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How Recessions Hit Philadelphia
New Jersey's Fifty-Million-Dollar
Vegetable Garden



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HOW RECESSIONS HIT PHILADELPHIA*

For more than a decade, the Philadelphia area has turned in a sluggish cyclical performance. More often than not, economic activity has started to recover some months later in Philadelphia than in the nation. Recoveries here have been less vigorous than in the country, and dips into recession at times have been deeper. The area's manufacturing industries account for most of its cyclical movement. During the last decade, declines in the textile and transportation equipment industries retarded local economic expansions. Electronics and electrical equipment makers, growing fast, should now give the area more impetus during expansions, but perhaps not enough to offset the retarding effect if employment in metals manufacturing continues to decrease.

The industrial region of Philadelphia spills over city boundaries into eight counties in two states. This interstate region has a work force of almost two millions. Practically all of these people work in industry or sell and provide services to persons who work in industry. A most obvious characteristic of all this industrial activity is that it fluctuates. In one year during the 1950's, the Philadelphia area's manufacturing employment alone decreased by 55,000 persons or 9 per cent. In another single year, it increased by 33,000 persons—6 per cent. Changes of those proportions have obvious effects: unemployment, inefficiency, wasted or overused resources, social pressures. How do these fluctuations occur? How severe are they? Are they diminishing? Does local economic activity vary more or less than in the United States generally?

To attack such questions, one must somehow classify changes in economic activity. If employment drops in, say, January, it may be mainly because of a strike, or it may be a seasonal event which occurs in about the same way each January, or it may be because a

recession is under way. A particular strike is a happening virtually unrelated to the course of economic events in general, and it usually can be identified with specific, often fairly simple causes. Seasonal occurrences are regularly repetitive, and predictable within reasonable limits. But recessions are another matter. They repeat, but not regularly; their causes are generalized and diffuse and complex. The explanation of recessions and expansions of economic activity—business cycles—has perplexed and fascinated economists ever since cycles appeared concomitantly with the rise of industrial societies two centuries ago.

To study the progress of recessions and expansions in an economy, one must identify separately the changes in economic activity which are not seasonal, nor caused by specific events such as strikes, or by the chance vagaries of weather, human failings, or random happenings. This article records an attempt to do just that—to identify changes which were linked to business recessions and expansions. It states the findings of a systematic investigation of fluctuations in economic activity since 1949 in the Philadelphia Metropolitan Area. It focuses on how business cycles in Philadelphia differed from cycles in the United States, and then on

* "Philadelphia," as used herein, refers to the eight-county region: Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania; Burlington, Camden, and Gloucester counties in New Jersey.

how those differences were associated with the kinds of industries operating in Philadelphia, and with their growth or decline. A more complete report, stating conclusions and data and describing analytical methods in detail, is available on request.¹

Should Philadelphia be different?

Every major industrial classification is represented in Philadelphia. The region has a varied manufacturing economy similar to the nation's. It isn't dependent on just a few major industries, and therefore vulnerable to upsets because of lack of diversification. It should move through business cycles about as the nation does.

The reasoning above, plausible as it seems, is arguable. For one thing, Philadelphia's industrial structure is not in fact a scaled-down replica of the country's. For example, apparel and electrical machinery plants are more important locally, and the transportation equipment and ordnance industries are more important nationally. For that matter, manufacturing activity of all kinds provides a substantially greater proportion of Philadelphia's total employment than it does in the nation. A great deal of this difference of course results from the greater importance of farming in the United States. Even when the comparison is confined to employment in nonagricultural establishments, however, 36 per cent of the region's total is provided directly by manufacturing industries, compared with 30 per cent nationally.

Suppose all national and local industries moved in just the same way through recessions and recoveries. Stable industries such as food processing would have identical, mild swings of employment and output; variable ones—metals

manufacture, for instance—would move widely. But the two regions would differ in cyclical performance, because in one more jobs are provided by one kind of industry and in the other by a different kind.

There is more to it. Philadelphia and United States business fluctuations may differ because of differing qualities of business. For example, a local plant may be an efficient, low-cost producer; its production then should encounter the effect of a recession later than that of a less efficient plant elsewhere. A local industry, because of good marketing practices and product quality, may have as customers stronger, more credit-worthy distributors; its business then might fall off more slowly in recession. Differences of this kind must contribute something to differences in regional patterns of fluctuation. These differences would occur even if industrial distributions were identical.

Growth rates make a difference, too. Local industries may grow faster or slower than their national counterparts. Even if local and national distributions were identical at some time, different rates of growth and decline would soon result in different industrial structures. Different industrial structures would induce differences in response to business expansions and recessions.

Should Philadelphia be different? Only a most unusual coincidence could make economic fluctuations in Philadelphia exactly match national movements. All the various ways in which the regions differ would have to offset so nicely that total movements would be identical. It's like the parachutist landing on a big, soft haystack; it can happen, but don't count on it.

Is Philadelphia different?

The parachutist did not hit the haystack. We are dealing with what two million people did in

¹*Economic Fluctuations in the Philadelphia Metropolitan Area, 1949-1961.* Address requests to Department of Public Information, Federal Reserve Bank of Philadelphia, Philadelphia 1, Pennsylvania.

a decade. Since people are complex and often contradictory in their economic behavior, as in all that they do, our findings are not simple or definitive. But they show one thing clearly. Philadelphia is different.

How? What are the disparities? To answer, some explanation is necessary. Reducing what two million people did in a decade to a short list of conclusions requires approximations, simplifications, and assumptions. Above all, it requires information.

The data, and how they danced

To study how an economy moves into and out of recessions, one must be able to trace the monthly movements of employment, output, trade, and so on. For the United States, there is an abundant supply of such data series; for Philadelphia, the only type of activity covered reasonably well is the condition of the work force. The following series of monthly data extend back at least to the early 1950's, and are available in comparable form for both Philadelphia and the United States:

1. Average weekly hours worked in manufacturing establishments
2. Index of help-wanted advertisements
3. a. Index of United States industrial production, manufacturing component
 - b. Index of electric power consumption in manufacturing industries, for a region roughly corresponding to Philadelphia. Power consumption is a fairly reliable indicator of manufacturing activity.
4. Employment in manufacturing industries
5. Employment in all nonfarm activities
6. Unemployment as a percentage of the labor force

The monthly movements of employment or production do not reveal much concerning busi-

ness recession and expansion until the seasonal, irregular, and accidental variations have been eliminated. Techniques for statistically redistributing these variations have existed for years, but it was a brave calculating machine driver indeed who would attempt the tedious labor required to develop the correct method for a data series and then carry it out. Fortunately, a transistorized combination calculating machine and driver was available to perform these tasks. The aforesaid creation—a digital computer—was employed to convert each series of data into a form such that the month-to-month movements reflected little or no effect of seasonal, irregular or accidental factors.

After this preliminary treatment, it was possible to ascertain two things about each economic indicator, for each phase of recession and expansion:

When reversal from recession to expansion—“upturn”—or from expansion to recession—“downturn”—occurred.

How much expansion or recession occurred.

The following charts and tables which compare the timing of upturns and downturns and the extent of expansions and contractions all refer to data which have had this preliminary treatment.

How Philadelphia differs

Beginning in 1949, there were four years in which recessions of United States economic activity reversed direction, and recoveries began. Three of the recoveries, those beginning in 1949, 1954, and 1958, reached peaks. These peaks—reversals from expansion into recession again—occurred in 1953, 1957, and 1960. The fourth, so far as we know, has not yet occurred.

Events in the Philadelphia area followed the

national pattern in a general way. There were two kinds of similarity:

1. The orders of events in each successive upturn and in each successive downturn period were not greatly different, either in the nation or in Philadelphia.
2. The order of events in Philadelphia in any given upturn or downturn period was rather like what happened in the country.

It is possible to measure to what extent individual events in different groups occur in the same sequence. The measuring scale runs from -100 , which means the sequences could not be more unlike, to $+100$, which means the sequences are exactly the same. For example, the sequence (a,b,c,d,e,f), compared to the reverse order of events (f,e,d,c,b,a), would result in a measure of association of -100 . But (a,b,c,d,e,f) compared to (a,b,c,d,e,f) would yield $+100$. Situations in between would yield in-between numbers, such as $+80$, indicating considerable likeness in sequence, or -70 , indicating a great deal of unlikeness.

The Philadelphia-United States associations, according to this scale, are consistently about 90 in upturn periods. In downturns, however, the association measures, though always positive, are quite variable, ranging from 40 to 83. A glance at Chart I will confirm that at downturns the ordering of events is more confused, harder to link up as between Philadelphia and the United States, than at upturns.

This finding parallels the general experience of those who concern themselves with trying to identify reversals—peaks and troughs—of economic activity. It is never easy to recognize when a turning point has occurred, but it is even more difficult at the top than at the bottom. Another look at the chart will reveal that at peaks events were spread out over more time

than at troughs. The process of reversal took longer at the top of the cycle.

The event-sequences shown on the chart are reasonable. Generally, in upturn periods: (a) manufacturing hours first are increased, followed, naturally, by (c) output. Then (d) manufacturing employment, (b) help-wanted advertising, and (e) total employment begin to increase. Finally, the train of events brings about the actual hiring of marginal workers and entices more persons into the labor force, so (f) the unemployment rate begins to decrease.

You may have noticed, above, that (b), help-wanted advertising, seemed out of place. The sequence went almost alphabetically except for it. That is because upturns were the subject of discussion. One does not expect firms, when business is just improving, to advertise for help before the recession's slack has been taken up. Workers first will be called back or put on full time; perhaps some overtime work will be authorized. Only then will firms seek new employees.

The situation is different at peaks. The chart shows that (b), the help-wanted index, usually declines early in downturns. Hours are cut, advertising for help is cut; then comes the sorry sequence of cuts in production and employment, and rising unemployment.

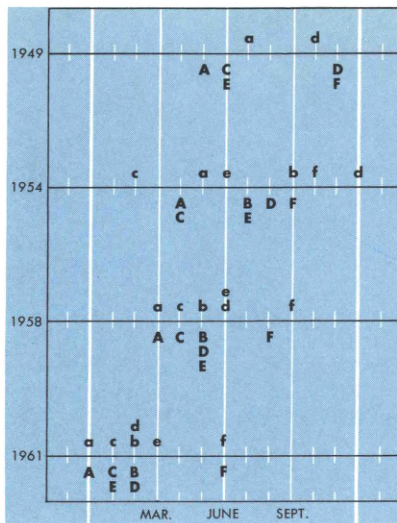
Chart I is deceptive in that you may think it provides a handy tool kit for do-it-yourself business forecasting. On almost every line of the chart, (a) or (A) occurs first. And in downturn periods (b) and (B) occur early in the game. So why not wait until manufacturing hours turn up or down, and at peaks wait for confirmation by a downturn of the help-wanted index, and then call the turn in the business cycle? It might work, sometimes. But be cautious. Remember, the chart reflects what happened to

The order in which things happen in cyclical peaks and valleys is about the same, cycle after cycle, in Philadelphia and in the United States. But economic activity often has risen some months later in Philadelphia than in the nation.

CHART I

MONTHS WHEN ECONOMIC ACTIVITIES BEGAN TO SHIFT

Months when economic activities began to rise

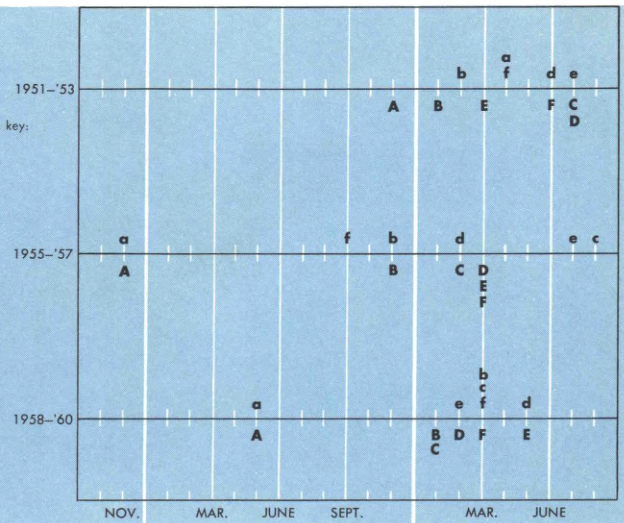


In each instance, the **small** letters represent Philadelphia; **CAPITALS**, the United States.

Economic activities are represented according to the following key:

- a. Average weekly hours per worker, manufacturing
- b. Index of help-wanted advertisements
- c. Measure of manufacturing output
- d. Manufacturing employment
- e. Employment in all nonfarm activities
- f. Unemployment rate

Months when economic activities began to decline



series which have been carefully adjusted to eliminate seasonality and other irregularities. Remember, also, the chart shows only that manufacturing hours turned early in every business cycle, but it does not follow that every time hours reversed direction of movement a cyclical turn soon occurred!

Having begun by saying that Philadelphia differs, so far the burden of the story has been that Philadelphia undergoes roughly the same chain of happenings as the nation. But it ought to. There is no reason why regions, whether more or less sensitive to boom and recession, should not all undergo about the same logical sequence, from internal adjustments within businesses to actual hirings and firings, that was traced out above. It is when one examines the actual months of reversals that differences begin to appear.

Local recoveries arrive late

The accompanying table is derived from Chart I. It lists the number of months by which cyclical turning points in Philadelphia occurred earlier (indicated by minus sign) or later than the month of the corresponding United States reversal. At the bottom, the table summarizes the leads (Philadelphia reversal occurred earlier), lags (Philadelphia reversal occurred later), and coincidences in timing separately for upturn and downturn periods.

How would this table appear if Philadelphia and the United States did not differ materially in the timing of cyclical reversals? It probably would not record coincidences only, because perfect correspondence would be very unlikely. Methods of cyclical analysis are inexact, and some apparent leads and lags would occur for that reason. Also, earlier in this article, examination of the many ways in which cyclical

differences can arise made it clear that perfect correspondence is unlikely. If there were no major difference between the regions, one would expect the table to record approximately an equal number of leads and lags, as well as a number of coincidences. What does the table actually show?

The Philadelphia area has tended to be late in beginning business recoveries. The area has not lagged appreciably going into recessions.

TABLE 1

NUMBER OF MONTHS BY WHICH CYCLICAL REVERSALS IN PHILADELPHIA OCCURRED LATER OR EARLIER THAN REVERSALS IN UNITED STATES

(Minus signs indicate Philadelphia reversal occurred earlier.)

Economic Activity	Upturns				Downturns		
	1949	1954	1958	1961	1953	1957	1960
a. Average Hours Worked in Manufacturing	2	1	0	0	5	0	0
b. Help-Wanted Index	*	2	0	0	1	0	2
c. Manufacturing Output	*	-2	0	0	*	6	2
d. Manufacturing Employment	-1	4	1	0	-1	-1	3
e. Total Nonfarm Employment	*	-1	1	2	4	4	-3
f. Unemployment Rate	*	1	1	0	-2	-6	0
Total Leads	1	2	0	0	2	2	1
Total Lags	1	4	3	1	3	2	3
Coincidences	0	0	3	5	0	2	2

* Information not available.

It shows a considerably greater number of lags in upturn periods. For downturns, it records a less clear situation. Although in downturns also there is a preponderance of lags, it is small. In fact, it is well within the bounds of what could occur if there were no real difference between the regions. Putting the situation another way: the imbalance of lags in upturn periods is close to the limit, that is, close to the worst imbalance that could possibly occur; but in downturn periods the imbalance is not at all close to the limit.

Leaving aside the technical issue of how far out of balance is imbalance, let us simply sum-

marize the evidence we have been able to marshal. During reversals from recession to recovery, the Philadelphia indicators seldom turned upward earlier than United States indicators, and they often turned upward later. In downturn periods, however, Philadelphia turns were less often late and more often early, although late events still outnumbered early ones.

We conclude, therefore, subject to the qualifications already stated, that Philadelphia has tended to reach cyclical turning points later than the United States, and that this tendency has been more pronounced when the turn was toward recovery than when the turn was toward recession.

One further point about Table 1: the situation seems to be improving. In upturn periods, the proportion of late upturns in Philadelphia decreased steadily as time passed (it progressed, in order from 1954: $\frac{4}{6}$, $\frac{3}{6}$, $\frac{1}{6}$) and the proportion of early downturns likewise decreased (it ran: $\frac{2}{6}$, $\frac{2}{6}$, $\frac{1}{6}$). Now, decreasing proportions of late upturns and early downturns mean that the area shows a tendency to recover comparatively sooner from recessions and drop comparatively later into recessions. Of course, the numbers of observations involved in these comparisons are small. Nevertheless, the tendency toward improved cyclical performance is there, and it is worth noting.

Philadelphia's retarded recoveries

So much for the question of when reversals occurred. What of "How much?" Did economic activity in Philadelphia expand commensurately with United States expansions? Did it contract as much in recessions?

Chart II provides the answers. By reading up or down the chart, one can see how the percentage rise in each measure of activity in

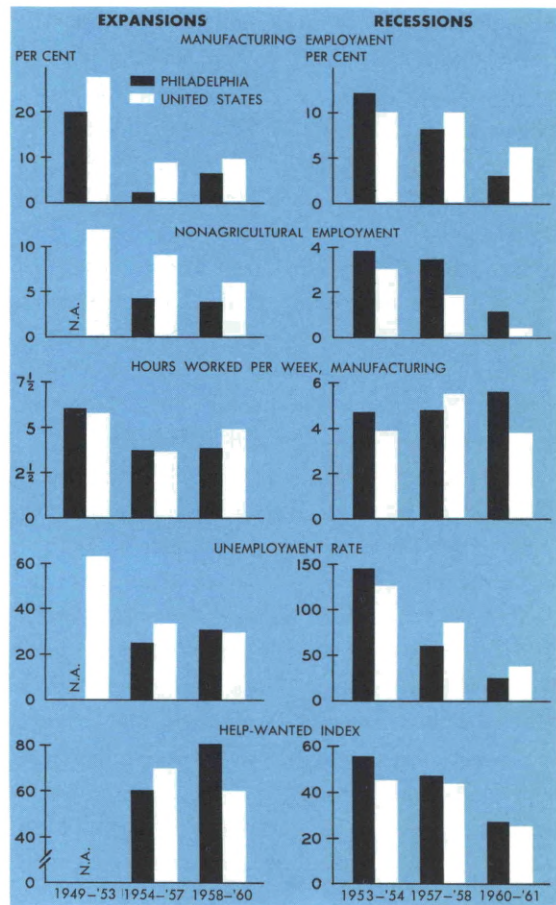
Philadelphia, represented by the left-hand bar of each pair, compared with the United States. Reading across, one sees how this comparison, as well as the magnitude of expansions and recessions, has been changing.

The measures of manufacturing output have

Philadelphia usually recovers less in expansions and declines more in recessions than the nation.

CHART II

PERCENTAGE RISE AND FALL OF ECONOMIC ACTIVITIES DURING BUSINESS RECESSIONS AND EXPANSIONS



been omitted from these comparisons, because, although they should yield valid comparisons of turning point dates, they are so constructed that it is doubtful whether they can be validly compared as to the magnitude of fluctuation.

Again, a table can be derived from the chart. It lists, separately for recovery and recession periods, the number of series expanding or contracting more or less in Philadelphia than in the nation. One comparison stands out. In the recession of 1953–1954, every one of the Philadelphia series declined more than the comparable United States measure. In the following recovery, during 1954–1957, four of the five series expanded less in Philadelphia than in the United States. The fifth—average hours worked in manufacturing—moved to almost the same extent in both regions. Something happened during 1953–1957 which seriously affected Philadelphia’s cyclical performance in those years.

The general impression from the comparisons of cyclical movements is that Philadelphia’s economic activity has tended to expand less and contract more than has activity in the United States. The unfavorable performance, however, was concentrated in the mid-fifties. Except for then, the cyclical swings of the whole group of Philadelphia series were not demonstrably different from United States movements.

The unfavorable aspects of cyclical action in Philadelphia are most evident in employment. During the period under investigation, Philadelphia’s total nonagricultural employment never increased as much in expansions and always decreased more in recessions than employment in the United States. Employment is the basic means of economic activity. Philadelphia’s cyclical performance has been worst where it hurts most.

The Philadelphia area has tended to recover less and decline more than the United States.

TABLE 2

NUMBER OF ECONOMIC ACTIVITIES EXPANDING AND CONTRACTING IN RECESSION AND RECOVERY

Philadelphia Movement	Recoveries			Recessions		
	1949-53	1954-57	1958-60	1953-54	1957-58	1960-61
Exceeded United States	1	1	2	5	2	3
Did Not Exceed United States	1	4	3	0	3	2

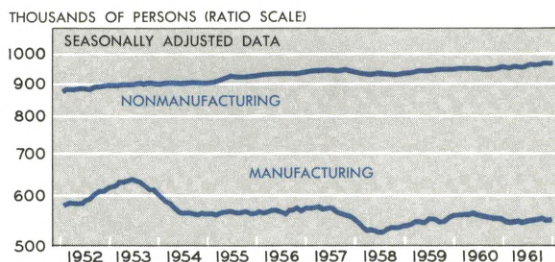
Cyclical activity is concentrated in manufacturing industries

Total nonfarm employment is made up of two main components: employment in manufacturing and in nonmanufacturing industries. Chart III shows that the cyclical variations in nonmanufacturing employment have been negligible. Identifying the reasons for the unfavorable cyclical action of employment in Philadelphia,

Employment in manufacturing industries rises and declines with business expansions and recessions. Nonmanufacturing employment hardly changes.

CHART III

EMPLOYMENT IN MANUFACTURING AND NONMANUFACTURING INDUSTRIES, PHILADELPHIA METROPOLITAN AREA, 1952–1961



therefore, requires close study of employment in manufacturing industries, where the cyclical fluctuations were concentrated.

Table 3 summarizes the cyclical patterns of manufacturing employment in Philadelphia and in the United States since 1949. It is evident that, except for 1949, employment in Philadelphia has recovered later and less than United States employment. The performance in 1954–1957 was particularly bad. Employment did not then begin to increase in Philadelphia until four months after the United States turn, and the total recovery was only about one-fourth as great as in the nation. In recessions, the action has not been so unfavorable. Philadelphia dropped a month earlier in 1953 and 1957, but, after going down considerably more in 1953, managed to slide a little less severely in 1957. In the most recent decline, 1960–1961, Philadelphia exhibited what almost amounted to cyclical insensitivity, for it dipped three months later than the United States and went down only half as much.

In general, Philadelphia's manufacturing employment has fluctuated less than United States employment, but until recently the fluctuations have been least in the worst possible way—namely, upward.

What could account for the above patterns? It could be because in industries with unfavorable cyclical characteristics Philadelphia employs a greater proportion of people than does the nation. It could be because Philadelphia's individual industries have less favorable cyclical patterns than their national counterparts. Finally, the retarded recoveries might be linked to slow rates of growth. The bad situation at mid-decade must have resulted from some kind of especially severe drag on Philadelphia's manufacturing economy.

Manufacturing employment in the Philadelphia area has recovered from recessions later and less than U. S. employment.

TABLE 3

CYCLICAL CHARACTERISTICS OF MANUFACTURING EMPLOYMENT, PHILADELPHIA AND UNITED STATES, 1949–1961

	Lag or Lead of Philadelphia Turn in Months (Minus sign indicates lead)	Percentage Increase or Decrease	
		Philadelphia	United States
Upturns:			
1949–1953	—1	20	28
1954–1957	4	2	8
1958–1960	1	6	9
Downturns:			
1953–1954	—1	12	10
1957–1958	—1	8	10
1960–1961	3	3	6

The more likely sources of cyclical disparities are differences in growth and differences in the importance of industries with poor cyclical performance. Growth differences cut two ways. If an industry is declining in a region or growing slowly while a national industry is growing more rapidly, the lag of the local industry may manifest itself in weakness during business expansions. But a local industry might have a tendency to swing more widely or recover later than a national one, yet be growing more rapidly. Its increasing importance locally would impair the region's cyclical pattern.

The relationship between growth and cyclical performance has long been a matter of discussion. It has been contended, for example, that rapid growth implies instability. Some have argued that cyclical performance can be separated from growth considerations. Here we have not attempted to analyze cyclical patterns apart from growth trends. The period of time under

study is short for identifying long-term trends, and trend analysis in any case depends too heavily on the analyst's luck in picking the "right" trend. Furthermore, the cyclical patterns of the real world contain a growth component. What is of wide interest is how business actually expanded and contracted during recoveries and recessions, including the effects of industrial growth and decline.

Table 4 records some essential information about the 20 manufacturing industries: how important they are, whether they are becoming more or less important, and which industries are more important in Philadelphia than in the nation. The industries have been divided into four groups: important employers which provide a greater proportion of manufacturing jobs in Philadelphia than in the nation; important employers which provide less employment here than in the United States; and two similar breakdowns for industries which rank lower in importance as employers.

The six industries in Group I of Table 4 are the most likely sources of disparities in cyclical performance between Philadelphia and the United States, because each employs many people, and because each provides a greater proportion of the manufacturing jobs in Philadelphia than in the nation. One of these industries—chemicals—did not contribute to Philadelphia's tendency to recover from recession less rapidly than the United States. The chemicals industry recovers well in business expansions, and in Philadelphia it has tended to do a little better than in the nation generally. Two more of the six—electrical machinery and fabricated metals—expand employment rapidly in business recoveries, but they have tended not to expand quite so rapidly in Philadelphia as in the United States. The other three important industries—

textiles, apparel, and printing and publishing—do not expand rapidly in recovery periods. Furthermore, their expansions in Philadelphia have been weaker than in the nation in general. In the cases of apparel and printing and publishing, weakness during expansion is expected, for neither is a highly cyclical industry. Since they don't decline a great deal in recessions, they haven't much to recover in expansions.

The textile industry is a special case. It is a declining industry. It is the only one of the six that declined rapidly throughout the period of study, and throughout the period it declined faster, compared with its United States counterpart, than any of the six. Between 1949 and 1961, the textile industry dropped from the top rank—Philadelphia's number-one employer in manufacturing—to ninth.

Of the six large manufacturing industries which are relatively more important as employers in Philadelphia than in the country as a whole, five, then, have contributed in some degree to Philadelphia's tendency to recover slowly from recessions. The worst situation has been in textiles. The rapid decline of that industry as an employer nationally was more than matched in Philadelphia, where the industry has been an important retarding factor. The printing, publishing, and apparel industries, though they are not subject to very wide cyclical swings, contribute to Philadelphia's slow recovery pace in two ways. First, because they are more important industries locally than nationally, their inherent tendency not to swing upward very much is magnified in its effect on Philadelphia. Second, both these industries have recovered less strongly from recessions in Philadelphia than in the nation. The electrical machinery and fabricated metals industries, though they move up strongly in recovery periods, have not usually

risen so much in Philadelphia as nationally.

The next group of industries, though they are important as employers in Philadelphia, are less important here than in the United States. Three of them—machinery, primary metals, and food—have not contributed in any large degree to Philadelphia's over-all weakness in recoveries, because they have relatively favorable cyclical

patterns. The fourth—transportation equipment—was a major factor in the 1953–1957 retardation in Philadelphia. During that period, it dropped so precipitously in importance locally that it did not even react to the cyclical recovery of 1954–1957. It just continued to decline. But after that debacle, the industry settled into its usual wide-swinging cyclical pattern. The effects

Six major industries employ proportionately more people in Philadelphia than in the nation. One of these six—the electrical machinery industry—is Philadelphia's largest and fastest-growing employer. These six, plus the transportation equipment industry, account for most of Philadelphia's poor cyclical performance.

TABLE 4

CHARACTERISTICS OF MANUFACTURING INDUSTRIES, PHILADELPHIA METROPOLITAN AREA

Industries	Employment in Industry as Per Cent of Total Manufacturing Employment				Employment: 1961 as Per Cent of 1949		Philadelphia 1955 1961 Employment as Per Cent of 1949 Employment as Per Cent of 1955	
	1961		1949		Phila.	U.S.	Employment as Per Cent of 1949	Employment as Per Cent of 1955
	Phila.	U.S.	Phila.	U.S.				
GROUP I*								
Electrical machinery	13.6	8.8	8.1	6.0	169	167	130	130
Fabricated metals	7.9	6.6	7.7	6.1	102	122	110	93
Textiles	5.8	5.4	11.5	8.2	51	74	67	76
Apparel	10.0	7.4	11.4	8.1	88	102	96	92
Printing and publishing	7.2	5.7	6.2	5.1	116	125	106	109
Chemicals	7.2	5.1	6.2	4.3	115	134	105	110
GROUP II*								
Machinery	8.6	8.6	7.4	8.2	116	119	108	108
Transportation equipment	4.4	9.4	6.0	8.4	73	126	100	72
Primary metals	6.2	7.0	5.1	7.9	123	101	139	89
Food	9.4	10.9	9.4	12.3	99	100	103	96
GROUP III*								
Instruments	2.7	2.1	1.8	1.7	150	145	139	107
Paper	4.1	3.6	3.5	3.2	116	130	109	106
Tobacco	0.6	0.6	1.5	0.8	38	83	74	51
Petroleum	3.5	1.2	4.0	1.5	86	92	102	84
GROUP IV*								
Stone, clay, glass	2.6	3.5	2.4	3.6	105	110	105	101
Miscellaneous & ordnance	1.5	3.6	2.2	2.9	66	142	104	63
Lumber & wood	0.5	3.7	0.7	5.1	72	81	85	85
Rubber & miscellaneous	2.1	2.2	1.7	2.0	126	129	120	105
Furniture & fixtures	1.4	2.3	1.2	2.2	117	116	126	93
Leather	1.0	2.2	1.9	2.7	50	93	74	68
ALL MANUFACTURING	100	100	100	100	100	113	103	97

* Group I: Large employers who employ proportionately more people in Philadelphia than in the U.S.

Group II: Large employers who employ proportionately more people in the U.S.

Group III: Lesser employers who employ proportionately more people in Philadelphia.

Group IV: Lesser employers who employ proportionately more people in the U.S.

in Philadelphia are damped now, because the industry is considerably less important here as an employer than in the United States.

The remaining ten manufacturing industries are of lesser importance in both the nation and the Philadelphia area. Their relative distribution as between the region and the United States is favorable, because those with the least favorable cyclical characteristics (Group IV in Table 4) are less important locally, and those with more favorable characteristics are more important (Group III).

So far, we have ignored the timing aspects of cyclical performance in order to concentrate on why Philadelphia's manufacturing employment recovered so sluggishly after the postwar recessions. The trouble, unhappily, was concentrated in five of the six large industries which are more important employers in this region than they are nationally. In addition, the transportation equipment industry contributed strongly to the pronounced retardation in the mid-fifties. What of the tendency of these industries to move up late or early in upturn periods?

The six large employers which are relatively more important locally all fall in mid-ranges in inherent tendency to begin recoveries early or late. None are consistent leaders; none are consistently late. But all except the textile industry have usually reached the point of upturn later in Philadelphia than in the United States. The same is true of the transportation equipment industry, which also tends to be rather late at upturns regardless of region.

For the most part, Philadelphia's large manufacturing industries, particularly those which are more important as employers in Philadelphia than in the nation, are not good performers over the business cycle. They lean to late and sluggish recoveries. That is why employment in Philadel-

phia has not recovered well from postwar recessions.

Prognostications

Someone once said that foretelling the future is akin to peering into a completely dark cage and attempting to describe the details of a black panther that isn't there! Perhaps this section should be entitled "Guesses." It is an attempt to discern what, if anything, past developments may reveal about future patterns.

First, a summary of past developments will be useful.

Over-all economic indicators reveal that Philadelphia's cyclical performance was rather poor in the period since 1949. In particular, employment in manufacturing, the major cyclical component of employment, tended to recover little and late after business recessions. This was because the six large industries which employ proportionately more people in Philadelphia than in the United States all in some respect performed poorly over the cycle. These industries are electrical equipment, fabricated metals, textiles, apparel, printing and publishing, and chemicals. In addition, the transportation equipment industry was a retarding influence in the mid-fifties, and the machinery industry contributed to the lateness of upturns during the period.

The most noteworthy recent development is the emergence of a new industrial leader. The electrical machinery industry is now the Philadelphia area's most important manufacturing employer. It provided 8 per cent of the manufacturing jobs in 1949; in 1961 it provided almost 14 per cent of the jobs. The growth of this industry in Philadelphia has recently accelerated so much that it almost skipped the 1958-1961 business cycle. There was no dis-

cernible peak in 1960—merely a leveling off of the rapid rise which started in 1958. Electrical machinery was the fastest-growing industry in Philadelphia (and in the United States) during 1949–1961. (Second place for growth goes to the related and similarly fluctuating instruments industry.)

If we divide the period of study in half, and focus on the years from 1955 to 1961, we find that the Philadelphia area's manufacturing employment decreased about 3 per cent, commensurate with a national decrease of 4 per cent. But earlier, during 1949–1955, Philadelphia's employment grew only 3 per cent, while the nation's grew 17 per cent. The electrical machinery industry contributed most of the second-half growth required to wipe out the earlier relative disadvantage Philadelphia had experienced. It increased its total employment 30 per cent, compared with a national increase of only 15 per cent from 1955 to 1961. Only one other local industry—machinery other than electrical—had an important growth advantage over its national counterpart during the same period.

The machinery industries, electrical and non-electrical, are evidently becoming more important as employers in Philadelphia. Together, they now account for almost one-quarter of the area's total manufacturing employment. They have similar cyclical characteristics: large fluctuations, with both upturns and downturns coming somewhat late in the sequence of cyclical events.

One other industry—chemicals—has recently shown an accelerated growth advantage in Philadelphia as compared with its United States counterpart. This industry does not fluctuate widely over the cycle, nor does it have unusual timing characteristics.

The two problem industries of the middle fifties—textiles and transportation equipment—have already readjusted drastically, and now are considerably less important in the region. The big industries which have newly turned from growth to decline are the metals manufacturers. Both primary and fabricated metals have ceased to grow. Both have wide-swinging cyclical patterns similar to the new leaders, the machinery group.

Putting it all together, what conclusions are implied? As usual, they are not definitive. There is a threat: that the metals industries may be the retarding factor of the sixties, as textiles and transportation were in the fifties. There is a promise: that electrical machinery and instruments manufacturers will continue to provide the impetus that will maintain Philadelphia's industrial employment. These industries have rather wide employment fluctuations in business cycles. An ideal goal would be industrial growth uncomplicated by recession. The recent rise of these industries which fluctuate as they grow does not satisfy the ideal. But in the real world, where recessions do occur, growth with fluctuation is better than no growth at all.

NEW JERSEY'S FIFTY-MILLION-DOLLAR VEGETABLE GARDEN



Corn-on-the-cob and sliced tomatoes are a gustatory delight. A table with a big platter heaped high with golden corn piping hot and with several platters of red-ripe sliced tomatoes resting on beds of deep green water cress is a joy to behold. The eating is ecstasy in excelsis.

Corn is at its best fresh from the field, strictly fresh. As the Pennsylvania Dutch say: first put the water on the stove to boil, then go out in the garden to pluck the ears. Philadelphians can just about do that because of the nearness to New Jersey's fifty-million-dollar vegetable garden. Jersey corn and Jersey tomatoes have an enviable reputation in metropolitan Philadelphia where they have been served for generations.

Strange as it may seem, many of the dwellers on the west bank of the Delaware have never visited the 110,000 acres of vegetable gardens across the river in South Jersey. Although thousands of Philadelphians scamper to the New Jersey seashore every summer, most of them bypass the heart of the garden spot which lies south and west of the heavily traveled highways through the Jersey pines to the shore resorts.

All of South Jersey is in the Atlantic Coastal Plain, where there are no hills to speak of—only occasional swells. Much of the area, indeed, is wooded; but west of the scrub pines is a fertile stretch of sandy loam cutting across Burlington, Gloucester, Salem, and Cumberland counties. These four counties have 75 per cent of New Jersey's vegetable acreage, grow 75 per cent of the state's vegetables, and have given New Jersey its reputation as the Garden State.

Here you see, in season, on both sides of the roads, long, long rows of asparagus, sweet corn, cabbage, lettuce, onions, peppers, snap beans, tomatoes, sweet potatoes, and other vegetables. You see also numerous apple and peach orchards, fruit and vegetable auctions, loading platforms, federal inspection stations, box and basket factories, canneries and freezers, and fields dotted with Puerto Ricans, gathering in the fruit of the soil in harvest time.

A sizable proportion of the vegetables grown for the fresh market is sold by the farmers at fruit and vegetable auction markets. The farmers' vegetable harvest turns into cash rapidly at nine

of these auction markets at various locations in South Jersey, as shown in the map, which operate throughout the entire season to handle all vegetables ranging from early asparagus in the spring to sweet potatoes late in the fall.

The Swedesboro Auction in action

Raccoon Creek flows through Swedesboro in the western corner of Gloucester County, and a lot of vegetables flow through the Swedesboro Auction. Though not the plushest of the South Jersey auctions, it outranked the others for years in dollar volume of sales. The headquarters of the Swedesboro Auction is a small frame building which houses the manager and a small staff of clerks to assist in the keeping of records and the writing of checks. Nearby is the auction building—a square, frame structure not much more than two tomato trucks length in either direction. The auctioneer's block faces a grandstand with six or seven rows of seats, each row higher than the one in front, with a total seating capacity for about 35 or 40 buyers. Along each of the two open sides of the building is a runway for the trucks bringing in their loads of vegetables, and each runway is flanked by a catwalk for spectators. Between the grandstand and the auction block is a runway for assistants to carry sample baskets of vegetables from the trucks to the display counters. On a far corner of the spacious auction grounds is a large open shed for temporary storage of vegetables. Here the grading and inspection take place.

At 8:30 on a hot, early August morning, four rows of trucks were lined up the full length of the auction yard. Some were laden with baskets of tomatoes, others with peppers or eggplants. Two small benches on the shady side of the headquarters building were occupied by farmers discussing crops and prices, and swap-

ping stories. Others sat on the steps leading to the catwalks, drinking soda pop obtained from a small store across the street. There was considerable joshing both in English and in Italian, and a game of pinochle was being played on the tailboard of one of the trucks in line. All were awaiting the opening of the 9 o'clock auction.

On the outside wall of the auction building hung a slate on which had been chalked a big Arabic number 1 above a big Arabic number 2, indicating which lines of trucks were to move up to the auction building first. The batting order had been determined by the flip of a coin by the auction manager. Promptly at 9 o'clock the opening of the auction was announced, and the drivers in lines 1 and 2 hastened to their trucks, starting the parade to the auction block. Very businesslike, the auctioneer, with microphone in hand, proceeded to his post, and the buyers—representatives of chain stores, supermarkets, and independent brokers—leisurely climbed to the grandstand seats.

The driver of the first truck that comes to a halt in the auction runway hands the clerk a ticket indicating his name and the number of baskets of tomatoes being offered for sale. Upon turning off the ignition, the trucker picks up a basket at random and hands it to an assistant who dumps the contents on one of the two display counters in plain view of all interested parties.

The chant begins: "What am I bid and how much a package on fifty-six climax of tomatoes; I'm bid a dollar willyu go five, now ten and give fifteen; I'm bid one-fifteen now go twenty and now five, and at thirty willyu give five and now one-thirty-five, willyu give forty, one-forty, one-forty, dollar-forty anywhere? Sold to—— at \$1.35."

Bids are indicated by the raising of an arm, or a hand, or a finger, and in some cases just an eyebrow. While the first sale is in process, a basket of tomatoes from the truck in the opposite runway is put on display and the auctioneer proceeds immediately to the next sale. Meanwhile, a clerk who has prepared the first bill of sale hands a pink copy to the buyer and a yellow copy to the farmer who promptly drives his truck away, making room for the next in line.

By 9:50 a.m. the auctioneer had chanted about \$15,000 out of the coffers of the merchants and middlemen into the pockets of the farmers. At 10 o'clock the auctioneer was back at his real-estate and insurance office, and the auction was completely deserted except for the crew sweeping up the spilled vegetables, and a stray cat purring on the catwalk.

NEW JERSEY'S 1961 VEGETABLE CROPS

(Cash receipts from farm marketings)

Vegetable	Thousand dollars
Asparagus	8,824
Beets	363
Broccoli	998
Cabbage	2,770
Cantaloupes	240
Carrots	474
Cauliflower	248
Celery	283
Cucumbers	838
Eggplants	655
Lettuce	2,585
Lima beans	376
Onions	1,610
Peppers	2,928
Snap beans	1,896
Sweet corn	4,301
Spinach	998
Tomatoes	15,911
Others	5,848
Total	52,146

Source: 1961 New Jersey Agricultural Statistics.

And so the auction goes every day except Sunday. On a busy day, sales may hit a peak of \$50,000 or more. Total sales last year ran in excess of \$1¾ million. Some auctions handle almost the full line of vegetables and fruits as they ripen; others are more restricted, depending on the products in which local farmers specialize.

The variety of vegetables grown in the Garden State and the money they put into the pockets of the farmers last year are shown in the table. Some of the vegetables go to the canneries and freezers for processing, and others go directly into the fresh market. Last year, \$20 million worth was sold to the processors and \$32 million worth went to the fresh vegetable market.

The tomato

King of the vegetable domain, is the tomato. It is predominant in seed catalogues, in the fields, in the factories, in the markets, in the diet, in the laboratories, in the literature—everywhere except in the Soil Bank. The tomato, like most vegetables, thrives without charity of parity.

The tomato belongs to the nightshade family, along with the potato, eggplant, pepper, tobacco, petunia, nightshade, Jimson weed, and other plants—nutritious and pernicious. Arguments once raged as to whether the tomato is a berry, a fruit, or a vegetable. Actually, it is all three. By culture it is a vegetable. Botanically, it is a fruit; and among fruits it is a berry, being indehiscent (non-shedding) and pulpy, with one or more seeds that are not stones. Anyhow, the Supreme Court decided in 1893 that the tomato is a vegetable, and that settled the argument.

The plant seems to have originated in Peru-Ecuador-Bolivia, migrated via Mexico to Europe where it was grown as a curiosity before the end of the 16th century. There is no record of

its culture in this country before 1781, when it was grown in the garden of Thomas Jefferson, that incurably curious President. For many years, people believed the tomato to be poisonous.

The tomato is the most versatile of vegetables. It is good fresh or canned, green or ripe, and may be baked, scalloped, fried, stewed, or stuffed. Tomatoes appear on menus as an appetizer, soup, entree, sandwich, salad, or dessert. In one form or another, the tomato also enters into catsup, sauce, puree, chow chow, India relish, piccalilli, tomato pickle, chilli con carne, pizzas, tortillas, tamales, and—have you ever tasted green tomato pie? How did chefs cook in pre-tomato ages?

Tomato-growing is an art, a science, a business, a gamble, and hard work. How well the grower makes out depends on many things: how many acres he plants, the vagaries of weather, the ravages of pests, the price of labor (always a big item), and whether he grows for the fresh market or for processors. Last year, New Jersey farmers planted over 26,000 acres of tomatoes and harvested 362,000 tons. Precisely 316,000 tons were grown for the processors which yielded the growers more than \$10 million, and 46,000 tons were sold on the fresh market for \$5.7 million.

A tomato is a tomato, to be sure, but growing for the fresh market and growing for the processors are two almost entirely different kinds of business. Let's consider first the fresh-market grower because there are more of them.

Growing for the fresh market

Farmers usually grow several other vegetables along with tomatoes and perhaps a cover crop in accordance with a planned agricultural program. By producing several vegetables maturing at different periods of the growing season, the

farmer makes fuller use of his productive facilities. Moreover, a plan of crop rotation not only helps to control tomato diseases, like Fusarium, but also helps to rebuild soil fertility inasmuch as tomatoes are heavy users of plant food. For example, the sequence in a crop rotation system may be tomatoes, corn, pumpkins, carrots; and then tomatoes. How much acreage a farmer will put in tomatoes in any given year is also influenced by market expectations.

The tomato is a perennial, grown as an annual. Tomato seeds are sown under glass as early as February. Upon germination, the young plants are transplanted to a cold frame, and late in April or early May they are planted in the fields in rows adequately spaced to permit periodic cultivation to keep the soil loose and free from weeds.

Throughout the growing season, tomato fields require not only frequent cultivation but frequent spraying to prevent damage from insects and diseases. Some farmers spray their fields about every ten days. Inasmuch as a tomato is essentially a package of water and vitamins, tomato plants must have adequate moisture. Most farmers no longer depend solely upon rainfall. More and more of the farms are equipped for irrigation. Water for irrigation is generally obtained from streams running through the farms or, in the absence of streams, farmers either drill artesian wells or build ponds to catch and store rainfall.

Tomatoes for the fresh market are harvested mature but green, and must be picked the moment the first pink blush appears. After they are brought in from the field they are prepared for market. After the culls are removed, the marketable tomatoes are cleaned, polished, sorted as to size, and packed into baskets ready for delivery to the auction.

Commercial banks play an important role in vegetable farming. In the spring the growers go to their local bankers to borrow money. They need funds to buy seed, plants, fertilizer, insecticides, and perhaps machinery; and, as the harvest approaches, they need additional funds for payroll purposes. In the fall when the vegetable harvests turn into money, the farmers repay their loans. Bank lending may be done on the strength of the borrower's credit or the bank may take a lien on his crops. Banking statistics of the area reflect a heavy movement of funds out of banks in the spring and an equally heavy return in the fall. By the end of the year, most of the loans have been repaid.

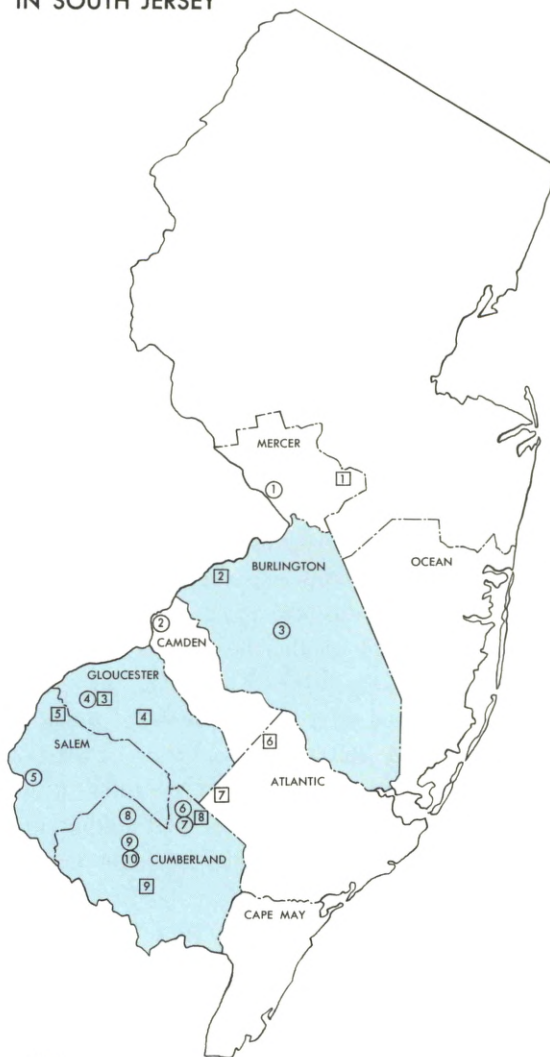
Growing for the processors

A tomato processor is either a canner or a bottler of tomatoes or tomato products. In view of the importance of tomato growing in South Jersey, it is not surprising to find throughout the region a number of tomato processors. The names and locations of the leading processors of the region are shown on the map. Of course some of them process vegetables other than tomatoes—but let's complete the tomato story.

In the *New Jersey Agricultural Statistics* (compiled by the New Jersey Department of Agriculture in cooperation with the U. S. Department of Agriculture), statistics on tomatoes for the fresh market are reported in hundred-weight, and tomatoes for processing, in tons; and that is perhaps the most distinguishing characteristic of tomatoes for processing. It is a tonnage affair. They are grown for maximum tonnage yield per acre, are sold by the ton to the processor, and hauled to the factory by the ton on huge trucks heaped wondrous high with baskets of red, ripe tomatoes.

Unlike the grower for the fresh market who

LOCATION OF VEGETABLE AUCTIONS AND MAJOR PROCESSING PLANTS IN SOUTH JERSEY



KEY:

○ PROCESSING PLANTS

□ AUCTION MARKETS

- 1. Stokley-Van Camp, Inc.
- 2. Campbell Soup Co.
- 3. Frances C. Stokes Co.
- 4. California Packing Corp.
- 5. H. J. Heinz Co.
- 6. Venice Maid Co., Inc.
- 7. Uddo and Taormina Corp. of Vineland
- 8. Seabrook Farms Corp.
- 9. P. J. Ritter Co.
- 10. Hunt Foods & Industries, Inc.

- 1. Hightstown
- 2. Beverly
- 3. Swedesboro
- 4. Glassboro
- 5. Pedricktown
- 6. Hammonton
- 7. Landisville
- 8. Vineland
- 9. Cedarville

doesn't know what his crop will bring until the auctioneer cries "Sold," the farmer who grows for the processors knows what prices he will receive before he does the planting. The business arrangement has been called selling acres rather than selling vegetables, and this is how it works with one of the leading processors that operates a big soup factory in the shadow of the Benjamin Franklin Bridge.

Early in the spring, the canner and the farmer enter into a contract in which the farmer agrees to grow a specified number of acres of tomatoes for the canner. The canner agrees to buy all the tomatoes grown on that acreage, except the culls, at a specified price. For example, the price agreed upon may be \$38 a ton for the tomatoes that come up to U.S. No. 1 grade and \$24 for those that fall into the U.S. No. 2 grade. Top grade means firm tomatoes of good red color, size, shape, and practically free from defects such as sunburn, sun scald, cracks, catfaces, etc.

To assist the farmers in producing heavy tonnage and high quality, the canner furnishes at cost, tomato plants specially grown in Georgia. The canner also approves the pesticide chemicals to be used, and has field representatives who periodically visit the farmers to make recommendations on growing practices and to inspect the crop.

The obvious advantage to the grower is that he is assured of a market at a definite price. In that respect he has fewer worries than the grower for the fresh market. In a good year when tomatoes are plentiful, prices decline to the disadvantage of the grower for the fresh market; but the grower for the processor gets his contract price howsoever large the crop. In a bad year, fresh-market prices of course are high and growers for that market make out well if they are lucky enough to have tomatoes to sell. In

the vegetable belt, there is a saying that a dry year scares you to death and a wet year starves you to death. The year 1955 was double death because the prolonged drought was followed by deluges of rain. It was bad for both types of growers. In most years, however, tonnage per acre averages two to three times higher for process tomatoes.

In the factory

Ripe tomatoes are over 90 per cent water and can't be kept waiting. In the fields and in the factories, the labor force must be augmented when the tomato avalanche occurs around mid-August.

Migrant workers are employed in large numbers for the big job of harvesting tomatoes as well as other crops. The Glassboro Service Association has an agreement with the Puerto Rican Labor Department for recruiting workers each year. The labor camp, a subsidiary of the New Jersey Farm Bureau, pays for transportation by air, provides interim room and board, medical and dental service, interpreters, and other services. The camp is reimbursed by the farmers who also pay service fees, based on their payrolls, to cover operating expenses. Farmers who use the Glassboro Service may specify individual workers to be assigned to them, and many workers return year after year to the same farm.

When tomatoes arrive at the factory at the rate of tens of thousands of baskets a day everything is jumpy. It takes the utmost in mechanization, extra workers, and around-the-clock operations to handle the deluge.

Upon arrival at the canner's receiving yard, a truckload of tomatoes goes through a dusting tunnel for a thorough spraying with a chemical to chase the sour flies. The next stop is the federal inspection station for grading and inspec-

tion, and then to the factory. There the baskets are unloaded on to an inclined moving belt to an upper floor of the factory, and what started as a basket parade emerges later at the shipping platform as a parade of cartons of canned soup and other tomato products stacked into freight cars for the trip to market. The inside of a tomato factory is an enormous incredibility of washing, rinsing, skinning, seeding, straining, sterilizing, labeling, packaging, and endless testing and inspecting.

In the laboratory

Tomatoes have been grown in South Jersey for many years but never with such productivity as today. New Jersey's tomato acreage is declin-

ing but production is increasing, as the panel of charts shows. The growers, especially the contract growers, are getting increasingly higher yields per acre but not without increasingly higher costs. Yields averaged 17 tons an acre last year, the highest ever.

Only a few years ago it was a mark of distinction to belong to the 10-ton-tomato-club but the standards have been raised. Today the select growers are the 15-tonners and last year's champion harvested almost 33 tons an acre.

Improvement in the yield and quality of tomatoes is largely attributable to agricultural research. Prior to World War II, tomato research was directed principally toward the application of fertilizers to improve productivity. Following the severe blight in 1946, research emphasis shifted toward disease control and the development of disease-resistant varieties. Yields rose with the extension of improved spraying practices.

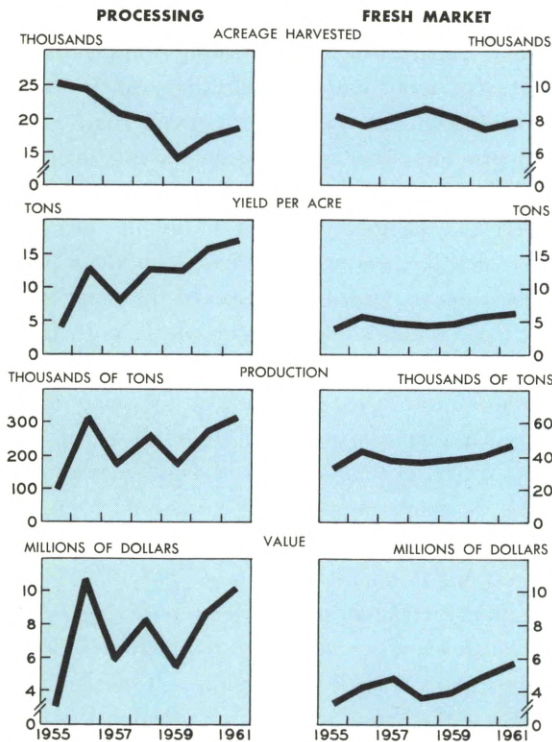
In 1947, Campbell started breeding tomatoes to develop strains more resistant to cracking and Fusarium wilt caused by a fungus. Yields per acre have gone up steadily with wilt-resistant and crack-resistant varieties, and constant efforts are being made to improve both color and flavor. These and other research developments have done much to promote Jersey tomatoes in competition with those of other areas.

A freezer of 30 million pounds capacity

At Seabrook, north of Bridgeton in Cumberland County, is a freezer of 30 million pounds capacity. It is a warehouse building to store frozen foods at 10 below zero Fahrenheit. It is a part of the world's largest combined farming and freezing operation.

All the other operations of the enterprise run into large numbers. Over 3 million pounds of

NEW JERSEY TOMATOES



Source: New Jersey Crop Reporting Service.

seed are sown annually on about 40,000 acres extending over a 45-mile domain. Planting is done by tractor-drawn machines, spraying by airplane, irrigation by pipelines that water more than 7,500 acres, and fleets of harvesting machines and motor trucks work in unison to gather in the crops—lima beans, peas, asparagus, spinach, snap beans, broccoli, corn, potatoes, and cauliflower, but no tomatoes.

In the factory, likewise, practically all operations are performed mechanically. Rows upon rows of specialized machines snip the ends off the snap beans, grade them for size, cut them into segments or slice them lengthwise for Frenching. On the potato line, machines do the washing, peeling, cutting, French frying, weighing, and packaging. Standby laboratories test every batch for color, texture, purity, and other aspects of quality control.

For most products, quick freezing is the final operation. But for the absence of heat, the rows of quick-freezing units might be mistaken for ovens. When packed and labeled, a cartload of packages stacked almost door-high is shoved into an opened freezer where they are hugged by colder-than-ice double contact plates. In less than three hours the brick-hard packages of frozen vegetables are removed to the refrigerator warehouse. The plant processes vegetables through eight months of the year, and during the

winter, packages products frozen in bulk during the harvesting season. Total annual output is 100 million pounds.

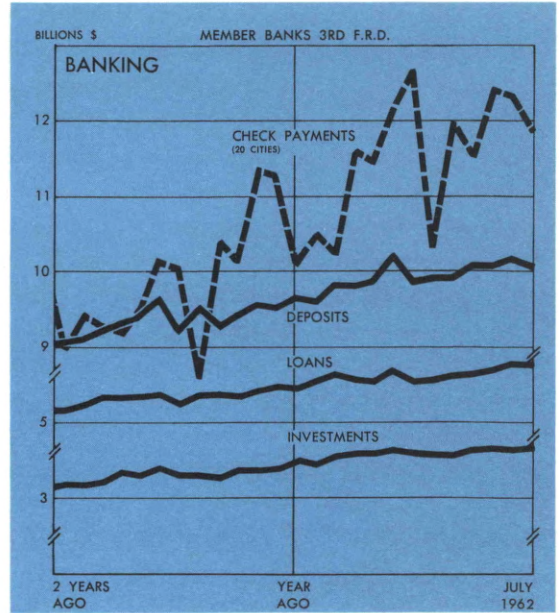
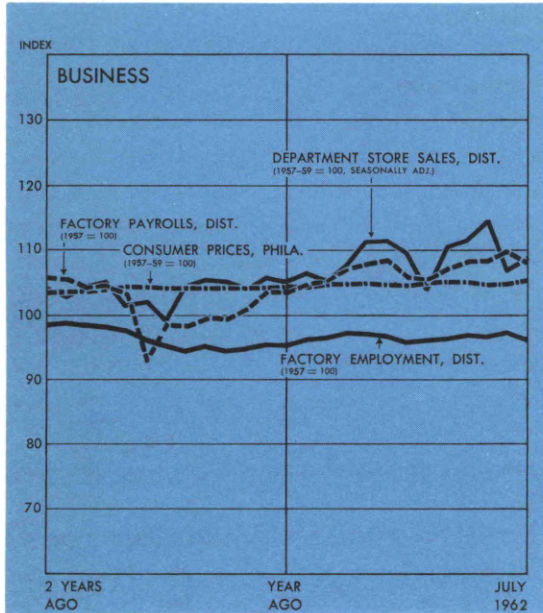
In conclusion

Vegetable growers in the Garden State are enjoying another good year, judged by late-August reports. Late-maturing vegetables, however, have not yet been harvested, so it is too early to assess the season. Ordinarily, only minor changes in acreage planted of each vegetable take place from one year to the next, but yields and total production of each must await the end of the crop year.

Over the years, however, perceptible trends in the production of individual crops are observable. During the seven years ending 1961, production of tomatoes has increased for reasons already mentioned. Production of cabbage, cucumbers, eggplant, and sweet corn is also on the increase. During the same period, production of carrots, celery, and cauliflower declined.

Vegetable growing in New Jersey faces not only the competition of other vegetable-growing states as far west as California but also the local competition of land for other purposes. Urbanization and industrialization are making fast progress in South Jersey. Some citizens of the area deplore the trend; others welcome it.

FOR THE RECORD...



SUMMARY	Third Federal Reserve District			United States		
	Per cent change			Per cent change		
	July 1962 from		7 mos. 1962 from	July 1962 from		7 mos. 1962 from
	mo. ago	year ago	from year ago	mo. ago	year ago	from year ago
MANUFACTURING						
Production.....	....	....	....	- 5	+ 8	+10
Electric power consumed.....	- 6	+ 7	+11	....	....	....
Man-hours, total*.....	- 2	+ 2	+ 4	....	....	....
Employment, total.....	- 1	+ 1	+ 2	- 1	+ 3	+ 4
Wage income*.....	- 2	+ 4	+ 7	....	....	....
CONSTRUCTION**	-12	+14	+24	- 4	+ 6	+14
COAL PRODUCTION	-32	-14	+10	-42	-18	+ 9
TRADE***						
Department store sales.....	+ 2	+ 3	+ 5	+ 4	+ 5	+ 5
Department store stocks.....	+ 1	+ 8	....	0	+ 8	....
BANKING						
(All member banks)						
Deposits.....	- 1	+ 4	+ 5	- 1	+ 6	+ 7
Loans.....	0	+ 5	+ 5	- 1	+ 9	+ 7
Investments.....	+ 1	+ 5	+ 8	0	+ 5	+ 9
U.S. Govt. securities.....	0	+ 2	+ 9	- 1	- 2	+ 5
Other.....	+ 2	+12	+ 6	+ 2	+26	+21
Check payments.....	- 4†	+17†	+15†	- 4	+13	+11
PRICES						
Wholesale.....	....	....	....	0	+ 1	0
Consumer.....	0†	+ 1†	+ 1†	0	+ 1	+ 1

LOCAL CHANGES	Factory*				Department Store†					
	Employment		Payrolls		Sales		Stocks		Check Payments	
	Per cent change from		Per cent change from		Per cent change from		Per cent change from		Per cent change from	
	mo. ago	year ago	mo. ago	year ago	mo. ago	year ago	mo. ago	year ago	mo. ago	year ago
Lehigh Valley...	- 1	+ 2	- 2	+ 9	....	....	....	....	- 6	+12
Harrisburg.....	+ 1	0	+ 1	+ 5	....	....	....	....	+ 1	+ 4
Lancaster.....	+ 1	+ 5	- 1	+14	- 3	+ 3	+ 1	+ 6	- 2	+17
Philadelphia....	- 1	0	- 2	+ 3	+ 3	+ 5	+ 1	+10	- 6	+17
Reading.....	- 2	+ 3	- 2	+ 6	- 1	+ 3	- 8	+15	- 7	+11
Scranton.....	- 1	+ 2	- 2	+ 9	+ 4	+ 1	+ 1	+ 6	- 6	+ 8
Trenton.....	- 1	+ 5	0	+13	+ 3	- 2	+ 2	+ 3	+60	+16
Wilkes-Barre...	- 1	+ 2	- 1	+ 8	+ 4	+ 1	- 1	+ 1	- 1	+ 5
Wilmington.....	0	+ 2	- 1	+ 7	- 4	- 3	- 3	+ 1	-10	+43
York.....	0	0	- 4	+ 3	- 5	+ 2	+ 4	+ 7	- 4	+ 7

*Production workers only.
 **Value of contracts.
 ***Adjusted for seasonal variation.

†20 Cities
 ‡Philadelphia

*Not restricted to corporate limits of cities but covers areas of one or more counties.
 †Adjusted for seasonal variation.



ASSURING THE FREE WORLD'S LIQUIDITY

BY ROBERT V. ROOSA, UNDER SECRETARY OF THE UNITED STATES TREASURY FOR MONETARY AFFAIRS

BUSINESS REVIEW SUPPLEMENT

FEDERAL RESERVE BANK OF PHILADELPHIA

SEPTEMBER 1962

ASSURING THE FREE WORLD'S LIQUIDITY

By Robert V. Roosa

Under Secretary of the United States Treasury for Monetary Affairs

(EDITOR'S NOTE: Widespread current interest in the problems of maintaining international liquidity sent us for an informed opinion to Robert V. Roosa who, as Under Secretary of the United States Treasury for Monetary Affairs, is intimately associated with efforts to strengthen the free world's monetary system.)

In the present international financial climate, three familiar proposals are being widely discussed again on the grounds that they can assure the international liquidity that is necessary to absorb the shocks of any spreading disturbances:

—Devaluation of the dollar by doubling or trebling the dollar price of gold.

—“Guaranteeing” the dollar’s present price so that other countries can readily go on accumulating more dollars to provide their needed increases in liquidity.

—Immediate launching of plans for pooling all the international reserves of the Western World’s monetary systems in a new supranational bank—usually visualized as one empowered to create additional supplies of a new international reserve currency that all subscribing countries would bind themselves to accept.

The latest expressions of support for these revolutionary approaches come at a time, perhaps surprisingly, when the United States, in cooperation with most of the other free industrial countries, is completing the groundwork for the most comprehensive restructuring of international liquidity arrangements since the founding

of the International Monetary Fund at the end of World War II.

The paradox is understandable, for while the nature of practical monetary operations demands that they be established with the knowledge and the confidence of responsible financial officials in other countries, it is equally necessary that progress of this kind must initially evolve within a framework of confidential discussions and limited, step-by-step operations. There are grave risks of setting off disruptive speculation if there should be haphazard or uncoordinated release of information on any negotiations in process, or if new steps should be initiated or announced without preparation for cooperation by other affected countries.

That is why—although Treasury and Federal Reserve officials have been negotiating and designing and installing parts of the new structure for the past year and a half—it has not been possible in public discussion to make more than a few hinting references to the over-all pattern as a whole.

That is why some alert critics have, quite understandably, charged that those bits and

pieces of the new machinery which were actually installed and publicly announced seemed to be only a patchwork improvisation of minor devices.

And that is also why, during the recent unsettlement over economic conditions here—coming before the United States had achieved the fundamental correction of its balance of payments position upon which the real strength of the dollar in the world depends—responsible observers have turned to the better-known, widely discussed proposals of earlier periods of unrest, instead of joining in an appraisal of the potentialities of the new design.

Fortunately, enough has now been accomplished to be able to put together a sketch, if not a blueprint, of the structure as a whole. Each of the pieces already in place has been reviewed and approved by President Kennedy; those which involved interpretations of existing legislative authority have been discussed in advance with the Chairmen of the respective Congressional Committees; some have required legislation, which has either been obtained or is now before the Congress. Other steps are ahead, but they will need to be shaped by critical public discussion, just as all of the measures already taken will be adapted on the basis of the experience now being gained.

Even the steps already taken would seem, however, to remove most of the premises on which cases have been built in the past for devaluation, or guarantees, or a heroic new supranational organization. Appraisals in the future will have to take into account all of the new developments, as well as the vast array of new dangers that any one of these three other approaches would create. But before turning to the sketch of what is new—a sketch that can be filled out more fully before the end of this year as other still-confidential efforts mature—it should be helpful to

restate briefly the problems implied by the wide-ranging consideration of international liquidity and to take a look at the way devaluation, or guarantees, or a super-bank might be expected to cope with such problems.

I

International liquidity is needed to service the regular flow of payments among countries, to finance the shortfall when any particular country's out-payments temporarily exceed its in-payments, and to meet large withdrawals caused by out-flows of capital. The responsible financial officials of virtually all countries are agreed that aggregate monetary reserves on hand or mobilizable in the world today are adequate for regular payments and for temporary swings in needs. The three debatable questions are: (1) whether particular countries, notably the less developed, have access to enough reserves for their regular needs, that is, whether the distribution of existing reserves should be improved; (2) whether the emergency sources of liquidity, particularly in the event of runs on any of the larger countries, are adequate; and (3) whether existing facilities assure an adequate growth of total reserves for the future needs of an expanding world economy.

Devaluation, guarantees, and a super-bank are all proposed to answer, in one way or another, these three questions. Yet each would, in providing its answers, gravely alter important parts of the monetary system on which the world depends, and which everyone takes for granted today. The new convertible gold-dollar arrangements, however, build upon existing currencies and payments facilities; recognize the limitations upon monetary devices as solutions for fundamental economic problems (including those underlying the recent United States balance of payments deficits); and avoid the hazards of despair and economic disruption so likely to result from the displacement of the dollar as the

universally recognized supplement and alternative to gold in meeting the international liquidity reserve needs of the world.

II

Raising the price of gold by devaluing the dollar would certainly be followed by similar action on the part of other countries. An increase in the gold price would thus not help the United States balance of payments. It would, however, mean writing up the gold reserves now held by any country, presumably providing a "profit" which would permit all countries, large and small, to start afresh with a feeling that, by the stroke of a pen (or a legislative act), they had become richer. Any present maldistribution would presumably seem less constricting with everyone suddenly better off; the greatest gainers might feel better able to lend reserves to those still in some need; total reserves would be so much greater that concern over future liquidity requirements would disappear; and the larger totals would provide fresh supplies of liquidity to meet any capital flight likely to occur—or so the argument goes.

But, in fact, devaluation of the dollar would, for practical purposes in the future, virtually destroy as much reserve liquidity as it might seem to create. For every holder of dollars before devaluation would have been tricked into heavy losses; losses as large as the gains would seem to be to those who had held gold instead. The possibility that the dollar could again serve, in any meaningful volume, as a useable part of general monetary reserves would disappear. In effect, the dollar holdings of other countries would thereafter be consumed, and the large part of world liquidity now represented by dollars would be gone. The world would be left without a major currency, generally acceptable as a supplement to gold. That is why most serious consideration of international monetary reform has long since

dismissed devaluation of the dollar as a practical possibility, and has turned instead toward "guarantees," or the founding of a super-bank, or both.

III

The appeal of a dollar "guarantee" is that it presumably assures the world that devaluation will not occur. For the key provision of any generalized guarantee must be that all dollars held as monetary reserves would receive full compensation for all losses in the event of devaluation. The aim of such contractual assurances is, of course, to persuade the other countries of the world that they can readily go on accumulating more dollars without any risk of loss. If guarantees were in this way able to assure all needed increases in liquidity without any offsetting consequences, it would seem that they could fit in very well as simply another feature of the new structure being erected for the convertible gold-dollar system.

In that event, so the argument goes, any existing maldistribution of liquidity could be met through assistance from the United States, with no risk that the further shifting about of such reserves, following their use by the needy countries, would bring them into the hands of unwilling holders. With everyone made absolutely certain that dollars held in monetary reserves would be revalued in the event of changes in the United States gold price, quick negotiations might ensue for effecting a uniformity in the ratio between gold and dollars in the reserves of other countries. Presumably there might even be a major move to turn in gold and acquire additional dollars, on which interest might be earned. There would seem to be no problem then of assuring ample liquidity for the indefinite future; an increasing supply of dollars would always be acceptable to fulfill such needs. Moreover, there would never be reason to fear the effects of any

sustained balance of payments deficit, or to be concerned if domestic developments in the United States caused investors to move large blocks of capital out to other countries—in any such circumstances, the United States could simply take it for granted that the additional supplies of dollars thus created would end up in the monetary reserves of other countries, who would be content to hold them because of the guarantee.

But this recital of the gains to be expected from the use of guarantees itself suggests that perhaps the prescription is too good to be true. Those who have become enthusiastic proponents of guarantees seem sometimes to forget that the strength of the signature on any guarantee depends upon sustained confidence in the credit worthiness of the signer.

Moreover, the highest credit standing—and a currency capable of supplying the monetary reserves of the world should scarcely aim for less—is that of the debtor whose net worth is so great, and whose performance is so reassuring, that supporting guarantees would never be offered or required. What this means, translated into the position of the United States as supplier of reserves for the world, is that we cannot escape a fundamental interdependence between the strength of our economy, our balance of payments, and the dollar.

The case for guarantees rests upon a contradiction: in giving a guarantee, the United States would expect to release its domestic economic performance in some measure from the constraints imposed by the need for balance of payments equilibrium; in accepting a guarantee, other countries would expect the United States to maintain their confidence in its internal and external economic performance; otherwise, the guarantee would not be granted or renewed. Thus the United States would, in relying upon guarantees, incur an obligation initially or eventually to engage in recurrent negotiations

with country after country. The end result would be either disciplines or constraints upon our own economic policy which, at the very best, could be no different from those already apparent, and which might at the worst, become a complicated straightjacket of additional obligations, or the guarantee would be found unacceptable and all its supposed advantages would be lost.

Many countries today object to our balance of payments deficit, on the grounds that we are financing an aid and military effort which they could not afford, or would not willingly undertake, by foisting on them dollar deposits which they have no need to hold. Why should they, simply because they are offered a contractual guarantee, become implicit partners in underwriting programs that they themselves would reject? On the contrary, how much more likely may it be that one country after another will interpose conditions on its readiness to accept a guarantee—conditions that will at the least interpose their judgments more specifically into the determination of our military, aid, or investment activities abroad, or perhaps be made dependent upon our adopting their own formulas for achieving the needed further shrinkage of our over-all balance of payments deficit? And where would we find ourselves when the demands of one of our guaranteed creditors conflicted with those of another? How close might our position then seem to be to that of the debtor approaching receivership, with tier upon tier of first, second, and third mortgage claimants to satisfy? Rather than negotiate the relative priorities of such contractual liens, the United States might be better advised (as Chairman Martin has recently intimated when asked about guarantees by the Joint Economic Committee) to give up altogether the obligations of maintaining a reserve currency for the rest of the free world.

There are many of the industrial countries, too, which fear any further substantial diversion

of the resources of the International Monetary Fund into the financing of recurrent distress situations in many of the underdeveloped countries—distress situations which the affected countries customarily view in simple terms as a shortage of liquidity available to them. Can we expect these same critical industrial countries to accept more dollars, just because they carry a guarantee, if the dollars arise from continued or additional American effort to supplement the contributions being made by the International Monetary Fund toward these frequent “liquidity” requirements of the less developed countries?

Some part of the current movement of capital from the United States toward Europe is apparently induced by interest rate differentials that are somewhat higher than normal relationships would otherwise bring about. Will the monetary authorities of other countries be content to go on acquiring more and more short-term dollar liabilities, as the by-product of these capital movements, simply because their gold value is underwritten by a contractual guarantee? Or will they take advantage of the negotiations relating to the introduction of guarantees to lay down their own conditions with an impact at least as severe, perhaps considerably more so, than that now exerted?

Surely any responsible financial official in this country would expect to negotiate in exactly that manner, and to exact much more precise and limiting conditions, if we were being expected to rely on a guarantee of the gold value of any one other currency to provide a major part of our own international reserve needs. The financial officials of the other countries are neither more modest nor reluctant to exact conditions than we would be.

There is, in fact, no real escape, certainly not so long as we maintain a reserve currency for the world, from the kinds of limits upon our complete freedom of action which these various

illustrations suggest. The one way to be assured of greater freedom is to achieve balance of payments equilibrium and, from time to time, a surplus in our own balance of payments. The effect of guarantees is, indeed, instead of creating greater freedom for us, to center all responsibility upon us. For those in the position of accepting guarantees are able to dictate their terms. If, instead, there can be a sharing, in some increasing degree, of the responsibilities now borne so largely by the dollar alone, the leeway remaining to use for independent action on our own initiative should broaden rather than shrink as expanding liquidity needs are met over the years ahead.

And in all of these reservations concerning the possible role of guarantees, there is another pervading theme which cannot be obscured. The United States abrogated a gold clause in contracts once; the action was supported by the Supreme Court and approved by joint resolution of Congress. What assurance can a mere guarantee provide again? Is not the real basis for any confidence to be found in the strength, performance, and credibility of the American economic and financial system, and only there?

IV

One great attraction of a super-central bank, or “an International Federal Reserve System,” is that it would clearly provide for a mutual sharing of responsibilities by all of the countries of the world. Whether created out of the existing International Monetary Fund, or established as a completely new institution, its role would be to pool the reserve balances held by all countries, or at any rate all countries of the Free World. The deposits held in the super-bank could be transferrable on its books, so that the resulting differences between inflows and outflows of any given country could be settled through a central clearing house. The dollar would no longer have

any special role to perform as a reserve currency; that role would instead be shifted to some newly christened monetary unit of account, representing the deposit balances held at the super-bank.

While gold might still hold some attraction, and could be used as an alternative means of settling differences of accounts among countries, there would presumably be no essential role for gold in the system. Much of it might find its way into the vaults of the super-bank itself, or gradually disappear in industrial uses.

On the assumption that the total supply of reserves available at the super-bank could grow, and grow at a controlled rate that would preclude world-wide inflation and a reluctance to hold the reserve balances on deposit there, any long-run growth needs could be readily satisfied. The liquidity requirements of underdeveloped countries might be met through advances or loans extended to such countries by the super-bank itself. And any serious pressures on a given country, because its balance of payments was in grave deficit on trade account, or because capital was leaving the country in heavy volume, could also be met through loans and overdrafts on the books of the super-bank.

There are many variations and nuances and combinations of these several features which have been suggested in the writings of various proponents. But all such elaboration would represent a fruitless exercise if the basic premises on which the establishment of such a super-bank rests should prove unsupportable. That, perhaps regrettably, is the inescapable conclusion dictated by the actual ways of the world—today and for any foreseeable future.

The money created by a super-bank would be the most high-powered ever generated by a man-made institution, yet it would have no supporting super-government to make good on its debts or claims. Even with all the underlying resources

of the richest nation on earth, the performance of the United States in providing additional reserves has been at times rather conspicuously called into question. And in our case, the world has the basic assurance that our performance will continue broadly to meet the tests of economic requirements because otherwise pressures can be exerted upon us through our own balance of payments. There will be no comparable assurance, and no comparable underlying strength in the new body. Instead reliance must be placed upon the conflicting interests represented in a multi-national legislative body, to judge and resolve conflicting demands for larger or smaller increases in the supply of the new monetary unit, or for a greater or lesser shifting of its lending power toward one group of countries or another.

Even accomplishment of the first steps would be an heroic achievement. Simply to establish the super-bank would require all countries of the world to give up their present reserves and accept instead the fiat issue of a super-authority existing without a super-state. But assuming that could be done, what would happen when differences of view begin to exercise conflicting pulls upon the central organization? So long as monetary systems within individual countries continue to be managed by men who think and act as bankers, one after another will begin to hedge his country's own position either by acquiring gold or by acquiring increasing holdings of one or more currencies of other countries in which he has confidence. And so long as trade continues among sovereign nations the opportunity to convert holdings of the super-bank's monetary unit into holdings of one currency or another will be available.

Thus it would be inescapable, so long as major differences in economic policy arise among different countries, that those differences will prevent the systematic direction of the super-bank

on uniform and consistent lines. The outcome, if it is not utter chaos and impairment of normal payments transactions among nations, is likely instead to be a drifting back toward systems of reliance upon clusters of currencies, and dependence on the strength given to them by the economies which underlie them. The drift, if it is in that direction, will indeed be back toward a system of arrangements very similar to that now evolving as part of the structure of the new convertible gold-dollar system.

V

The claims for this evolving convertible gold-dollar system are necessarily modest. The experience gained as step-by-step innovations are being put in place is providing ample evidence that workable arrangements depend fundamentally upon confidence rather than upon binding compacts—and confidence in monetary affairs, as in political or business life, is not attained once-for-all in a single negotiation, or a single declaration or compact, but is gained through continuing performance. Moreover, it has become irrefutably clear, if there was ever any doubt, that major initiatives cannot succeed unless the leading countries are prepared to support them by working toward equilibrium in their balance of payments accounts, whenever internal disturbances, outside events, or ordinary economic developments create other pressures away from balance.

Nonetheless, it already seems reasonably certain that the new structure being erected around the established gold-dollar system can make possible important additions to the liquidity of underdeveloped countries; can provide ample resources for promptly meeting heavy drains or a run on the currency of any leading industrial country, including the United States; and can assure the flexibility and growth in total liquidity needed to serve the requirements of trade in

an expanding world economy for some years ahead.

Further potentialities may come into view as and if the Common Market becomes a unified monetary system, and forward planning for that eventuality may soon introduce a new dimension into the consideration of arrangements for international liquidity. But at least until that greater fusion of the Common Market countries occurs, the essence of the monetary system of the free world will no doubt continue to be the fixed relationship between gold and the dollar, with the United States standing ready to buy or sell gold at its established price of \$35 per ounce. The principal source of increases in liquidity will continue to be the annual increments of gold to the monetary reserves of the world, supplemented from time to time by controlled increases in the dollars held by other countries as a part of their monetary reserves.

Standing astride the gold and dollar reserves of most countries of the world will be the International Monetary Fund, into which all member countries have contributed working balances of gold and their own currencies, in amounts related to their own quotas (or conditional “drawing rights”) in the Fund. Surrounding the dollar is a constellation of special bilateral relationships between the dollar and the separate currencies of most of the other leading industrial countries. Surrounding the gold reserves is a set of relationships now largely worked out through the London gold market, but representing participation by the leading European central banks, known colloquially as the “Basle group” which now also includes the United States.

The innovations of the past year and a half have centered upon the resources and usability of the International Monetary Fund, upon the direct relations between the dollar and other leading currencies highlighted by our initiation of activity in the foreign exchange markets, and

upon the special arrangements for influencing the flow of gold into the world's monetary reserves. Virtually all of the changes have represented, and resulted from, a growing readiness on the part of the other leading industrial countries to begin to consider, and cautiously to undertake, some sharing of the responsibilities formerly carried so largely by the dollar.

Comprehending and reinforcing all of the new arrangements are the various activities of the OECD, and more particularly, its working party devoted to balance of payments and financial problems. Here, the opportunity for continuous interchange of information and criticism, among the leading industrial countries, provides the base of communications needed to carry forward operations that require mutual understanding of current developments and current policies. At the same time, it is conceivable that work can go forward through this and other organs of the OECD toward preparing the way for the next stage of practicable and foreseeable innovation in the area of international financial arrangements—the fusing of the United Kingdom into the Common Market; the evolution of a unified financial mechanism to serve the expanded Common Market; and the forging of appropriate operating and policy links between that organization, once it emerges, and our own financial institutions.

Meanwhile, it would be quixotic to hope, however, that the new arrangements will solve the liquidity needs of the underdeveloped countries; for in a full sense, nothing can. So long as these countries are energetically pursuing development programs, any international reserves not actually required as current working balances will be consumed in the purchase of more imports. Mere increases in reserves, therefore, will largely disappear. The need of these countries is for some greater assurance concerning the markets and prices of the raw materials they sell; for as much

aid as can effectively be absorbed from whichever industrial countries are able to provide it; and for emergency facilities to provide needed foreign exchange to bridge unexpected seasonal or cyclical reverses. None of these needs can be met simply through broad global action; all are the object of energetic further effort by the United States and various international bodies at the present time.

So far as aid is concerned, the activities of already existing international institutions are being reinforced through the establishment of consortia to attract, into each of the underdeveloped countries as programs are developed, additional funds from the more prosperous countries of Western Europe. And with respect to emergency requirements, joint action by the International Monetary Fund and interested outside governments (often accompanied by leading commercial banks) provides practical possibilities for the kind of emergency assistance that can be used without abuse.

The most prominent question currently, however, is whether the new arrangements of the convertible gold-dollar system, once established and understood, can provide a mobilization of reserves to meet sudden and heavy drains upon the dollar itself. So far as the precipitation of a run through pressures on the London gold market may be concerned, the Basle group has already achieved important results. Price changes are occurring only over a range wide enough to make speculation costly, and there is now a close, participating interest on the part of the principal European countries, as well as the United Kingdom and the United States, in the maintenance of orderly conditions there. To be sure, so long as nations and individuals are free to exercise choices, and so long as changes occur in the degree of confidence in the dollar or in other currencies, it will be impossible to escape pressures. The gain has come in curbing capri-

cious or mere follow-the-leader raids upon the gold which serves the world's monetary reserve needs, and in sharing the responsibility for required action. Perhaps in an ideal world the interrelated monetary systems would function even better if private individuals were not allowed to own gold in any country, and if no London gold market existed. But for the world that we have, the present arrangements represent a marked change and improvement—a change which necessarily rests upon mutual and voluntary action based upon confidence.

In a somewhat comparable way, through reciprocal holdings of currencies, through engaging in forward transactions in currencies, and through the outright borrowing of dollars or of other currencies from foreign countries, the United States has developed arrangements to cushion or offset a substantial part of any disruptive short-term capital outflows, or to minimize the impact on our central gold reserve caused by shifts of monetary reserves from countries whose gold ratios are low to those whose gold ratios are high. To be sure, these arrangements, too, could not be worked out if other countries felt that the credit risks were great; that is, if their confidence should weaken in our ability and determination to regain the initiative in controlling our own balance of payments, and to maintain the freedom of our capital markets as well as the ready interchangeability between dollars and gold. Nothing has been done which has not reflected the combined judgment of both countries involved in every set of bilateral relationships. Given that basic approach, and the mutual confidence it implies, however, a new pattern of arrangements can provide an increasing measure of protection for the dollar against incipient developments that might otherwise grow into serious runs.

But for the eventuality that a run might actually occur, new arrangements have also been

made. By providing additional standby resources for the International Monetary Fund, the ten leading industrial countries, whose actions will become effective as soon as the necessary legislation passes through the appropriations process in the American Congress, have made certain that adequate supplies of other currencies will be available to meet any needs that we might expect to face. So far as other countries are concerned, the recent mobilization of more than \$1 billion within a forty-eight hour period to stop a raid on the Canadian dollar provides striking evidence of the flexibility, the speed, and the magnitude of the facilities now available. And it is interesting evidence of the results that Canada has already, even before its longer range program has been announced or implemented, regained within two months roughly two-thirds of all the reserves it had lost over the first six months of the year.

Looking further ahead, the new arrangements also are capable of providing for a steady growth in the monetary reserves needed to service the trade requirements of an expanding world. Dollars are still the currency to which all countries turn for a substantial part, if not the entire amount, of their international payments. Our financial institutions and our markets are increasingly well equipped to service the payments requirements of the world. It is a role which naturally accompanies our leading economic and political position. The only reason that the usefulness of the dollar has come into doubt is that, for some time, dollars have been added to the "money supply," i.e., the monetary reserves, of other countries at too fast a pace. That is because our balance of payments deficit was, in effect, creating reserve dollars for others, at a rate which outran the current requirements for liquidity in the world's monetary reserves. In those circumstances, just as occurs when money is created too rapidly inside any single country,

renewal of the ready acceptability of the currency depends upon limiting further increases until the uses for that liquidity should have caught up.

Once the United States has its balance of payments fully under control, the rate of increase in the supply of dollars available to serve the international liquidity requirements in the world can also be managed. Whether or not there is a corresponding proportionate increase in the underlying supply of gold in the world's monetary reserves, additional increases in the supply of dollars can rest upon an accumulation by the United States of incremental amounts of the currencies of other leading countries. These other currencies, while not equally capable of serving the multitude of functions required of a reserve currency, can, as the United States acquires holdings of them, be brought into a further mutual sharing of some of the responsibilities which the international reserve system must itself carry.

What this may mean in the future in the way of additional consultation and negotiation with respect to the particular currencies so used, and the manner in which such currencies may cushion drains upon the dollar at particular times—serving in that respect as a substitute for drains upon the gold reserve itself—all remain to be worked out in the tests of day-by-day experience. But the structure of the new relationship has already been established. Its potential capabilities for meeting the world's longer run liquidity requirements are clearly at least as promising as any of the more familiar proposals. And its possibilities for practicable operation in everyday affairs are clearly much enhanced by the fact that the new system builds directly upon the existing payments procedures to which governments and individuals are already well accustomed. This would seem to be not only the most promising, but also the most reliable, pattern for new developments to follow.