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THE COMPETITIVENESS OF NEW YORK STATE ONIONS DURING THE 1987-1988 MARKETING YEAR

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ABSTRACT

Weekly data for the 1987-1988 marketing year of onion arrivals in seven eastern cities from eight states, Canada and Mexico, and other sources is analyzed. Market shares of each exporter in each importing city are presented and analyzed. Correlation coefficients of arrivals and shipments are utilized to quantify the competitive position of exporters--particularly New York State shippers. Significant differences in exporter shares are found between the importing cities as well as importer shares for each supply state. In addition, seasonal differences are identified for each importing city and exporting state. Some opportunities for market entrance and/or reallocation are identified for New York State shippers.

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By Enrique E. Figueroa

I. INTRODUCTION

The onion industry is a significant segment of New York State's agricultural sector. Between 1982 and 1987, New York State onion growers harvested, on average, 13,000 acres each year. The mean production from this acreage was 33,450 ten-thousand lb. units (or 6.69 million 50 lb. bags or 148,009 MT) and the average crop value was 42.1 million dollars.[1] Although these are significant numbers, New York State's market share of the national onion market has been eroding. This is partly due to a change in consumer preference toward a sweeter larger onion. The western states have a comparative advantage in producing a larger sweeter onion because the varieties that have been developed were developed for western state production. In addition, other supplying states of onions have promoted their products with the use of market order funds.

Nationally, New York State produces 9-percent of total summer storage onion production and 8-percent of total U.S. onion production. Over the last three years, national onion production has averaged 438,137 ten-thousand lb. units (or 87.63 million 50 lb. bags, or 1.94 million MT) and has been slightly increasing. Approximately 85-percent of the U.S. onion production is summer storage onion production while the remaining 15-percent is spring onion production. California is the largest producer of onions, but most California onion production is non-storage and is primarily utilized in the processing market. Other states with significant national market shares are: Idaho, Oregon, Texas (primarily non-storage), Colorado, Washington, and Michigan.

New York State produces summer storage hybrid yellow-globe onions. Orange County produces 55-percent of total state production. New York State onions are generally harvested in August and September and marketed through the following April. Except for negligible quantities, all New York onions are sold east of the Mississippi River. New York onions are sold as large or medium/repacker grade onions. The most common packaging unit is--'US #1, 65-70% 2" or larger in 50 lb. mesh bags'. For this particular type of onion, New York's main competitors are Michigan and Canada, but it is unclear whether consumers segment demand by type of yellow onion. New York State onions are sold for fresh market consumption.

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[1] In a typical marketing year, 13.5-percent of production is not sold because of shrinkage and waste.

Western states primarily market jumbo yellow Spanish hybrid onions while southwestern states (and Mexico) produce jumbo grano or granex onions. Many of the yellow Spanish onions are sweet Spanish onions and these sweeter onions have been commanding a larger market share. As will be seen later in this report, each producing region markets their onions during particular time periods of the year.

The New York State onion industry is interested in having an understanding of the national onion market and in particular, the competitive position it holds.

The purpose of this research is to investigate the national onion market between February 1987 and March 1988--for the entire marketing year as well as by quarters. Of particular interest is the eastern U.S. market and more specifically, the market share New York State onions have in seven U.S. cities--Atlanta, Baltimore, Boston, Buffalo, New York, Philadelphia, and Pittsburgh. These seven cities are considered IMPORTERS of onions, while California, Colorado, Idaho, Michigan, New York, Oregon, Texas, Washington, Canada, Mexico, and Others are considered EXPORTERS. Although the emphasis is on New York produced onions, the entire trade matrix flows are analyzed.

II. LITERATURE REVIEW

A very similar research report was done by Stone [6] in 1978. Stone uses AMS "unload" data and concludes,"... percentage of total onion production in New York State which is reflected in the reported unloads in the 13 markets during the years 1964-65 through 1975-76 varied from a low of 39-percent to a high of 46 percent". This lends support to the 45-percent figure quoted to me by the Chief of AMS. Stone also found that New York State onion suppliers were the largest suppliers in four of the six market areas he analyzed. However, he also found that during the 1964-66 to 1973-75 period, New York lost market shares in five of the six market areas. Consistently, western states increased their market share at the expense of New York producers.

Two papers specific to the Michigan onion market were identified. McLaughlin and Pierson [3] describe the national onion industry primarily from a production perspective. Between 1970 and 1979, New York production increased at a rate of 1.1-percent per year while national production increased at 3.7-percent. Based on New York production, the state onion producers lost national market shares at the rate of 2.2-percent per year. New York's rate of growth was the lowest of the states reported. However, an important point identified by the authors is that New York's "shrinkage and loss" was about half that of Idaho's. This is important

since production figures have to be adjusted for shrinkage and loss to reflect actually marketings. The extent of shrinkage and loss is primarily a function of onion variety. The higher the water content of onions, the higher the shrinkage and loss. Yellow-globe varieties, as compared to sweet-Spanish varieties, have a lower water content.

In regards to specific markets for Michigan onions, Atlanta had the largest share, 13.9-percent of Michigan "unloads" in the 1979-80 marketing season. Midwestern cities represent two-thirds of the market for Michigan onions.

Stachwick, Pierson, and Dudek's [5] paper is essentially a market survey of growers, shippers, and chain-store buyers. The purpose of the study was to identify what the Michigan onion industry could do to increase its eastern U.S. market share. The authors found that in-state perceptions were significantly different from the perceptions of out-of-state buyers. The authors attribute this difference to different expectations regarding quality and packaging as well as the industry's ability to communicate the quality of the product. However, both in-state and out-of-state respondents listed improved quality as the variable that would most likely increase Michigan's market share.

Two papers not specific to the onion market, but related to interregional competition and/or marketing patterns are identified. Ricks [4] presents an excellent description of the national plum market. Although Rick's concentration is annual production and the different types of markets for plums--fresh, processed, or frozen--he nonetheless compares how Michigan competes vis-a-vis other suppling regions. Hill, Wilson, and Shumack [2] look at the Alabama azalea market and its competitive position in the national market. Although they do not use market share data explicitly, they do compare Alabama sales by type of firm--corporation or proprietorship--to sales of other southeastern states. They identify a strong seasonal effect on the competitive position of Alabama azalea producers.

Finally, Epperson and Tyan [1] utilize a quadratic programming model to simulate the competitive position of Georgia vegetable producers in thirteen cities in the U.S.. Basically, they simulate the outcomes of various "increased/decreased supply scenarios" from California and Florida. Instead of looking at market shares, they report increases/decreases in shipments relative to the base solution. For example, a 25-percent increase in Florida's supply of watermelons translates to a 24-percent increase of Florida watermelon shipments to New Orleans, but a 52-percent decrease in Florida shipments to New York City.

III. METHODOLOGY

The United States Department of Agriculture (USDA) reports through the Agricultural Marketing Services' (AMS) Market News Branch, weekly data on "arrivals" of onions at different terminal markets. Included in their reports is data for terminal markets in twenty-two (22) cities. In addition, AMS also reports daily data on "shipments" of onions from different states and countries. The shipment data are reported as rail shipments or truck shipments. Of the two sources of data, the weekly arrival data are more reliable than the daily shipment data. The shipment data indicate total supply, by state, of onions while the arrival data only indicate the amount supplied to 22 cities. The Chief of the Market News Branch of AMS has indicated to me that onion arrival data captures approximately 45-percent of the total U.S. onion market. For example, if 100 units of onions were shipped from state or country 'X' to cities in the U.S. (or three cities in Canada) during any given week, the arrival data, on average, would report only 45 units. The shipment data captures approximately 85-percent of all the shipments, but during weeks that include a holiday--the data are missing.

Unfortunately, the above mentioned data are the best available concerning the national onion market. For the purpose of this study the data are adequate <u>if</u> the following <u>assumptions are made</u>: a.) the pattern of trade indicated by the data on terminal market trade is indicative of the trade pattern of the whole U.S. onion market; and b.) arrival data on 45-percent of total U.S. onion arrivals is indicative of the entire U.S. onion market. The first assumption is plausible since the 22 terminal markets included in the data are located in the largest metropolitan areas in the country (also included in the 22 cities are Montreal, Ottawa, and Toronto, Canada). The data, thereby, reflect the preferences of the consumers in those metropolitan markets. However, the quality of onions marketed through terminal markets as compared to what is sold directly to supermarkets and/or major distributors may be different. The second assumption is also plausible because transportation costs and supply availability generally are the significant determinants of "who buys from where". Both of these determinants manifest themselves whether the onions are moving through terminal markets or not. However, one would expect that cities closer to the suppling state would have fewer onions moving through terminal markets because sales would be made directly to supermarket chains or other wholesalers not located at terminal markets. <u>Therefore, a smaller percentage of total New York onion production would be reflected in terminal market arrival reports.</u> This is certainly a shortcoming of the research, but given the limited availability of data, this appears to be the best data.

Two types of analysis are utilized. First, is to simply compute and analyze the market shares each exporter has in each city. Also, the shares the cities have of each exporter's total supply. Secondly, correlation coefficients are computed for each bilateral flow. For example, arrivals of California onions at Atlanta are correlated with arrivals from Idaho. If the correlation is large and positive, then one would conclude that California and Idaho compete with each other in Atlanta. If the correlation is large and negative, then one concludes that California and Idaho onions substitute for one another (i.e., compete) in Atlanta. If the correlation is not large, then California and Idaho onion shipments to Atlanta are not related. For the purposes of this study, a strong correlation coefficient was deemed to be 0.75 or greater.

Prices are left out of the analysis because a subsequent paper will address bilateral-demand relationships.

IV. THE NATIONAL MARKET

The national onion market from February 14, 1987 to March 13, 1988 is summarized in Tables I and II. In addition, Figures IV.1, 2, and 3 illustrate the shares each exporting state has of the national onion market during the same time period. Arrival data reported in the tables are in units of 10,000 lbs. Mean weekly arrivals of New York onions in the 22 cities reported is 148 (14,800 cwt) and the total arrivals for the 55 week period is 8,117 (811,700 cwt). As a point of comparison, the five-year average of New York State production is 3,345,000 cwt. and thereby, arrivals represent about 24-percent of total production. If one removes the 13.5-percent of shrinkage and waste (451,575 cwt.), then arrivals represent 28-percent of marketed production. Since New York is close to many of its markets, the 28-percent figure is considerably lower than the 45-percent national average. This would be expected since New York does not ship as many of its onions cross-country to terminal markets as, say Idaho.

TABLE I.

National Weekly Arrivals of Onions in 22 Terminal Markets Between February 1987 and March 1988 (Quantity in 10,000 lb.Units).

Supply State	Weekly Mean	Maximum Arrivals	Lowest Arrivals	Variability Index*	55 Week Totals
California	586	1,748	121	0.85	32,245
Colorado	143	348	0	0.85	7,872
Idaho	379	946	0	0.80	20,872
Michigan	83	170	0	0.69	4,553
New York	148	327	0	0.61	8,117
Oregon	339	792	0	0.75	18,671
Texas	247	1,175	0	1.44	13,585
Washington	141	362	0	0.63	7,753
Can + Mex	115	631	0	1.33	6,318
Other	177	778	6	0.76	9,719
TOTALS	2,358	3,056	1,831	0.12	129,705

* The standard deviation divided by the mean. The larger the index number, the greater the supply variability.

TABLE II.

Weekly Arrivals of Onions in 13 Eastern Cities
Between February 1987 and March 1988.
(Quantity in 10,000 lb.Units).

Supply State	Weekly Mean	Maximum Arrivals	Lowest Arrivals	Variability Index*	55 Week Totals
California	178	853	0	1.42	9,811
Colorado	63	244	0	1.03	3,444
Idaho	268	827	0	0.87	14,750
Michigan	60	135	0	0.70	3,287
New York	145	283	0	0.60	7,971
Oregon	204	584	0	0.85	11,226
Texas	153	685	0	1.43	8,440
Washington	28	276	0	1.61	1,543
Can + Mex	58	260	0	1.19	3,183
Other	96	324	2	0.85	5,289
TOTALS	1,254	1,714	807	0.18	68,944

* The standard deviation divided by the mean. The larger the index number, the greater the supply variability.

Table I. clearly points out that California is the largest supplier of onions, followed by Idaho, Oregon, and Texas. Based on the figures in Table I, New York had only 6-percent of the national market, but that is larger than the Canadian and Mexican share--5-percent. Since relatively fewer New York onions are reported in terminal market data, the 6-percent figure most likely underestimates New York's market share. California is the only state that supplied onions every week of the year. The variability index indicates how variable weekly arrivals are--the larger the index, the more variation between weeks. New York has the lowest variability index which implies that New York State onion producers have the most stable markets with respect to shipment schedule. Not surprisingly, the variability of the total market is quite low--0.12. On average, 235,800 cwt. of onions arrive at terminal markets in 22 cities every week of the year. At, say, $10.00 per 50 lb. bag, this figure translates to weekly sales of 4.7 million dollars per week.

Table II. presents the same information as does Table I., except that it presents the figures for only 13 eastern cities. If one compares the last column of each table, then we get an indication of the percent of total arrivals that arrive in eastern cities. In descending order, the figures indicate:

New York = 98%	Oregon = 60%	Can + Mex = 50%
Michigan = 72%	Other = 54%	Colorado = 44%
Idaho = 71%	TOTALS = 53%	California= 30%
Texas = 62%		

New York relies almost entirely on eastern markets. All other supply states market more than 25-percent of their onions west of the Mississippi River--even Michigan. In addition, Idaho and Oregon, particularly Idaho, market significant portions of their onions in eastern markets.

Another difference between national and eastern figures is California's market share. In the national market it is 25-percent, but in the eastern market it is only 14-percent. Given that three of the eastern cities are in Canada, it is surprising that only 50-percent of Canadian and Mexican arrivals arrive in eastern cities. A most surprising result is the greater variability in eastern markets as compared to western markets. The variability index for the national market is 0.12 while the index is 0.18 for the eastern market. These variability indexes imply that the variability index for western cities has to be below 0.08. Why should the variability of arrivals differ so much between the west and east? One reason may be that a significant share of onions sold in eastern markets originate in the west and if transportation is limiting at times, then one would expect

grater variability in the east. Another reason may be that terminal markets in the east are more of a residual supplier than their counterparts in the west. This appears more plausible since the percentage of total onion consumption in the east that moves through terminal markets is lower than in the west. For example, 53% of the onions captured by the data are marketed in eastern cities. However, nearly 61% of the country's population resides east of the Mississippi River. Per capita consumption of onions cannot be significantly different for individuals living east or west of the Mississippi River, therefore a lower percentage of onions consumed in the east move through terminal markets.

Tables III. and IV. present seasonal onion arrival data for the national and eastern markets. To New York onion shippers, the differences in arrivals between seasons and/or between national and eastern markets may be of interest. First, California has 40-percent of the national market during the middle two quarters of the year, but only 30-percent of the eastern market during the same time periods. The opposite is true for Idaho--during the first and last quarters of the year, Idaho has 35-percent of the eastern market, but only 25-percent of the national market. Canadian and Mexican onions are primarily in the market during the first two quarters of the year and most of their onions are marketed in the west.

New York's competitors are clearly Idaho and Oregon. The first and last quarters of the year are when New York onions are marketed. The first quarter in the eastern market is when New York captures the largest market share--17-percent. It appears that Idaho has a strategy of marketing its product primarily in the east--71-percent and 74-percent of total Idaho arrivals are sold during the first and last quarters, respectively. Oregon markets only half its product in the east. The most competitive quarter in the east is the third--where the top three suppliers have only 52-percent of the market while the second quarter is the least competitive--the top three suppliers have 82-percent of the market.

Total arrivals point out another perplexing outcome. The percent of onions sold in the east, by quarters, is: I = 52-percent, II = 51-percent, III = 52-percent, and IV = 57-percent. A five-percent, between 52 and 57-percent, difference translates to 5,500 cwt. Although in absolute numbers this figure is not very large, one would not expect this difference between one quarter and the average of the other three. Why would this be? One possible explanation is that the holiday season increases the movement of onions through eastern terminal markets (i.e., supports the residual supplier notion). Another possible explanation is that more eastern onions come to market during the fourth quarter because growers chose not to store onions.

TABLE III.

Seasonal Onion Arrivals in 22 cities in the U.S.
Between February 1987 and March 1988
(Quantity in 10,000 lbs. Units).

Supply State	MEAN WEEKLY ARRIVALS			
	Jan.- Mar.	Apr.- June	July-Sept.	Oct.- Dec.
California	209	878	985	310
Colorado	128	0	195	264
Idaho	597	31	226	657
Michigan	119	16	78	118
New York	224	65	114	182
Oregon	564	70	190	520
Texas	2	734	252	0
Washington	218	32	161	149
Can + Mex	184	197	25	37
Other	136	230	188	155
TOTALS	2,380	2,252	2,412	2,392

TABLE IV.

Seasonal Onion Arrivals in 13 Eastern Cities
Between February 1987 and March 1988.
(Quantity in 10,000 lb. Units).

Supply State	MEAN WEEKLY ARRIVALS			
	Jan.- Mar.	Apr.- June	July-Sept.	Oct.- Dec.
California	8	335	350	34
Colorado	33	0	109	118
Idaho	422	19	139	488
Michigan	95	15	40	87
New York	217	62	114	182
Oregon	325	29	115	342
Texas	1	449	165	0
Washington	20	2	72	22
Can + Mex	94	85	14	31
Other	34	158	139	58
TOTALS	1,250	1,153	1,258	1,362

IV.A. Correlation Coefficient Analysis

Tables V. and VI. present the correlation coefficients between New York State weekly shipments and shipments from other states for the national and eastern markets, respectively. The reader should also keep in mind the total volume of shipments because the correlation coefficient only measures whether the flows move together or in opposite directions--not the volume of shipments. Based on the reported coefficients, New York shipments substitute most with Idaho and Oregon during the first quarter; with California and Others during the second quarter; with California, Texas, and Washington during the third quarter, and with Idaho during the last quarter. New York markets its onions primarily in the last and first quarters of the year. As such, its main competition is Idaho and Oregon.

Comparing the national market to the eastern market, the pattern of competition is similar except for the following: In the fourth quarter, Michigan substitutes (although not strongly, -0.21), with New York in the national market while the opposite is true in the eastern market. For the year, Washington complements New York shipments in the national market, while the opposite is true in the eastern market. In the first quarter, other suppliers substitute with New York shipments in the national market, while that is not the case in the eastern market.

TABLE V
Correlation Coefficients Between Weekly New York Onion Shipments and Other Onion Suppliers in Total U.S. Terminal Markets February 1987 to March 1988.

Other Suppliers	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	All Year
California	.63	-.91	-.93	.23	-.84
Colorado	-.59	.00	-.90	.29	.45
Idaho	-.42	.75	.83	-.50	.71
Michigan	.01	.84	.91	-.21	.73
Oregon	-.32	.84	.80	-.34	.75
Texas	.54	.02	-.80	.00	-.59
Washington	.36	.38	-.63	-.14	.41
Canada & Mex.	.58	.95	.00	-.12	.38
Other	-.52	-.94	.43	.54	-.64

TABLE VI
Correlation Coefficients Between Weekly New York Onion Shipments and Other Onion Suppliers in The Eastern U.S. Terminal Markets February 1987 to March 1988.

Other Suppliers	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	All Year
California	.10	-.90	-.94	-.13	-.85
Colorado	-.36	.00	.75	.10	.26
Idaho	-.61	.73	.80	-.49	.62
Michigan	.22	.88	.88	.11	.76
Oregon	-.58	.61	.78	-.28	.64
Texas	.49	-.17	-.85	.00	-.61
Washington	.26	.24	-.78	-.02	-.29
Canada & Mex.	.42	.95	.71	.04	.50
Other	-.07	-.85	-.45	.65	-.73

Canada and Mexico primarily complement New York shipments as does Michigan. As may be expected, the two largest producers of onions in the country, California and Texas, substitute with New York onions the most.

What does this all mean? In eastern markets, Michigan shipped half as many onions as New York during the first and last quarters of the year while both Idaho and Oregon shipped about twice many during the same time period. Based on the correlation coefficients, all three compliment New York shipments, but based on volume, Idaho and Oregon are the main competitors. Conversely, Canada and Mexico complement New York shipments during the third quarter, but on a volume basis, their shipments are insignificant.

IV.B. Graphical Analysis.

Figures IV.1, 2, and 3 show week-by-week changes in national market shares of the suppling states. Idaho, and to a lesser extent Oregon, dominate the fall and winter markets while California and Texas dominate the spring and summer. Although, from New York's perspective, the figures would best describe the national market shares if the starting point was August, they nonetheless present a picture of market entry and exit by the various suppliers. Contrary to what a number of growers have indicated, the Canadians and Mexicans have only a significant market share during March and April. However, since these data describe only one year, it may very well be true that during other years the Canadians and Mexicans have larger market shares.

Figure IV.1

Weekly Market Share of Total U.S. Onion Market, Various States, 1987-88

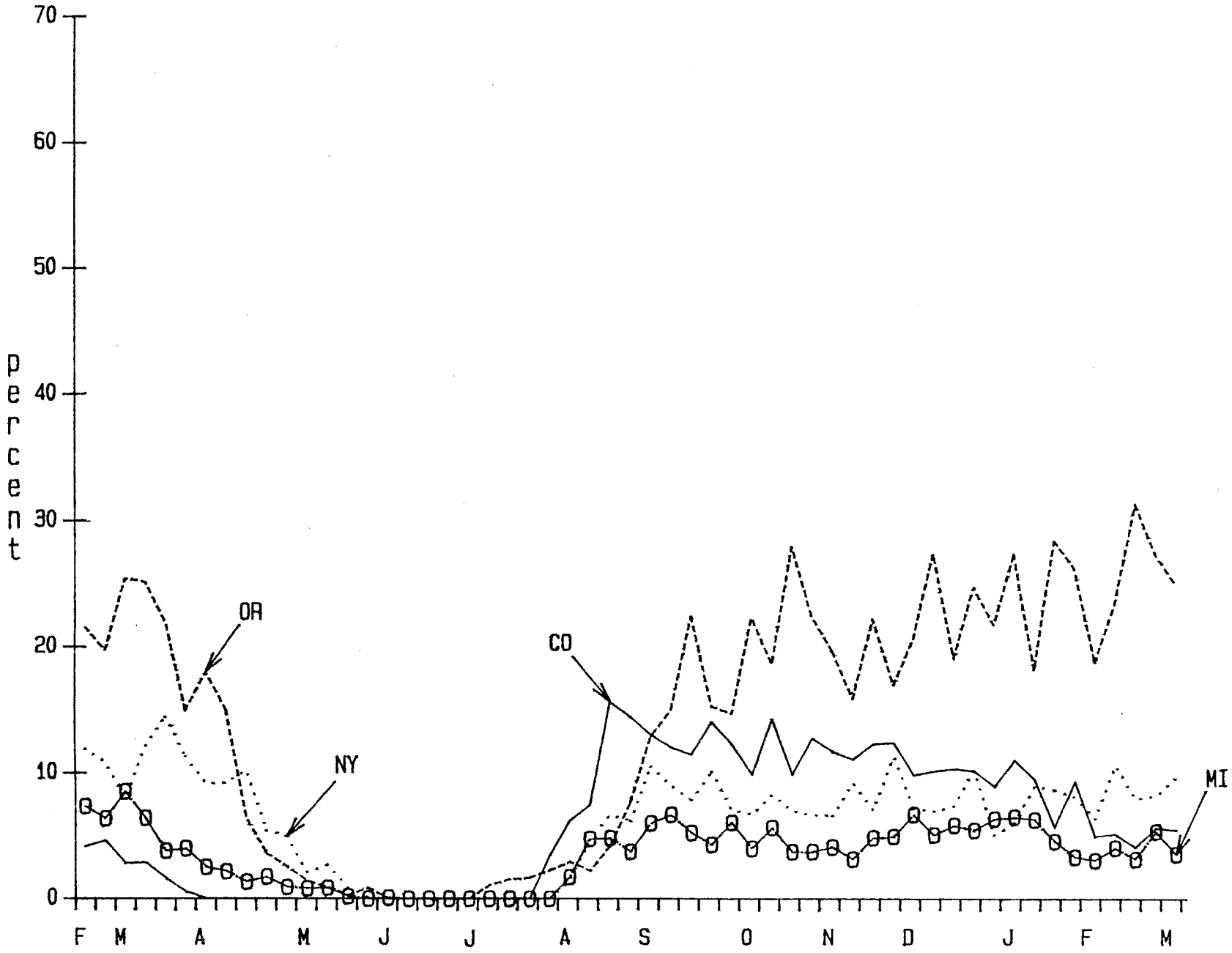


Figure IV.2

Weekly Market Share of Total U.S. Onion Market, Various States, 1987-88

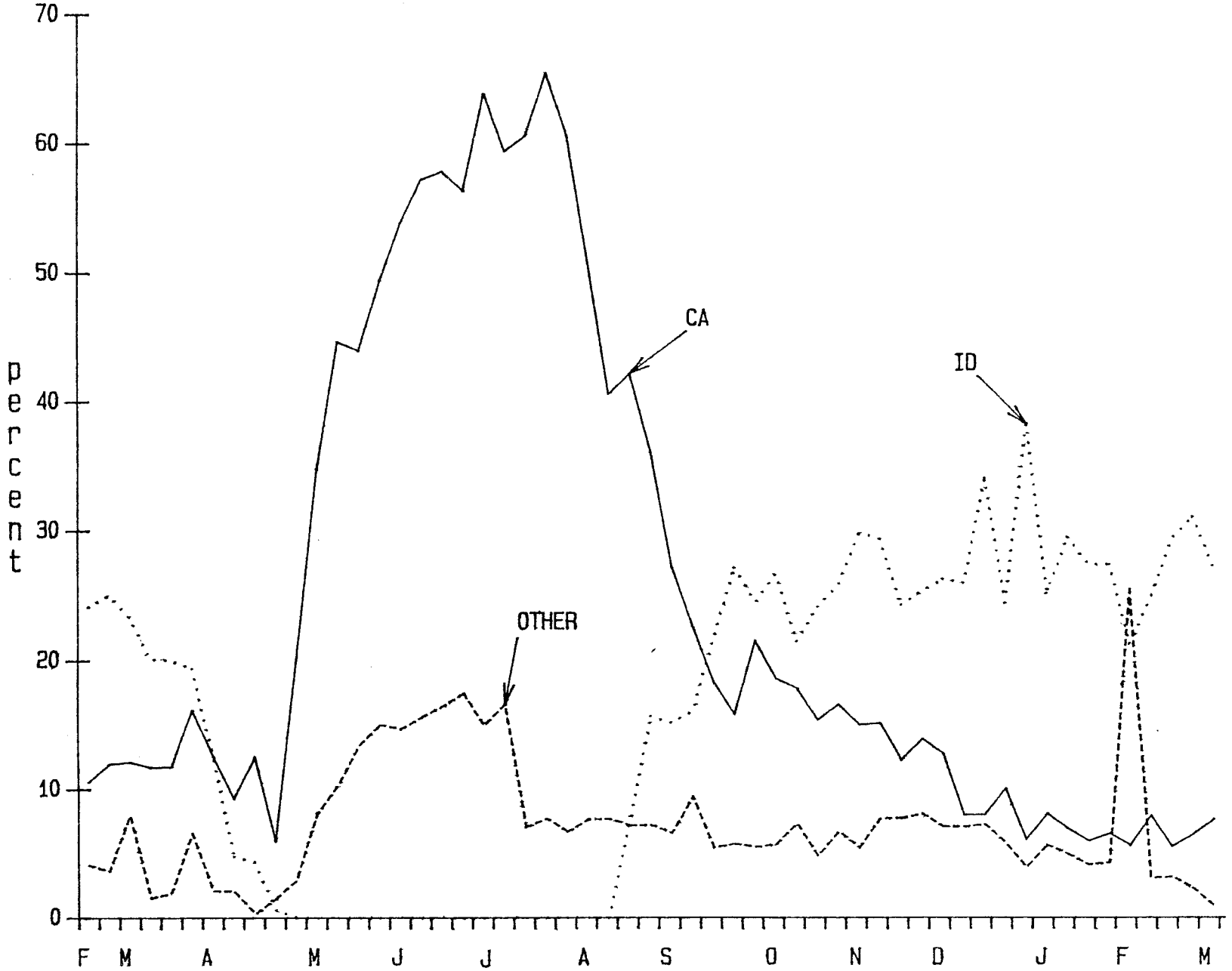
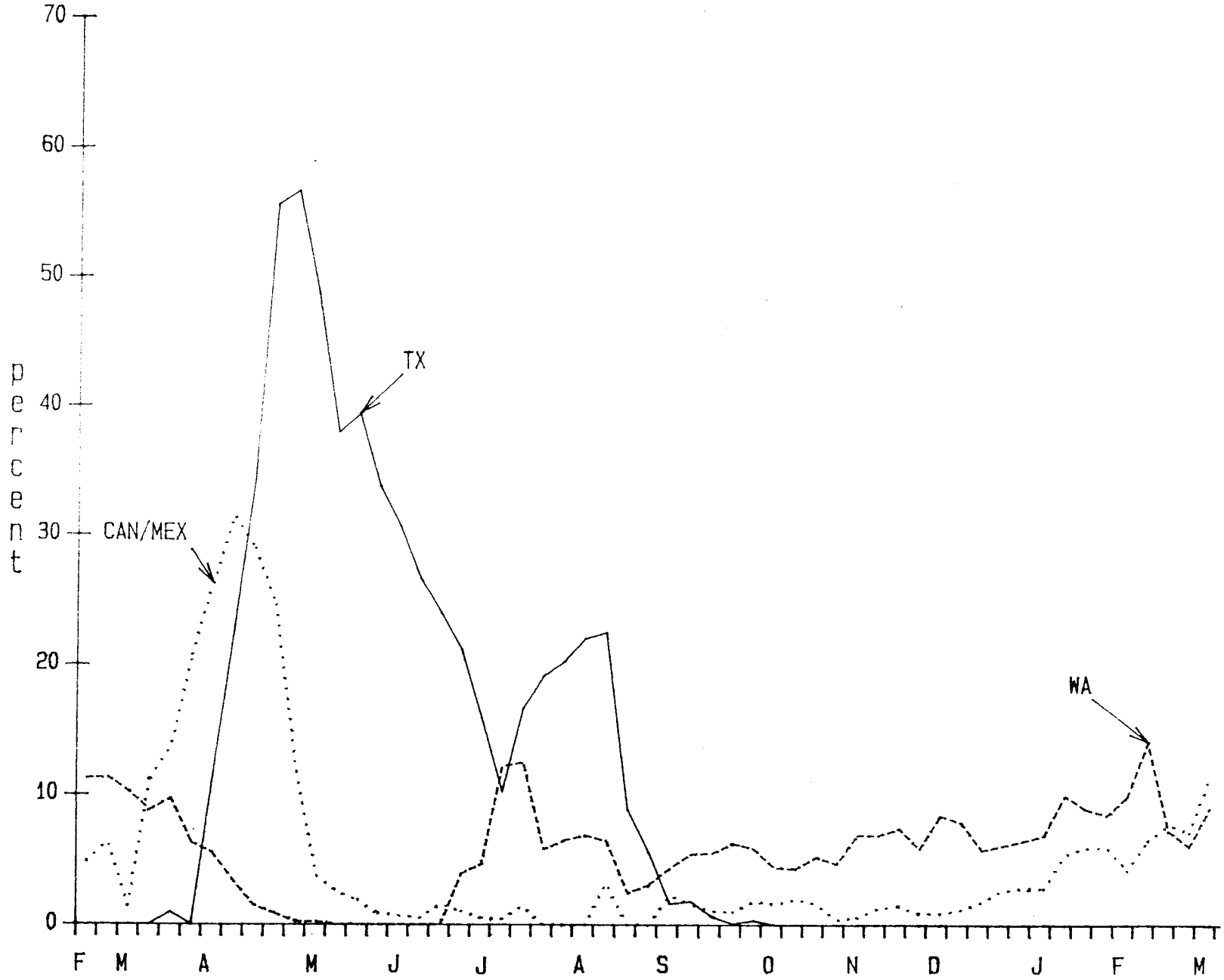


Figure IV.3

Weekly Market Share of Total U.S. Onion Market, Various States, 1987-88



IV.C. Market Dominance.

The national market is dominated by three suppliers during every quarter--particularly the second quarter. The relative rankings in the national market compared to the eastern market are not very different except for the fourth quarter. New York is the third largest supplier in the east while California holds that position in the national market. Idaho and Oregon exert more competitive pressure during the first quarter of the year in the eastern market than in the national market while New York has a larger presence in the eastern market during the last quarter of the year.

NATIONAL MARKET SHARES OF TOP THREE SUPPLIERS

I-quarter	II-quarter	III-quarter	IV-quarter
Idaho = 25	California= 40	California= 41	Idaho = 27
Oregon = 24	Texas = 33	Texas = 10	Oregon = 22
New York= 9	Other = 10	Idaho = 9	California= 13
58%	83%	60%	62%

EASTERN MARKET SHARES OF TOP THREE SUPPLIERS

I-quarter	II-quarter	III-quarter	IV-quarter
Idaho = 34	Texas = 39	California= 28	Idaho = 36
Oregon = 26	California= 29	Texas = 13	Oregon = 25
New York= 9	Other = 14	Idaho = 11	New York = 13
69%	82%	53%	74%

The third quarter of the year in the eastern markets offers some opportunities for New York onions. It is the most competitive quarter and New York has 9-percent of the market. California and Texas, the largest suppliers for the fourth quarter, should be winding down their supplies by the end of the quarter when New York is beginning its harvest. A strategy of coming to market earlier than usual would be likely to benefit New York onion producers.

The following section examines how New York State onions compete in several eastern terminal markets.

V. SPECIFIC EASTERN MARKETS

Figures V.1 and V.2 show the market shares specific cities have of total New York State onion arrivals. The time period, weekly, begins on February 14, 1987 and ends on March 13, 1988. Similar figures are included in Appendix A for: California, Colorado, Idaho, Michigan, Oregon, Texas, Washington, Canada, Mexico, and other exporters. I would encourage the interested reader to look at the figures in the Appendix closely because much information is illustrated through the figures. In particular, identify periods of the year in figures V.1. and V.2. where opportunities for New York exports exist and compare those time periods with the figures in the Appendix A.

Figure V.1

Weekly Share of New York Onion Exports to Various Cities, 1987-88

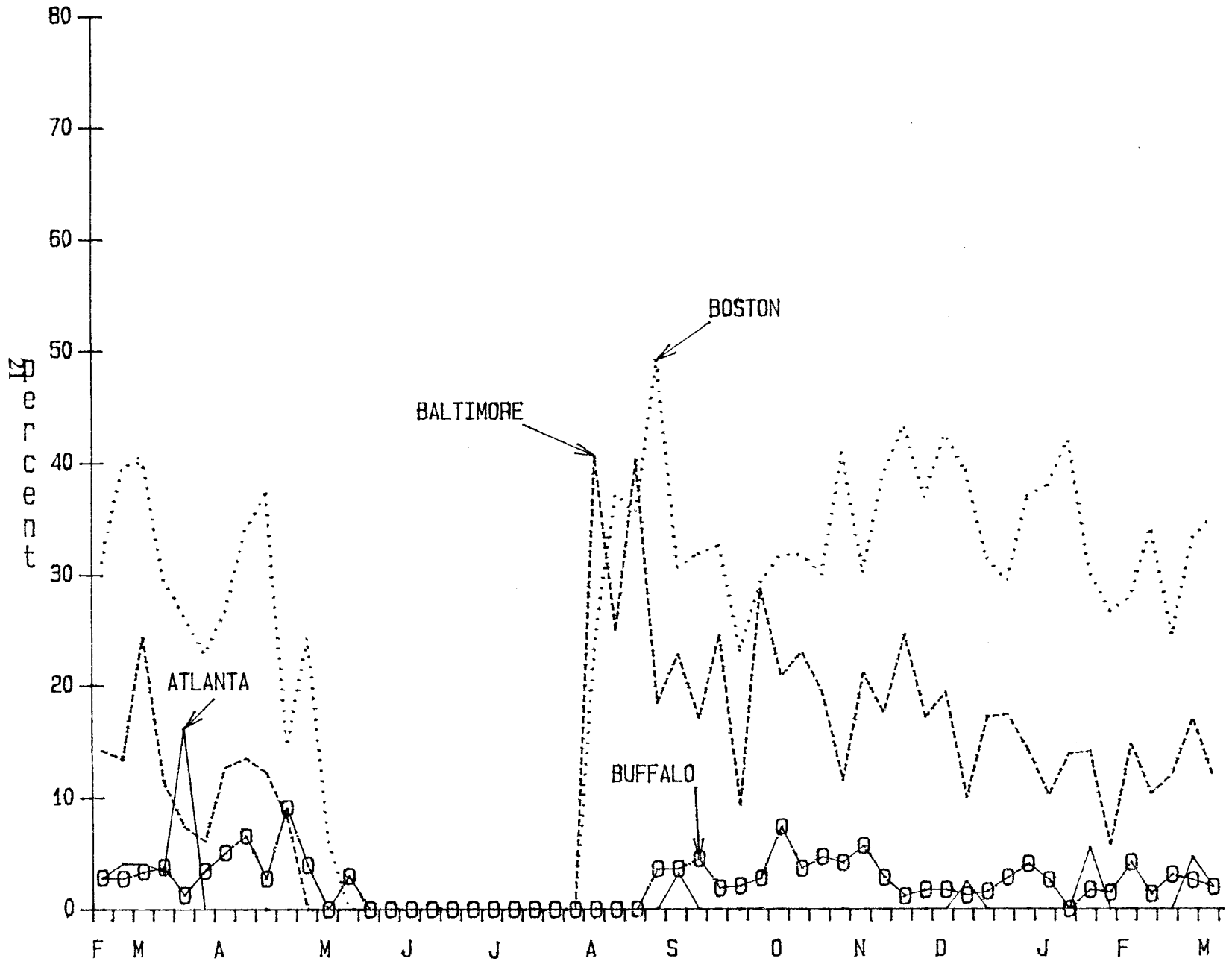
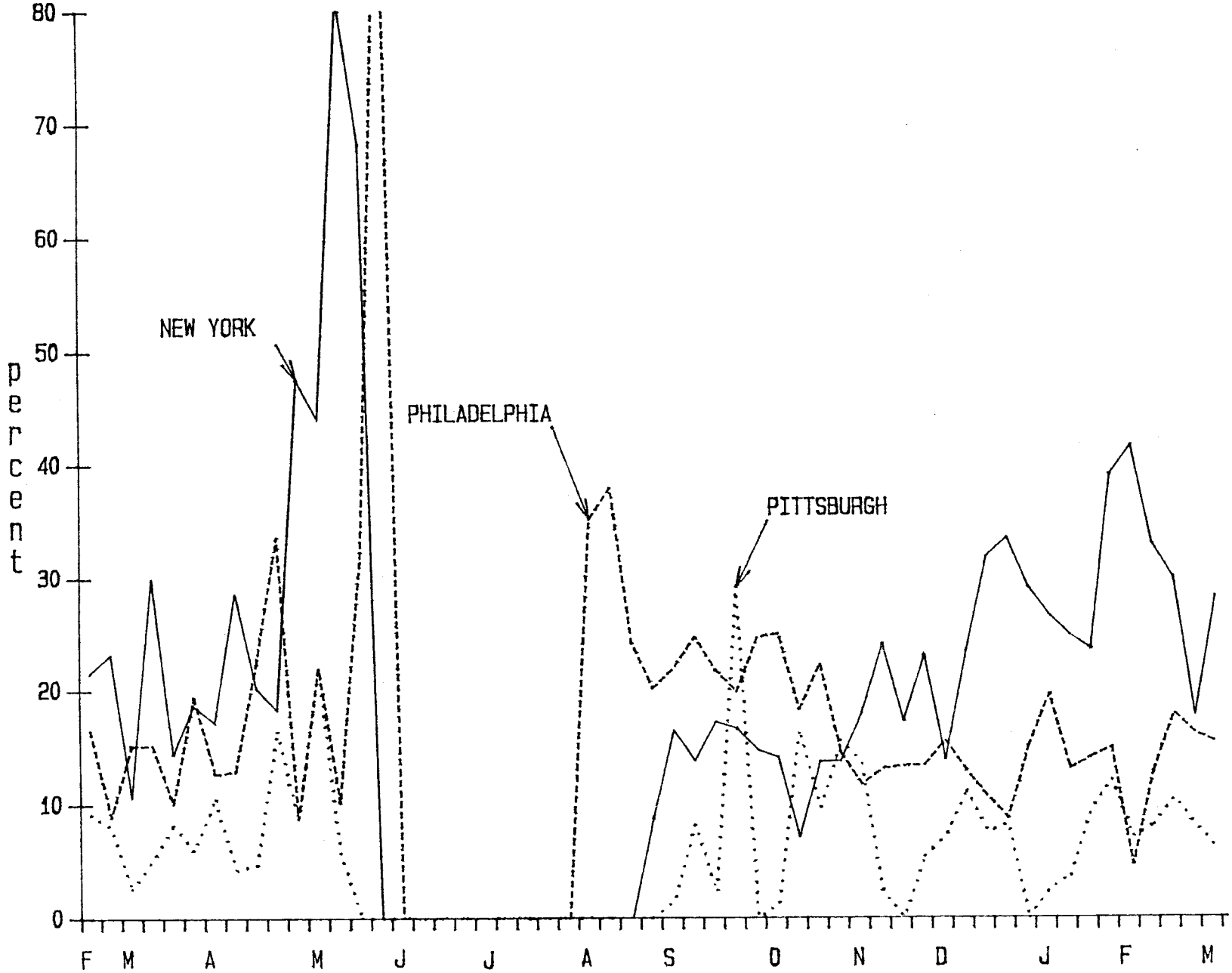


Figure V.2

Weekly Share of New York Onion Exports to Various Cities, 1987-88



Boston is the most stable market for New York onions--it is consistently around 30 to 35-percent of total New York State exports. There appears to be a direct trade-off between New York City and Baltimore during the fall and winter months. When New York onions come to market in August, more go to Baltimore initially and then progressively decline, while the opposite is true for New York City. Pittsburgh and Philadelphia appear to be the most unstable markets and both account for about 25 to 30-percent of the market during the fall and winter months. One of the two most surprising outcomes is the surge in exports to New York City and Philadelphia during the end of the season--May. Another is the tiny share the Atlanta market has of New York exports. As McLaughlin and Pierson found, the Atlanta market for Michigan onions is still a strong market (see Appendix A.7). Additionally, Appendix A.3 reveals Colorado ships 20-percent of their onions to Atlanta during the fall and Appendix A.16 illustrates that Canada and Mexico also ship a significant amount of their onions to Atlanta throughout the year.

Buffalo and New York City's terminal markets receive a very small share of New York onions. However, since New York onion producers are close to both markets, the terminal market figures do not represent an accurate picture of New York State onions sold in these two metropolitan markets. Certainly, New York onion producers are selling a significant amount of onions in the state of New York, but the data to substantiate this claim are not available. It remains an open question: What percentage of total state production is marketed in the state?

V.A. **ATLANTA**

Atlanta's terminal market moves 966,300 cwt. during the 55 week period. The average weekly movement is 17,600 cwt. with a high week of 24,700 and a low of 7,800 cwt. Of the seven markets considered in this study, it is the third largest.

It is somewhat perplexing to find Colorado with almost 36-percent of the Atlanta market during the fourth quarter of the year. Idaho, Oregon, and Michigan have a larger share of the Atlanta market than New York--particularly during the fourth quarter when New York onions are in plentiful supply. In addition, in the first quarter the Canadians and Mexicans achieve the largest share of any of the quarters and markets analyzed--30-percent. Although the Mexicans supply onions during the latter part of the quarter, the Canadians capture a significant share during the first half of the quarter. These numbers seem to support the notion that Canadian and/or American carriers 'backhaul' onions when they bring citrus products from Florida to Canada. In Atlanta, the "other"

suppliers command the largest market share of any of the seven cities. This is made clear by looking at the sum of the shares of the nine exporters. It is particularly true during the second and third quarters. The Vidalia onion certainly commands a significant market share.

New York onion producers are missing an opportunity in Atlanta. New York has the lowest 55 week mean share of any of the other suppliers. During the first and last quarters, New York should be able to capture a larger share than the 1.3-percent mean. Are prices from competing areas too low in Atlanta?

MEAN SHARES OF SUPPLIERS IN ATLANTA TERMINAL MARKET

SUPPLY STATE	TIME PERIOD I	II	III	IV	55 WEEKS
CALIFORNIA	0.5	10.7	15.5	2.8	7.1
COLORADO	8.6	0.0	11.5	35.9	13.5
IDAHO	7.6	0.0	2.8	15.1	6.3
MICHIGAN	15.1	0.1	0.6	6.4	5.8
NEW YORK	4.3	0.0	0.5	0.2	1.3
OREGON	21.0	0.2	4.8	11.4	9.6
TEXAS	0.3	40.9	22.0	0.0	15.7
WASHINGTON	6.7	0.0	3.3	1.6	3.0
CAN. + MEX.	29.8	19.9	1.0	3.1	14.1
SUM OF ABOVE	93.9%	71.8%	62.0%	76.5%	76.4%

The bilateral flow correlation coefficients are uninformative since New York onion arrivals represent such a small share.

Correlation Coefficients Between Weekly New York Onion Arrivals in Atlanta's Terminal Market and Other Supplying States February 1987 to March 1988.

Other Suppliers	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	All Year
California	-.18	.00	-.14	-.13	-.23
Colorado	-.33	.00	-.08	-.24	-.17
Idaho	.11	.00	.49	.06	.11
Michigan	.01	.00	-.16	.03	.30
Oregon	-.46	.00	.12	.26	.07
Texas	.88	.00	-.27	.00	-.23
Washington	.33	.00	-.16	-.14	-.37
Canada & Mex.	-.03	.00	-.15	.13	.20
Other	----	----	----	----	----

Figures V. 3, 4, and 5 illustrate the Atlanta market. The figures show the shares each exporter has of the total Atlanta terminal market during February 14, 1987 to March 13, 1988. As figure IV.3 indicates, New York onions are in the market only during March 1987 and the largest share they have is 27-percent during the 3rd week of March.

Figure V.3

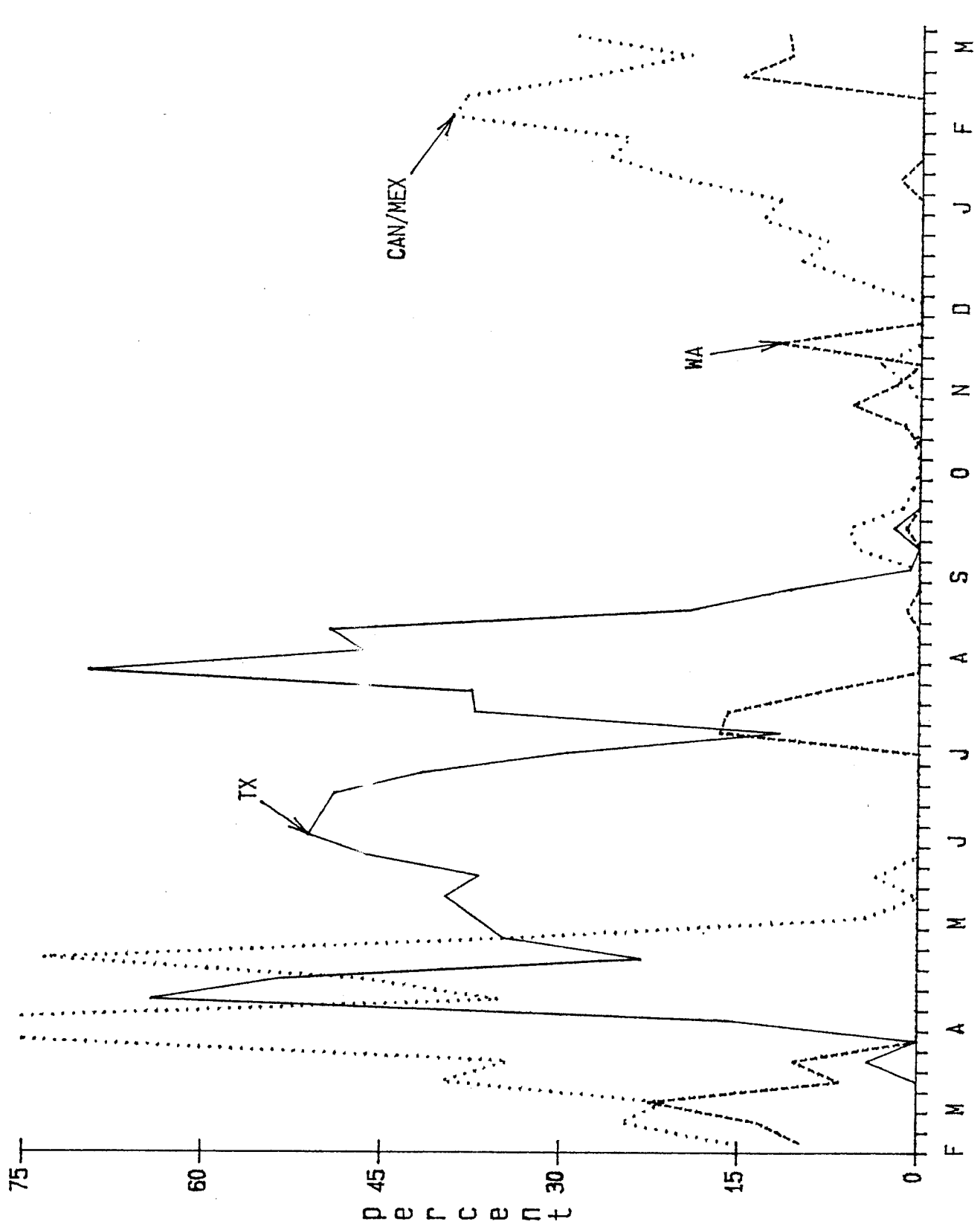

Weekly Share of Atlanta Onion Imports from Various States, 1987-88
percent
75
60
45
30
15
0
F M A M J J A S O N D J F M
TX
CAN/MEX
WA

Figure V.4

Weekly Share of Atlanta Onion Imports from Various States, 1987-88

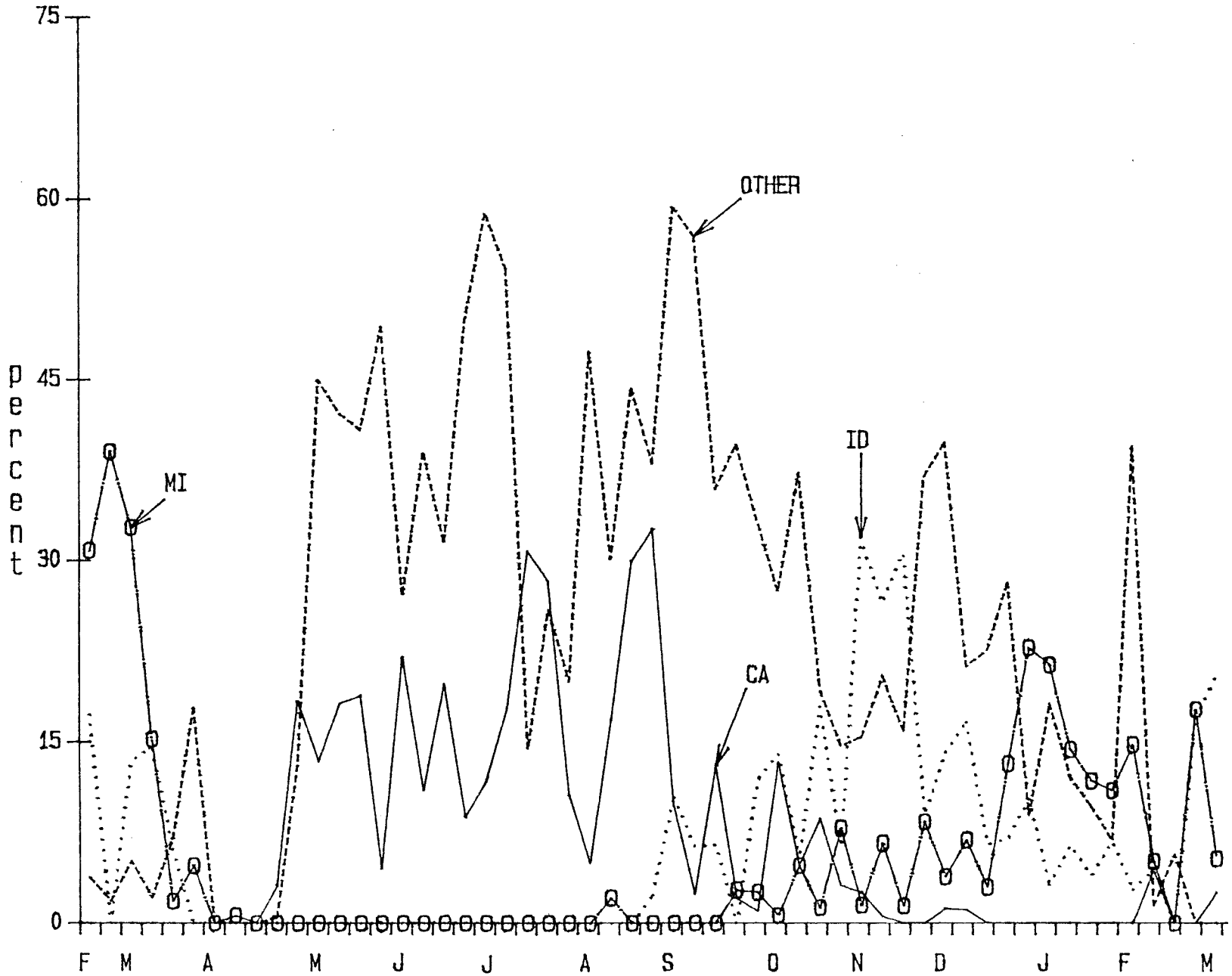
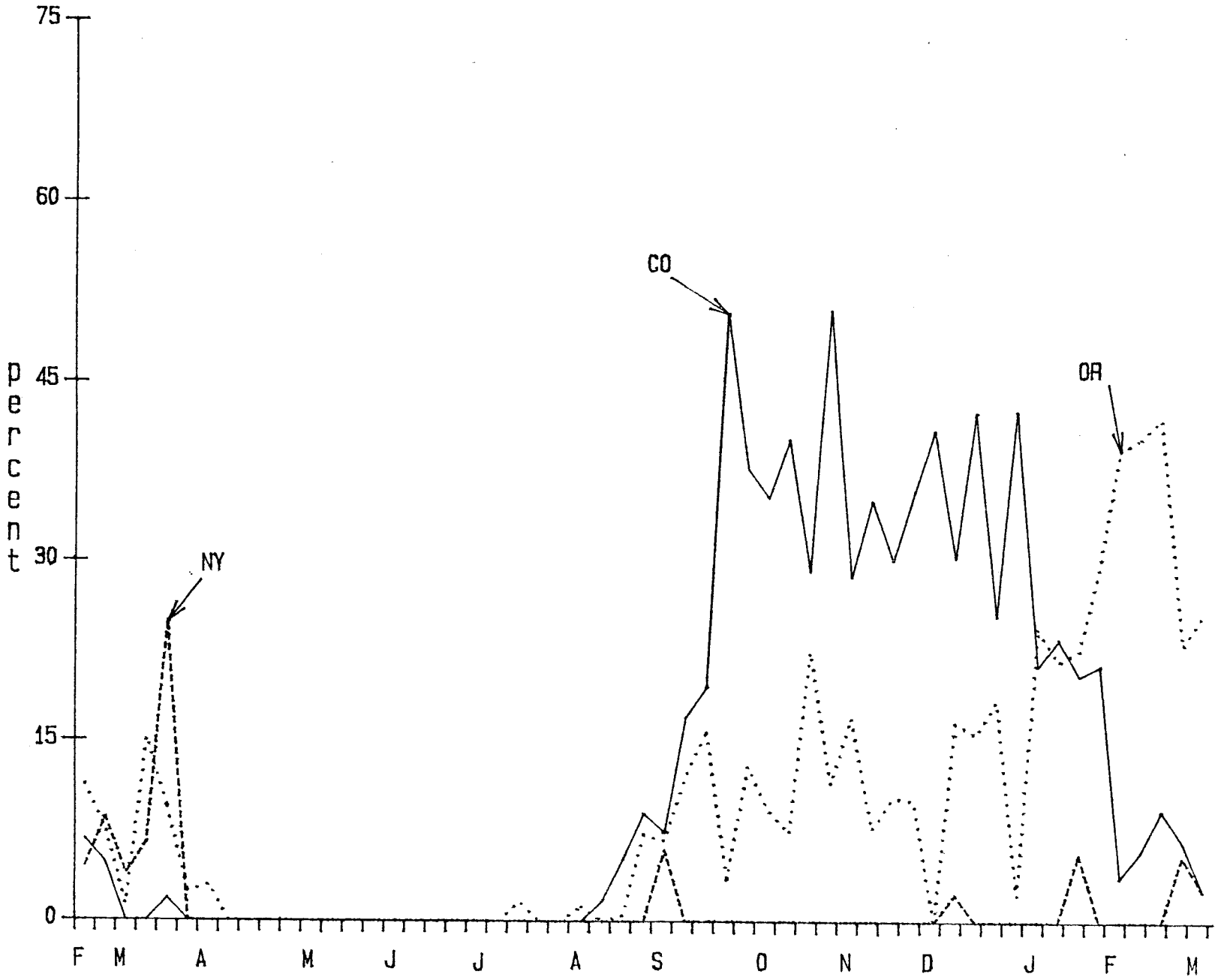


Figure V.5

Weekly Share of Atlanta Onion Imports from Various States, 1987-88



V.B. **BALTIMORE**

Baltimore's terminal market moves 673,300 cwt. of onions during the 55 week period. The mean weekly movement is 12,200 cwt. with a high week of 17,400 and a low of 5,000 cwt. Of the seven cities, it represents the fifth largest market.

New York arrivals over the entire season are relatively stable. The market share of New York is more reflective of its competitive position as compared, say, to the Atlanta market. In the first and last quarters of the year, New York holds a higher share than Oregon and is almost even with Idaho. If New York could have this type of share distribution in Atlanta, it could market an additional 173,000 cwt. per year. Also, the Baltimore market has a larger diversity of supply. No one supplier has more than 20-percent of the yearly market, and New York has the highest 55 week share--19-percent. One would expect lower prices in the Baltimore market because of the increased competitive nature of the market. This proposition will be tested in a subsequent paper.

MEAN SHARES OF SUPPLIERS IN BALTIMORE TERMINAL MARKET

SUPPLY STATE	TIME PERIOD I	II	III	IV	55 WEEKS
CALIFORNIA	0.5	24.4	19.8	1.1	11.0
COLORADO	3.1	0.0	17.5	10.8	7.5
IDAHO	28.9	5.1	10.2	30.1	18.7
MICHIGAN	5.5	0.4	0.8	3.9	2.7
NEW YORK	24.9	5.6	18.8	27.5	19.2
OREGON	23.1	1.5	4.6	14.8	11.3
TEXAS	0.5	50.5	20.6	0.0	17.9
WASHINGTON	3.9	0.4	2.3	7.8	3.6
CAN. + MEX.	8.4	5.0	1.1	3.3	4.6
SUM OF ABOVE	98.8%	84.0%	95.7%	99.3%	96.5%

New York arrivals substitute with almost all of the suppliers in the market during the first quarter. In the fourth quarter, only Idaho and Oregon substitute with New York arrivals. The first quarter in Baltimore is a very competitive market and the most competitive market of the study. For the year, California and Texas are the main substitutes for New York onions.

Correlation Coefficients Between Weekly New York Onion Arrivals in Baltimore's Terminal Market and Other Supplying States February 1987 to March 1988.

Other Suppliers	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	All Year
California	.12	-.60	-.88	-.08	-.68
Colorado	-.17	.00	.67	.15	.41
Idaho	-.52	.86	.35	-.74	.37
Michigan	-.39	.24	.23	.48	.38
Oregon	-.37	.67	.21	-.37	.32
Texas	-.13	-.46	-.82	.00	-.71
Washington	-.07	-.13	.22	.38	.41
Canada & Mex.	.53	.92	.45	.21	.40
Other	----	----	----	----	----

Figures V.6, 7, and 8 describe the Baltimore market during February 1987 and March 1988. As can be seen on figure IV.6, New York and Idaho dominate the fall and winter seasons. However, it appears that week-by-week 'switching' occurs between New York and Idaho--particularly during the fall. Colorado comes to market in late August, but progressively loses market share throughout the fall. Surprisingly, Washington has a larger market share than Michigan, albeit both are small, during the fall and winter.

In what appears to be a competitive market, New York maintains strong market share. This market merits closer investigation by the New York Onion Industry so that the industry can determine it holds a strong position in the market.

Figure V.6

Weekly Share of Baltimore Onion Imports from Various States, 1987-88

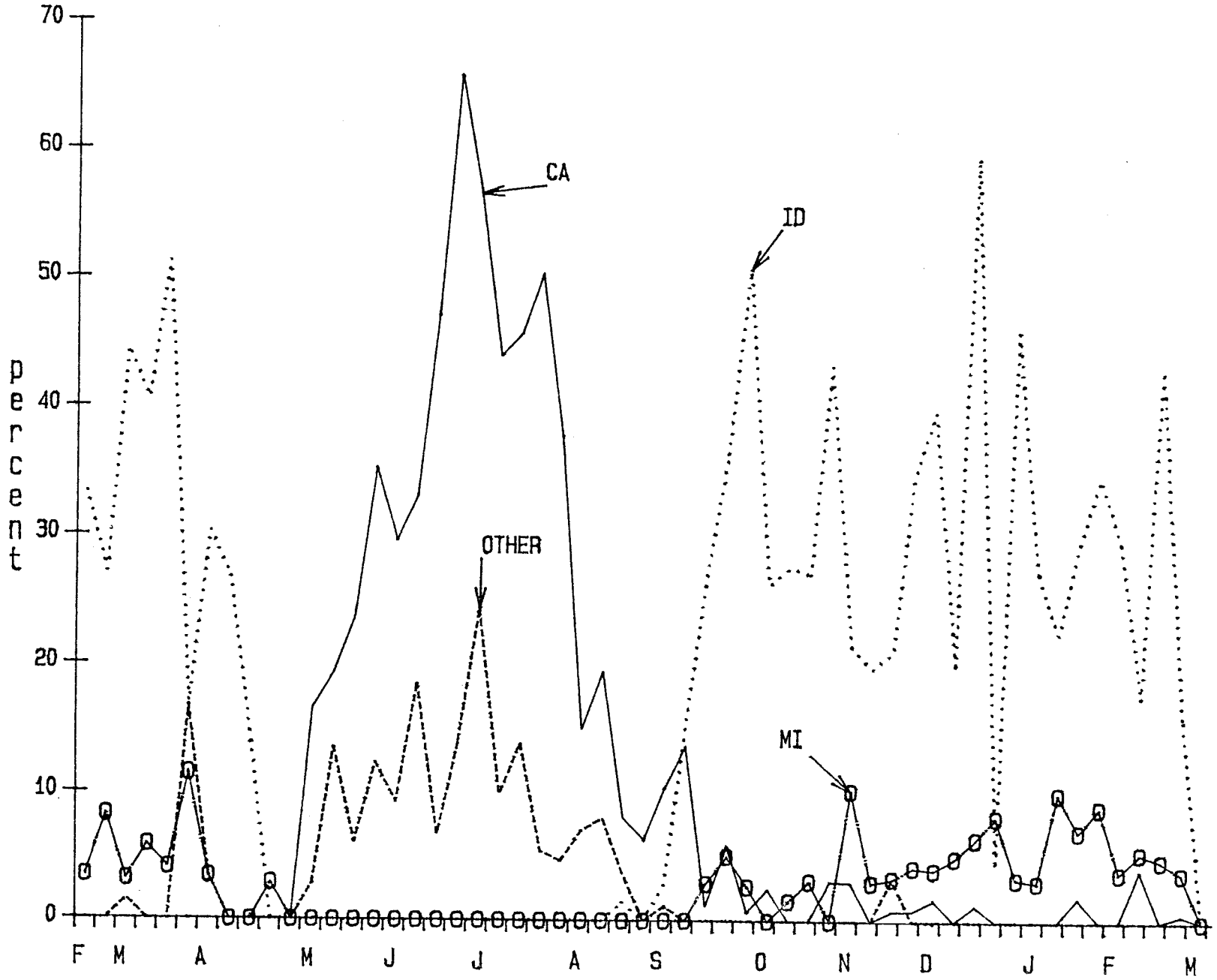


Figure V.7

Weekly Share of Baltimore Onion Imports from Various States, 1987-88

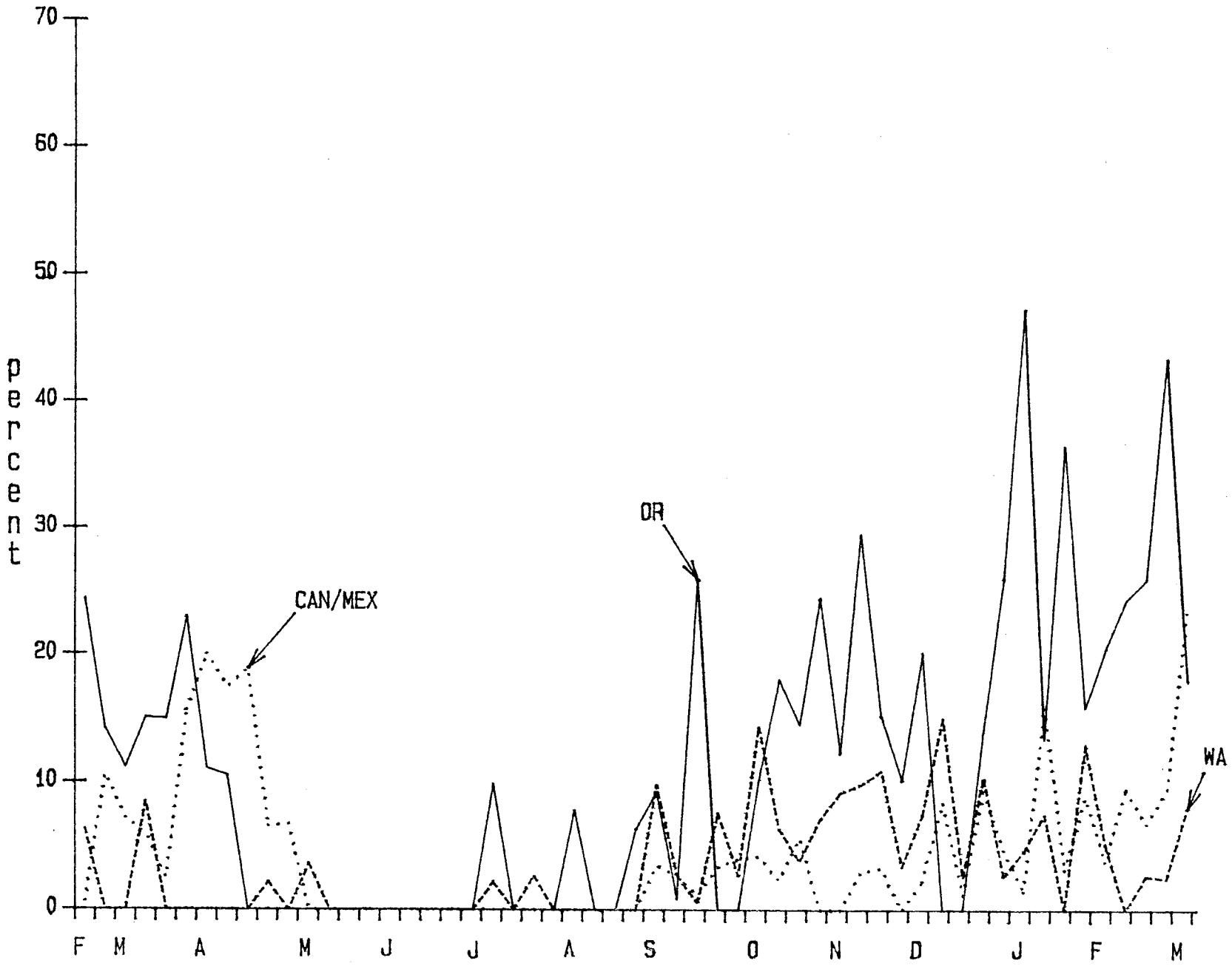
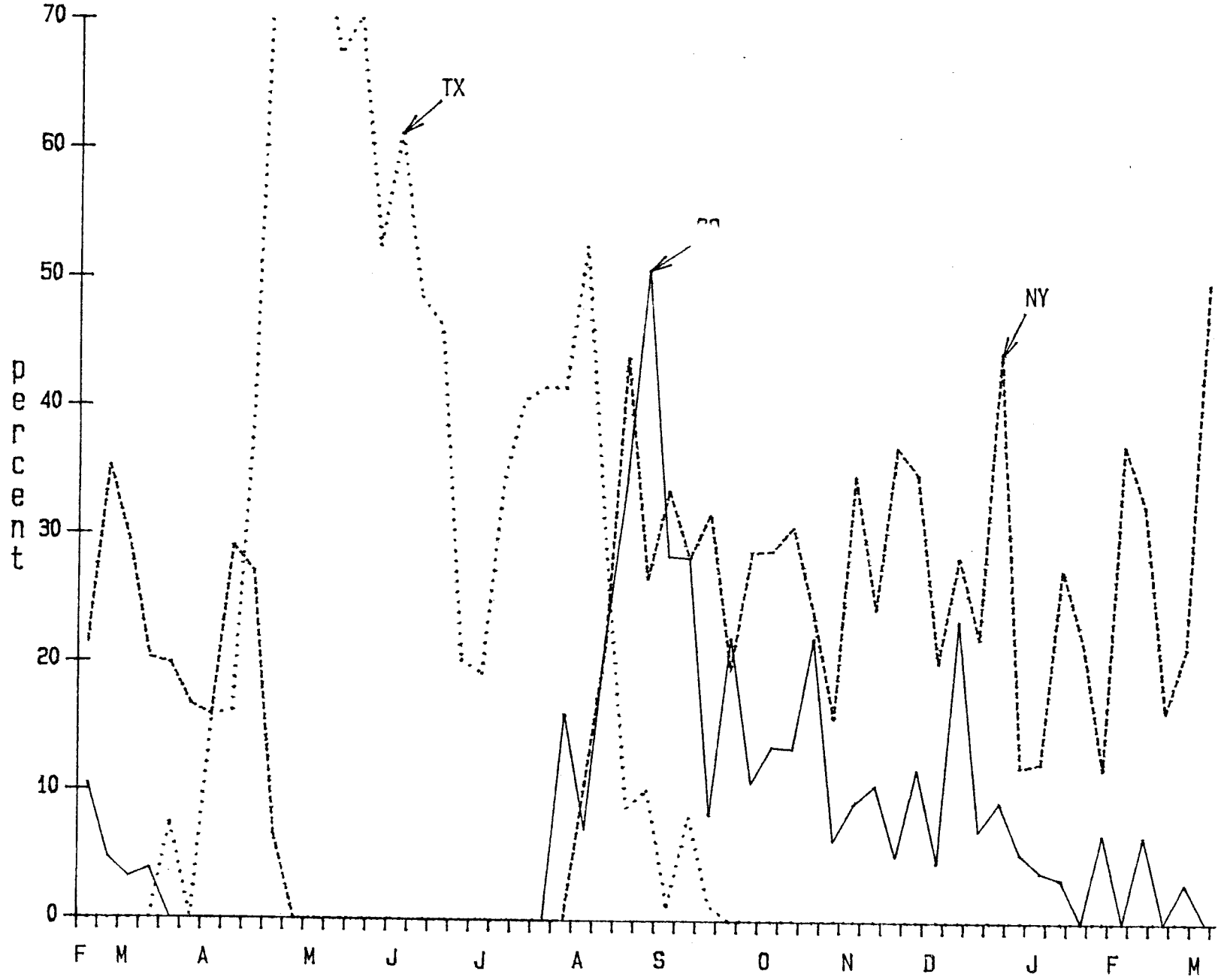


Figure V.8

Weekly Share of Baltimore Onion Imports from Various States, 1987-88



V.C. **BOSTON**

Boston's terminal market moves 1,021,100 cwt. during the 55 week period. The mean weekly movement is 18,600 cwt. with a high week of 29,300 and a low of 9,200 cwt. Of the seven cities, Boston is the second largest market.

This is where New York has the largest 55 week mean market share--26-percent. It is the market where New York has the highest share of any other supplier. Idaho and Oregon are New York's main competitors and during the first quarter, the only competitors. During the fourth quarter, Oregon is not as large a competitor as during the first quarter. The Canadians and Mexicans are not significant competitors and only during the second quarter do they capture a noticeable share. This is contrary to the notion held by the New York onion industry which believes the Canadians have a significant market share in Boston.

A possible strategy for New York growers is to take some market share from California and/or Colorado during the third quarter of the year. Initially, this market presence may be accomplished by providing volume discounts to buyers or by encouraging New York's Seal of Quality Program to promote in the Boston market. Certainly, plentiful supplies of New York onions are available during September.

MEAN SHARES OF SUPPLIERS IN BOSTON TERMINAL MARKET

SUPPLY STATE	TIME PERIOD I	II	III	IV	55 WEEKS
CALIFORNIA	0.1	29.6	38.2	1.1	16.8
COLORADO	0.0	0.0	14.5	3.2	4.2
IDAHO	32.9	1.9	9.3	36.7	20.3
MICHIGAN	0.4	0.0	0.8	0.5	0.4
NEW YORK	38.1	10.5	19.8	34.7	25.9
OREGON	22.5	3.1	5.6	15.2	11.9
TEXAS	0.0	38.1	4.3	0.0	10.7
WASHINGTON	0.6	0.0	2.2	1.3	1.0
CAN. + MEX.	3.6	7.5	3.4	6.2	5.1
SUM OF ABOVE	98.2%	90.7%	98.1%	98.9%	96.3%

Contrary to Baltimore, this market is competitive during both the first and fourth quarters. During the first quarter, New York's main competition comes from Oregon (-0.46), Canada and Mexico (-0.41), and California (-0.53 and Idaho (-0.41). Similar to the Baltimore market, California and Texas present the greatest competition to New York during the entire year.

Correlation Coefficients Between Weekly New York Onion Arrivals in Boston's Terminal Market and Other Supplying States February 1987 to March 1988.

Other Suppliers	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	All Year
California	-.40	-.68	-.91	-.53	-.77
Colorado	.00	.00	.29	-.07	-.02
Idaho	-.13	.83	.56	-.41	.60
Michigan	.04	.00	.39	-.02	.21
Oregon	-.46	.86	.46	-.27	.43
Texas	-.00	-.51	-.74	.00	-.62
Washington	-.14	.00	-.20	-.20	-.06
Canada & Mex.	-.41	.77	.55	.04	.30
Other	----	----	----	----	----

Week-to-week switching between New York and its substitutes is how I would characterize the market.

Figures V.9, 10, and 11 present the Boston market. As indicated earlier, this is the most steady market for New York suppliers with a 55 week mean share of 25-percent. This is the largest share of any of the suppliers in the market. It is evident that suppliers are segmented throughout the year and that California and Texas, as expected, dominate the summer supply. More importantly, during the fall and winter, New York, Idaho, and Oregon compete head-to-head every week.

Figure V.9

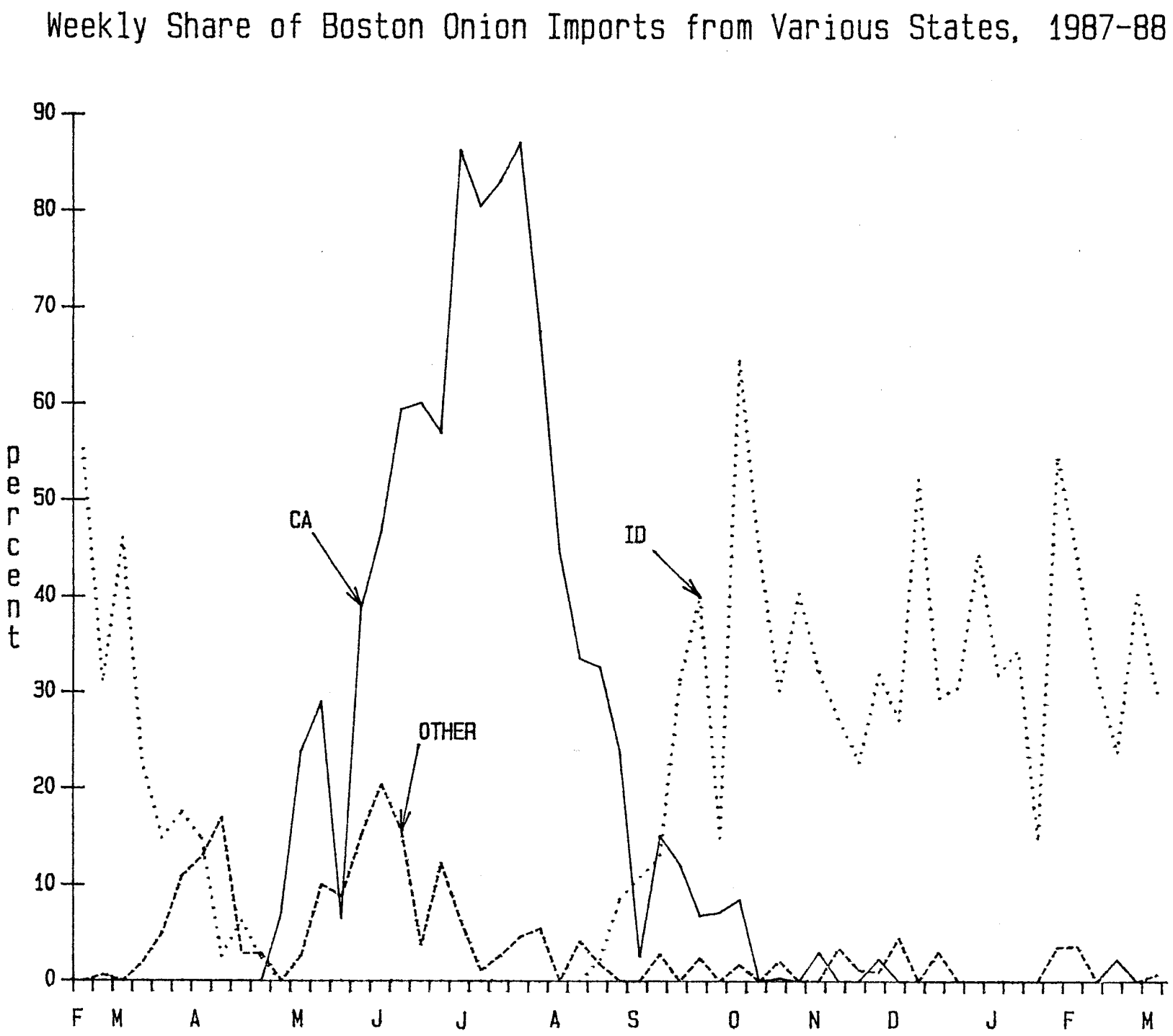

Weekly Share of Boston Onion Imports from Various States, 1987-88
percent
90
80
70
60
50
40
30
20
10
0
CA
ID
OTHER
F
M
A
M
J
J
A
S
O
N
D
J
F
M

Figure V.10

Weekly Share of Boston Onion Imports from Various States, 1987-88

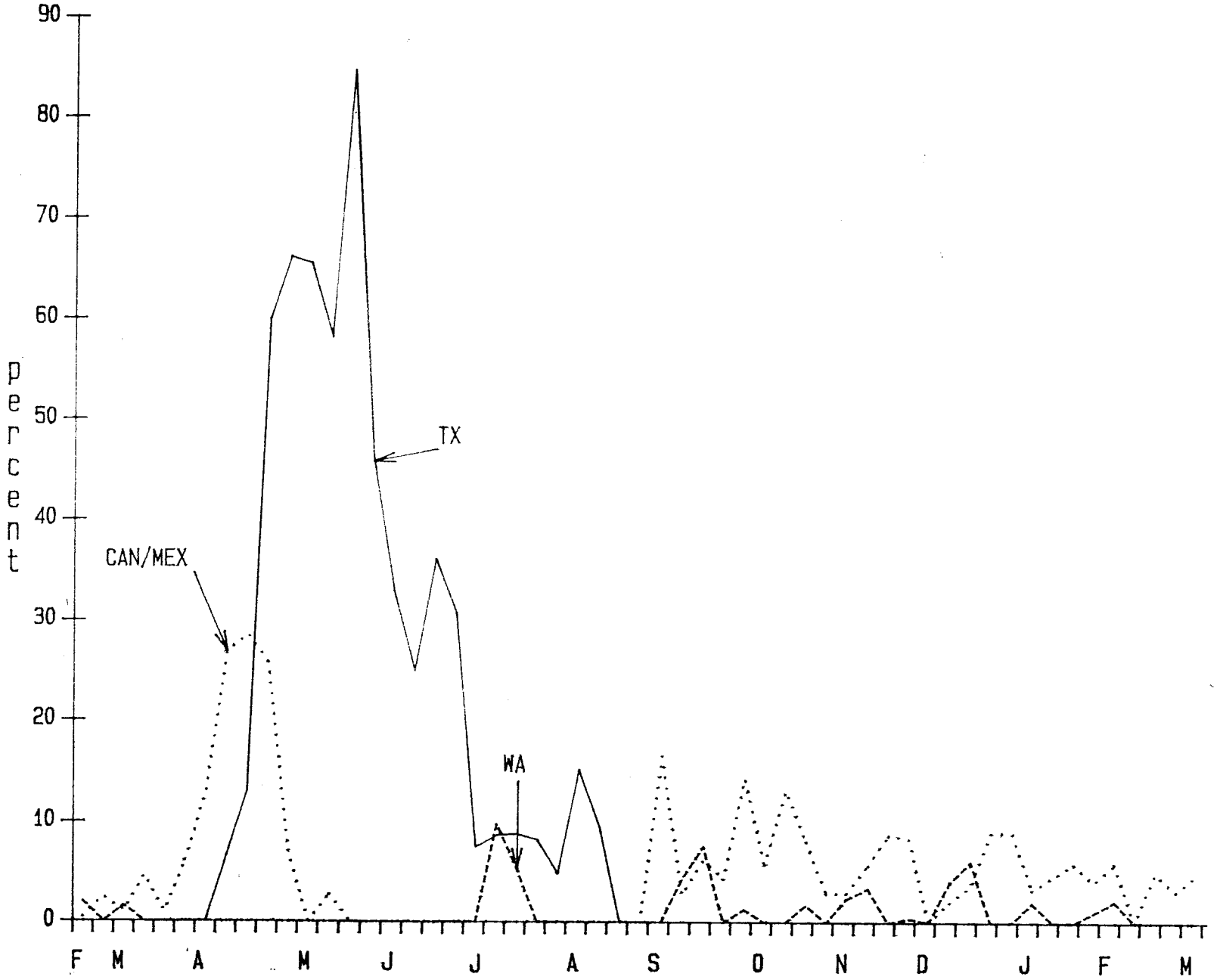
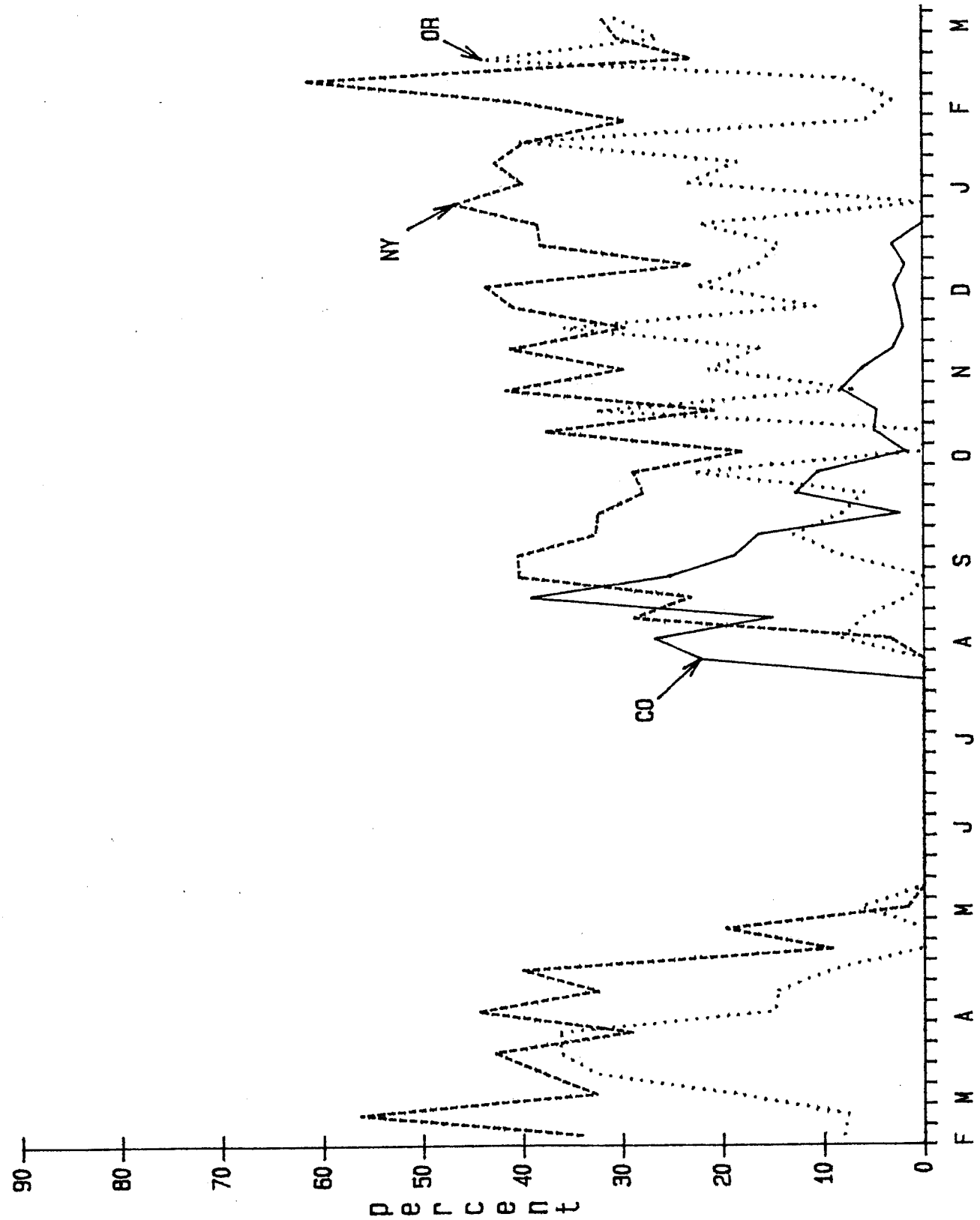


Figure V.11


Weekly Share of Boston Onion Imports from Various States, 1987-88
percent
90
80
70
60
50
40
30
20
10
0
F M A M J J A S O N D J F M
OR
NY
CO

V.D. **BUFFALO**

Buffalo's terminal market moves 135,900 cwt. of onions during the 55 week period. The mean weekly movement is 2,500 cwt. with a high week of 6,200 and a low of 300 cwt. Of the seven cities, it is the smallest market.

As was mentioned in an earlier section, the terminal market reports from this market most likely do not reflect the movement of New York onions in this metropolitan area. This probably explains why Idaho has a larger market share than New York. Only during the second quarter does New York have a larger share than Idaho and that is only 12-percent. In the fourth quarter, Idaho obtains a 61-percent share--and the 55 week mean share is 34-percent. These two shares are the largest shares of any of the suppliers during any of the time periods.

Given the above qualification, why should Idaho still dominate the Buffalo market? This is particularly perplexing since both Michigan and New York are so close to <u>this</u> market. Certainly, during the fourth quarter, New York should at least have as high a market share as it does during the first quarter. However, New York has only a 25-percent share during the fourth quarter while it has a 33 percent share during the first quarter. The shares for Idaho for the same two quarters are: 61 and 49-percent, respectively.

MEAN SHARES OF SUPPLIERS IN <u>BUFFALO</u> TERMINAL MARKET

SUPPLY STATE	TIME PERIOD I	II	III	IV	55 WEEKS
CALIFORNIA	0.0	39.7	13.9	0.0	13.4
COLORADO	0.0	0.0	4.1	0.0	1.0
IDAHO	49.1	4.7	19.8	60.8	33.7
MICHIGAN	0.0	1.6	3.7	0.0	1.3
NEW YORK	33.0	12.8	12.5	24.8	21.1
OREGON	6.5	0.0	12.5	12.2	7.6
TEXAS	0.0	23.9	11.1	0.0	8.7
WASHINGTON	0.3	0.0	2.2	0.0	0.6
CAN. + MEX.	10.1	2.4	1.6	1.6	4.1
SUM OF ABOVE	99.0%	85.1%	81.4%	99.4%	91.5%

The correlation coefficients for the quarters do not reveal much information other than indicating that Idaho is New York's primary competitor during the first and last quarters of the year. Again, week-to-week switching between New York and Idaho appears as the case.

Correlation Coefficients Between Weekly New York Onion Arrivals in Buffalo's Terminal Market and Other Supplying States February 1987 to March 1988.

Other Suppliers	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	All Year
California	.00	-.56	-.45	.00	-.44
Colorado	.00	.00	-.13	.00	-.13
Idaho	-.80	.47	.23	-.66	.03
Michigan	.00	-.20	-.33	.00	-.25
Oregon	-.34	.00	.53	.00	.08
Texas	.00	.14	-.49	.00	-.25
Washington	-.05	.00	.05	.00	-.05
Canada & Mex.	.13	.52	.59	-.09	.28
Other	----	----	----	----	----

Figures V.12, 13, and 14 illustrate the Buffalo market. On figure V.12, it appears that December and January are the months where New York loses significant market shares to Idaho. From February to May of 1987, New York's shares progressively decline. It is a typical illustration of how New York onion stocks are depleted at the end of the season.

Figure V.12

Weekly Share of Buffalo Onion Imports from Various States, 1987-88

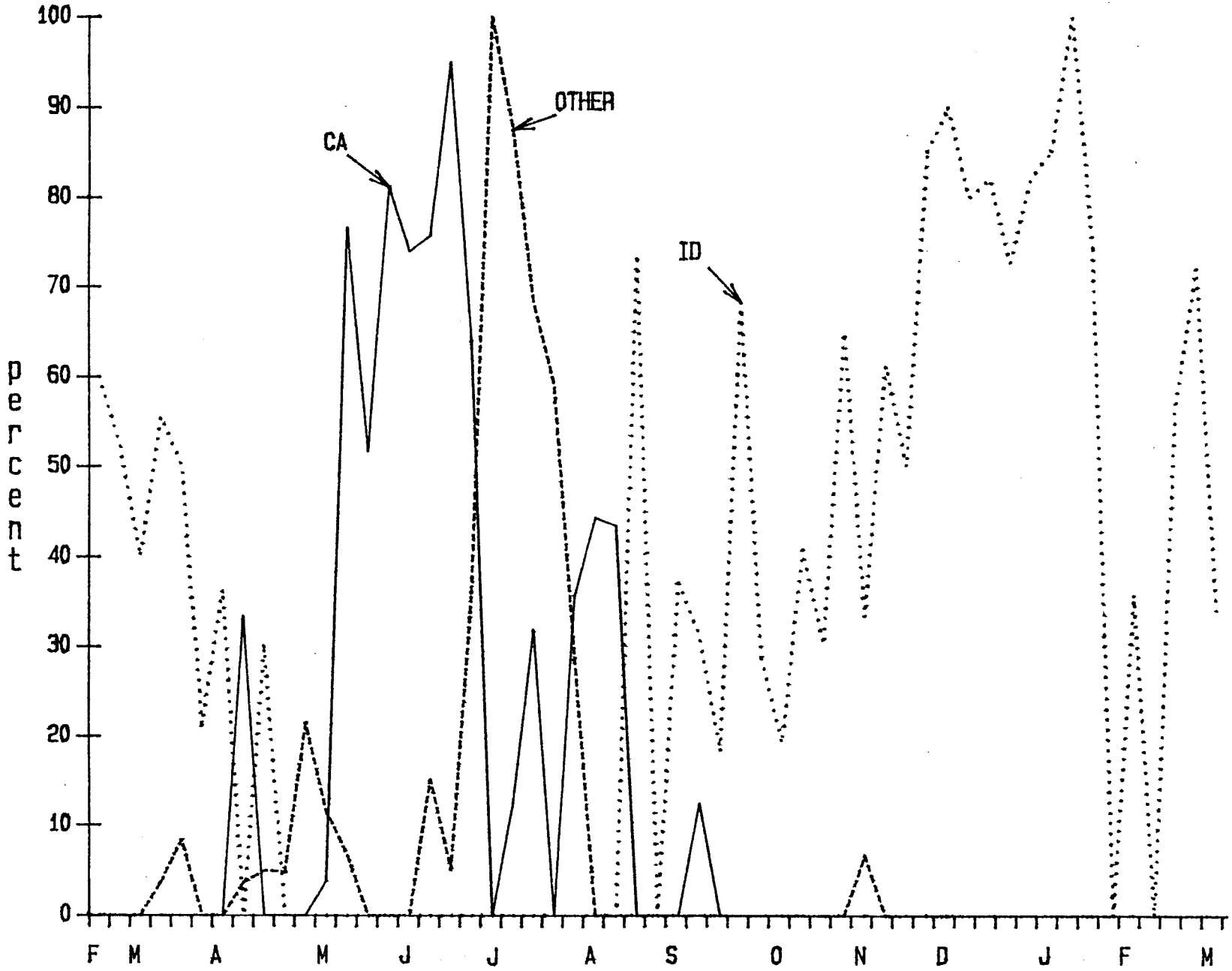


Figure V.13

Weekly Share of Buffalo Onion Imports from Various States, 1987-88

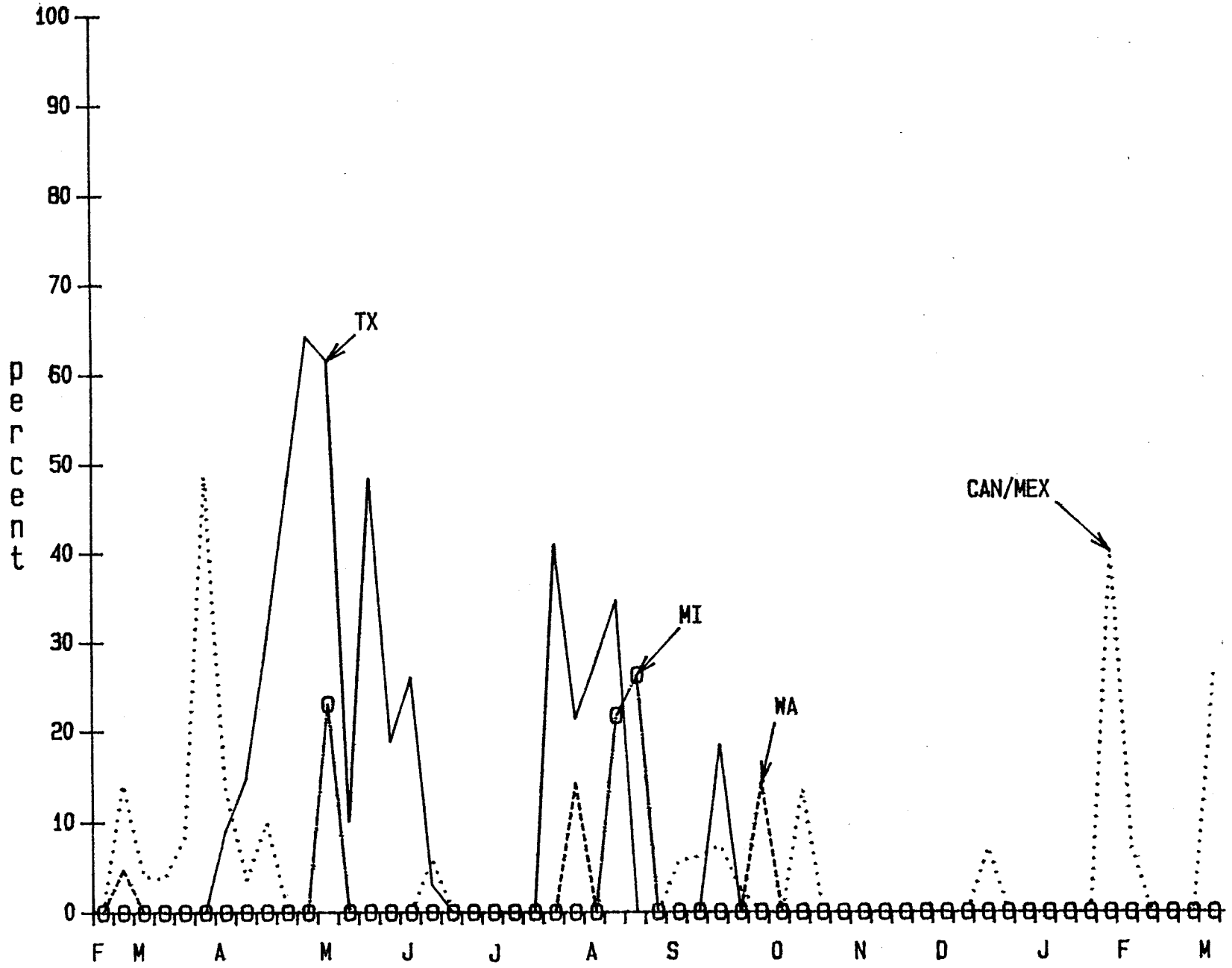
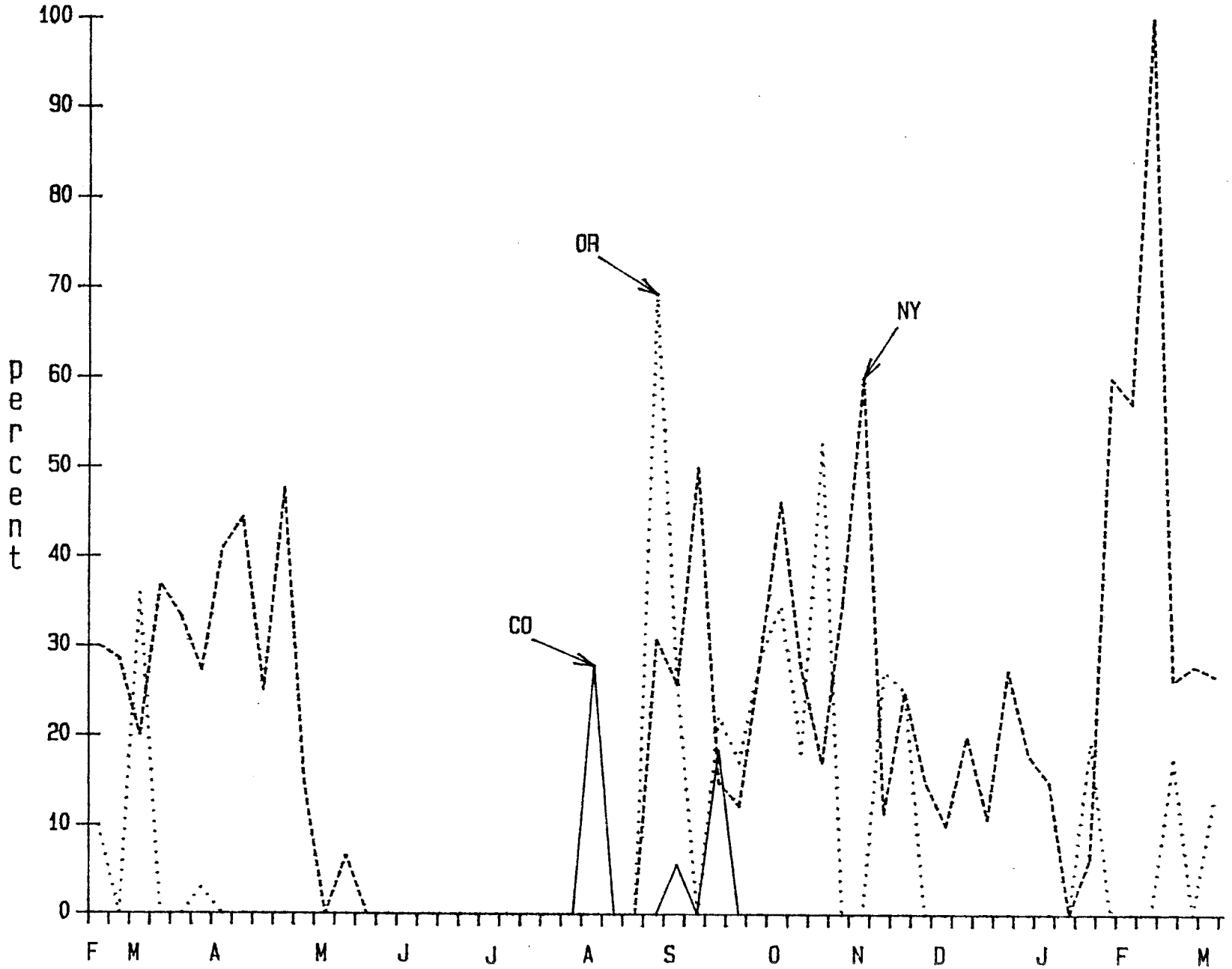


Figure V.14

Weekly Share of Buffalo Onion Imports from Various States, 1987-88



V.E. **NEW YORK CITY and NEWARK**

New York City's terminal market moves 2,143,100 cwt. during the 55 week period. The mean weekly movement is 39,000 cwt. with a high week of 86,300 and a low of 7,200 cwt. Of the seven markets, it is the largest and is twice the size of the next largest market.

In Buffalo, the mean 55 week share for New York producers is 21-percent, but in New York City the share is only 11-percent. The volumes are not comparable since 16 times more onions move through New York City's terminal market than move through Buffalo's. A one percent share of the New York City market represents 21,431 cwt. and that is a significant quantity to any supplier. If New York producers could maintain the same market presence in New York City as they do in Baltimore and Boston, they would move a significantly larger volume of onions.

In this market, both Idaho and Oregon maintain large market shares during the first and fourth quarters of the year. New York producers have 16-percent of the market during the first quarter, but only half of that during the fourth quarter. The eight-percent loss is entirely picked up by Oregon--31 and 39-percent for the first and fourth quarters, respectively.

MEAN SHARES OF SUPPLIERS IN NEW YORK CITY TERMINAL MARKET

SUPPLY STATE	TIME PERIOD I	II	III	IV	55 WEEKS
CALIFORNIA	2.1	32.1	36.5	4.2	18.5
COLORADO	0.5	0.0	3.8	0.1	1.1
IDAHO	47.8	3.9	18.4	47.0	29.5
MICHIGAN	0.5	0.5	0.0	0.0	0.3
NEW YORK	15.9	13.6	4.3	7.8	10.7
OREGON	30.9	8.6	12.9	39.5	23.0
TEXAS	0.0	32.9	10.2	0.0	10.8
WASHINGTON	0.0	0.0	10.6	0.8	2.7
CAN. + MEX.	0.1	1.6	0.1	0.1	0.5
SUM OF ABOVE	97.8%	93.2%	96.8%	99.5%	97.1%

The correlation coefficients indicate the switching pattern seen in other markets. Here, however, the bilateral flows are not as correlated as in Baltimore and Buffalo. Also, it is in this market where the Canadian and Mexican flows are the most correlated (positive) with New York flows--0.47. The New York City market is not as competitive as the Baltimore or Boston markets. Only during the fourth quarter does their appear to be much competition with New York onions

and the strongest (-0.35) is from California. This market is somewhat peculiar in that it is the market that has the smallest correlation coefficients of the seven. Given the volume that moves through the market, one would expect a more competitive market.

Correlation Coefficients Between Weekly New York Onion Arrivals in New York City's Terminal Market and Other Supplying States February 1987 to March 1988.

Other Suppliers	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	All Year
California	.38	.86	.89	-.35	-.61
Colorado	.24	.00	-.12	-.22	-.14
Idaho	-.22	.56	.90	-.09	-.20
Michigan	.21	.62	.00	.00	.51
Oregon	-.48	.15	.83	-.15	.10
Texas	.00	.06	-.83	.00	.03
Washington	.00	.00	-.67	-.07	-.37
Canada & Mex.	.49	.55	.54	-.22	.47
Other	----	----	----	----	----

Figures V.15, 16, and 17 present the New York City and Newark markets. It is quite evident that Idaho progressively increases its share between August 1987 and March 1988. Also, Oregon maintains a rather steady share during the same time period. The 'switching' occurring in the Baltimore and Boston markets is not as evident in New York City, nor does New York appear to gain market share as their season progresses. In fact, in December and January, New York is relatively absent from the market. This may indicate that onions were held from market until February and March in anticipation of higher prices.

The opportunities for New York producers in the New York City market are evident. The question is whether they should increase production or divert product from other markets to New York City. Since the "Seal of Quality Program" is primarily devoting its promotional funds to New York State, it behooves state onion producers to follow the promotion.

Figure V.15

Weekly Share of New York City Onion Imports from Various States 1987-88

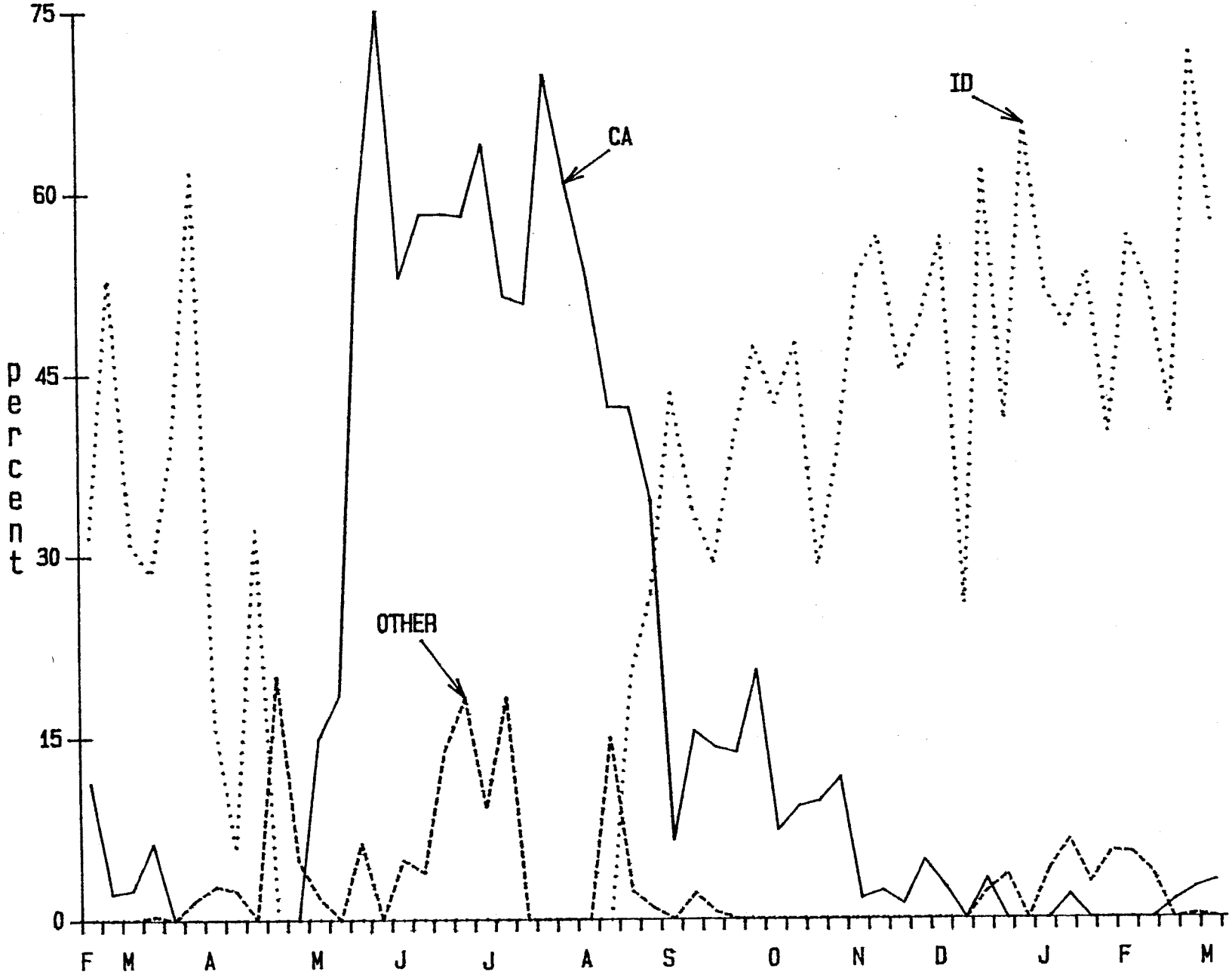


Figure V.16

Weekly Share of New York City Onion Imports from Various States, 1987-88

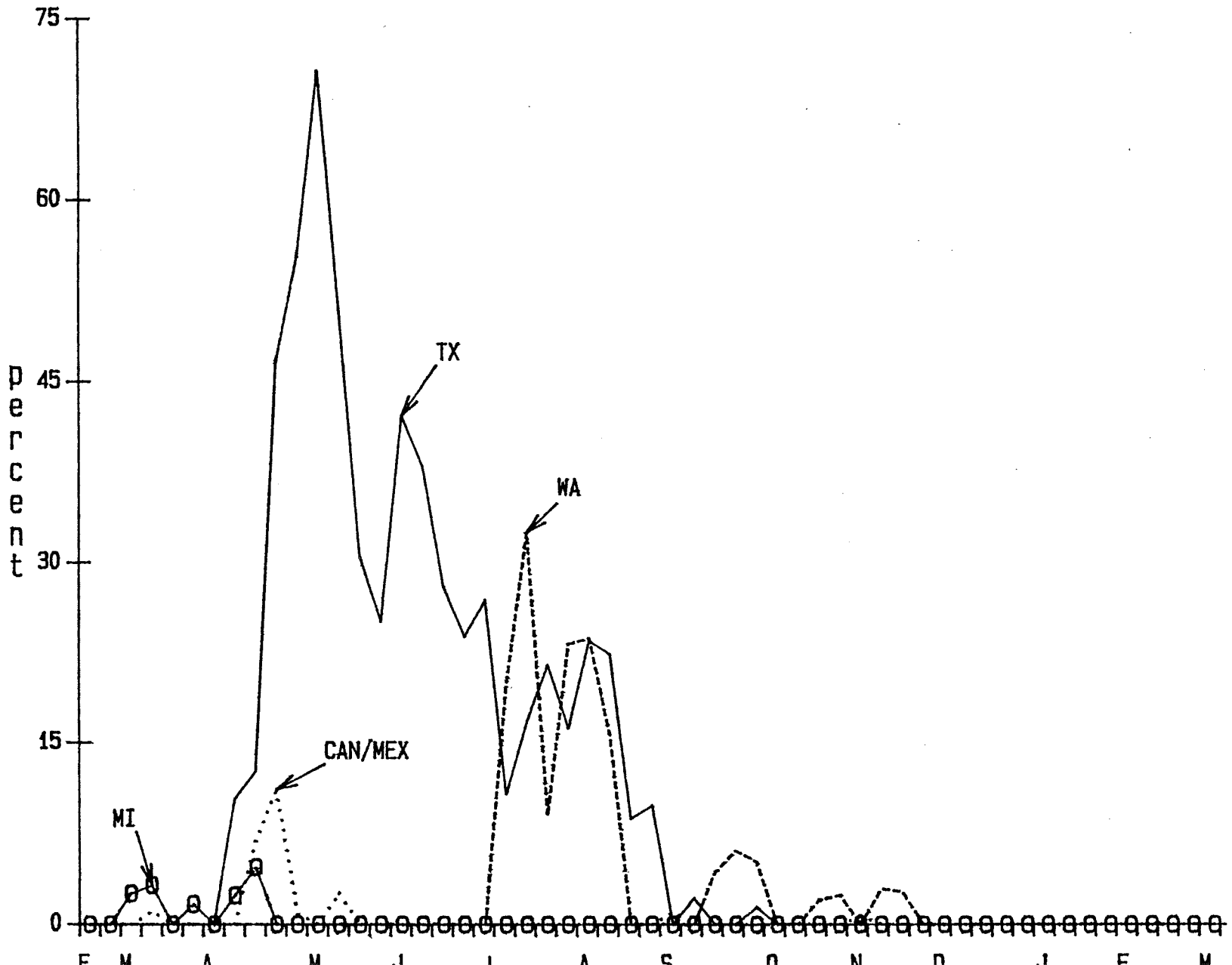
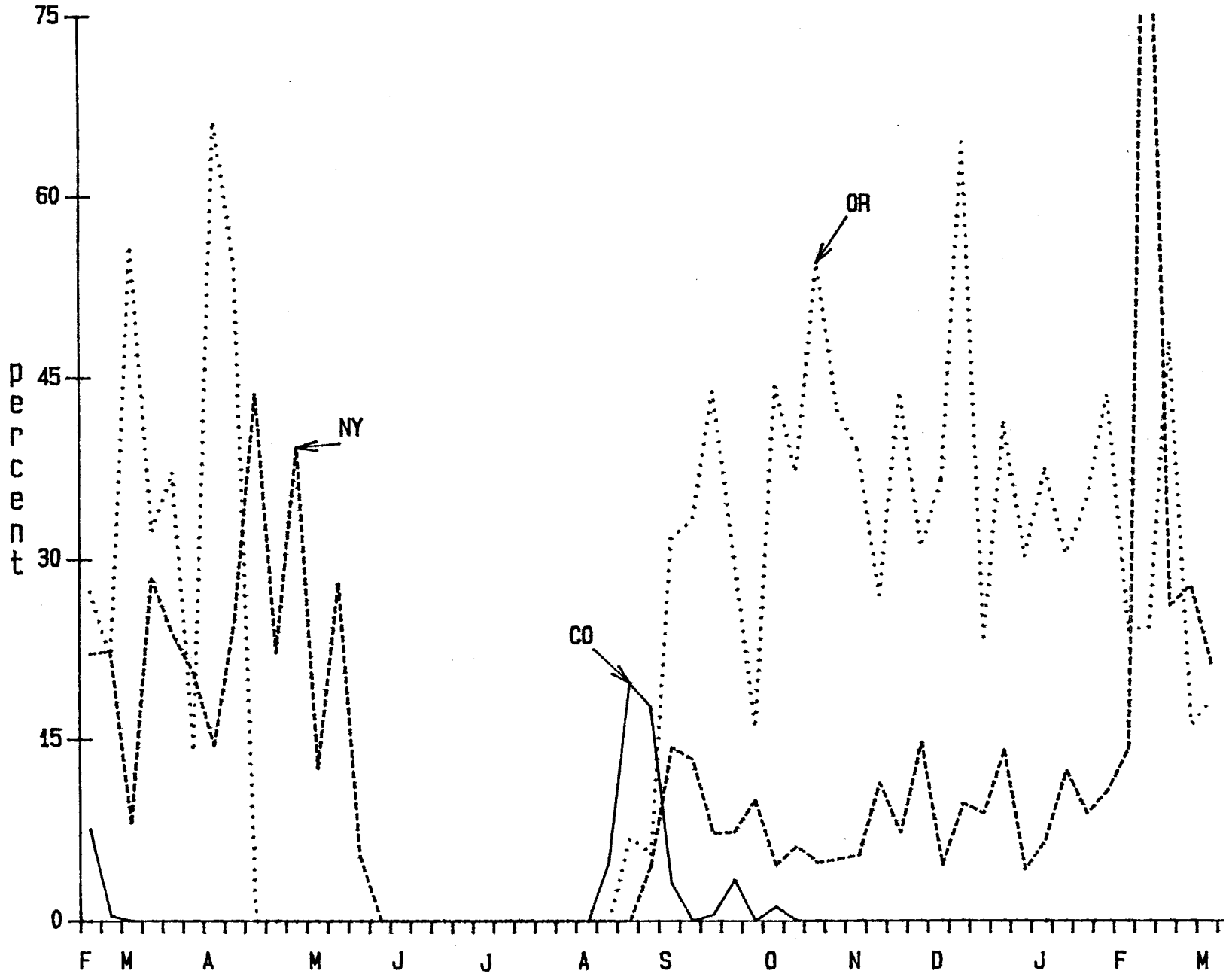


Figure V.17

Weekly Share of New York City Onion Imports from Various States, 1987-88



V.F. **PHILADELPHIA**

Philadelphia's terminal market moves 691,800 cwt. of onions during the 55 week period. The mean weekly movement is 12,600 cwt. with a high week of 21,700 and a low of 4,600 cwt. Of the seven markets, it is the fourth largest.

The Philadelphia market is the most steady market for New York onions. The market shares across quarters are the most consistent--New York has an 11-percent share during the second quarter and a 20-percent share during the third. Where are these onions coming from? The earliest onions of the season appear to be sent to this market. Does Philadelphia offer the highest early season prices? This is the only market where New York has a significant share in the third quarter. The large third quarter suppliers are usually California and Texas, but in Philadelphia, New York has taken market share away from California. Also, Colorado has a 13.5-percent share during the fourth quarter and that is the second largest (Atlanta is the largest) share Colorado has in any of the fourth quarter markets. Over the 55 week period, New York has the largest market share, 21-percent, but it is second to Idaho during the first and fourth quarters.

MEAN SHARES OF SUPPLIERS IN PHILADELPHIA TERMINAL MARKET

SUPPLY STATE	TIME PERIOD I	II	III	IV	55 WEEKS
CALIFORNIA	0.6	30.5	28.8	4.6	15.8
COLORADO	7.1	0.0	8.0	13.5	7.0
IDAHO	35.8	0.4	9.9	27.5	18.7
MICHIGAN	6.5	0.7	0.0	3.5	2.8
NEW YORK	28.9	11.4	19.8	22.0	20.7
OREGON	17.9	2.7	10.3	23.7	13.6
TEXAS	0.0	32.6	10.8	0.0	10.9
WASHINGTON	0.0	0.0	1.9	0.3	0.5
CAN. + MEX.	2.7	7.8	0.1	0.8	2.9
SUM OF ABOVE	99.5%	86.1%	89.6%	95.9%	92.9%

Like New York City, this market does not appear to be a very competitive market. Next to New York City, it has the smallest correlation coefficients, but contrary to New York City, its least competitive quarter is the fourth. A distinct feature of this market is the competition from Colorado during the first quarter. On a yearly basis, California and Texas are New York's substitute suppliers.

Correlation Coefficients Between Weekly New York Onion Arrivals in Philadelphia's Terminal Market and Other Supplying States February 1987 to March 1988.

Other Suppliers	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	All Year
California	.02	-.89	-.88	.30	-.75
Colorado	-.33	.00	.41	.03	.29
Idaho	-.44	.45	.64	-.60	.34
Michigan	.09	.46	.00	.10	.36
Oregon	-.30	.48	.51	-.08	.35
Texas	.00	.01	-.71	.00	-.45
Washington	.00	.00	.01	.46	.02
Canada & Mex.	.31	.79	.34	-.21	.29
Other	----	----	----	----	----

Figures V.18, 19, and 20 present the Philadelphia terminal market from February 14, 1987 to March 13, 1988. The two most interesting participants in the market are Idaho and Oregon. The wide swings in market shares during the fall and winter are uncharacteristic of both suppliers. One week they have close to 50-percent of the market and the next week they have only 10-percent. New York, on the other hand, doesn't have as large a variation during the fall and winter. Similar to the New York City market, New York onions command a significant market share during March and April of 1987. Also, it is the Philadelphia market where the early New York onions go--New York has close to 30-percent of the market during the first week of August.

Figure V.18

Weekly Share of Philadelphia Onion Imports from Various States, 1987-88

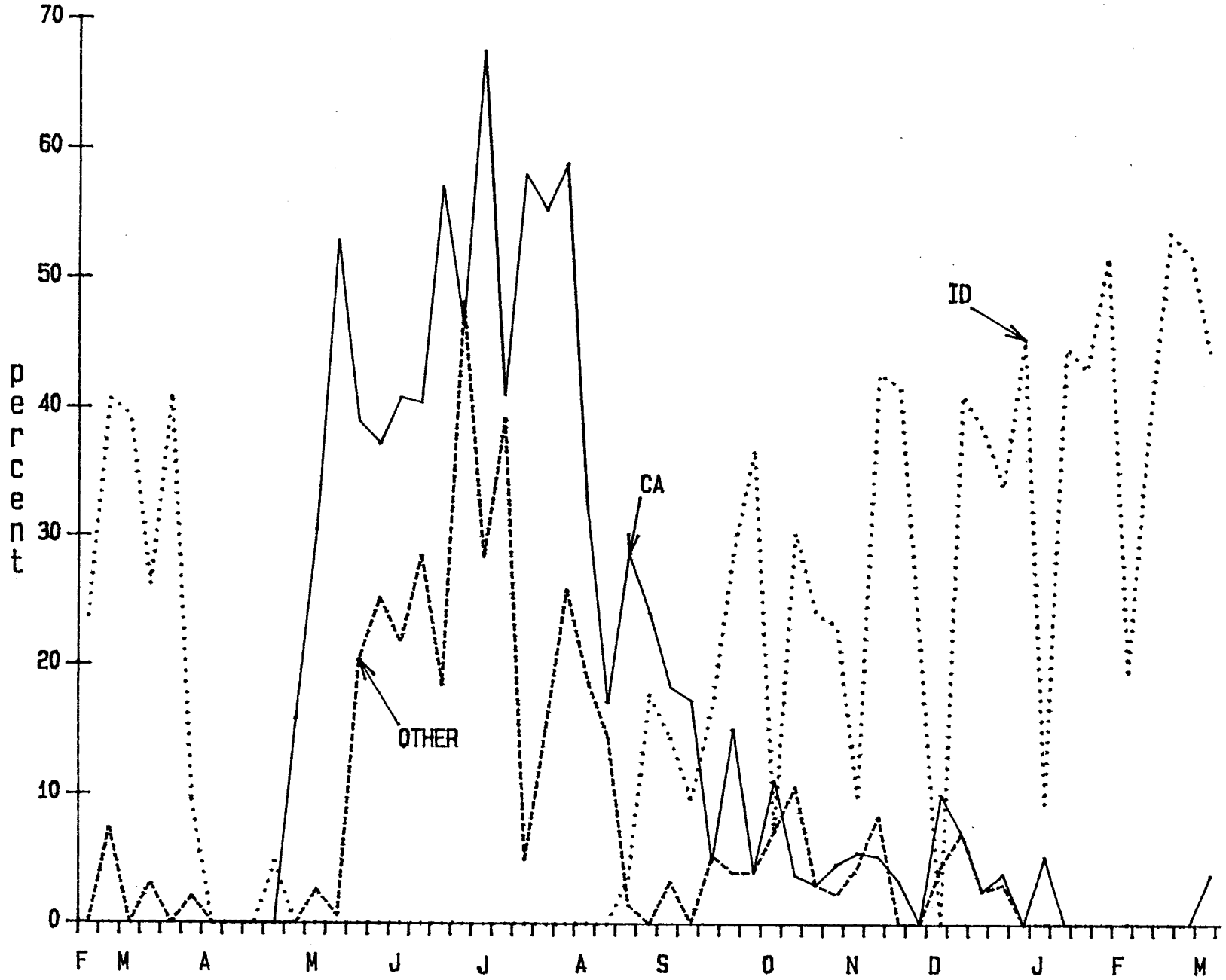


Figure V.19

Weekly Share of Philadelphia Onion Imports from Various States, 1987-88

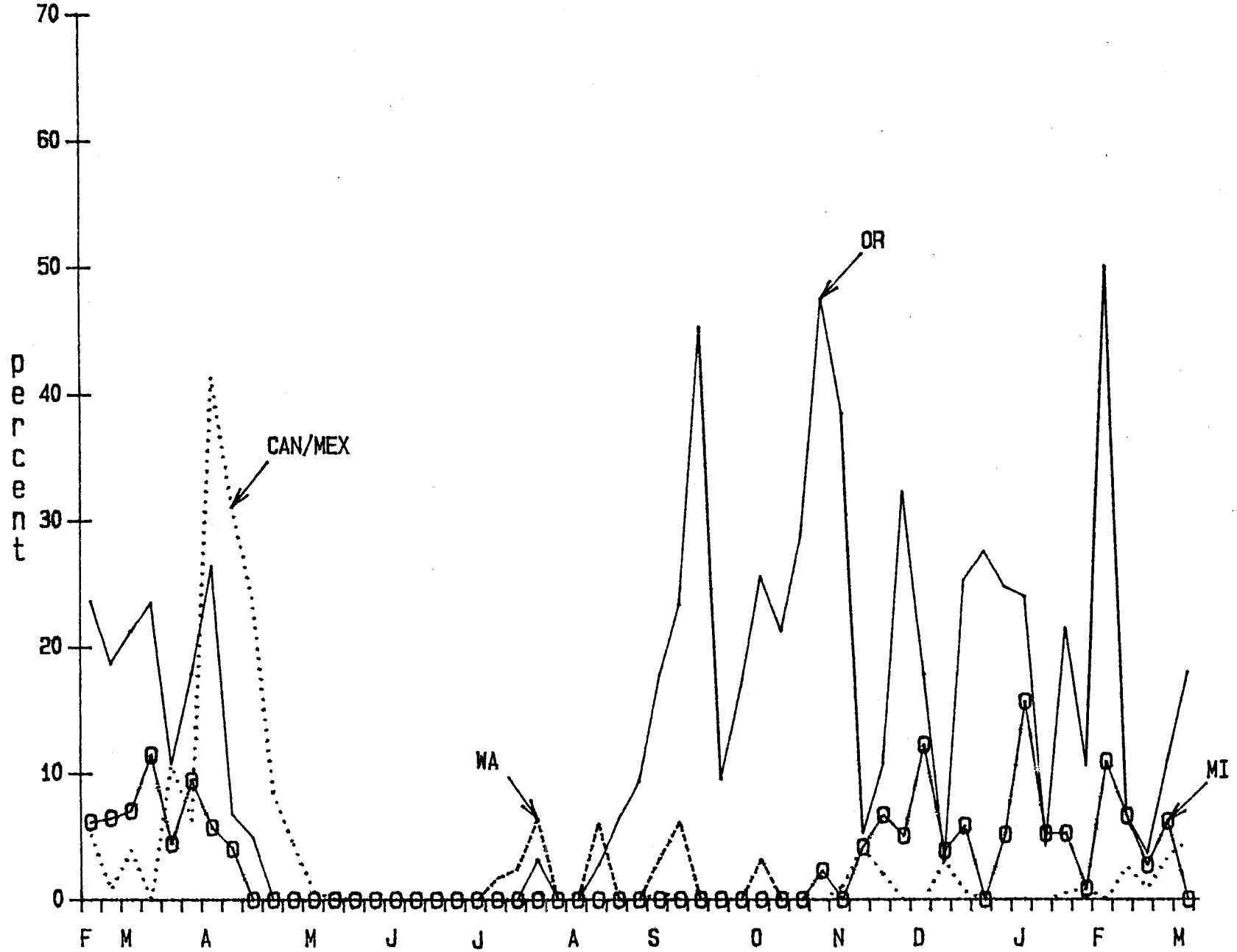
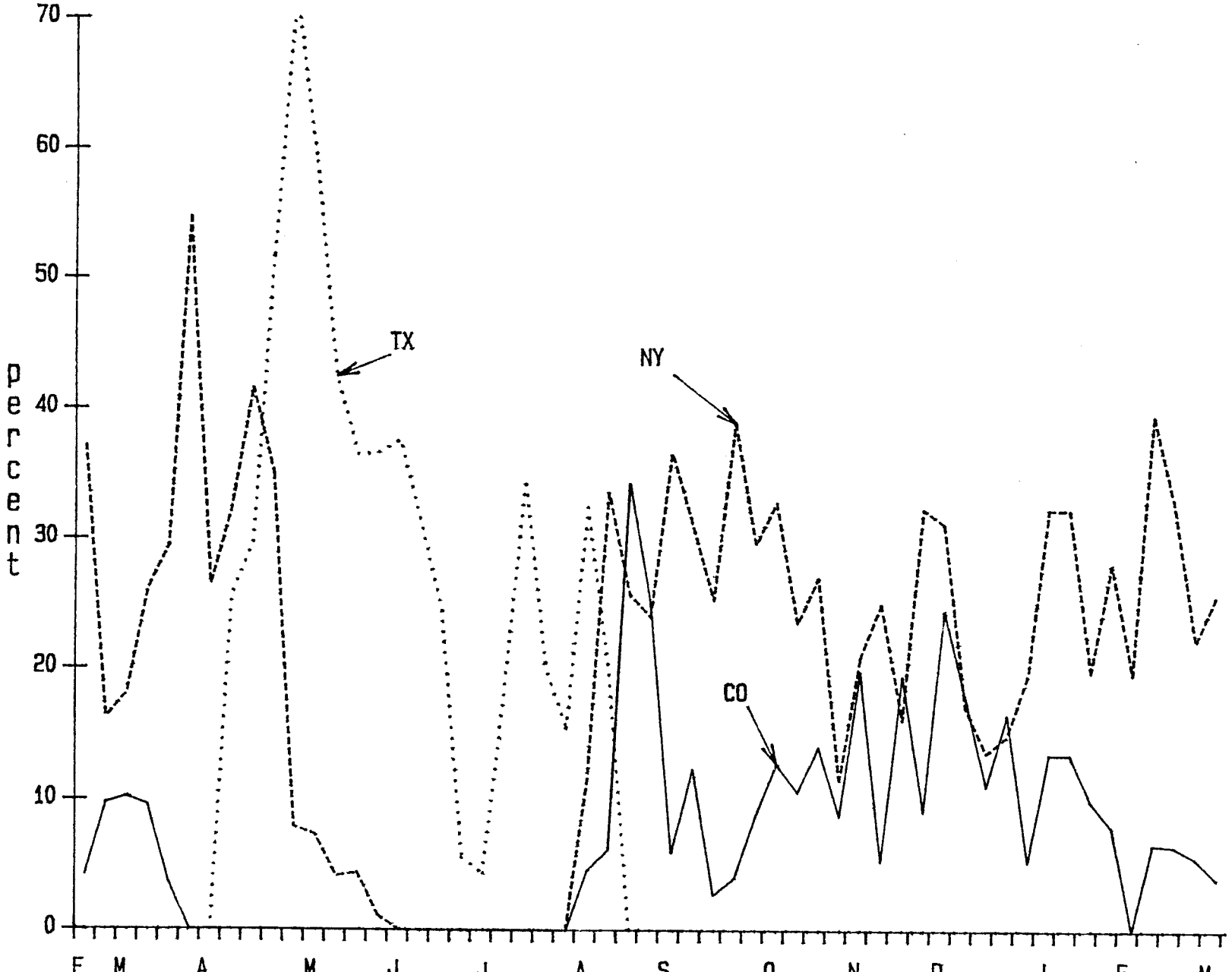


Figure V.20

Weekly Share of Philadelphia Onion Imports from Various States, 1987-88



V.G. **PITTSBURGH**

Pittsburgh's terminal market moves 383,100 cwt. of onions during the 55 week period. The mean weekly movement is 7,000 cwt. with a high week of 12,100 and a low of 2,600 cwt. Of the seven markets, it is the sixth largest.

Michigan is the largest supplier to the Pittsburgh market--commanding a 26-percent mean market share for the 55 week period. It is the only market where Michigan is a major supplier. Michigan dominates the fourth quarter and has the largest share during the first and third quarters. Michigan has a 12-percent share during the second quarter whereas it usually has less than a one-percent share during the second quarter. This was not the situation in the 1970's. McLaughlin and Pierson found Pittsburgh to be a small market for Michigan onions.

New York is the second largest supplier to the Pittsburgh market, but in no quarter does it achieve more than 25-percent of the market. Surprisingly, Oregon plays a relatively minor role in this market, as does Idaho. Across all quarters, the nine exporting regions have 93-percent or more of the total market. It is the only market where other suppliers do not have a presence.

MEAN SHARES OF SUPPLIERS IN PITTSBURGH TERMINAL MARKET

SUPPLY STATE	TIME PERIOD I	II	III	IV	55 WEEKS
CALIFORNIA	0.0	23.0	23.5	0.5	11.5
COLORADO	1.8	0.0	8.6	3.3	3.3
IDAHO	23.9	0.7	8.4	22.8	14.1
MICHIGAN	24.1	12.1	27.2	41.3	25.9
NEW YORK	23.5	8.9	7.2	21.5	15.5
OREGON	17.4	0.5	7.7	8.2	8.6
TEXAS	0.0	42.6	9.5	0.0	13.1
WASHINGTON	0.1	0.0	0.9	0.0	0.2
CAN. + MEX.	7.8	5.5	0.0	1.5	3.9
SUM OF ABOVE	98.6%	93.3%	93.0%	99.1%	92.9%

The correlation coefficients bare out the fact that Michigan is a major New York competitor during the first and fourth quarters. The first quarter indicates relatively strong substitution from a number of suppliers as does the third.

Correlation Coefficients Between Weekly New York Onion Arrivals in Pittsburgh's Terminal Market and Other Supplying States February 1987 to March 1988.

Other Suppliers	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	All Year
California	.00	-.80	-.35	.39	-.52
Colorado	-.25	.00	-.08	.12	-.13
Idaho	-.33	.39	.19	-.39	.23
Michigan	-.42	.91	-.04	-.68	.07
Oregon	-.36	.39	.13	-.07	.18
Texas	.00	-.37	-.30	.00	-.39
Washington	-.01	.00	-.18	.00	-.19
Canada & Mex.	-.03	.62	.00	-.33	.18
Other	----	----	----	----	----

Figures V.21, 22, and 23 present the Pittsburgh market shares of the various suppliers during February 14, 1987 and March 13, 1988. The gyrations in market share of Idaho and Oregon in the Philadelphia fall and winter markets are also evident in the Pittsburgh market. New York has 60-percent of the market during the third week of September and then drops to 0% during the fourth week of September. This is the market where the most week-to-week switching takes place.

Figure V.21

Weekly Share of Pittsburgh Onion Imports from Various States, 1987-88

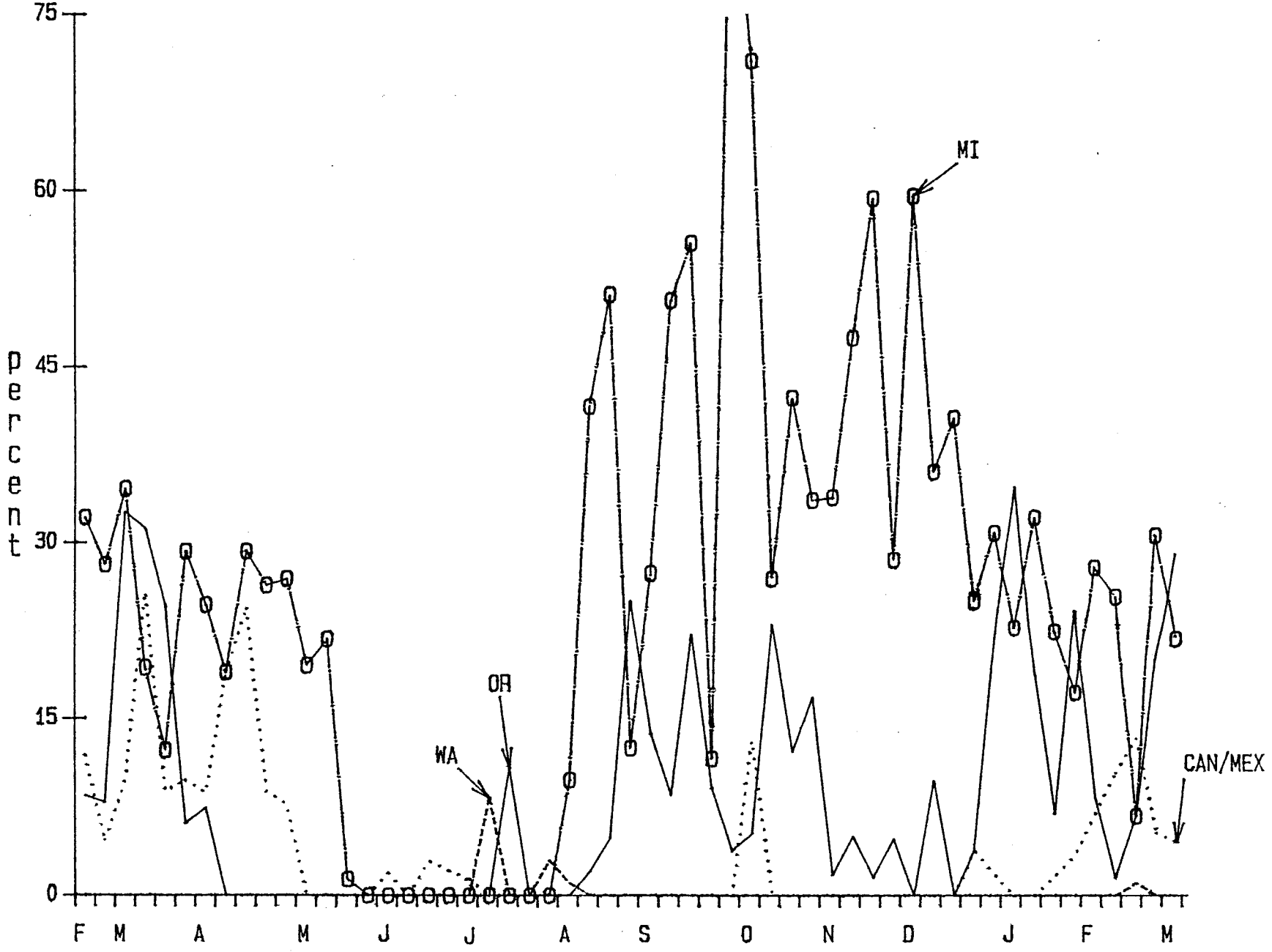


Figure V.22

Weekly Share of Pittsburgh Onion Imports from Various States, 1987-88

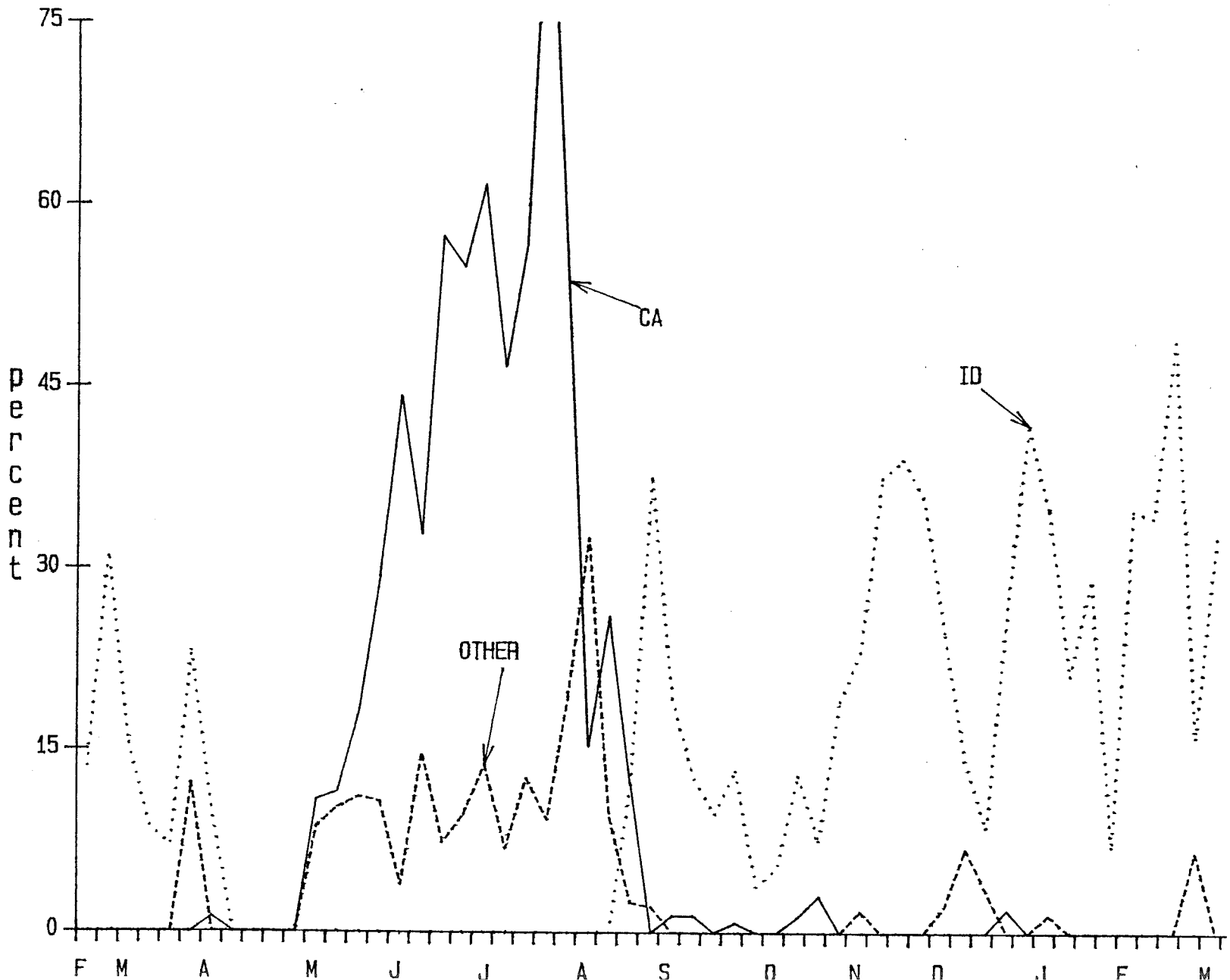
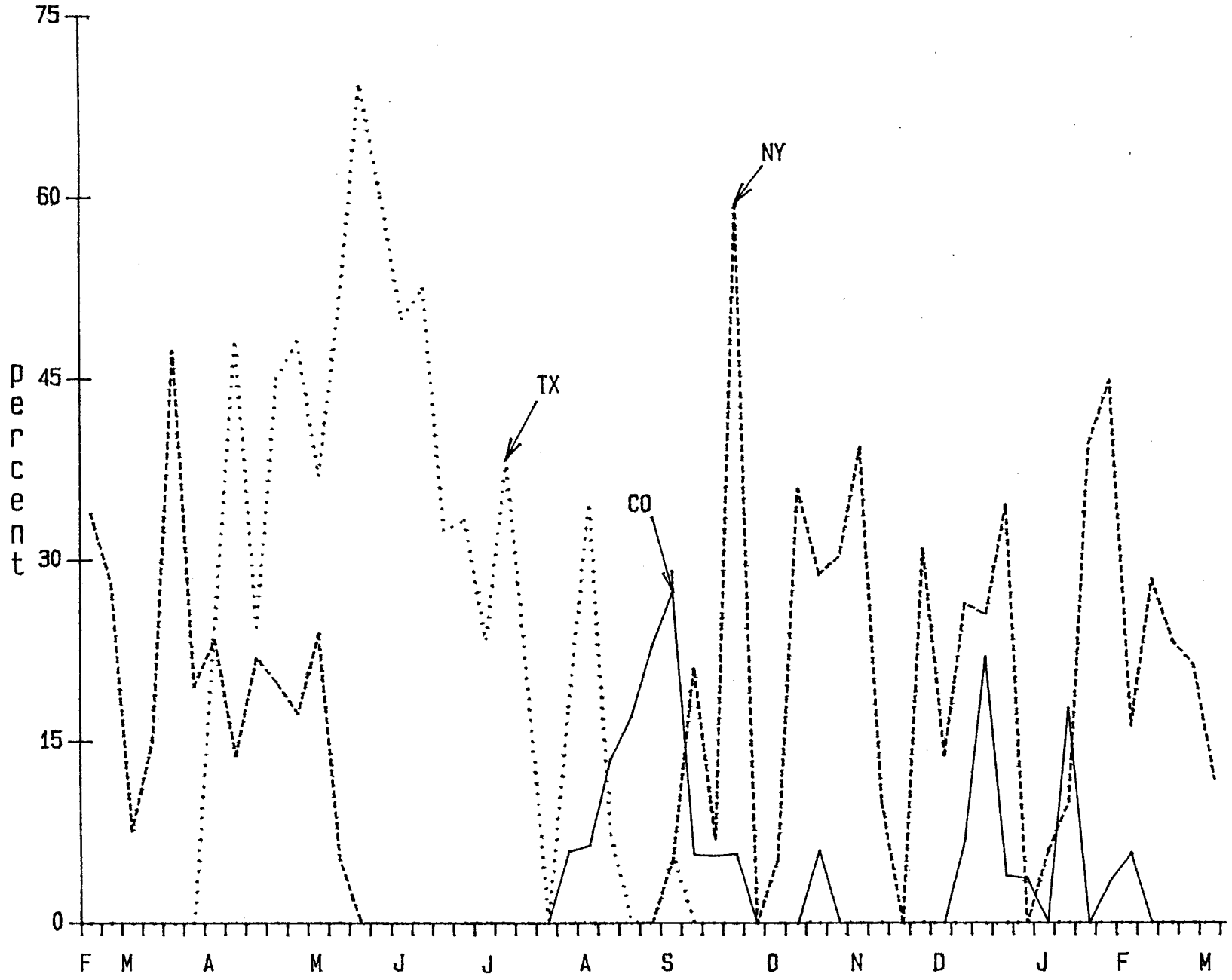


Figure V.23

Weekly Share of Pittsburgh Onion Imports from Various States, 1987-88



VI. SUMMARY

This analysis of the competitiveness of New York State onions in both national, regional, and specific eastern U.S. markets has utilized terminal market data reported by the Market News Branch of the Agricultural Marketing Service (AMS) of the USDA. Weekly "arrivals" is the data used and the time period of the analysis is between February 14,1987 and March 13, 1988. Weekly, quarterly, and yearly comparisons are explored. The analysis investigates the competitive position of New York onions' viv-a-vis California, Colorado, Idaho, Michigan, Oregon, Texas, Washington, Canada plus Mexico, and a catchall Other. The specific eastern markets considered are: Atlanta, Baltimore, Boston, New York City and Newark, Philadelphia, and Pittsburgh.

The reader is directed to consider the two assumptions put forth in the second paragraph of the METHODOLOGY section. These two assumptions are critical to the analysis. In addition, the time period--only one year--has to be kept in mind. The reader should not extrapolate the data beyond the year nor consider this particular year as representative of all other years.

The above notwithstanding, the analysis does provides some insights into the U.S. onion market and specifically the terminal markets. The analysis indicates:

1--New York State has, on average, only 6-percent of the national market. However, this percent is only based on terminal market data. It is likely that New York has a larger national share because much of the New York onions marketed in the Northeast do not go through terminal markets.

2--New York onions are almost entirely sold east of the Mississippi River.

3--New York has the least week to week variability of arrivals than any other suppling state. This appears to imply that New York shippers are more reliable or that the customers for New York shipments have a more steady demand. Whichever of the two, New York suppliers can point to this relatively low variability as an indication of consistency and reliability in suppling markets

4--New York's primary marketing seasons are the first and fourth quarters of the year.

5--New York's main competitors during the first and fourth quarters are Idaho and Oregon. Although Idaho and Oregon primarily supply sweet-spanish type onions, they appear to be substitute products to yellow-globe onions.

6--For the entire year, California and Texas onions are the primary substitutes for New York onions. Since California and Texas market their onions during the second and third quarters of the year, they do not compete with New York during the fourth and first quarters. However, since California and Texas dominate the markets in the second and third quarters, the average annual competitive position of these two states surpasses Idaho and Oregon.

7--The Atlanta and Buffalo markets are two markets where New York producers are missing an opportunity to market more onions.

8--The Boston and Baltimore markets are the strongest and most stable markets for New York onions.

9--The New York City market, with mean weekly arrivals of 39,000 cwt., is vastly underserved by New York producers. Idaho, Oregon, California, and Texas have larger mean yearly market shares than New York.

10--From New York's perspective, the Philadelphia and Pittsburgh markets are significantly different markets. Philadelphia is a more accessible market than Pittsburgh.

11--During the fourth quarter, significantly more onions move through terminal markets than during the other three quarters of the year.

12--California and Idaho are the largest onion suppliers in the country.

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