

January 1989

A.E. Ext. 89-1

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

Enrique E. Figueroa

**Department of Agricultural Economics
New York State College of Agriculture and Life Sciences
A Statutory College of the State University
Cornell University, Ithaca, New York, 14853-7801**

It is the policy of Cornell University actively to support equality of educational and employment opportunity. No person shall be denied admission to any educational program or activity or be denied employment on the basis of any legally prohibited discrimination involving, but not limited to, such factors as race, color, creed, religion, national or ethnic origin, sex, age or handicap. The University is committed to the maintenance of affirmative action programs which will assure the continuation of such equality of opportunity.

ACKNOWLEDGEMENTS

I would like to thank the New York State Onion Industry Research and Development Program for financially supporting this research. Mr. Donald Nielson from New York State Agriculture and Markets for his courteous assistance in administering the project as well as for his helpful comments regarding some of the data utilized in the project. Ms. Yolanda Azarcon and Mr. Adam Weiss both were research assistants in this project. Much of the data tabulation is the result of their efforts. In addition, I would like to thank my colleagues, Dr. Gerald White--Associate Professor--and Dr. Brian How--Emeritus Professor--for their most helpful comments in reviewing my first draft. However, the author takes sole responsibility for the paper.

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

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 supplier 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. However, a substantial portion of California's 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 and Orange County alone produces 55-percent of total state production. New York 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. They 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. Most New York State onions are sold for fresh market consumption.

Western states primarily market jumbo yellow Spanish hybrid onions while southwestern states (and Mexico) produce jumbo grano or granex types. Many of the yellow Spanish onions are sweet Spanish onions and they have been commanding a larger market share.

¹ Generally, 13.5-percent of production is not sold because of shrinkage and waste.

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. This research is supported by the New York State Onion Industry Council with funds generated through the state's onion market order. The author is thankful for their support.

Given this brief background, the purpose of this report is to present the findings of the research funded by the New York State Onion Industry Council. The research examined the national onion market between February 1987 and March 1988. 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, GA., Baltimore, MD., Boston, MA., Buffalo, NY., New York, N.Y., Philadelphia, PA., and Pittsburgh, PA. These seven cities are considered IMPORTERS of onions while California, Colorado, Idaho, Michigan, New York, Oregon, Texas, Washington, Canada, and Mexico are considered the EXPORTERS.

II. METHODS UTILIZED IN THE STUDY

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 Chief of the Market News Branch of AMS indicated 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 is missing.

The findings are based on the following procedure: The market shares each exporter has in each city and conversely the shares the cities have of each exporters total supply are computed. This computation is done for the entire year--55 weeks--and for each quarter of the year--January to March, April to June, July to September, and October to December.

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

III. THE NATIONAL MARKET

The national onion market is summarized in Tables I and II. In addition, Figures III.1, 2, and 3 illustrate the shares each exporting state has of the national onion market. Arrival data reported in the tables is in units of 10,000 lbs. Mean weekly arrivals of New York onions in the 22 cities reported is 148 (14,800 cwt or 29,600 50 lb. bags) and the total arrivals for the 55 week period is 8,117 (811,700 cwt or 1.62 million 50 lb. bags). As a point of comparison, the five-year average of New York State production is 3,345,000 cwt. 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.

TABLE I. National Weekly Arrivals of Onions in 22 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	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. California is the only state that supplied onions in every week of the year. All other states are out of the market during at least one 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. Not surprisingly, the variability of the total market is quite low--0.12. On average, 235,800 cwt. of onions arrive at the reported terminal markets every week of the year.

At, an average annual price of \$7.50 per 50 lb. bag, this figure translates to a weekly wholesale value of 3.537 million dollars.

Table II presents the same information as does Table I except that it only presents the figures for 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 the percentage of each states' production that is marketed in the east. Following are the percents:

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

There is no question that New York relies almost entirely on eastern markets. All other states market more than 25-percent of their onions west of the Mississippi--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. 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 less than 0.08. A possible reason for this difference is that a significant share of onions sold in eastern markets originates in the west. If transportation is limiting at times, then one would expect greater 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. One can discern this by comparing the population in the east and west and the amount of onions that move through terminal markets.

The figures point to a possible opportunity for New York onion producers to market more onions west of the Mississippi--particularly if backhaul opportunities develop.

Tables III and IV present seasonal onion arrival data for the national and eastern markets. Some very interesting differences arise both between seasons and/or between national and eastern markets. 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, which are New York's primary marketing quarters, 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 primary competitors are clearly Idaho and Oregon. 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 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 quarter where the top three suppliers have only 52-percent of the market. The second quarter is the least competitive--the top three suppliers have 82-percent of the market.

The figures point out another surprising outcome. The percent of onions sold in the east, by quarters, is the following: I = 52-percent, II = 51-percent, III = 52-percent, and IV = 57-percent. A five-percent difference, between 52 and 57-percent translates to 5,500 cwt. A total of 5,500 cwt. more onions move in the east during the IV-quarter than during any other quarter. Why is this? One possible explanation is that the holiday season increases the movement of onions through eastern terminal markets (i.e. supports the residual supplier notion). The fact that only half of all onions sold at terminal markets are marketed in the east coupled with the fact that the east has 61-percent of the U.S. population, indicates higher per capita consumption in the west than in the east. However, during the holiday season (4th quarter) the east increases its consumption of onions to levels more in line with consumption in the west.

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

III.A. Graphical Analysis.

Figures III.1, 2, and 3 illustrate weekly national market share of each supply state. 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 to me, the Canadians and Mexicans have only a significant market share during March and April of 1987. However, since this data describes only one year, it may very well be true that during other years the Canadians and Mexicans have larger market shares.

Figure III.1
Weekly Market Share of Total U.S. Onion Market, Various States, 1987-88

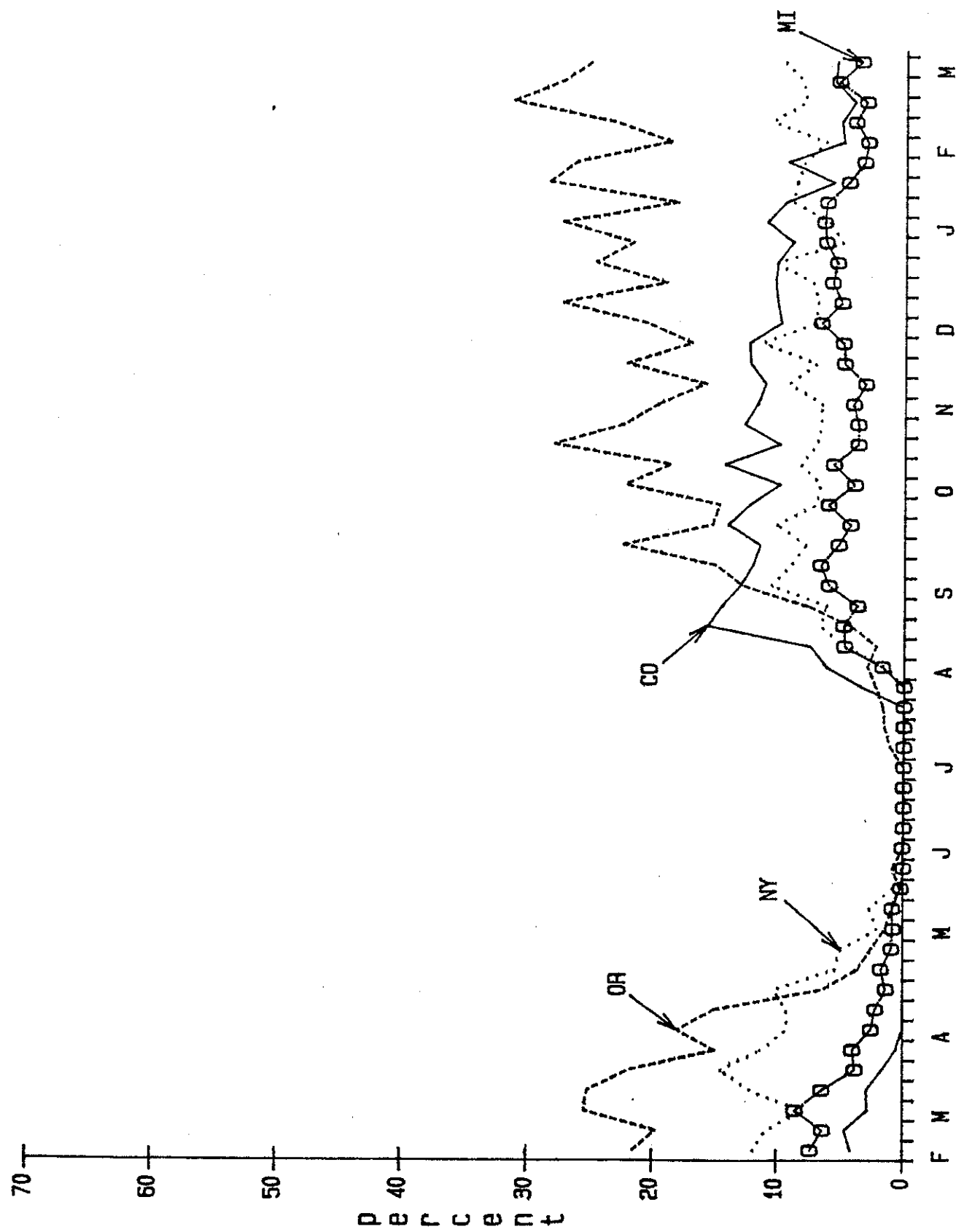


Figure III.2
Weekly Market Share of Total U.S. Onion Market, Various States, 1987-88

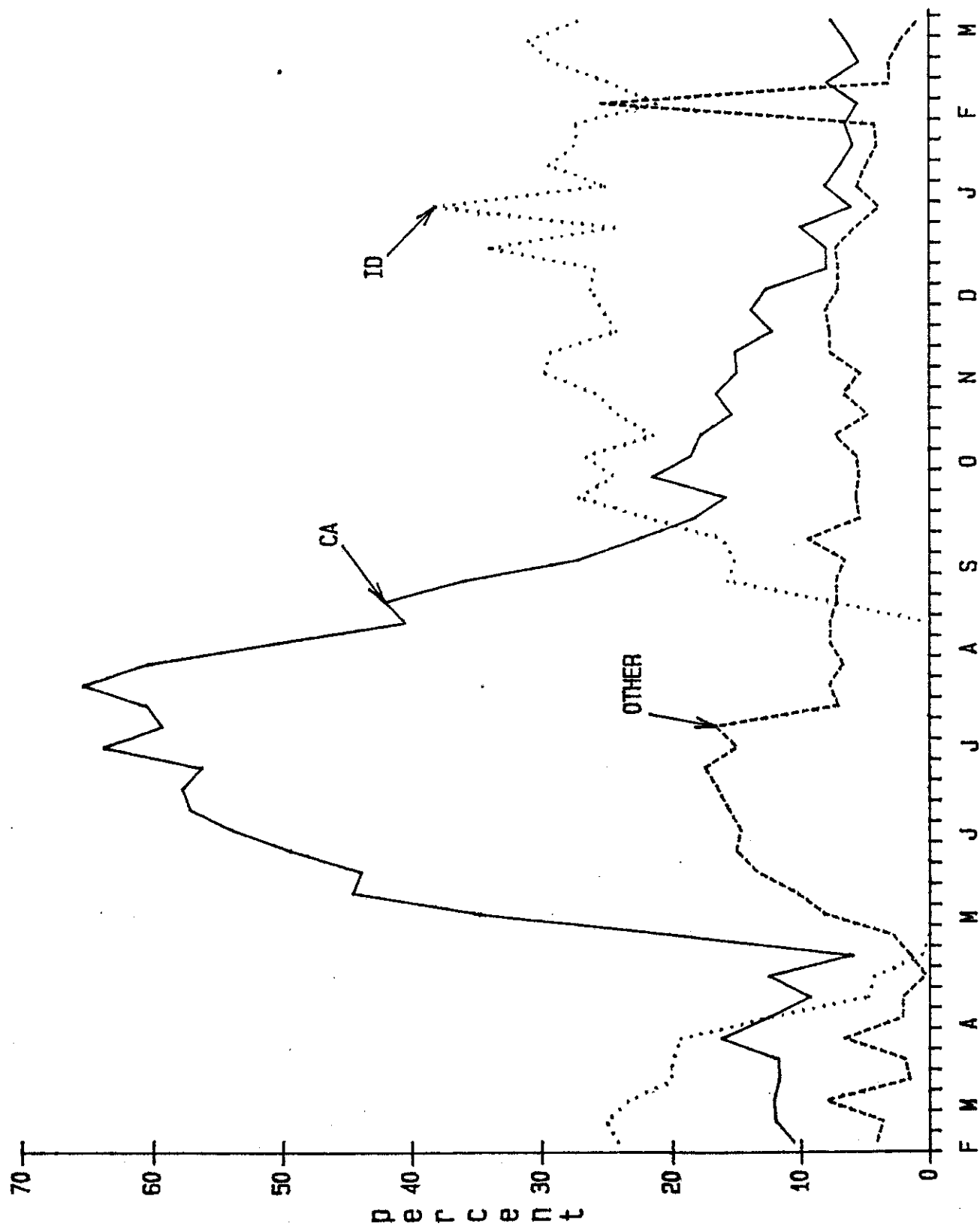
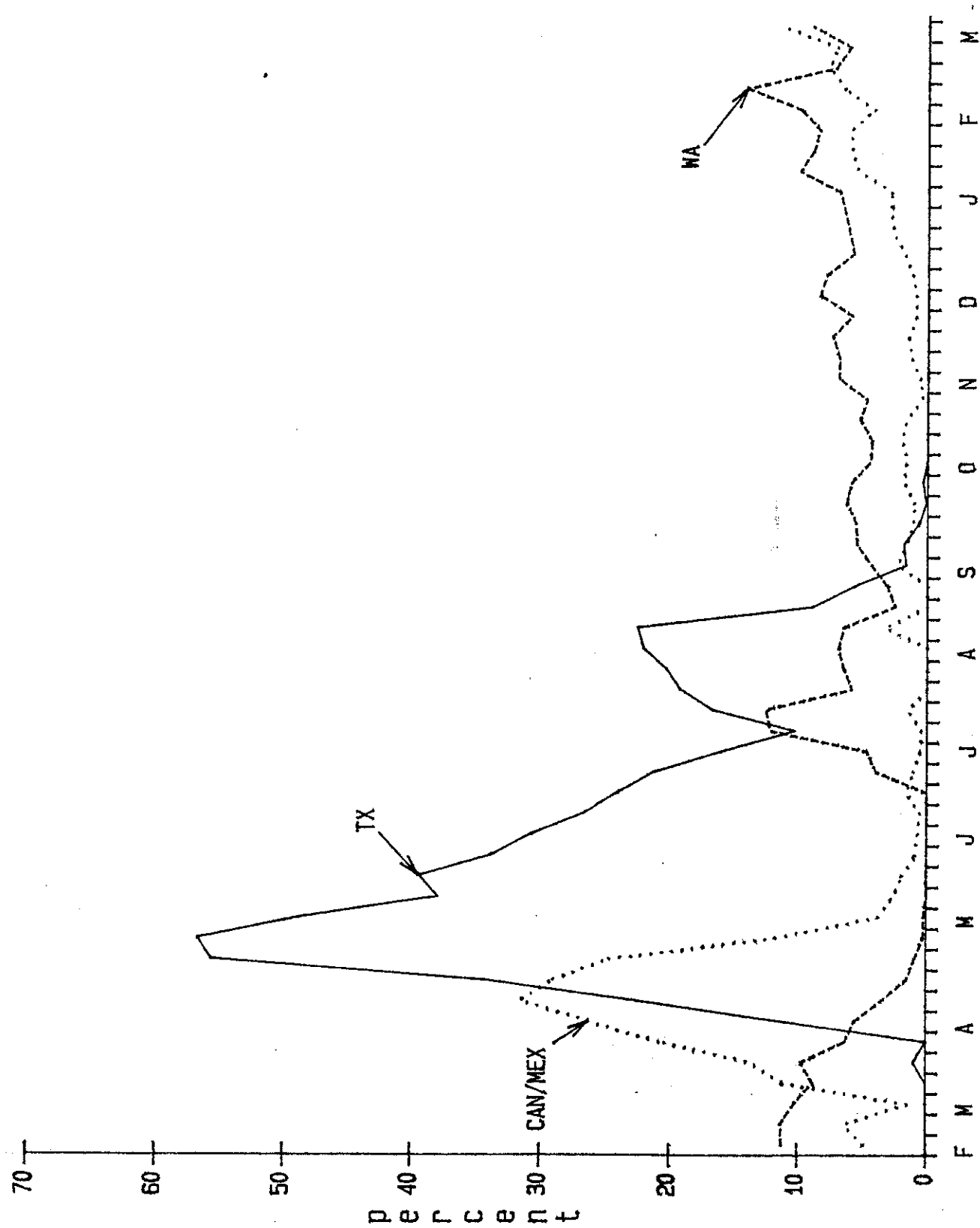


Figure III.3
Weekly Market Share of Total U.S. Onion Market, Various States, 1987-88



III.B. Market Dominance.

The national and eastern market is dominated by three suppliers during every 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. It behooves New York State producers to market their onions in the west during the first quarter of the year and to increase their marketing efforts in the east during the last quarter of the year.

Idaho and Oregon exert more competitive pressure during the first quarter of the year in the eastern market than in the national market. 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 in the eastern market offers opportunities to New York onion producers. It is the most competitive quarter (the top three suppliers have the smallest aggregated market share) and New York has 9-percent of the market. California and Texas, the largest suppliers, should be winding down their supplies by the end of the quarter and New York is well into its harvest season. A strategy of coming to market earlier than usual would seem to pay-off to New York onion producers if prices are not depressed. This would require the development of varieties that mature earlier or implementing cultural practices that would encourage earlier maturity.

Now that an overview of the national and eastern onion markets has been presented, the next step is to look at specific markets in the East.

IV. SPECIFIC EASTERN MARKETS

Figures IV.1 and IV.2 illustrate the market shares specific cities have of total New York State onion arrivals. Boston is the most stable market for New York onions--it is consistently around 30 to 35-percent. 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, initially more go to Baltimore. Later, Baltimore arrivals progressively decline and more go to New York City. Pittsburgh and Philadelphia appear to be the most unstable markets. Together they account for about 25 to 30-percent of the market during the fall and winter. 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 1987. Another is the small share the Atlanta market has of New York arrivals. Colorado ships 20-percent of their onions to Atlanta during the fall. Canada and Mexico ship a significant amount of their onions to Atlanta throughout the year.

Figure IV.1
Weekly Share of New York Onion Exports to Various Cities, 1987-88

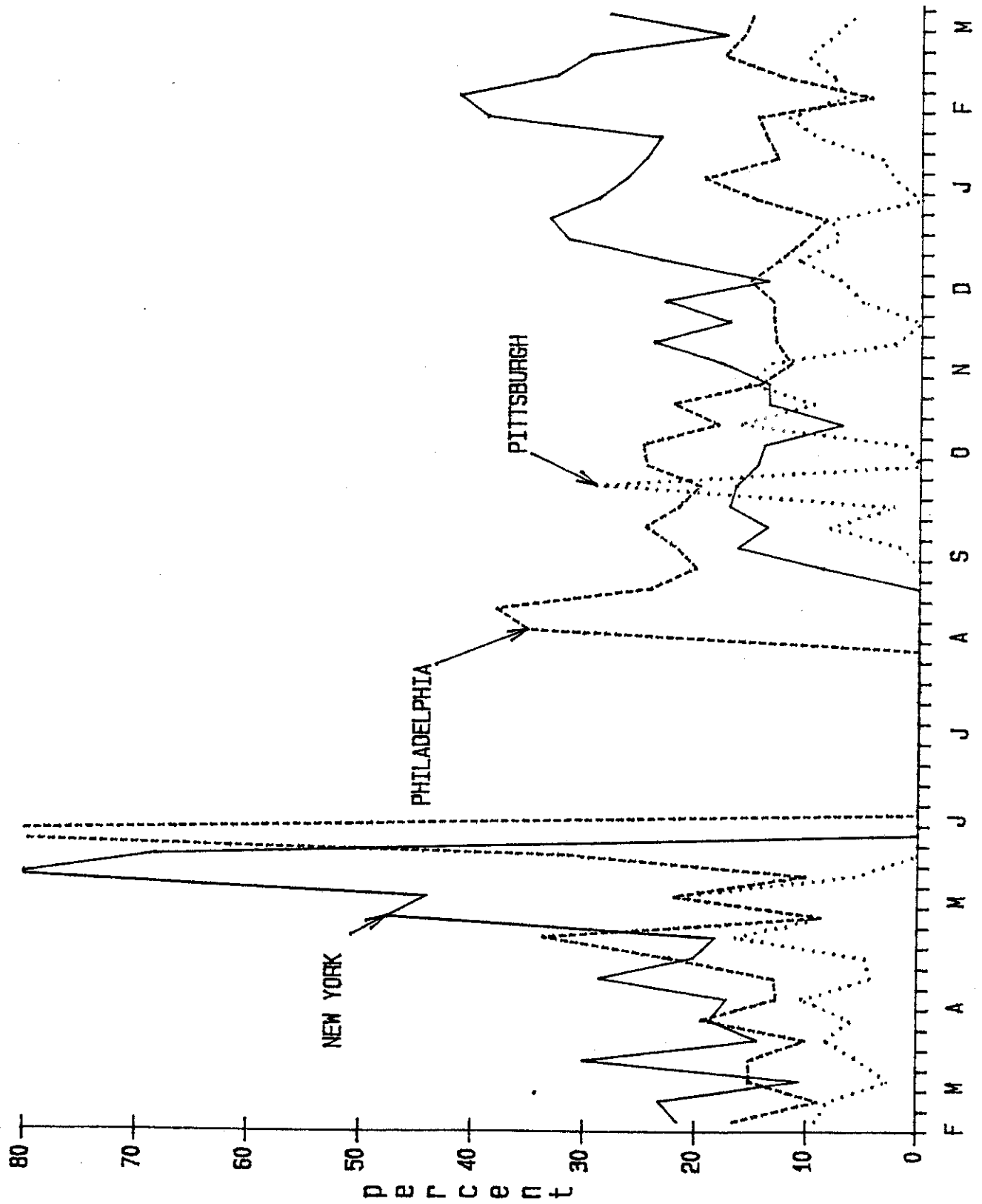
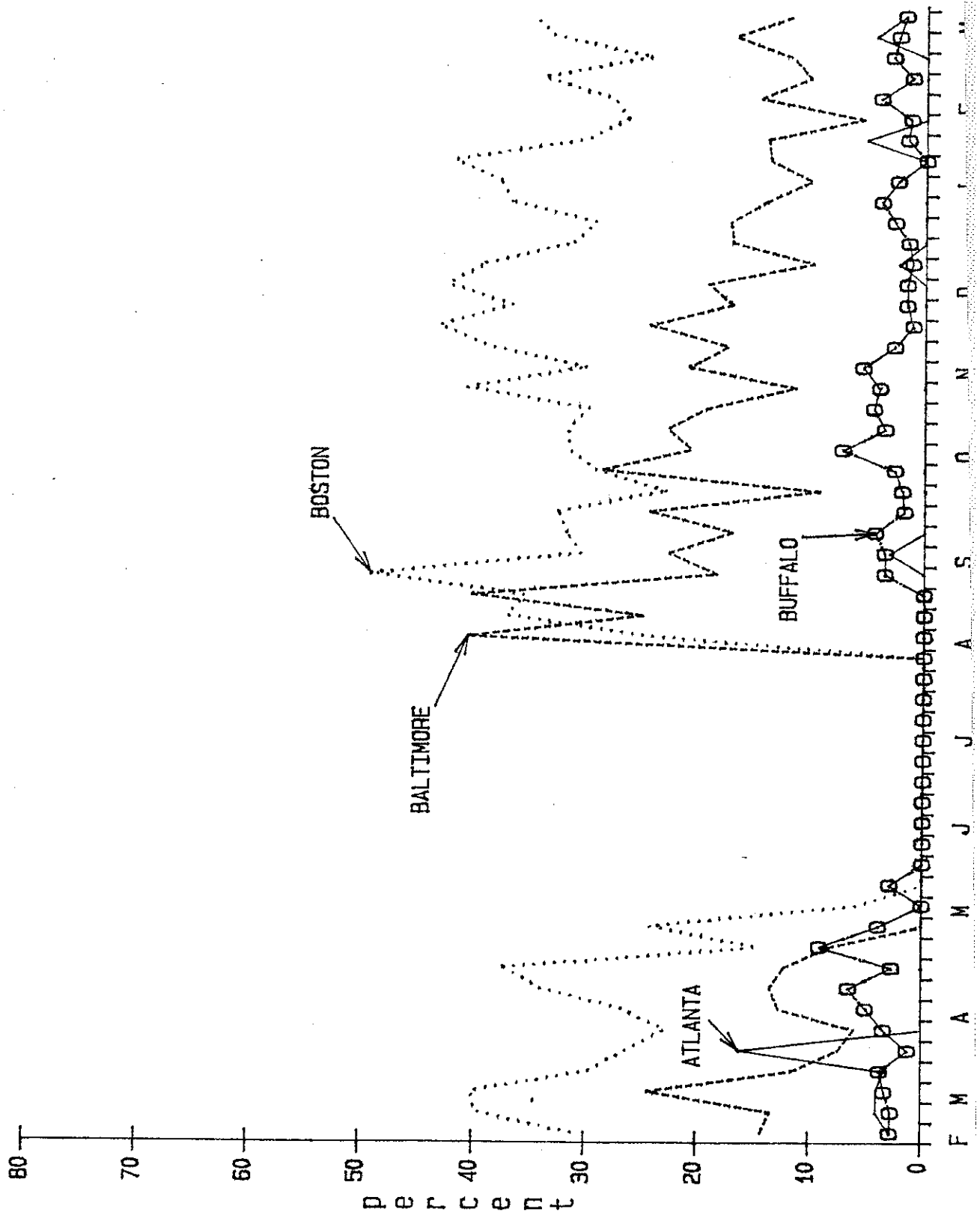


Figure IV.2
Weekly Share of New York Onion Exports to Various Cities, 1987-88



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 statistics 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 is not available. An open question remains--what percentage of total state production is marketed in the state?

IV.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 IV-quarter--a 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 are supplying onions during the latter part of the quarter, the Canadians are capturing 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 in any of the seven cities. It is particularly true during the second and third quarters. A hypothesis is that the Vidalia onion commands a significant market share.

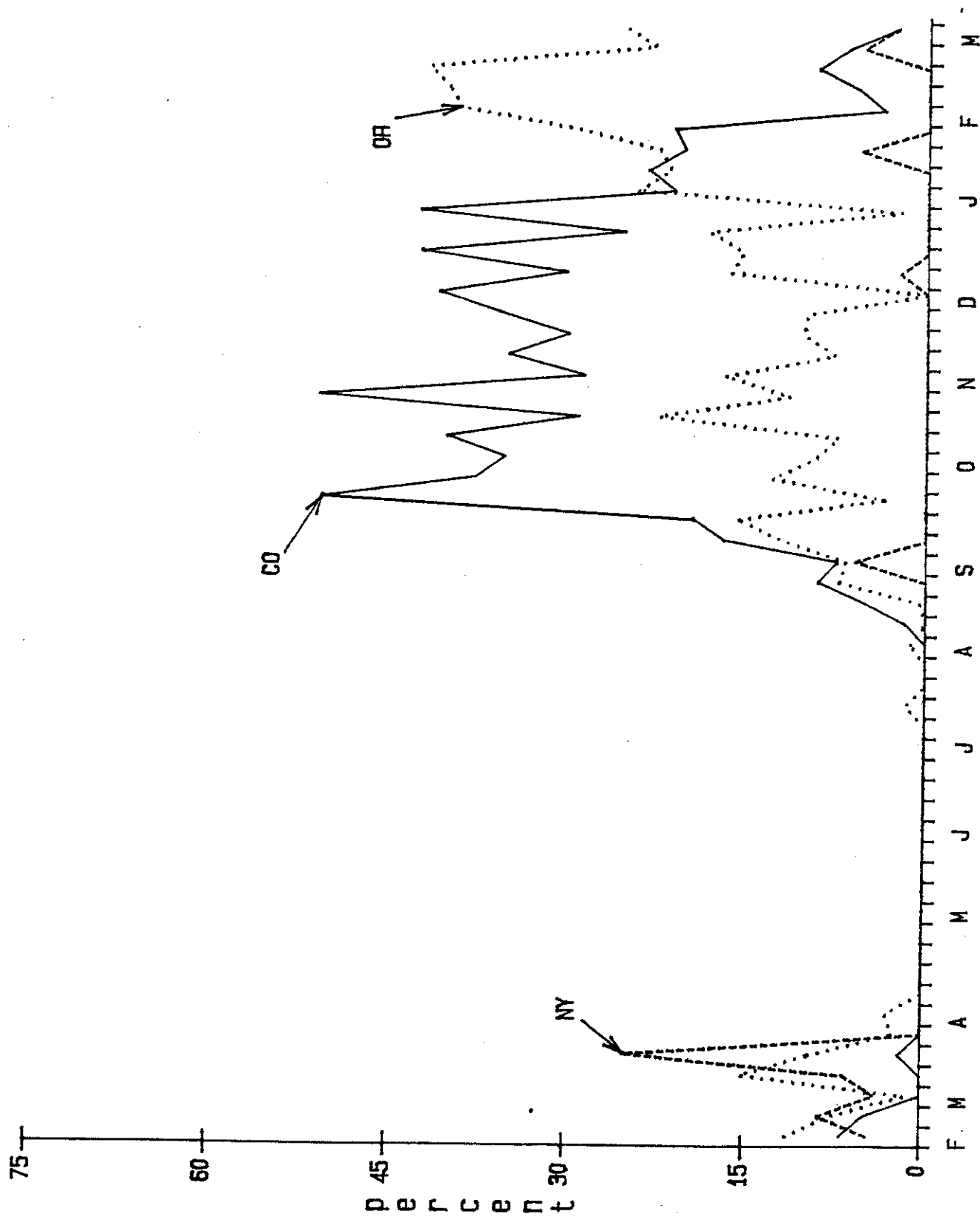
New York onion producers are missing an opportunity in Atlanta. New York has the lowest 55 week mean share than any of the other suppliers. During the first and last quarters, New York should be able to capture a larger share than the 1.3-percent mean. Are prices too low in Atlanta?

MEAN SHARES OF SUPPLIERS IN **ATLANTA** TERMINAL MARKET

SUPPLY STATE	TIME PERIOD				55 WEEKS
	I	II	III	IV	
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%

Figure IV.3 illustrates New York weekly arrivals in Atlanta. 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 1987.

Figure IV.3
Weekly Share of Atlanta Onion Imports from Various States, 1987-88



IV.B. Baltimore

Baltimore's terminal market moves 673,300 cwt. 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 New York has in the Baltimore market is more reflective of its competitive position than, e.g., its share in 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.

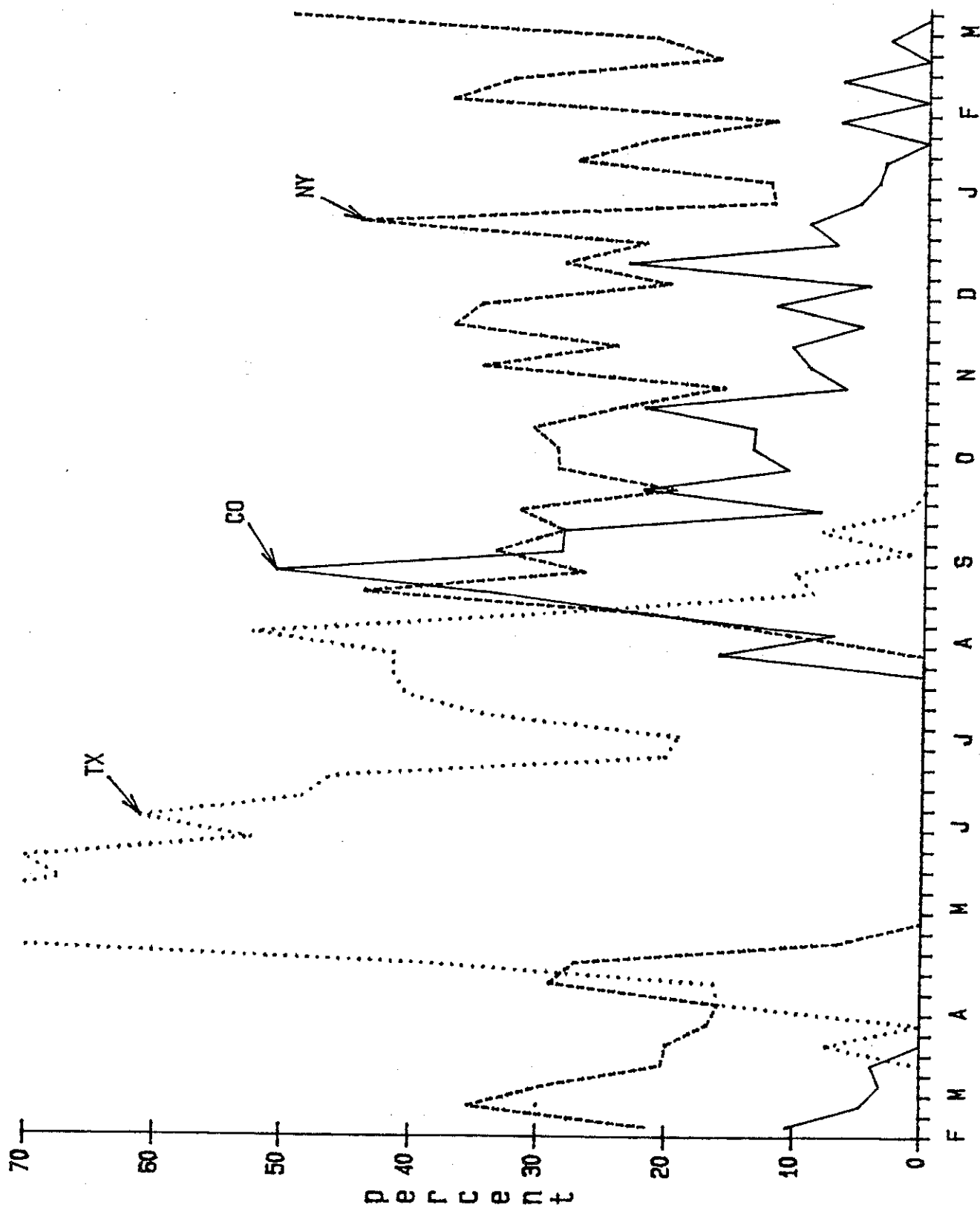
MEAN SHARES OF SUPPLIERS IN BALTIMORE TERMINAL MARKET

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%

Figure IV.4 illustrates the Baltimore market and the shares New York arrivals maintain. As can be seen on figure IV.4, 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. Texas dominates (except for the last two weeks of June) the market between April and August 1987.

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 why they hold a strong position in the market.

Figure IV.4
Weekly Share of Baltimore Onion Imports from Various States, 1987-88



IV.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 market 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. Week-to-week switching between New York and its substitutes characterizes the market.

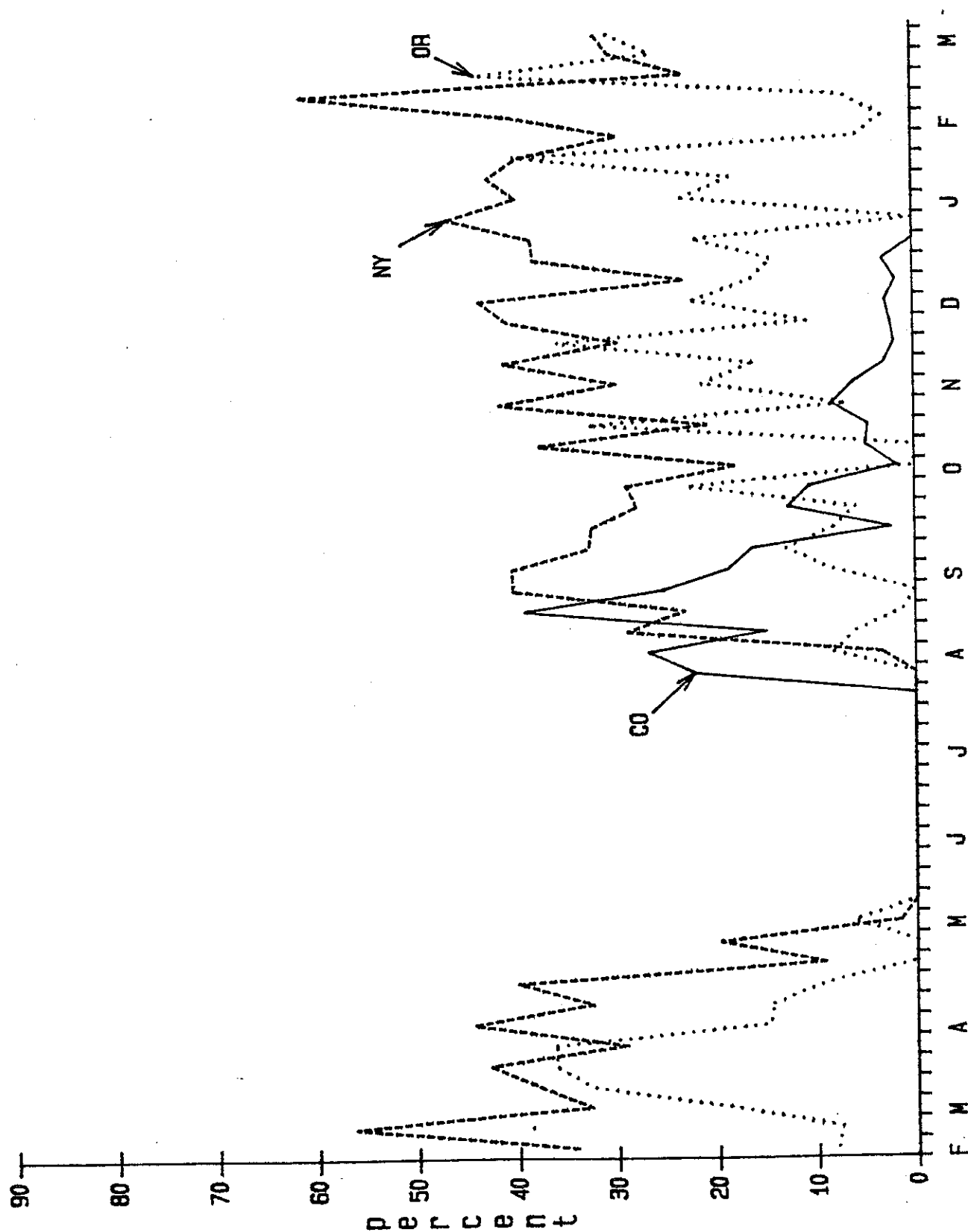
A possible strategy for New York growers is to take some market share from California and/or Colorado during the third quarter of the year. Certainly, plentiful supplies of New York onions are available during September.

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%

Figure IV.5 presents the shares New York arrivals have in 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 IV.5
 Weekly Share of Boston Onion Imports from Various States, 1987-88



IV.D. Buffalo

Buffalo's terminal market moves 135,900 cwt. 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 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 its 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.

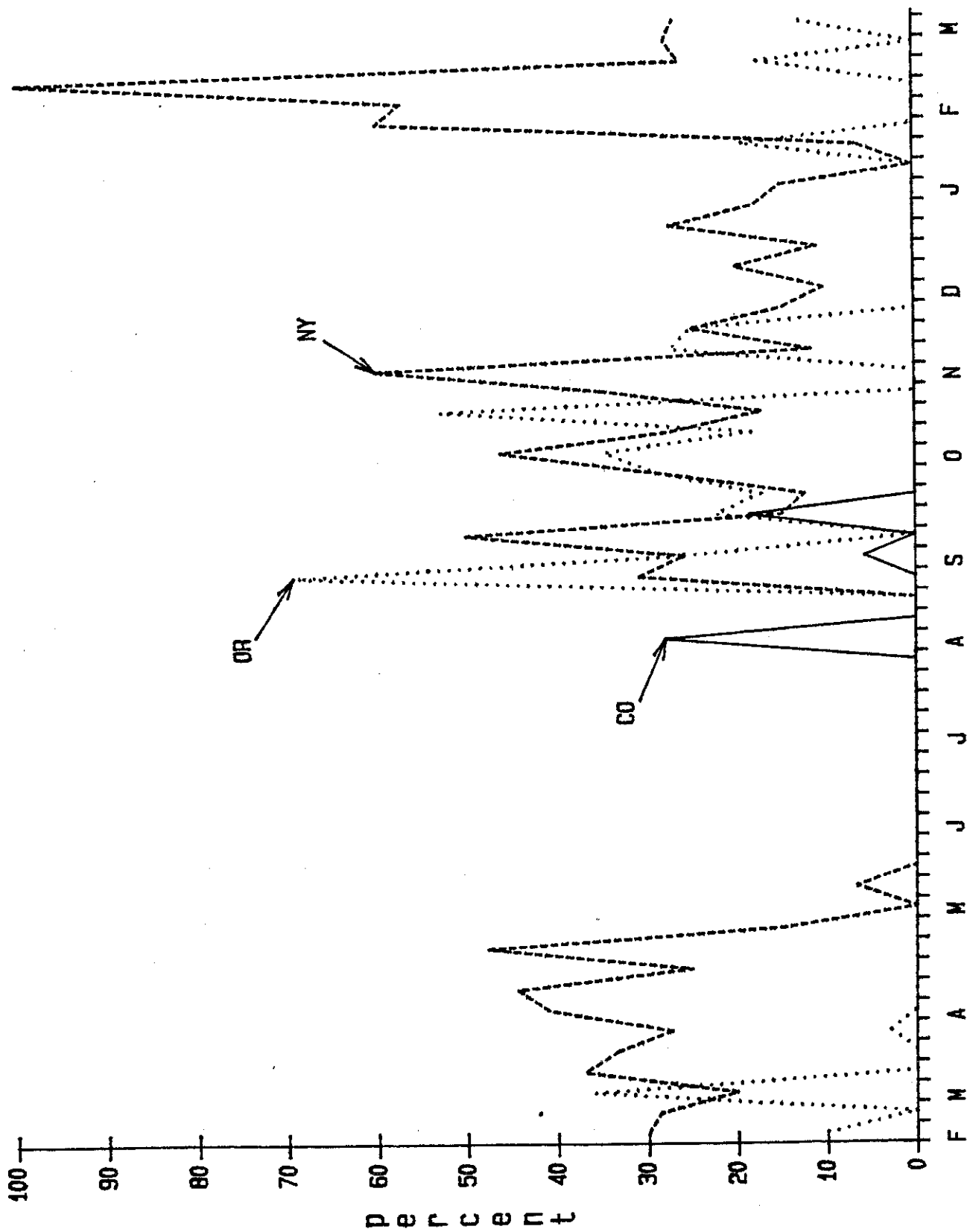
Given the above qualification, why should Idaho still dominate the Buffalo market? This is particularly perplexing since both Michigan and New York are so close to this market. Certainly, during the fourth quarter, New York should at least have as high a market share as it does during the first quarter. 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 **BUFFALO** 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%

Figure IV.6 illustrates the Buffalo market and New York's position in the market. On figure IV.6, December 1987 and January 1988 are the months where New York loses significant market share 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. One can surmise that if New York onions can be stored (kept from market) longer, the potential returns to producers may increase.

Figure IV.6
Weekly Share of Buffalo Onion Imports from Various States, 1987-88



IV.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 1-percent share of the New York City market represents 21,431 cwt. If New York producers could maintain the same market presence in New York City as in Baltimore and Boston, they would move a significantly larger volume on 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 8-percent loss is entirely picked up by Oregon--31 and 39-percent for the first and fourth quarters, respectively.

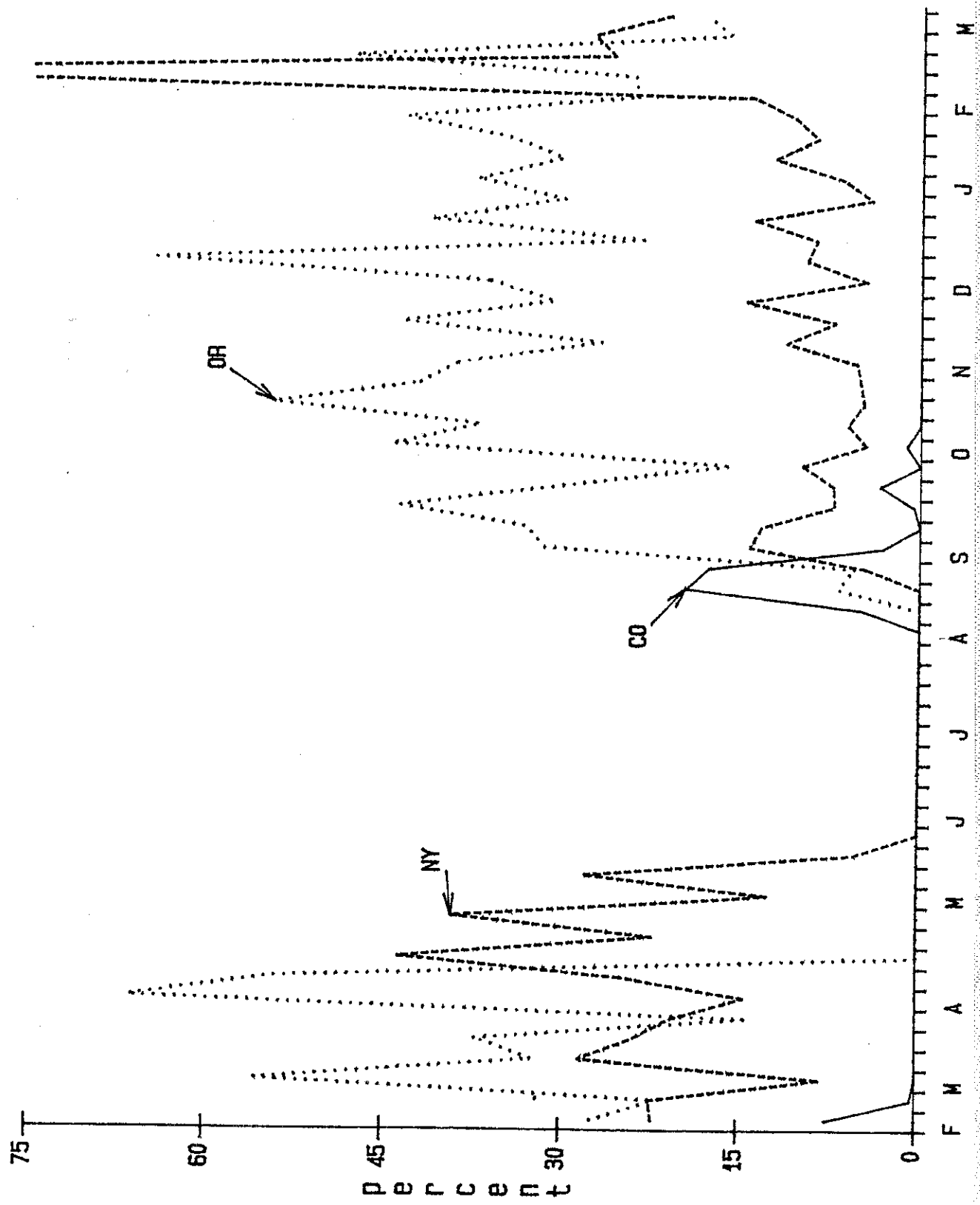
MEAN SHARES OF SUPPLIERS IN **NEW YORK CITY** TERMINAL MARKET

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%

Figure IV.7 presents the share position New York arrivals have in the New York City and Newark market. 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 1987 and January 1988 New York is relatively absent from the market. This may indicate that onions were held from market until February and March of 1988 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 place primary emphasis on the New York City market.

Figure IV.7
 Weekly Share of New York City Onion Imports from Various States, 1987-88



IV.F. Philadelphia

Philadelphia's terminal market moves 691,800 cwt. 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.

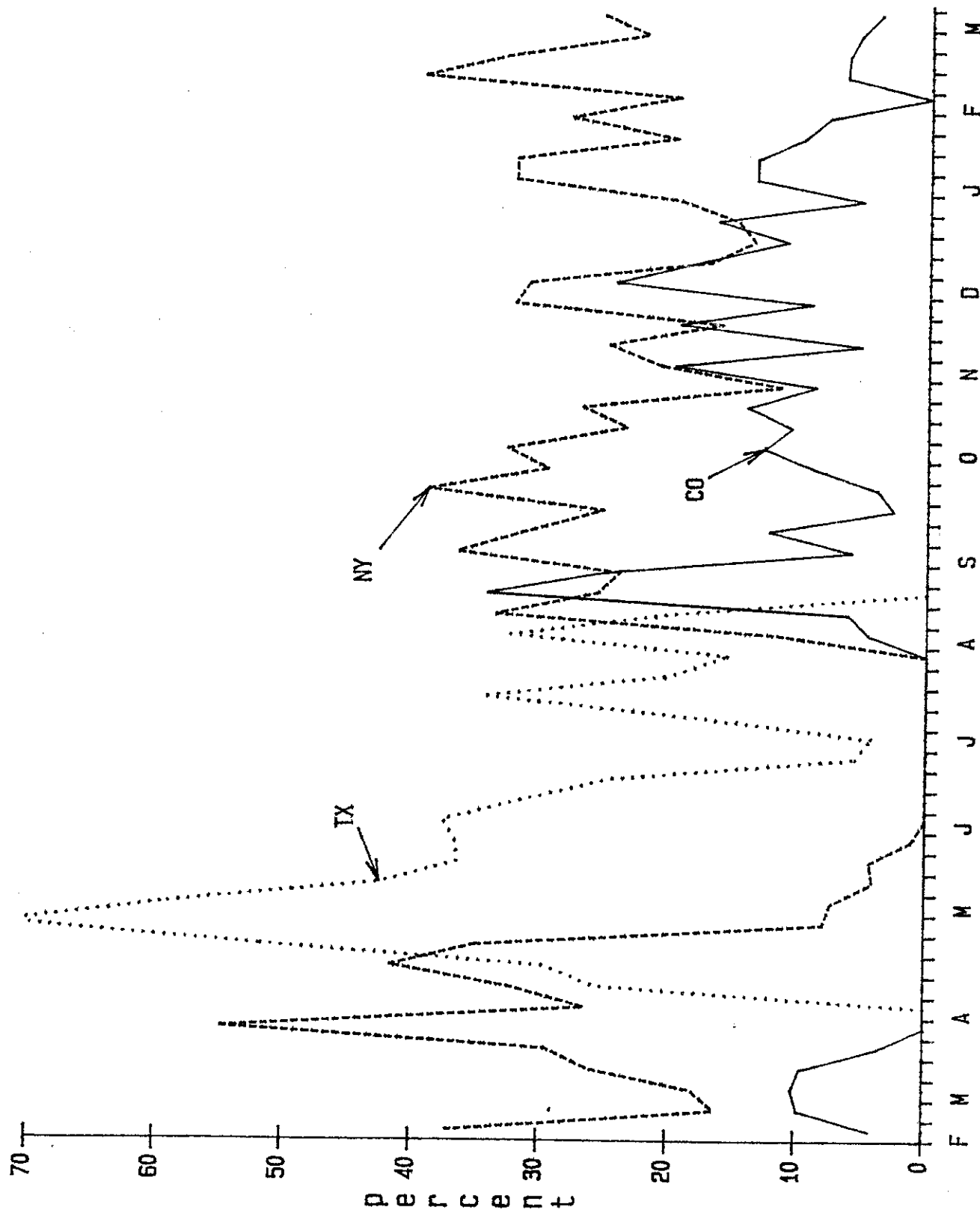
The Philadelphia market is the most even market for New York onions. The market shares across quarters are the most consistent--New York even has an 11-percent share during the second quarter and a 20-percent share during the third. It is the market with the fewest weeks without any New York arrivals. The earliest onions of the season appear to be sent to this market. 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				55 WEEKS
	I	II	III	IV	
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%

Figure IV.8 presents New York's participation in the Philadelphia market. 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 1987.

Figure IV.8
Weekly Share of Philadelphia Union Imports from Various States, 1987-88



IV.G. Pittsburgh

Pittsburgh's terminal market moves 383,100 cwt. 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 even has a 12-percent share during the second quarter whereas it usually has less than a 1-percent share during the quarter.

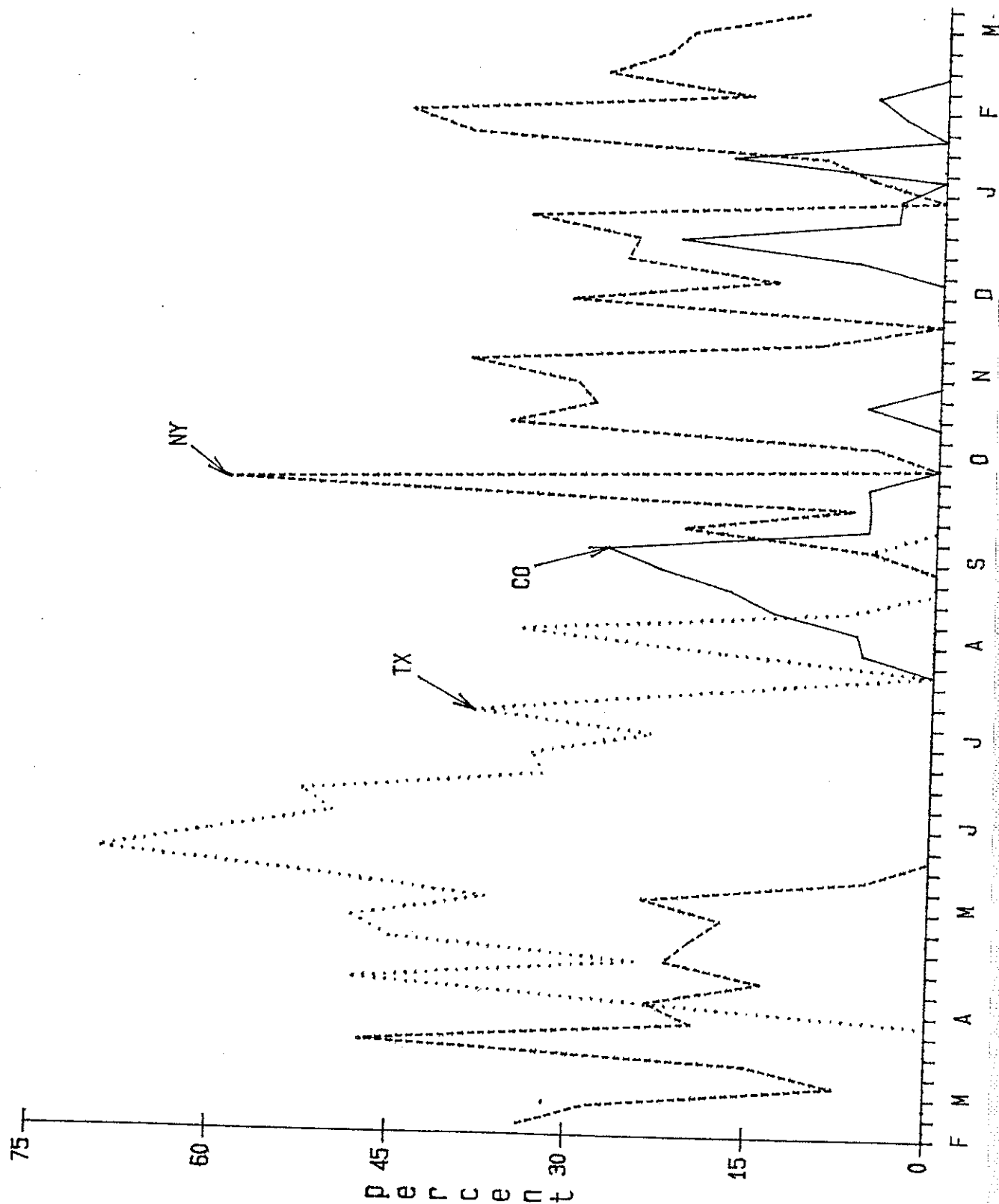
New York is the second largest supplier to the Pittsburgh market, but in no quarter does it achieve more than 25-percent of the market. Surprisingly, Oregon plays a relatively minor role in this market as does Idaho. Across all quarters, the nine exporting regions have 93-percent or more of the total 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%

Figure IV.9 presents the Pittsburgh market share obtained by New York arrivals. 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.

Weekly Share of Pittsburgh Union 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 [subsequent research will analyze monthly data over a longer time period]. Weekly and quarterly comparisons were explored. The analysis investigated the competitive position of New York onions vis-a-vis California, Colorado, Idaho, Michigan, Oregon, Texas, Washington, Canada, Mexico, and a catchall "other". The specific eastern markets considered were: Atlanta, GA., Baltimore, MD., Boston, MA., New York City and Newark, Philadelphia, PA., and Pittsburgh, PA.

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. Certainly, year-to-year fluctuations in supply have drastic effects on both patterns of trade and prices. Individuals in the industry have a much better perspective to judge whether this particular year is typical or not.

The above notwithstanding, the analysis does provide some insights into the U.S. onion market and specifically the terminal markets. However, since price data is not included in the analysis, revenues nor profits can be addressed. The following points are made under the assumption that greater market presence (shares) benefits the market participants. The analysis indicates:

- 1--New York State had, on average, only 6-percent of the national market.
- 2--New York onions were sold almost entirely east of the Mississippi.
- 3--New York had the least week to week variability of arrivals than any other supplying state.
- 4--New York's primary marketing seasons were the first and fourth quarters of the year.
- 5--New York's main competitors during the first and fourth quarters were Idaho and Oregon.
- 6--For the entire year, California and Texas onions were the primary substitutes for New York onions.
- 7--The Atlanta and Buffalo markets were two markets where it appears New York producers missed an opportunity to market more onions.
- 8--The Boston and Baltimore markets were the strongest and more stable markets for New York onions.

- 9--The New York City market, with mean weekly arrivals of 39,000 cwt., was vastly underserved by New York producers. Idaho, Oregon, California, and Texas had larger mean yearly market shares than New York.
- 10--From New York's perspective, the Philadelphia and Pittsburgh markets were significantly different markets. Philadelphia was a more accessible market than Pittsburgh.
- 11--During the fourth quarter, significantly more onions moved through terminal markets than during the other three quarters of the year.
- 12--California and Idaho were the largest onion suppliers in the country.

What opportunities exist for New York State onion producers? What, if anything, can The Onion Industry Council do to increase the returns to the industry? First, New York City appears to be underserved by state onion producers. As mentioned at the onset of the paper, terminal market data may not give an accurate depiction of total onion movements--particularly in eastern states from eastern shippers. It may well be that New York shippers are shipping significant quantities of onions to New York City, but not through terminal markets. However, if this is the case, then opportunities exist for New York shippers in the New York City as well as Buffalo markets. Also, the market presence in the Baltimore market could be replicated in the Philadelphia and Pittsburgh markets.

The Onion Industry Council may want to consider funding breeding research that would attempt to breed for an earlier maturing onion. Opportunities exist for early market entrance. Also, production cultural practices that would foster earlier maturity, would increase the volume of onions brought to market earlier in the season. In addition, can onions be stored longer without suffering significant losses? Late season opportunities in a number of markets appear to exist.

