APPENDIX B
DETAILED REGRESSION RESULTS—ANALYSIS OF BID PRICES

Table B-1: Regression analysis of low bids in USDA all-purpose flour auctions

Variable	Coefficient	t-statistic
Wheat price variables		
Cash price, bid month	0.7874	96.34
Month ahead change	.1637	9.78
Month behind change	-.7697	38.65
Product characteristics		
10 lb. bag (Base is 5)	-.0180	6.02
50 lb. bag	-.0469	14.26
100 lb. bag	-.0581	3.72
Bleached	.0190	2.67
Auction characteristics		
Truckloads in order	.0006	0.57
Monthly volume, FSA flour	-.6445	14.93
Monthly volume, PL480	-.3412	14.77
(FSA volume)2	.0094	6.82
(PL480)2	.0003	4.10
FSA volume*PL480	.0212	14.40
Total orders at location	.0001	0.09
One bidder (base is three)	.0815	20.76
Two bidders	.0123	4.38
Four bidders	-.0163	6.14
Five bidders	-.0248	7.94
Six bidders	-.0178	4.54
Seven or more bidders	-.0266	5.49
Bid month		
February (January is base)	- .0179	4.14
March	.0456	10.19
April	.0254	4.92
May	.0390	7.68
June	.0907	13.73
July	.0184	3.94
August	-.0011	0.25
September	.0589	12.97
October	.0372	6.22
November	.0542	10.99
December	.0235	5.08
Summary statistics		
Number of observations	5,726	
R2	.80	
Dependent variable mean	2.6183	
Root mean square error	.0636	

Notes: Dependent variable is natural logarithm of winning bid price. Wheat prices, the number of orders at a location, and monthly volume are also expressed in natural logarithms, and truckloads variable takes on values from 1 to 5. All other variables are dichotomous, taking values of zero or one. Model also includes 48 separate State effects. Data consists of shipments to contiguous 48 States.

Table B-2: Regression analysis of low bids in USDA bakery flour auctions

Variable	Coefficient	t-statistic
Wheat price variables		
Cash price, bid month	.7019	47.90
Month ahead change	.1862	5.15
Month behind change	-.7622	21.81
Product characteristics		
50-lb. bag (base is bulk)	.1204	14.54
100-lb. bag	.0970	18.20
Bleached	-.0117	2.71
Hrth	.0763	14.44
Auction characteristics		
Quantity in order	-.0049	1.43
Monthly volume of FSA flour	.1619	3.01
Monthly volume, PL480 flour	.0574	2.92
(FSA flour volume)2	-.0046	2.66
(PL480 flour volume)2	-.0011	6.91
FSA volume*PL480 volume	-.0025	1.78
Total orders at location	-.0084	3.68
Transport mode not truck	.0118	2.17
One bidder (base is three)	.0789	14.87
Two bidders	.0221	4.83
Four bidders	-.0083	1.12
Five bidders	-.0039	0.36
Bid month		
February (January is base)	-.0030	1.12
March	-.0023	0.30
April	-.0215	2.79
May	-.0447	5.32
June	-.0155	1.70
July	-.0619	4.29
August	-.0141	0.92
September	.0662	7.81
October	-.0371	3.68
November	-.0220	1.90
December	-.0199	2.00
Summary statistics		
Number of observations	1,711	
R2	.82	
Dependent variable mean	2.599	
Root mean square error	.0643	

Notes: Dependent variable is natural logarithm of winning bid price. Wheat prices, the number of orders at a location, and monthly volume are also expressed in natural logarithms, and truckloads variable takes on values from 1 to 5. All other variables are dichotomous, taking values of zero or one. Model also includes 48 separate State effects.

Table B-3: Regression analysis of low bids in USDA pasta auctions

Variable	Coefficient	t-statistic
Wheat price variables		
Durum cash price, bid month	.3351	55.63
Month ahead change	.0071	0.40
Month behind change	-.3099	16.59
Product characteristics		
Spaghetti 2 lb. (base is 20 lb. spaghetti)	.0393	9.90
Macaroni, 20 lb.	.0136	4.88
Macaroni, 1 lb.	.0925	26.90
Rotini, 20 lb.	.0780	23.75
Auction characteristics		
Truckloads in order	-.0098	2.31
Monthly volume, FSA pasta	-.0681	17.90
Total orders at location	-.0024	2.09
Small business bidder	.0178	7.23
One bidder (base is 3)	.0620	19.70
Two bidders	.0237	9.08
Four bidders	-.0168	5.05
Five or more bidders	-.0419	5.55
Bid month		
February (January is base)	.0107	2.08
March	-.0192	3.56
April	-.0079	1.38
May	-.0027	0.46
June	-.0305	5.14
July	.0248	4.60
August	.0219	3.98
September	.0532	9.60
October	-.0150	2.67
November	.0306	5.41
December	-.0119	2.16
Summary statistics		
Number of observations	4,487	
R2	.764	
Dependent variable mean	3.3333	
Root mean square error	0.0649	

Notes: Dependent variable is natural logarithm of winning bid price. Wheat prices, the number of orders at a location, and monthly volume are also expressed in natural logarithms, and truckloads variable takes on values from 1 to 5. All other variables are dichotomous, taking values of zero or one. Model also includes 48 separate State effects.

Table B-4: Regression analysis of low bids in USDA vegetable oil auctions

Variable	Coefficient	t-statistic
Agricultural price variables		
Soybean oil cash price, bid month	.4869	73.98
Month ahead change	.1313	14.58
Month behind change	-.1848	21.90
Cottonseed oil cash price, bid month	.3673	64.30
Month ahead change	.1810	17.13
Month behind change	-.2305	20.50
Product characteristics		
Vegetable oil, 48 oz. (1 gal. is base)	.2967	65.64
Vegetable oil, bulk	-.2479	104.02
Shortening, 3 lb.	.1818	123.27
Shortening, 50 lb.	-.0214	6.80
Shortening, 1 gal	.0474	25.98
Auction characteristics		
Truckloads in order	-.0048	3.18
Total orders at location	-.0002	0.28
Monthly volume, FSA	-.1569	3.27
volume squared	.0113	8.71
Monthly volume, PL480	-.2617	5.32
volume squared	.0125	10.53
PL480 volume * FSA volume	-.0103	4.91
Small business winner	-.0131	8.47
One bidder (base is 3)	.0554	25.76
Two bidders	.0085	6.32
Four bidders	-.0132	5.80
Five or more bidders	-.0226	5.77
Month		
February (January is base)	.0014	0.41
March	-.0460	13.50
April	-.0102	2.88
May	-.0364	9.07
June	-.0366	10.40
July	-.0426	12.70
August	-.0447	13.13
September	-.0664	20.36
October	-.0593	18.53
November	-.0435	14.12
December	-.0264	8.05
Summary statistics		
Number of observations	7,152	
R2	.940	
Dependent variable mean	-.9808	
Root mean square error	.0423	

Notes: Dependent variable is natural logarithm of winning bid price. Oil prices, the number of orders at a location, and volumes are in natural logarithms, and truckloads variable takes on values from 1 to 5. All other variables are dichotomous. Model also includes 48 separate State effects.

Table B-5: Regression analysis of low bids in USDA peanut butter auctions

Variable	Coefficient	t-statistic
Peanut price variables		
Peanut cash price, bid month	0.5350	28.29
February adjustment	-0.6321	7.72
March adjustment	-0.4562	5.24
April adjustment	-0.6337	6.87
May adjustment	-1.0036	10.86
June adjustment	-1.5615	16.02
July adjustment	-2.1790	24.03
Product characteristics		
No. 10 can (base is 2 lb.)	-0.0136	7.98
Reduced fat, No. 10 can	0.3384	16.78
Auction characteristics		
Truckloads in order	-0.0004	0.18
Monthly volume, FSA peanut butter	0.0490	27.54
Total orders at location	-0.0032	3.72
Small business winner	-0.0095	5.31
Two bidders (base is 4)	-0.0254	1.53
Three bidders	0.0107	2.53
Five bidders	-0.0101	4.47
Six or more bidders	-0.0404	15.35
Month		
February (January is base)	-0.7679	7.64
March	-0.5517	5.18
April	-0.7720	6.85
May	-1.2288	10.87
June	-1.906	15.96
July	-2.6660	23.94
August	-0.0172	4.40
September	-0.0078	1.96
October	0.0294	6.39
November	0.0447	10.42
December	0.0560	12.60
Summary statistics		
Number of observations	5,242	
R2	.544	
Dependent variable mean	-0.2446	
Root mean square error	0.0532	

Notes: Dependent variable is natural logarithm of winning bid price. Peanut prices, the number of orders at a location, and volumes are in natural logarithms, and truckloads variable takes on values from 1 to 5. All other variables are dichotomous. Model also includes 48 separate State effects. Because peanut prices only are available for marketing year months, model includes last quoted monthly price of marketing year for off-season prices, and then allows the coefficient on that price to vary with the off-season month (the adjustor variables).