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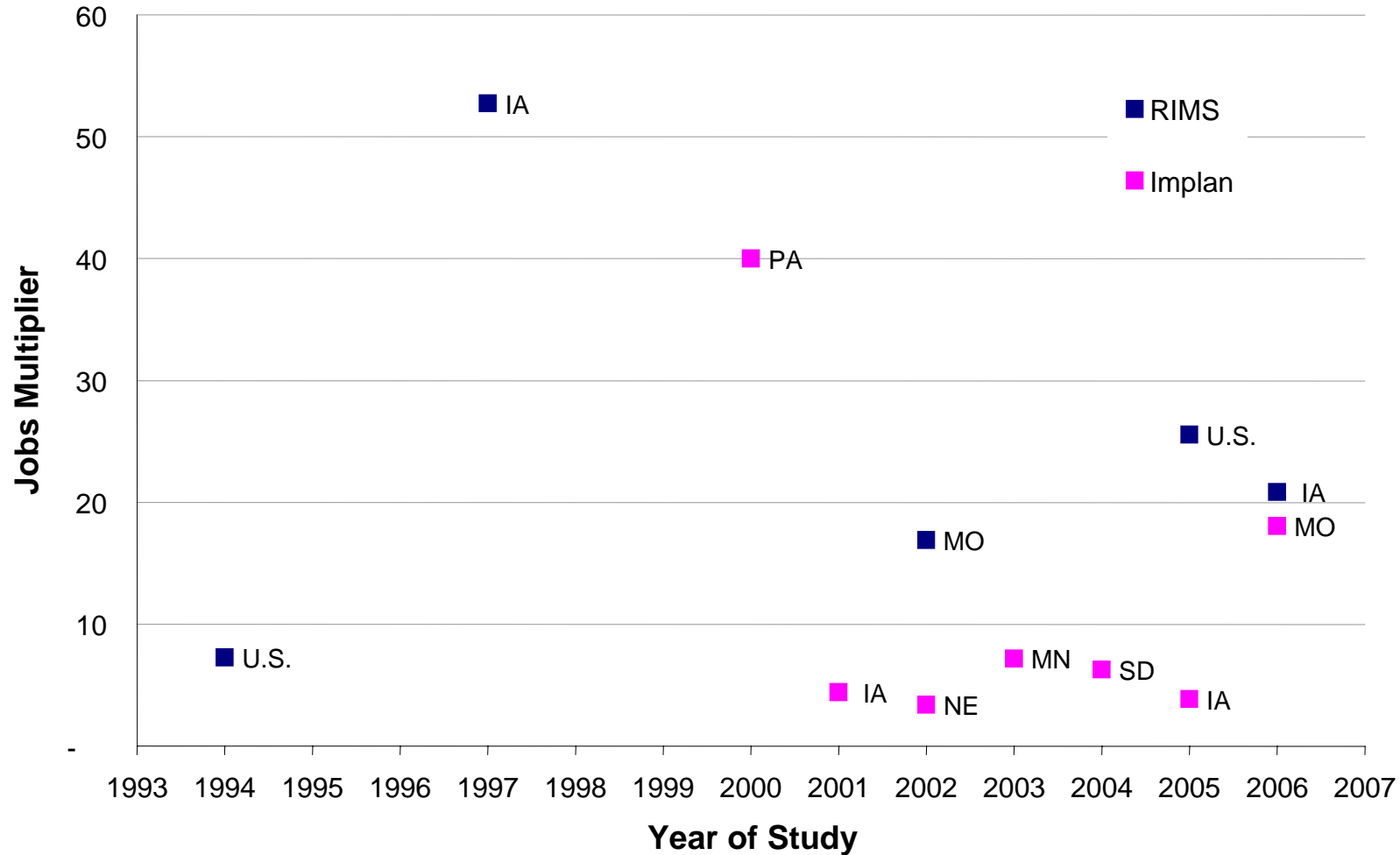


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Estimated Jobs Multipliers in Ethanol Studies Excluding Construction Effects



The “Iowa” Study

- Led by Dave Swenson, Research Scientist, ISU Department of Economics
- 2005 Data from three Iowa ethanol plants – each with different proportion of local ownership, plus one plant with no local ownership

Key Assumptions

- “Local” = size of the primary corn market area in relation to actual weighted distribution of owner shares
- Used major production characteristics for dry mills
-- Tiffany (2003) University of Minnesota; and Jolly (2003) ISU
- Updated to reflect commodity use and price averages for 2005 (analysis year for this study)
- 50 MGY plant

Three major factors of economic activity of an industry

- Industrial output = sales value of production/year
- Value added = payments to labor (wages and salaries) + payments to business owners or investors (interest, dividends, or rents) + taxes
- Jobs

Multiplier Ratios

Multiplier Ratio = ratio of total economic activity to the direct activity

Jobs Multiplier = Total Jobs/Direct Jobs

Output Multiplier = Total Output/Direct Output

Three dimensions of economic activity

- Direct activity = jobs at the ethanol plant
- Indirect activity = purchases from local suppliers (corn, water, energy chemicals, transportation, other services)
- Induced activity = conversion of paychecks from direct and indirect activity into household spending

Direct + Indirect + Induced = Total Economic Activity

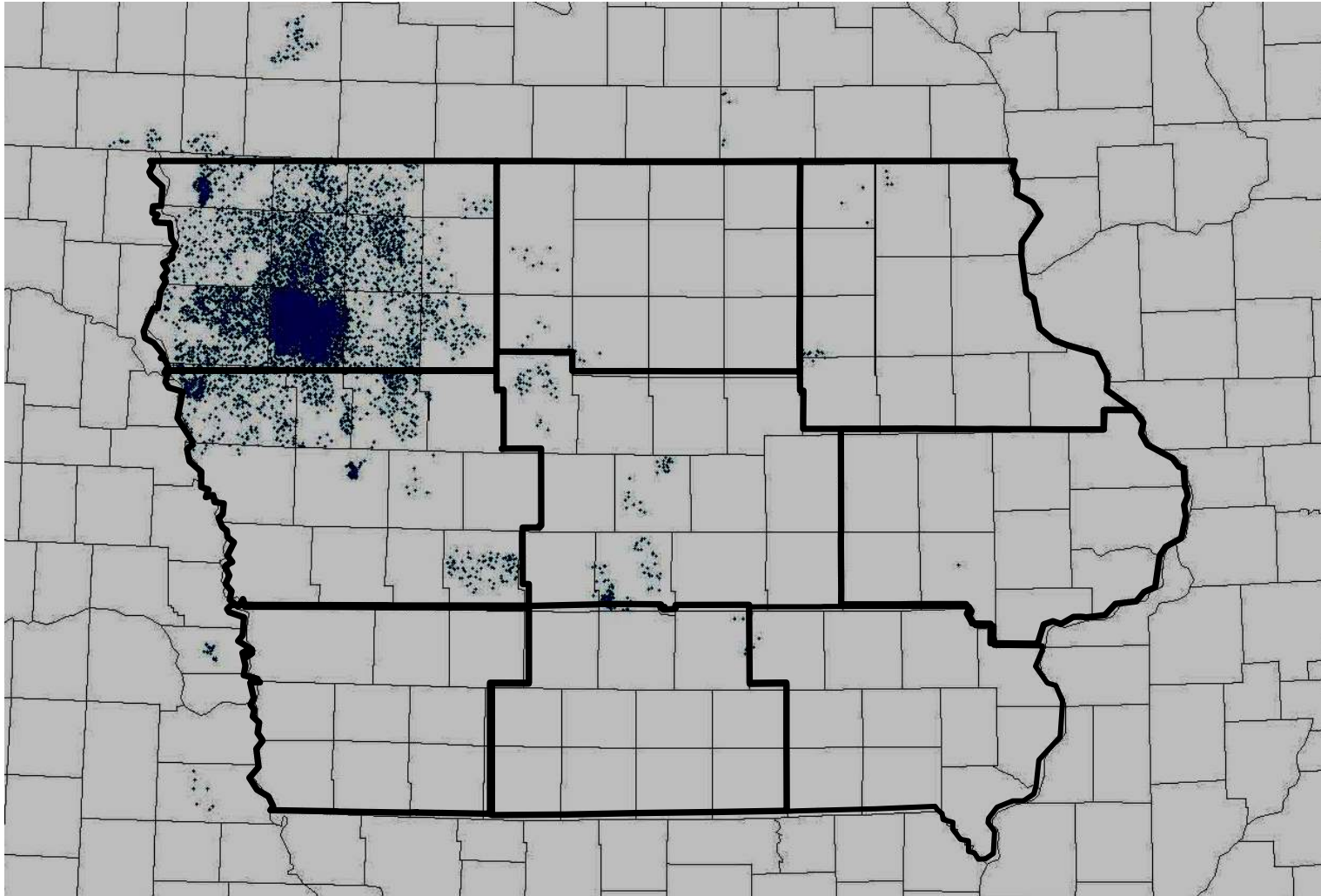
Plant A Ethanol Impacts: 100 Percent External Ownership*					
	Direct	Indirect	Induced	Total	Multiplier
Output	181,584,000	27,145,891	2,520,973	211,250,864	1.16
Value Added	31,334,326	8,598,854	1,570,476	41,503,655	1.32
Jobs	43	71	36	150	3.49

* 50 MGY plant

Plant B Ethanol Impacts: No Local Ownership*					
	Direct	Indirect	Induced	Total	Multiplier
Output	215,631,008	32,039,446	2,090,568	249,761,022	1.16
Value Added	30,832,502	11,378,242	1,170,624	43,381,368	1.41
Jobs	43	119	28	189	4.40
Plant B Ethanol Impacts: 27 Percent Local Ownership					
	Direct	Indirect	Induced	Total	
Output	215,631,008	32,039,446	5,370,682	253,041,136	1.17
Value Added	30,832,502	11,378,242	3,180,471	45,391,215	1.47
Jobs	43	119	75	236	5.49

* 95 MGY plant

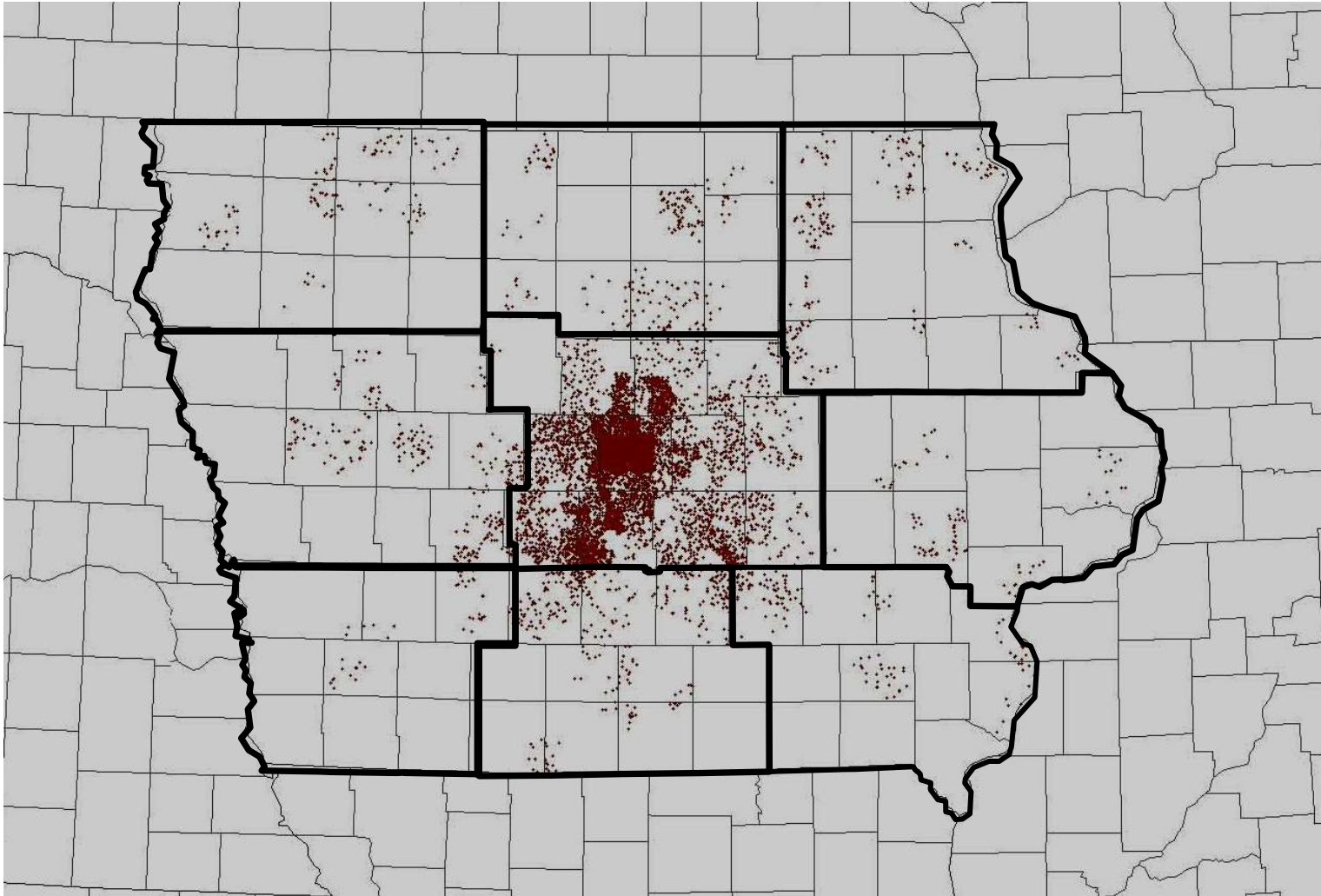
Plant C: 63% Local Ownership



Plant C Ethanol Impacts: No Local Ownership*					
	Direct	Indirect	Induced	Total	Multiplier
Output	123,394,584	21,260,142	2,883,450	147,538,176	1.20
Value Added	17,401,964	7,829,329	1,606,048	26,837,341	1.54
Jobs	35	100	40	175	5.01
Plant C Ethanol Impacts: 63 Percent Ownership					
	Direct	Indirect	Induced	Total	
Output	123,394,584	21,260,142	8,075,354	152,730,080	1.24
Value Added	17,401,964	7,829,329	4,769,388	30,000,681	1.72
Jobs	35	100	120	255	7.28

* 52 MGY plant

Plant D: 73% Local Ownership



Plant D Ethanol Impacts: No Local Ownership*					
	Direct	Indirect	Induced	Total	Multiplier
Output	113,490,000	37,175,182	7,685,206	158,350,388	1.40
Value Added	28,560,466	16,585,715	4,731,329	49,877,511	1.75
Jobs	40	136	90	265	6.63
Plant D Ethanol Impacts: 73 Percent Local Ownership					
	Direct	Indirect	Induced	Total	Multiplier
Output	113,490,000	37,175,182	12,169,428	162,834,610	1.43
Value Added	28,560,466	16,585,715	7,530,687	52,676,868	1.84
Jobs	40	136	143	318	7.95

* 50 MGY plant

Summary

- Higher local ownership levels yields higher economic impacts during a period where returns are strong
- Dynamics NOT covered in this research
 - Changes in returns to farmers who produce corn
 - Changes in returns to other users of corn
 - Down-stream economic activity that might accumulate to blenders and distributors
 - Local government fiscal impacts
 - Net regional outcomes in light of all associated production subsidies at local, state, and federal government levels



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