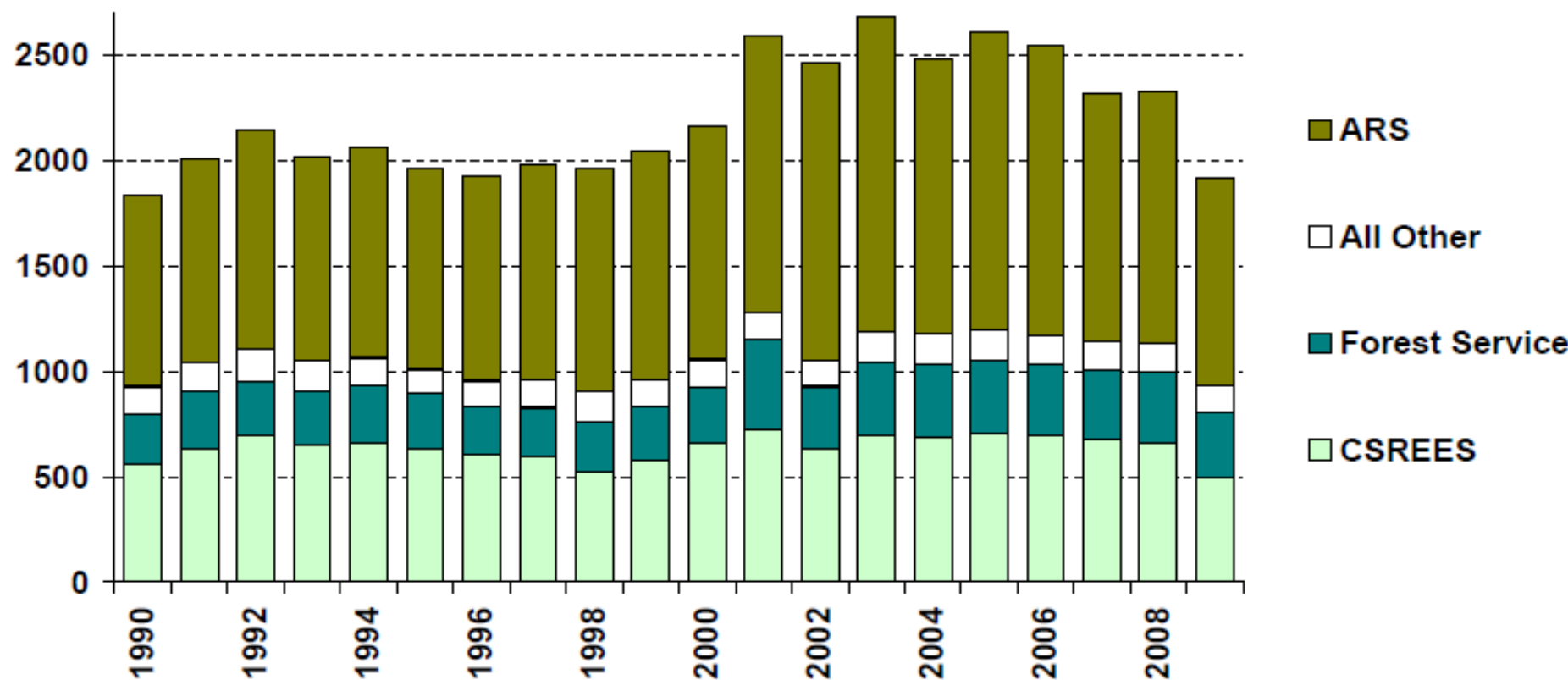


**Public Agricultural Research
Funding is Decreasing.**

Trends in USDA R&D, FY 1990-2009 *

in millions of constant FY 2008 dollars



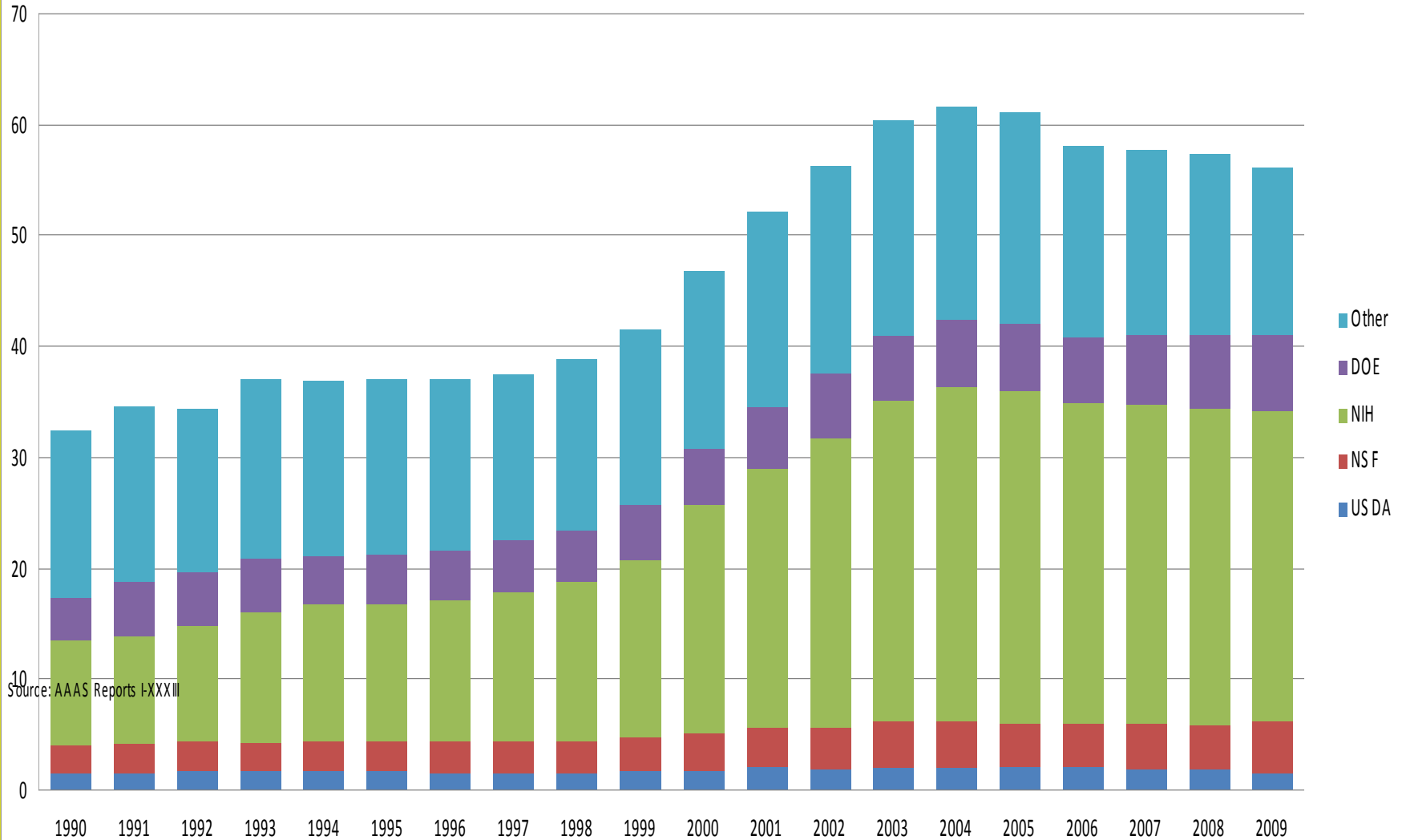
Source: AAAS analyses of R&D in *AAAS Reports VIII-XXXIII*. * FY 2009 figures are latest AAAS estimates of FY 2009 request.

R&D includes conduct of R&D and R&D facilities.

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Federal R&D, 1990-2009

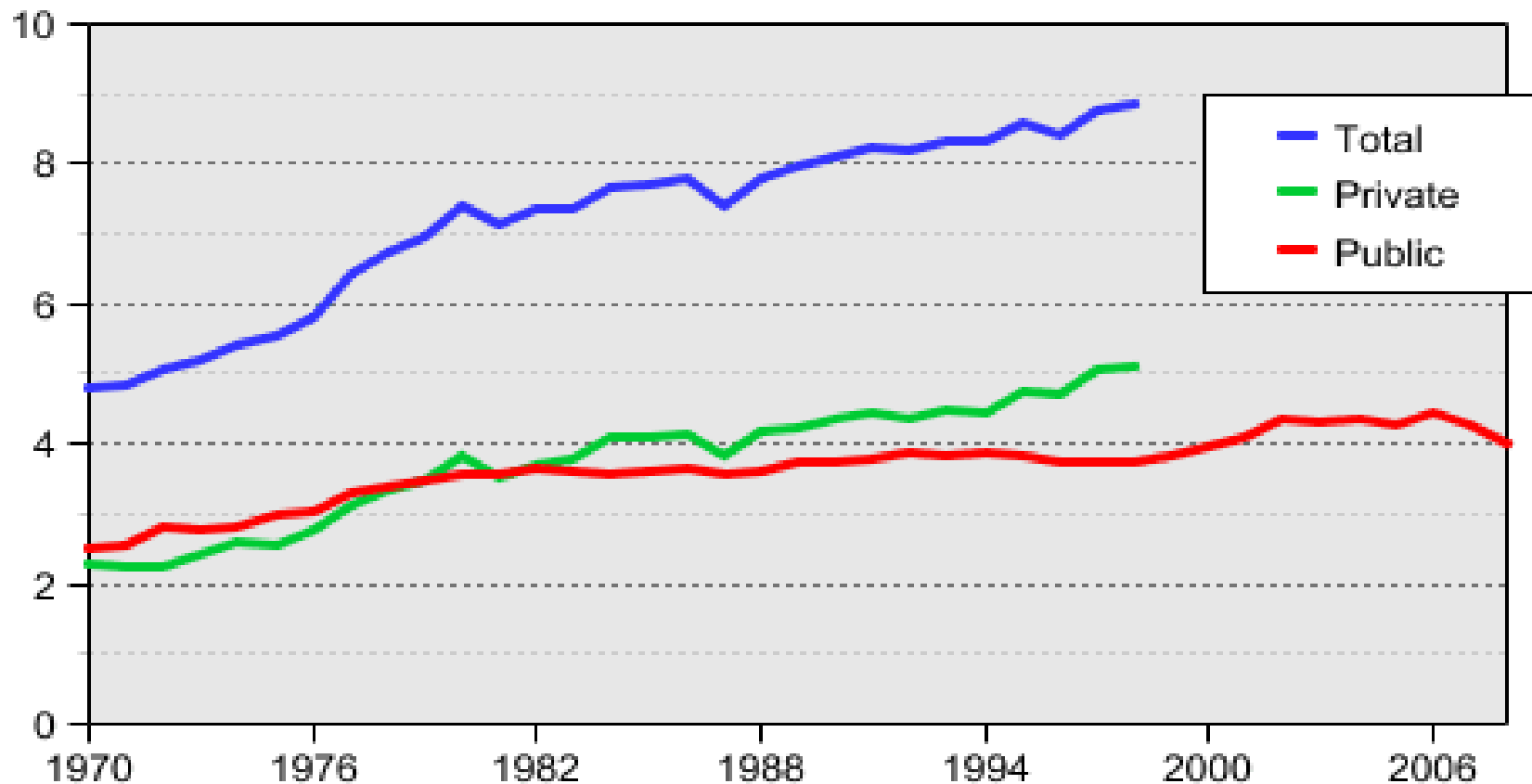
billions of constant FY 2008 dollars



Source: AAAS Reports I-XXXIII

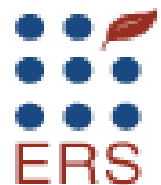
Real agricultural R&D funding 1970-2008

Billion dollars (2001)



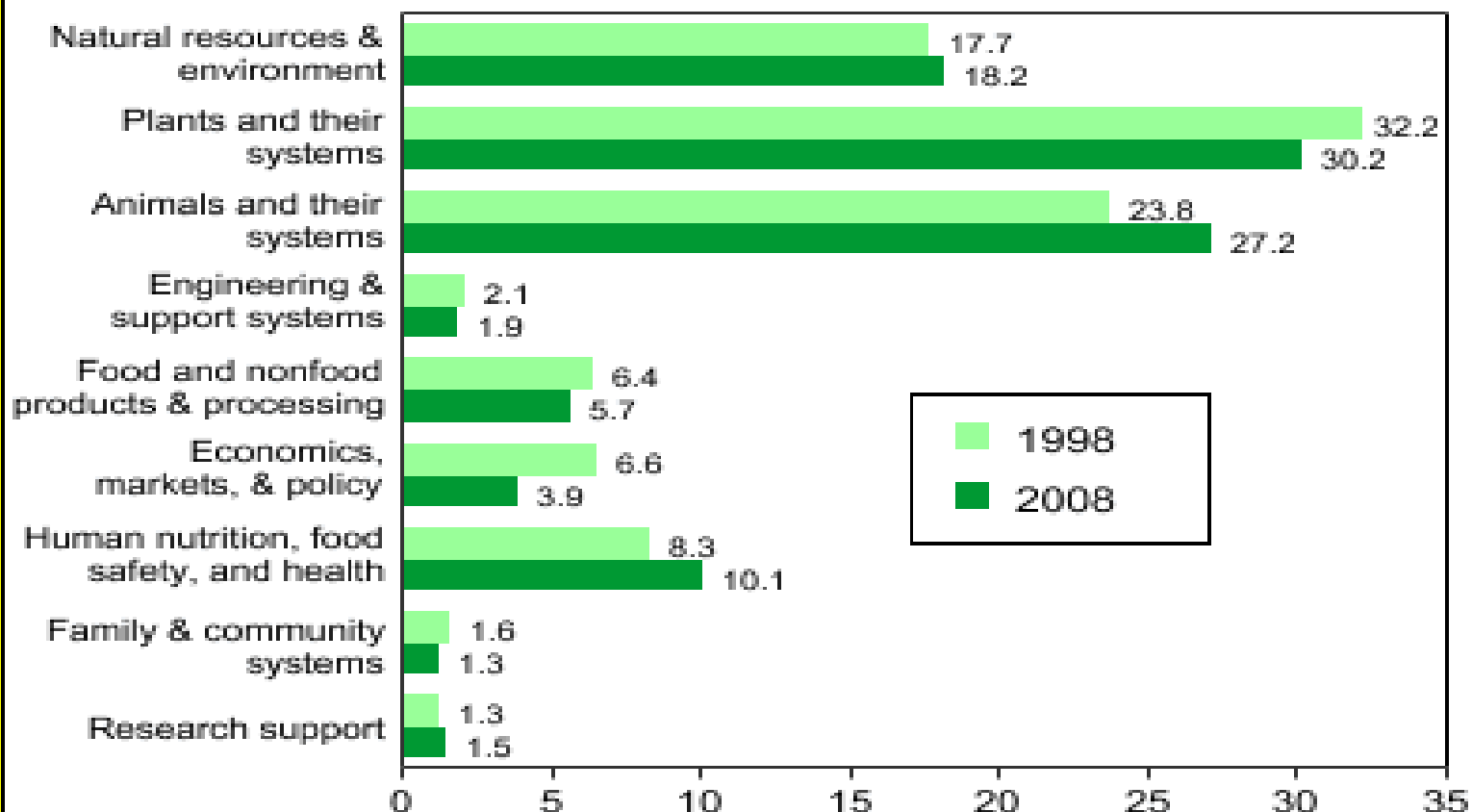
Note: Data for 2007-08 are preliminary.

Source: USDA, ERS based on data from National Science Foundation, USDA's Current Research Information Systems (CRIS), and various private sector data sources. Data are adjusted for inflation using an index for agricultural research spending developed by ERS. See the documentation for details.



Allocation of public funds for agricultural research, fiscal 1998 and 2008

Percent of total expenditures

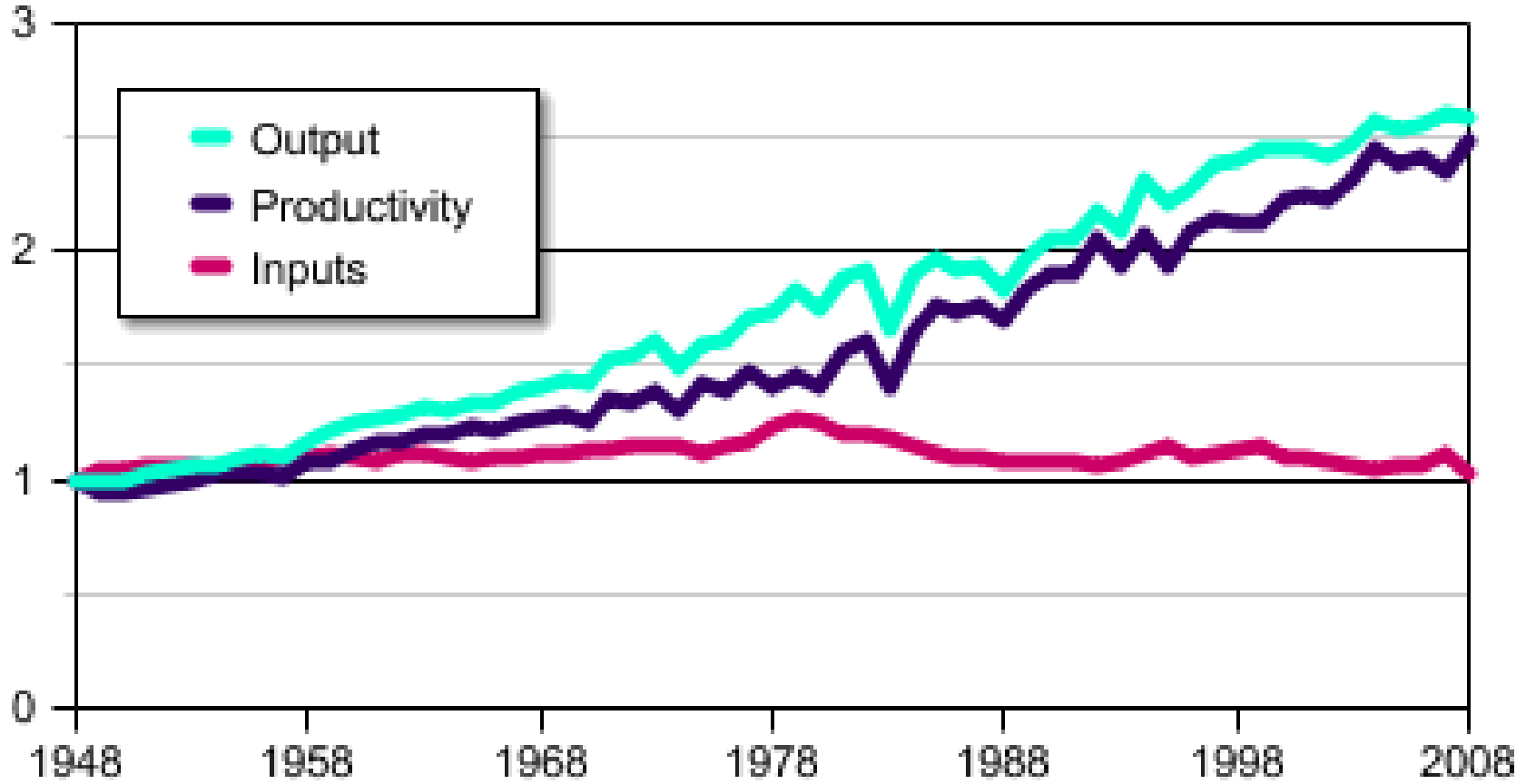


Source: USDA Current Research Information System (CRIS), 2010. Funding Summaries for FY 1998 and 2008, Table D, <http://cris.csrees.usda.gov/fsummaries.html> accessed March 14, 2010.

**Phenomenal Gains in
Agricultural Research are
Attributable to Investments in
Agricultural Research.**

U.S. agricultural output, inputs, and total factor productivity, 1948-2008

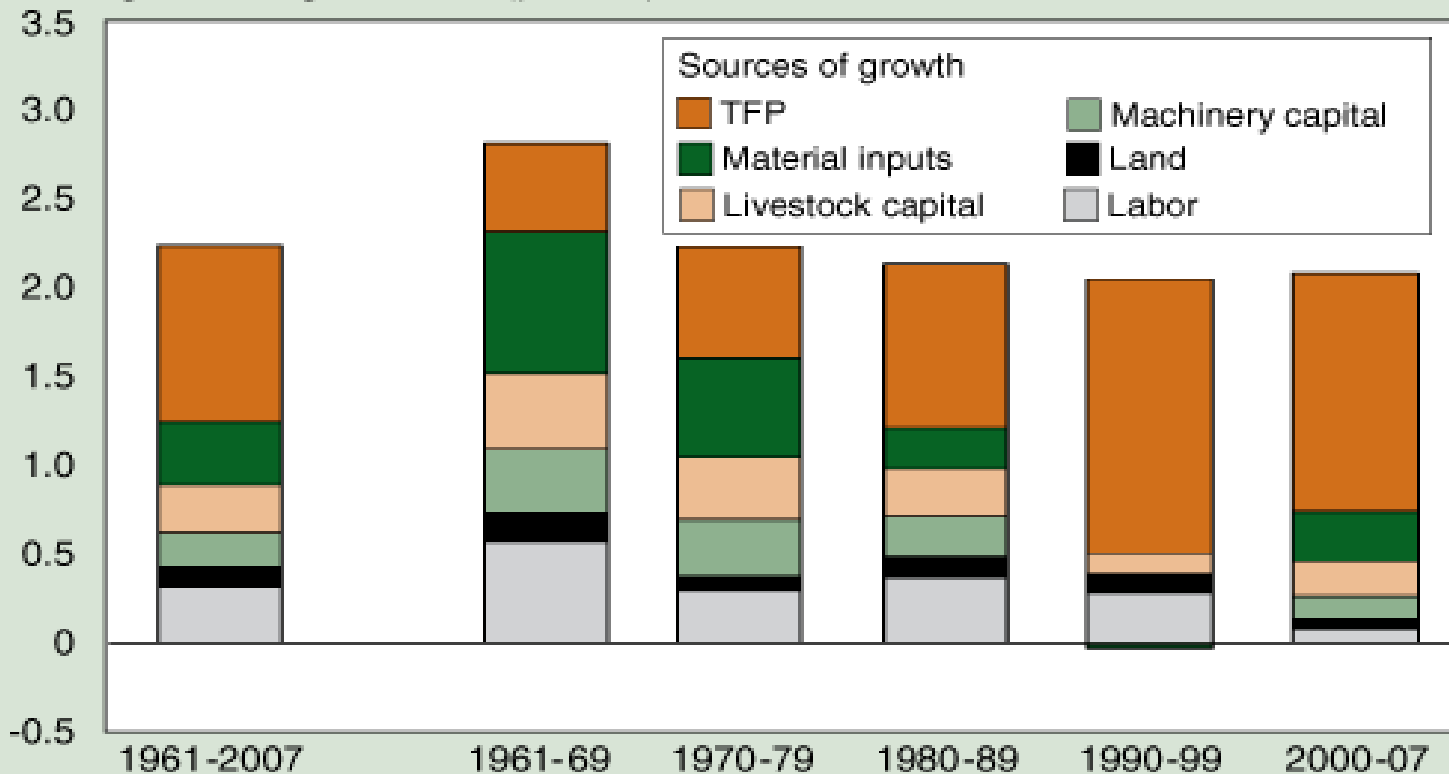
Index, 1948 = 1



Source: ERS data product, Agricultural Productivity in the United States.

Total factor productivity (TFP) accounts for a rising share of agricultural growth over time

Average annual growth rate (percent)

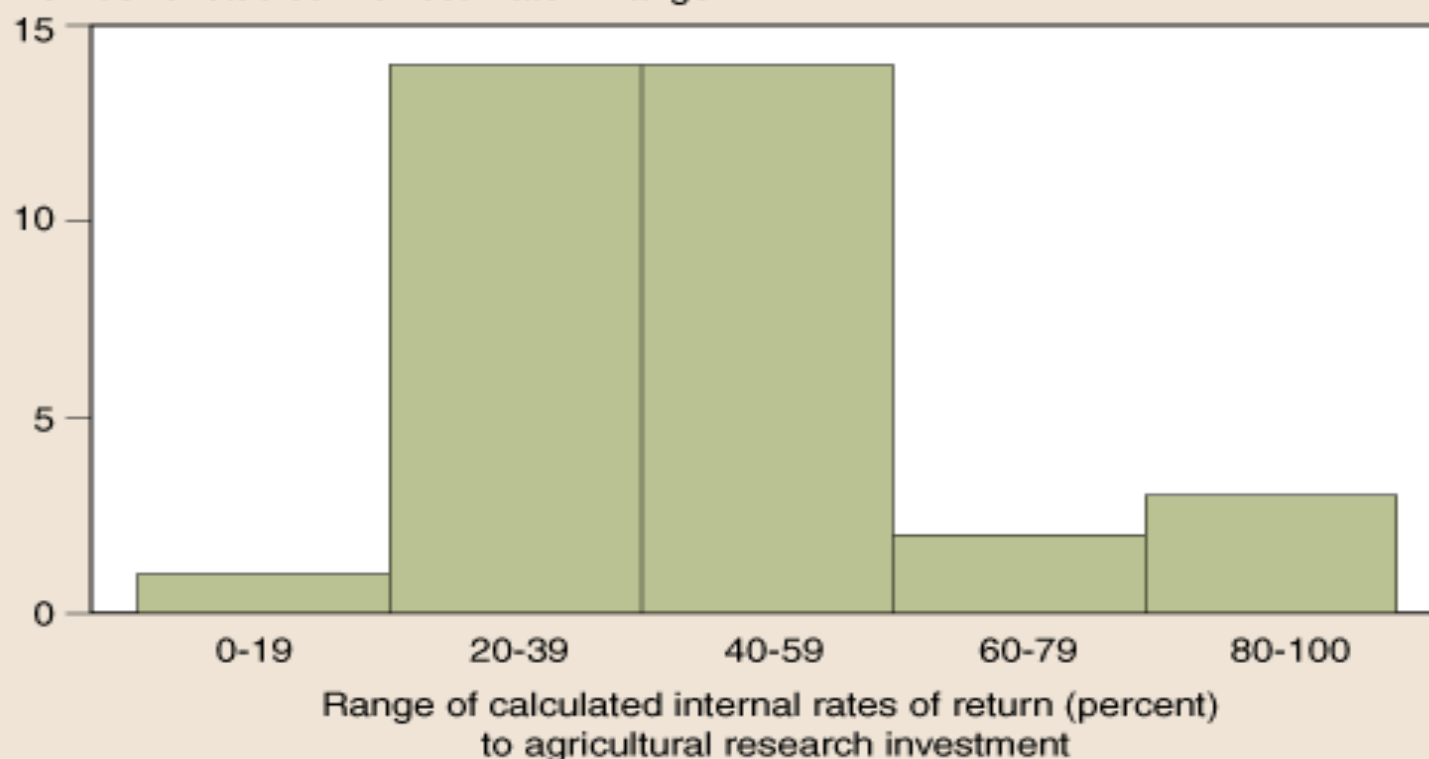


Agricultural total factor productivity (TFP) measures the average productivity of all land, labor, capital, and materials used to produce crops and livestock. One percent growth in TFP means 1 percent fewer resources are needed to produce the same amount of output.

Source: USDA, Economic Research Service using Evenson and Fuglie (2010), *Journal of Productivity Analysis*, Vol. 33, No. 3, pp. 173-190.

Most studies have found high rates of return to public agricultural research in the United States

Number of studies with estimate in range



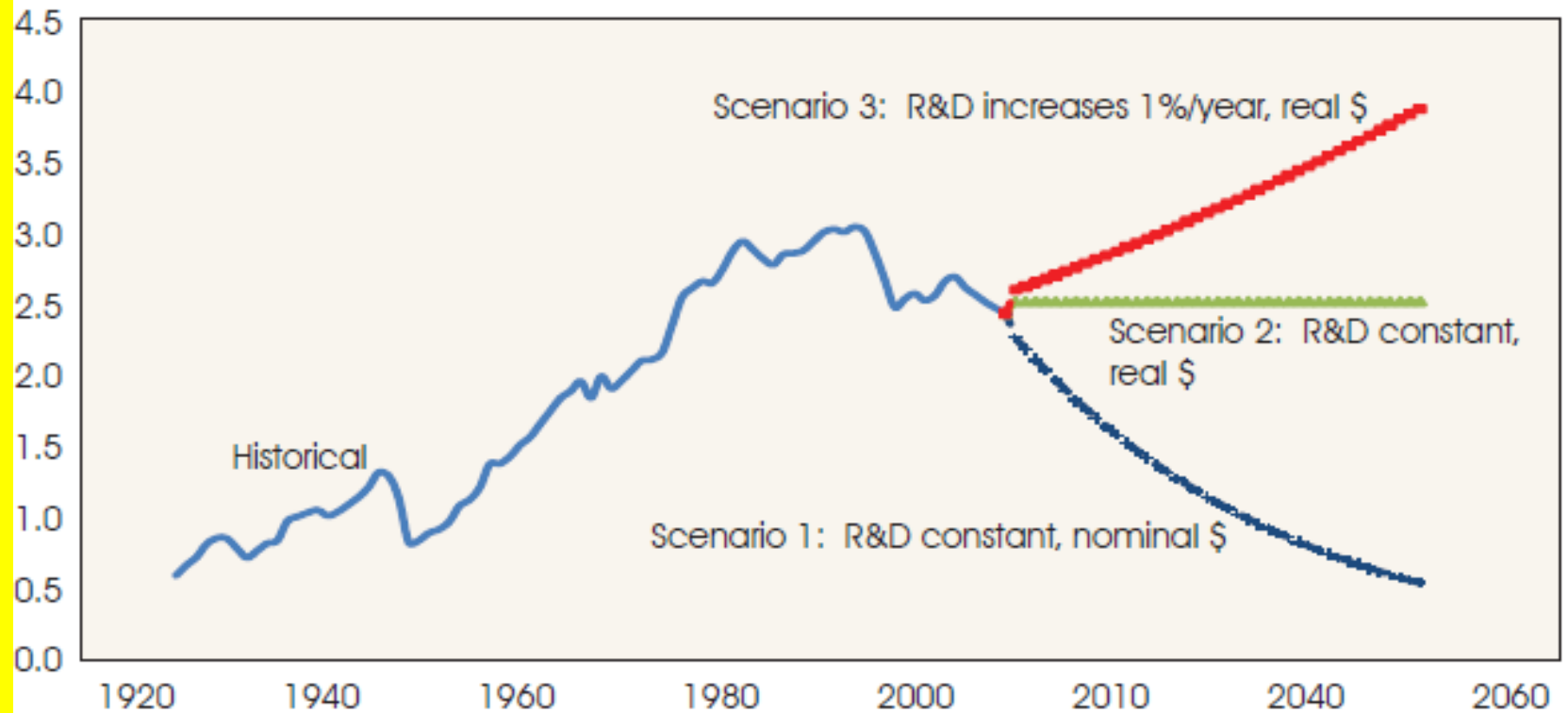
Studies were published between 1958 and 2006.

Source: USDA, Economic Research Service based on Huffman and Evenson, *Science for Agriculture: A Long-Term Perspective*, Iowa State University Press (2006).

Figure 2

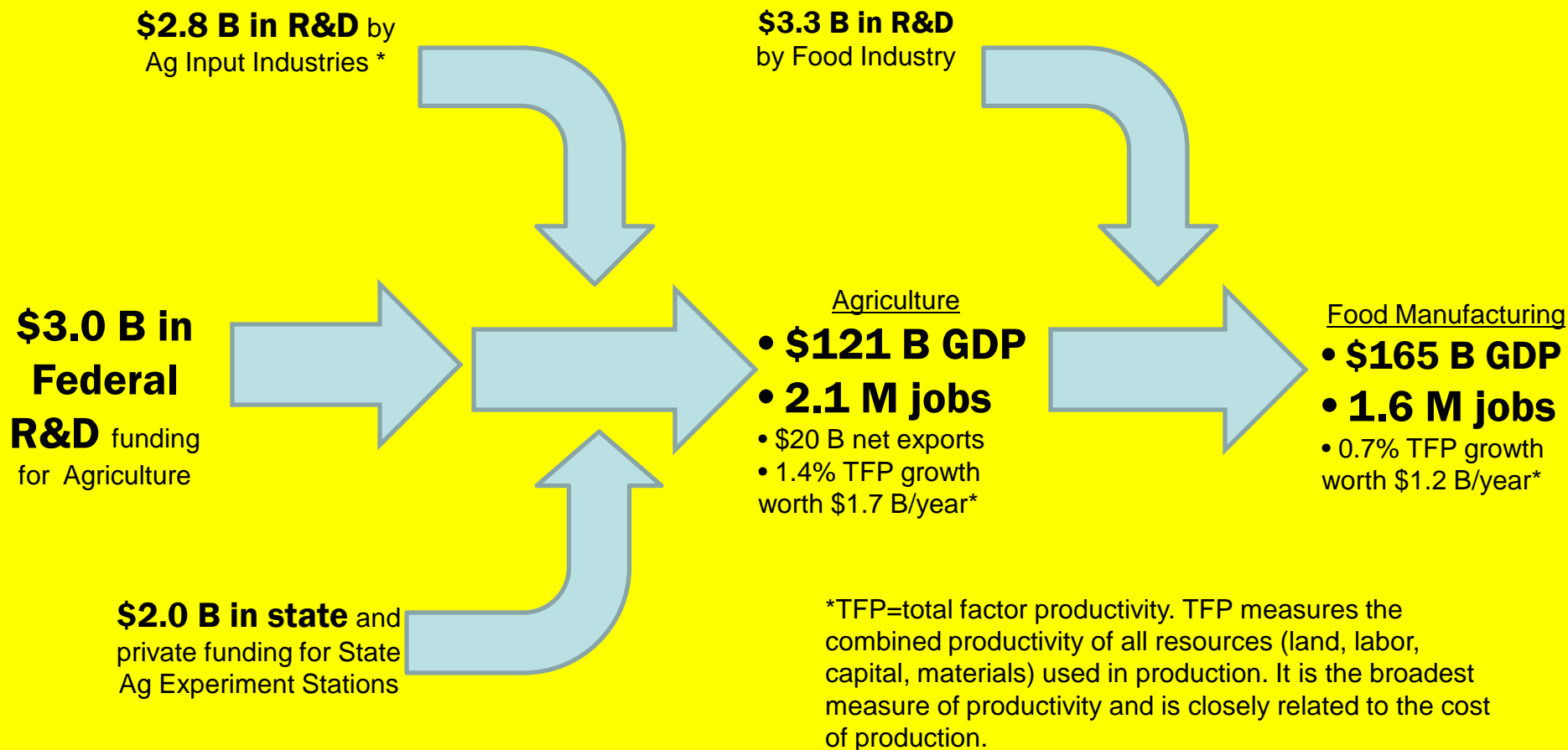
Productivity-oriented agricultural research expenditures

Constant \$/year (billions)



Source: Historical data from Huffman (2010) and 2010-2050 data from U.S. Department of Agriculture, Economic Research Service simulations.

Macroeconomic Impact of U.S. Ag R&D



Sources: Public ag R&D from CRIS; **Ag input R&D are preliminary estimates from unpublished ERS study (in review)***; **Food industry R&D and GDP from OECD. Employment and food manufacturing TFP from BLS. Ag TFP growth from ERS. Figures are for 2006 except TFP growth which is 2000-08 annual average.**