Marginal Tax Rates in the US: 1918-2008
and Implications for Retirement Planning

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Nominal federal income tax rates have been anything but constant since federal taxation of income began in 1918. It is obvious that if nominal tax rates had been constant over the period, effective tax rates would have increased for taxpayers as inflation would have pushed taxpayers into higher brackets as their incomes rose. However, tax rates have been changed through numerous iterations of tax law changes throughout the past 90 years.

This paper first presents a review of the effective marginal tax rates adjusted for inflation for various incomes from $10,000 to $5,000,000. Table 1 presents marginal tax rates for each class from 1918 to 2008.

Table 1
Marginal Tax Rates

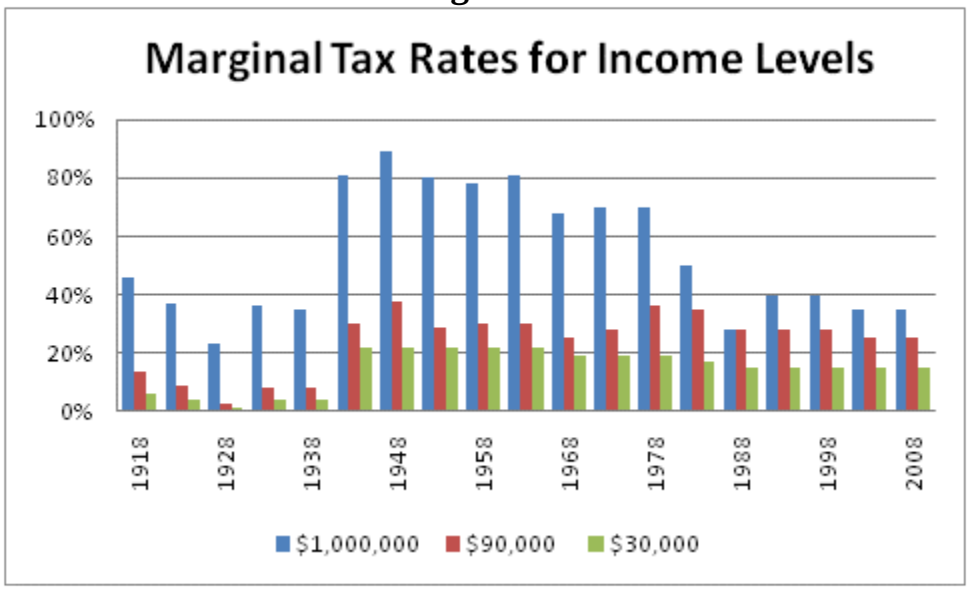
Real TI	2008	2003	1998	1993	1988	1983	1978	1973	1968
$5,000,000	35.0%	35.0%	39.6%	39.6%	28.0%	50.0%	70.0%	70.0%	70.0%
$3,000,000	35.0%	35.0%	39.6%	39.6%	28.0%	50.0%	70.0%	70.0%	70.0%
$1,000,000	35.0%	35.0%	39.6%	39.6%	28.0%	50.0%	70.0%	70.0%	68.0%
$800,000	35.0%	35.0%	39.6%	39.6%	28.0%	50.0%	70.0%	68.0%	64.0%
$600,000	35.0%	35.0%	39.6%	39.6%	28.0%	50.0%	68.0%	64.0%	60.0%
$400,000	35.0%	35.0%	39.6%	39.6%	28.0%	50.0%	62.0%	58.0%	55.0%
$200,000	33.0%	28.0%	31.0%	31.0%	33.0%	48.0%	53.0%	48.0%	42.0%
$100,000	25.0%	25.0%	28.0%	28.0%	28.0%	40.0%	36.0%	32.0%	28.0%
$90,000	25.0%	25.0%	28.0%	28.0%	28.0%	35.0%	36.0%	28.0%	25.0%
$80,000	25.0%	25.0%	28.0%	28.0%	28.0%	35.0%	32.0%	28.0%	25.0%
$70,000	25.0%	25.0%	28.0%	28.0%	28.0%	30.0%	28.0%	25.0%	22.0%
$60,000	15.0%	15.0%	28.0%	28.0%	28.0%	26.0%	25.0%	25.0%	22.0%
$50,000	15.0%	15.0%	15.0%	15.0%	15.0%	23.0%	22.0%	22.0%	22.0%
$40,000	15.0%	15.0%	15.0%	15.0%	15.0%	19.0%	22.0%	22.0%	19.0%
$30,000	15.0%	15.0%	15.0%	15.0%	15.0%	17.0%	19.0%	19.0%	19.0%
$20,000	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	16.0%	19.0%	17.0%
$10,000	10.0%	10.0%	15.0%	15.0%	15.0%	11.0%	0.0%	16.0%	15.0%

	1963	1958	1953	1948	1943	1938	1933	1928	1923	1918
5000000	91%	91%	92%	91%	88%	70%	59%	25%	50%	75%

3000000	91%	91%	91%	91%	88%	64%	57%	25%	50%	72%
1000000	81%	78%	80%	89%	81%	35%	36%	23%	37%	46%
800000	75%	75%	75%	84%	32%	35%	30%	21%	29%	39%
600000	69%	69%	68%	78%	69%	28%	24%	17%	21%	32%
400000	62%	62%	66%	72%	64%	23%	18%	12%	13%	25%
200000	47%	47%	48%	59%	49%	12%	11%	7%	4%	18%
100000	30%	30%	34%	38%	34%	9%	9%	3%	9%	14%
90000	30%	30%	29%	38%	30%	8%	8%	3%	9%	14%
80000	26%	26%	29%	34%	30%	8%	8%	3%	9%	13%
70000	26%	26%	29%	30%	26%	8%	8%	3%	8%	12%
60000	26%	26%	25%	30%	26%	4%	4%	3%	8%	12%
50000	22%	22%	25%	26%	26%	4%	4%	2%	4%	6%
40000	22%	22%	25%	26%	22%	4%	4%	2%	4%	6%
30000	22%	22%	22%	22%	22%	4%	4%	2%	4%	6%
20000	20%	20%	22%	22%	19%	4%	4%	2%	4%	6%
10000	20%	20%	22%	20%	19%	4%	4%	2%	4%	6%

Figure 1 is a graphical display of the data for three of the categories, The rates are for taxpayers (filing jointly) earning the inflation-adjusted equivalent of $1,000,000, $90,000 and $30,000 in taxable income in 2008.

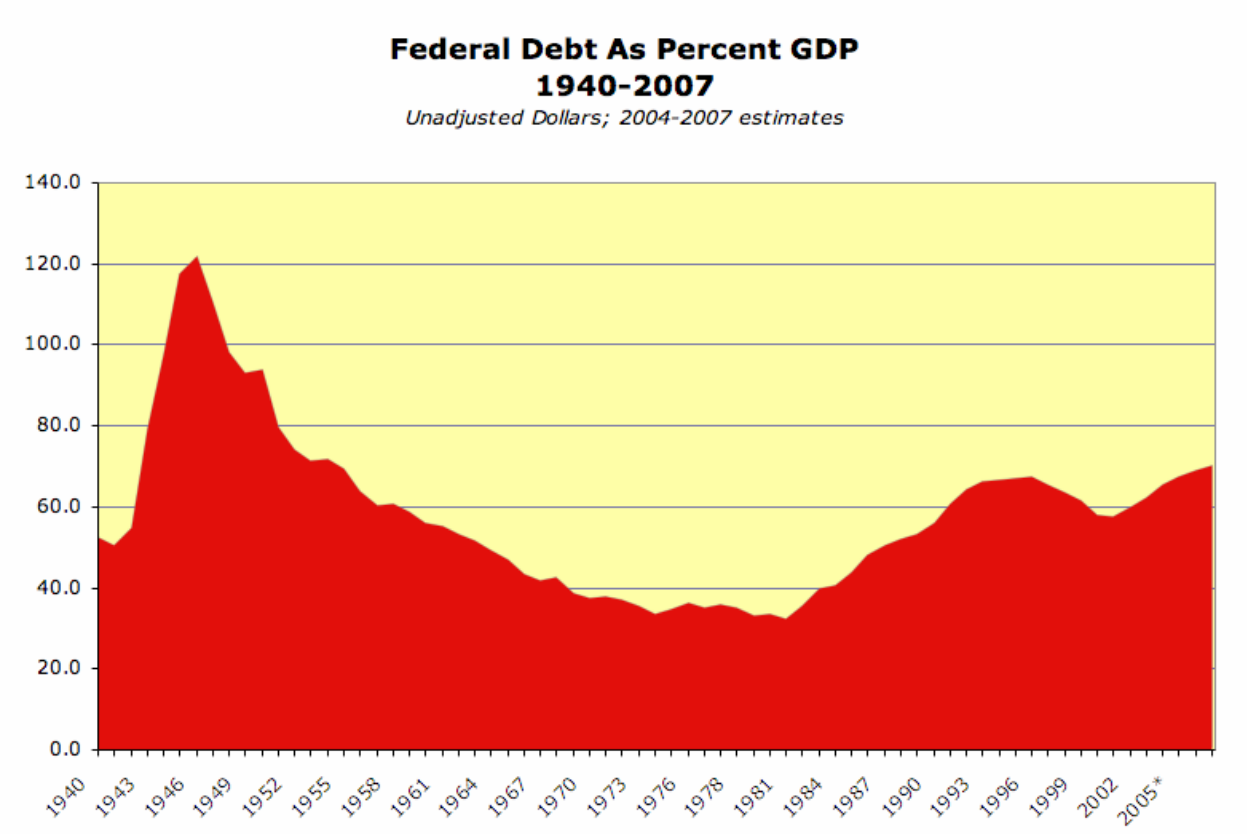
Figure 1



The figure shows that tax rates were much higher after WW2, especially for high income earners. The increase in tax rates came with WW2 and remained high as the size of government increased. As can be seen in Figure 2, with the federal debt as a percent of GDP cresting at just over 120% in 1947, marginal tax rates rose to post-war highs. Beginning in the 1980s, tax rates declined as federal debt levels subsided, especially for those in higher tax brackets. The rates

have remained at their present levels for some time, even in the face of rising debt to GDP levels. What is important in the conversion decision is not the past rates but future rates. History suggests that after a large increase in government expenditures, tax rates may very well rise.

Figure 2



With the current stimulus program and potential increase in government expenditures due to possible changes in health care, particularly Medicare and Medicaid spending, we might expect to see an increase in tax rates. And as time passes, increased taxes seem imminent.

The paper also analyzes the effect of changes in tax rates and tax legislation for investors making decisions related to Roth-IRA and traditional deductible and nondeductible IRA investing as can be done under the special conversion provisions permitted in tax year 2010 under the federal Tax Increase Prevention & Reconciliation Act. The desirability of investing in one over another is primarily a function of investor expectations of and uncertainty surrounding future tax rates. For a fully tax-sheltered investment, one in which the original investment as well as the subsequent income escapes taxation until withdrawn (the traditional deductible IRA), the after-tax rate of return the investor earns on the investment is

$$(1+BTR)[(1-TR_n)/(1-TR_0)]^{1/n} - 1$$

where BTR is the before tax rate of return earned in the account, TRn is the tax rate at the time the funds are withdrawn from the investment, TR_0 is the tax rate at the time of investment and n is the number of years of investment [1]. Setting TR_n equal to TR_0 results in the after-tax rate of return for the investor equal to the before-tax rate earned from the investment. In a Roth-IRA, the investor's returns are earned free of federal taxes after contributions have been taxed. Therefore, whether or not the Roth-IRA earns a higher rate than the fully tax-sheltered investment or the nondeductible traditional IRA depends upon whether the investor's tax rate increases or decreases from the time the investment is made to the time at which it is withdrawn.

Financial planners and advisors have suggested that income needed for retirement in order to maintain one's standard of living represents only a portion of pre-retirement income. If one has his/her mortgage paid, pays no social security taxes on retirement income, etc. one needs less income during retirement. Suggested percentages of retirement income to pre-retirement income vary from as low as 64% to 90%. Often individuals think that having less income will automatically result in lower tax rates during retirement. As can be seen from historical data, being subject to a lower tax rate may not be the case. We find periods of time when tax rates increase and also those in which tax rates decrease. In recent years tax rates have declined for most taxpayers. But there have also been periods in which the effective tax rates have increased, after adjusting for inflation. As we have shown, this is particularly true during war-time and afterwards when federal deficits as a percentage of GDP were significantly higher than average. Furthermore, the increases and decreases have not necessarily been parallel across income levels.

We now examine the circumstances under which IRA holders & their beneficiaries would voluntarily pay taxes associated with a Roth IRA conversion in 2010 in order to receive tax-free withdrawals in the long-term as well as the value of such conversion compared to alternatives.

For example, consider an investor with $30,000 current taxable income. Assume the investor expects taxable income to increase over time due to inflation and real increases by a total of 4 percent per year. At the end of the 20-year period, taxable income would be $65,733. If the person retires at that point with taxable income of only 64 percent of the $65,733, the individual would have taxable income of $42,069. Such an investor with a balance of $1,000 in a traditional IRA might consider converting into a Roth-IRA. This would require a tax payment of $150, due to the marginal tax rate on $30,000 of taxable income of 15 percent. Twenty years later, assuming no changes in the tax brackets, the investor would still be paying a marginal tax rate of 15 percent. Even with retirement taxable income of 90 percent of the $65,733, the investor would be subject to the same 15 percent marginal tax rate if tax brackets and rate remain constant. In such cases, the effect of converting is that for paying tax of $150, the investor would get the profit from investing that $150 for the 20-year period. The rate earned on the tax payment would be the before-tax rate earned in the Roth-IRA. In addition, the investor would remove the risk associated with an increase in the effective marginal tax rate. If the investor believes that effective tax rates are going to rise, converting to the Roth-IRA would be a rational decision.

Now consider the case for the investor with $90,000 of current taxable income. At a retirement income of 64 percent of the ending income, the marginal tax rate is 25 percent for both current

and retirement income, assuming no changes in tax brackets or tax rates. However, at 90 percent the investor is pushed into the higher 28 percent bracket, making an even stronger case for converting to the Roth-IRA. Furthermore, would not a taxpayer with a $90,000 taxable income be more likely to generate a higher rate of increase in taxable income than the taxpayer with a $30,000 taxable income? The higher the expected rate of increase in taxable income, the more likely the tax rate at withdrawal would be higher and the investor more willing to convert to the Roth-IRA.

However, other factors affect the decision as well. In each of the above examples, the period before withdrawal was assumed to be 20 years. Shorter investment periods prior to withdrawal would lead to less growth in taxable income and a greater probability of a reduction in tax rates. In addition, we assumed only a $1,000 balance in the traditional IRA. Converting large balances from the traditional IRA to a Roth-IRA is also likely to move the investor into a tax bracket with a higher tax rate and higher taxes to be paid at the time of conversion, thus reducing the likelihood of conversion. In addition, such a case might lead to a partial rather than a full conversion in order to avoid being taxed at higher rates upon conversion. The decision is ultimately going to be dependent upon the investor's expectation of future changes in marginal tax rates, which is a function of a number of variables. To reach the better decision, each case must be evaluated individually.

This paper presents the history of federal tax rates, a history of changing rates. If we follow the pattern of post WW2, we may be forced into higher tax rates due to the massive spending program associated with the economic recovery efforts. Thus, we may very well see higher tax rates at retirement for many investors. This is probably even more likely for those investors with a significant period of time prior to retirement. How one views the chances for higher taxes is of particular interest to those considering shifting funds from traditional IRAs to Roth-IRAs.

References

1. Angell, R. J. and Lindbeck, R. S. "Tax-sheltered Retirement Plans: A Sensitivity Analysis of the Rate of Return." University of Michigan Business Review, Vol. 29, No. 4 (July, 1977).

2. Burman, L. E., Gale, W. G., Weiner, D. "Six Laws Later: How Individual's Marginal Federal Income Tax Rates Changed Between 1980 and 1995." National Tax Journal. (May, 1998).

3. Burman, L. E., Gale, W. G., Weiner, D. "The Taxation of Retirement Saving: Choosing Between Front-Loaded and Back-Loaded Options." May, 2001.

4. Crain, T. L. and Austin, J. R. "An Analysis of the Tradeoff Between Tax Deferred Earnings in IRAs and Preferential Capital Gains." Financial Services Review, Vol. 6, No. 4 (1997).

5. Horan, S, M. and Peterson, J. H. "A Reexamination of Tax-Deductible IRAs, Roth IRAs, and 401(k) Investments." Financial Services Review, Vol. 10 (2001).

6. Horan, S, M., Peterson, J. H. and McLeod, R. "An Analysis of Nondeductible IRA Contributions and Roth IRA Conversions." Financial Services Review. Vol. 6, No. 4 (1997)

7. Http://uspolitics.about.com/od/thefederalbudget/ig/Political-Economic-Measures/index_t.htm

8. Table Containing History of CPI-U U.S. All Items Indexes and Annual Percent Changes From 1913 to Present. Bureau of Labor Statistics. http://www.bls.gov/cpi/tables.htm

9. U.S. Federal Individual Income Tax Rates History, 1913-2009. http://www.taxfoundation.org/taxdata/show/151.html