

**Farm Policy Choice:
Invest in Public Goods or Transfer
Income to Individual Farmers?**

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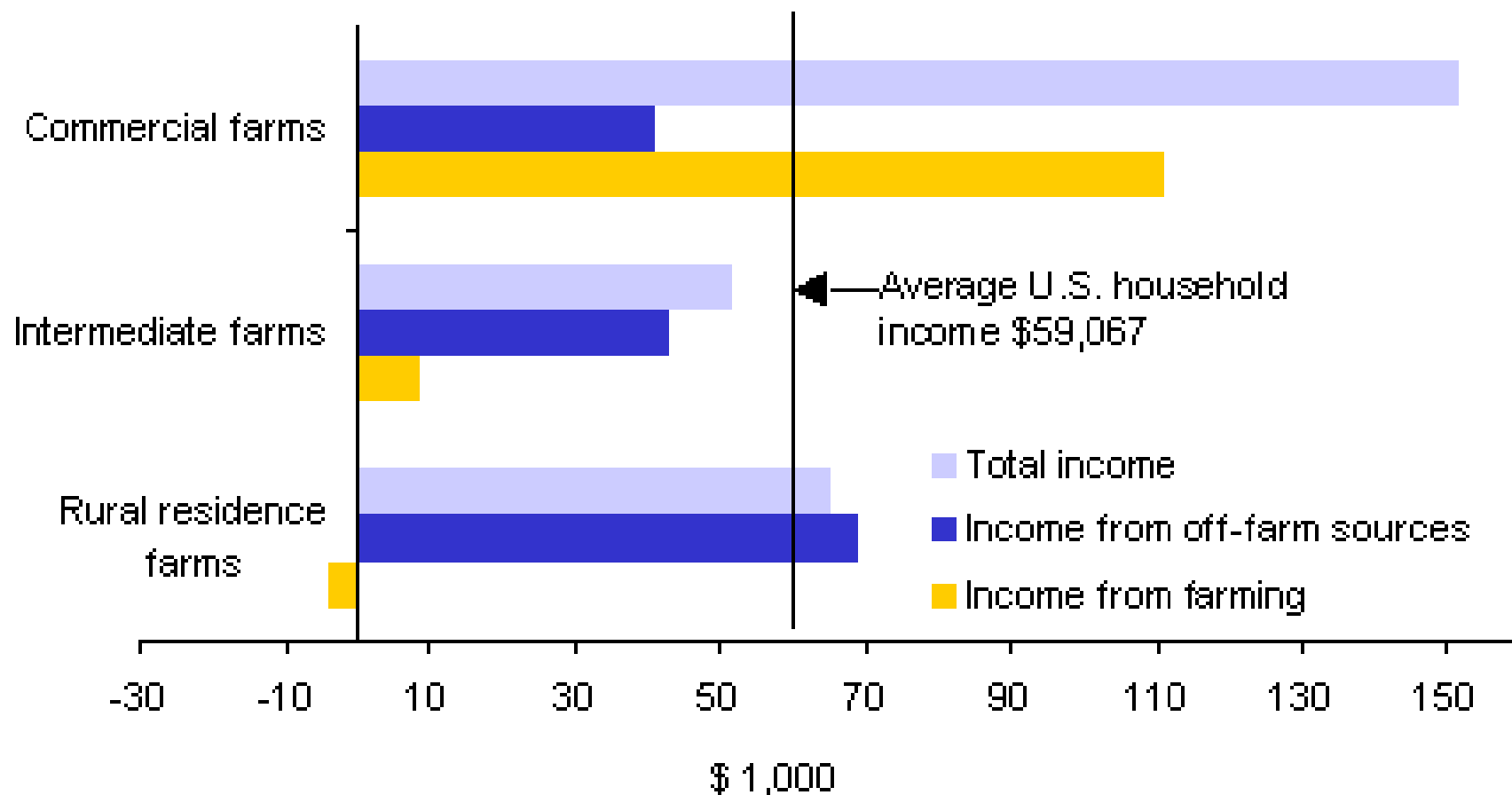
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September 27, 2006

Basic Farm Policy Objective: Increase Rural Household Income

- Most farm policy has its roots in attempts to reduce the rural-urban income gap and to solve problem of rural poverty.
- Farm policies that support market prices distribute benefits in proportion to sales, facilitating farm consolidation and giving little help to low income farmers.
- Ultimately most farm program benefits are bid into the price of farmland, increasing the wealth of the largest farmland owners.
- Farm programs often impede farmers' entrepreneurship by locking them in to producing program commodities.

Sources of operator household income by typology group, 2003



Source: 2003 US DA *Agricultural Resource Management Study*.
Economic Research Service, USDA.

Rural Development the Route to Rural Poverty Reduction

- Most places that have solved rural poverty have created off-farm jobs in both far-away cities and within commuting distance of farmers' homes.
- Out-migration from farming is a normal and essential part of rural poverty reduction so that both those who leave and those who stay can enjoy higher income.
- Most low-income small farmers escape poverty by becoming part-time farmers.
- Creating non-farm employment opportunities within non-metropolitan areas and within commuting distance of farmers' homes is the key objective of rural development.

Public Sector Role in Facilitating Rural Development

- Only the private sector can create the jobs to solve the problem of rural poverty.
- Therefore, government needs to create the enabling environment that maximizes the likelihood that private investors will create non-farm jobs in rural areas.
- These same roles are essential for success in agricultural development and in non-farm job creation.

Essential Roles of Government

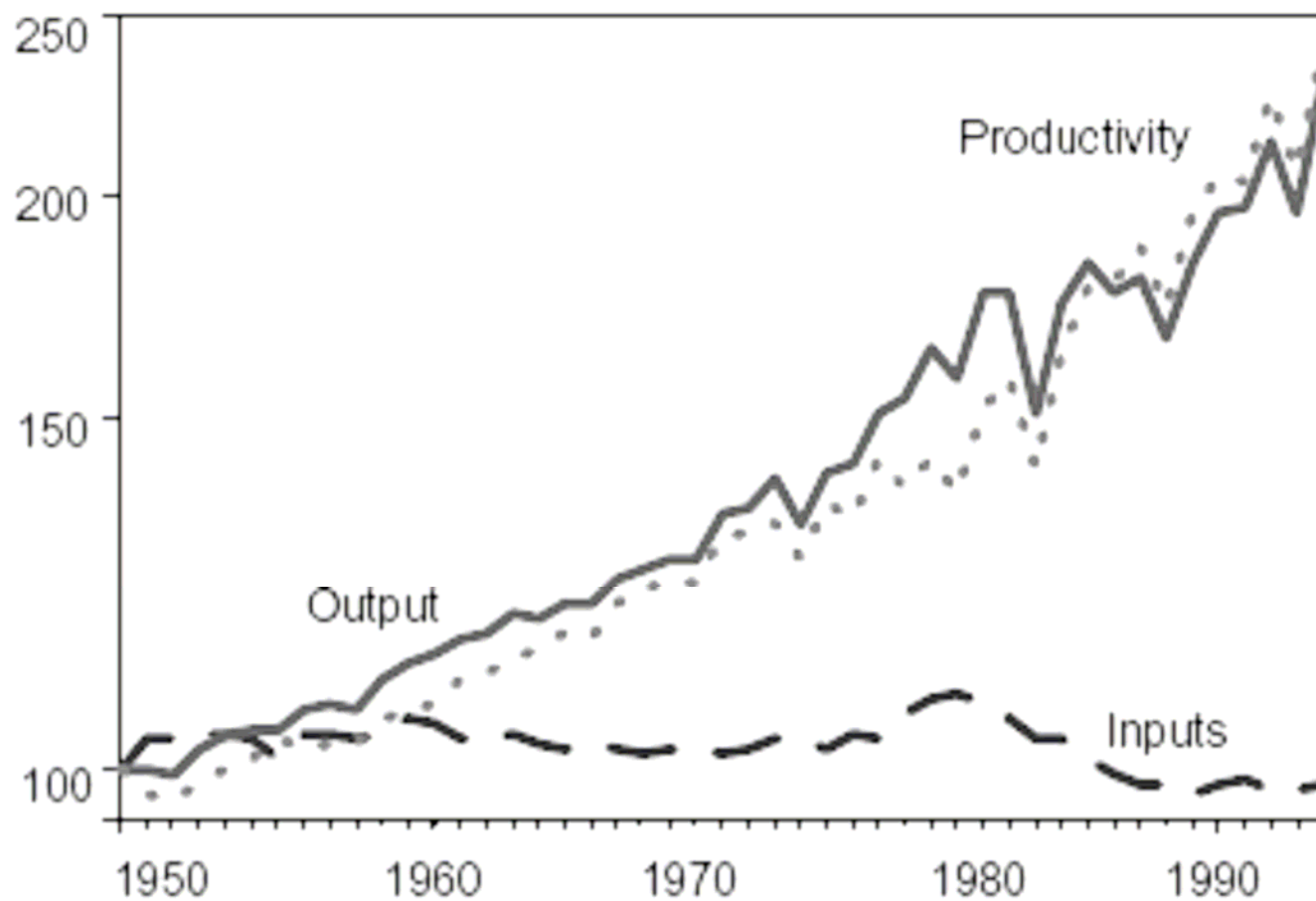
- Invest in rural people (human capital)
 - Essential to both increase productivity of labor force and to facilitate out-migration between generations
 - Quality education and health care
- Provide rural infrastructure (or reduce the cost of the private sector building it where density of population and of economic activity are low)
 - Rural roads and other transportation
 - High cost transportation is a key impediment
 - Telecommunications
 - Broadband internet service essential today (low cost of “transporting” data)
- Tradition of federal involvement, e.g. transcontinental railroad, interstate highways; rural electrification; Mississippi locks & dams.

U.S. Ag Productivity Growth Success Story

- In 2002, U.S. farm output was 2.6 times what it was in 1948.
- It was produced with fewer total inputs than were used in 1948!
- This was a much higher productivity growth rate than in the rest of the U.S. economy!
- The estimated annual real rate of return on public investments in agricultural research is in the range of 30-60 percent – one of the highest payoff investments in the American economy!

Productivity is the driving force behind changes in agricultural output.

1948 = 100 (Log Scale)



Source: Economic Research Service, U.S. Department of Agriculture.

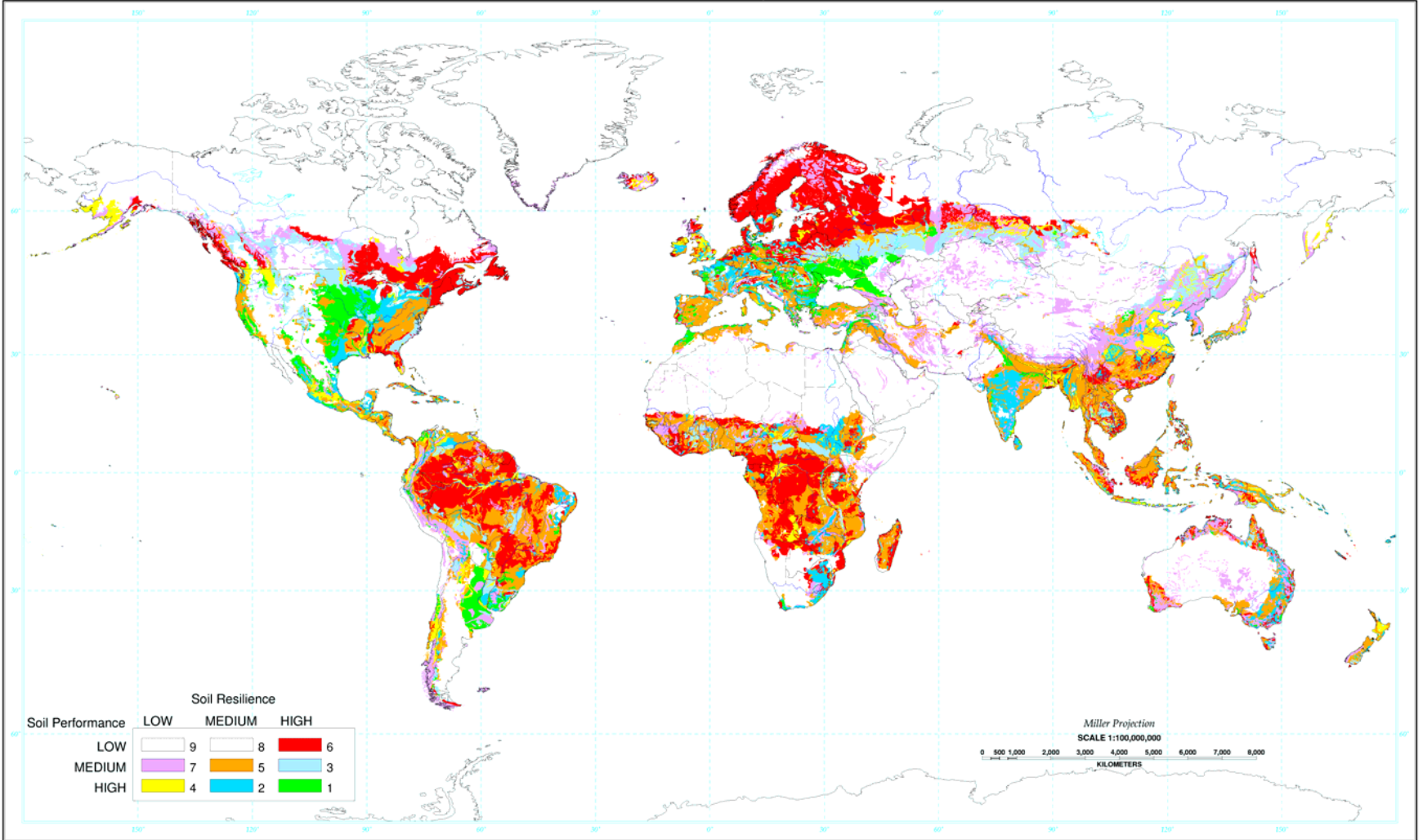
Competitiveness

- *Commodities* – by definition undifferentiated products, so low cost supplier gets the sale
 - Research essential to minimize unit cost of production
- *Differentiated products* – Quality, innovation, design and uniqueness in the eye of the consumer create opportunities to get a higher price than could be obtained for a commodity
 - Research essential to new product development and quality improvement, as well as identification of potential markets



U.S. Dept. of Agriculture
Natural Resources Conservation Service
Soil Survey Division
World Soil Resources

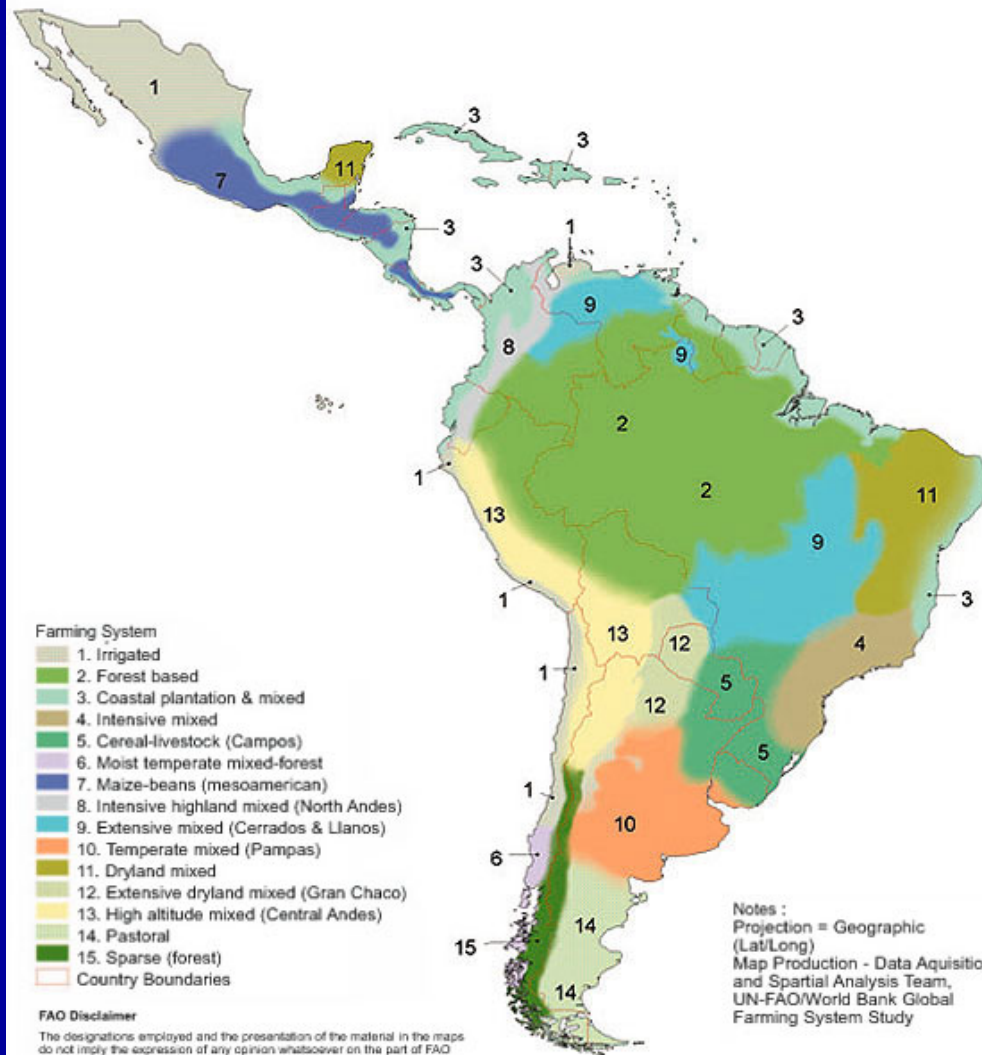
Inherent Land Quality Assessment



Country boundaries are not authoritative.

Washington DC, 1998

Major Farming Systems Latin America & Caribbean Map 1



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Agricultural Research Needs

- Reduce unit cost of production and increases competitiveness, thereby facilitating exports
- Develop new products and new uses
- Improve food safety, quality and nutrition and reduce waste
- Improve environmental quality
- Improve public policy

Public vs. Private Agricultural Research

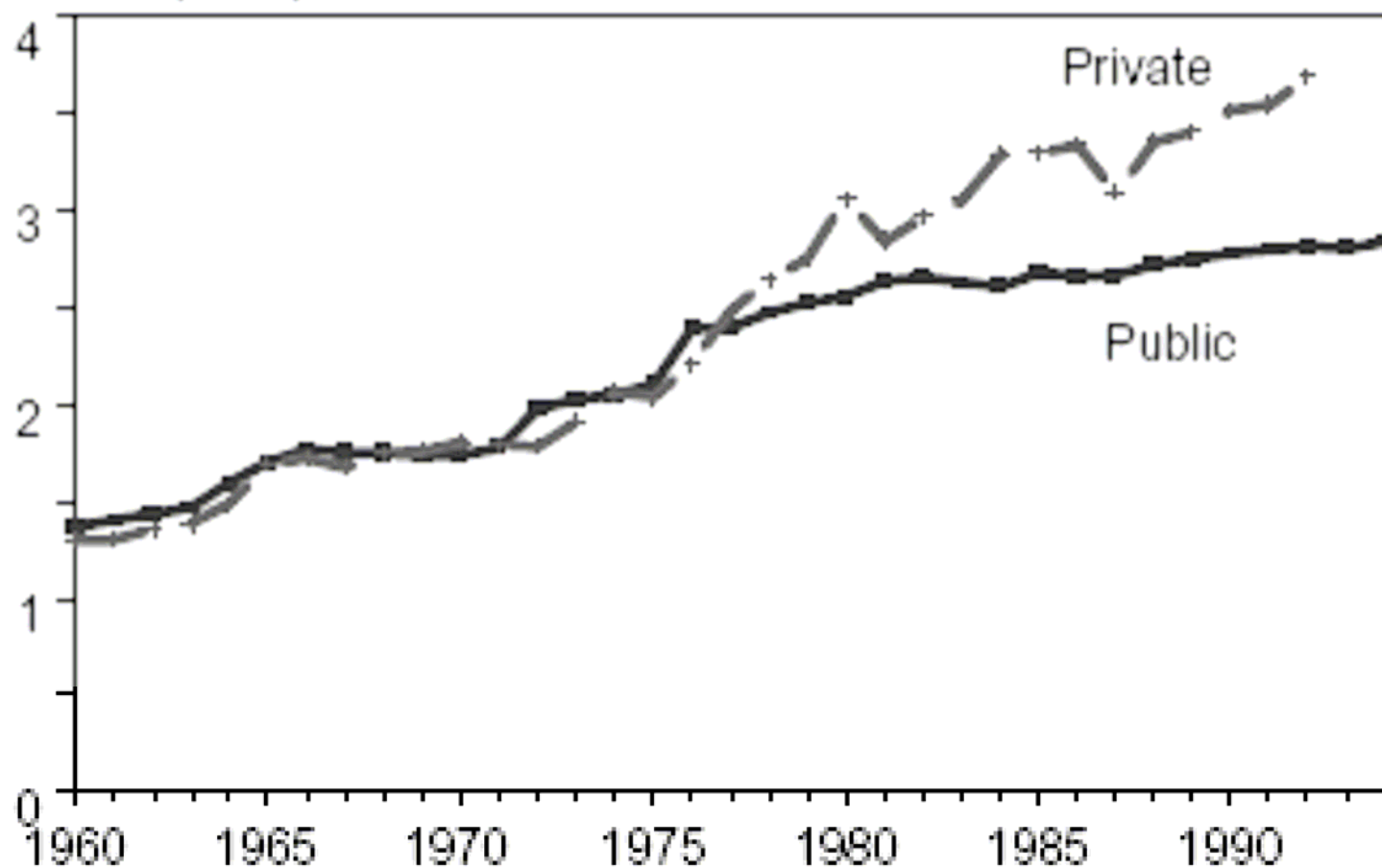
- Historical public support of biological research key to agricultural development (“public good”)
- Private sector did most of the mechanical, pesticide & animal pharmaceutical research (could patent resulting intellectual property)
- Private sector role in biological ag research only took off after late 1970s when Congress and European parliaments cut appropriations and encouraged private sector to take on this role

Public vs. Private Investment

- The U.S. public investments in agricultural research total about \$2.5 billion per year.
- Why is public investment needed? Why not private investment?
 - Returns to basic research insufficient to induce private sector to do enough.
 - Many important areas of research not financially interesting to private sector.
 - Most of the benefits eventually accrue to consumers
- But, in recent decades, private investment in ag research has grown, so now it's more than twice as large as public investment.

Private agricultural research expenditures now surpass public research expenditures.

\$ Billion (1994)



Source: Economic Research Service, U.S. Department of Agriculture.

Intellectual Property Protection

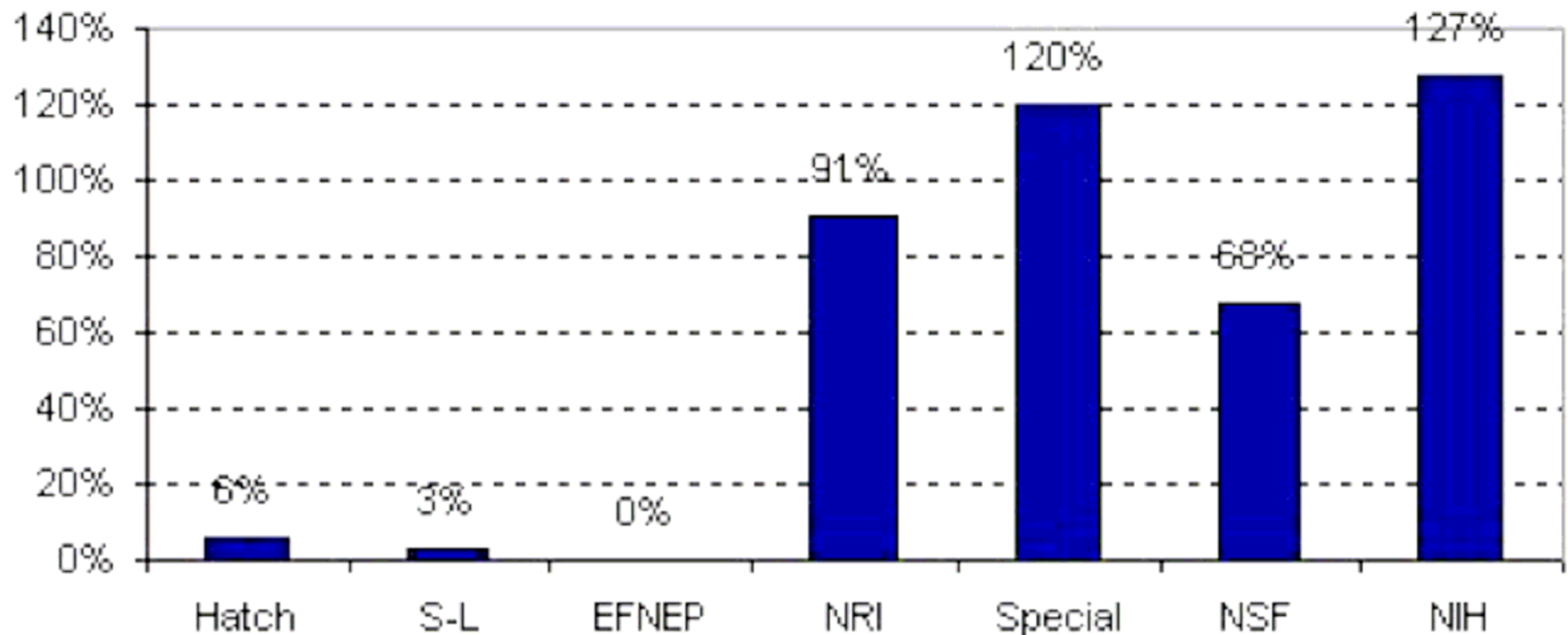
- Necessary for private sector to be able to internalize return on investment in ag research
- If public sector doesn't pay for the agricultural research, farmers must pay for it (both successes and failures) in the price of the inputs they buy *each* year (e.g. tech fees)
- Need hybrids, “terminator,” or enforceable “no reproduction for sale” contract (like music CDs)

Research Issues

- Balance between public and private investments in agricultural research
 - Level of public funding
 - Intellectual property protection
- Balance between formula funds and competitive grants
- Balance between basic and applied
- Earmarking
- Indirect cost recovery (overhead) rate

Stagnation of Hatch and Smith-Lever Funding

9-Year Change in Funding (Cumulative %)



Initiatives

- National Institute for Food and Agriculture (NIFA)
 - Proposed by National Academy of Science, modeled after National Institutes of Health
 - All competitive; oriented to basic research
- CREATE-21: Creating Research, Extension and Teaching Excellence for the 21st Century
 - Proposed by land-grant system (NASULGC)
 - 25% “strengthening;” 75% competitive grants