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ESTIMATES OF FOB PRICES FOR NFC AND FCOJ, AND RETAIL-FOB PRICE MARGIN RELATIONSHIPS

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Estimates of FOB Prices for NFC and FCOJ, and Retail-FOB Price Margin Relationships

This report provides estimates of FOB prices for frozen concentrated orange juice (FCOJ) and not from concentrate orange juice (NFC), and examines associated retail-FOB margins for these product forms. The FOB prices are based on estimated grower delivered-in prices for Florida oranges utilized for FCOJ and NFC, separately. Corresponding FOB prices are then constructed by adding processing/storage margins to the delivered-in price estimates. Prices for imported FCOJ and NFC are also considered. FOB-Florida prices for imports are estimated by adding margins to actual FOB, port-of-origin import prices. Florida-import weighted average FOB prices for NCOJ and NFC are then estimated. Finally, the weighted average price estimates, along with retail prices, are used to explore retail-FOB price margins.

Florida delivered-in prices for all oranges are shown Table 1. The National Agricultural Statistics Service (NASS) reports a final price which is a weighted average of prices for three Florida Citrus Processors Association (FCPA) categories for fruit utilization---A: final-priced fruit; B: intermediate-priced fruit; and C: non-priced fruit. As implied the price for category A is final while the prices for the other two categories must be estimated. The Florida Agricultural Statistics Service (FASS) estimates the final prices for the intermediate-and non-price fruit categories (B and C), based on a survey of participation returns; and calculates the weighted average final prices reported by NASS. Estimates of the final prices for fruit categories B and C, however, are not reported separately. An average price for these categories is estimated here based on the overall weighted average price for all three categories reported by NASS and the price for the final-priced fruit category (A) reported by FCPA, along with the boxes utilized by category.

The delivered-in prices for all oranges are used next to estimate corresponding prices for FCOJ and NFC (Table 2). The NFC price is assumed to be the price for the participation and intermediate category (B and C), except when the boxes utilized for NFC exceed the boxes in this category in which case price for the excess boxes is assumed to be that for the FCPA final priced fruit category (A). A weighted average price for the two categories is then calculated.

NFC and FCOJ processing costs and NFC storage costs (Muraro) are added to the delivered-in prices to obtain FOB prices (Table 3). The FOB price for bulk FCOJ reported by Florida Citrus Mutual (FCM) is shown in the last column of the table. The correlation between the FCM and constructed prices for FCOJ is relatively highly (.88), although the FCM price differs from the corresponding constructed price by .4% to 31.4% in absolute value.

Import prices for NFC and FCOJ can be calculated from U.S. Department of Commerce data (Table 4). These prices are FOB, port-of-origin. Transfer costs (tariffs, ocean freight and other costs (Muraro)) can be added to these prices to obtain FOB Florida prices (Table 5).

Weighted average FOB prices for Florida and imported product are then calculated. The prices are intended to reflect the cost of product sold in the domestic and export markets. Presumed domestic and export consumption can be estimated as beginning inventory (I_{t-1}) plus U.S. production (Q_t) plus imports minus ending inventory (I_t) (Table 6). These estimates are made for NFC and FCOJ, separately, based on

some assumptions. First, it is assumed U.S. NFC inventories are primarily held in Florida. Second, U.S. orange juice production outside Florida was assumed to be half NFC and half FCOJ. Good estimates of U.S. exports for NFC and FCOJ, separately, were not available to estimate presumed domestic and export consumption separately. Table 7 shows the weighted average FOB prices by product form.

Retail-FOB price margins for FCOJ, NFC and RECON are calculated next (Table 8). The retail prices are for grocery stores doing \$2 million plus annual business. The margins for retail FCOJ and RECON are the retail prices for these forms minus the weighted average FOB price for FCOJ, while the margin for NFC is the retail price for NFC minus the weighted average FOB price for NFC. Figure 1 shows that these margins have generally increased over time.

What underlies these margin trends? Three factors are considered here---1) increases in costs to transfer OJ from the FOB to retail levels; 2) increases in retail concentration and the possibility of retailers obtaining lower prices from suppliers, and 3) the level of retail promotion involving price discounts. The consumer price index (CPI) is used to examine the possible impacts of increased transfer costs; grocery store concentration ratios (Monthly Retail Trade Survey, Census Bureau; Company Annual reports) are used to examine the possible impacts of retailer concentration; and percentages of gallons on deal are used to examine the impacts of promotions.

Figure 2 shows the CPI and concentration ratios over time; concentration ratios are also shown in Table 9. The figure indicates there is a relatively high level of correlation between the CPI and the concentration ratios. The simple correlation between the CPI and the 4 (8, 20) firm concentration ratio was .946 (.955, .963). In regression analysis, this high correlation makes it difficult to estimate separate impacts for these factors.

Figure 3 shows the trends in the percentage of total dollar sales on deal (feature and/or display). Price discounts are often offered with these promotions.

Alternative regression relationships where the dependent variable was the retail-FOB price margin for a product form and the independent variables were the CPI, the 4 firm concentration ratio (c4) and the percentage of gallon sales on deal (z1, z2 and z3 for FCOJ, NFC and RECON, respectively) were estimated (Table 10). The regressions of the margins on only the CPI suggest this factor has a significant positive impact on the margin, a not surprising result given Figures 1 and 2 indicate the margins and the CPI both trend upward over time. The regressions of the margins on only the 4 firm concentration ratio are similar, given the high correlation coefficients between the CPI and the concentration ratios noted above. In these regressions, the concentration ratio for the 2004-05 season, the last reported value, was assumed for subsequent seasons. The regressions of the margins on the CPI and the deal variables together suggest that the deal variables explained little of the movement in the margins. The strongest relationships with respect to deals was that for NFC which suggests that deals for this product form may have a negative impact on the margin. Finally, the regressions of the margins on the CPI, concentration ratio and the deal variables provide example of the impact of multicollinearity. The coefficients on the CPI and the concentration ratio across the regressions by product are mixed in sign and significance indicating the individual effects of these variables cannot be determined with confidence. The possibility that NFC dealing negatively impacts the NFC margin continues to hold.

In summary, FOB prices for FCOJ and NFC were constructed, based on available data and some assumptions, and used to calculate retail-FOB price margins by product form for grocery stores doing \$2 million plus business. These margins tend to increase over time, and three factors---the CPI, the 4 firm concentration ratio for grocery stores, and the percentage of sales on deal---were considered in trying to explain the margin trends. The CPI and concentration ratio are both strongly related to the margin trends, but due to a relatively high degree of correlation between these explanatory variables their individual impacts could not be determined with confidence. The percentage of product on deal was generally insignificant in explaining the variation in the margins, but the results for NFC suggest dealing may have some negative impact on the margin for this product form. Overall, these results suggest the increase in margins over time may be due in part to increased costs as reflected by the CPI, but the collinearity between the CPI and the concentration variables weaken this conclusion. The possibility that increased market power by the grocery stores or some combination of this possibility and the increased costs reflected by the CPI cannot be ruled out as an underlying explanation for the margin increases. The amount of dealing cannot be ruled out entirely either as a contributing factor in explaining the margin for NFC.

Table 1. Estimated Processed Delivered-In Prices for All Florida Oranges (Early & Midseason and Valencia).

Season	NASS Final PHD* (Del-In) Price	FCOJ Yield**	NASS Final PHD* (Del-In) Price	FCPA Price for Final Priced, Combined Fruit	Estimated Average Participation & Intermediate Price	FCPA Utilization (FCOJ+COJ)		
						Total Mil. Boxes	FCPA Final Priced, Combined Mil. Boxes	Other: Intermediate + Non-Priced Mil. Boxes
	\$/Box	PS/Box	\$/PS	\$/PS	\$/PS			
1990-91	7.56	5.876	1.29	1.43	1.20	104.10	39.43	64.67
1991-92	7.59	6.143	1.24	1.31	1.19	93.90	32.40	61.50
1992-93	5.36	6.553	0.82	0.68	0.87	132.20	35.60	96.60
1993-94	5.98	6.530	0.92	0.93	0.91	167.50	40.08	127.42
1994-95	5.52	6.122	0.90	0.88	0.91	198.40	48.90	149.50
1995-96	6.42	6.144	1.04	1.07	1.04	195.30	49.64	145.66
1996-97	5.41	6.266	0.86	0.91	0.85	219.70	56.29	163.41
1997-98	5.48	6.313	0.87	0.87	0.87	235.60	59.21	176.39
1998-99	6.48	6.502	1.00	1.07	0.98	177.40	39.25	138.15
1999-00	5.52	6.283	0.88	0.91	0.87	224.30	49.14	175.16
2000-01	5.13	6.323	0.81	0.76	0.82	213.64	35.97	177.67
2001-02	5.48	6.245	0.88	0.84	0.89	221.84	40.49	181.35
2002-03	5.25	5.986	0.88	0.94	0.86	194.58	38.03	156.54
2003-04	4.95	6.071	0.82	0.71	0.85	233.12	57.54	175.58
2004-05	5.54	6.234	0.89	0.91	0.88	142.84	43.13	99.70
2005-06	7.99	6.365	1.26	1.33	1.21	142.17	54.03	88.13
2006-07	12.80	6.925	1.85	2.11	1.63	122.52	56.23	66.29
2007-08	9.22	6.612	1.39	1.39	1.40	165.53	56.37	109.15
2008-09p	8.05	6.543	1.23	1.06	1.28	155.38	35.52	119.86

p=Preliminary; excludes participation returns.

* Packing House Door.

** Test House

Table 2. Estimated Delivered-In Prices for NFC and FCOJ.

Season	Estimated NFC Utilization and Prices*						Estimated FCOJ Utilization and Prices					
	Total	Priced Fruit: FCPA Final Priced, Combined	Non-Priced Fruit, Including Intermediate	Priced Fruit: FCPA Final Priced, Combined	Non-Priced Fruit, Including Intermediate	Del-In Price for NFC	Total	Priced Fruit: FCPA Final Priced, Combined	Non-Priced Fruit, Including Intermediate	Priced Fruit: FCPA Final Priced, Combined	Non-Priced Fruit, Including Intermediate	Del-In Price for FCOJ
	Mil. Boxes	Mil. Boxes	Mil. Boxes	\$/PS	\$/PS	\$/PS	Mil. Boxes	Mil. Boxes	Mil. Boxes	\$/PS	\$/PS	\$/PS
1990-91	38.2	0.0	38.2	1.43	1.20	1.20	65.90	39.43	26.47	1.43	1.20	1.34
1991-92	37.0	0.0	37.0	1.31	1.19	1.19	56.90	32.40	24.50	1.31	1.19	1.26
1992-93	47.3	0.0	47.3	0.68	0.87	0.87	84.90	35.60	49.30	0.68	0.87	0.79
1993-94	51.0	0.0	51.0	0.93	0.91	0.91	116.50	40.08	76.42	0.93	0.91	0.92
1994-95	53.4	0.0	53.4	0.88	0.91	0.91	145.00	48.90	96.10	0.88	0.91	0.90
1995-96	62.1	0.0	62.1	1.07	1.04	1.04	133.15	49.64	83.51	1.07	1.04	1.05
1996-97	65.7	0.0	65.7	0.91	0.85	0.85	154.00	56.29	97.71	0.91	0.85	0.87
1997-98	74.8	0.0	74.8	0.87	0.87	0.87	160.80	59.21	101.59	0.87	0.87	0.87
1998-99	80.1	0.0	80.1	1.07	0.98	0.98	97.30	39.25	58.05	1.07	0.98	1.01
1999-00	90.1	0.0	90.1	0.91	0.87	0.87	134.20	49.14	85.06	0.91	0.87	0.88
2000-01	89.6	0.0	89.6	0.76	0.82	0.82	124.04	35.97	88.07	0.76	0.82	0.80
2001-02	85.9	0.0	85.9	0.84	0.89	0.89	135.97	40.49	95.48	0.84	0.89	0.87
2002-03	92.5	0.0	92.5	0.94	0.86	0.86	102.07	38.03	64.04	0.94	0.86	0.89
2003-04	93.4	0.0	93.4	0.71	0.85	0.85	139.73	57.54	82.18	0.71	0.85	0.79
2004-05	88.5	0.0	88.5	0.91	0.88	0.88	54.32	43.13	11.19	0.91	0.88	0.90
2005-06	90.2	2.0	88.1	1.33	1.21	1.21	52.00	52.00	0.00	1.33	1.21	1.33
2006-07	75.2	8.9	66.3	2.11	1.63	1.69	47.31	47.31	0.00	2.11	1.63	2.11
2007-08	85.1	0.0	85.1	1.39	1.40	1.40	80.42	56.37	24.04	1.39	1.40	1.39
2008-09p	82.8	0.0	82.8	1.06	1.28	1.28	72.57	35.52	37.06	1.06	1.28	1.17

*In 1990-91, 1991-92 and 1992-93, NFC includes utilization by non-members of FCPA.

Table 3. Estimated FOB Prices for NFC and FCOJ.

Season	Del.-In Florida Fruit		Processing Cost (Bulk)	Bulk Juice Storage	Processing Cost (Bulk)	Constructed FOB Florida Fruit		Bulk FCOJ Florida Citrus Mutual
	NFC	FCOJ	NFC	NFC	FCOJ	NFC	FCOJ	FCOJ
	\$/ps	\$/ps	\$/ga.	\$/ga.	\$/ps	\$/ps	\$/ps	\$/ps
1990-91	1.20	1.34	0.2093	0.1667	0.2034	1.57	1.54	1.31
1991-92	1.19	1.26	0.2093	0.1667	0.2034	1.56	1.47	1.53
1992-93	0.87	0.79	0.2093	0.1667	0.2034	1.23	0.99	1.07
1993-94	0.91	0.92	0.2093	0.1667	0.2034	1.28	1.12	1.28
1994-95	0.91	0.90	0.2093	0.1667	0.2034	1.27	1.10	1.21
1995-96	1.04	1.05	0.2093	0.1667	0.2034	1.40	1.25	1.43
1996-97	0.85	0.87	0.2093	0.1667	0.2034	1.21	1.07	1.07
1997-98	0.87	0.87	0.2093	0.1667	0.2034	1.23	1.07	1.19
1998-99	0.98	1.01	0.2093	0.1667	0.2034	1.34	1.22	1.29
1999-00	0.87	0.88	0.2093	0.1667	0.2034	1.24	1.09	1.06
2000-01	0.82	0.80	0.2093	0.1667	0.2034	1.19	1.01	0.90
2001-02	0.89	0.87	0.2093	0.1667	0.2034	1.25	1.08	1.05
2002-03	0.86	0.89	0.2093	0.1667	0.2034	1.23	1.09	1.08
2003-04	0.85	0.79	0.2093	0.1667	0.2034	1.22	1.00	0.84
2004-05	0.88	0.90	0.2093	0.1667	0.2034	1.24	1.11	0.99
2005-06	1.21	1.33	0.2093	0.1667	0.2034	1.57	1.54	1.52
2006-07	1.69	2.11	0.2093	0.1667	0.2034	2.05	2.31	2.08
2007-08	1.40	1.39	0.2093	0.1667	0.2034	1.76	1.59	1.45
2008-09	1.28	1.17	0.2093	0.1667	0.2034	1.64	1.38	0.94

Table 4. U.S. Department of Commerce NFC and FCOJ Import Prices.

Season	OJ Import Gallons and Dollar						FOB Foreign Port		
	U.S. OJ Imports		U.S. NFC OJ Imports		FCOJ OJ Imports		Total	NFC	FCOJ
	mil SSE ga.	mil \$	mil SSE ga.	mil \$	mil SSE ga.	mil \$	\$/SSE ga.	\$/SSE ga.	\$/SSE ga.
1990-91	319.780	287.032	3.157	4.235	316.623	282.797	0.90	1.34	0.89
1991-92	285.423	310.164	1.159	2.055	284.264	308.109	1.09	1.77	1.08
1992-93	298.308	195.186	0.752	1.189	297.556	193.997	0.65	1.58	0.65
1993-94	424.901	320.137	3.364	5.186	421.537	314.951	0.75	1.54	0.75
1994-95	240.400	191.028	4.910	5.129	235.490	185.899	0.79	1.04	0.79
1995-96	220.956	223.771	3.697	5.313	217.259	218.458	1.01	1.44	1.01
1996-97	294.944	240.060	3.452	4.548	291.492	235.512	0.81	1.32	0.81
1997-98	280.803	211.366	1.493	2.016	279.310	209.350	0.75	1.35	0.75
1998-99	350.233	285.927	3.088	4.928	347.145	280.999	0.82	1.60	0.81
1999-00	339.362	243.386	6.398	8.631	332.964	234.755	0.72	1.35	0.71
2000-01	257.687	185.031	3.519	4.433	254.168	180.598	0.72	1.26	0.71
2001-02	188.818	158.966	7.302	9.767	181.516	149.199	0.84	1.34	0.82
2002-03	290.938	239.797	22.094	28.982	268.844	210.815	0.82	1.31	0.78
2003-04	222.343	147.390	13.355	13.968	208.988	133.422	0.66	1.05	0.64
2004-05	357.494	257.047	25.308	29.585	332.186	227.462	0.72	1.17	0.68
2005-06	298.827	278.993	27.171	30.114	271.656	248.879	0.93	1.11	0.92
2006-07	399.215	580.561	50.746	55.834	348.469	524.727	1.45	1.10	1.51
2007-08	405.502	498.763	50.229	62.773	355.273	435.990	1.23	1.25	1.23
2008-09	317.385	330.417	63.307	82.831	254.078	247.586	1.04	1.31	0.97

Table 5. Estimated FOB Prices for NFC and FCOJ Imports.

Season	U.S. Tariff		Ocean Freight			USDA Inspection + Other Costs			FOB Imports, Florida			
	NFC	FCOJ	NFC	FCOJ	FCOJ	NFC	FCOJ	FCOJ	NFC	FCOJ	NFC	FCOJ
	\$/SSE ga.	\$/SSE ga.	\$/ga.	\$/ps	\$/ga.	\$/ga.	\$/ps	\$/ga.	\$/ga.	\$/ga.	\$/ps	\$/ps
1990-91	0.2070	0.3502	0.4927	0.0716	0.0737	0.0679	0.0285	0.0293	2.11	1.35	2.05	1.31
1991-92	0.2070	0.3502	0.4927	0.0716	0.0737	0.0679	0.0285	0.0293	2.54	1.54	2.47	1.49
1992-93	0.2070	0.3502	0.4927	0.0716	0.0737	0.0679	0.0285	0.0293	2.35	1.11	2.28	1.07
1993-94	0.2070	0.3502	0.4927	0.0716	0.0737	0.0679	0.0285	0.0293	2.31	1.20	2.24	1.17
1994-95	0.1969	0.3415	0.4927	0.0716	0.0737	0.0679	0.0285	0.0293	1.80	1.23	1.75	1.20
1995-96	0.1893	0.3324	0.4927	0.0716	0.0737	0.0679	0.0285	0.0293	2.19	1.44	2.13	1.40
1996-97	0.1855	0.3237	0.4927	0.0716	0.0737	0.0679	0.0285	0.0293	2.06	1.23	2.01	1.20
1997-98	0.1817	0.3150	0.4927	0.0716	0.0737	0.0679	0.0285	0.0293	2.09	1.17	2.03	1.13
1998-99	0.1742	0.3059	0.4927	0.0716	0.0737	0.0679	0.0285	0.0293	2.33	1.22	2.26	1.18
1999-00	0.1704	0.2972	0.4927	0.0716	0.0737	0.0679	0.0285	0.0293	2.08	1.11	2.02	1.07
2000-01	0.1704	0.2972	0.4927	0.0716	0.0737	0.0679	0.0285	0.0293	1.99	1.11	1.93	1.08
2001-02	0.1704	0.2972	0.4927	0.0716	0.0737	0.0679	0.0285	0.0293	2.07	1.22	2.01	1.19
2002-03	0.1704	0.2972	0.4927	0.0716	0.0737	0.0679	0.0285	0.0293	2.04	1.18	1.99	1.15
2003-04	0.1704	0.2972	0.2521	0.0716	0.0737	0.0679	0.0285	0.0293	1.54	1.04	1.49	1.01
2004-05	0.1704	0.2972	0.2521	0.0716	0.0737	0.0679	0.0285	0.0293	1.66	1.08	1.61	1.05
2005-06	0.1704	0.2972	0.2521	0.0716	0.0737	0.0679	0.0285	0.0293	1.60	1.32	1.55	1.28
2006-07	0.1704	0.2972	0.2521	0.0716	0.0737	0.0679	0.0285	0.0293	1.59	1.91	1.55	1.85
2007-08	0.1704	0.2972	0.2521	0.0716	0.0737	0.0679	0.0285	0.0293	1.74	1.63	1.69	1.58
2008-09	0.1704	0.2972	0.2521	0.0716	0.0737	0.0679	0.0285	0.0293	1.80	1.37	1.75	1.34

Table 6. Presumed Domestic and Export Consumption for NFC and FCOJ.

Season	Begin Inv.			Florida Production			Other U.S. Production			U.S. Imports			Ending Inv.			U.S. Presumed Cons. + Exports		
	NFC	FCOJ	Total	NFC	FCOJ	Total	NFC:	FCOJ:	Total	NFC	FCOJ	Total	NFC*	FCOJ**	Total	NFC	FCOJ	Total
	*	**																
million sse gallons																		
1990-91	47	282	282	227	615	841	18	18	37	3	317	320	61	239	300	234	992	1179
1991-92	61	300	300	221	590	811	52	52	103	1	284	285	60	206	265	276	1020	1235
1992-93	60	265	265	286	845	1131	34	34	69	1	298	298	78	300	379	302	1142	1384
1993-94	78	300	379	321	737	1058	35	35	69	3	422	425	89	350	439	348	1143	1491
1994-95	89	350	439	330	876	1206	23	23	47	5	235	240	79	331	410	369	1155	1523
1995-96	79	331	410	395	819	1213	27	27	53	4	217	221	108	286	395	395	1107	1502
1996-97	108	286	395	411	978	1388	26	26	51	3	291	295	119	427	546	429	1154	1583
1997-98	119	427	546	462	1025	1487	29	29	59	1	279	281	84	546	630	528	1214	1743
1998-99	84	546	630	513	642	1155	36	36	71	3	347	350	87	425	512	549	1146	1695
1999-00	87	425	512	584	839	1422	44	44	89	6	333	339	163	455	618	558	1186	1744
2000-01	163	455	618	565	792	1357	21	21	42	4	254	258	152	518	670	601	1004	1604
2001-02	152	518	670	547	869	1415	16	16	32	7	182	189	154	512	666	568	1073	1641
2002-03	154	512	666	575	634	1208	27	27	53	22	269	291	180	501	681	598	940	1538
2003-04	180	501	681	566	882	1448	14	14	28	13	209	222	182	671	853	592	934	1526
2004-05	182	671	853	564	347	911	33	33	67	25	332	357	167	507	675	637	876	1513
2005-06	167	507	675	582	342	924	36	36	72	27	272	299	175	317	492	638	840	1478
2006-07	175	317	492	497	319	816	40	40	80	51	348	399	152	253	406	611	771	1382
2007-08	152	253	406	560	546	1106	32	32	64	50	355	406	188	490	677	607	697	1304
2008-09	188	490	677	546	488	1034	17	17	34	63	254	317	202	497	699	612	752	1364

* Florida inventories as reported by FCPA, except for 1990-91 thru 1992-93 when NFC inventories were not reported; for these years NFC inventories were estimated as 27% of production.

** Florida (FCPA) thru 2002-03; Cold Storage from 2003-04 & after.

Table 7. Weighted Average FOB Prices for Florida and Import NFC and FCOJ.

Season	Constructed FOB Prices, Except FCM FCOJ FOB				Valued at Florida Prices in Previous Season / 1.029		Valued at Florida Prices in Current Season/ 1.029		Valued at Import Prices in Current Season/ 1.029		Constructed Weighted FOB Values/ 1.029		Volume		Constructed Weighted FOB Prices	
	NFC Fl	NFC Imports	FCOJ (FCM) Fl	FCOJ Imports	Begin Inv.		Florida & Other U.S. Production - Ending Inventory		U.S. Imports		Begin Inv. + Fl & Other U.S. Prod.		-Ending Inv. + U.S. Imports		NFC \$/ps	FCOJ \$/ps
					NFC	FCOJ	NFC	FCOJ	NFC	FCOJ	NFC	FCOJ				
	\$/ps	\$/ps	\$/ps	\$/ps	mil \$	mil \$	mil \$	mil \$	mil \$	mil \$	mil \$	mil \$	mil sse ga.	mil sse ga.		
1990-91	1.57	2.05	1.31	1.31	na	na	287	516	6	414	na	na	234	992	na	na
1991-92	1.56	2.47	1.53	1.49	96	393	333	667	3	425	431	1485	276	1020	1.57	1.46
1992-93	1.23	2.28	1.07	1.07	93	406	299	620	2	320	393	1345	302	1142	1.30	1.18
1993-94	1.28	2.24	1.28	1.17	97	321	340	539	8	492	444	1352	348	1143	1.28	1.18
1994-95	1.27	1.75	1.21	1.20	114	449	350	688	9	282	472	1419	369	1155	1.28	1.23
1995-96	1.40	2.13	1.43	1.40	100	400	438	799	8	304	547	1504	395	1107	1.38	1.36
1996-97	1.21	2.01	1.07	1.20	152	410	384	617	7	350	543	1376	429	1154	1.27	1.19
1997-98	1.23	2.03	1.19	1.13	144	457	502	605	3	317	650	1378	528	1214	1.23	1.14
1998-99	1.34	2.26	1.29	1.18	103	650	620	326	7	411	730	1387	549	1146	1.33	1.21
1999-00	1.24	2.02	1.06	1.07	116	548	574	454	13	358	704	1360	558	1186	1.26	1.15
2000-01	1.19	1.93	0.90	1.08	202	482	514	265	7	274	723	1022	601	1004	1.20	1.02
2001-02	1.25	2.01	1.05	1.19	181	466	511	392	15	216	707	1074	568	1073	1.24	1.00
2002-03	1.23	1.99	1.08	1.15	193	537	517	172	44	309	755	1019	598	940	1.26	1.08
2003-04	1.22	1.49	0.84	1.01	221	541	485	189	20	211	725	940	592	934	1.23	1.01
2004-05	1.24	1.61	0.99	1.05	221	564	535	0	41	350	797	807	637	876	1.25	0.92
2005-06	1.57	1.55	1.52	1.28	208	502	698	93	42	348	948	942	638	840	1.49	1.12
2006-07	2.05	1.55	2.08	1.85	276	481	789	221	78	645	1143	1348	611	771	1.87	1.75
2007-08	1.76	1.69	1.45	1.58	313	527	714	128	85	562	1112	1217	607	697	1.83	1.75
2008-09	1.64	1.75	0.94	1.34	331	710	594	8	111	339	1036	1057	612	752	1.69	1.41

Table 8. Retail FOB Price Margins.

Season	Constructed Weighted FOB Prices:		Retail OJ Prices \$2+ Million Stores			Retail-FOB Price Margins		
	Begin Inv. + FI & Other U.S. Prod. - Ending Inv. + U.S. Imports							
	NFC \$/ps	FCOJ \$/ps	FCOJ \$/PS	NFC \$/PS	RECON \$/PS	FCOJ \$/PS	NFC \$/PS	RECON \$/PS
1990-91	na	na	3.01	5.05	3.70	na	na	na
1991-92	1.57	1.46	3.01	5.08	3.72	1.55	3.52	2.26
1992-93	1.30	1.18	2.63	4.62	3.12	1.45	3.32	1.94
1993-94	1.28	1.18	2.66	4.47	3.10	1.47	3.20	1.91
1994-95	1.28	1.23	2.64	4.52	3.07	1.41	3.24	1.84
1995-96	1.38	1.36	2.82	4.63	3.27	1.47	3.25	1.91
1996-97	1.27	1.19	2.93	4.77	3.42	1.74	3.50	2.23
1997-98	1.23	1.14	2.81	4.63	3.36	1.68	3.40	2.23
1998-99	1.33	1.21	3.06	5.05	3.72	1.85	3.72	2.51
1999-00	1.26	1.15	3.17	5.30	3.79	2.02	4.03	2.64
2000-01	1.20	1.02	3.15	5.25	3.81	2.13	4.04	2.79
2001-02	1.24	1.00	3.19	5.13	3.78	2.19	3.89	2.78
2002-03	1.26	1.08	3.32	5.05	3.77	2.24	3.79	2.69
2003-04	1.23	1.01	3.30	4.97	3.65	2.30	3.74	2.65
2004-05	1.25	0.92	3.29	5.17	3.62	2.37	3.92	2.70
2005-06	1.49	1.12	3.47	5.34	3.91	2.35	3.85	2.78
2006-07	1.87	1.75	4.36	6.38	4.91	2.62	4.51	3.16
2007-08	1.83	1.75	4.67	6.61	4.94	2.93	4.78	3.19
2008-09	1.69	1.41	4.65	6.47	4.37	3.24	4.78	2.97

Table 9. U.S. Grocery Retailing Concentration, 1992-2005.

Year	Top 4	Top 8 <i>Percent</i>	Top 20
1992	16.8	26.4	39.2
1993	16.8	26.5	39.9
1994	16.7	26.1	41.1
1995	17.1	27.3	40.6
1996	17.5	28.7	42.2
1997	19.0	31.3	45.9
1998	28.0	39.0	50.3
1999	27.6	39.9	54.0
2000	28.8	42.6	54.7
2001	31.9	46.8	58.7
2002	29.8	44.4	56.2
2003	32.9	47.4	58.8
2004	33.8	46.7	58.8
2005	35.5	49.0	61.6

Sources: Monthly Retail Trade Survey, Census Bureau; Company annual reports; <http://www.census.gov/retail/>

Table 10. Regression Results Relating Retail-FOB Price Margins for FCOJ, NFC and RECON to Alternative Independent Variables.

Product Form	Independent Variable	Parameter Estimate	Standard Error	t Value	Pr > t	R-Square
FCOJ	Intercept	-1.686	0.264	-6.38	<.0001	0.927
	cpi	4.578	0.321	14.28	<.0001	
NFC	Intercept	0.614	0.422	1.45	0.1655	0.784
	cpi	3.903	0.512	7.62	<.0001	
RECON	Intercept	-0.327	0.340	-0.96	0.3508	0.805
	cpi	3.472	0.412	8.43	<.0001	
FCOJ	Intercept	0.417	0.229	1.82	0.0873	0.775
	c4	0.060	0.008	7.42	<.0001	
NFC	Intercept	2.429	0.270	8.98	<.0001	0.635
	c4	0.050	0.009	5.28	<.0001	
RECON	Intercept	1.135	0.158	7.19	<.0001	0.837
	c4	0.050	0.006	9.05	<.0001	
FCOJ	Intercept	-1.390	0.549	-2.53	0.023	0.929
	cpi	4.309	0.542	7.95	<.0001	
	z1	-0.351	0.565	-0.62	0.5441	
NFC	Intercept	0.980	0.487	2.01	0.0625	0.809
	cpi	3.975	0.500	7.94	<.0001	
	z2	-1.206	0.864	-1.40	0.1829	
RECON	Intercept	-0.472	0.385	-1.23	0.2388	0.824
	cpi	3.439	0.418	8.23	<.0001	
	z3	0.654	0.784	0.83	0.417	
FCOJ	Intercept	-1.436	0.804	-1.79	0.0956	0.929
	cpi	4.398	1.223	3.60	0.0029	
	c4	-0.001	0.014	-0.08	0.9357	
	z1	-0.330	0.640	-0.51	0.6146	
NFC	Intercept	1.491	1.004	1.48	0.1599	0.813
	cpi	3.052	1.657	1.84	0.0868	
	c4	0.015	0.025	0.59	0.5674	
	z2	-1.658	1.173	-1.41	0.1793	
RECON	Intercept	0.603	0.657	0.92	0.3743	0.862
	cpi	1.311	1.161	1.13	0.2778	
	c4	0.034	0.017	1.94	0.0726	
	z3	-0.329	0.880	-0.37	0.714	

Figure 1. Retail-FOB OJ Price Margins:
\$2 Million Plus Store Prices Minus Weighted Florida-Import FOB Prices

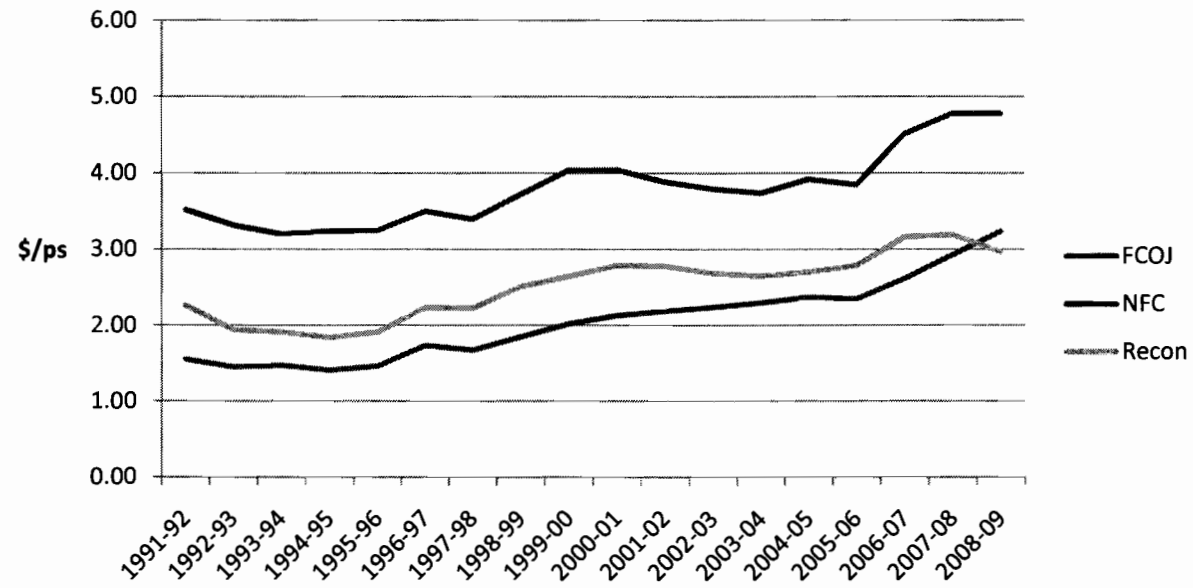


Figure 2. CPI and Grocery Concentration Ratios

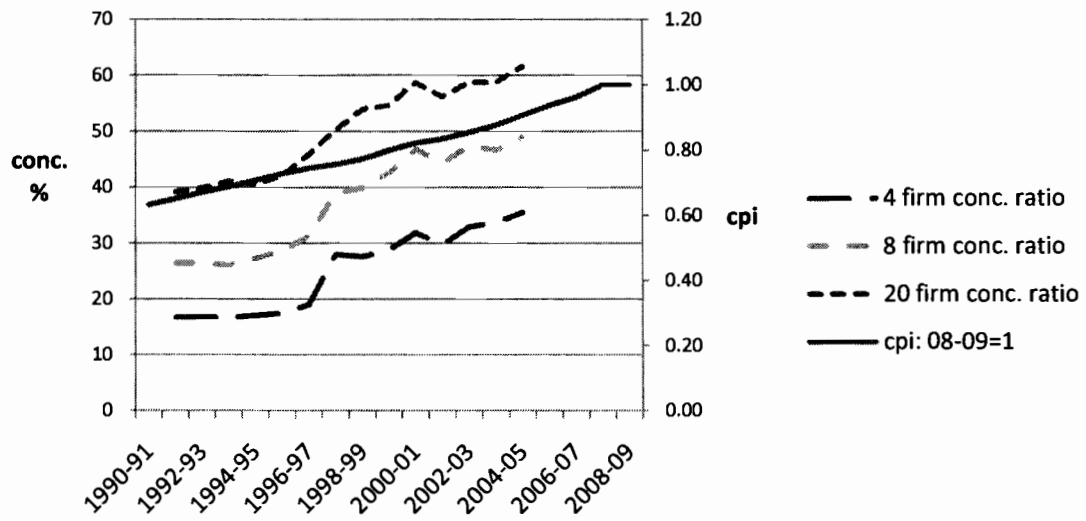


Figure 3. Percentage of Retail Dollar Sales on Deal

