

Tax Policy and Income and Wealth Inequality

Wojciech Kopczuk

Columbia University

July 2013

Inequality of what?

- Ideally: well-being, but it is hard to measure.
- Wealth, income, earnings, consumption.
- Annual, lifetime.
- Individuals vs households.
- Different sources of data allow for measuring different things.
- Treatment of taxes and transfers.
- Mobility: is place in the society stable or mobile? Both within and across generations.

Inequality of what?

- Ideally: well-being, but it is hard to measure.
- Wealth, income, earnings, consumption.
- Annual, lifetime.
- Individuals vs households.
- Different sources of data allow for measuring different things.
- Treatment of taxes and transfers.
- Mobility: is place in the society stable or mobile? Both within and across generations.

Inequality of what?

- Ideally: well-being, but it is hard to measure.
- Wealth, income, earnings, consumption.
- Annual, lifetime.
- Individuals vs households.
- Different sources of data allow for measuring different things.
- Treatment of taxes and transfers.
- Mobility: is place in the society stable or mobile? Both within and across generations.

Inequality of what?

- Ideally: well-being, but it is hard to measure.
- Wealth, income, earnings, consumption.
- Annual, lifetime.
- Individuals vs households.
- Different sources of data allow for measuring different things.
- Treatment of taxes and transfers.
- Mobility: is place in the society stable or mobile? Both within and across generations.

Inequality of what?

- Ideally: well-being, but it is hard to measure.
- Wealth, income, earnings, consumption.
- Annual, lifetime.
- Individuals vs households.
- Different sources of data allow for measuring different things.
- Treatment of taxes and transfers.
- Mobility: is place in the society stable or mobile? Both within and across generations.

Inequality of what?

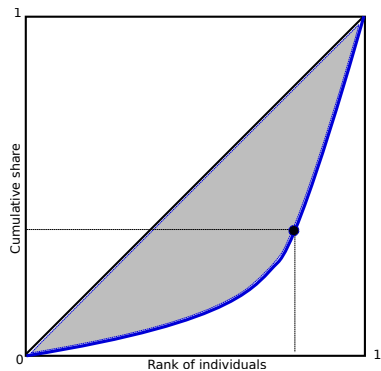
- Ideally: well-being, but it is hard to measure.
- Wealth, income, earnings, consumption.
- Annual, lifetime.
- Individuals vs households.
- Different sources of data allow for measuring different things.
- Treatment of taxes and transfers.
- Mobility: is place in the society stable or mobile? Both within and across generations.

Inequality of what?

- Ideally: well-being, but it is hard to measure.
- Wealth, income, earnings, consumption.
- Annual, lifetime.
- Individuals vs households.
- Different sources of data allow for measuring different things.
- Treatment of taxes and transfers.
- Mobility: is place in the society stable or mobile? Both within and across generations.

Measurement of inequality

- Lorenz curves to describe full distribution
- Gini coefficient and shares are common summary statistics



Measurement of inequality

- Lorenz curves to describe full distribution
- Gini coefficient and shares are common summary statistics

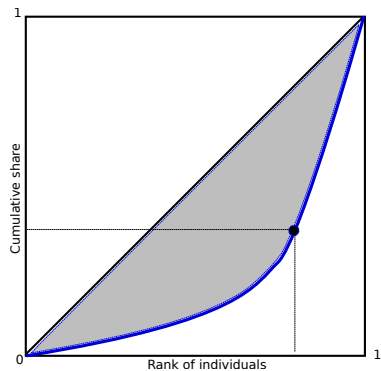


Figure A1: Average Real Earnings and Number of Workers

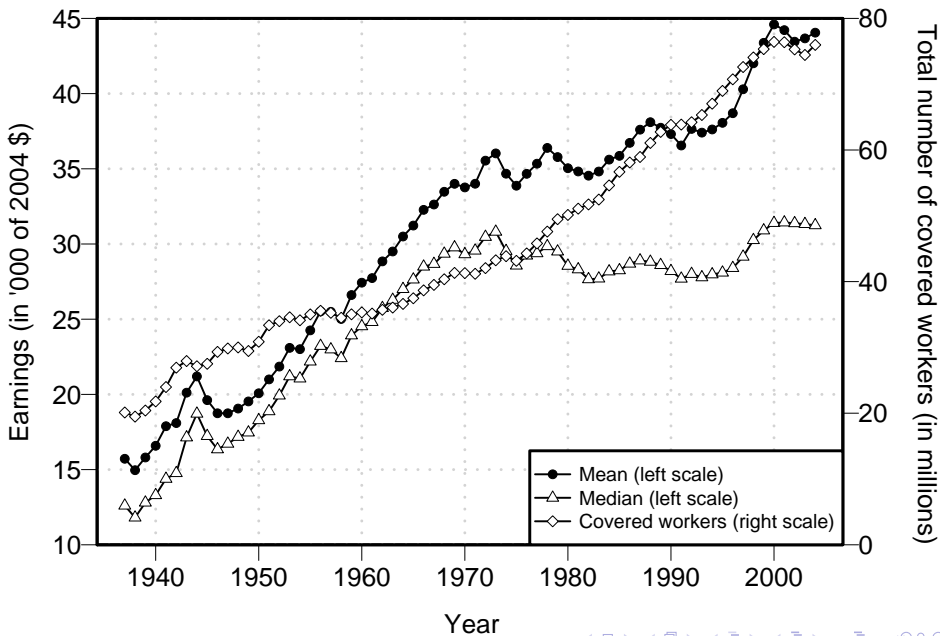


Figure 1: Gini Coefficient Series

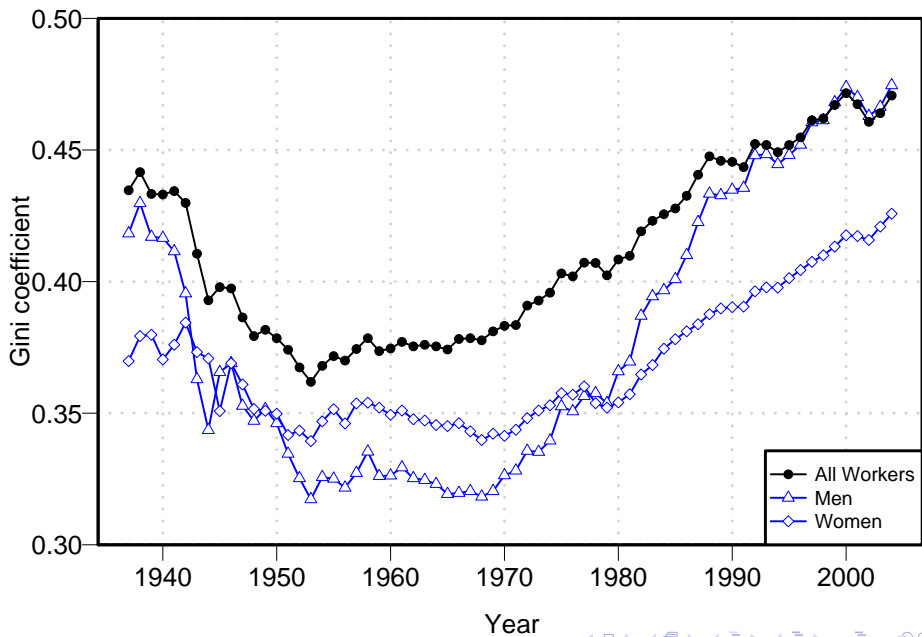
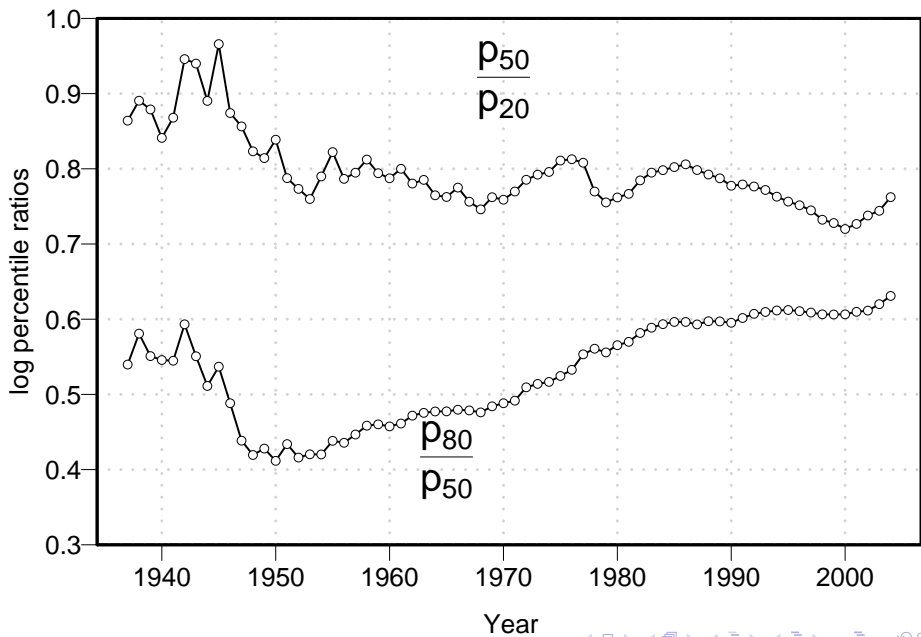
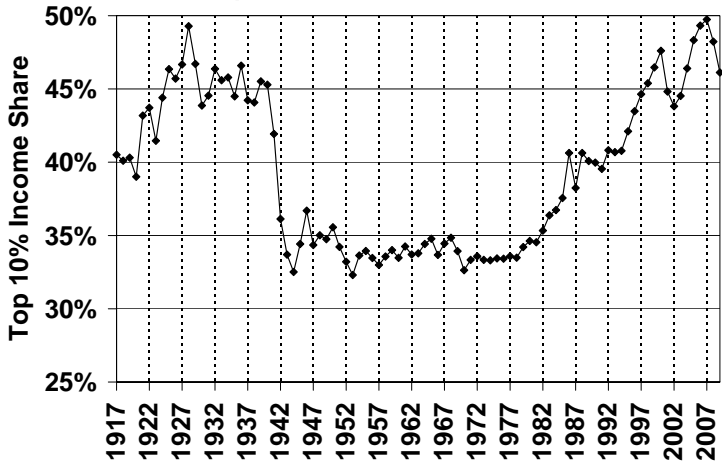


Figure 2: Percentile ratios $\text{Log}(P80/P50)$ and $\text{Log}(P50/P20)$



Top 10% Income Share, 1913-2009



Decomposing Top 10% into 3 Groups, 1913-2009

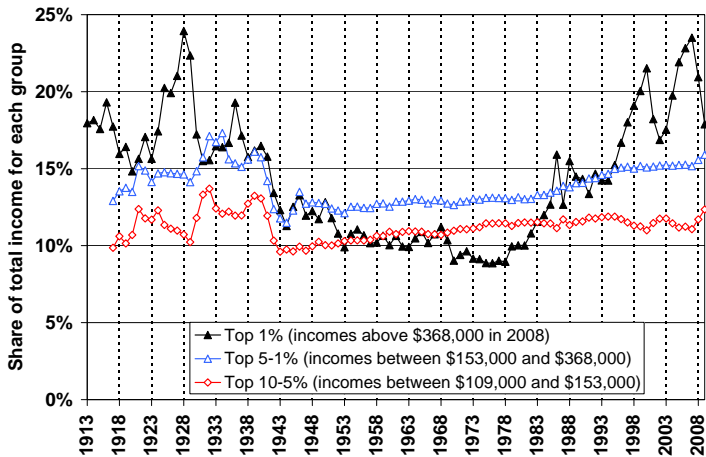
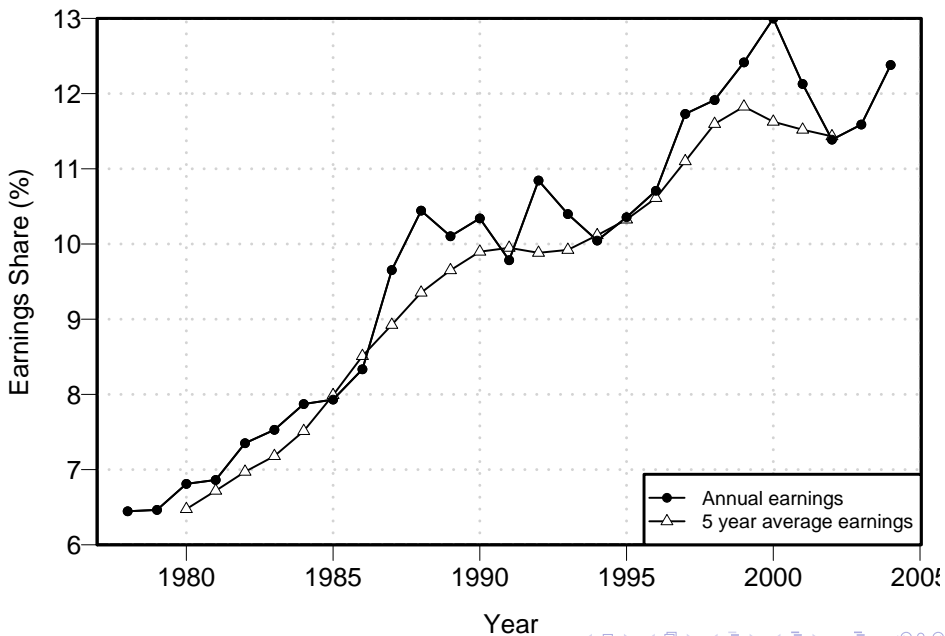


Figure 6A: Top 1% Earnings Share: Annual vs 5-Year



Empirical facts about inequality

- Labor income inequality has increased dramatically since 1970s. Factors: skill-biased technological progress, compositional/demographic changes of the labor force (education, gender), institutions (minimum wage, unions, taxation), globalization.
- Mobility over the lifetime stable, intergenerational mobility less clear
- Top income shares dropped during WWII but have increased very rapidly since the 1970s (Piketty and Saez, 2003) in the US and some other countries (though less dramatic changes in Europe)
- Labor income the key driver of top income share growth
- Permanent changes rather than increased volatility at the top.
- Wealth concentration more stable than income in the last 30 years
- Not too much known about intergenerational mobility at the very top. It is low in Sweden (Björklund et. al, 2011), but it may have actually increased in the US

Empirical facts about inequality

- Labor income inequality has increased dramatically since 1970s. Factors: skill-biased technological progress, compositional/demographic changes of the labor force (education, gender), institutions (minimum wage, unions, taxation), globalization.
- Mobility over the lifetime stable, intergenerational mobility less clear
- Top income shares dropped during WWII but have increased very rapidly since the 1970s (Piketty and Saez, 2003) in the US and some other countries (though less dramatic changes in Europe)
- Labor income the key driver of top income share growth
- Permanent changes rather than increased volatility at the top.
- Wealth concentration more stable than income in the last 30 years
- Not too much known about intergenerational mobility at the very top. It is low in Sweden (Björklund et. al, 2011), but it may have actually increased in the US

Empirical facts about inequality

- Labor income inequality has increased dramatically since 1970s. Factors: skill-biased technological progress, compositional/demographic changes of the labor force (education, gender), institutions (minimum wage, unions, taxation), globalization.
- Mobility over the lifetime stable, intergenerational mobility less clear
- Top income shares dropped during WWII but have increased very rapidly since the 1970s (Piketty and Saez, 2003) in the US and some other countries (though less dramatic changes in Europe)
- Labor income the key driver of top income share growth
- Permanent changes rather than increased volatility at the top.
- Wealth concentration more stable than income in the last 30 years
- Not too much known about intergenerational mobility at the very top. It is low in Sweden (Björklund et. al, 2011), but it may have actually increased in the US

Empirical facts about inequality

- Labor income inequality has increased dramatically since 1970s. Factors: skill-biased technological progress, compositional/demographic changes of the labor force (education, gender), institutions (minimum wage, unions, taxation), globalization.
- Mobility over the lifetime stable, intergenerational mobility less clear
- Top income shares dropped during WWII but have increased very rapidly since the 1970s (Piketty and Saez, 2003) in the US and some other countries (though less dramatic changes in Europe)
- Labor income the key driver of top income share growth
- Permanent changes rather than increased volatility at the top.
- Wealth concentration more stable than income in the last 30 years
- Not too much known about intergenerational mobility at the very top. It is low in Sweden (Björklund et. al, 2011), but it may have actually increased in the US

Empirical facts about inequality

- Labor income inequality has increased dramatically since 1970s. Factors: skill-biased technological progress, compositional/demographic changes of the labor force (education, gender), institutions (minimum wage, unions, taxation), globalization.
- Mobility over the lifetime stable, intergenerational mobility less clear
- Top income shares dropped during WWII but have increased very rapidly since the 1970s (Piketty and Saez, 2003) in the US and some other countries (though less dramatic changes in Europe)
- Labor income the key driver of top income share growth
- Permanent changes rather than increased volatility at the top.
- Wealth concentration more stable than income in the last 30 years
- Not too much known about intergenerational mobility at the very top. It is low in Sweden (Björklund et. al, 2011), but it may have actually increased in the US

Empirical facts about inequality

- Labor income inequality has increased dramatically since 1970s. Factors: skill-biased technological progress, compositional/demographic changes of the labor force (education, gender), institutions (minimum wage, unions, taxation), globalization.
- Mobility over the lifetime stable, intergenerational mobility less clear
- Top income shares dropped during WWII but have increased very rapidly since the 1970s (Piketty and Saez, 2003) in the US and some other countries (though less dramatic changes in Europe)
- Labor income the key driver of top income share growth
- Permanent changes rather than increased volatility at the top.
- Wealth concentration more stable than income in the last 30 years
- Not too much known about intergenerational mobility at the very top. It is low in Sweden (Björklund et. al, 2011), but it may have actually increased in the US

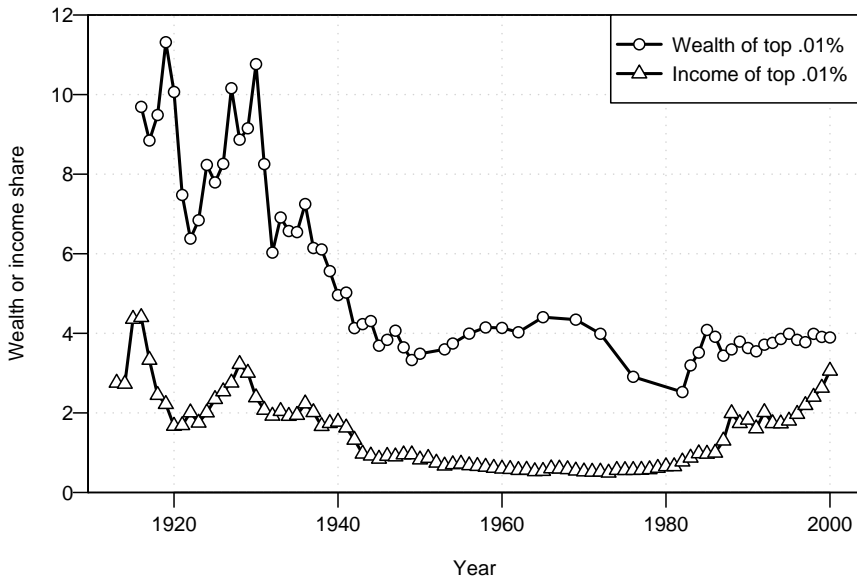
Empirical facts about inequality

- Labor income inequality has increased dramatically since 1970s. Factors: skill-biased technological progress, compositional/demographic changes of the labor force (education, gender), institutions (minimum wage, unions, taxation), globalization.
- Mobility over the lifetime stable, intergenerational mobility less clear
- Top income shares dropped during WWII but have increased very rapidly since the 1970s (Piketty and Saez, 2003) in the US and some other countries (though less dramatic changes in Europe)
- Labor income the key driver of top income share growth
- Permanent changes rather than increased volatility at the top.
- Wealth concentration more stable than income in the last 30 years
- Not too much known about intergenerational mobility at the very top. It is low in Sweden (Björklund et. al, 2011), but it may have actually increased in the US

Wealth concentration

- An increase in income concentration has not been accompanied by a similar increase in wealth concentration
- Current rich are more likely to be self-made than 30 years ago.
- Also, fewer wealthy women in estate tax data and in Forbes 400 despite women making huge gains in the labor market
- Edlund and Kopczuk (2009): wealthy women are a proxy for the importance of inherited wealth
- Hypothesis: old wealth declining, new wealth increasing

Wealth and Income Shares, Top .01%



Source: Piketty and Saez (2003) and Kopczuk and Saez (2004)

Wealth concentration

- An increase in income concentration has not been accompanied by a similar increase in wealth concentration
- Current rich are more likely to be self-made than 30 years ago.
- Also, fewer wealthy women in estate tax data and in Forbes 400 despite women making huge gains in the labor market
- Edlund and Kopczuk (2009): wealthy women are a proxy for the importance of inherited wealth
- Hypothesis: old wealth declining, new wealth increasing

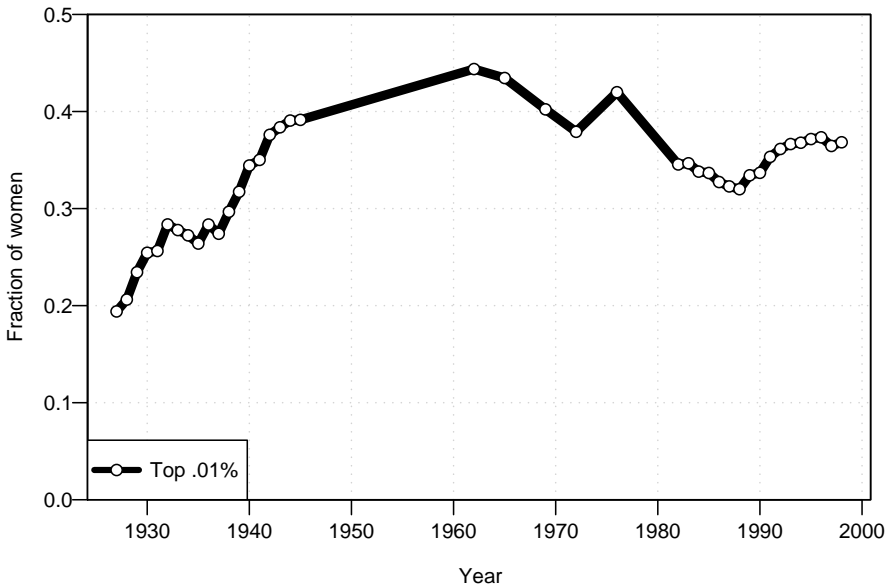
Forbes 400: 1982-2003

Year	#Women	%Women	# with inheritance			% with inheritance		
			Total	Women	Men	Total	Women	Men
1982	72	0.18	143	64	78	0.36	0.89	0.24
1983	74	0.19	142	67	74	0.36	0.91	0.23
1984	67	0.17	135	60	74	0.34	0.90	0.22
1985	83	0.18	159	75	83	0.34	0.90	0.22
1986	88	0.19	150	76	73	0.32	0.86	0.19
1987	87	0.18	143	73	69	0.29	0.84	0.17
1988	66	0.14	107	52	55	0.23	0.79	0.14
1989	67	0.14	114	51	63	0.24	0.76	0.16
1990	70	0.16	109	51	58	0.24	0.73	0.15
1991	74	0.16	110	51	59	0.24	0.69	0.16
1992	70	0.16	107	49	58	0.24	0.70	0.15
1993	73	0.16	104	49	55	0.23	0.67	0.15
1994	76	0.17	105	50	55	0.23	0.66	0.15
1995	75	0.17	96	46	50	0.21	0.61	0.13
1996	76	0.17	99	47	52	0.22	0.62	0.14
1997	73	0.16	91	42	49	0.20	0.58	0.13
1998	69	0.15	87	40	47	0.19	0.58	0.12
1999	67	0.14	84	37	47	0.18	0.55	0.12
2000	49	0.12	58	24	34	0.14	0.49	0.10
2001	47	0.12	60	25	35	0.15	0.53	0.10
2002	49	0.12	58	26	32	0.14	0.53	0.09
2003	52	0.13	66	30	36	0.16	0.58	0.10

Wealth concentration

- An increase in income concentration has not been accompanied by a similar increase in wealth concentration
- Current rich are more likely to be self-made than 30 years ago.
- Also, fewer wealthy women in estate tax data and in Forbes 400 despite women making huge gains in the labor market
- Edlund and Kopczuk (2009): wealthy women are a proxy for the importance of inherited wealth
- Hypothesis: old wealth declining, new wealth increasing

Share of Women Among the Wealthiest (Decedents)



Source: Edlund and Kopczuk (2009)

Wealth concentration

- An increase in income concentration has not been accompanied by a similar increase in wealth concentration
- Current rich are more likely to be self-made than 30 years ago.
- Also, fewer wealthy women in estate tax data and in Forbes 400 despite women making huge gains in the labor market
- Edlund and Kopczuk (2009): wealthy women are a proxy for the importance of inherited wealth
- Hypothesis: old wealth declining, new wealth increasing

Wealth concentration

- An increase in income concentration has not been accompanied by a similar increase in wealth concentration
- Current rich are more likely to be self-made than 30 years ago.
- Also, fewer wealthy women in estate tax data and in Forbes 400 despite women making huge gains in the labor market
- Edlund and Kopczuk (2009): wealthy women are a proxy for the importance of inherited wealth
- Hypothesis: old wealth declining, new wealth increasing

Redistributive taxation

- **Redistribution is a big part of the current system**
 - Income tax — tax liability based on income, related to (current) ability to pay
 - Many adjustments to the basic income tax structure to strengthen this link (exemptions for children, deductions for losses and for work-related expenses)
 - Welfare programs provide additional transfers for some groups with low ability to pay (single mothers, disability)
 - Social insurance programs — redistribution ex post; sometimes mixed with ex ante redistribution
 - A lot of other features of the tax and transfer system serve to encourage particular behaviors (charitable and mortgage deduction, work incentives via EITC, saving)
- Complexity growing over time, many tax incentives hard to justify

Redistributive taxation

- Redistribution is a big part of the current system
 - Income tax — tax liability based on income, related to (current) ability to pay
 - Many adjustments to the basic income tax structure to strengthen this link (exemptions for children, deductions for losses and for work-related expenses)
 - Welfare programs provide additional transfers for some groups with low ability to pay (single mothers, disability)
 - Social insurance programs — redistribution ex post; sometimes mixed with ex ante redistribution
 - A lot of other features of the tax and transfer system serve to encourage particular behaviors (charitable and mortgage deduction, work incentives via EITC, saving)
- Complexity growing over time, many tax incentives hard to justify

Redistributive taxation

- Redistribution is a big part of the current system
 - Income tax — tax liability based on income, related to (current) ability to pay
 - Many adjustments to the basic income tax structure to strengthen this link (exemptions for children, deductions for losses and for work-related expenses)
 - Welfare programs provide additional transfers for some groups with low ability to pay (single mothers, disability)
 - Social insurance programs — redistribution ex post; sometimes mixed with ex ante redistribution
 - A lot of other features of the tax and transfer system serve to encourage particular behaviors (charitable and mortgage deduction, work incentives via EITC, saving)
- Complexity growing over time, many tax incentives hard to justify

Redistributive taxation

- Redistribution is a big part of the current system
 - Income tax — tax liability based on income, related to (current) ability to pay
 - Many adjustments to the basic income tax structure to strengthen this link (exemptions for children, deductions for losses and for work-related expenses)
 - Welfare programs provide additional transfers for some groups with low ability to pay (single mothers, disability)
 - Social insurance programs — redistribution *ex post*; sometimes mixed with *ex ante* redistribution
 - A lot of other features of the tax and transfer system serve to encourage particular behaviors (charitable and mortgage deduction, work incentives via EITC, saving)
- Complexity growing over time, many tax incentives hard to justify

Redistributive taxation

- Redistribution is a big part of the current system
 - Income tax — tax liability based on income, related to (current) ability to pay
 - Many adjustments to the basic income tax structure to strengthen this link (exemptions for children, deductions for losses and for work-related expenses)
 - Welfare programs provide additional transfers for some groups with low ability to pay (single mothers, disability)
 - Social insurance programs — redistribution ex post; sometimes mixed with ex ante redistribution
 - A lot of other features of the tax and transfer system serve to encourage particular behaviors (charitable and mortgage deduction, work incentives via EITC, saving)
- Complexity growing over time, many tax incentives hard to justify

Redistributive taxation

- Redistribution is a big part of the current system
 - Income tax — tax liability based on income, related to (current) ability to pay
 - Many adjustments to the basic income tax structure to strengthen this link (exemptions for children, deductions for losses and for work-related expenses)
 - Welfare programs provide additional transfers for some groups with low ability to pay (single mothers, disability)
 - Social insurance programs — redistribution ex post; sometimes mixed with ex ante redistribution
 - A lot of other features of the tax and transfer system serve to encourage particular behaviors (charitable and mortgage deduction, work incentives via EITC, saving)
- Complexity growing over time, many tax incentives hard to justify

Redistributive taxation

- Redistribution is a big part of the current system
 - Income tax — tax liability based on income, related to (current) ability to pay
 - Many adjustments to the basic income tax structure to strengthen this link (exemptions for children, deductions for losses and for work-related expenses)
 - Welfare programs provide additional transfers for some groups with low ability to pay (single mothers, disability)
 - Social insurance programs — redistribution ex post; sometimes mixed with ex ante redistribution
 - A lot of other features of the tax and transfer system serve to encourage particular behaviors (charitable and mortgage deduction, work incentives via EITC, saving)
- Complexity growing over time, many tax incentives hard to justify

Optimal income tax

- People work and consume
- Everybody has some skill level (or ability to pay), unobservable
- We can observe income, related to skills
- Society values transfers from people with higher income/utility/well-being to those with lower levels

Optimal income tax

- People work and consume
- Everybody has some skill level (or ability to pay), unobservable
- We can observe income, related to skills
- Society values transfers from people with higher income/utility/well-being to those with lower levels

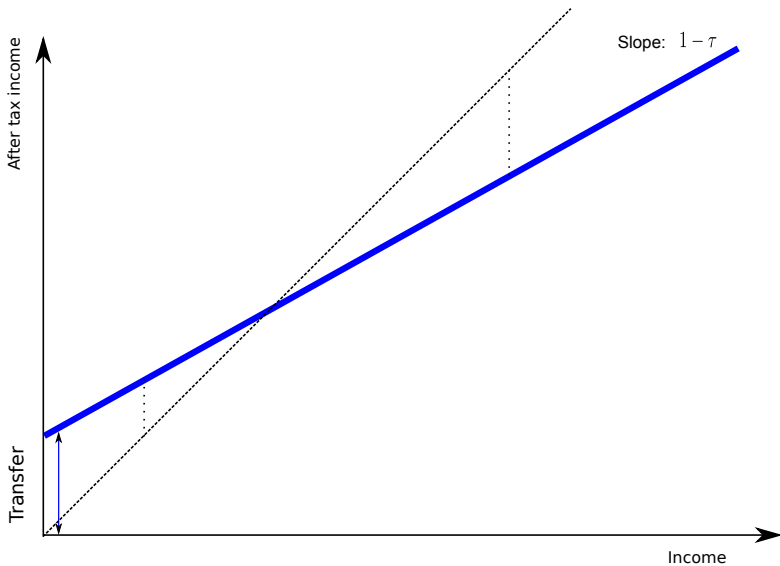
Optimal income tax

- People work and consume
- Everybody has some skill level (or ability to pay), unobservable
- We can observe income, related to skills
- Society values transfers from people with higher income/utility/well-being to those with lower levels

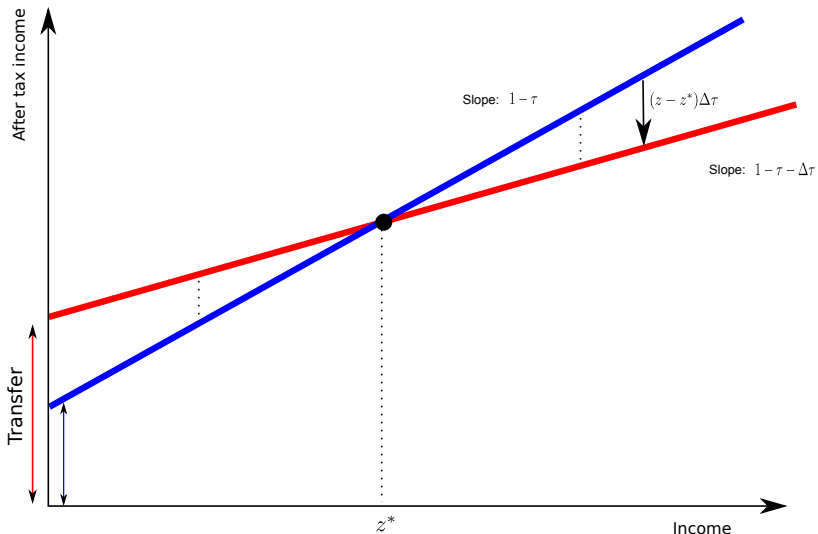
Optimal income tax

- People work and consume
- Everybody has some skill level (or ability to pay), unobservable
- We can observe income, related to skills
- Society values transfers from people with higher income/utility/well-being to those with lower levels

Marginal tax rates and redistribution



Marginal tax rates and redistribution



Optimal (single) tax rate and transfer

- Just one tax rate — not a realistic policy, but it is simple and highlights the key issue: equity-efficiency tradeoff
- Benefit: equity.
 - Measured by the strength of relationship (covariance) between income and “deservedness”
- Cost: efficiency
 - Measured by how much income subject to taxation changes (on the margin)

Optimal (single) tax rate and transfer

- Just one tax rate — not a realistic policy, but it is simple and highlights the key issue: equity-efficiency tradeoff
- Benefit: equity.
 - Measured by the strength of relationship (covariance) between income and “deservedness”
- Cost: efficiency
 - Measured by how much income subject to taxation changes (on the margin)

Optimal (single) tax rate and transfer

- Just one tax rate — not a realistic policy, but it is simple and highlights the key issue: equity-efficiency tradeoff
- Benefit: equity.
 - Measured by the strength of relationship (covariance) between income and “deservedness”
- Cost: efficiency
 - Measured by how much income subject to taxation changes (on the margin)

Optimal (single) tax rate and transfer

- Just one tax rate — not a realistic policy, but it is simple and highlights the key issue: equity-efficiency tradeoff
- Benefit: equity.
 - Measured by the strength of relationship (covariance) between income and “deservedness”
- Cost: efficiency
 - Measured by how much income subject to taxation changes (on the margin)

Optimal (single) tax rate and transfer

- Just one tax rate — not a realistic policy, but it is simple and highlights the key issue: equity-efficiency tradeoff
- Benefit: equity.
 - Measured by the strength of relationship (covariance) between income and “deservedness”
- Cost: efficiency
 - Measured by how much income subject to taxation changes (on the margin)

Any useful lessons?

- Taste for redistribution matters.
- Higher inequality, higher rate
- How well income indicates who is deserving matters
 - What is "income" for tax purposes is a policy choice
 - Arbitrary deductions, inconsistencies in measuring income → less redistribution
- How strongly people respond is an empirical question
- ...but it may also depend on policy. Example: tax enforcement.

Any useful lessons?

- Taste for redistribution matters.
- Higher inequality, higher rate
- How well income indicates who is deserving matters
 - What is "income" for tax purposes is a policy choice
 - Arbitrary deductions, inconsistencies in measuring income → less redistribution
- How strongly people respond is an empirical question
- ...but it may also depend on policy. Example: tax enforcement.

Any useful lessons?

- Taste for redistribution matters.
- Higher inequality, higher rate
- How well income indicates who is deserving matters
 - What is “income” for tax purposes is a policy choice
 - Arbitrary deductions, inconsistencies in measuring income \Rightarrow less redistribution
- How strongly people respond is an empirical question
- ...but it may also depend on policy. Example: tax enforcement.

Any useful lessons?

- Taste for redistribution matters.
- Higher inequality, higher rate
- How well income indicates who is deserving matters
 - What is “income” for tax purposes is a policy choice
 - Arbitrary deductions, inconsistencies in measuring income \Rightarrow less redistribution
- How strongly people respond is an empirical question
- ...but it may also depend on policy. Example: tax enforcement.

Any useful lessons?

- Taste for redistribution matters.
- Higher inequality, higher rate
- How well income indicates who is deserving matters
 - What is “income” for tax purposes is a policy choice
 - Arbitrary deductions, inconsistencies in measuring income \Rightarrow less redistribution
- How strongly people respond is an empirical question
- ...but it may also depend on policy. Example: tax enforcement.

Any useful lessons?

- Taste for redistribution matters.
- Higher inequality, higher rate
- How well income indicates who is deserving matters
 - What is “income” for tax purposes is a policy choice
 - Arbitrary deductions, inconsistencies in measuring income \Rightarrow less redistribution
- How strongly people respond is an empirical question
- ...but it may also depend on policy. Example: tax enforcement.

Any useful lessons?

- Taste for redistribution matters.
- Higher inequality, higher rate
- How well income indicates who is deserving matters
 - What is “income” for tax purposes is a policy choice
 - Arbitrary deductions, inconsistencies in measuring income \Rightarrow less redistribution
- How strongly people respond is an empirical question
- ...but it may also depend on policy. Example: tax enforcement.

Tax rate for top incomes

- Starting with Diamond (1998) and Saez (2001) — express optimal income tax formulae in terms of empirically observable parameters
- Let's assume that we do not care (much) about people making top incomes. How we should we tax them?
- Top marginal tax rate:

$$\tau = \frac{1}{1 + \varepsilon \cdot a}$$

- where a (“thickness of the tail”) is a measure of the shape of the income distribution, $a \approx 2$
- and ε measures by how many % income changes in response to 1% change in its price ($1 - \tau$).
- Note that even though the top marginal tax rate may be low, the overall tax liability may be still very high!

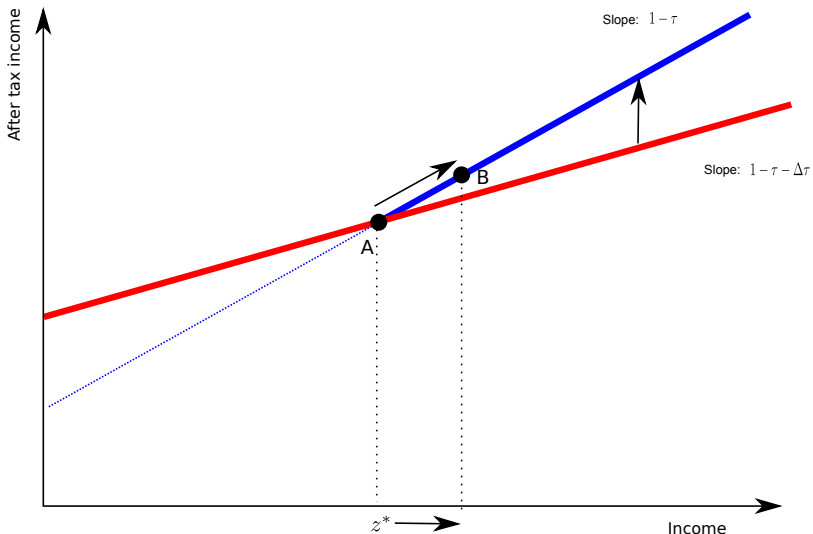
Tax rate for top incomes

- Starting with Diamond (1998) and Saez (2001) — express optimal income tax formulae in terms of empirically observable parameters
- Let's assume that we do not care (much) about people making top incomes. How should we tax them?
- Top marginal tax rate:

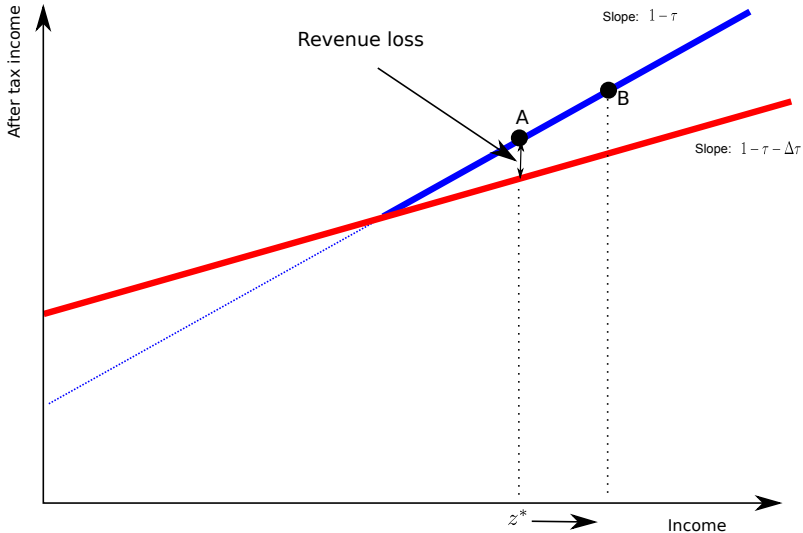
$$\tau = \frac{1}{1 + \varepsilon \cdot a}$$

- where a (“thickness of the tail”) is a measure of the shape of the income distribution, $a \approx 2$
- and ε measures by how many % income changes in response to 1% change in its price ($1 - \tau$).
- Note that even though the top marginal tax rate may be low, the overall tax liability may be still very high!

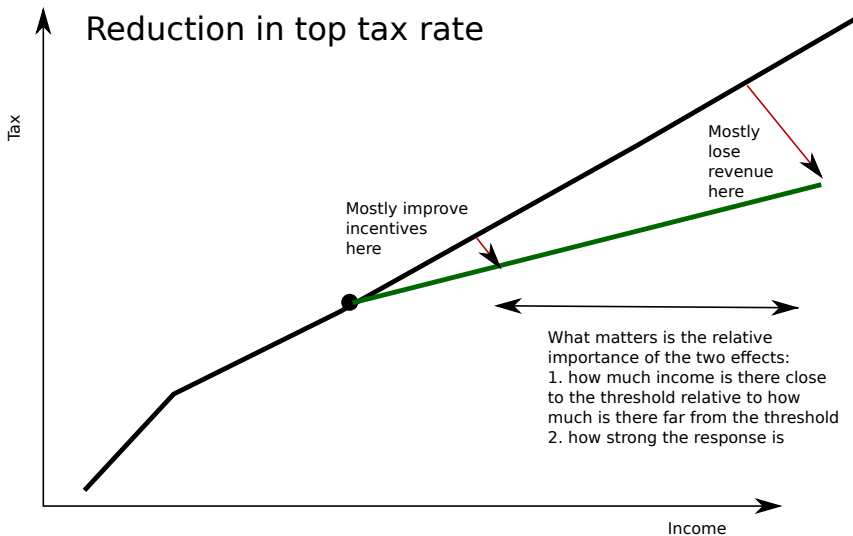
Incentive effect



Revenue cost



Tax rate at the top



Tax rate for top incomes

- Starting with Diamond (1998) and Saez (2001) — express optimal income tax formulae in terms of empirically observable parameters
- Let's assume that we do not care (much) about people making top incomes. How we should we tax them?
- Top marginal tax rate:

$$\tau = \frac{1}{1 + \varepsilon \cdot a}$$

- where a (“thickness of the tail”) is a measure of the shape of the income distribution, $a \approx 2$
- and ε measures by how many % income changes in response to 1% change in its price ($1 - \tau$).
- Note that even though the top marginal tax rate may be low, the overall tax liability may be still very high!

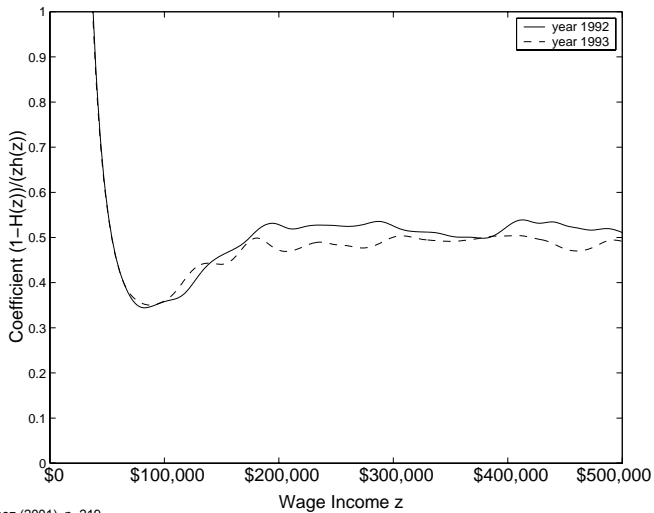
Tax rate for top incomes

- Starting with Diamond (1998) and Saez (2001) — express optimal income tax formulae in terms of empirically observable parameters
- Let's assume that we do not care (much) about people making top incomes. How we should we tax them?
- Top marginal tax rate:

$$\tau = \frac{1}{1 + \varepsilon \cdot a}$$

- where a (“thickness of the tail”) is a measure of the shape of the income distribution, $a \approx 2$
- and ε measures by how many % income changes in response to 1% change in its price ($1 - \tau$).
- Note that even though the top marginal tax rate may be low, the overall tax liability may be still very high!

FIGURE 4 – Hazard Ratio $(1-H(z))/(zh(z))$, years 1992 and 1993



Source: Saez (2001), p. 219

Tax rate for top incomes

- Starting with Diamond (1998) and Saez (2001) — express optimal income tax formulae in terms of empirically observable parameters
- Let's assume that we do not care (much) about people making top incomes. How we should we tax them?
- Top marginal tax rate:

$$\tau = \frac{1}{1 + \varepsilon \cdot a}$$

- where a (“thickness of the tail”) is a measure of the shape of the income distribution, $a \approx 2$
- and ε measures by how many % income changes in response to 1% change in its price ($1 - \tau$).
- Note that even though the top marginal tax rate may be low, the overall tax liability may be still very high!

Tax rate for top incomes

- Starting with Diamond (1998) and Saez (2001) — express optimal income tax formulae in terms of empirically observable parameters
- Let's assume that we do not care (much) about people making top incomes. How we should we tax them?
- Top marginal tax rate:

$$\tau = \frac{1}{1 + \varepsilon \cdot a}$$

- where a (“thickness of the tail”) is a measure of the shape of the income distribution, $a \approx 2$
- and ε measures by how many % income changes in response to 1% change in its price ($1 - \tau$).
- Note that even though the top marginal tax rate may be low, the overall tax liability may be still very high!

Tax rate for top incomes

- Starting with Diamond (1998) and Saez (2001) — express optimal income tax formulae in terms of empirically observable parameters
- Let's assume that we do not care (much) about people making top incomes. How we should we tax them?
- Top marginal tax rate:

$$\tau = \frac{1}{1 + \varepsilon \cdot a}$$

- where a (“thickness of the tail”) is a measure of the shape of the income distribution, $a \approx 2$
- and ε measures by how many % income changes in response to 1% change in its price ($1 - \tau$).
- Note that even though the top marginal tax rate may be low, the overall tax liability may be still very high!

Taxable income responses

- The key and hardest to evaluate parameter here is the extent of behavioral response.
- Overall labor supply responsiveness appears small, $\varepsilon \approx 0$

$$\tau = \frac{1}{1 + \varepsilon \cdot a} \approx \frac{1}{1 + 0 \cdot 2} = 1$$

- ...does it mean that the efficiency cost of taxation is small?
- Feldstein (1995,1999): no, there are many other margins of response. We knew that of course, but Feldstein's point was that they can be usefully summarized by response of taxable income.

Taxable income responses

- The key and hardest to evaluate parameter here is the extent of behavioral response.
- Overall labor supply responsiveness appears small, $\varepsilon \approx 0$

$$\tau = \frac{1}{1 + \varepsilon \cdot a} \approx \frac{1}{1 + 0 \cdot 2} = 1$$

- ...does it mean that the efficiency cost of taxation is small?
- Feldstein (1995,1999): no, there are many other margins of response. We knew that of course, but Feldstein's point was that they can be usefully summarized by response of taxable income.

Taxable income responses

- The key and hardest to evaluate parameter here is the extent of behavioral response.
- Overall labor supply responsiveness appears small, $\varepsilon \approx 0$

$$\tau = \frac{1}{1 + \varepsilon \cdot a} \approx \frac{1}{1 + 0 \cdot 2} = 1$$

- ...does it mean that the efficiency cost of taxation is small?
- Feldstein (1995,1999): no, there are many other margins of response. We knew that of course, but Feldstein's point was that they can be usefully summarized by response of taxable income.

Taxable income responses

- The key and hardest to evaluate parameter here is the extent of behavioral response.
- Overall labor supply responsiveness appears small, $\varepsilon \approx 0$

$$\tau = \frac{1}{1 + \varepsilon \cdot a} \approx \frac{1}{1 + 0 \cdot 2} = 1$$

- ...does it mean that the efficiency cost of taxation is small?
- Feldstein (1995,1999): no, there are many other margins of response. We knew that of course, but Feldstein's point was that they can be usefully summarized by response of taxable income.

Possible responses to income taxation

- What are those other margins of response that are relevant for income taxation:
 - Labor supply related — effort, occupational choice
 - Capital gains realizations, portfolio choice, saving
 - Organizational form of a firm
 - Deductions (charity, business expenses)
 - Tax avoidance and evasion
- There are literatures on each of these separately
- All of them (and any others) show up as a response of income subject to taxation.

Possible responses to income taxation

- What are those other margins of response that are relevant for income taxation:
 - Labor supply related — effort, occupational choice
 - Capital gains realizations, portfolio choice, saving
 - Organizational form of a firm
 - Deductions (charity, business expenses)
 - Tax avoidance and evasion
- There are literatures on each of these separately
- All of them (and any others) show up as a response of income subject to taxation.

Possible responses to income taxation

- What are those other margins of response that are relevant for income taxation:
 - Labor supply related — effort, occupational choice
 - Capital gains realizations, portfolio choice, saving
 - Organizational form of a firm
 - Deductions (charity, business expenses)
 - Tax avoidance and evasion
- There are literatures on each of these separately
- All of them (and any others) show up as a response of income subject to taxation.

Possible responses to income taxation

- What are those other margins of response that are relevant for income taxation:
 - Labor supply related — effort, occupational choice
 - Capital gains realizations, portfolio choice, saving
 - Organizational form of a firm
 - Deductions (charity, business expenses)
 - Tax avoidance and evasion
- There are literatures on each of these separately
- All of them (and any others) show up as a response of income subject to taxation.

Possible responses to income taxation

- What are those other margins of response that are relevant for income taxation:
 - Labor supply related — effort, occupational choice
 - Capital gains realizations, portfolio choice, saving
 - Organizational form of a firm
 - Deductions (charity, business expenses)
 - Tax avoidance and evasion
- There are literatures on each of these separately
- All of them (and any others) show up as a response of income subject to taxation.

Possible responses to income taxation

- What are those other margins of response that are relevant for income taxation:
 - Labor supply related — effort, occupational choice
 - Capital gains realizations, portfolio choice, saving
 - Organizational form of a firm
 - Deductions (charity, business expenses)
 - Tax avoidance and evasion
- There are literatures on each of these separately
- All of them (and any others) show up as a response of income subject to taxation.

Possible responses to income taxation

- What are those other margins of response that are relevant for income taxation:
 - Labor supply related — effort, occupational choice
 - Capital gains realizations, portfolio choice, saving
 - Organizational form of a firm
 - Deductions (charity, business expenses)
 - Tax avoidance and evasion
- There are literatures on each of these separately
- All of them (and any others) show up as a response of income subject to taxation.

Possible responses to income taxation

- What are those other margins of response that are relevant for income taxation:
 - Labor supply related — effort, occupational choice
 - Capital gains realizations, portfolio choice, saving
 - Organizational form of a firm
 - Deductions (charity, business expenses)
 - Tax avoidance and evasion
- There are literatures on each of these separately
- All of them (and any others) show up as a response of income subject to taxation.

Evidence (survey Saez, Slemrod and Giertz 2011)

- Initial papers (Lindsey, 1987; Feldstein, 1995; Auten-Carroll, 1999): very high elasticities, possibly above 1.
- Note: $\frac{\partial tI}{\partial t} = I \left(1 - \frac{t}{1-t} \varepsilon \right)$; when $t \approx 0.5$, $\varepsilon > 1$ puts you on the wrong side of the Laffer curve!
- Hard to estimate econometrically, recent evidence indicates taxable income elasticity of 0.4 – 0.6

$$\tau = \frac{1}{1 + \varepsilon \cdot a} \approx \frac{1}{1 + 0.5 \cdot 2} = 0.5$$

- Higher elasticities (> 1 ?) for high-income and self-employed.

$$\tau = \frac{1}{1 + \varepsilon \cdot a} \approx \frac{1}{1 + 1 \cdot 2} = 0.33$$

- Non-structural elasticity: results somewhat different in different countries, periods, vary with definition of income

Evidence (survey Saez, Slemrod and Giertz 2011)

- Initial papers (Lindsey, 1987; Feldstein, 1995; Auten-Carroll, 1999): very high elasticities, possibly above 1.
- Note: $\frac{\partial tI}{\partial t} = I \left(1 - \frac{t}{1-t} \varepsilon \right)$; when $t \approx 0.5$, $\varepsilon > 1$ puts you on the wrong side of the Laffer curve!
- Hard to estimate econometrically, recent evidence indicates taxable income elasticity of 0.4 – 0.6

$$\tau = \frac{1}{1 + \varepsilon \cdot a} \approx \frac{1}{1 + 0.5 \cdot 2} = 0.5$$

- Higher elasticities (> 1 ?) for high-income and self-employed.

$$\tau = \frac{1}{1 + \varepsilon \cdot a} \approx \frac{1}{1 + 1 \cdot 2} = 0.33$$

- Non-structural elasticity: results somewhat different in different countries, periods, vary with definition of income

Evidence (survey Saez, Slemrod and Giertz 2011)

- Initial papers (Lindsey, 1987; Feldstein, 1995; Auten-Carroll, 1999): very high elasticities, possibly above 1.
- Note: $\frac{\partial tI}{\partial t} = I \left(1 - \frac{t}{1-t} \varepsilon \right)$; when $t \approx 0.5$, $\varepsilon > 1$ puts you on the wrong side of the Laffer curve!
- Hard to estimate econometrically, recent evidence indicates taxable income elasticity of 0.4 – 0.6

$$\tau = \frac{1}{1 + \varepsilon \cdot a} \approx \frac{1}{1 + 0.5 \cdot 2} = 0.5$$

- Higher elasticities (> 1 ?) for high-income and self-employed.

$$\tau = \frac{1}{1 + \varepsilon \cdot a} \approx \frac{1}{1 + 1 \cdot 2} = 0.33$$

- Non-structural elasticity: results somewhat different in different countries, periods, vary with definition of income

Evidence (survey Saez, Slemrod and Giertz 2011)

- Initial papers (Lindsey, 1987; Feldstein, 1995; Auten-Carroll, 1999): very high elasticities, possibly above 1.
- Note: $\frac{\partial tI}{\partial t} = I \left(1 - \frac{t}{1-t} \varepsilon \right)$; when $t \approx 0.5$, $\varepsilon > 1$ puts you on the wrong side of the Laffer curve!
- Hard to estimate econometrically, recent evidence indicates taxable income elasticity of 0.4 – 0.6

$$\tau = \frac{1}{1 + \varepsilon \cdot a} \approx \frac{1}{1 + 0.5 \cdot 2} = 0.5$$

- Higher elasticities (> 1 ?) for high-income and self-employed.

$$\tau = \frac{1}{1 + \varepsilon \cdot a} \approx \frac{1}{1 + 1 \cdot 2} = 0.33$$

- Non-structural elasticity: results somewhat different in different countries, periods, vary with definition of income

Evidence (survey Saez, Slemrod and Giertz 2011)

- Initial papers (Lindsey, 1987; Feldstein, 1995; Auten-Carroll, 1999): very high elasticities, possibly above 1.
- Note: $\frac{\partial tI}{\partial t} = I \left(1 - \frac{t}{1-t} \varepsilon \right)$; when $t \approx 0.5$, $\varepsilon > 1$ puts you on the wrong side of the Laffer curve!
- Hard to estimate econometrically, recent evidence indicates taxable income elasticity of 0.4 – 0.6

$$\tau = \frac{1}{1 + \varepsilon \cdot a} \approx \frac{1}{1 + 0.5 \cdot 2} = 0.5$$

- Higher elasticities (> 1 ?) for high-income and self-employed.

$$\tau = \frac{1}{1 + \varepsilon \cdot a} \approx \frac{1}{1 + 1 \cdot 2} = 0.33$$

- Non-structural elasticity: results somewhat different in different countries, periods, vary with definition of income

Do people respond to taxes?

- “Flat” tax reform in Poland in 2004
- Reform: people with business income can opt for a flat tax of 19% — no deductions or other preferences, no joint filing. Otherwise, progressive tax rates of 19-30-40%
- Note: administrative data

Relevance of Poland



You forgot Poland



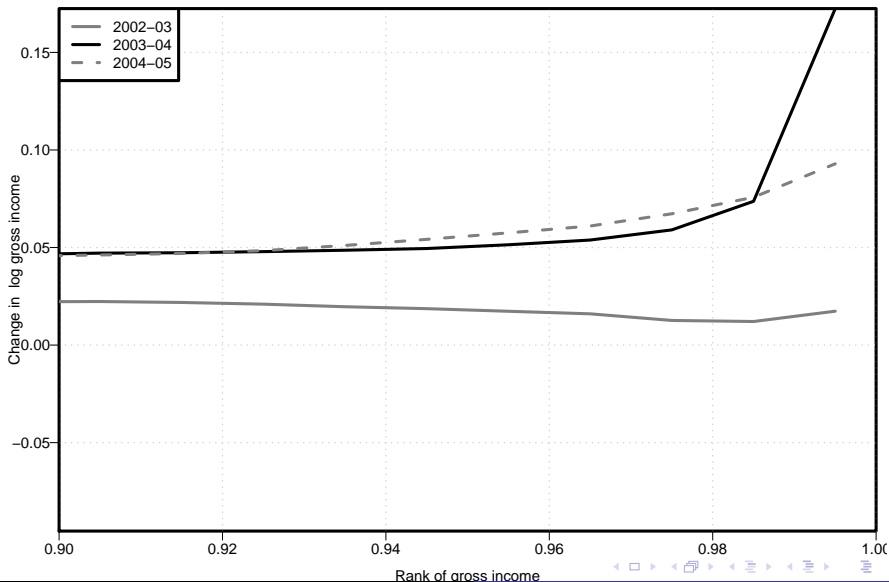
Do people respond to taxes?

- “Flat” tax reform in Poland in 2004
- Reform: people with business income can opt for a flat tax of 19% — no deductions or other preferences, no joint filing. Otherwise, progressive tax rates of 19-30-40%
- Note: administrative data

Do people respond to taxes?

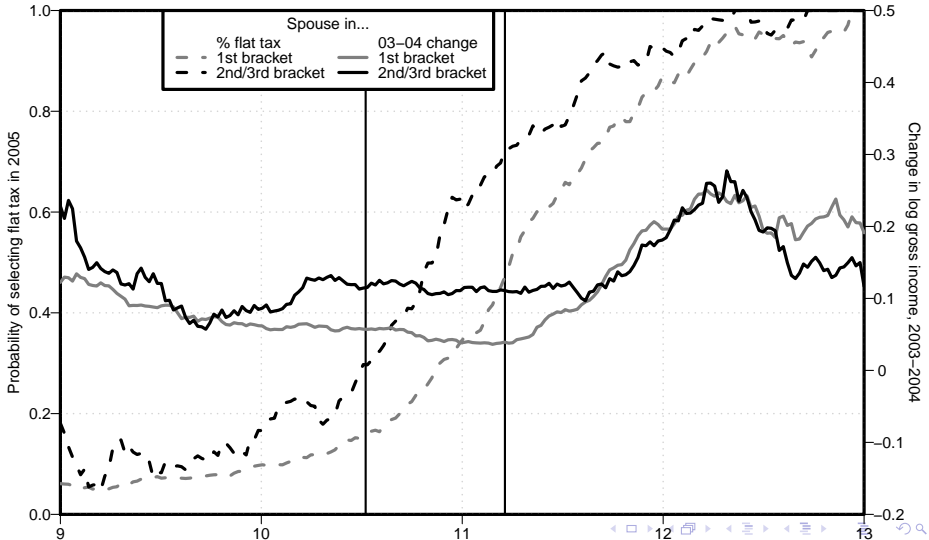
- “Flat” tax reform in Poland in 2004
- Reform: people with business income can opt for a flat tax of 19% — no deductions or other preferences, no joint filing. Otherwise, progressive tax rates of 19-30-40%
- Note: administrative data

Were there any effects?



More subtle ways of studying it

Flat tax and gross income change 2003–2004 by having a spouse in high bracket (business owners)



Final remarks

- Trends in inequality
- Equity vs efficiency costs
- Understanding the nature of top incomes — how important is rent-seeking (negative externalities)?
- Empirical research: revolution in empirical work due to access to detailed administrative datasets

Final remarks



- Trends in inequality
- Equity vs efficiency costs
- Understanding the nature of top incomes — how important is rent-seeking (negative externalities)?
- Empirical research: revolution in empirical work due to access to detailed administrative datasets

Final remarks

- Trends in inequality
- Equity vs efficiency costs
- Understanding the nature of top incomes — how important is rent-seeking (negative externalities)?
- Empirical research: revolution in empirical work due to access to detailed administrative datasets

Final remarks

- Trends in inequality
- Equity vs efficiency costs
- Understanding the nature of top incomes — how important is rent-seeking (negative externalities)?
- Empirical research: revolution in empirical work due to access to detailed administrative datasets

- Auten, Gerald and Robert Carroll**, "The Effect of Income Taxes on Household Behavior," *Review of Economics and Statistics*, November 1999, 81 (4), 681–693.
- Björklund, Anders, Jesper Roine, and Daniel Waldenström**, "Intergenerational top income mobility in Sweden: Capitalist dynasties in the land of equal opportunity?," 2011. mimeo.
- Chetty, Raj**, "Is the Taxable Income Elasticity Sufficient to Calculate Deadweight Loss? The Implications of Evasion and Avoidance," *American Economic Journal: Economic Policy*, August 2009, 1 (2), 31–52.
- and **Emmanuel Saez**, "Teaching the Tax Code: Earnings Responses to an Experiment with EITC Recipients," Working Paper 14836, National Bureau of Economic Research April 2009.
- , **John Friedman, Tore Olsen, and Luigi Pistaferri**, "Adjustment Costs, Firm Responses, and Micro vs. Macro Labor Supply Elasticities: Evidence from Danish Tax Records," *Quarterly Journal of Economics*, 2011, 126 (2), 749–804.
- , **John N. Friedman, and Emmanuel Saez**, "Using Differences in Knowledge Across Neighborhoods to Uncover the Impacts of the EITC on Earnings," Working Paper 18232, National Bureau of Economic Research July 2012.
- Diamond, Peter**, "Optimal Income Taxation: An Example With U-Shaped Pattern of Optimal Tax Rates," *American Economic Review*, March 1998, 88 (1), 83–95.
- Edlund, Lena and Wojciech Kopczuk**, "Women, Wealth and Mobility," *American Economic Review*, March 2009, 99 (1), 146–78.
- Eissa, Nada**, "Taxation and Labor Supply of Married Women: The Tax Reform Act of 1986 As a Natural Experiment," Working Paper 5023, National Bureau of Economic Research February 1995.
- Feldstein, Martin S.**, "The Effect of Marginal Tax Rates on Taxable Income: A Panel Study of the 1986 Tax Reform Act," *Journal of Political Economy*, June 1995, 103 (3), 551–572.
- , "Tax Avoidance and the Deadweight Loss of the Income Tax," *Review of Economics and Statistics*, November 1999, 4 (81), 674–680.
- Goolsbee, Austan**, "It's Not About the Money: Why Natural Experiments Don't Work on the Rich." In Slemrod (2000).
- Gordon, Roger H. and Joel Slemrod**, "Are "Real" Responses to Taxes Simply Income Shifting Between Corporate and Personal Tax Bases?" In Slemrod (2000).
- Gruber, Jonathan and Emmanuel Saez**, "The Elasticity of Taxable Income: Evidence and Implications," *Journal of Public Economics*, April 2002, 84 (1), 1–32.
- Kleven, Henrik J. and Mazhar Wassem**, "Using Notches to Uncover Optimization Frictions and Structural Elasticities: Theory and Evidence from Pakistan," *Quarterly Journal of Economics*, May 2013, 128 (2), 669–723.
- Kopczuk, Wojciech**, "Polish Business Flat Tax and Its Effect on Reported Incomes," March 2012. Columbia University, mimeo.  

- and David Munroe, "Mansion Tax: The Effect of Transfer Taxes on Residential Real Estate Market," June 2013. Columbia University, mimeo.
- and Emmanuel Saez, "Top Wealth Shares in the United States, 1916-2000: Evidence from Estate Tax Returns," *National Tax Journal*, June 2004, 57 (2 (part 2)), 445-488.
- , — , and Jae Song, "Earnings Inequality and Mobility in the United States: Evidence from Social Security Data since 1937," *Quarterly Journal of Economics*, February 2009, 125 (1), 91-128.
- Lindsey, Lawrence, "Individual Taxpayer Response to Tax Cuts: 1982-1984, with Implications for the Revenue Maximizing Tax Rate," *Journal of Public Economics*, July 1987, 33 (2), 173-206.
- Mankiw, N. Gregory and Matthew Weinzierl, "The Optimal Taxation of Height: A Case Study of Utilitarian Income Redistribution," *American Economic Journal: Economic Policy*, February 2010, 2 (1), 155-76.
- Mirrlees, James A., "An Exploration in the Theory of Optimum Income Taxation," *Review of Economic Studies*, April 1971, 38 (114), 175-208.
- Persson, Petra, "Social Insurance and the Marriage Market," January 2013. Columbia University, mimeo.
- Piketty, Thomas and Emmanuel Saez, "Income Inequality in the United States, 1913-1998," *Quarterly Journal of Economics*, February 2003, 118, 1-39.
- Romanov, Dmitri, "Corporation as a Tax Shelter: Evidence from Recent Israeli Tax Changes," *Journal of Public Economics*, November 2006, 90 (10-11), 1939-54.
- Saez, Emmanuel, "Using Elasticities to Derive Optimal Income Tax Rates," *Review of Economic Studies*, January 2001, 68 (1), 205-29.
- , "Do Taxpayers Bunch at Kink Points?," *American Economic Journal: Economic Policy*, 2010, 2 (3), 180-212.
- , Joel B. Slemrod, and Seth H. Gierz, "The Elasticity of Taxable Income with Respect to Marginal Tax Rates: A Critical Review," *Journal of Economic Literature*, March 2012, 50 (1), 3-50.
- Sallee, James M. and Joel B. Slemrod, "Car Notches: Strategic Automaker Responses to Fuel Economy Policy," *Journal of Public Economics*, 2012. Forthcoming.
- Sillamaa, Mary Anne and Michael R. Veall, "The effect of marginal tax rates on taxable income: a panel study of the 1988 tax flattening in Canada," *Journal of Public Economics*, June 2001, 80 (3), 341-356.
- Slemrod, Joel, "Fixing the Leak in Okun's Bucket. Optimal Progressivity When Avoidance Can Be Controlled," *Journal of Public Economics*, September 1994, 55 (1), 41-51.
- , "Methodological Issues in Measuring and Interpreting Taxable Income Elasticities," *National Tax Journal*, December 1998, 51 (4), 773-788.
- and Wojciech Kopczuk, "The Optimal Elasticity of Taxable Income," *Journal of Public Economics*, April 2002, 84 (1), 91-112.
- , ed., *Does Atlas Shrug? The Economic Consequences of Taxing the Rich*, New York: Harvard University Press and Russell Sage Foundation, 2000.