The 2 basic problems

• #1) Long-run tendency for farm incomes to fall, relative to urban incomes
• #2) Agricultural price volatility

#1) Long run trends

• 1935 -- average U.S. farm income <1/3 average urban income
  – Roosevelt "price parity"
• 1950 -- average farm income =1/2
• 1970s -- approximate equality
• 1990s -- falling again

Farm Productivity

• 1800 -- 379 labor hours per bushel of wheat
  – today, 15 hours
• 1820 -- 1 farmer feeds 4.5 others
  – today, 100 others
• Output per worker doubled
  – 1850-1900
  – 1900-1947
  – 1947-1960

The macroeconomic picture

Industry

Opportunity cost of Agriculture falls

PPF1920

PPF2007

Agriculture

Supply shifts

$\eta_0 < 1$

so total revenue falls
Demand shifts as income grows

\[ 0 < \eta_Y < 1 \] 
so demand shifts a little

Demand shift does not offset supply shift

so total revenue falls

Market solution

- excess supply \( \rightarrow \) price falls \( \rightarrow \) people leave farms for cities
- 1948 \( \rightarrow \) 24 million people on farms
- today \( \rightarrow \) <5 million farmers
- 80 percent drop in farmers, but output doubled

#2) Short-term price volatility

Short-run supply is inelastic: \( \eta_s = 0 \)

Demand inelastic: \( \eta_D < 1 \) 
\( \rightarrow \) Revenue falls when supply is high.
Deadweight Loss of Paying Farmers Not to Produce

Note: The payment to farmers is a transfer and not a social cost.