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

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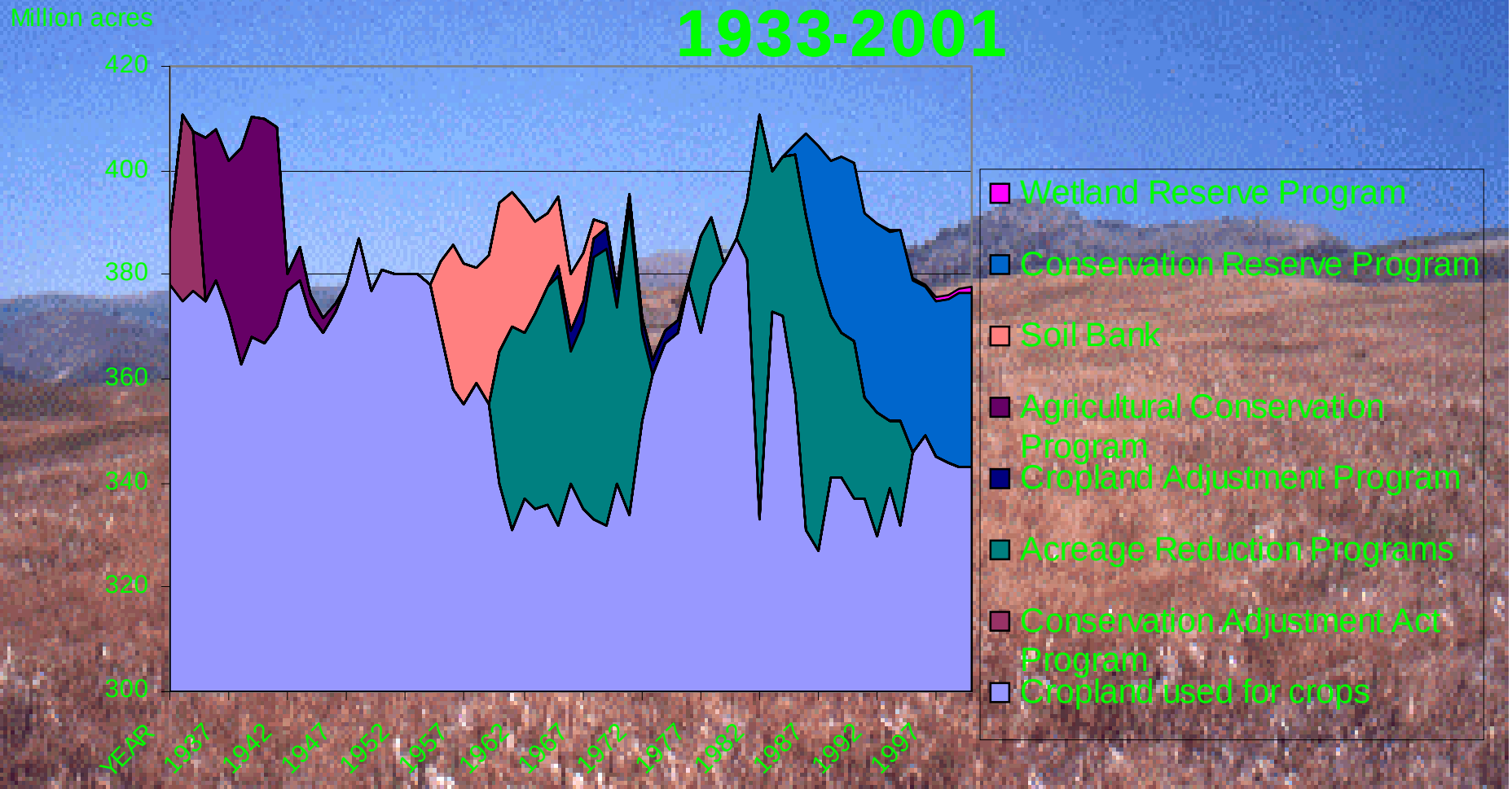
The Conservation Reserve Program

- 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

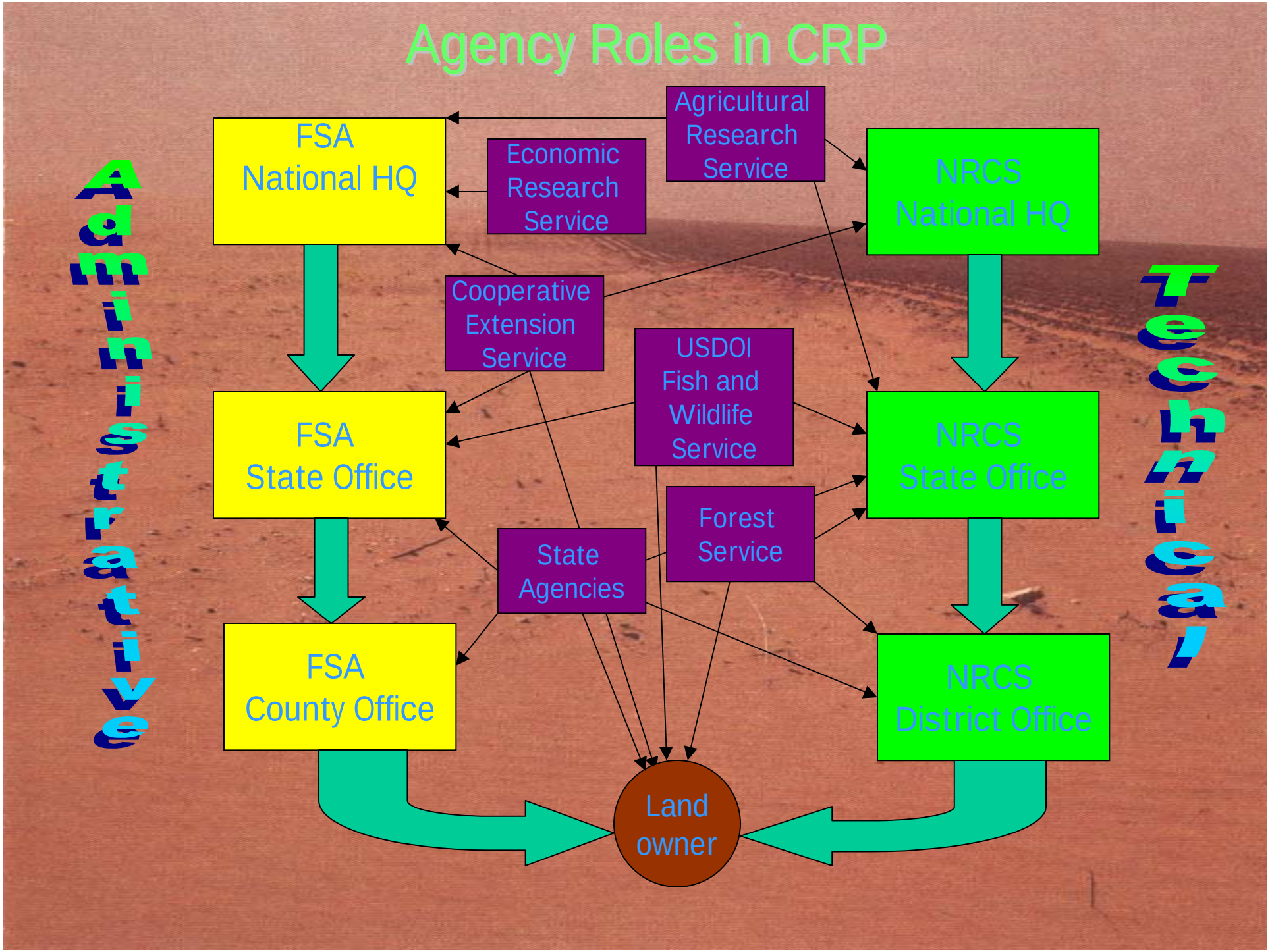
History of U.S. Land Retirement Programs, 1933-2001



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**

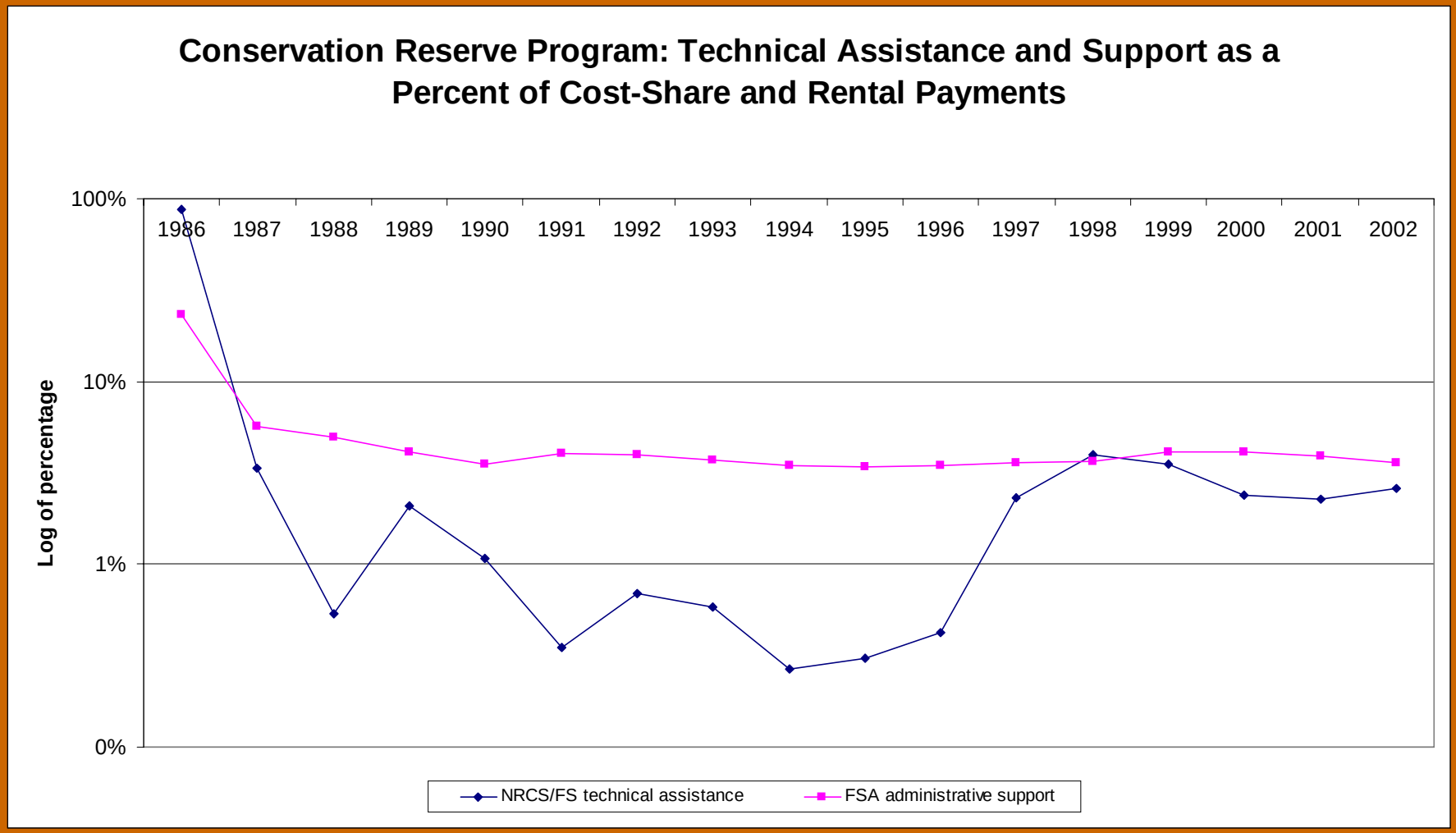
Agency Roles in CRP



A Note on Data Quality

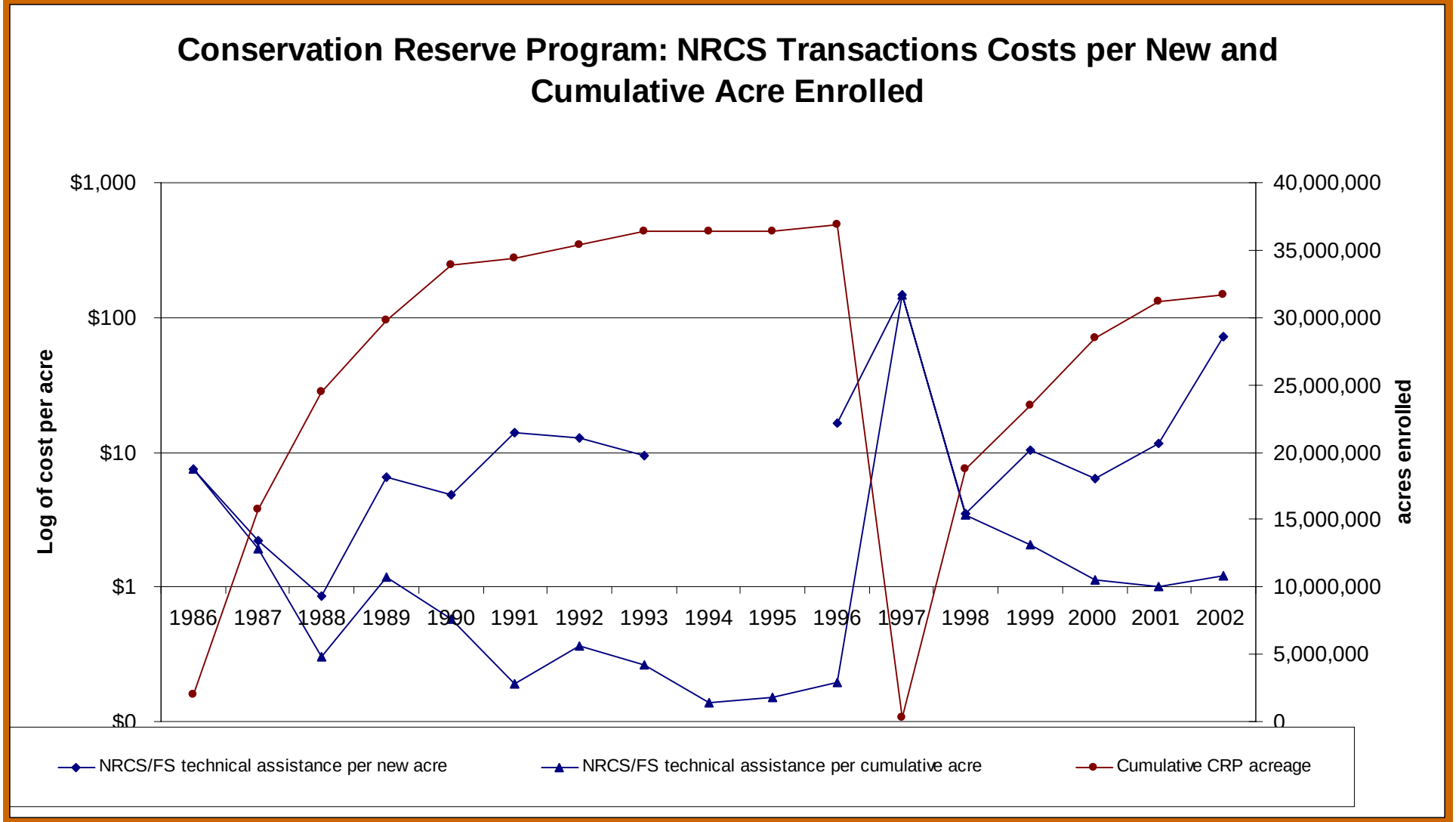
- Used aggregate USDA budget data
- Under- and over-reporting from the NRCS district conservationist
- NRCS performs CRP technical assistance under reimbursement from FSA
  - Account for as much as possible for reimbursement.
  - Section 11 CCC funding cap
- Despite these flaws, these data are the official 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



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

CRP PRTCs Per Acre: NRCS Costs



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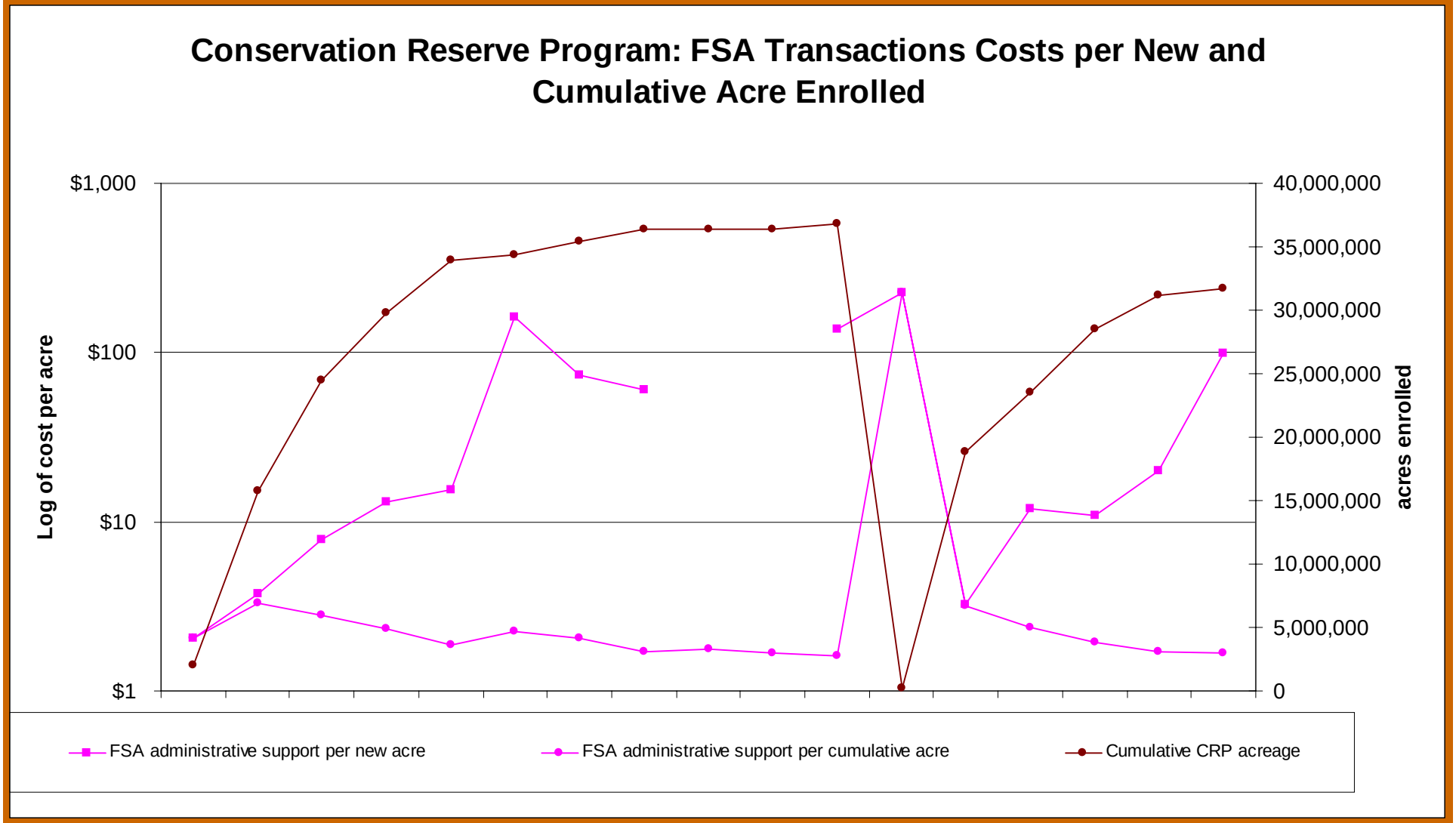
CRP PRTCs Per Acre: FSA Costs



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

Factors Affecting FSA Administrative Costs

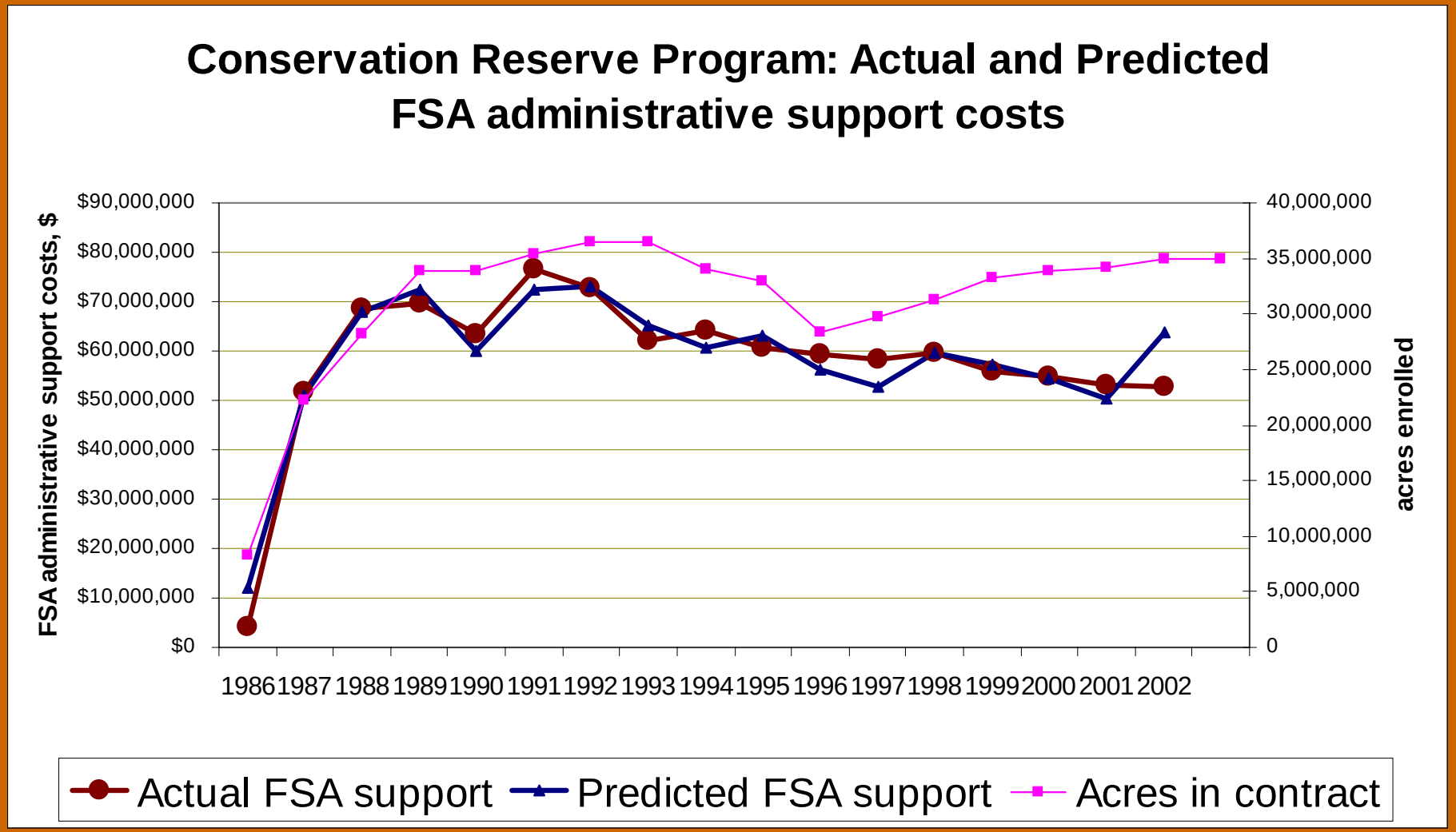
Variable	*Coefficients*	*Standard Error*	*t Stat*
Acres newly enrolled	($6.56)	2.16	***(3.03)
Acres idled/installed	($0.20)	0.45	-0.43
Reenrolled acres	$0.68	0.64	1.08
Continuous acres	($3.83)	9.17	-0.42
Cumulative acres enrolled	$1.79	0.08	***22.62
Number of contracts enrolled	$798.35	238.32	***3.35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

Regression Statistics	
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



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

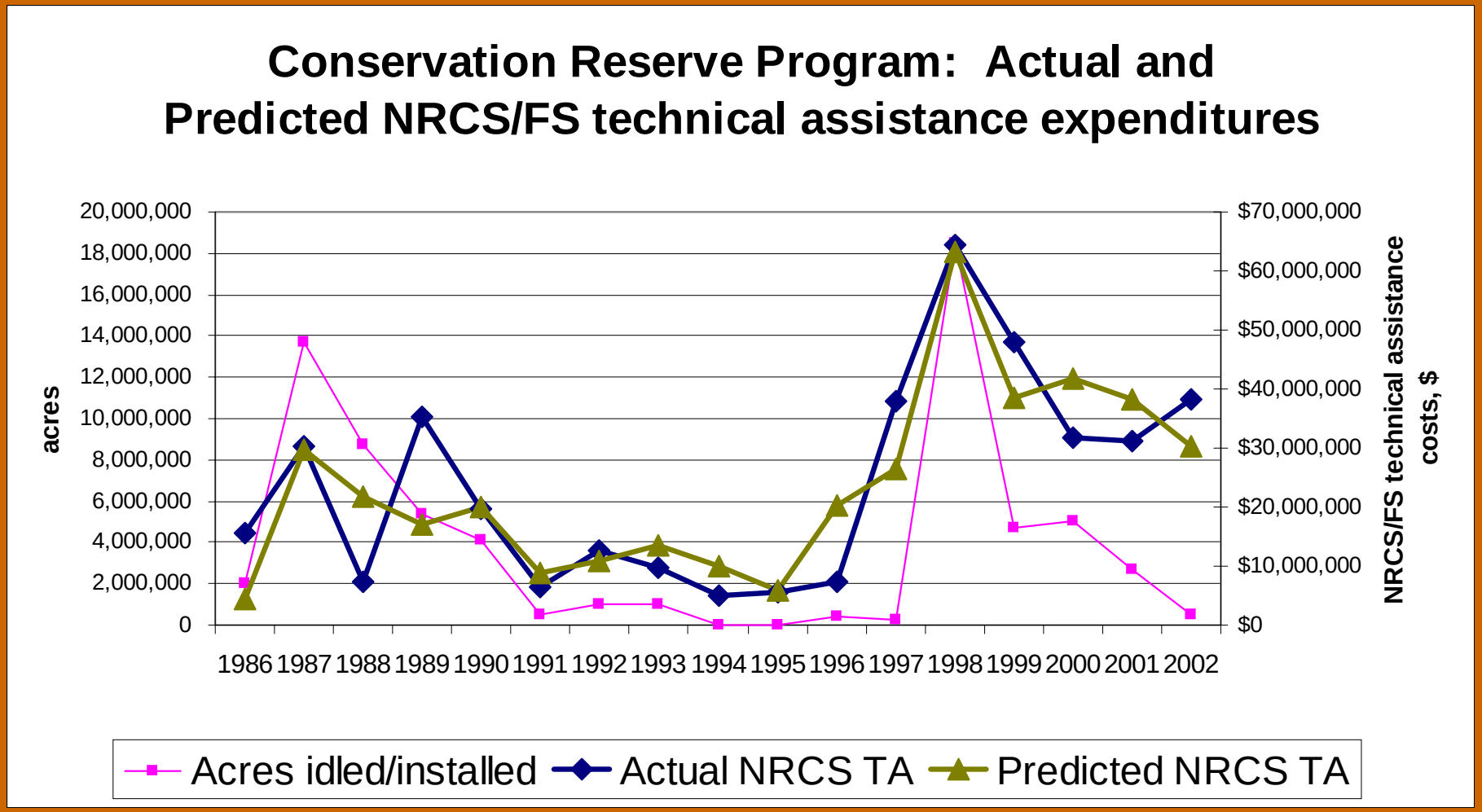
Factors Affecting NRCS Technical Assistance Costs

Variable	*Coefficients*	*Standard Error*	*t Stat*
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

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

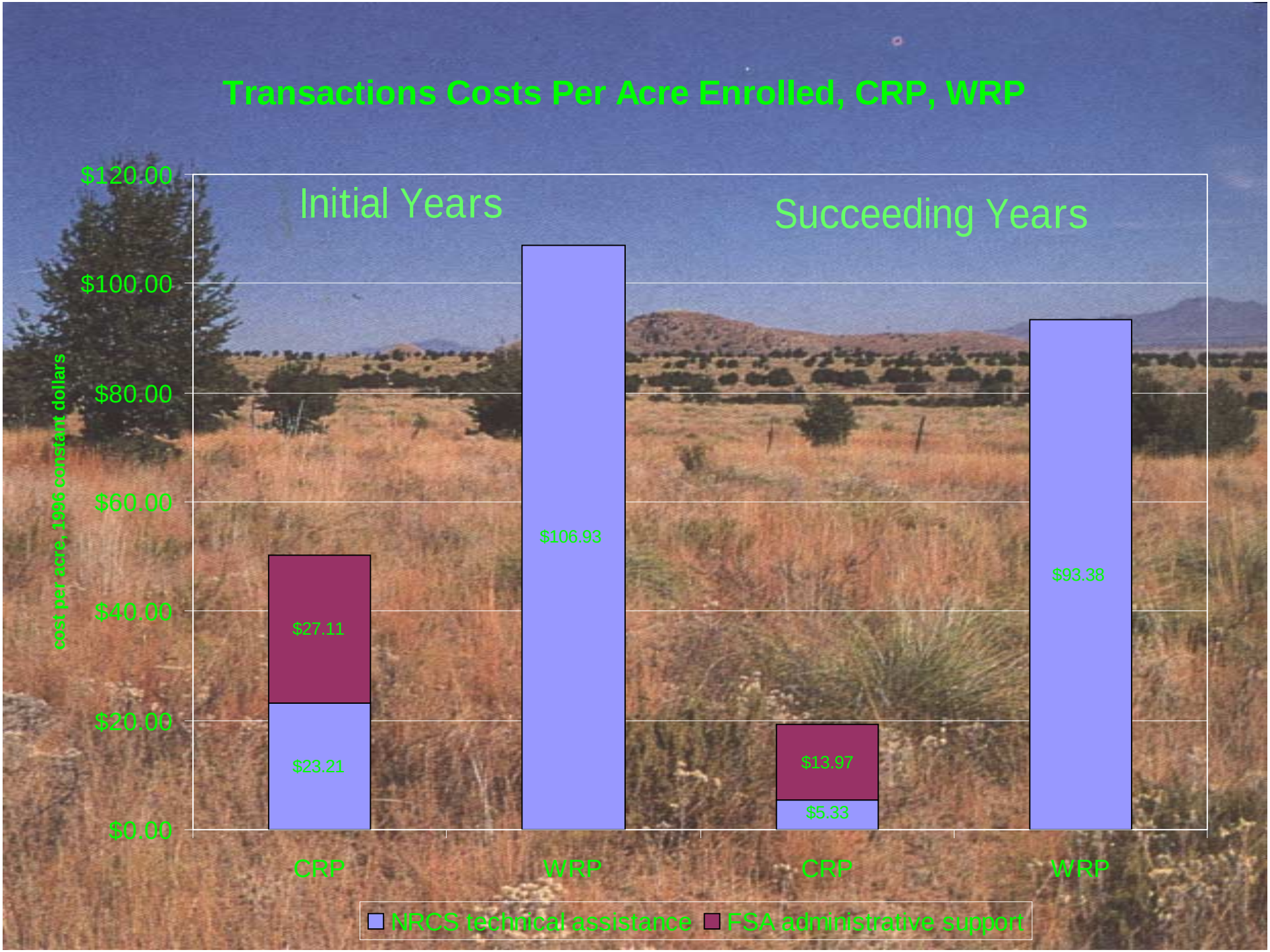
* significant at the 80 percent confidence level,
** significant at the 90 percent level,
*** significant at the 95 percent level.
Source: Ralph E. Heimlich, Agricultural Conservation Economics

Modeled NRCS Costs



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

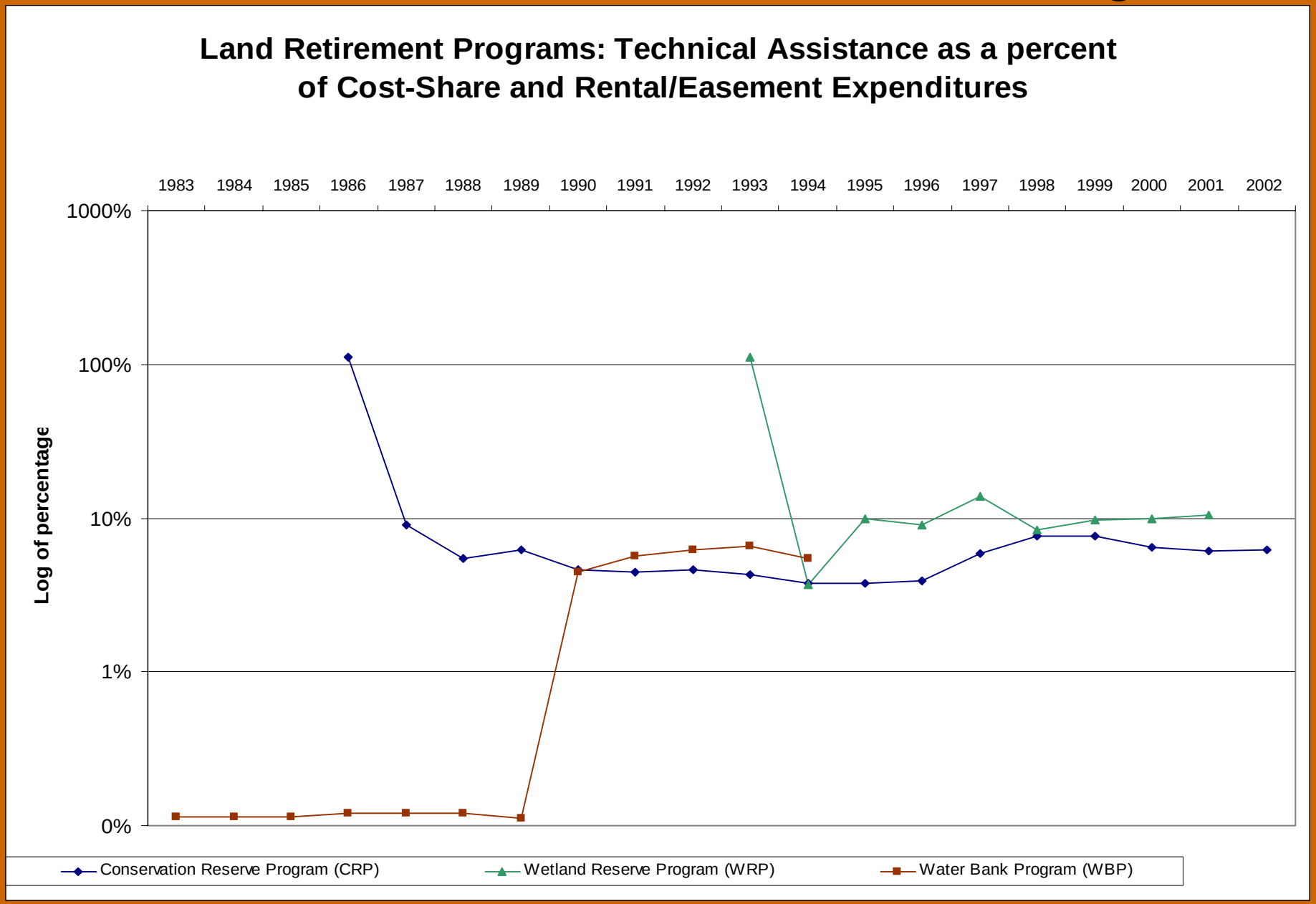
Transactions Costs in Initial and Succeeding Years, CRP, WRP, EQIP


Transactions Costs Per Acre Enrolled, CRP, WRP
Initial Years
Succeeding Years
$120.00
$100.00
$80.00
$60.00
$40.00
$20.00
$0.00
cost per acre, 1996 constant dollars
$27.11
$23.21
$106.93
$13.97
$5.33
$93.38
CRP
WRP
CRP
WRP
NRCS technical assistance
FSA administrative support

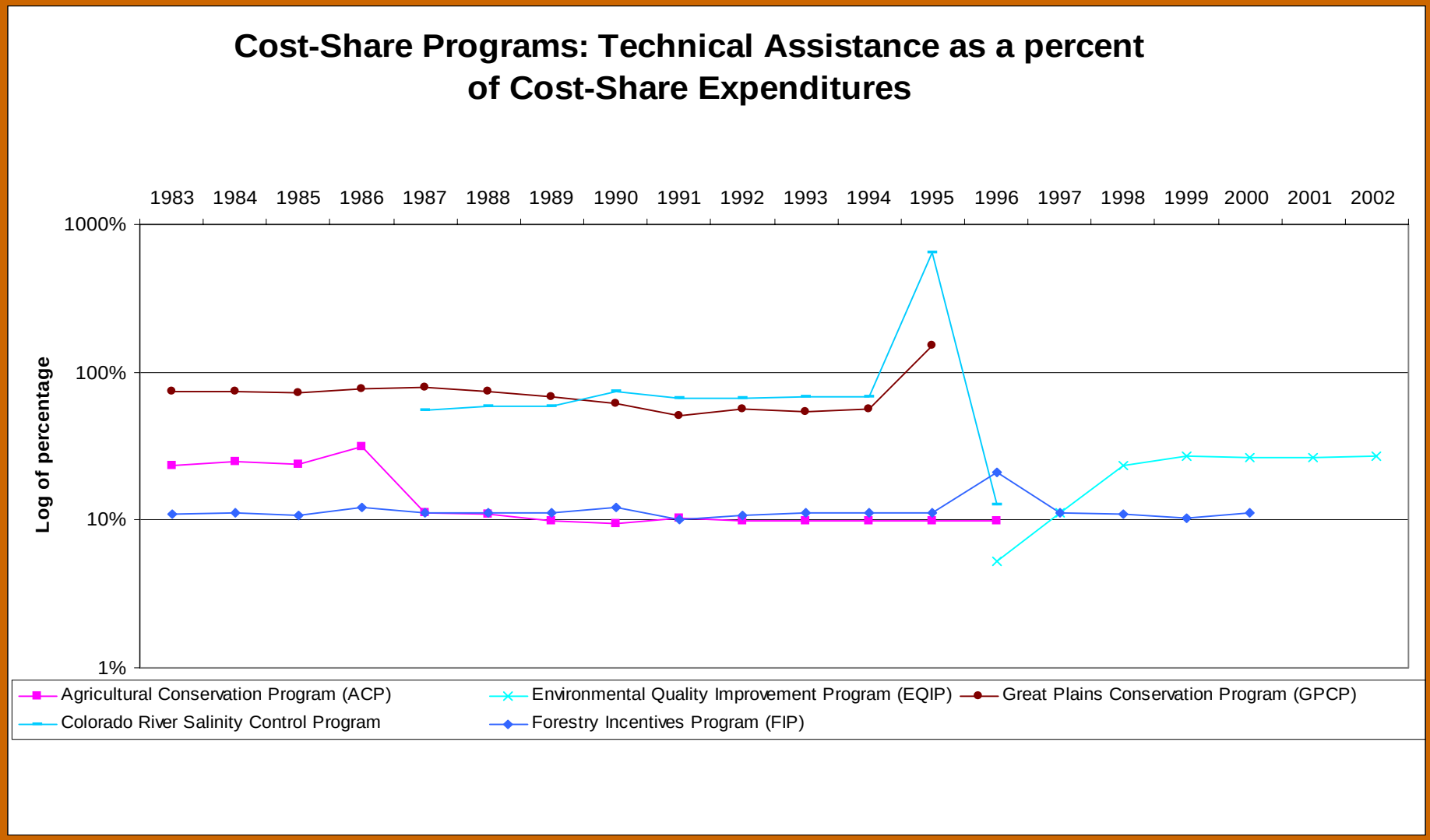
Complex Evaluation, Open Enrollment and Cost-Effectiveness

- 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

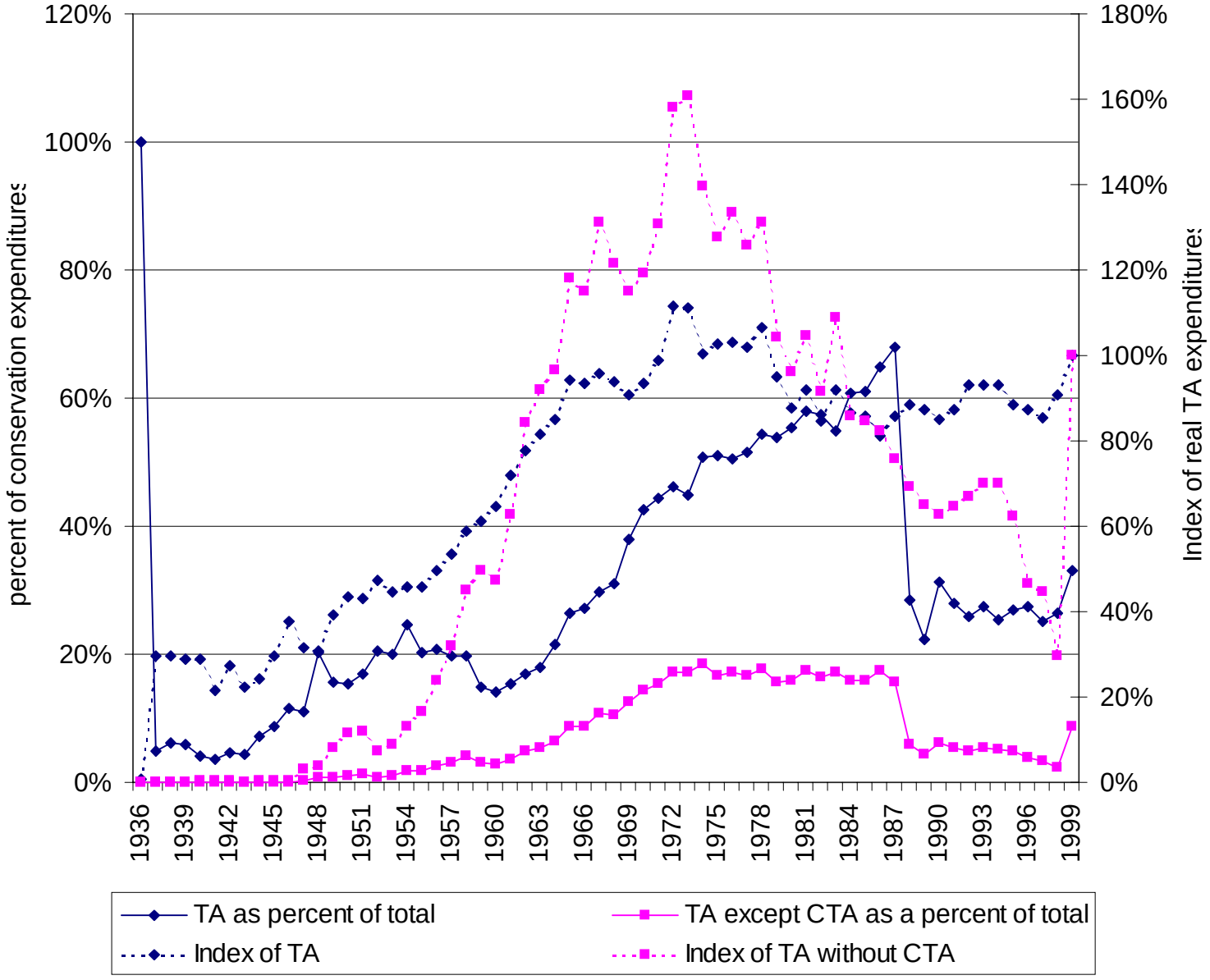


Transactions Costs for Cost-share Programs




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.

Conclusions (cont.)

- 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.