090	83	0
1	.999	204,39	6,319	133,	444,03	4	371		15,	090	83	0
2	2000	204,39	<u>6,319</u>	<u>133</u>	<u>444,03</u>	4	371			090	83	0
				VA	G Tax	Rate G	roups					
							£					
<u>Year</u>	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	ī	2	2	14
1997	, 3 77	101	85	20	33	14	10	12	1	2	2	14
1998	, , 80	117	61	17	30	10	13	10	- /	2 1	2	14
1990	107	103	28	16	22	20	10	Q IV	· ·	1	2	17
2000	121	110	20	1/	30	11	10	10		1	ر د	15
2000	101	112	∠ フ	14		<u> </u>	12			L	<u>∠</u>	<u> </u>

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

							_		_	~ ~		
	Year	Yea	ar End	Me	ember T	ax	Invest	ment	Bene	efits	Oth	ner
	1000	<u></u>	serves		COO OF	ons		ome	1 050	11d	<u> </u>	enses
	1000	/,Z: 0 11)),19/)7 25/	1	,000,00 706 10	0	274,	220	1,250	0,200 0 251	200	,900
	1000	0,1.	07,004	1	,700,10	0	125,	725	1,255	7,331	20/	,913
	1001	0,4	0,009	1	,/09,UZ	0 7	613, 613	020	3,922	2,000	200	0,0/1
	1991	/, 54	+0,090	I,	,093,72	/	043, 724	,839	1,205	7,351	30/	,913
	1992	0,4:	2/,112	Ζ,	,000,81	0	/ 34,	,009 711	1,255	7,331	30/	,913
	100%	9,50	DC 0C2	1	,915,0U 015 02	2 1	045,	026	1,205	7,331	207	,913
	1005	10,73	20,003	1	,010,00	с Г	900, 1 072	930	1,209	7,331	207	,913
•	1006	11,93	33,343	1,	,750,95	0	1,073,	000	1,239	, 331	30/	,913
	1990	10,12	0,048	1,	,090,03	0	1,193,	005	1,209	,301	367	,913
•	1000	14,51	10,510	1,	,020,32 501 01	۲ ٥	1,519,	005	1,209	, 301	207	,913
-	1000	15,92	25,994	1, 1	, 291, 91	0 5	1,451,	500	1,209	, 301	207	,913
-	1999	10 10	04,024	1, 1	, 573, 49	5	1,392,	299	1,209	,351	367	,913
4	2000		04,067		520,02	6	1,746,	482	1,259	,351	367	,913
,	Year Gross		1	Tavahla		Number	of	Numbe	r of	Numbo	r of	
•	ICAL	Par	.033 moll	I I	anable Pavroll	,		bere	Fmplo	VAAS	Claim	ante
	1988	204 37	0 666	125	042 460	0	771		<u></u> 15	<u>090</u>	78	3
	1989	204,37	0,000	133	444 03	4	371	•	15	090	23	0
1	1990	199 37	2 539	131	894 02	 5	371	•	14	717	2 30	0
-	1991	204 39	16 319	133	444 03	5 4	371	•	15	090	2,50 83	0
1	1992	204,32	6 319	133	444,03		371	•	15	090	83	0
1	1993	204,32	6 319	133	444,03		371	•	15	090	23 83	0
1	1994	204,32	6 319	133,	444,03	4	371	•	15	000	83	0
1	1995	204,32	6 319	133,	444,03		371	• -	15	090	83	0
1	1996	204,32	6 310	122,	444,03	+ /.	371	•	15	000	63	0
1	1007	204,32	6 310	133,	444,03	+ /.	371		15	090	03	0
1	1008	204,33	6 310	133,	444,030 444,030	+ /.	371		15	090	03	0
1		204,33	6 310	133,	444,03	+ /.	371		15	090	00	0
2		204,35	6 310	122,	444,000	+ /.	371		15	090	00	0
4	2000	204,35	0,319	155.	444,034	+			15.	090	63	<u> </u>
				VA	G Tax I	<u>Rate (</u>	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

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

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

Y	lear	Yea	ir End	Me	ember I	ax	Invest	ment	Bene	fits	Oth	er
		Res	erves	Cont	<u>ributi</u>	ons	Inco	me	Pa	id	Expe	nses
1	.988	7,25	53,197	1,	688,05	0	574,	800	1,258	,208	360	,900
1	.989	8,13	37,354	1,	786,10)3	725,	320	1,259	,351	367	,913
1	.990	6,43	8,389	1,	769,02	.8	813,	735	3,922	,858	358	,871
1	.991	4,67	0,768	1,	870,26	9	643,	839	3,922	,858	358	,871
1	.992	5,68	35,747	2,	175,16	6	467,	077	1,259	,351	367	,913
1	.993	6,85	2,214	2,	225,15	8	568,	575	1,259	,351	367	,913
1	.994	7,95	6,532	2,	046,36	1	685,	221	1,259	,351	367	,913
1	.995	9,04	9,380	1,	924,46	0	795,	653	1,259	,351	367	,913
1	.996	10,16	1,491	1,	834,43	8	904,	938	1,259	,351	367	,913
1	.997	11,32	2,139	1,	771,76	4	1,016,	149	1,259	,351	367	,913
1	.998	12,57	1,087	1,	743,99	9	1,132,	214	1,259	,351	367	,913
1	999	13,86	0,122	1,	659,19	1	1,257,	109	1,259	,351	367	,913
2	2000	15.20	9.390	1.	590,52	1	1,386,	012	1,259	351	367	.913
Y	lear	Gr	OSS	I	axable	:	Number	of	Numbe	r of	Numbe	r of
	000	Pay		<u> </u>	ayroll		VAG Mem	bers	<u>Empio</u>	ooo		ants
1	.900	204,37	0,000	125,	042,40		271	•	15,	090	/0	2
1	.909	204,39	0,519	122,	444,03	94 15	3/1 271	•	1,	717	CO 0 C C	0
1	.990	100 27	2,009	121,	094,02		2/1	•	14,	717	2,30	0
1	002	199,37	2,539	122,	094,02		3/1	•	14,	/1/	2,50	0
1	.992	204,39	0,319	122,	444,03	4	2/1	•	15,	090	ده ده	0
1	.993	204,39	0,319	122,	444,03	4	271	•	15,	090	ده ده	0
1	.994	204,39	0,319	100,	444,03	4	2/1		15,	090	ده ده	0
1	.995	204,39	0,319	122,	444,03	4	271	•	15,	090	ده ده	0
1	.990	204,39	0,319	133,	444,03	4	3/1		15,	090	63	0
1	.997	204,39	6,319	133,	444,03	4	3/1		15,	090	83	0
1	.998	204,39	6,319	133,	444,03	4	3/1		15,	090	83	0
1	.999	204,39	6,319	133,	444,03	4	3/1		15,	090	83	0
2	000	204,39	6,319	133,	444,03	.4	3/1	·	15,	090	83	0
				VA	G Tax	Rate (Groups					
	0.05	0 = 0	A ==	1	1	1	0 50	0 50				
<u>Year</u>	0.25	0,50	0.75	1.00	1.25	1.50	2.50	3.50	4.00	4.50	5.00	5.50
TA8A	34	2/	36	62	122	11	1	20	4	0	2	9
1990	29	25	48	68	153	/	6	19	2	1 A	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

	Simulati	ion Results		
Tax Schedule A,	Unemployment	Scenario 4,	Employment	Growth O

	Voor		Voor Fr	a	Mamba	м Т он	T		- D.)	
	lear			a C	nembe.	L lax		escment	- De		5 (17-	Juner	
	1099	7	253 10	<u>s (</u> 7	1 600	050			1 /	<u>Paio</u>	<u> </u>	<u>cpenses</u>	<u> </u>
	1080	2 2	,233,19 137 35	, ,	1 796	103	יב יר	74,000	1,4	200,200		00,900	
	1000	6	,137,33 738 38	4 0	1,700	,103	01	23,320	1,4	209,001	 , -	00/,913	
	1001	6	,430,30 670 76	9 0	1 070	,020	0. ()	LJ,/JJ	2,2	722,000 000 050		00,0/L	
	1002	4	,070,70	0	1,0/0	,209 10/	04	+2,039	2,2	22,000		000,071	
	1002	ר ג	,005,50 110 70	0	2,149	,104 120	40	0,0/7	3,5	722,000 050 051		000,0/L	
	100%	4	,119,70 976 99	4 0	2,441	,139 /11) 2	1 070	1,4	209,001		07,913	
	1005	, د ۲	,210,02 205 0%	0 2	2,3/2	,411	41	11,970	1,4	209,001	-	07,913	
	1006	, o ,	,JZJ,Z4 353 50	L C	2,140	,004	52	27,002	1,4	209,001		07,913	
	1007	0	, JJZ, JO 306 70	2	1 022	,000 102	0.	<i>2,324</i>	1,4	237,331		07,913	
	1000	0, 0	,200,10 162 NO	ວ າ	1 920	,123	/ 2	00,209 00 670	1,2	209,001		007,913	
	1000	10	,402,00 587 00	2 2	1 206	,975 976	0.	10,070	1,2	.59,551 150 251		067,913	
	2000	11	, JOI, JU 761. 05	2 1	1 7/5	,070	1 05	10,200	1,2	239,331		07,913	
	2000	<u>+ + ,</u>	104,05	1	1,745	,424	1,03	00,790	<u> </u>	.59, 551	·	07,913	
	Voar		Groce		Toyol	-1-	Numb	or of	N	how of	. Mier	how of	
	Ical	T	Oross Pavroll		Pauro	51e 511	VAC N	lombore				iber or	
	1988	204	370 66	6 1'	<u>1 ayrc</u> 25 0/2	460	<u>1 0AV</u>	12110213	<u>- Emp</u>	5 000	012	793	
	1989	204	396 31	9 11	33 444	034		71	1	5 090		830	
	1990	199	372 53	9 11	31 894	025	3	171	1	<i>4</i> 717	2	300	
	1991	199	372,55	9 13	31 894	025	2	71	1	4 717	2,	300	
	1992	199	372,55	9 13	31 894	025	2	71	1	4,717 4 717	2,	300	
	1993	204	396 31	9 13	33 444	034	,	,,, <u>,</u> 171	1	5 090	۷,	830	
	1994	204,	396 31	9 13	33 444	034	3	171	1	5 090		830	
	1995	204,	396 31	9 13	33 444	034	1	71	1	5 090		830	
	1996	204,	396 31	9 13	33 444	034	3	71	1	5 090		830	
	1997	204,	396 310	9 13	23,444, 23,444	034	3	71	1	5 090		830	
	1998	204,	396 31	9 13	33 444, 33 444	034	3	71	1	5 090		830	
	1999	204,	396 310	9 13	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	034	3	71	1	5 090		830	
	2000	204,	396 310	2 13	23,444,	034	3	71	1	5 000		830	
	2000		370,31	<u> </u>	· · · · · · · · · · · · · · · · · · ·	034		<u> </u>		5,070		0.50	
				VA	G Tax	Rate G	roups						
													•
<u>Year</u>	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	

v	loar	Vor	r Fnd	Ма	mbor 7	lov	Invoct	mont	Bono	fite	Oth		
-	car	Rec	arves	Cont	ributi	ong	Invest	mo	Pa	id	Fyne	DCAC	
1	988	7.25	3 197	1	688 05	50	574	800	1.258	208	360	900	
1	989	8 13	37 024	1	785 45	54	725	320	1 259	274	367	673	
1	990	7 29	10 293	1,	776 33	24 15	, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2,	702	3 085	055	361	,075 713	
1	001	5 53	7 060	. 1	810 46	5	728	020	3,000	858	358	,713 871	
1	002	7,53	2 000	· ⊥, ?	010,40		720,	706	3,322	,000	261	,0/1 210	
1	.772	4,50	12,000	Z,	045,55) 7) 1	, LO	200	J,103	, / 0 /	201	,510	
1	.993	4,52	.0,709	2,	271,32	.1	450,	200	2,44/	,995	202	,009	
1	.994	4,74	1 (00	Ζ,	308,//	4	452,	0//	2,233	, 301	304	, 303	
1	.995	3,/1	1,609	2,	258,45	8	4/4,	010	3,400	, 323	360	,631	
L	.996	2,73	6,368	2,	309,40	02	3/1,	161	3,294	,830	360	,9/4	
1	.997	1,42	5,579	2,	489,18	32	273,	637	3,714	,052	359	,556	
1	.998	1,59	9,867	2,	736,76	64	142,	558	2,340	,821	364	,213	
1	.999	1,69	6,970	2,	748,96	59	159,	987	2,447	,993	363,859		
2	000	1.58	9,081	2,	<u>427,44</u>	-8		<u>697</u>	2,340	.821	364	.213	
••		<i>,</i> –		-			N7	E.	NT 1		N. 1		
Y	ear	GI	OSS	1	axable	: т	Number	OI	Numbe	r or	Numbe	r or	
1	099	20/ 27	0 666	<u> </u>	0/2 /6	<u> </u>	AG Men 271	bers	<u>Empio</u> 15	non	<u>- 014111</u> 70	ants	
1	.900	204,37	0,000	122,	262 25	ט די	271		15	090	/0	J 1	
1	000	204,20	1 5 6 0	122,	261 26	27 20	271		17,	001	1 00	1	
1	.990	200,95	01,000	132,	301,20) 9) 5	2/1		14,	032	1,02	9	
1	.991	199,37	2,539	131,	894,02		3/1		14,	/1/	2,30	0	
1	.992	200,73	2,381	132,	290,81	_0	3/1		14,	81/	1,90	2	
L	.993	202,14	3,766	132,	/10,9/		3/1		14,	919	1,4/	/	
1	.994	202,53	5,206	132,	831,79	14	371		14,	948	1,36	1	
1	.995	200,35	0,491	132,	179,92	.4	371		14,	789	2,01	6	
1	.996	200,54	1,250	132,	234,91	.1	371		14,	803	1,96	8	
1	.997	199,75	3,068	132,	002,72	22	371		14,	746	2,19	5	
1	.998	202,34	0,711	132,	771,11	.2	371		14,	933	1,42	1	
1	.999	202,14	3,766	132,	710,97	'7	371		14,	919	1,47	7	
2	000	202,34	0.711	132,	<u>771.11</u>	.2	371	. <u>.</u>	14,	933	1,42	1	
						_	_						
			· · · ·	VA	<u>G Tax</u>	<u>Rate (</u>	roups			·····,			
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	2.00	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	Õ	ő	ů L	12	
1993	11	10	30	61	176	Ŕ	12	25	4	2		15	
199/	10		22 28	65	173	0	10	22			4 0	17	
1005	10 7	י ג	20	60	165	י רי	10	55 25	· ·	-+	2	17	
1004	1	0	24 20	<u> </u>	171	21 00	12	25	4	4	2	17	
1007	4	У Г	29	04 <i>C I</i> .	170	23 17	70 T0	21	כ ב	0	۲. ا	17	
1000	4	د ر	20	54	170	14	29	55	5	4	4	1/	
1000	2	4	10	59	1/2	12	24	21	5	4	Ž	20	
TAAA	3	T	16	59	162	21	39	39	3	4	4	20	
2000	3	1_	19	66	157	47	23	24_	4	4	4	<u> </u>	

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

3	Year	Yea	ar End	Me	ember]	lax	Invest	tment	Bene	fits	_Oth	ner	
		Res	serves	Cont	<u>ributi</u>	lons		ome	<u> </u>		Expe	nses	
1	1000	7,2:	5 ,197	1,	688,03		5/4, 705	,800	1,250	3,208	360	,900 ,010	
1	1989	/,80	J5,54Z	1,	454,25		720	,320	1,205	7,30L	30/	,913	
1	1990	8,44	25, 549	1,	400,01	10	/80,	525	1,205	7,331) 251	207	,913	
1	1000	9,03	10,901	L, 1	455,51		042,	, 555	1,255	7,331 9,351	207	,913	
1	L992 1003	9,03	51,175	1, 1	452,91	14	909,	, 293 117	1,205	7,301) 251	267	,913	
1	100%	11 59	5,040	1, 1	430,02	20	903, 1 064	305	1 250	, 351	367	,913	
1	1005	12,5.	10,025	⊥, 1	470,53	20	1 155	063	1 250	, 351	367	,913	
1	1006	12,47	79,303	1 ± ,	377 10	2	1, 1, 2, 7	002	1 250	, JJI) 351	367	,913	
1	1007	1/ 50	7,101	1, 1	300 00	1 1	1,247,	716	1 250	, JJI) 351	367	,913	
1	1000	15 75	<i>22</i> / 013	1, 1	352 20)1)1	1,547,	761	1 250	, JJI	367	, , , , , , , , , , , , , , , , , , , ,	
1	1000	17 02	2,402	1, 1	301 51	0	1,430,	240	1 250) 351	367	,913	
1	2000	18 36	5 / 82	1, 1	266 47	71	1, 577,	380	1 250	1 351	367	,913	
2	2000	10,50	0,402	ł.	200,47	<u> </u>	1,702,	309	1,235			,915	
v	Year Gross <u>Payrol1</u> 1988 204,370,666		.066	г	'axahle	`	Number	of	Numbe	r of	Numbe	r of	
•	lour	Pay	roll	F	avroll	, 	VAG Men	bers	Emplo	vees	Claim	ants	
1	988	204.37	0.666	125.	042.46	50	371		15.	090	78	3	
1	1989	204.39	6.319	133.	444.03	34	371	_	15.	090	83	0	
1	990	204.39	6.319	133.	444.03	34	371	_	15.	090	83	0	
1	991	204.39	6.319	133.	444.03	34	371		15.	090	83	0	
1	L992	204.39	6.319	133.	444.03	34	371	-	15.	090	83	0	
1	1993	92 204,396,319 92 204,396,319 93 204,396,319		133.	444.03	34	371	_	15.	090	83	0	
1	1994	204.39	6.319	133.	444.03	34	371	-	15.	090	83	0	
1	L995	204.39	6.319	133.	444.03	34	371	_	15.	090	83	0	
1	L996	204.39	6.319	133.	444.03	34	371		15.	090	83	0	
1	L997	204.39	6.319	133,444,034			371	-	15.	090	83	0	
1	L998	204,39	6,319	133,444,034			371		15,	090	83	0	
1	L999	204,39	6,319	133	444,03	4	371		15.	090	830		
. 2	2000	204,39	6,319	133	444,03	4	371		15,	090	83	0	
<u></u>				VA	<u>G Tax</u>	<u>Rate (</u>	Groups						
V - · · ·		0.05	0.50	0.75	1 00	1 05	0.05	2 05	3 70	1.05	1 75	5 95	
<u>1000</u>	<u>0.05</u>	0.25	0.50	0.75	150	1,25	2.25	3.25	<u>3./5</u>	4.25	4./5	5.25	
1000	34 20	2/	30 7.7	0Z 20	157	11		20	4	1	2	9 11	
1001	20	20	4/ 50	00 70	104 100	0 11	D C	19	27	L L	2	11 12	
1000	29	29	52	70	110	0	0 2	14	1	U 7.	2 1	10 1	
1002	23) Y /. 2	20	27 27	02 TTO	9	0 10	14 10	4	4 2	2	12	
100/	35	43	0Z Q/.	02 77	עד דר	0 10	12	1/	4 2	נ ג	Z /.	10 10	
1005	ככ רב	47	04 07	11	/1 50	9 12	10	14 17	2	נ ר	4 2	17 17	
1002	/כ רנ	49	94 00	02 27	5U 7.1	10	10	12 12	L L	2	2	14 17	
1007	10	00 07	99 10/	0/ E/	41 20	10	17	11) E	1	3 1	14	
1000	42	/2	104	54 37	סכ רכ	10	17	11	2	1	1	10	
1000	43	100	104	34 96	3/ 22	13	1) 10	9 10	5 _	1	2	15	
1333	49	100	94 70	20	33 21	1/	1.5	10	5	1 0	2	15	
2000	53	120	/9	27		13	14	11	4	Ż	<u> </u>	15	

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

Year	Year End	Member Tax	Investment	Benefits	Other
	Reserves	<u>Contributions</u>	Income	Paid	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	Taxable	Number of	Number of	Number of
	Payroll	Payroll	VAG Members	Employees	<u>Claimants</u>
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

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

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	

								_					
•	Voor	Vo	or End	M.	mhor 7	Pow	Terroga	mont	Pan	fita	0+1		
	ieal	Po		Cont	ember .	iana	Invest		Dene	erics	Utr Even	ler	
	1022	7 2	52 107	1	688 0º	50	574	800 ·	1 250	2 208	260		
•	1980	7,2.	5, 197	1	,000,0. 454 20	20	725	320	1 250	251	367	, 900 7 013	
•	1000	5 7	51 050	1	,4J4,2: //7 50	90 02	723	554	3 021	, JJI	350	,913 2 971	
•	1001	3,7.	<i></i> 685	1	,447,J: 500 29	50	575	106	3 021	0.000	350	0,071	
•	1002	2,0- /, 31	17 146	1	035 24	57	364	460	1 250	2,000	367	012	
	1003	4,J 5 19	21 688	2	060 00	20	/31	715	1 250	251	267	,913	
•	100/	5 90	10 861	1	837 96	58	518	169	1 250) 351	367	,913	
•	1005	6 50	04 481	1	720 80	20	500	086	1 250	251	367	,913	
-	1006	7 20	1 202	1	664 63))) ()	650	, 900 // Q	1 250	, JJI) 351	367	,913	
-	1007	8 00	18 078	1	614.02	29	, כנט סכד	120	1 250	251	267	,913	
-	1000	0,00	10,070	1,	014,72 602 71	20	729,	000	1 250	, JJI	207	,913	
-	1000	0,00	10,000	1,	556 01		000,	522	1,205	, 351	207	,913	
	2000 10,471,130		1, 1	500,91		880,	555	1,255	,351	30/	,913		
	2000	10,47	1,130	L	521.33	52	961,	551	1,255	,351	36/	,913	
	Voar	C	000	-	'avahle	`	Numbor	- of	Numbe	r of	Numbo	rof	
-	ICAL	Par	.033 moll	1	avroll	- 		bere	Fmplo	VAAS	Claim	ante	
1	1988	204 37	10 666	125	042 46	50	371	IDCID_	15	090	 78	3	
1	1989	204 39	6 319	133	444 03	34	371	-	15	090	23 23	0	
1	1990	199 37	2 539	131	894 02	5	371	-	14	717	2 30	0	
1	1991	199 37	2,539	131	894 02	25	371	-	14,	717	2,30	0	
1	1992	199,372,539		133,444,034			371	-	15	000	2,50	0	
1	1993	204,32	6 319	133,	444,03	74 84	371	-	15,	090	83	0	
1	1994	204,32	6 319	133	444,03	24 84	371	-	15	090	83	0	
1	1995	204 39	6 319	133	444,03	74 84	371	-	15	090	83	0	
1	1996	204,32	6 319	133,	444,03	, . . /.	371	•	15,	000	83	0	
1	1997	204,32	6 310	122,	444,03)- - }/,	371	-	15,	000	63	0	
1	1008	204,33	6 310	133,	444,03	24 27	371	•	15	030	63	0	
1	1000	204,35	6 310	132,	444,03	24	271		15	090	830		
ر د	2000	204,35	2 210	122,	444,03	94 97	271	•	15,	090	00	0	
	2000	204,39	0,319		444,05				,	090	00	0	
				VA	G 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	<u>1</u> 7	

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

37 .				14			T	-	Dava	£1	041	
Yea	ır	Yea	ir End	Me	mber 1	ax	Invest	cment	Bene	ILLS	Uth E	er
100	0	<u> </u>	erves	Cont	<u>ributi</u>	lons			1 050	200	<u>Expe</u>	nses
100	0	7,23)5,197	1,	000,00 151 00	0 00	725	320	1 250	200	367	012
100	0	5 79	1 050	1, 1	434,23	,0 22	723	554	3 022	858	358	,913
100	11	3,7.	/ 685	1, 1	500 25	52 50	575	106	3,922	858	350	,071
199	12	1 63	19,005	1, 1	011 70)6)6	364	,190	3,922	858	358	871
199	12	2 37	79 761	2,	203 88	/0 13	163	922	1 259	351	367	913
199) /_	3 27	1 087	2,	280 61	5	237	976	1 259	351	367	913
199	15	3,27	1,007	1	927 68	23	327	109	1 259	351	367	913
199	16	4 47	9 333	1	818 12	2	389	861	1,259	351	367	913
199	7	5.05	53,984	1.	753.98	32	447	.933	1,259	.351	367	.913
199	8	5.63	5.260	1.	703.14	2	505	398	1,259	.351	367	.913
199	<u>19</u>	6.23	8.114	1.	666.59	94	563	.526	1,259	.351	367	.913
200	0	6.87	8.337	1.	643.67	6	623	811	1.259	.351	367	.913
						-						_
Yea	ır	Gr	oss	Т	axable	9	Number	c of	Numbe	r of	Numbe	r of
•		Pay	roll	Р	ayroll		VAG Mer	nbers	Emplo	yees	Claim	ants
198	8	204,37	0,666	125,	042,46	50	371	L	15,	090	78	3
198	9	204,39	6,319	133,	444,03	34	371	L	15,	090	83	0
199	0	199,37	2,539	131,	894,02	25	371	L	14,	717	2,30	0
199	1	199,37	2,539	131,	894,02	.5	371	L	14,	717	2,30	0
199	2	199,37	2,539	131,	894,02	25	371	L	14,	717	2,30	0
199	3	204,39	6,319	133,	444,03	34	371	L	15,	090	83	0
199	4	204,39	6,319	133,	444,03	34	371	L	15,	090	83	0
199	5	204,39	6,319	133,	444,03	34	371	L	15,	090	83	0
199	6	204,39	6,319	133,	444,03	34	371	L	15,	090	83	0
199	7	204,39	6,319	133,	444,03	34	371	L	15,	090	83	0
199	8	204,39	6,319	133,	444,03	34	371	L	15,	090	83	0
199	9	204,39	6,319	133,	444,03	34	371	L	15,	090	83	0
200	0	204,39	6,319	<u> 133 </u>	<u>444.03</u>	34	371	L	15,	090	83	0
						_	_					
				VA	<u>G Tax</u>	Rate	Groups					
Year 0	.05	0.25	0.50	0.75	1.00	1.2	<u>5 2.25</u>	3.25	3.75	4.25	<u>4.75</u>	5.25
1989	34	27	36	62	159	1	L 7	20	4	0	2	. 9
1990	28	25	47	68	154	1	86	19	2	1	2	11
1991	21	22	41	73	155	10) 7	19	7	2	0	14
1992	12	11	29	49	187	10	5 11	32	2	4	4	14
1993	8	5	17	34	197	2:	2 11	49	3	4	4	17
1994	5	6	14	35	194	2	L 24	43	2	8	1	18
1995	5	6	23	56	198	24	i 7	24	4	5	1	18
1996	6	7	29	72	191	1	3 [·] 5	21	3	6	1	17
1997	6	10	37	83	170	1	57	18	3	4	1	17

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

17_

				-								
-	Year	Yea	ar End	Me	ember Ta	x	Invest	ment	Bene	fits	Oth	er
<u> </u>		Res	serves	Cont	<u>ributio</u>	ns	Inco	me	Pa	id	Expe	nses
	1988	7,25	53,197	1,	688,050		574,	800 ·	1,258	,208	360	,900
•	1989	7,80)5,412	1,	,453,842		725,	320	1,259	,274	367	,673
	1990	6,59	95,641	1,	,456,456		780,	541	3,085	,055	361	,713
•	1991	4,51	L8,745	1,	545,269		659,	564	3,922	2,858	358	,871
•	1992	3,23	38,835	1,	819,320		451,	875	3,189	,787	361	,318
•	1993	2,84	42,901	2,	092,035		323,	883	2,447	,993	363	,859
•	1994	2,68	39,097	2,	160,030		284,	290	2,233	,561	364	, 563
	1995	1,27	78,617	2,	081,564		268,	910	3,400	, 323	360	,631
	1996	-113	3,950	2,	135,375		127,	862	3,294	,830	360	,974
•	1997	-1,7	714,010	2,	473,549			0	3,714	,052	359	,556
	1998	-1,6	588,580	2,	730,465			0	2,340	,821	364	,213
	1999	-1,7	793,308	2,	707,124			0	2,447	,993	363	,859
	2000	-2,1	37.771	2.	360.572			0	2,340	.821	364	.213
	Year	Gr	coss	I	axable		Number	of	Numbe	r of	Numbe	r of
		Pay	vroll	F	Payroll	V	/AG Mem	bers	Emp10	yees	Claim	ants
-	1988	204,37	70,666	125,	042,460		371		15,	090	78	3
-	1989	204,26	52,570	133,	362,357		371		15,	081	83	1
-	1990	200,95	51,568	132,	361,269		371		14,	832	1,82	9
-	1991	199,37	2,539	131,	894,025		371		14,	717	2,30	0
-	1992	200,73	32,381	132,	290,810		371		14,	817	1,90	2
-	1993	202,14	,766	132,	710,977		371		14,	919	1,47	7
1	1994	202,53	35,206	132,	831,794		371		14,	948	1,36	1
]	1995	200,35	60,491	132,	179,924		371		14,	789	2,01	6
]	1996	200,54	1,250	132,	234,911		371		14,	803	1,96	8
1	1997	199,75	3,068	132,	002,722		371		14,	746	2,19	5
1	1998	202,34	0,711	132,	771,112		371		14,	933	1,42	1
1	1999	202,14	3,766	132,	710,977		371		14,	919	1,47	7
	2000	202.34	0.711	<u>132</u>	771,112		371		<u> </u>	933	1.42	1
<u> </u>				VA	G Tax R	ate G	roups					
	• • • •	• • •	•	o				• • • •	•			
Year	<u>0,05</u>	_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

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

Y	ear	Yea	ir End	Me	mber I	'ax	Invest	ment	Bene	fits	Othe	r
		Res	serves	Cont	ributi	ons	Inco	me	Pa	id	Expen	ises
1	988	7.25	53.197	1.	688.05	0	574.	800	1.258	.208	360.	900
1	989	7.48	32,666	1	131.41	4	725	320	1,259	351	367	913
1	990	7 75	59 557	-,	155 89	0	748	267	1,259	.351	367	913
1	991	8 08	9 476	-,	181 22	7	775	956	1 259	351	367	913
1	992	8 / 8	24 989	1	213 83	1	808	948	1 259	351	367	913
1	003	2 Q Q	54,505	1,	213,03	3	8/8	740 700	1 250	351	367	013
1	00%	0,95	0,040	1,	200,42	1	040, 005	433	1 250	351	367	013
1	005	3,43	14,021	1,	209,00	5	075,	663	1 250	, 351	367	012
1	006	10,07	4,040	1,	230,01	0	³⁴³ ,	405	1 250	, JJI 251	367	012
1	007	11 27	1,375,256 1,236,341		1	1,007,	404	1 250	, JJL 251	, 102	913 012	
1	.997	11,3/	12,105,545 1,220,028		.T	1,009,	500	1,239	, 351	207,	913	
L	.998	12,10	15,545	1,	220,02	8	1,13/,	526	1,259	,351	307,	913
1	.999	12,90	1/8, 99, 8/L	1,	221,03	1	1,210,	224	1,259	,351	36/,	913
2	000	13,79	5,107	1,	221,51	3	1,290,	987	1,259	.351	367,	913
v	ear	Gr	Gross Taxable			Number	of	Numba	r of	Number	of	
1	Jul	Payroll Payroll		, T	IAG Mom	here	Emplo	Veec	Claima	nts		
1	988	204,370,666 125,042,460		0	371	~~~0	15	090	783			
1	989	204,37	4,396,319 133,444,034		4	371		15	090	830		
1	000	204,33	6 310	133,444,034 19 133,444,034		4	371	•	15	000	830	
1	001	204,33	16 310	122,	444,03	4	371		15,090		830	
1	.771	204,39	0,319	100,	444,03	4	3/1		15,090		020	
1	.992	204,39	0,319	100,	444,03	4	371		15,090		020	
1	.993	204,39	10,319	133,	444,03	4	. 3/1		15,	090	020	
L	.994	204,39	16,319	133,	444,03	4	3/1 371		15,	090	830	
1	.995	204,39	6,319	133,	444,03	4	3/1 271		15,	090	830	1
1	.996	204,39	6,319	133,	444,03	4	371		15,	090	830	t -
1	.997	204,39	6,319	133,	444,03	4	371		15,090		830	
1	.998	204,39	6,319	133,	444,03	4	371		15,	090	830	
1	.999	204,39	6,319	133,	444,03	4	371		15,	090	830	
2	000	204,39	6,319	133.	444,03	4	371	•	15,	090	830)
				VA	<u>G Tax</u>	<u>Rate (</u>	Groups			<u> </u>		
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	40	77	141	Ř	10	13	7	1	1	13	
1002	57	40	۶, 81	120	0 8	2 2	17	, ,	- /	2	12	
1002	50	47	01 Q1	11/	11	12	15	4 9	4	2	12	
100/	20	21 20	07	114	12	12	12	<u>د</u>	4	ר ב	1/.	
1005	20	00	60 83 99 13		10	10	כ ר	۲ ۲	د م	14		
1992	/0	/1	71 83 80 11		18	13	/	T	2	15		
1996	/1	71 89 77 65 12		16	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	<u>51</u>	36	22	19	13	1	4	1	17	

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

•	Year	Yea	ar End	Me	ember 1	ſax	Invest	ment	Bene	efits	Other	
		Res	serves	Cont	ributi	lons	Inco	ome	Pa	<u>id</u>	Expens	es
•	1988	7,25	53,197	1,	688,05	50	574,	, 800 י	1,258	3,208	360,9	00
	1989	7,48	82,666	1,	131,41	14	725,	320	1,259	9,351	367,9	13
-	1990	5,08	39,836	1,	140,63	32	748,	267	3,922	2,858	358,8	71
-	1991	5,31	L0,513	1,	338,95	58	508,	984	1,259	9,351	367,9	13
-	1992	5,75	55,683	1,	541,38	33	531,	051	1,259	9,351	367,9	13
•	1993	6,19	95,513	1,	491,52	27	575,	568	1,259	9,351	367,9	13
	1994	6,59	92,359	1.	404,56	50	619,	551	1,259	,351	367,9	13
-	1995	6,99	91,147	1,	366,81	.7	659,	236	1,259	351	367,9	13
	1996	7.43	31,212	1.	368.21	.5	699.	115	1,259	351	367.9	13
-	1997	7.94	44.875	1	397.80)7	743	121	1.259	.351	367.9	13
-	1998	8.45	57.630	1.	345.53	31	794	488	1.259	.351	367.9	13
-	1999	8.98	33,964	,	307.83	17	845	763	1,259	.351	367.9	13
	2000	9 54	4 837	-,	289 74	1	898	396	1 259	351	367 9	13
	2000			,	202,14	· •			1,232			<u> </u>
	Vear	G	055	г	'avable		Number	of	Numbe	r of	Number	of
•	Payroll Payroll						IAG Men	hers	Emplo	Vees	Claiman	te
	1988	204 37	70 666	125	042 46	0	371		15	090	<u></u> 783	<u> </u>
-	1989	204,37	6 319	133	444 03	4	371	•	15	090	830	
-	1990	199 37	72 539	131	894 02	· ·	371	•	14	717	2 300	
1	1001	20% 30	6 310	131,	444 03		371	•	15	000	2,500	
	1002	204,35	0,319	122,	444,03	24 17.	371		15	090	830	
1	1003	204,35	210	122	444,03	·4	371		15	090	830	
1	100%	204,35	210	100,	444,03	4	. 3/1		15	090	830	
1	1994	204,39	0,319	122,	444,03	·4 ·	2/1	•	15,	090	830	
1		204,39	0,319	122,	444,03	4	3/1	•	15,	090	830	
1	1996	204,39	0,319	133,	444,03	4	3/1		15,	090	830	
1	1997	204,39	6,319	133,	444,03	4	3/1		15,	090	830	
1	1998	204,39	6,319	133,	444,03	4	3/1		15,	090	830	
]	L999	204,39	6,319	133,	444,03	4	371		15,	090	830	
2	2000	204,39	6.319	133.	<u>444.03</u>	4	371	·		090	830	
				VA	<u>G</u> Tax	<u>Rate (</u>	roups	i				
Veer	0 05	0 25	0 50	0 75	1 00	2 00	3 00	3 50	/ <u>00</u>	<u>/ 50</u>	5 00	
1020	<u> </u>	<u></u> २८	62	150	11	_2.00	<u></u>	<u> </u>	<u>4.00</u> 0	<u>-4.50</u> 2	<u> </u>	
1000	50	50 //K	66	158	۲۲ ۲	י פ	20 1 R	4 2	1	2	11	
1001	JZ //1	40 26	60	165	10	0	21	ך ג	⊥ ג	2 0	14	
1007	41 21	50 97	56	170	17	9 11	21	1	ר ג	บ ว	14 17	
1002	30	21	50 70	152	15	1/.	21	1 /.	ر	د د	14	
100/	37	20 2T	/0	125	70 70	14 1/	22 12	4 2	4	ر د	10	
1005	34	20	00	100	20	14	17	0	L L	د م	10	
1000	35	48	91	122	23	10	17	2	2	2	10	
1996	36	59	89	112	23	11	1/	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	

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 5,089,836 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 3,922,858 356,871 1992 2,976,639 1,700,783 263,920 1,259,351 367,913 1994 4,856,504 1,622,428 412,972 1,259,351 367,913 1995 4,129,722 1,515,349 385,603 1,259,351 367,913 1996 4,964,639 1,467,448 465,860 1,259,351 367,913 1996 4,964,639 1,467,448 455,860 1,259,351 367,913 1998 4,964,639 1,467,4448 455,860 1,259,351 367,913 1990 5,283,072 1,449,234 496,464 <th>· · ·</th> <th></th>	· · ·											
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	Year		Year E	nd	Membe	er Tax	Inv	restmen	t I	Benefit	S	Other
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			Reserv	es (Contrib	utions	I	ncome		Paid	E	xpenses
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 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 1995 4,129,722 1,462,428 412,972 1,259,351 367,913 1996 4,377,857 1,462,428 412,972 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 1990 5,283,072 1,449,244 371 15,090 830 1990 5,283,071 1,259,351 367,913 367,913 1988 204,370,666 125,042,460 371 15,090 830 <td>1988</td> <td>7</td> <td>,253,1</td> <td>97</td> <td>1,688</td> <td>,050</td> <td>57</td> <td>4,800</td> <td>· 1</td> <td>,258,20</td> <td>8</td> <td>360,900</td>	1988	7	,253,1	97	1,688	,050	57	4,800	· 1	,258,20	8	360,900
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1989	7	.482.6	66	1.131		72	5.320	1	.259.35	1	367.913
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1990	5	.089.8	36	1.140	.632	74	8.267	3	922.85	8	358.871
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1991	2	639.2	00	1,322	109	50	8.984	3	922.85	8	358,871
1992 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 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 2000 5,578,749 1,394,635 528,307 1,259,351 367,913 1989 204,370,666 125,042,460 371 15,090 830 1988 204,370,6319 13,844,025 371 14,717 2,300 1991 199,372,539 131,894,025 371 14,717 2,300 1992 204,396,319 13,444,034 371 15,090 830 1993 204,396,319 13,444,034 371 15,090 830 <td>1992</td> <td>2</td> <td>976 6</td> <td>39</td> <td>1 700</td> <td>783</td> <td>26</td> <td>3 920</td> <td>1</td> <td>259 35</td> <td>1</td> <td>367,913</td>	1992	2	976 6	39	1 700	783	26	3 920	1	259 35	1	367,913
1995 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 1996 4,637,857 1,462,428 412,972 1,259,351 367,913 1998 4,964,639 1,470,217 437,786 1,259,351 367,913 1998 4,964,639 1,467,448 465,860 1,259,351 367,913 2000 5,578,749 1,394,635 528,307 1,259,351 367,913 Year Gross Taxable Number of Number of Number of 1988 204,370,666 125,042,460 371 15,090 830 1990 199,372,539 131,894,025 371 14,717 2,300 1991 193,32,440,034 371 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	1003	2	500 1	22 28	1 853		20	7 664	1	250 35	1	367 913
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	100/	2	956 0	20	1 633	150	25	0 013	1	,237,33 250 35	1	367 013
1995 4,129,722 1,12,1349 360,603 1,259,351 367,913 1996 4,367,857 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 2000 5,578,749 1,394,635 528,307 1,259,351 367,913 2000 5,578,749 1,394,635 528,307 1,259,351 367,913 1988 204,370,666 125,042,460 371 15,090 830 1990 199,372,539 131,894,025 371 14,717 2,300 1991 199,372,539 133,444,034 371 15,090 830 1992 204,396,319 133,444,034 371 15,090 830 1994 204,396,319 133,444,034 371 15,090 830 </td <td>1005</td> <td>· .</td> <td>120,0</td> <td>94 99</td> <td>1 515</td> <td>3/0</td> <td>20</td> <td>5 602</td> <td>1</td> <td>,233,33 250 35</td> <td>1</td> <td>367 013</td>	1005	· .	120,0	94 99	1 515	3/0	20	5 602	1	,233,33 250 35	1	367 013
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1004	4	·,127,1 277 0	22 57	1,515	, 343	.1	0,005	1	,233,33	1	367 012
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1007	4	·, 3//, 0	57 07	1,402	.,420	41	2,912	1	,2,3,3,	1	307,913
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1997	4	,658,5	96	1,4/0	, 217	43	7,780	1	,239,33	1	307,913
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1998	4	,964,6	39	1,46/	,448	46	5,860	1	,259,35	1	367,913
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	1999	5	,283,0	72	1,449	,234	49	6,464	1	,259,35	L	367,913
YearGross PayrollTaxable PayrollNumber of VAG MembersNumber of EmployeesNumber of Claimants1988204,370,666125,042,46037115,0907831989204,396,319133,444,03437115,0908301990199,372,539131,894,02537114,7172,3001991199,372,539133,444,03437115,0908301992204,396,319133,444,03437115,0908301993204,396,319133,444,03437115,0908301994204,396,319133,444,03437115,0908301995204,396,319133,444,03437115,0908301995204,396,319133,444,03437115,0908301997204,396,319133,444,03437115,0908301998204,396,319133,444,03437115,0908301999204,396,319133,444,03437115,0908301998204,396,319133,444,03437115,0908301999204,396,319133,444,03437115,0908301999204,396,319133,444,03437115,0908301998204,396,319133,444,03437115,0908301999204,396,319133,444,03437115,090830199141366615868183121989 <td>2000</td> <td>5</td> <td>.578.7</td> <td>49</td> <td>1,394</td> <td>.,635</td> <td>52</td> <td>8,307</td> <td>1</td> <td><u>.259,35</u></td> <td>1</td> <td>367,913</td>	2000	5	.578.7	49	1,394	.,635	52	8,307	1	<u>.259,35</u>	1	367,913
Tax Bite Number of the set of the number of the numer of the numer of the number of the numer of the number of the n	Veen		Crease		Тана	b 1a	N	how of	NT.	mhaw a	f Nu	mhán of
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1980 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 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 1999 204, 396, 319 133, 444, 034 371 15, 090	1088	204	370 6	<u>1</u> 66	125 042	011	VAG	371	S EI	15 000	5 01	783
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 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 1999 204, 396, 319 133, 444, 034 371 15, 090 830 1999 204, 396, 319 133, 444, 034 371 15, 090	1000	204	306 3	10 1	122,042	.,400		371		15 000		830 102
1990199, 372, 539131, 894, 02537114, 7172, 3001991199, 372, 539131, 894, 02537114, 7172, 3001992204, 396, 319133, 444, 03437115, 0908301993204, 396, 319133, 444, 03437115, 0908301994204, 396, 319133, 444, 03437115, 0908301995204, 396, 319133, 444, 03437115, 0908301996204, 396, 319133, 444, 03437115, 0908301997204, 396, 319133, 444, 03437115, 0908301998204, 396, 319133, 444, 03437115, 0908301998204, 396, 319133, 444, 03437115, 0908301999204, 396, 319133, 444, 03437115, 0908302000204, 396, 319133, 444, 03437115, 0908302000204, 396, 319133, 444, 03437115, 0908302000204, 396, 319133, 444, 03437115, 0908302000204, 396, 319133, 444, 03437115, 0908302000204, 396, 319133, 444, 03437115, 0908302000204, 396, 319133, 444, 03437115, 0908302000204, 396, 319133, 444, 03437115, 0908302000204, 396, 319133, 444, 03437115, 0908302011	1000	204	, 390, 3 370 E	19 ·	LJJ,444 191 00%	,034		3/1 371		16 717	0	200
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1992204,396,319133,444,034 371 15,0908301993204,396,319133,444,03437115,0908301994204,396,319133,444,03437115,0908301995204,396,319133,444,03437115,0908301996204,396,319133,444,03437115,0908301997204,396,319133,444,03437115,0908301998204,396,319133,444,03437115,0908301999204,396,319133,444,03437115,0908301999204,396,319133,444,03437115,0908302000204,396,319133,444,03437115,0908302000204,396,319133,444,03437115,0908302000204,396,319133,444,03437115,0908302000204,396,319133,444,03437115,0908302000204,396,319133,444,03437115,0908302000204,396,319133,444,03437115,0908302000204,396,319133,444,03437115,0908302000204,396,319133,444,03437115,0908302000204,396,319133,444,03437115,0908302000204,396,319133,444,03437115,0908302000204,396,31913,444,03437115,0908302011 <td>1991</td> <td>199</td> <td>, 372, 5</td> <td>39 . 10 .</td> <td>LJI,894</td> <td>,025</td> <td></td> <td>3/1</td> <td></td> <td>14,/1/</td> <td>2</td> <td>, 300</td>	1991	199	, 372, 5	39 . 10 .	LJI,894	,025		3/1		14,/1/	2	, 300
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1996204,396,319133,444,03437115,0908301997204,396,319133,444,03437115,0908301998204,396,319133,444,03437115,0908301999204,396,319133,444,03437115,0908302000204,396,319133,444,03437115,0908302000204,396,319133,444,03437115,090830VAG Tax Rate GroupsVAG Tax Rate GroupsVAG Tax Rate GroupsVAG 162.003.003.504.004.505.001989613662159117204029199052466615868183121119914136661651092163014199223213820212103943415199316213220113174433516199416244119927102726118199516297118118921252171996173486155278174511719982248101 <td>1995</td> <td>204</td> <td>,396,3</td> <td>19 :</td> <td>L33,444</td> <td>,034</td> <td></td> <td>371</td> <td></td> <td>15,090</td> <td></td> <td>830</td>	1995	204	,396,3	19 :	L33,444	,034		371		15,090		830
1997204,396,319133,444,034 371 15,0908301998204,396,319133,444,034 371 15,0908301999204,396,319133,444,034 371 15,0908302000204,396,319133,444,034 371 15,0908302000204,396,319133,444,034 371 15,090830VAG_Tax Rate GroupsVAG_Tax Rate Groups19905246661586818312111991413666165109216301419922321322011317443351619931621322011317443351619941624411992	1996	204	,396,3	19 :	L33,444	,034	371			15,090		830
1998204,396,319133,444,03437115,0908301999204,396,319133,444,03437115,0908302000204,396,319133,444,03437115,0908302000204,396,319133,444,03437115,090830VAG Tax Rate GroupsVAG Tax Rate GroupsVAG Tax Rate GroupsVAG Tax Rate Groups1989613662159117204029199052466615868183121119914136661651092163014199223213820212103943415199316213220113174433516199416244119927102726118199516297118118921252171996173486155278174511719972138931402412182511719982248101118231618341171999	1997	204	,396,3	19 :	L33,444	,034		371		15,090		830
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1998	204	,396,3	19 :	L33,444	,034		371		15,090		830
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1999	204	,396,3	19 :	L33,444	,034		371		15,090		830
VAG Tax Rate GroupsYear0.050.250.500.751.002.003.003.504.004.505.00198961366215911720402919905246661586818312111991413666165109216301419922321382021210394341519931621322011317443351619941624411992710272611819951629711811892125217199617348615527817451171997213893140241218251171998224810111823161834117199924689310523191344117199924689310523191344117	2000	204	,396,3	19 :	<u>133,444</u>	,034		371		15,090		830
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					MAC T							
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 17 444 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	<u></u>		<u> </u>		VAG 1	ax Kat	<u>e Grou</u>	ps				
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	Year	0.05	0,25	0.50	0.75	1.00	2.00	3.00	3,50	4,00	4.50	5.00
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1989	61	36	62	159	11	7	20	4	0	2	9
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1990	52	46	66	158	6	8	18	3	1	2	11
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1991	41	36	66	165	10	9	21	6	3	0	14
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 1996 17 34 86 155 27 8 17 4 5 1 17 1997 21 38 93 140 24 12 18 2 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	1992	23	21	38	202	12	10	39	4	3	4	15
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 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 20 87 00 20 15 20 10 15 20 15 17	1993	16	21	32	201	13	17	44	3	3	5	16
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	1994	16	24	41	199	27	10	27	2	6	1	18
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	1995	16	29	71	181	18		21	2	5	2	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	1996	17	3/1	86	155	27 27	Ŕ	17	4	5	1	17
1997 21 50 95 140 24 12 16 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 20 87 90 22 21 10 12 24 11 17	1007	21	20	00	1/0	<u>,</u> 21	10	10	-+ 0	ر ۲	1	17
1990 24 68 93 105 23 16 18 5 4 1 17 1999 24 68 93 105 23 19 13 4 4 1 17 2000 20 87 00 02 24 10 12 1 17	1000	21	00	101	110	24 00	12	10	2	ר ג	1	17
1777 24 00 95 105 25 19 15 4 4 1 1/	1000	22	40	101	105	20	10	10 10	3	, 4 `	1	17
	T 3 3 3	24	68	93	102	23	19	13	4	4	1	1/

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

						_					
Year		Year H	End	Membe	er Tax	Inv	vestmer	nt	Benefit	:s	Other
		Reserv	ves (Contril	outions	:]	ncome		<u>Paid</u>	I	Expenses
1988	7	,253,1	L97	1,688	3,050		574,800) [,] 1	,258,20)8	360,900
1989	7	,482, 6	566	1,131	L,414	7	25,320) 1	,259,35	51	367,913
1990	5	,089,8	336	1,140),632	7	48,267	73	,922,85	58	358,871
1991	2	,639,2	200	1,322	2,109	5	508,984	⊦ 3	,922,85	58	358,871
1992		301,2	217	1,679	9,825	2	263,920) 3	,922,85	58	358,871
1993		741,1	L 17	2,037	7,043		30,122	2 1	,259,35	51	367,913
1994	1	,398,2	222	2,210	258		74,112	2 1	,259,35	51	367,913
1995	1	.665.1	49	1.754	4.370	1	.39,822	2 1	,259,35	51	367,913
1996	6 1,772,027 1,567,628 7 1,862,003 1,520,038				1	.66,515	i 1	,259,35	51	367,913	
1997	97 1,842,003 1,520,038 97 1,842,003 1,520,038				1	77.203	1	.259.35	51	367.913	
1998	98 1,927,322 1,528,383				3.383	1	84,200) 1	259.35	51	367.913
1999	29 2,014,926 1,522,137				2 137	1	92 732	, – , 1	259.35	51	367,913
2000	2	2,113,718 1,524,564		564	2	01 493		259 35	51	367 913	
2000	000 2,113,718 1,524,584		4	<u> </u>	<u> </u>	1237,33	·				
Veer		Grace		Tava	able	Num	ber of	• N	umber c	of Nu	mber of
ICUL	ear Gross Taxable Pavroll Pavroll		VAC	Memher		mnloves		aimante			
1988	<u>Payroll</u> Payroll 988 204,370,666 125,042,460			VAO_	371	<u> </u>	15 090)	783		
1989	88 204,370,666 125,042,460 89 204,396,319 133,444,034				371		,)	830			
1000	9 204,396,319 133,444,034 0 199.372.539 131.894.025			371		14 717	, ,	300			
1990	100	, 372, 3	20 1	121,024	F, 025		271		14,717		, 300
1991	199	, 372, 3	72,539 131,894,025		1,025		3/1 271		14,/1/		, 300
1992	199	,3/2,5	10	L31,894	1,025		3/1		14,/1/		, 300
1993	204	,396,3	519	L33.,444	+,034		3/1		15,090)	830
1994	204	,396,3	19	133,444	+,034		371		15,090		830
1995	204	,396,3	19 1	L33,444	⊧ , 034		371		15,090		830
1996	204	,396,3	19 1	L 33, 444	+,034		371		15,090)	830
1997	204	,396,3	19 1	L 33,4 44	+,034		371		15,090)	830
1998	204	,396,3	19 1	L 33,4 44	+,034		371		15,090)	830
1999	204	,396,3	19 1	33,444	,034		371		15,090)	830
2000	204	<u>. 39</u> 6.3	19 1	33,444	.034		371		15,090)	830
· · · · · · · · · · · · · · · · · · ·			_								
				VAG T	<u>ax Ra</u> t	<u>e Grou</u>	ps				
				- <u>-</u>			-				
<u>Year</u>	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			25	30	50	2 4	6	2	19		
1005			25	12	20	-+ 5	5	2	19		
1004			20 12	12	10	ر ع	ر ،	2	17		
1007	5 10 17 43 227 16		10	צ	10	0	4	נ ר	17		
1000	11	22	00	205	19	10	10	0	د ،	د م	17
1998	11	27	/4	1/9	24	12	18	3	4	2	1/
1999	12	34	83	159	23	21	13	3	5	1	17
2000	12	48	89	139	23	19	12	6	5	1	17

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

Year	•	Year H	End	Membe	er Tax	Inv	vestmer	nt i	Benefit	s	Other
		Reserv	res	Contril	outions]	[ncome		Paid	I	Expenses
1988	5 7	,253,1	L97	1,688	8,050		574,800) 1	,258,20)8	360,900
1989	7	,482,7	725	1,131	1,155	7	725,320) 1	,259,27	74	367,673
1990) 5	i,929,6	582	1,149	5,453	7	748,272	2 3	,085,05	55	361,713
1991	. 3	520,5	510	1,279	9,588	-	592,968	3 3	,922,85	58	358,871
1992	. 1	.,920,1	L 18	1,598	8,662	3	352,051	. 3	,189,78	37	361,318
1993	1	.,189,4	+38	1,889	9,160	1	192,012	2 2	,447,99	13	363,859
1994		705,7	/32	1,995	5,474	1	L 18,9 44	⊦ 2	,233,56	51	364,563
1995	-1	.,023,3	356	1,961	L,293		70,573	3 3	,400,32	23	360,631
1996	-2	2,559,5	514	2,119	9,646		C) 3	,294,83	30	360,974
1997	-4	,160,0)67	2,473	3,055		C) 3	,714,05	52	359,556
1998	-4	,000,5	549	2,864	4,553		C) 2	,340,82	21	364,213
1999	-4	,076,2	254	2,736	5,146		0) 2	,447,99	13	363,859
2000	-4	.586.2	230	2,195	5,059		0) 2	<u>, 340, 82</u>	.1	364,213
	ear Gross Tayahle										
Year	ear Gross Taxable				able	Nun	aber of	of Nu	umber of		
	Payroll Payroll				<u>coll</u>	VAG	Member	s Cl	aimants		
1988	988 204,370,666 125,042,460 988 204,262,570 133,262,257						371)	783		
1989	989 204,262,570 133,362,357				2,357		371		831		
1990	200,951,568 132,361,269				L,269		371	. 1	,829		
1991	199	9,372,539 131,894,025					371		14,717	' 2	2,300
1992	200	,732,3	81	132,290),810		371		14,817	' 1	,902
1993	· 202	,143,7	66	132,710),977		371		14,919) 1	.,477
1994	202	,535,2	.06	132,831	L,794		371		14,948	: 1	,361
1995	200	,350,4	91	132,179	9,924		371		14,789	2	,016
1996	200	,541,2	50	132,234	4,911		371		14,803	1	,968
1997	199	,753,0	68	132,002	2,722		371		14,746	5 2	,195
1998	202	,340,7	11	132,771	1,112		371		14,933	1	,421
1999	202	,143,7	66	132,710),977		371		14,919	1	.,477
2000	202	,340,7	'11	132,771	1.112		371		14,933	1	.,421
					•						
				VAG 1	<u>'ax Rat</u>	<u>e Grou</u>	ips				
		_									
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	08 2 5 14 134 3			31	53	91	8	7	4	22	
1999	$\begin{array}{cccccccccccccccccccccccccccccccccccc$			40	79	74	8	4	4	24	
2000	3	1	9	<u>126</u>	110	59	24		5	4	23

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

-	Year	Ye	ar End	Me	ember 1	Гах	Inves	tment	Bene	fits	0+1	her
		Re	serves	Cont	ributi	ions	Ince	ome	Pa	aid	Exne	enses
	1988	7.2	53.197	1	688.05	50	574	. 800	1.258	3.208	360),900
	1989	8.14	42,056	1	837.79	99	725	, 320	1,295	5.679	378	3.581
•	1990	9.1	38,205	1	904.61	12	814	.206	1.333	3.108	389	9.560
	1991	10.2	12.665	1	932.89	99	913	. 820	1.371	.410	400),850
	1992	11.3	79.006	1	968.95	54	1.021	.266	1.411	.404	412	2.474
	1993	12.6	34.338	1	994.44	42	1,137	901	1.452	2.577	424	434
	1994	14.00	03.842	2	037.43	30	1.263	434	1.494	. 616	436	5.742
	L995	15.48	84.520	2	067.99	93	1.400	384	1.538	292	449	.408
-	1996	17.0	77.095	2	089.28	35	1.548	452	1.582	2.724	462 437	
-	1997	18.7	77.405	2	096.96	59	1.707	709	1.628	523	479	5.846
	L998	20.65	56.136	2	166.46	59	1.877	740	1.675	5.837	413,040 480 640	
	1999	22.66	53.134	2	169.73	81	2.065	614	1.724	. 512	409,040 503 834	
	2000	24.85	54,163	2	217.80)3	2,266	313	1.774	642	518	8 446
					02/100		21200					
3	lear	Gı	coss	1	Taxable			c of	Numbe	r of	Number of	
	Payroll Pa 1988 204 370 666 125 (<u>ayroll</u>	-	VAG Men	<u>nbers</u>	yees	<u>Clain</u>	ants		
1	L988	204,37	70,666	125,	125,042,460			Ĺ	15,	090	78	13
1	1989210,322,8121990216.422.174			137,	311,39	16	371	L	15,	528	85	8
1	L990 216,422,174 141			294,17	'4	371	L	15,	978	885		
1	.991 222,694,177 145,3		392,44	4	371	L	16,	441	91	.6		
1	1992 229,152,308 149		149,	606,36	0	371	L	16,	918	938		
1	L 993	235,79	96,562	153,	945,42	2	371	L	17,	409	96	0
1	994	242,63	34,662	158,	410,55	7	371	•	17,	914	· 99	4
1	L995	249,67	1,068	163,	163,004,448				18,	433	1,01	.6
1	L996	256,90	9,718	167,	167,731,528			-	18,	968	1,04	.9
1	997	264,35	58,930	172,	593,76	5	371		19,	518	1,07	'9
1	.998	272,02	2,488	177,	599,57	1	371		20,084		1,10	9
1	999	279,90	8,020	182.	748.45	4	371		20.	666	1.13	9
2	2000	288,02	5,352	188,	048,61	7	371	•	21.	265	1.17	1
	-											
				VA	<u>G Tax</u>	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	<u>- 7.25</u> 34	<u> </u>	36	<u> </u>	159	<u>11</u>	<u> </u>	<u></u> 20	<u>4.00</u>	<u> </u>	<u>0</u>	<u> </u>
1990	24 25	26	47	68	157		7	18	4 2	1	2	7 11
1991	24	30	47 49	85	136	י פ	, 7	13	ے ج	0 1	2 /.	10
1992	24	34	59	89	118	7	10	11	5	े २	4 2	10
1993	23	46	65	97	90	14	5	12	כ ג	ר ג	2	10
1994	22	50	03	27 88	65	11	10	12	4 0	1		11
1005	4 23 50 93 88 65 5 19 60 99 90 79		10	10	1/.	۲ ۲	2 T	4 2	11 11			
1006	5 19 60 99 90 49 1 6 10 65 124 64 42		10	12	14 10	1	נ ה	נ י	11			
1007	16 19 65 124 64 43 1 17 18 80 120 70 20 10		11	1) 10	13	1	2	ر م	12			
1000	10	00 0 <i>6</i>	120	49	ענ רנ	10	1.5	13	1	2	2	13
1000	998 17 96 130 36 37 1 998 18 116 117 21 26 1		10	14	13	1	2	1	14			
2000 T222	.999 18 114 117 31 36 1 000 17 138 07 20 33 1		11	1/	9 10	1	2	1	14			
2000	9 18 114 117 31 36 0 17 138 97 29 33			12	14	12	Z	2		14		

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

Y	lear	Yea	ır End	Me	mber T	ax	Invest	ment	Bene	fits	Oth	er	
		Res	erves	Cont	ributi	ons	Inco	me	Pa	id	Expe	nses	
1	.988	7,25	3,197	1,	688,05	0	574,	' 008	1,258	,208	360	,900	
1	.989	8,14	2,056	1,	837,79	9	725,	320	1,295	,679	378	,581	
1	.990	6,30	3,703	1,	879,72	4	814,	206	4,152	, 387	379	,896	
1	.991	7,25	9,773	2,	097,95	9	630,	370	1,371	,410	400	,850	
1	.992	8,43	5,895	2.	274.02	3	725.	977	1,411	,404	412	,474	
1	.993	9.66	5.133	2.	262.66	0	843.	589	1.452	.577	424	.434	
1	994	10.92	2,962	2.	222.67	5	966	513	1.494	.616	436	.742	
1	995	12.25	7.186	2.	229.62	8	1.092.	296	1.538	.292	449	408	
1	996	13.66	3.694	2.	225.95	0	1.225.	719	1.582	.724	462,437		
1	997	15,19	33,694 2,225,950 98,157 2,272,463			3	1.366	369	1.628	.523	475 846		
1	998	16 85	,198,157 2,272,465 ,858,912 2,306,417			7	1 519	816	1 675	837	489,640		
1	999	18 62	7 860	,912 2,306,417 ,860 2,311,403			1 685	891	1 724	512	503,834		
2	0000	20,50	<u>1,894</u> <u>2,304,335</u>		5	1 862	786	1 774	642	518	,034 446		
2	.000	20,30	1,094	94 2,304,335		1,002,	700	<u> </u>	,042		,440		
v	Toor	Cr	000	т	avabla		Number	of	Numbo	r of	Numbo	r of	
1	ear	Pou	oss Taxable roll Payroll					borg	Fmplo	VOOG	Number of		
1	098	20/ 37	0 666	125	042 46	0	271	Dels	15	000	<u> </u>	<u>वाटिङ</u> २	
1	000	204,37	0,000	137	311 30	6	371		15	528	25 25	2 2	
1	000	210,52	2,012	130	511,59 69/ //0	6	371		15,	5.21		ວ າ	
1	001	211,03	1, 504	1/5	024,40 201 //		371		12,	JOI 771	2,44	۲ <u>۲</u>	
1	.991	222,09	4,1//	145,	<i>392,44</i>	.4 .0	371		10,	441 010	02	0	
1	.992	229,13	2,308	149,	000,30	0	371		10,	AU0 AT0	93	0	
1	.993	235,79	6,562	153,	945,42	2	3/1		.1/,	409	- 90	0	
1	.994	242,63	4,662	158,	410,55		3/1	-	1/,	914	. 99	4	
1	.995	249,67	1,068	163,	004,44	8	371		18,	433	1,01	6	
1	.996	256,90	9,718	167,	731,52	8	371		18,	968	1,04	9	
1	.997	264,35	8,930	172,	593,76	5	371		19,518		1,07	9	
1	.998	272,02	2,488	177,	599,57	1	371		20,084		1,10	9	
1	.999	279,90	8,020	182,	748,45	4	371		20,	666	1,13	9	
2	000	288,02	5,352	188,	<u>048,61</u>	7	371		21.	265	1,17	1	
				VA	<u>G Tax</u>	<u>Rate (</u>	Groups						
	0.05	0	0 75	1	1 05	1 50	0 50				F 00	c c c	
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	
TA8A	34	2/	36	62	122	11	/	20	4	0	2		
1990	25	26	4/	68	12/	/	/	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	1,5	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	

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

		Ye	ear End	1	Membe	r Tax	Inve	estment	Bei	nefits	Ot	cher
	Year	Re	eserves	s C	ontrib	utions	Iı	ncome]	Paid	Ext	oenses
	1988	7,2	253,197	7	1,688	,050	57	74,800	1,2	58,208	36	50,900
	1989	8,1	142,056	5	1,837	,799	72	25,320	1,29	95,679	37	78,581
	1990	6,3	303,703	3	1,879	,724	81	L4,206	4,1	52,387	37	79,896
-	1991	4,3	340,913	3	2,072	,387	63	30,370	4,27	74,556	39	90,991
1	1992	5,4	439,749)	2,488	,624	43	34,091	1,41	L 1,4 04	41	.2,474
]	L993	6,7	732,617	7	2,625	,904	54	43,975	1,45	52,577	42	24,434
1	L994	7,9	968,423	}	2,493	,902	67	73,262	1,49	94,616	43	36,742
]	L995	9,2	207,373	3	2,429	,809	79	96,842	1,53	38,292	44	19,408
1	L996	10,4	489,962	2	2,407	,013	92	20,737	1,58	32,724	46	52,437
1	L997	11,8	319,380)	2,384	,791	1,04	18,996	1,62	28,523	47	5,846
1	L998	13,2	225,324	ł	2,389	,483	1,18	31,938	1,67	75,837	48	39,640
1	L999	14,7	769,061	-	2,449	,551	1,32	2,532	1,72	24,512	50)3,834
2	2000	16,4	<u>464,922</u>		2,512	.042	1.47	6,906	1.77	4.642	51	.8,446
						_		-		-		
-	-		Gross		Taxal	ole	Numb	er of	Numb	er of	Numb	er of
<u>}</u>	<u>lear</u>	\underline{Pe}	<u>iyroll</u>	11	Payro		VAGN	lembers	<u> </u>	<u>oyees</u>		<u>mants</u>
1	1988	204,3	570,666		25,042	,460	3)/L	10	,090	/	83
1	1989	210,3	822,812	L.	37,311, 20,000	, 396	3	9/L	10	,528	8	58
1	1990	211,0	153,304	· 1.	39,624, 2 716	,486	3	5/1	15	,581	2,4	42
1	1991	217,2	(17,498	14	+3,/16,	,749	1	5/1	10	,036	2,5	06
1	1992	229,1	.52,308	14	49,606,	,360	3	5/1	16	,918	9	38
1	993	235,7	96,562	1.	,945	,422	3	5/1	1/	,409	9	60
1	.994	242,6	34,662	1:	58,410 ,	,557	3	5/1	17	,914	9	94
1	.995	249,6	71,068	16	163,004,448			71	18	,433	1,0	16
1	.996	256,9	109,718	16	167,731,528			/1	18	,968	1,0	49
1	.997	264,3	58,930	1/	2,593,	, /65	3	/1	19	,518	1,0	/9
1	.998	272,0	22,488	17	7,599,	,571	3	571	20	,084	1,1	.09
1	.999	279,9	08,020	18	32,748,	,454	3	71	20	,666	1,1	39
2	2000	288,0	25,352	18	38,048,	617	3	71	21	,265	1,1	71
					MAC TO		Crease	~				
		<u></u>			VAG_18	<u>ix kate</u>	Group	<u>s</u>				
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

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

	Year End	l Me	ember Tax		Invest	ment	Benef	its	Othe	r
<u> Year</u>	<u>Reserves</u>	Cont	ribution		Inco	me	Pai	d	Expen	ses
1988	7,253,197	' 1,	688,050		574,	' 008	1,258,	208	360,	900
1989	8,142,056	51,	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
		<u>+ 1</u>	300,021		1,102,		<u> </u>	042		
	Gross	Г	axable		Number	of	Number	of	Number	of
Year	Pavroll	- F	avroll	7	IAG Mem	bers	Employ	rees	Claima	nts
			<u></u>				<u></u>		0102110	
1988	204.370.666	125.	042,460		371		15.0	90	783	
1989	210.322.812	137.	311.396		371		15.5	28	858	
1990	211.053.304	139	624,486		371		15 5	81	2 442	
1991	217 217 498	143	716 749		371		16 0	36	2 506	
1992	223,515,377	147	910 835		371	,	16 5	05	2,500	
1993	235 796 562	153-	945 422	-	- 371		17 4	09	960	
1994	242 634 662	158	410 557		371		17 9	14	900	
1995	242,034,002	163	00/ 4/8		371		18 /	73 T 4	1 016	
1996	245,071,000	167	731 528		371		10,4	68	1 0/0	
1007	250,505,710	170	502 765		271		10,9	10	1 070	
1009	204,330,330	177	500 571		271		19,0	10	1,079	
1990	272,022,400	100	JJJJ,J/1		271		20,0	64	1,109	
1999	279,908,020	102,	748,454		3/1		20,6	66	1,139	
2000	288,025,352	188,	048,617		3/1		21,2	65	1,1/1	
		T7 A	С Тат D-+		· · · · ·					
Year 0 25	0 50 0 75	<u> </u>	1 25 1	<u>.e (</u> 50	2 50	3 50	4 00	1. 50	5 00	5 50
1989 34	27 36	<u> </u>	<u> </u>	11	7	2.50	<u>4.00</u>	<u>, 10 4</u> 0	<u></u>	<u> </u>
1990 25	26 47	62	157	7	י ד	19	・ ・ ・	1	2	11
1991 18	20 47	79	155	, 7	, 11	15	7	1	2 0	1/
1992 10	Q 22	1.6	197	12	15	1J 97	1	1	5	14
1003 4	ע ג ד ד ד	40 27.	197 011	12	17 17	<u> </u>	с Т	4	ر ۱	17
100/ /	/ LD 2 10	24 26	211	7.7 7.7	14	44 25) -	4	4	14
1005 C	J 13	30	212	23	18	35	5	4	T 2	1/
1000 0	J 19	60	211	21	5	24	5	3	3	14
TAAP 3	/ 25	84	191	12	6	1/	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

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

	Voar	Ve	er Fod	Ma	mber '	Tav	Tnyogt	ment	Rene	fite	0 ተ ኑ	or
	ICAL	Ree	arves	Cont	rihut	ions	Invest	ome	Pa	aid	Evne	ncoc
	1988	7.2	53 197	1	688 0	50	574	800	1.258	3 208	360) 900
	1989	8.14	12 060	-,	835 44	40	725	320	1 294	001	377	7 897
	1990	7 10	3 751	1	886 4	21	814	206	3 266	5 034	382	,027
	1991	5 29	5 714	2	008 13	35	719	375	4 274	556	390) 991
	1992	4 12	74 686	2	375 01	19	525	571	3 576	5 544	405	6 073
	1993	4,17	34,000	2	687 93	36	417	469	2 822	904	402	, 075) 839
	1994	4,00	188	2,	832 59	50	403	735	2,022	544	412	,037 9 800
	1995	2,10	G 304	2,	760 1/	45	403,	919	4 159	005	452	0/3
	1996	1 42	05 034	2,	978 81	12	276	930	4,130	,005 . 403	440	609
•	1997	_ 39	3 588	588 3,353,996		96	1/2	503	4 800	660	455	,005 . 462
	1998	_1/	18 919	э, ч	80/ 89	57	142,	, 505	3 119	134	485	,402 . 053
	1000	-10	15 000	2,	709 21	10		,)	3 356	: /00	403	701
	2000	-20	10,200	J, 2	190,21	10)7		,)	3,330	510	512	, / OL
	2000	-5/	0.005	<u> </u>)	3,299	, 512	513	0.030
	Voor	C1		Taxable		`	Numbor	· of	Number of		Number of	
	lear	Par	.055 moll	L L	axable	= 		bere	Employees		Claim	anta
	1988	204 37	$\frac{1011}{0}$ 666	56 125,042,460		50	371		15 090		<u>- 01410</u> 78	3
-	1989	204,57	2 509	09 137,125,502		12	371	-	15,090		85	8
	1990	212 72	3 257	140,124,981		R1	371	-	15,507		1 93	6
-	1991	217 21	7 498	143	L40,124,981 L43,716,749		371	-	16.036		250	6
1	1992	225 04	0 652	148	143,716,749		371	-	16.617		2,50	4
1	1993	223,04	4 119	153	159 9/	4	371	-	17	218	1 72	6
1	199/	233,24	9 674	157	767 9/	40 4 8	371	-	17	756	1 61	.u .
1		240,42	8 164	161	582 61	1	371	-	18	077	2 46	3
1	1006	244,90	0,104	161,	102,01 170 69	23	371		10,	636	2,40	
1	1007	252,50	0, 302	170	951 17	, j j	371		19.086		2,4/	4 1
1	1009	230,30	26 105	170,	0JI,I/	.0	371		19,086		2,04	·4 1
L T	1990	207,4/	4,105	1/0,	000,04	+0 77	2/1	-	19,888		1,90	/1 /
2	L999	2//,10	0,5//	101,	091,97		2/1	•	20,	447	2,03	4 r
	2000	285,55	0,154	187,	247,53		3/1			062		<u> </u>
				VΔ	C Tay	Rata (roune					
	·····			V	<u>G IAN</u>	Nace V	stoups					
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	3 1 16 49 201		24	24	27	5	3	2	16		
1997	1	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	$ \frac{1}{2} $		31	54	36	5	4	4	17			
2000	0	2	1_	39	185	70	19	25	_5	4	5	16

			Simula	tion Resu	lts			
Tax	Schedule	A,	Unemployment	Scenario	5,	Employment	Growth	2.9%

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