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- **Supplement 2 to Slides 1:** Differential Savings Rates

Supplement 2: Differential Savings Rates

- Do the rich save more than the poor? (lifetime vs current income)
- Estimates from Survey of Consumer Finances (SCF):

	6-Yr Income Average	Instrumented By Vehicle Consumption
Quintile 1	1.4	2.8
Quintile 2	9.0	14.0
Quintile 3	11.1	13.4
Quintile 4	17.3	17.3
Quintile 5	23.6	28.6
Top 5%	37.2	50.5
Top 1%	51.2	35.6

Source: Dynan-Skinner-Zeldes (2004), they provide other estimates

$$r = \frac{[x(t)/x(0)]^{1/t}(1+g) - 1}{s}$$

- Some quick calculations for top 10% in the US:
 - $x_0 = 1/3$ in 1970, rises to $x_t = 47/100$ in 2000.

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Figure 1.1. Income inequality in the United States, 1910-2010



$$r = \frac{[x(t)/x(0)]^{1/t}(1+g) - 1}{s}$$

■ Some quick calculations for top 10% in the US:

- $x_0 = 1/3$ in 1970, rises to $x_t = 47/100$ in 2000.
- Estimate for g : 2% per year.
- Estimate from Dynan et al for s : 35% (optimistic).
- Can back out for r : $r = 9.7\%$.

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- Inflation-adjusted rate of return on US stocks over 20th century: 6.5%
- Much lower in the 1970s and 2000s, higher in the 1980s and 1990s.

$$r = \frac{[x(t)/x(0)]^{1/t}(1+g) - 1}{s}$$

- Similar calculations for top 1% in the US:
 - $x_0 = 8/100$ in 1980, rises to $x_t = 18/100$ in 2005.
 - Estimate for g : 2% per year.
 - Estimate from Dynan et al for s : 51%.
 - Can back out for r : $r = 10.5\%$.

$$r = \frac{[x(t)/x(0)]^{1/t}(1+g) - 1}{s}$$

- Try the top 0.1% for the United States:
 - $x_0 = 2.2/100$ in 1980, rises to $x_t = 8/100$ in 2007.
 - Estimate for g : 2% per year.
 - If these guys also save at 0.5, then $r = 14.4\%$!
 - If they save $3/4$ of their income, then $r = 9.6\%$.

$$r = \frac{[x(t)/x(0)]^{1/t}(1+g) - 1}{s}$$

■ Slightly better job for Europe, but not much. Top 10%:

- $x_0 = 29/100$ in 1980, rises to $x_t = 35/100$ in 2010.
- Estimate for g : 2% per year.
- Estimate from Dynan et al for s : 35%.
- Can back out for r : $r = 7.5\%$.

$$r = \frac{[x(t)/x(0)]^{1/t}(1+g) - 1}{s}$$

- Slightly better job for Europe, but not much. Top 10%:
 - $x_0 = 29/100$ in 1980, rises to $x_t = 35/100$ in 2010.
 - Estimate for g : 2% per year.
 - Estimate from Dynan et al for s : 35%.
 - Can back out for r : $r = 7.5\%$.
- High relative to r in Europe.
 - UK the highest at 5.3% over 20th century, others appreciably lower.

$$r = \frac{[x(t)/x(0)]^{1/t}(1+g) - 1}{s}$$

■ Finally, top 1% for the UK:

- $x_0 = 6/100$ in 1980, rises to $x_t = 15/100$ in 2005.
- Estimate for g : 2% per year.
- Estimate from Dynan et al for s : 51%.
- Can back out for r : $r = 11.4\%$.

■ Summary

- Differential savings rates explain some of the inequality, but far from all of it.