

# Market Imperfections From Taxes

(Welch, Chapter 11)

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# The Tax Code

Taxes are a very sad part of life.

They are worse if you have to pay them—rather than just argue about them academically.

*You* are the prime victims, not the bottom 50% or the top 0.001%—or boomer academics.

A lot more taxation is already heading your way.

# Teach Tax Details?

Uncle Sam has a very intricate set of tax rules, and they become more complex every year.

- ▶ Any details I would teach would surely be outdated within 5 years.
- ▶ Yet, fortunately, the principles have stayed the same for as long as I have been alive, and they are pretty similar in every OECD country.
- ▶ Thus, it makes sense to explain the basics.

# Tax Principles

Earned Income

Minus Deductions

= Taxable Income

Tax Payments Via Rate Tables

= After-Tax Income

# Progressivity

Tax-rate tables are mostly progressive, so more income pays *proportionally* more taxes.

- ▶ This is not perfectly correct, even by statute and even for W-2 income.
- ▶ A high-capital-income person often pays less than a low-ordinary-labor-come W-2 person.

# Taxable Income Example

\$50k in Ordinary Income (W-2),  
Minus \$10k as mortgage interest deduction,  
Taxable income = \$40k.

- ▶ 10% first \$10k, 15% next \$20k, 20% next \$30k.

Tax:

$$10\% \cdot \$10k + 15\% \cdot \$20k + 20\% \cdot \$10k = \$6k$$

Post-tax income = \$44k.

# Tax Principles

Specific tax rates change every year.

- ▶ In 2019, a single paid 10% on income up to \$9,700; 12% for income between \$9,700 and \$39,475; up to 37% for income above \$510,300.

There are many, many wiggles.

- ▶ If you earn <\$25k, you usually get money.
- ▶ In fact, between 40% and 50% of all tax filers do not owe *any* income tax.
- ▶ (They are not be envied!)

# Average vs Marginal Tax Rates

Do economists / you care about the average or the marginal tax rate?



# Mortgage Interest Deduction

What is the value of an additional \$1m in mortgage interest deduction?

# Tax Income Categories

Would you rather get a dollar of income:  
as Ordinary Income,  
as Dividends,  
as Interest, or  
as Capital Gains?

# Post-Tax Interest

Say you are in the 35% marginal tax bracket.  
If you/I earn \$100 as interest rate on \$100 of bond investment, then how much will you have left in post-tax interest?

- ▶ Note: You may also owe capital gains!

# Tax-Exempt Interest Calculation

If you/I can buy (muni) bonds whose interest is tax-exempt, then what interest rate would those bonds have to pay to leave you indifferent?

Bloomberg (Muni) Interest Rates Today

# Tax-Exempt Interest Rate Today

What is the current tax-exempt interest rate?

# Marginal Investor A

Tax-exempt municipal bonds (“munis”) pay 5% per year.

Taxables pay 10% per year.

Who is the “marginal investor”?

# Marginal Investor B

Munis pay 5% per year.

Taxables pay 5% per year.

Who is the “marginal investor”?

# Marginal Investor C

Munis pay 5% per year.

Taxables pay 7.5% per year.

Who is the “marginal investor”?



# You vs Marginal Investor

Which bond is better for you

- ▶ if your tax rate is *higher* than that of the marginal investor?
- ▶ *lower?*

# Today's Marginal Income Tax Rate

What is today's marginal investor's income tax rate?

# Usefulness of MITR

The MITR makes it easy to decide where to put your money—taxables or munis.

It reflects the market's relative pricing of bonds.

Historically, it has often approached the highest personal income tax rate.

- ▶ Many tax-exempts, few taxable investors: low.
- ▶ Few tax-exempts, many taxable investors: high..

# Corporations and Taxes

Do corporations ultimately pay taxes?

# Not Strictly Class Related

Stupid Tax Tricks

# Tax Deductible Loan For Savings

Many people love the tax advantages of mortgages, but also have savings in the bank.

Does it make sense to have a (home mortgage or student) loan and to keep money in a savings account?

# Tax Deductible Loan For Savings?

**Not usually.**

You are usually better off paying off your loans

Do not arbitrage yourself!

- ▶ When it comes to credit cards with their high interest rates, the answer is even more obvious.

# Tax Deductible Loan For Savings? II

Presume that your tax rate is  $\tau$ , so you will be left with  $(1 - \tau)$ .

- ▶ For simplicity,  $\tau = 33\%$ .

You are buying a house for \$100k and found a \$100k mortgage that has only interest payment of 6% per year.

- ▶ Mortgage interest is tax-deductible.



# Tax Deductible Loan For Savings? III

In addition, assume you also have \$100k of cash in the bank, which earns 5.1% per year.

So, being tax deductible, the \$6k from-pretax-income interest obligation is the same to you as a from-post-tax interest obligation of \$4k.

Presume you earn \$30k.

# Tax Deductible Loan For Savings? IV

At a 33% tax rate, you have \$20k left.

- ▶ You pay \$4k post-tax to leave you with \$16k.
- ▶ Or, you pay \$6k pre-tax mortgage interest to leave you with \$24k taxable income.

At a 33% tax rate, this also leaves you with \$16k.]

# Tax Deductible Loan For Savings? IV

## **Choice 1:**

- ▶ Use the cash to pay off the mortgage.
- ▶ No more interest receipts or payments.

# Tax Deductible Loan For Savings? IV

## Choice 2:

Pay \$6k in mortgage interest, equivalent to \$4k in post-tax interest.

- ▶ Yippieh: you have taken advantage of the deductible mortgage.

But, you also received \$5,100 from your bonds and paid 33% tax (\$1,700) on interest.

So, you now have net interest income flows of  $-\$4k + \$3.4k = -\$600$ .

# Recent Tax Changes

... and General Griping.

# Corporate Tax Principles

Corps and individuals are treated roughly similarly *except* corps have:

- ▶ lower tax rates (21%, not 35%),
- ▶ interest costs and losses have been easier to deduct for corporations, and
- ▶ foreign earnings of corps are no longer taxed.

→ individuals who can keep money inside corporations may end up better off.

# Obscenely Many Other Taxes

Numerous other taxes:

- ▶ AMT
- ▶ state
- ▶ local
- ▶ sales
- ▶ inheritance
- ▶ social security
- ▶ medicare
- ▶ property
- ▶ etc.

# Is the US a Low Tax Country?

The US is a low-tax domicile for super-high-income and super-high-wealth individuals.

- ▶ Avoid W-2 income.
- ▶ Carried Interest is much better.
- ▶ Plan to be in the 0.001% donor class, with a family office, and foreign holdings.
- ▶ Inherit: Have wealth from before the income tax



# Relative Tax Burdens

Just under 50% of U.S. taxpayers pay no federal and state income tax.

- ▶ But they do pay SS & Medicare (plus sales tax).
- ▶ By necessity, taxes are paid primarily by 50th to 99.9th percentile of income earners and future generations.

# Wealth vs Income Tax

Below \$20 million: exempt.

Above \$20 million: requires planning, effort, and Chuzbah. . . but not much.

# Interest and Capital Gains Taxes

Foreign owners of U.S. assets pay income taxes, if any, in their own countries.

Saudi and Chinese investors earn higher interest rates on US Treasuries than US Investors.

# Are Taxes (and is Government) All Bad?

If you want to have a military, medicare, social security, schooling and police/ jails/ justice, then who is going to pay for it?

- ▶ PS: other expenses by U.S. governmental entities are small.

Who wants to live in US?

- ▶ Not “no government,” but “smarter government”?
- ▶ Government can take real problems and make them worse.

# Trump Tax Changes of 2018

Temporarily modestly reduced personal W-2 rate and changed baseline deductions.

Lowered allowed income state-tax deduction.

Increased estate-tax exemption.

Favored some professions (real-estate).

Shifted to a territorial system.

- ▶ Induces US corporations to shift profitable activities to lower foreign tax domiciles.

Targeted Tax on Dem Voters and on Blue States

# Who Will Pay for the 2018 Tax Cuts?

Tax cuts are never free.

A lot more taxation is heading your way:

- ▶ Either they reduce government services now,  
or
- ▶ they incur debt for future tax payers.

Every tax change has consequences for everyone.

You should know your numbers.

# Politics of Tax and Spend

This is not just Trump/GOP.  
Democrats love to spend, too.

And neither of them likes the types of *you*.

- ▶ You don't donate enough.
- ▶ You don't vote enough.
- ▶ You are the despised (intellectual/business) elite