

A Case Study in Policy-Related Transactions Costs
in Agri-Environmental Programs:

The Policy-Related Transactions Costs of Land Conservation in the United States: Evolution and Comparison Between Programs

Ralph E. Heimlich, Agricultural Conservation Economics,
Laurel, Maryland, USA

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The Conservation Reserve Program

- Successor to land retirement programs dating back to the 1930s
- Largest and most expensive U.S. conservation program
- 36 million acres of cropland retired to noncrop uses and covers
- Pays annual rent and shares cost of establishing cover in return for idling land for 10 years

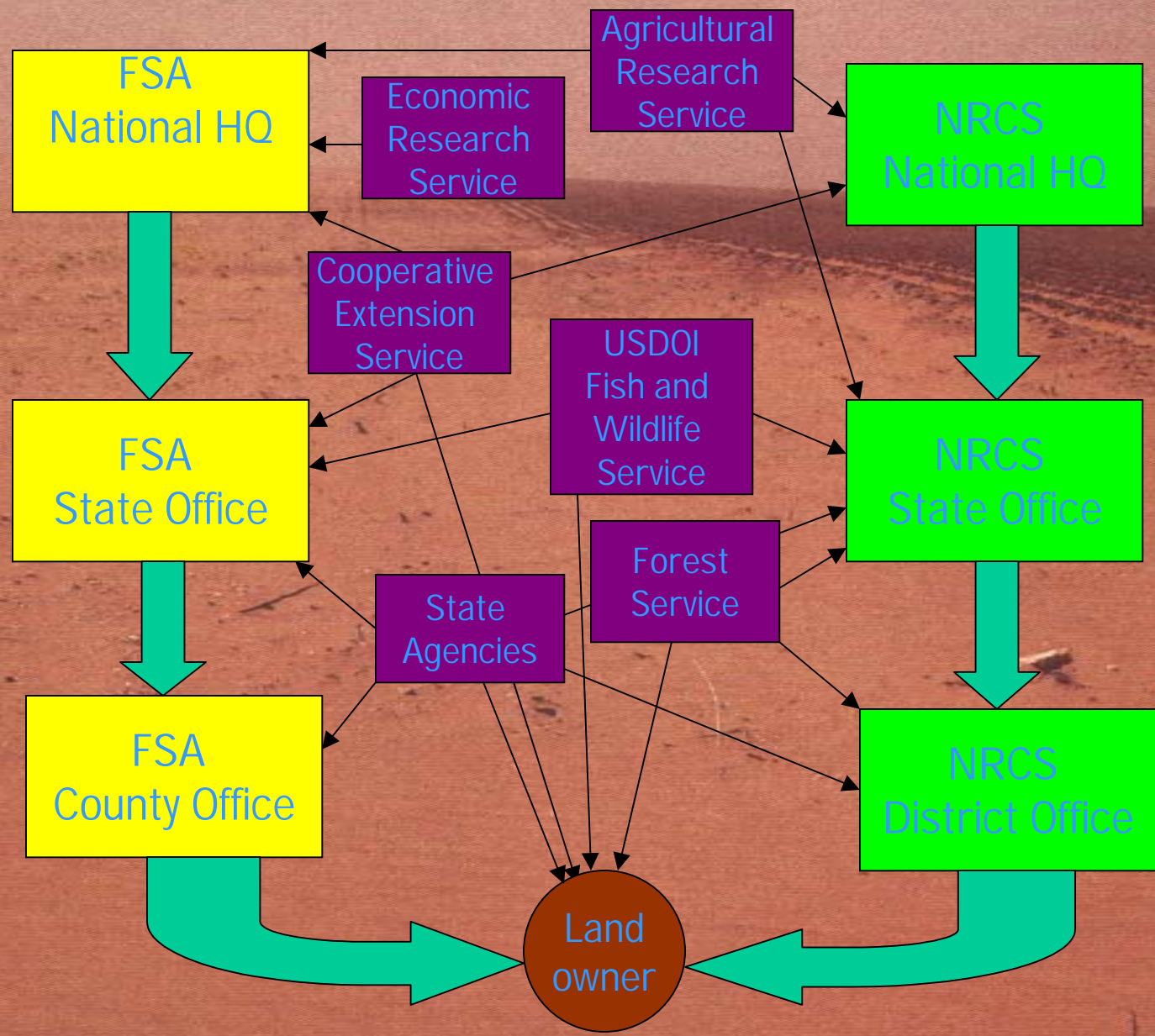
PRTCs in CRP

- Initial and Final Costs--only in responsible agencies (FSA and NRCS)
 - Research
 - Design
 - Evaluation
- Implementation Costs
 - Administration
 - Technical Assistance
 - Monitoring and Enforcement
- Participation Costs--to farmers

Agency Roles in CRP

AGRICULTURE

FORESTRY

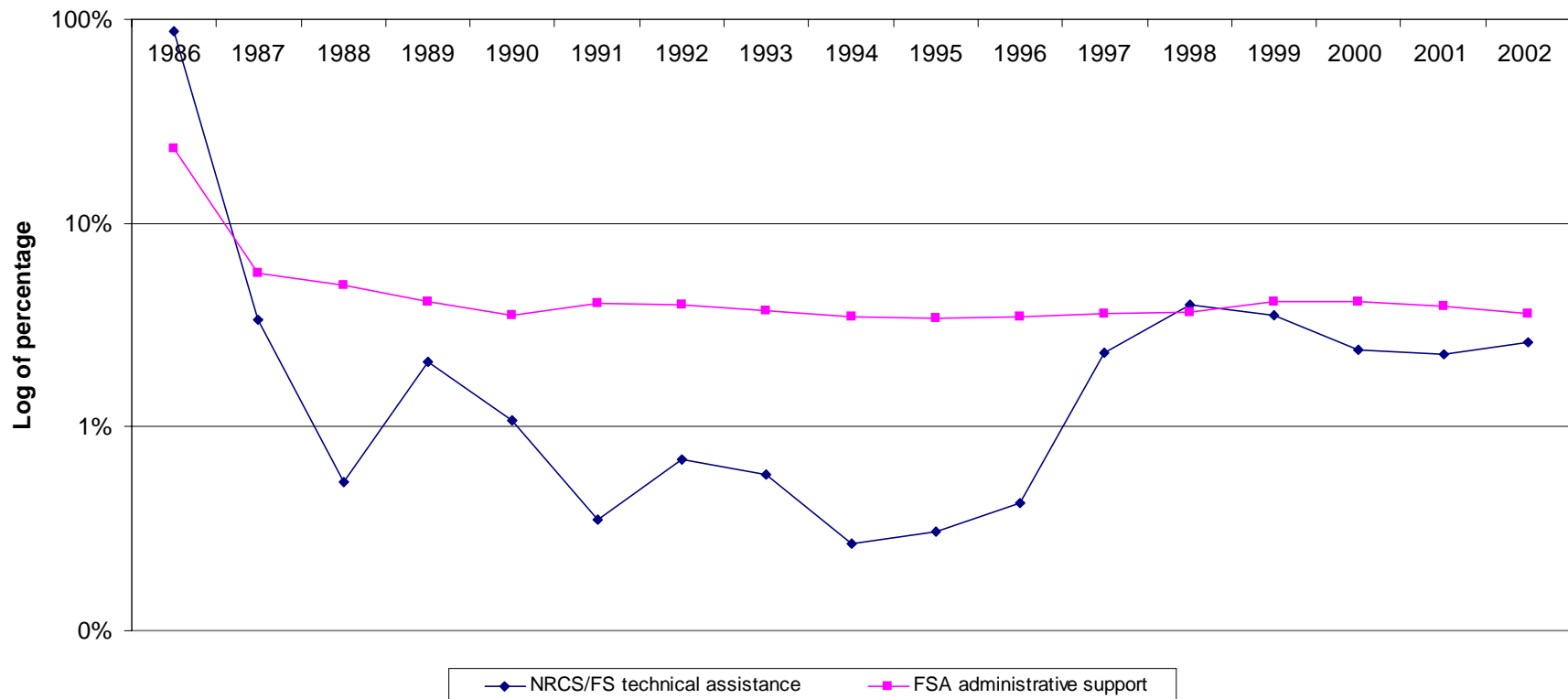


A Note on Data Quality

- Used aggregate USDA budget data
- Under- and over-reporting from the NRCS district conservationist
- NRCS performs CRP technical assistance under reimbursement from FSA
 - Account for as much as possible for reimbursement.
 - Section 11 CCC funding cap
- Despite these flaws, these data are the official budget costs reported by USDA and the only practicable source for estimating transactions costs at the national level.

CRP PRTCs as a Percent of Expenditures

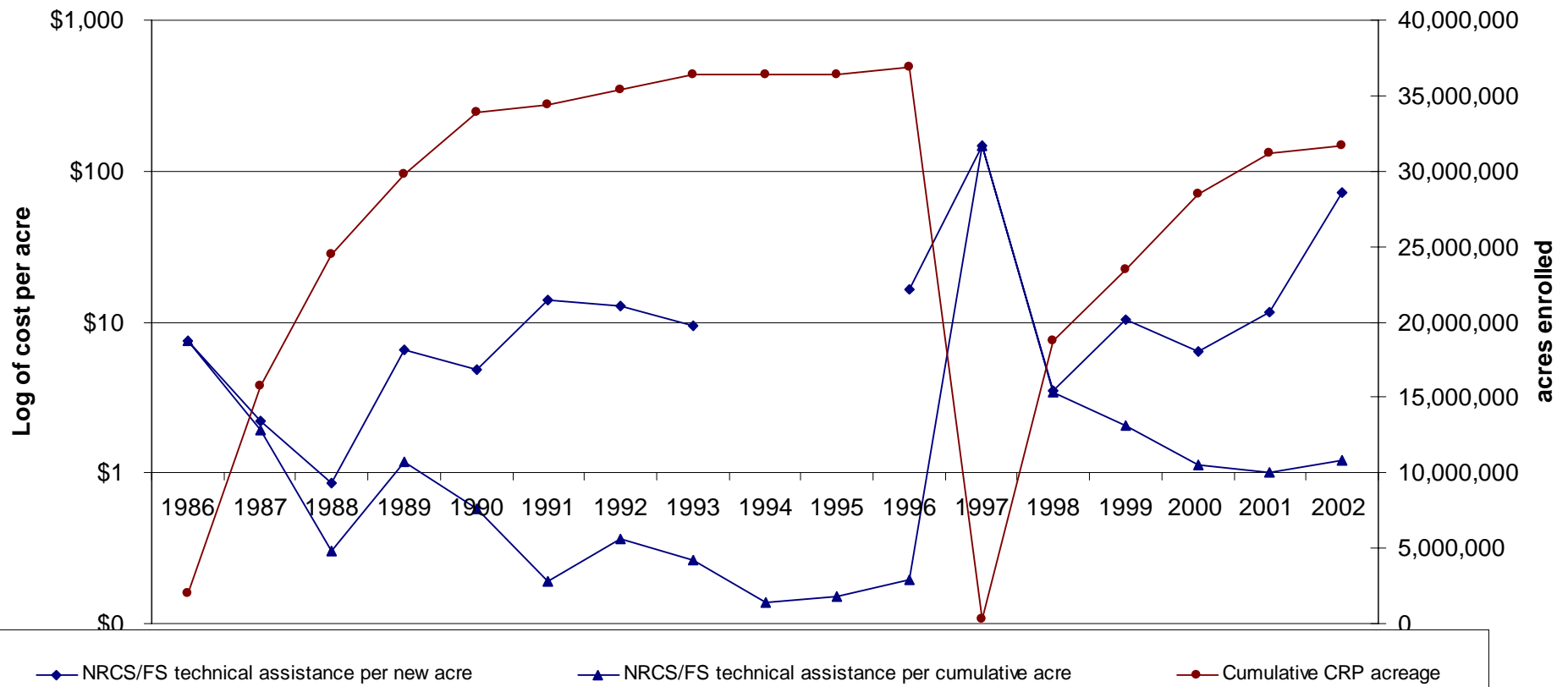
Conservation Reserve Program: Technical Assistance and Support as a Percent of Cost-Share and Rental Payments



Source: USDA, OBPA and Ralph E. Heimlich, Agricultural Conservation Economics

CRP PRTCs Per Acre: NRCS Costs

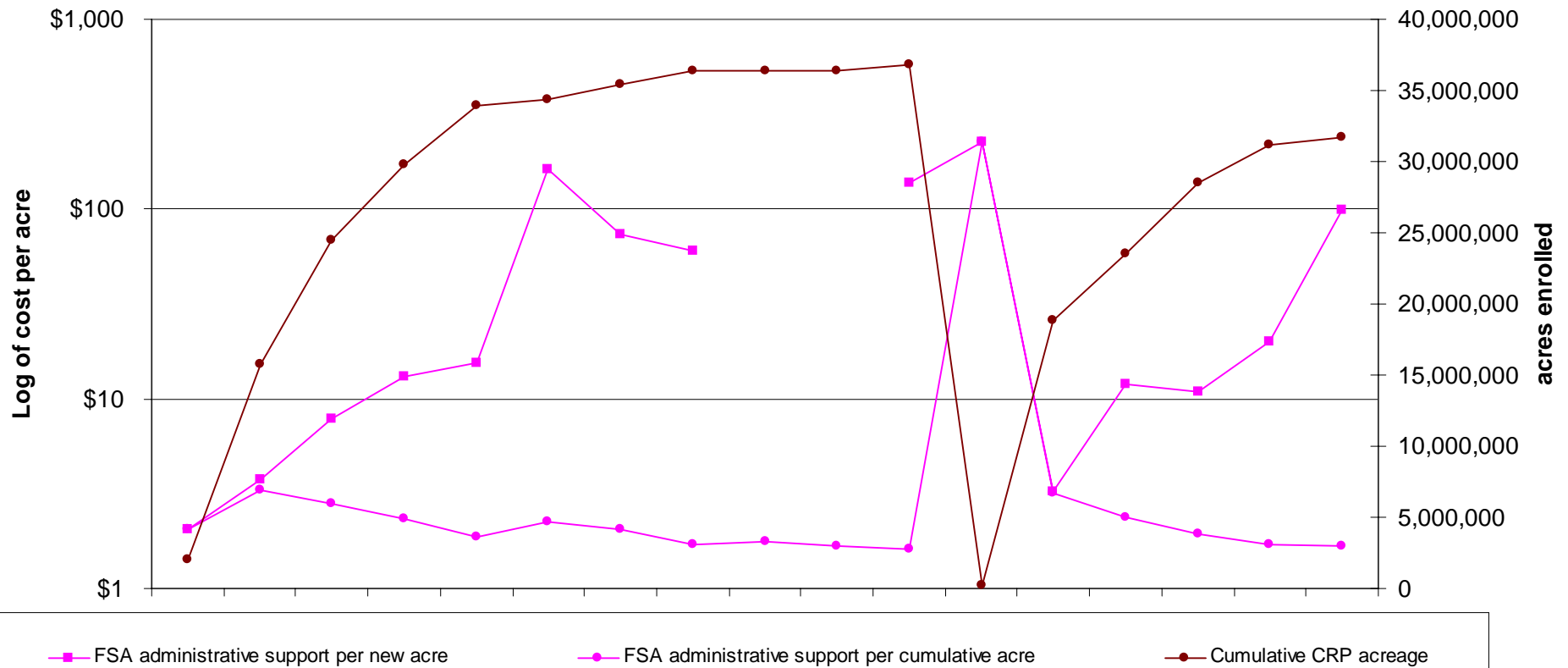
Conservation Reserve Program: NRCS Transactions Costs per New and Cumulative Acre Enrolled



Source: USDA, OBPA and Ralph E. Heimlich, Agricultural Conservation Economics

CRP PRTCs Per Acre: FSA Costs

Conservation Reserve Program: FSA Transactions Costs per New and Cumulative Acre Enrolled



Source: USDA, OBPA and Ralph E. Heimlich, Agricultural Conservation Economics

Factors Affecting FSA Administrative Costs

<i>Variable</i>	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>
Acres newly enrolled	(\$6.56)	2.16	***(-3.03)
Acres idled/installed	(\$0.20)	0.45	-0.43
Reenrolled acres	\$0.68	0.64	1.08
Continuous acres	(\$3.83)	9.17	-0.42
Cumulative acres enrolled	\$1.79	0.08	***22.62
Number of contracts enrolled	\$798.35	238.32	***3.35
Post1996 dummy	(\$41,196,527)	\$10,543,697	***(-3.91)

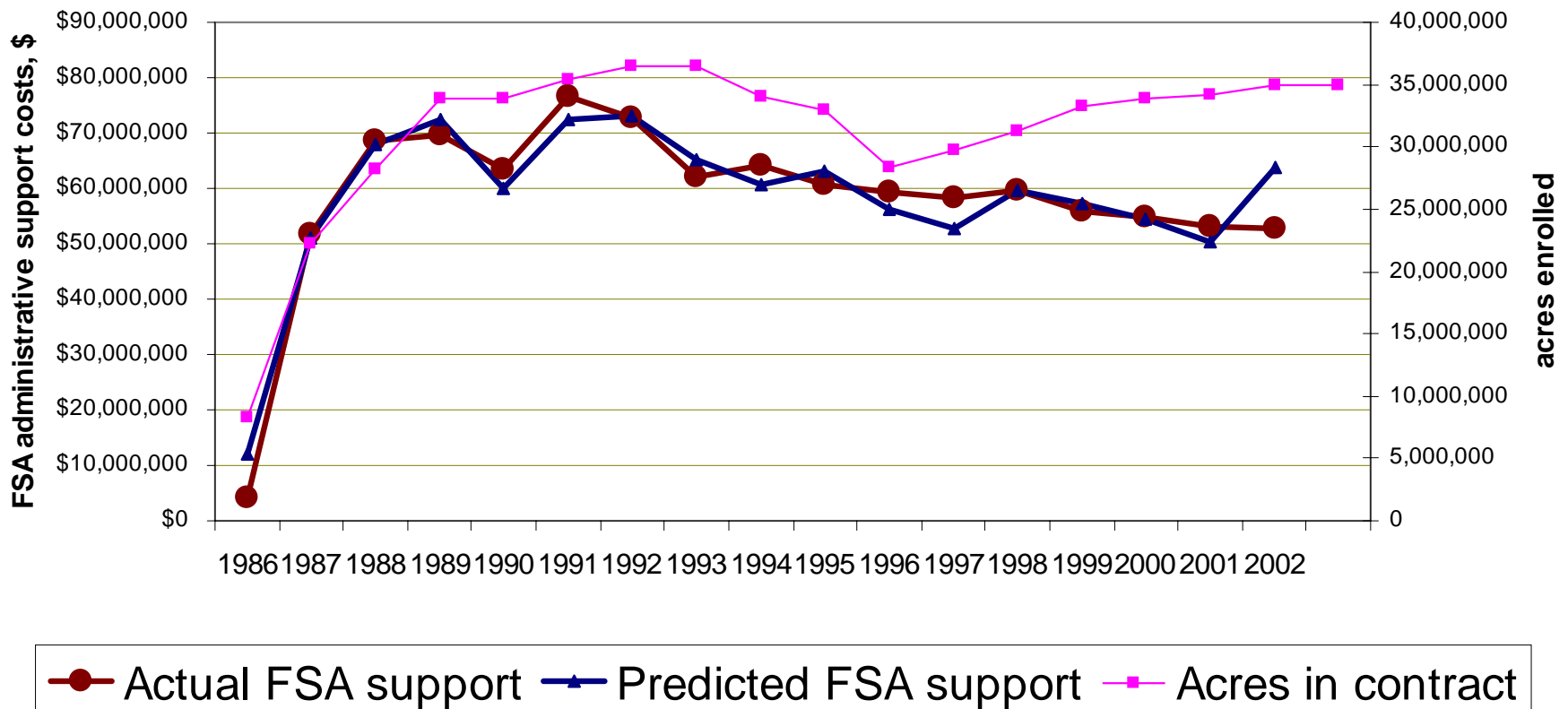
<i>Regression Statistics</i>	
Multiple R	96.1%
R Square	92.3%
Adjusted R Square	77.6%
Standard Error	5,496,547
Observations	17

*** significant at the 95 percent confidence level.

Source: Ralph E. Heimlich, Agricultural Conservation Economics

Modeled FSA Costs

Conservation Reserve Program: Actual and Predicted FSA administrative support costs



Source: USDA, OBPA and Ralph E. Heimlich, Agricultural Conservation Economics

Factors Affecting NRCS Technical Assistance Costs

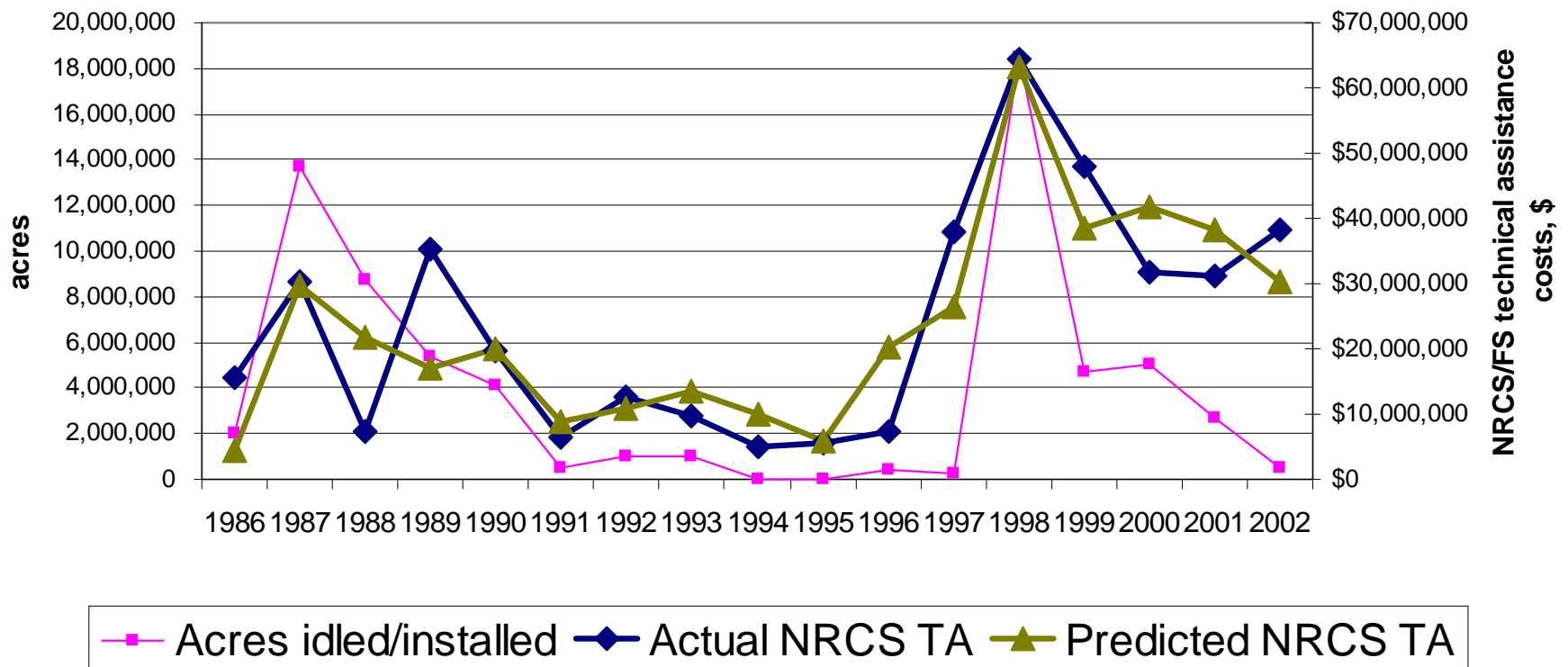
<i>Variable</i>	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>
Acres newly enrolled	\$1.40	4.5	0.31
Acres idled/installed	\$2.39	0.94	***2.54
Reenrolled acres	(\$0.51)	1.32	-0.39
Continuous acres	(\$3.63)	19.07	-0.19
Cumulative acres enrolled	\$0.30	0.16	**1.84
Number of contracts enrolled	(\$220.82)	495.69	-0.45
Post1996 dummy	\$31,894,665	\$21,929,806	*1.45

<i>Regression Statistics</i>	
Multiple R	85.6%
R Square	73.2%
Adjusted R Square	47.2%
Standard Error	11,432,253
Observations	17

* significant at the 80 percent confidence level,
 ** significant at the 90 percent level,
 *** significant at the 95 percent level.
 Source: Ralph E. Heimlich, Agricultural Conservation Economics

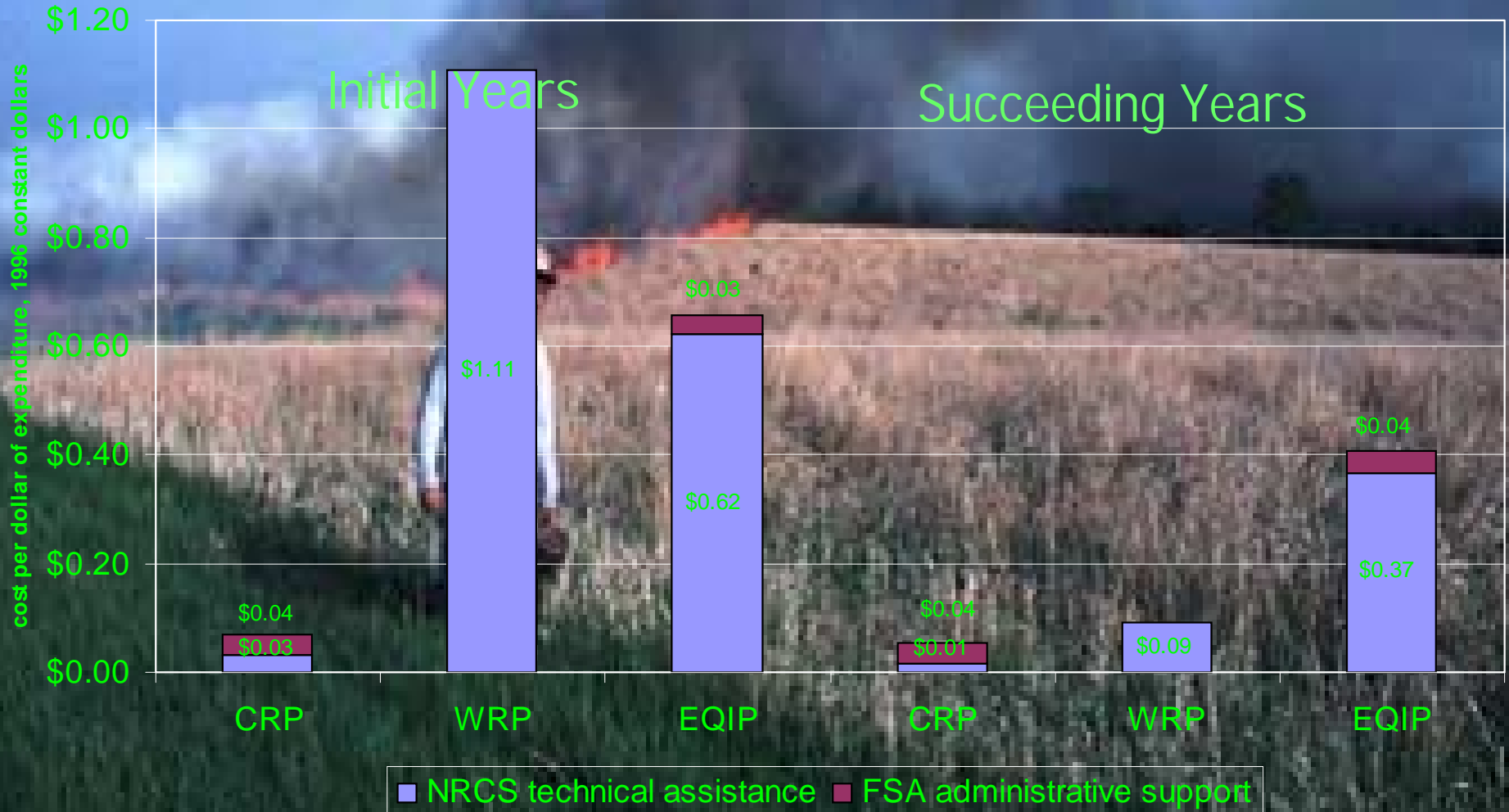
Modeled NRCS Costs

Conservation Reserve Program: Actual and Predicted NRCS/FS technical assistance expenditures



Source: USDA, OBPA and Ralph E. Heimlich, Agricultural Conservation Economics

Transactions Costs in Initial and Succeeding Years, CRP, WRP, EQIP



Transactions Costs Per Acre Enrolled, CRP, WRP

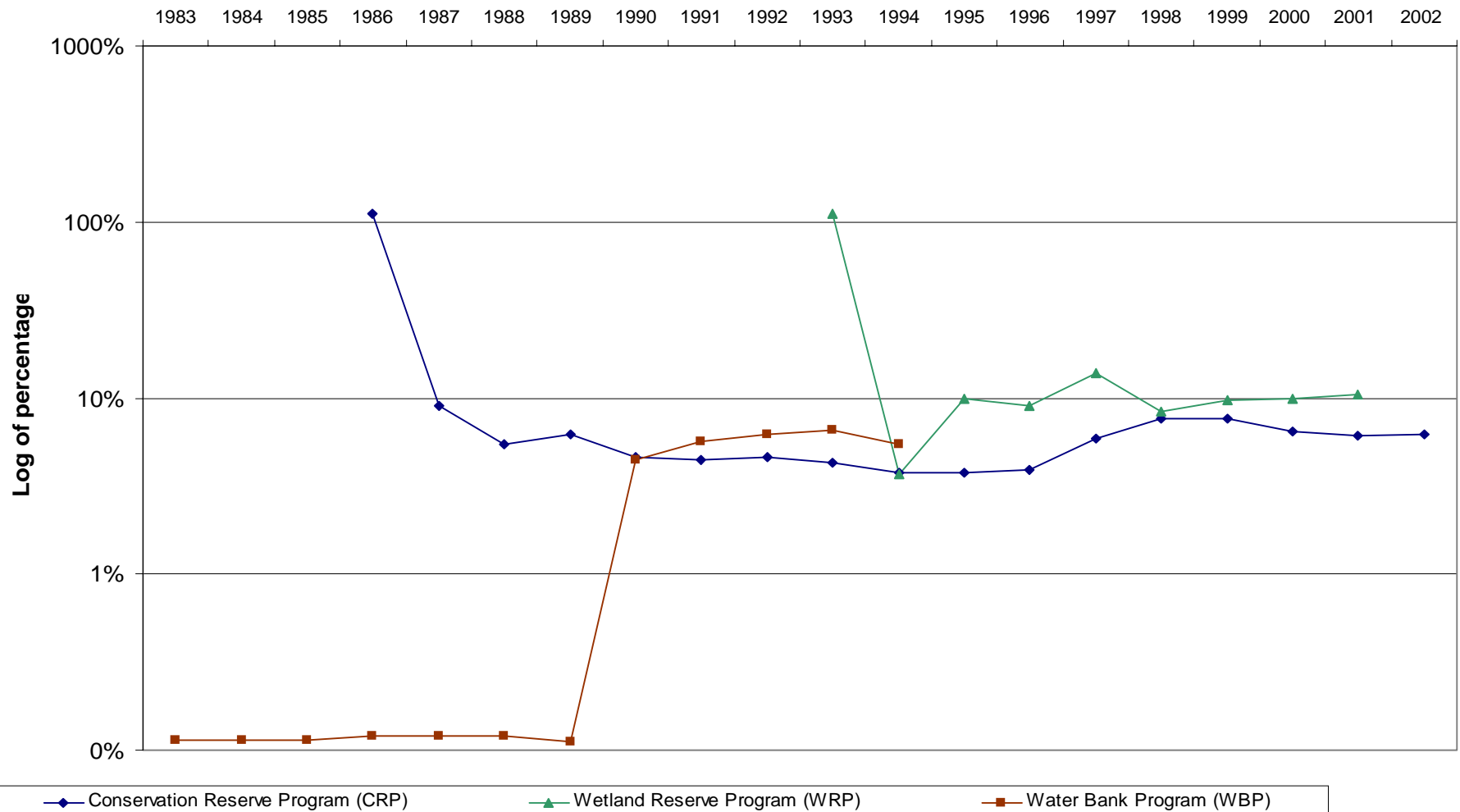


Complex Evaluation, Open Enrollment and Cost-Effectiveness

- Continuous signup expected to be less expensive than general signup with the EBI evaluation
- No direct data, but regressions indicate
 - \$3.83 per acre less FSA administrative cost
 - \$3.63 per acre less NRCS technical assistance
 - Neither estimate is statistically significant
- Rental costs actually higher (\$89 and \$121 per acre on average vs. \$44 for general signup)
- Continuous and CREP signup lagging (only one-third of 1.5 million CREP acres allocated signed up)
- Open enrollment is not a substitute for general signup

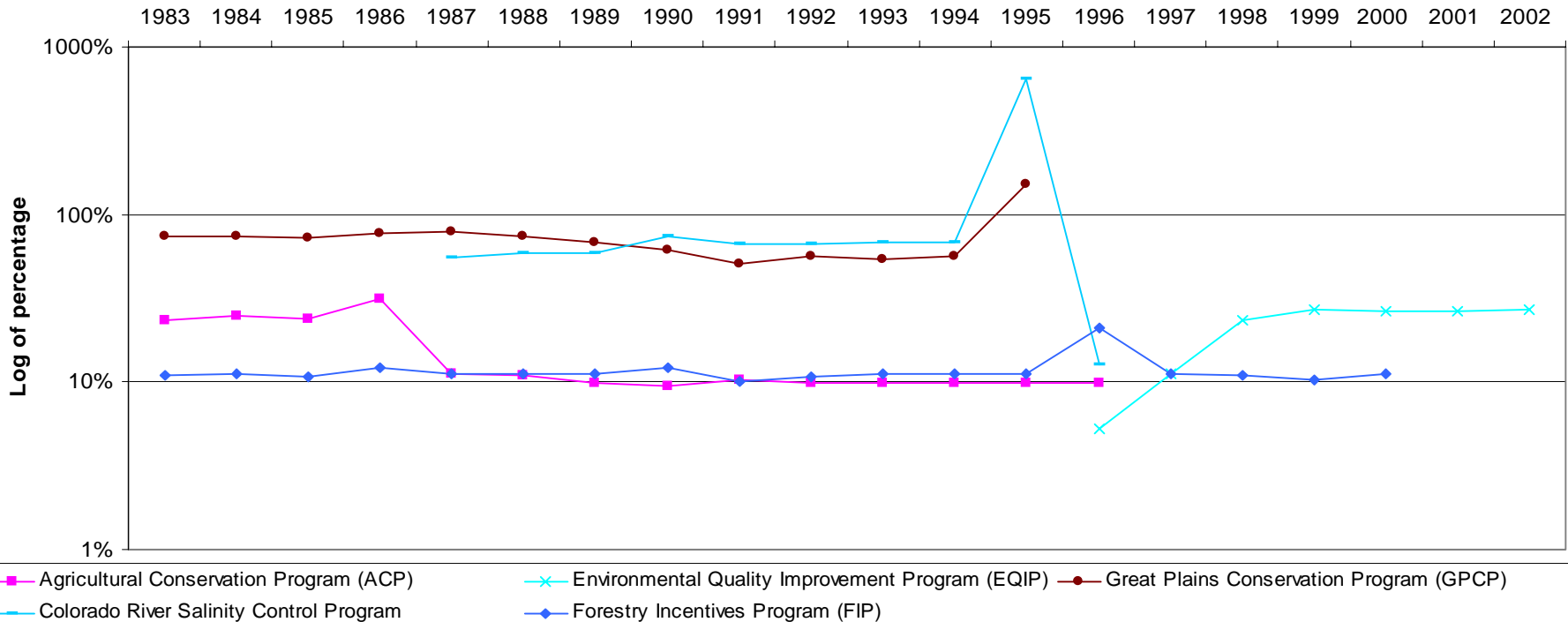
Transaction Costs for Retirement Programs

Land Retirement Programs: Technical Assistance as a percent of Cost-Share and Rental/Easement Expenditures



Transactions Costs for Cost-share Programs

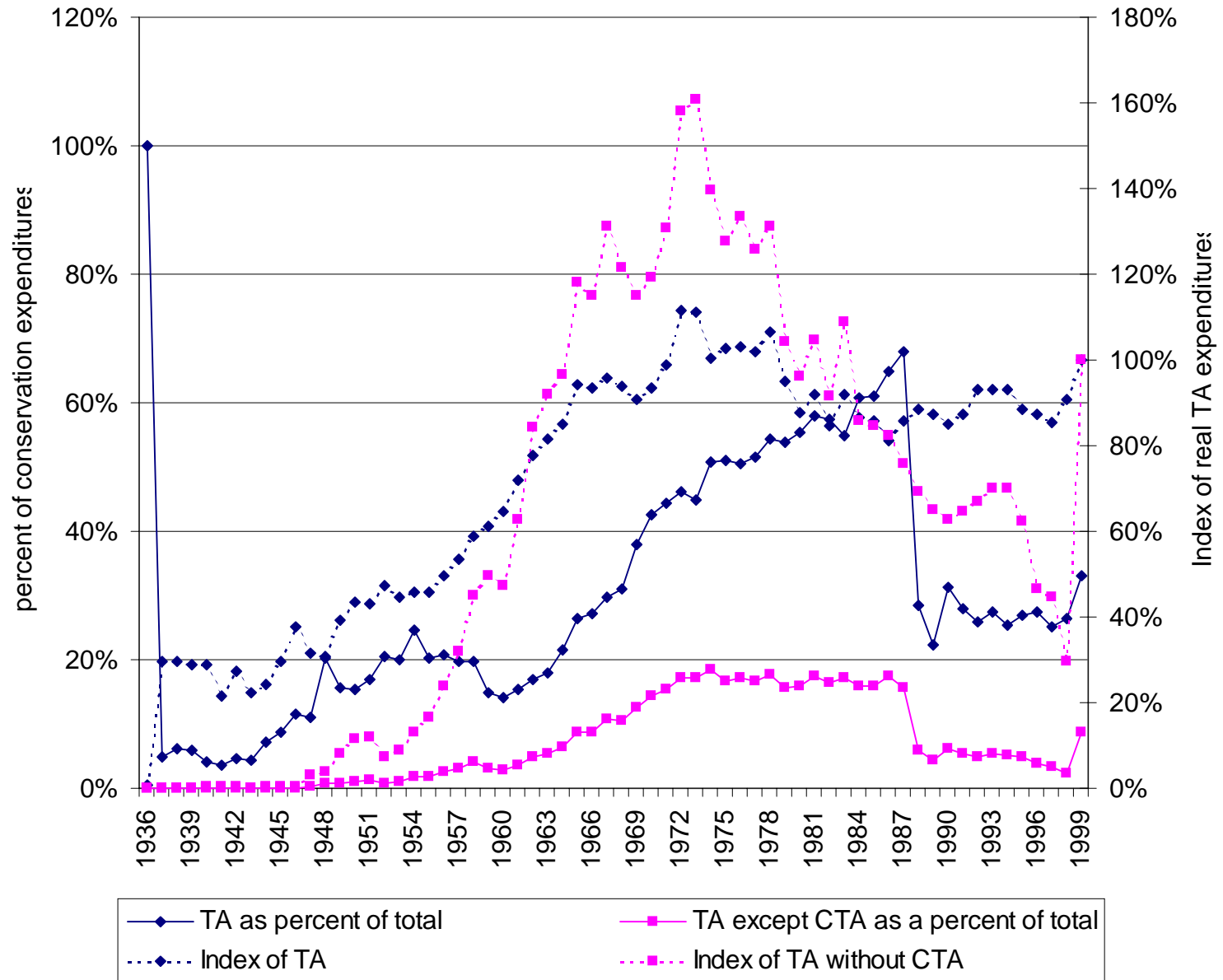
Cost-Share Programs: Technical Assistance as a percent of Cost-Share Expenditures



Long-Term Trends in Technical Assistance Expenditures



Technical Assistance as a percent of Conservation Expenditures, 1937-1999



Reluctance to Fund Technical Assistance

- Section 11 funding cap (recently eliminated)
- 15% limit on Conservation Security Program (CSP) technical assistance
- Technical Service Provider (TSP) option
- Reform of conservation planning-mandated study
- These show a discomfort with funding technical assistance vs. direct financial assistance and a misunderstanding of the technical assistance role

Conclusions

- Government PRTC of implementing the Conservation Reserve Program are low
 - 1-3 percent of expenditures for NRCS technical assistance
 - 4 percent of expenditures for FSA administrative support costs
 - \$60 per acre enrolled in initial years of a 10-year enrollment period, and \$20 per acre in succeeding years.
- Costs are less than comparable costs for the Wetland Reserve Program, and much less for working land programs (EQIP and predecessors)
- The absolute size of rental payments in CRP dwarfs PRTCs in ways that cost-share funds under working lands programs do not.

Conclusions (cont.)

- Administrative PRTCs are highly correlated with cumulative acreage enrolled, each additional acre increasing costs by \$1.79.
- Technical assistance PRTCs are significantly correlated with acres installed each year (adding \$2.39 per acre) and cumulative acres enrolled (adding \$.30 with each additional acre).
- NRCS technical assistance costs increased significantly in the second signups (after 1996).
- Technical assistance declined from mid-1970s peak.
- Congressional support may be dropping:
 - Section 11 cap on reimbursement
 - Caps in new CSP
 - Reliance on third-party technical assistance providers
 - Mandates for studying conservation planning reform.

- PRTCs could be reduced through:
 - Information technology
 - Centralization of functions
 - Administrative improvements can reduce technical assistance and administrative transactions costs
- Continued decreases in technical assistance at the field level cannot be sustained indefinitely
- Technical assistance is not merely a cost or friction to be overcome for more efficient program implementation, but part of the program itself
- There is no substitute for face-to-face, on-the-ground technical assistance provided by trained conservationists to producers interested in learning about and applying improved methods.