1. Overview of changes in the Federal tax system
   A. marginal tax rates have fallen (91% in 1960’s, 35% today)
   B. corporate taxes (as % of GDP) have fallen from 3.5-4% (early 1960’s) to less than 2% today; corporate profits have stayed the same
   C. substantial increase in Social Security payroll tax, Medicare tax (combined employer-employee payroll tax rate 6% in 1960’s, > 15% today) (NB: Social Security maxes out at the “wage base,” $106K today)
   D. EITC has taken many low-income people/families off the tax rolls

2. Main conclusions
   A. examine progressivity at the upper end of the income scale only
   B. don’t consider transfer payments or state/local taxes, just the Feds
   C. progressivity at the top has fallen dramatically
      e.g., top 0.01% of earners paid over 70% of income in tax in 1960 vs. 35% in 2005
      (average Federal tax rate for middle class has stayed about the same)
      this is due mostly to drop in corporate taxes and estate/gift taxes
   D. most changes in Federal tax system usually affect only the top 1% of earners (so the “median voter” is not determining policy)
3. Current progressivity in the U.S.
   A. AVERAGE rate of tax = taxes paid/total income
      MARGINAL rate of tax = Δtax/ Δincome
      “progressive” tax could mean rising ART or rising MRT
   B. due to loopholes, exclusions, etc., tax laws have different effects
      across the distribution of income – sometimes laws favor the poor
      (EITC), sometimes the rich (capital gains tax)
   C. define “progressive” tax system as one that leaves the income
      distribution more equal after taxes than it was before taxes
   D. P&S look at how tax code affects fraction of TOTAL income
      received by top of the income distribution (“top income shares”)
   E. Table 1: shows income and tax statistics for 2004
      * tax system is “redistributive” – share of poor is higher after-tax,
        share of rich is lower after-tax
      * top 1% earned 19.6% of total income before tax,
        paid 41% of the Federal income tax, 28% of all Federal taxes
        (where do we find those numbers??!)
Table 1
Income and Federal Tax Rate Statistics in 2004
(based on 2000 inflated incomes)

<table>
<thead>
<tr>
<th>Income groups</th>
<th>Average income (pre-tax)</th>
<th>Payroll (Social Security + Medicare) tax</th>
<th>Federal corporate</th>
<th>Federal estate and gift</th>
<th>Total federal taxes</th>
<th>Income shares</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pre-tax income share</td>
<td>Post-tax income share</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full population</td>
<td></td>
<td>$52,110</td>
<td>11.5</td>
<td>9.3</td>
<td>2.5</td>
<td>0.4</td>
</tr>
<tr>
<td>(144 million</td>
<td></td>
<td>$15,897</td>
<td>-3.2</td>
<td>10.6</td>
<td>2.0</td>
<td>0.0</td>
</tr>
<tr>
<td>tax units)</td>
<td></td>
<td>$29,870</td>
<td>3.2</td>
<td>11.2</td>
<td>1.7</td>
<td>0.0</td>
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<tr>
<td>P20-40</td>
<td></td>
<td>$52,157</td>
<td>7.3</td>
<td>11.6</td>
<td>1.6</td>
<td>0.0</td>
</tr>
<tr>
<td>P40-60</td>
<td></td>
<td>$83,012</td>
<td>9.2</td>
<td>11.9</td>
<td>1.6</td>
<td>0.0</td>
</tr>
<tr>
<td>P60-80</td>
<td></td>
<td>$117,709</td>
<td>11.6</td>
<td>11.5</td>
<td>1.8</td>
<td>0.0</td>
</tr>
<tr>
<td>P90-95</td>
<td></td>
<td>$199,033</td>
<td>16.4</td>
<td>8.1</td>
<td>2.5</td>
<td>0.1</td>
</tr>
<tr>
<td>P95-99</td>
<td></td>
<td>$428,690</td>
<td>21.4</td>
<td>4.6</td>
<td>3.7</td>
<td>1.6</td>
</tr>
<tr>
<td>P99-99.5</td>
<td></td>
<td>$863,607</td>
<td>23.8</td>
<td>3.0</td>
<td>4.3</td>
<td>1.9</td>
</tr>
<tr>
<td>P99.5-99.9</td>
<td></td>
<td>$3,158,720</td>
<td>25.1</td>
<td>1.6</td>
<td>4.9</td>
<td>2.4</td>
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<tr>
<td>P99.9-100</td>
<td></td>
<td>$18,113,612</td>
<td>26.2</td>
<td>1.4</td>
<td>4.6</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Sources: Computations are based on income tax return statistics and NBER TAXSIM calculator.

Notes: Computations are based on incomes from 2000 adjusted for growth and using 2004 tax law. Families are ranked based on market income excluding realized capital gains and imputed payroll and corporate taxes. P20-40 denotes families between percentile 20th and percentile 40th of the income distribution (second quintile), etc. Average income includes realized capital gains and imputed payroll and corporate taxes. Tax rates are estimated relative to income including realized capital gains and imputed payroll and corporate taxes. Payroll tax includes employee and employer Social Security and Medicare taxes (excludes payroll taxes for unemployment and workers compensation).
3. Caveats about Table 1
   A. The figures ignore government transfers, which mostly help the poor
      (however, focus here is on the top of the distribution)
   B. Social Security isn’t just a tax – there are benefits too
      (but even allowing for higher mortality of the poor,
      Social Security benefits help the poor the most)
   C. annual incomes aren’t a perfect measure of lifetime incomes
   D. tax avoidance creates an “excess burden” on taxpayers
      which isn’t counted in these data
   E. figures ignore untaxed income: employer-provided health care,
      imputed rent of homeowners
   F. figures include only “realized” capital gains, not accrued gains
   G. all state and local taxes are ignored
      (many issues here – e.g., property taxes may be imposed on
      “rich landlords,” but if they can be shifted to “poor renters,”
      property taxes may or may not end up being progressive)
### Table 2
Federal Tax Rates by Income Group from 1960 to 2004

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Full population</td>
<td>21.4</td>
<td>23.3</td>
<td>26.6</td>
<td>25.8</td>
<td>27.4</td>
<td>23.4</td>
</tr>
<tr>
<td>P20-40</td>
<td>13.9</td>
<td>18.5</td>
<td>16.3</td>
<td>16.2</td>
<td>13.1</td>
<td>9.4</td>
</tr>
<tr>
<td>P40-60</td>
<td>15.9</td>
<td>20.2</td>
<td>21.4</td>
<td>21.0</td>
<td>20.0</td>
<td>16.1</td>
</tr>
<tr>
<td>P60-80</td>
<td>16.7</td>
<td>20.7</td>
<td>24.5</td>
<td>24.3</td>
<td>23.9</td>
<td>20.5</td>
</tr>
<tr>
<td>P80-90</td>
<td>17.4</td>
<td>20.5</td>
<td>26.7</td>
<td>26.2</td>
<td>26.4</td>
<td>22.7</td>
</tr>
<tr>
<td>P90-95</td>
<td>18.7</td>
<td>21.4</td>
<td>27.9</td>
<td>27.9</td>
<td>28.7</td>
<td>24.9</td>
</tr>
<tr>
<td>P95-99</td>
<td>23.5</td>
<td>25.6</td>
<td>31.0</td>
<td>28.6</td>
<td>31.1</td>
<td>27.2</td>
</tr>
<tr>
<td>P99-99.5</td>
<td>34.0</td>
<td>36.1</td>
<td>37.6</td>
<td>31.5</td>
<td>35.7</td>
<td>31.3</td>
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<tr>
<td>P99.5-99.9</td>
<td>41.4</td>
<td>44.6</td>
<td>43.0</td>
<td>33.0</td>
<td>38.4</td>
<td>33.0</td>
</tr>
<tr>
<td>P99.9-99.99</td>
<td>55.3</td>
<td>59.1</td>
<td>51.0</td>
<td>34.3</td>
<td>40.2</td>
<td>34.1</td>
</tr>
<tr>
<td>P99.99-100</td>
<td>71.4</td>
<td>74.6</td>
<td>59.3</td>
<td>35.4</td>
<td>40.8</td>
<td>34.7</td>
</tr>
</tbody>
</table>

Notes: The table displays the average federal tax rate (including individual, corporate, payroll, and estate) for various groups of the income distribution, for various years. 2004 figures are based on 2004 tax law applied to 2000 incomes adjusted for economic growth.
4. Trends in U. S. tax system progressivity – Table 2
   A. overall average tax rate rose from 1960s to 2004
   B. NB: 2004 figures use 2000 incomes and compute tax based on 2004 tax law
   C. compare ATR’s by income level for 2004 vs. 1970, when overall ATR’s were the same:
      * ATR’s for lower-income percentiles 20-40, 40-60, 60-80 fell
      * for percentiles 80-90, 90-95, and 95-99, ATR’s rose
      * for percentiles 99-99.5 on up, ATR’s fell

5. International comparisons – US, UK, France
   A. in all 3 countries, income tax progressivity down sharply since 1970’s
   B. in all 3 countries, payroll tax burden has gone up sharply
      (doesn’t always hit upper income folks hardest, however, because much of their income comes from sources other than labor)