Classroom Etiquette
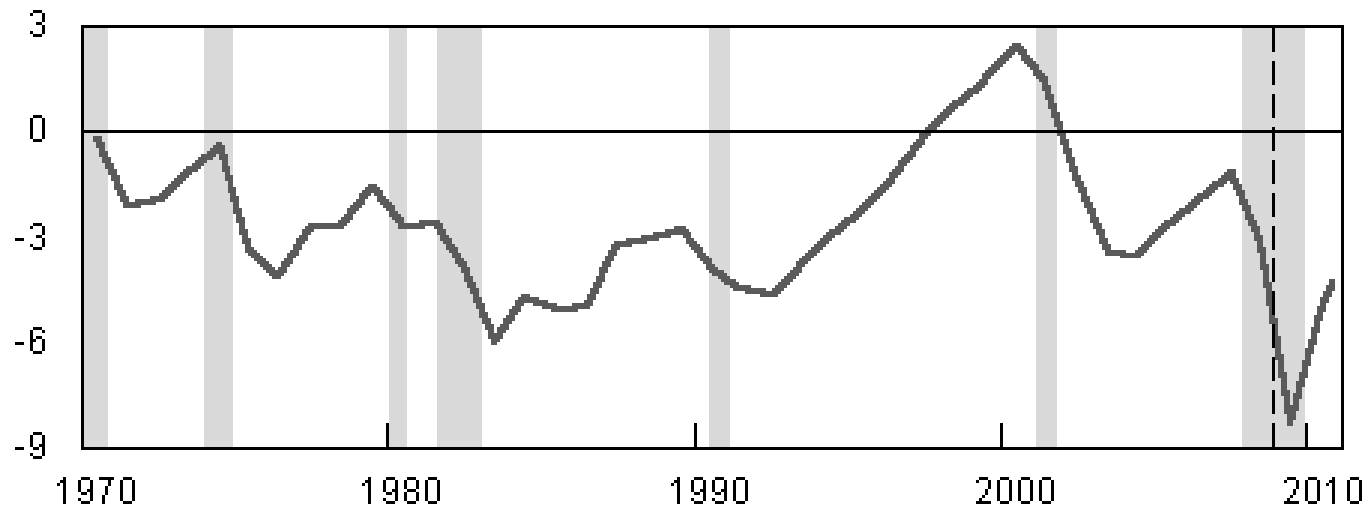
- No reading the newspaper in class (this includes crossword puzzles).

- Limited talking – No Texting.

- Attendance is NOT REQUIRED.

- Do NOT leave in the middle of the lecture.

From the CBO (yesterday)

What is this??

Three key developments in academic macroeconomics have shaped macroeconomic policy analysis: the *Lucas critique* of policy evaluation due to Robert Lucas (1976), the *time inconsistency critique* of discretionary policy due to Finn Kydland and Edward Prescott (1977), and the development of quantitative dynamic stochastic general equilibrium models following Finn Kydland and Edward Prescott (1982).

The broad consensus on the conduct of policy is:

1. Monetary policy should be conducted so as to keep nominal interest rates and inflation rates low.

2. Tax rates on labor and consumption should be roughly constant over time.

3. Capital income taxes should be roughly zero.

4. Returns on debt and taxes on assets should fluctuate to provide insurance against adverse shocks.

There are many different aspects to fiscal policy. For example,

1. Stabilization (countercyclical) fiscal policy.

2. Political business cycle − political economy.

> The latter is at the interface between economics and political science − how do interest groups influence policy decisions?   We will not discuss this.

Stabilization (countercyclical) fiscal policy.

This is certainly relevant for an economics class – but we will not discuss this either. Why? -

The majority of the economics profession is in agreement that countercyclical fiscal policy is best left to the <u>automatic stabilizers</u> rather than <u>discretionary</u> policy.

Automatic stabilizers – the countercyclical nature of taxes and transfer payments that affect aggregate demand.

Examples: income taxes and unemployment benefits.

We will return to this next week in discussing the current situation.

Problems with discretionary fiscal policy:

1. Uncertain lags – by the time policy is implemented, already out of recession.

2. Changing fiscal policy, i.e. tax rates on investment and/or income, increases uncertainty in the economy. Not a proper role for government.

3. Monetary policy can react more quickly and more effectively (but there are limits (maybe)).

Dave Backus, prof. at NYU (letter to Mankiw) – skeptical about fiscal policy:

- Bad timing. Right now, most forecasts call for continued shrinkage in the first half of 2009, modest growth in the second half, when the stimulus starts to come online, and faster growth in 2010, when spending hits high gear. This is, of course, the classic argument against countercyclical fiscal policy: it's hard to get the timing right.

- Small multiplier. Let us say that for every dollar of extra government spending, GDP goes up m dollars, where "m" is the multiplier. Undergraduate textbooks, including your favorite, sometimes suggest m is large. The evidence is fuzzy, to be sure, but to me it suggests a multiplier around one, maybe smaller. Even stimulus cheerleader Paul Krugman only claims 1.1. If that's the case, the impact of government spending (say 700b over two years) is barely enough to reverse the decline in GDP we expect to see over the next two quarters.

- Long-term budget issues. I don't spend much time in Washington, but I thought the mainstream view among government economists was that our retirement and health-care programs were likely to bust the budget over the next 2-3 decades. Recent directors of the CBO under both Republican and Democratic Congresses have made this point, and I hope I wasn't the only one listening. The US is not Argentina, but it still seems a little incongruous to advocate massive increases in spending when the long-term problem is paying for spending already on the books.

- It's the financial system, stupid. Japan in the 1990s is a Rorshach test for macroeconomists, so I can't claim everyone sees this as I do. But my take (borrowed from Anil Kashyap) is that Japan demonstrated that the real issue in financial crises is the financial system. If we don't fix it, no amount of fiscal stimulus will make much difference. That's one of the reasons I'm optimistic about the US right now: unlike Japan, we faced our problems, ugly as they were, and have acted decisively to correct them.

What are (perhaps) the most pressing fiscal policy issues facing the US today?

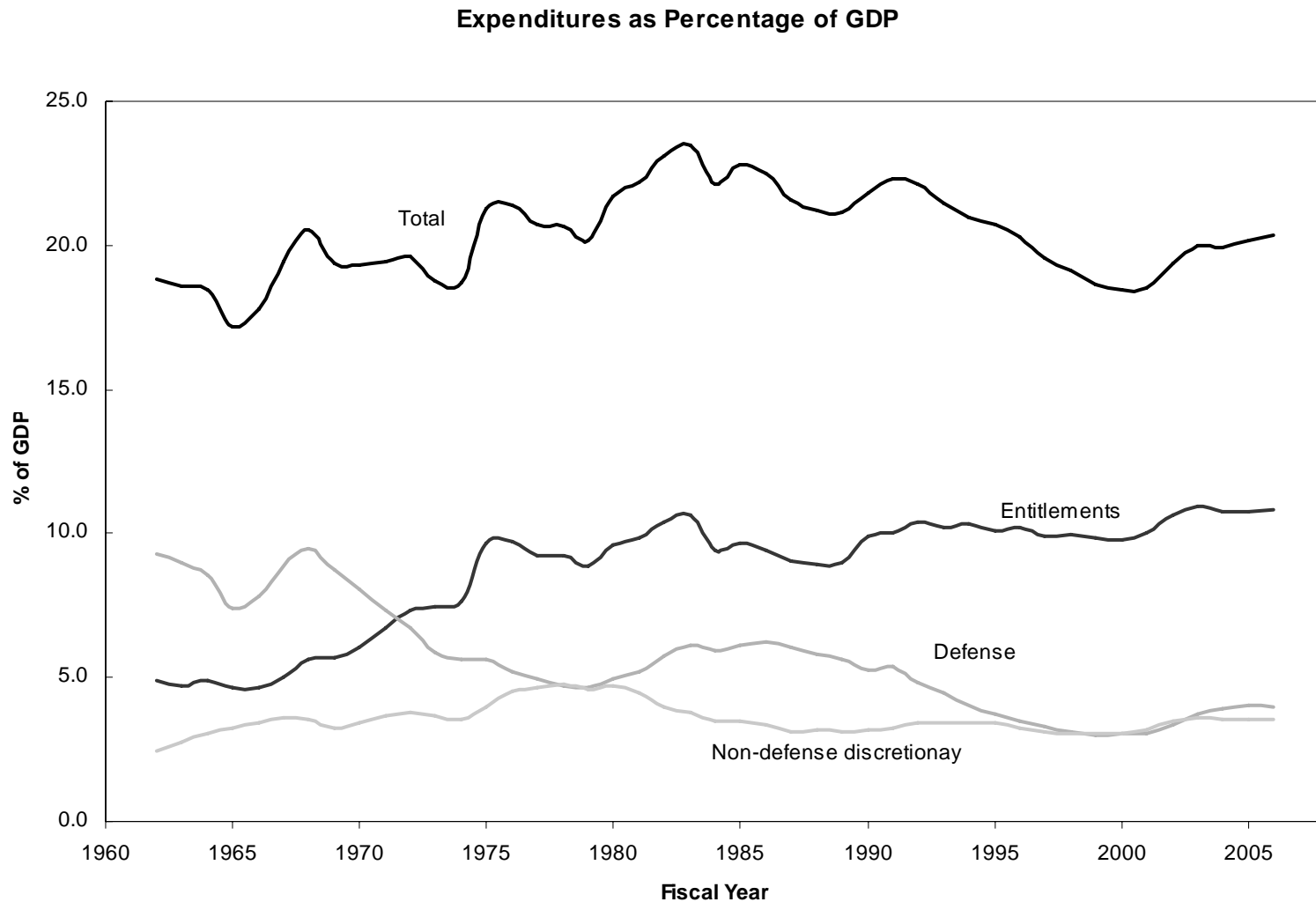- Social Security

- Medicare

Before discussing these, first some look at historical trends in fiscal policy
(article by Auerbach)

- Spending – discretionary and entitlement programs
- Revenues - corporate and individual income tax
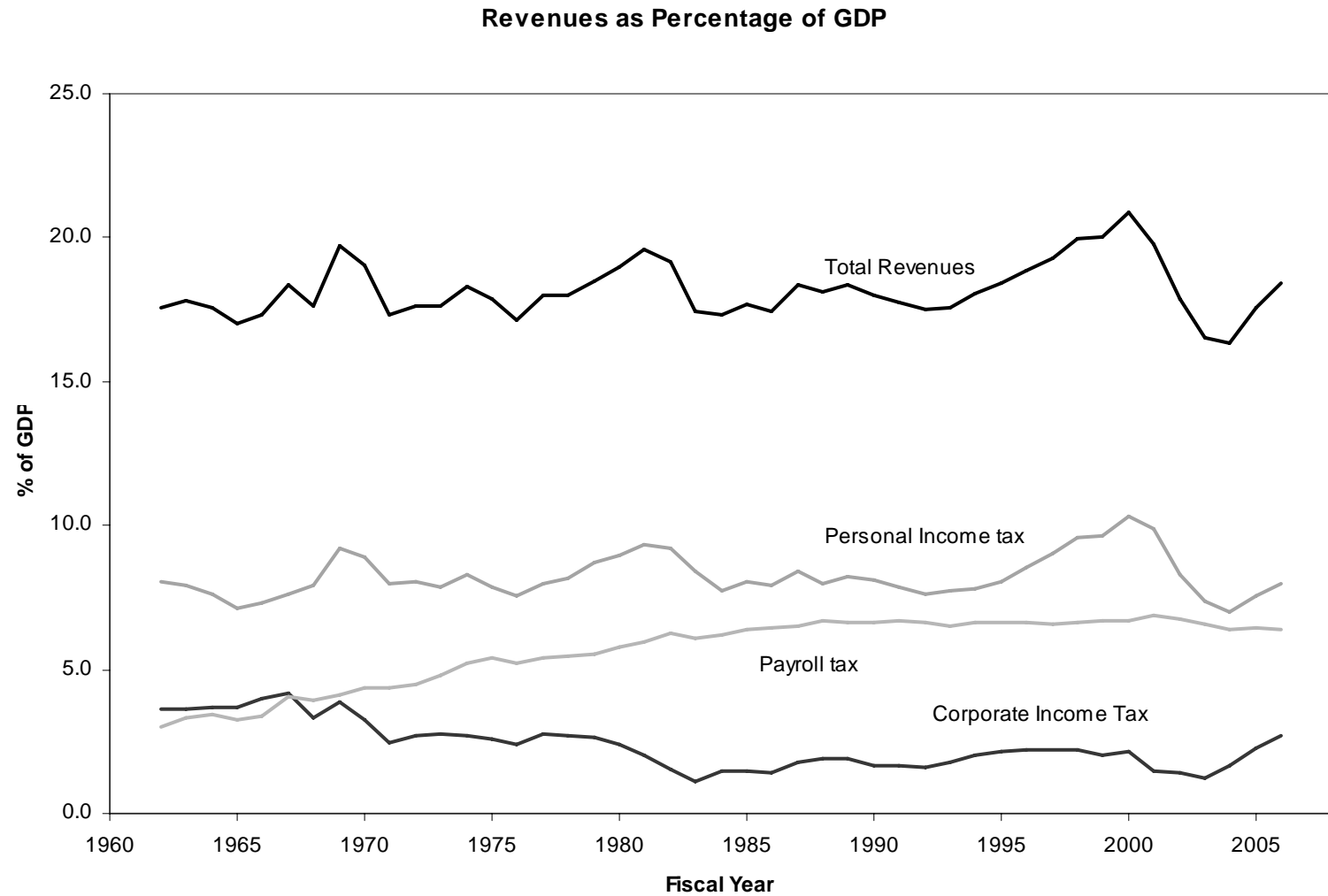- Deficit – on-budget, total

ALL MEASURED AS % OF GDP

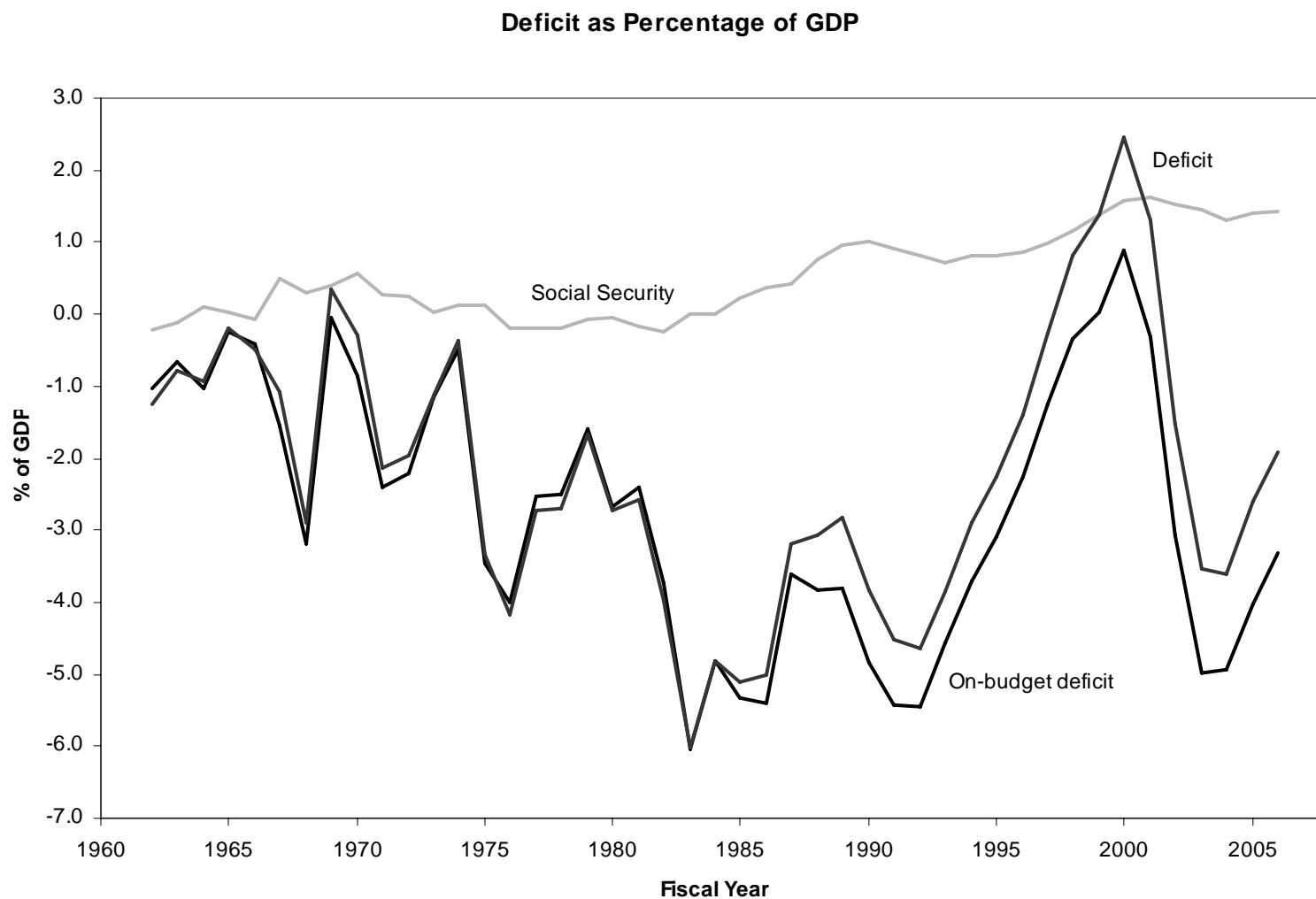# Expenditures have remained relatively constant.
But: composition has changed dramatically.

Expenditures as Percentage of GDP

Revenues have remained relatively constant. But: composition has changed dramatically.

Revenues as Percentage of GDP

Total Revenues

Personal Income tax

Payroll tax

Corporate Income Tax

Deficits as a Percentage of GDP

Deficit as Percentage of GDP

Line chart titled "Deficit as Percentage of GDP" with x-axis "Fiscal Year" ranging from 1960 to 2005 and y-axis "% of GDF" ranging from -7.0 to 3.0. Three lines are labeled "Deficit", "Social Security", and "On-budget deficit".
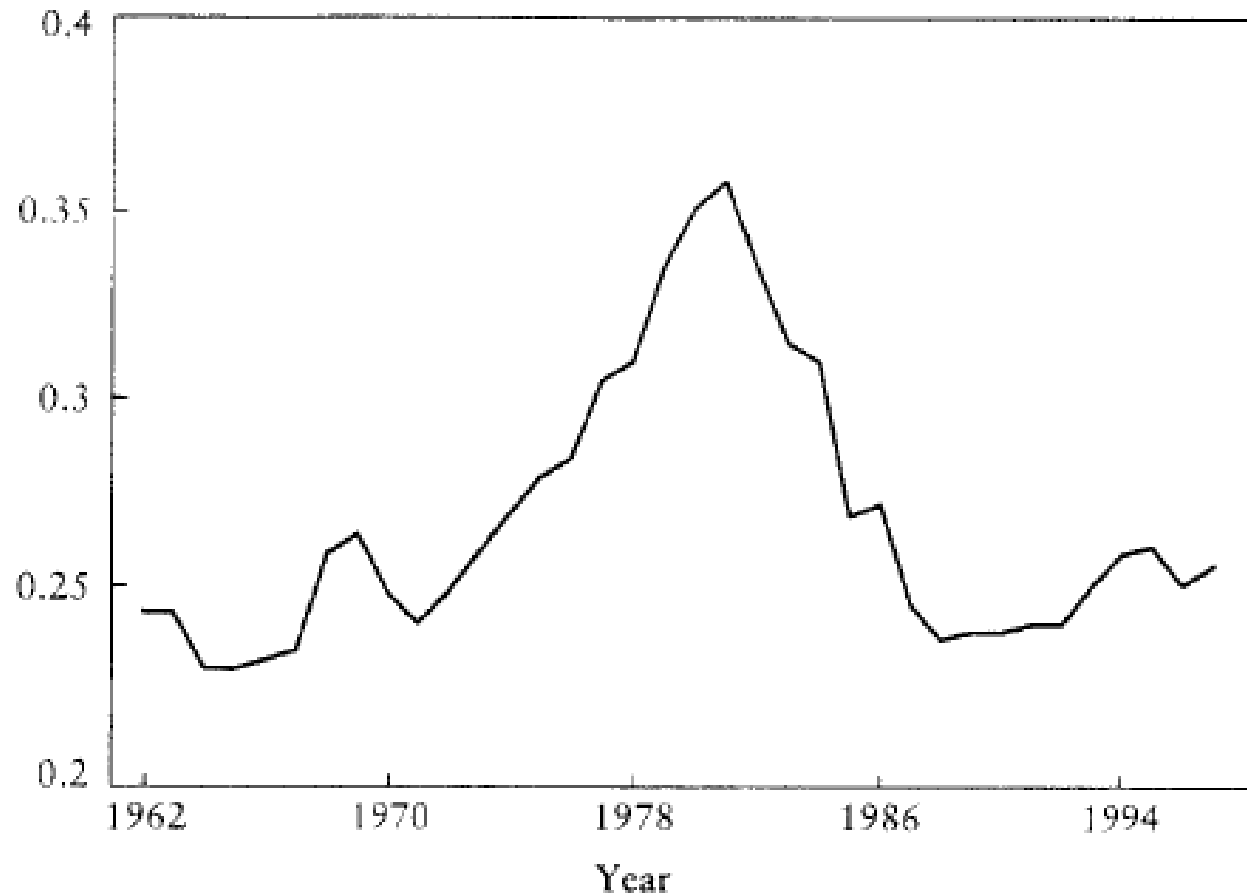
Automatic Stabilizers

(tax cuts in 1964, 1981, 1986)
(tax increases in 1993)

Change in taxes per dollar change in income

The following graphs and information are from the article by Hakkio and Wiseman

First – a little background on Social Security
Known as: OASDI

OAS(I) = Old Age Survivors Insurance (about 2/3 of program)

DI = Disability Insurance (about 1/3 of program)

In 2004:

47.5 million beneficiaries received $497.1 Billion.

Initial benefits are indexed to wages (to reflect inflation AND productivity) and then indexed to inflation.

Two dedicated sources of revenue for Social Security:

1. Payroll taxes: 12.4% paid equally by employers and employees. Earnings are taxed up to maximum amount ($94,200 in 2006).

2. Income tax on Social Security benefits. Up to 85% of benefit income is subject to tax.

IF Revenues (i.e. taxes) exceed Expenditures (i.e. benefits), then money goes into the Social Security Trust Fund.

Important to note: This is simply an accounting entry. If Social Security is running a surplus (as is the case currently), then this money is used by the Federal Government and the Social Security Trust Fund is credited with Government Securities. These represent future liabilities of the U.S. Government.

Look at 2004 Income Statement

(First − U.S. Defense Spending = $500 billion, U.S. GDP = $1,100 billion)

Table 2

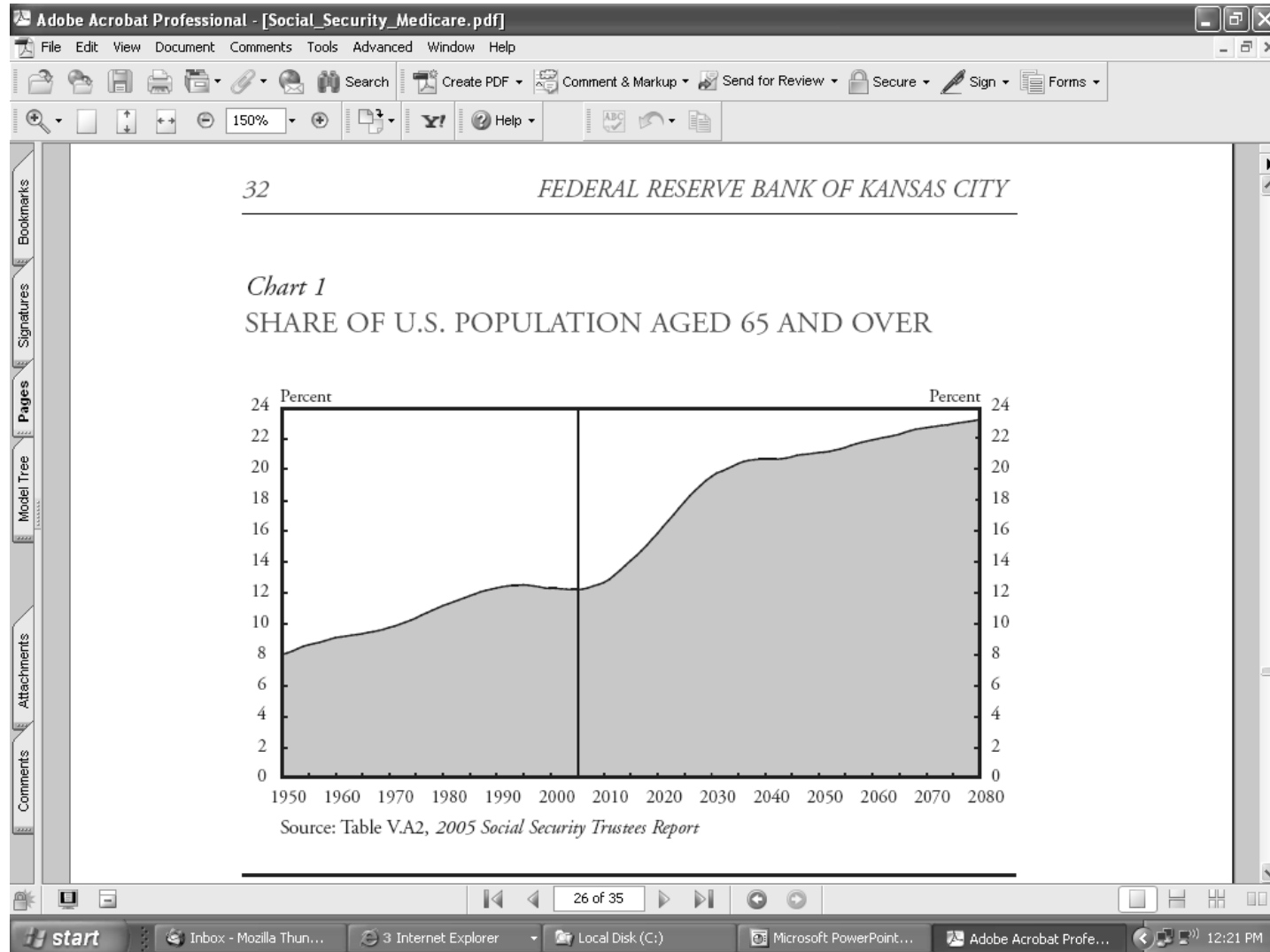## SOCIAL SECURITY INCOME AND EXPENDITURES IN CALENDAR YEAR 2004 (billions of dollars)

	OASI	DI	OASDI
Assets at the end of 2003	1,355.3	175.4	1,530.8
Total income	**566.3**	**91.4**	**657.7**
Dedicated revenue	487.4	81.4	568.7
Payroll taxes	472.8	80.3	553.0
Taxation of benefits	14.6	1.1	15.7
Interest	79.0	10.0	89.0
Total expenditures	**421.0**	**80.6**	**501.6**
Benefit payments[1]	418.6	78.4	497.1
Administrative expenses	2.4	2.2	4.5
Net increase in assets	145.3	10.8	156.1
Assets at the end of 2004	1,500.6	186.2	1,686.8

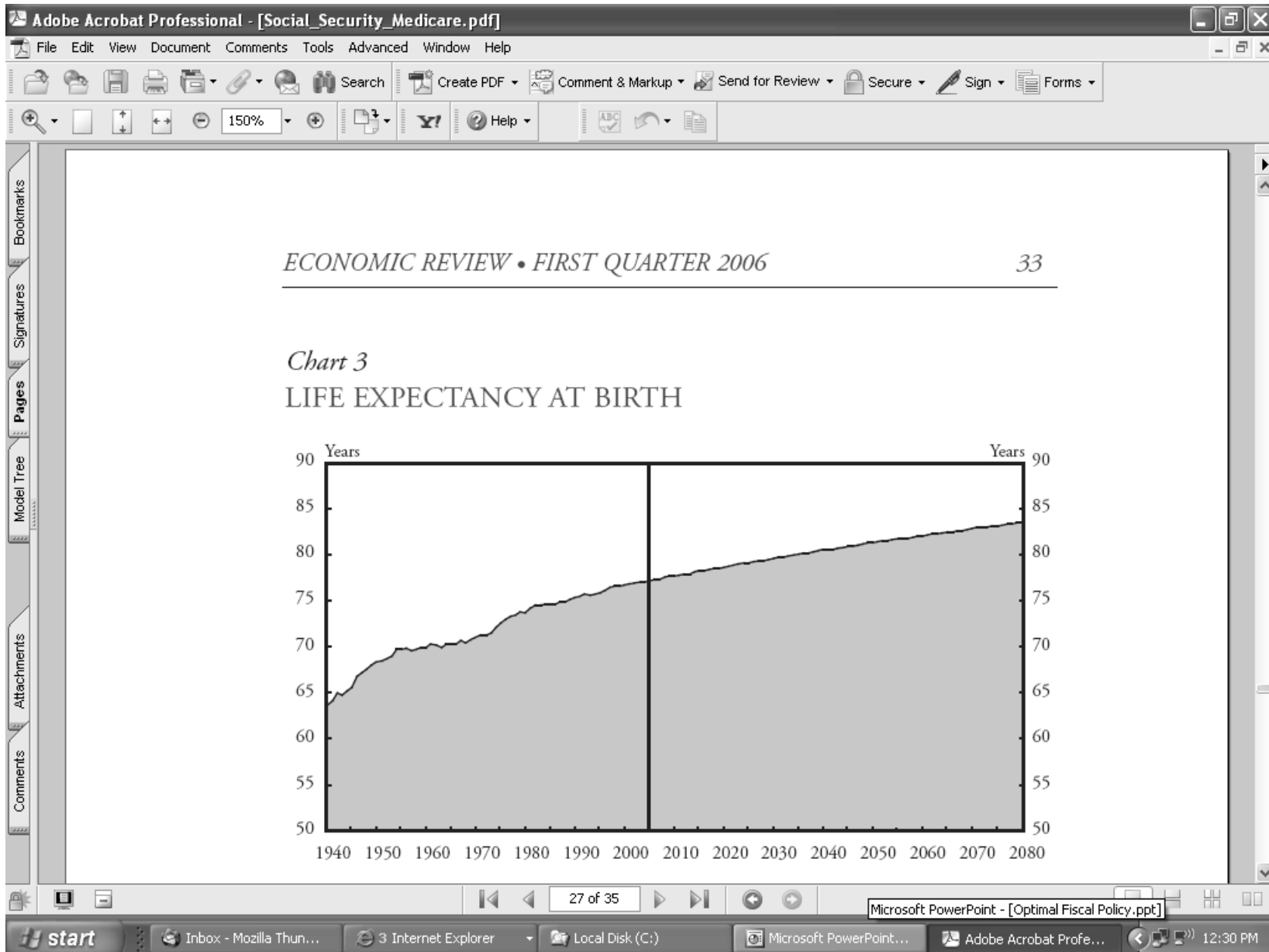Source: Table II.B1, *2005 Social Security Trustees Report*
[1]Benefit payments include "railroad retirement financial interchange."

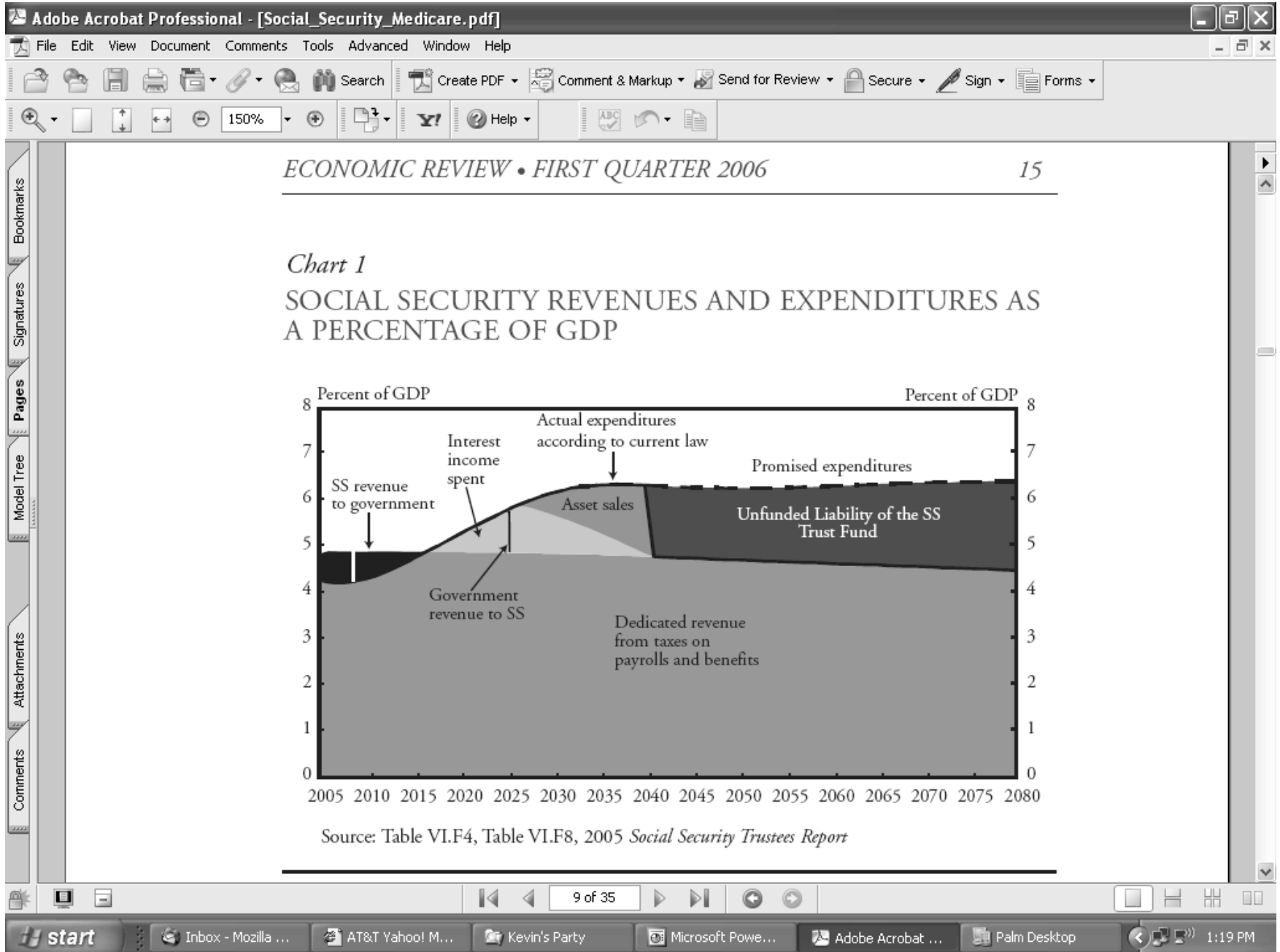# Social Security's Long Term Prospects? Not Good!

Demographics combined with Pay As You Go System

More Demographics:

ECONOMIC REVIEW • FIRST QUARTER 2006 — 33

Chart 3
LIFE EXPECTANCY AT BIRTH

The Fiscal Situation:

Chart 1

SOCIAL SECURITY REVENUES AND EXPENDITURES AS A PERCENTAGE OF GDP

Percent of GDP

- SS revenue to government
- Interest income spent
- Actual expenditures according to current law
- Promised expenditures
- Asset sales
- Unfunded Liability of the SS Trust Fund
- Government revenue to SS
- Dedicated revenue from taxes on payrolls and benefits

2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060 2065 2070 2075 2080

Source: Table VI.F4, Table VI.F8, 2005 *Social Security Trustees Report*

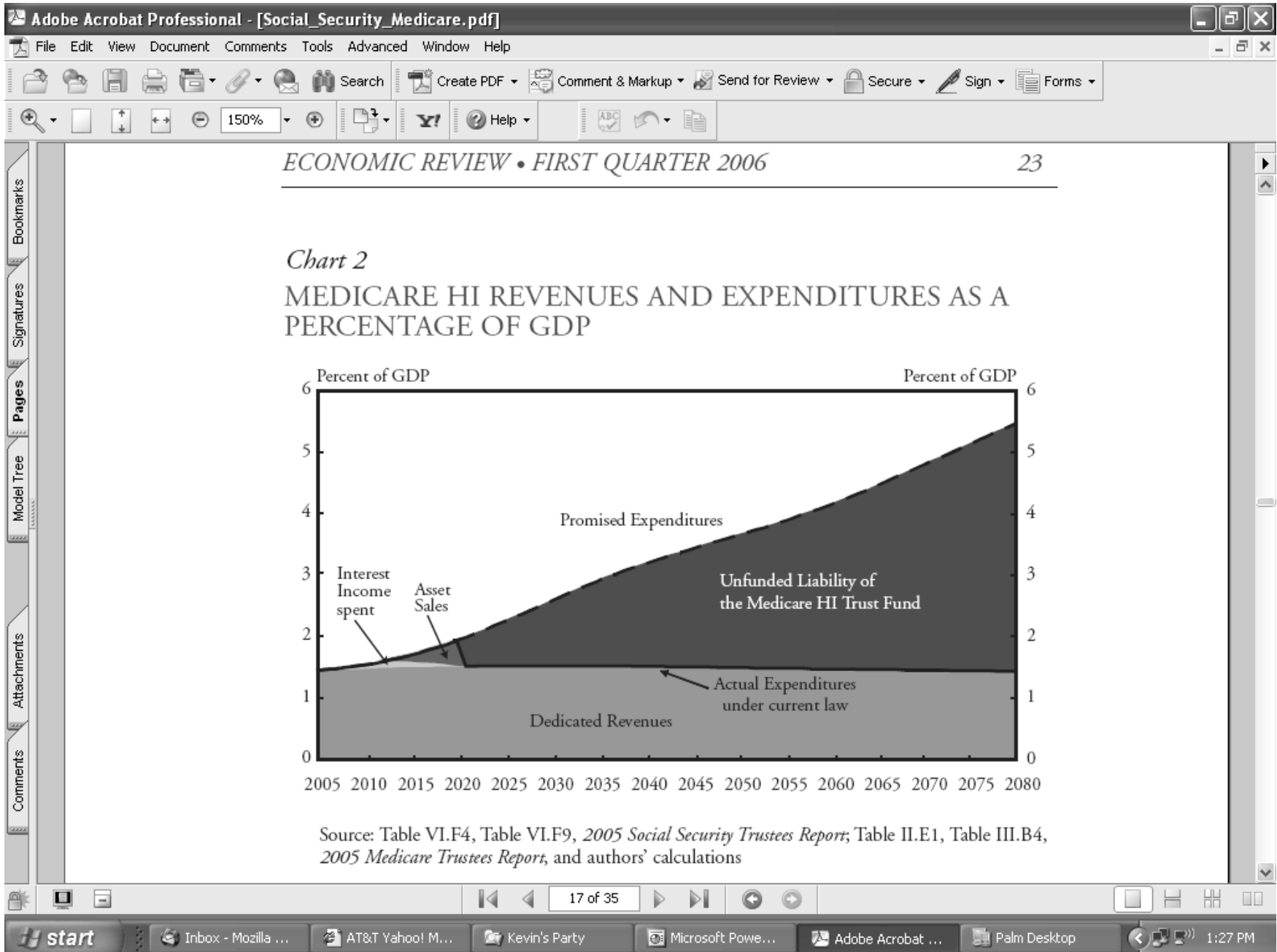That's the Good News! The real problem is Medicare.

1. Aging Population

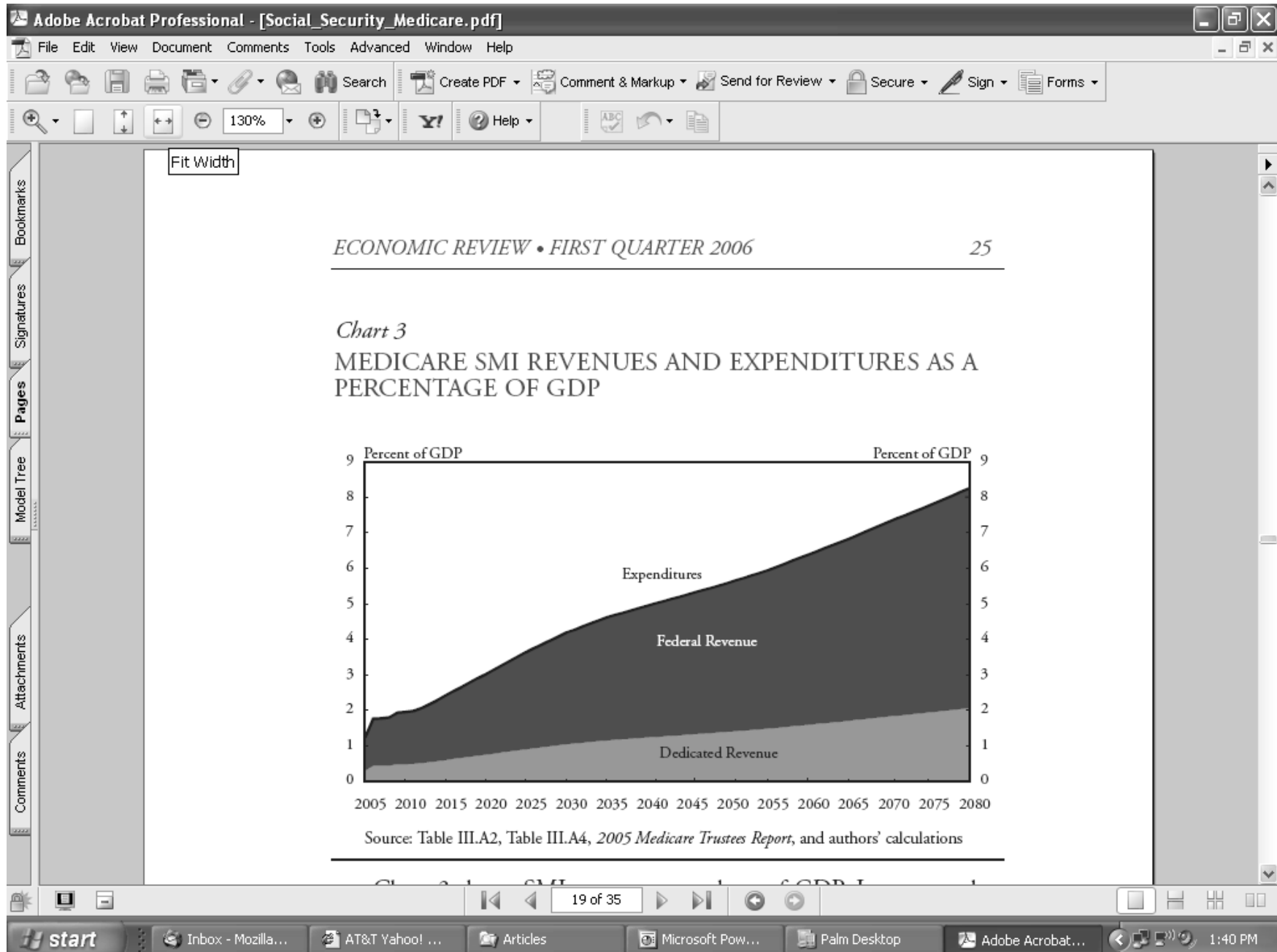2. Increasing Cost of Health Care

Medicare has two components

HI − Hospital Insurance (Part A)

SMI − Supplemental Medical Insurance (Part B)
        (new drug coverage is Part D)

Medicare HI

Chart 2

MEDICARE HI REVENUES AND EXPENDITURES AS A PERCENTAGE OF GDP

Percent of GDP

Promised Expenditures

Interest Income spent

Asset Sales

Unfunded Liability of the Medicare HI Trust Fund

Actual Expenditures under current law

Dedicated Revenues

2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060 2065 2070 2075 2080

Source: Table VI.F4, Table VI.F9, *2005 Social Security Trustees Report*; Table II.E1, Table III.B4, *2005 Medicare Trustees Report*, and authors' calculations

Medicare SMI

ECONOMIC REVIEW • FIRST QUARTER 2006   25

Chart 3
MEDICARE SMI REVENUES AND EXPENDITURES AS A
PERCENTAGE OF GDP

Source: Table III.A2, Table III.A4, *2005 Medicare Trustees Report*, and authors' calculations

Combined story

Government Debt = $7.4 trillion at end of 2004

The Government's unfunded obligations for Social Security and
Medicare = **$35.6 trillion!!**

(assuming a 5.7% nominal discount rate)

Insolvency Issues of SS and Medicare HI

Increase SS taxes from 12.4% to 14.32%; if no action until 2041 taxes =
16.66%

For HI, increase Medicare taxes from 2.9% to roughly 6%;
if no action taken until 2020, taxes = 8.79%

Something has to give: reduce benefits, raise taxes, control
costs…..

To be continued!!

Optimal Fiscal Policy

Doepke, M., A. Lehnert, A. Sellgren, *Macroeconomics*,

Chapter 14

Back to our immediate concern:

We will analyze a very specific problem in optimal fiscal policy:

Question: Given a path of government expenditures, how should a benevolent government choose the path of taxes?

We will examine two cases:

Case I: Taxes are lump-sum

Conclusion: The path of taxes is irrelevant. This is known as (Barro) Ricardian Equivalence.

Case II: Taxes are distortionary (excise taxes) (known as the Ramsey Problem)

Conclusion: Government should smooth tax rates over time. (tax smoothing hypothesis).

Key Terms and Concepts:

1. Intertemporal budget constraint.

2. $\beta \equiv \dfrac{1}{1+\rho}$ - subjective rate of time preference .

3. Difficulties in empirical testing of Ricardian equivalence.

4. Intertemporal utility maximization.

5. Permanent income hypothesis.

6. Real interest rate = price of current consumption relative to future consumption.

Key Assumptions

1.   The path of government expenditures is exogenous.

2.   The government is benevolent – cares about utility of citizens.

3.   There are perfect capital markets: Both households and government can borrow and lend at interest rate r.

4.   Households and government live forever.