Volume 3 Number 1, 2002/p. 159-162 esteyjournal.com

The Estey Centre Journal of
International Law and Trade Policy

Technical Annex

The Non-event of Produce and NAFTA

Richard Beilock
Professor of Food and Resource Economics, University of Florida
Ramon Espinel
Professor of Economics, Escuela Superior Politecnica del Litoral
Sikavas NaLampang,
Graduate Student in Food and Resource Economics, University of Florida

This document is the technical annex to the full paper "The Non-event of Produce and NAFTA" which is available separately.

Data and Approach

The Agricultural Marketing Service, USDA, produces two publications on fresh fruit and vegetable movements: *Fresh Fruit and Vegetable Shipments* and *Fresh Fruit and Vegetable Arrivals*, hereafter referred to, respectively, as *Shipments* and *Arrivals*. *Shipments* presents produce movements by state or country of origin. While *Shipments* does cover some intrastate movements, data collection in many states, such as Florida, is geared primarily for interstate movements. *Arrivals* presents the volumes of produce arriving in selected cities by state or country of origin. Regrettably, publication of *Arrivals* was suspended after 1998. For this reason, some of the analysis will be through 1998 and some through 2000. Employing these two data sets and a methodology developed and tested by Beilock and Portier, market shares, by volume, were examined for selected domestic and foreign producers. Market shares

were calculated for the entire United States as well as for regions, and by both year and quarter. The description of the production areas, regions, and commodities included in the study follows:

Production Areas:

Calizona (California and Arizona)	Florida
Texas	Other Domestic
Canada	Chile
Mexico	Other Imports

Regions (for consumption or disappearance):

Northeast	ME, NH, VT, MA, RI, CT, NY, NJ, DE, and PA
South	MD, WV, DC, VA, NC, SC, GA, FL, TN, AL, MS, AR, and LA
Lake	OH, KY, MI, IN, IL, MO, IA, WI, and MN
West	ND, SD, NE, KS, OK, TX, MT, WY, CO, NM, ID, UT, AZ, WA, OR, NV, and CA

Commodities:

Apples	Cabbage	Cantaloupes	Carrots
Celery	Cucumbers	Grapefruit	Grapes
Onions	Oranges	Peaches	Plums
Potatoes	Raspberries	Squash	Sweet Corn
Tomatoes	Watermelons	Other Produce	All Produce

Results

Exhibit A.1 Simple Correlations

Simple correlation between index of Mexico's market share of U.S. produce and those of:

Calizona	Florida	Texas
-.626***	-.539**	-.0632*

NOTE: ***, **, and * denote, respectively, significantly different from zero at the .01, .05 and .10 levels.

Table A.1 Regressions of Southern Tier Producers' Market Share Indices[1] for All Produce, 1985-2000

Independent Variables	Dependent Variable: Market Share Index of:		
	Calizona	Florida	Texas
Intercept	6933.43 **	-87.70	6388.21 *
	(2679.25)	(2553.38)	(3551.17)
Trend term (year)	-3.45 **	.10	-3.18 *
	(1.35)	(1.29)	(1.79)
Market share index of	.11	-.13	.12
Mexico	(.13)	(.12)	(.17)
Equation Statistics:			
F Statistic	9.53 ***	2.67	3.91 **
R^2	.59	.29	.38
Durbin-Watson D	2.21	2.54	1.80
Number of obs.	16	16	16

NOTES: 1. Market share indices, with 1985=100, were used instead of market shares to minimize problems related to having a censured dependent variable (i.e., one restricted between zero and 100).

***, **, and * denote, respectively, significantly different from zero at the .01, . 05 and .10 levels.

Standard errors are in parentheses.

Table A.2 Regressions of Mexico's Market Share Index for All Produce: 1985-2000

Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	88.67***	869.62	89.39***	89.81***	1194.78	664.61
	(6.83)	(6049.98)	(7.71)	(10.30)	(6400.96)	(6527.79)
Trend term (year)		-.39			-.55	-.29
		(3.04)			(3.22)	(3.29)
Peso/dollar index (1985=100)	.045 ***	.047 ***	.043 ***	.043 ***	.046 ***	.045 *
	(.0038)	(.014)	(.0080)	(.012)	(.015)	(.021)
NAFDUM[1]			3.90		4.49	
			(16.41)		(17.40)	
NAFTRND[2]				.76		.63
				(4.99)		(5.39)
Equation Statistics:						
F Statistic	137.62***	63.99***	64.20***	64.020***	39.62***	39.43***
R^2	.91	.91	.91	.91	.91	.91
Durbin-Watson D	2.32	2.33	2.33	2.32	2.34	2.33
Number of obs.	16	16	16	16	16	16

NOTES: 1. Equal to 1 if year=1994 or higher, zero otherwise.

2. Equal to zero if year=1993 or less. Equal to 1 if year=1994, 2 if year=1995, etc.

***, **, and * denote, respectively, significantly different from zero at the .01, .05 and .10 levels.

Standard errors are in parentheses.