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. . . There are easier ways of making money but perhaps none so diverse and fascinating as papermaking.

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TIMING AND TOOLS OF FEDERAL RESERVE POLICY

by Karl R. Bopp*

As bankers, you are fully aware that we have had some rapid-fire and rather novel changes in monetary policy during the past year. During the first ten months of 1966, in the face of an excessively rapid economic expansion that was generating strong upward pressures on prices, operations were conducted with a view toward moderating the growth of money and credit which resulted in the high interest rates and scarce credit mentioned by President Bracken. Then in November 1966, when the pace of the expansion moderated and inflationary pressures began to recede, monetary policy shifted promptly toward encouraging flows of money and credit.

These sharp movements in monetary policy within a short time demonstrate how quickly it can respond to changing economic conditions. They also show that as we increased our knowledge of the workings of the economy and of monetary policy, we have tried to improve the timing of policy changes and have experimented with new uses of the tools of monetary control.

Since events of the past year highlight these changes in the conduct of monetary policy, I take this opportunity to point out some of them to you. I shall first discuss some of the factors that have influenced the timing of changes in general monetary policy and then turn to some of the modifications we have made in the use of specific tools.

* Mr. Bopp, President of the Federal Reserve Bank of Philadelphia, gave this talk at the 73rd Annual Convention of the Pennsylvania Bankers Association, Atlantic City, May 22, 1967.

TIMING OF FEDERAL RESERVE POLICY

Wesley Mitchell wrote his pioneering book on business cycles over 50 years ago. Among the factors to which he drew attention as being inimical to achievement of steady advances in production and employment were the financial panics that had at times severely disrupted the economy. One of the main reasons the Federal Reserve System was established was to help avoid the sharp monetary contractions and liquidity freezes that had precipitated or accentuated economic downturns in the past.

Soon after its inception, however, the Federal Reserve saw that it had a responsibility to do more than serve passively as a lender of last resort in order to prevent financial crises. It began to foster monetary conditions that would stimulate the pace of business activity when it was depressed and moderate it when the economy was expanding. That is, it began early to use the business cycle as the general framework to guide it in its conduct of monetary policy.

The rationale, and I am greatly over simplifying, went something like this. When business activity declines, unemployment rises and income falls. Consequently, monetary policy should be expansive in order to stimulate production, employment and income. But as economic activity expands and prices tend to rise, monetary policy should become restrictive.

Peaks in economic activity were signals indicating that monetary policy should begin to move toward ease, and troughs were signals indicating

that monetary policy should begin to move toward restriction.

Now, as I say, this is an oversimplification. The problem of determining policy has always been much more complicated than this. All signals seldom point in the same direction. Often the Federal Reserve can achieve one objective only at the expense of another. For example, massive international gold flows in the 1930's and the huge Government financing needs in the 1940's led the Federal Reserve to pursue policies at times that were not what they would have been if it had been trying solely to moderate cyclical fluctuations in the economy. Nevertheless, with due regard to these qualifications, changes in the phase of the business cycle—peaks and troughs—obviously have been important considerations influencing the timing of policy changes.

Let me apply this principle to the 1950's to show what I mean.

Timing in the 1950's

In the 1950's this country had two distinct cycles in economic activity.

Economic activity reached a peak in July 1953. In June 1953, partly in response to unsettled conditions in the Government securities markets, the Federal Reserve changed monetary policy and began to move toward ease.

This downswing in economic activity continued until August 1954. Because of lags in collection of data and difficulties of interpreting them, the Federal Reserve did not recognize the trough until November, or three months later. As soon as it did, however, it reversed direction and began to move toward restriction.

The next peak occurred in July 1957. Again it took the Federal Reserve three months to recognize that the turning point had been reached; but once it did, it reversed monetary policy and

moved toward ease.

The trough was reached in April 1958, just nine months after the previous peak. The Federal Reserve was again able to recognize the turning point with a lag of only three months and, as before, immediately decided to reverse the direction of monetary policy.

It is clear from this brief overview of the 1950's that the business cycle did exert a large influence on the timing of policy changes. The peak in 1953 was the main exception, and in that case disruption of Government securities markets played a large part in the early move toward ease. More generally the pattern was that as soon as the Federal Reserve recognized a cyclical turning point, it reversed the direction of policy in order to stimulate the economy during recessions and moderate the pace of advance during expansions.

Timing in the 1960's

The timing of policy changes in the 1960's has been different. Policy has been eased before cyclical peaks and was not tightened until long after the only trough we have had.

The Federal Reserve began to ease in March 1960, two months before the peak in the business cycle. At the time, no recession was expected. Instead, this policy change was made primarily to reverse a declining trend in the money supply in order to accommodate and stimulate economic growth.

The economy reached a trough in February 1961. This time the Federal Reserve was able to recognize it with a lag of only two months, but did not regard it as a signal to begin to tighten monetary policy. The Federal Reserve waited until October 1961, six months after it recognized the trough, before making policy slightly less expansive and it was not until 1965 that it really

began to be restrictive.

Following extreme restraint in most of 1966, the Federal Reserve shifted direction again in November. So far as we know now, we have no cyclical peak with which to compare the timing of this move. But we do know that policy was shifted in response to a decline in the rate of economic growth with no suggestion that a recession was imminent.

Reasons for change

Two factors account for differences in the timing of policy in the 1950's and 1960's.

First, the economic environment was substantially different in the two periods. Prices rose persistently and rapidly throughout most of the 1950's. In order to combat this, the Federal Reserve began to tighten policy as soon as it recognized the onset of an economic expansion, and continued to do so until a peak had been reached. Price increases cause personal hardships and inequities, and are a major stumbling block in the way of achieving sustained economic growth and a suitable balance-of-payments position. Monetary policy, therefore, had to do all it could to moderate the upward price pressures that characterized this period.

In contrast, until 1965 and 1966 the period since 1960 was characterized by unusual price stability at both the wholesale and retail levels. And unlike experience in the 1950's when unemployment tended to fall rapidly as the pace of economic activity picked up, in the 1960's it moved much more sluggishly. Lack of price pressures permitted monetary policy to ease before peaks in economic activity in order to stimulate economic growth. It also permitted policy to remain easy well after the trough in order to combat excessively high rates of unemployment.

A second factor accounting for the different

timing is an increased alertness to the dynamics of the business cycle.

Wesley Mitchell made clear that what we call the business cycle is really an average of many different economic events, each of which follows its own pattern over time.

Each firm, industry, and sector in the economy is faced with different forces of demand. At any given time, some products and services will be in great demand; others will be subject to declining demand. While one sector of the economy is expanding, another may be contracting. During the expansion phase of the business cycle more sectors are expanding than are contracting; during the contraction phase more sectors are contracting than are expanding.

In a dynamic economy, some firms are hiring additional workers while other firms are laying off. Similarly, some firms are increasing prices, while other firms are lowering them. The levels of *aggregate* employment and *average* prices will depend on the *net* effect of all these labor and price adjustments.

This concept, of course, is not new. But it takes on added significance as we constantly raise the standards of performance demanded of the economy. I am very skeptical of statements that the business cycle is dead, but I do believe we have become increasingly intolerant of it. If the cycle is ever to be vanquished, therefore, public policy must be increasingly alert to the dynamics of the cycle. It must, as economists say, disaggregate overall movements in the economy.

The Federal Reserve has, I think, come closer to doing this in the 1960's than it did in the 1950's. The signals to ease have become, not the peak in the business cycle, but unacceptable increases in unemployment and declines in the rate of growth. The signals to begin to tighten monetary policy, rather than simply the trough in the

business cycle, have become unsustainable rates of growth, increases in the price level, and so on.

While these signals do not always point in the same direction at the same time and trade-offs have to be made, the important point is that policy changes are more directly related to the policy goals themselves rather than to the peaks and troughs in the business cycle.

Stabilization of the business cycle, after all, is not a goal by itself. We are concerned with achieving full as well as stable employment, and rising as well as stable rates of production. Consequently, shifts in monetary policy should be geared directly to the degree of achievement of each policy goal—that is, to changes in the rate of unemployment, the level of prices, the rate of economic growth, and the degree of disequilibrium in the balance of payments.

NEW USES OF OLD TOOLS

Along with changes in the timing of policy actions, there have been changes in the use of the tools of monetary policy.

You are familiar with the way the Federal Reserve has traditionally used open market operations and changes in reserve requirements and the discount rate either individually or in combination to achieve a given degree of restraint or ease. To restrain, securities have been sold, reserve requirements raised, or the discount rate increased. To ease, the System has purchased securities, lowered reserve requirements, or dropped the discount rate.

Different emphasis has been placed on each of these tools at different times, but until recently they were generally used only to influence total flows of money and credit through the economy. Last year, a new dimension was added and they were used to influence sectoral flows as well.

Sectoral flows in 1966

It became clear as monetary conditions tightened in 1966 that markets for mortgages and municipal securities had to carry a disproportionate share of the burden of restriction while business loans were expanding at an unsustainable pace.

The problem in the mortgage market was due in part to the difficulty savings and loan associations and mutual savings banks had in attracting and holding deposit and share accounts. They are limited in their ability to increase the rates they pay to savers because the bulk of their assets are of fixed yield and turn over slowly. Consequently, as market rates rose, savers channeled an increasing proportion of their funds directly into market instruments rather than into these financial institutions. At the same time, commercial banks raised the rates they were willing to pay on time deposits and some funds that might otherwise have gone to nonbank financial intermediaries went instead to commercial banks. These two factors sharply curtailed the ability of savings and loan associations and mutual savings banks to invest in new mortgages. Since they are typically heavy suppliers of funds to this market, the availability of mortgage funds was severely reduced. Home builders were forced to bear a relatively large part of the burden of monetary restriction.

The problem in the market for municipals was different. While commercial banks were better able to compete for the saver's dollar than were most nonbank financial institutions, they still experienced demands for their funds that greatly outpaced their ability to attract deposits. Requests for business loans were particularly heavy. In an attempt to satisfy some of these burgeoning demands for credit, banks liquidated large amounts of municipals. Since they are ordinarily heavy purchasers of these securities, this liquidation re-

sulted in the steep run-up in interest rates on these issues. Either because of legal constraints, the forces of custom, or the exercise of judgment, some state and local governments were unable or unwilling to borrow at these high rates. In addition, there was some question as to whether or not some issues could have been sold even if the borrowers had been willing to incur high interest costs.

Federal Reserve response

The Federal Reserve was concerned that moves to restrict the overall flows of money and credit were impinging heavily on the markets for mortgages and municipal securities while business loans continued to advance too rapidly. Yet inflationary conditions in the economy and large deficits in the balance of payments clearly warranted a policy of general monetary restraint during most of 1966. The Federal Reserve, therefore, decided to use its ability to alter reserve requirements and set maximum rates on time deposits to try to correct some of these sectoral imbalances.

In response to the difficulties in the mortgage market, the Federal Reserve first refined its use of changes in reserve requirements. Instead of increasing the requirements against a whole class of deposits as it had done in the past, differential reserve requirements were introduced against specific types of time deposits. In June and again in August, requirements against time deposits other than savings accounts in excess of \$5 million were increased, first to 5 and then to 6 per cent. It was hoped that this would better enable savings and loan associations, mutual savings banks, and smaller commercial banks to attract deposits. With the higher propensity of these institutions to invest in mortgages and other types of nonbusiness loans, this would ease conditions in the mortgage market and moderate the pace of business spending.

The second thing the Federal Reserve did to help even out the burden of its restrictive monetary policy was to give real bite to Regulation Q. Always in the past when interest rates on time and savings deposits bumped against the ceilings established under Regulation Q, the ceilings had been increased. This was not true in 1966. In July the maximum rate on multiple-maturity time deposits of 90 days or more was *reduced* from 5½ to 5 per cent and for maturities of less than 90 days the ceiling was reduced to 4 per cent. In September the Federal Reserve used its newly acquired power to flexibly regulate maximum rates on time and savings deposits to drop the rate ceiling for time deposits other than savings deposits of under \$100,000 from 5½ to 5 per cent.

Meanwhile, the Federal Reserve maintained the ceiling on other time deposits even though many banks were paying rates near or at that rate and market rates had risen even higher.

These adjustments under Regulation Q were intended to help maintain competitive balance among financial institutions and thereby prevent excessive and disruptive rate competition and help take some of the pressure off the mortgage market. The result was a big net decline in large denomination certificates of deposit after August 1966, a slower growth in bank credit from September to November, and hopefully a more balanced distribution of the effects of monetary restriction among the various financial institutions and sectors of the economy.

In direct response to the excessive expansion of business loans and difficulties in the market for municipal securities, the presidents of the Federal Reserve Banks sent a letter to all member banks on September 1 requesting that they moderate their expansion of business loans and refrain from further liquidation of municipal se-

curities. The promise of adequate accommodation at the discount window was held out to those complying banks which needed such help to smooth over the period of adjustment. At the same time, the discount officers at each Reserve Bank began to hold regular telephone conferences to ensure uniform administration of the discount window throughout the country. These efforts marked a milestone in the Federal Reserve's use of moral suasion and discount policy to influence flows of money and credit.

Reason for sectoral approach

The Federal Reserve is concerned about flows of funds to different sectors of the economy as well as about the total volume of money and credit because it is concerned about the specific effects of monetary policy. Just as there is need to disaggregate broad economic movements and look at each policy goal individually in deciding *when* to change monetary policy, there is need to disaggregate the effects of monetary policy to see *how* it should be changed. Because of institutional, legal or other market rigidities, the stimulus or restriction resulting from monetary policy may at times produce sectoral imbalances that threaten sustained growth of the economy. The Federal Reserve has a duty to try to prevent such imbalances from damaging the general health of the economy.

Experience last year demonstrated that there may be times when growth and stability of the overall economy call for particular attention to developments in parts of the economy. In such conditions, it may be necessary to employ the tools of policy differently than usual. In most circumstances, however, use of general instruments can be directed toward the total flow of money and credit without trying to influence directly where these funds go or how they are used.

IMPLICATIONS

I have noted some highlights of recent modifications in the timing of changes in monetary policy and in the Federal Reserve's use of the tools of monetary control. What do they imply about future changes in monetary policy? There are four main conclusions I should like to draw.

First, the Federal Reserve will continue when possible to ease monetary policy when the economy slows down rather than waiting for a recession. Such easing should *not* be interpreted as indicating that we are forecasting a recession. The business cycle may not be dead, but there may be times when the rate of growth will slow down without being followed by large declines in production and employment. That happened in 1962 and also may describe what has happened recently. Under such circumstances, if you interpret an easing of monetary policy as a sign that a recession is close at hand, you might well adopt policies yourselves and recommend to your borrowers that they adopt policies that are not in your best interest or theirs.

Second, when production and employment are at depressed levels, even though business activity is increasing, you can expect monetary policy to follow a stimulative policy as long as possible. Business cycle troughs will not themselves signal a shift in policy.

Third, we will continue to be alert to the sectoral as well as the total flows of money and credit. Hopefully, the market will function effectively so that there will be few occasions when sectoral imbalances will develop that will require us to deviate from our usual practice of making only general changes in monetary policy.

Fourth, with respect to both the timing and tools of monetary policy, it is clear that we still have a lot to learn about the economy and the effects of monetary policy on it. We are trying to

learn more. We currently have studies under way appraising the discount mechanism, studying the Government securities market, and investigating the linkages between monetary policy and real economic activity. As these and other studies are completed, they will likely lead to further modifications in the way we formulate and ex-

ecute policy. Consequently, the changes in the procedures I have described here are not the end of the story. They are simply part of a continuing effort on our part to see that monetary policy makes its maximum contribution to the achievement of the nation's economic objectives.

THE PAPER INDUSTRY IS LIKE THAT . . .

by **Evan B. Alderfer**

Big, widely scattered, forest-anchored, market-oriented, highly diversified, largely integrated, highly mechanized, overcapacity prone, merger-minded, and relentlessly competitive. There are easier ways of making money, but papermaking is fascinating.

Most paper is made out of trees. There are many kind of trees and many kinds of paper made in many different mills in many different places for many different markets and ultimate use. Diversity is the one word that best describes the industry. Two words might be better—diversity diversified.

Diversity of uses

Diversity runs riot with respect to the kinds and uses of paper. Newspapers, books, and magazines probably come to mind first; but as carriers of written communications, paper also serves in thousands of business forms, legal documents, catalogues, directories, hand bills—and what an insatiable appetite for paper E.D.P. systems have!

In the handling of goods, paper and paper-

board perform a protective function—as in wrapping paper, bags, sacks, boxes, cartons, drums, and containers of almost endless variety. In the construction industry, building paper and building board are used extensively for insulation and roofing. Paper is indispensable in modern hygiene and sanitation, as attested by the use of disposable cups, plates, napkins, tissue, towels, and hospital supplies.

And miscellaneous paper products include such heterogeneities as carbon paper, cigarette paper, handbags, tickertape, confetti, waxpaper, wallpaper, photographic paper, and now ladies' dresses. A complete list of paper products is said to run over 12,000 items, and annual consumption of paper in the United States is in excess of a quarter-ton per capita. We are the world's most prodigal users of paper.

Stature and structure

The paper industry, in the broadest sense, is approximately 5,000 manufacturing establishments, about 680,000 workers, and production in 1966

was over 46 million tons of paper products. Total billing for the products that left shipping platforms came to \$22 billion. As such, papermaking is one of our larger industries. The dollar figure cited, however, involves considerable double counting when, for example, the pulp maker sells his product to the papermaker who sells his product to the converter who performs final "value adding" operations for the ultimate consumer. This article is confined primarily to pulp and paper manufacture and only incidentally to the conversion of paper into consumer goods such as drinking cups, envelopes, and party knickknackery made by so-called "paper converters."

The industry's output, summarized in the table, falls into two major classes: paper and paperboard. Technically, nine-thousandths of an inch (0.009) thickness is the dividing line between thin sheeting called *paper* and the thicker products designated *paperboard*, and the tonnage of the two is roughly equal. Of considerably smaller

U.S. Paper and Paperboard Production, 1966

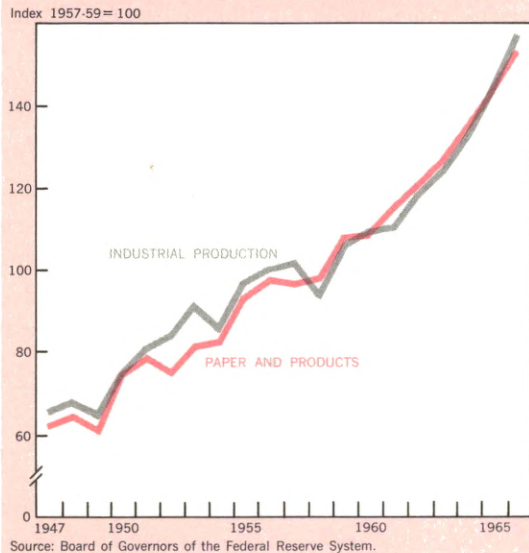
	Thousand tons
Paper	20,200
Printing	6,489
Coarse	4,713
Tissue	3,002
Fine	2,637
Newsprint	2,198
Special industrial	1,161
Paperboard	22,624
Containerboard	13,517
Boxboard	6,345
Other	2,762
Construction	3,717
Building paper	1,516
Building board	2,201
Total	46,541

Source: American Paper Institute.

tonnage is a third class—construction paper—which consists largely of roofing felts, floor covering, and insulating board.

Paper and paperboard each fall into the several subdivisions as indicated. *Printing* paper is the type used for books, magazines, pamphlets, envelopes, and tablets. *Coarse* paper is used for shipping sacks, bags, wrapping, Kraft, and grease-proof paper. *Tissue* includes napkins, towel and sanitary papers generally; *fine* embraces writing paper, cover and text papers. Most of the *newsprint* goes to newspaper publishers; but the tonnage seems unbelievably small as you recall how a copy of the Sunday *New York Times* weighs you down. The joker is that we import three times as much newsprint from Canada as we produce at home. *Special industrial* is paper for tags, tabulating cards, filter and absorbent paper, and such like. The large tonnage of *container board* should occasion no surprise in view of the fact that cardboard cartons have just about backed wooden boxes off the American scene. Moreover, the widespread use of paperboard in commerce and industry may explain in large part why the production of paper so closely parallels

PRODUCTION OF PAPER AND INDUSTRIAL PRODUCTION



Source: Board of Governors of the Federal Reserve System.

the Federal Reserve Board's index of industrial production, as shown in the chart.

Capitalistic aspects

Papermaking requires an abundance of capital for machinery and other facilities because trees, the principal raw material, must first be broken down into pulp and, second, the pulp must be built up into paper.

Most pulping is done either mechanically or chemically. Groundwood pulp, made by pressing logs against high-speed grindstones, produces pulp with short fibers and without removing the lignin which tends to make paper brittle and turn yellow with age. Groundwood pulp goes into newsprint, building, wrapping, and other kinds of paper where quality is not at a premium.

Chemical pulp is made by processing wood chips with certain chemicals in enormous "pressure cookers" that dissolve the lignin and other impurities which are drained away and leave practically pure long-fibered cellulose. Old-fashioned batch-type digesters are now being replaced by modern units of larger size that operate continuously. After much washing, screening, and

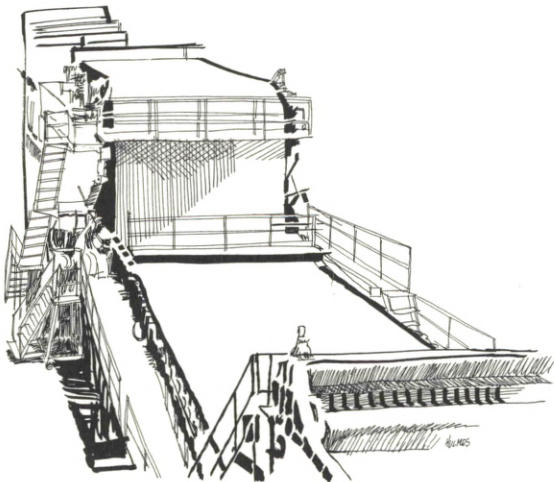
beating, the pulp reduced to a slurry—a sort of purée of cellulose—is ready for the second stage, papermaking.

The Fourdrinier, on which most paper is made, is a mammoth piece of machinery a city block in length, full of moving parts and astonishment. A continuous stream of slurry cascading on the machine at the wet end is rapidly relieved of its moisture, and from the dry end of the machine the felted fibers emerge as a continuous sheet of paper 18 to 20 feet wide, at speeds up to almost 60 miles an hour depending on the type of paper being made. The machine may cost \$13 million to buy and install, but it can be operated by a crew of seven men.

This sketchy sketch of the technology is enough to show that even a one-Fourdrinier papermaker needs considerable capital. Moreover, for reasons of economy, most papermakers also make their own pulp, the production of which takes yet more capital. A recent financial statement of a one-machine paper company shows an investment of \$16 million in fixed assets (property, plant, and equipment before depreciation) and net sales of \$16 million. That relationship—a sunken dollar for every sales dollar—is fairly typical of the paper business.

As paper companies go

A paper company with annual sales of \$16 million is a small concern as paper companies go. Even a company with sales of \$100 million is not a big company, for there are others much bigger. For example, Georgia-Pacific, Mead, and Kimberly-Clark have sales over \$500 million each; Crown Zellerbach and Weyerhaeuser tower still higher, and International Paper Company with annual sales well over a billion dollars is the industry's giant. Thus it is apparent that with respect to corporate stature, paper companies come in all sizes.



A one- or two-machine paper company is most likely to specialize in one line such as boxboard, or printing paper, and all of its facilities are generally confined to one site—usually on a stream, for pulp and papermaking take a lot of water. A large company may engage in several or almost all major lines of paper, and some companies are completely integrated from ownership of timberlands to and including a broad spectrum of finished paper products.

One company with sales in excess of \$100 million and formerly one of the largest producers of newsprint has broadened its lines to include linerboard and groundwood specialty printing paper, so that newsprint now accounts for only one-third of its sales.

Another company approaching the half-billion-dollar class tells its stockholders that it “is a *forest products company*—not a paper company, not a lumber company, nor a plywood company.” It is all three.

A still larger company with annual sales well in excess of a half-billion dollars owns or controls close to 4 million acres of timberland, operates 16 pulp, paper, and board mills; 12 bag plants, 26 container mills, 10 folding carton plants, 10 flexible packaging plants, and 20 other converting plants plus sawmills, plywood and other woodworking mills, and four chemical plants. These properties are distributed in more than half the states from Maine to Hawaii. No one product contributed over 18 per cent to the sales dollar in 1965, as the table shows.

With such product diversification the company makes maximum use of its forest resources. For example, at one of its Western plants peeler logs are made into veneer sheets, sawlogs into lumber, smaller logs and veneer cores into studs, mill residues into chips for pulping, sawdust and planer shavings into fuel for powerplant boilers,

Item	Percent of sales
Corrugated boxes	18%
Folding and set-up boxes	5
Kraft, paper, and paperboard	17
Printing and fine papers	12
Flexible packaging	10
Industrial and consumer bags	10
Glassine and greaseproof papers	4
Envelopes, paper plates, etc.	7
Lumber and plywood	9
Other products	8
	100%

and bark into garden mulch.

Acquisition of timberland has become a widespread policy throughout the paper industry, which is now the country’s largest industrial holder of commercial forest land. Of course the distinction between pulp and paper ownerships and holdings of other forest industries is becoming less and less meaningful as the production of pulp, lumber, veneer, particle board, and other wood products has become more closely integrated with large companies. Whether they started out as paper companies and branched out into lumbering or originally lumber concerns that went into papermaking, they manage their forests on a sustained-yield basis which includes extensive programs for reforestation through planting, seeding, and disease control. Intensively managed young forests produce far more than natural mature forests. Only about 25 per cent of the pulpwood consumed by the industry is cut from company-owned land; the rest is obtained from farmers and from Government lands.

Where paper mills go

Pulp and paper mills are large-volume operations, so their habitat is close to timber and water resources. The Southern States have 39 per cent of the country’s commercial forest land and nearly half the timber growth. The region has already attracted a large segment of the industry and con-

tinues to offer strong inducements. A crop of Southern pine can be turned over in as little as 17 years; the forests offer easy accessibility for logging, and nearness to large Eastern markets. Perhaps the major obstacle to expansion in the South is the large proportion of its timberland belonging to small owners, so many of whom do not practice intensified timber management.

Converting plants are smaller-scale value operations located in urban areas on the doorsteps of their markets. In contrast with pulp and paper-making, converting requires very little capital, plants take up much less space, and pound-for-pound add much more value to the materials processed.

The Philadelphia Federal Reserve District, a variegated industrial panorama, is a great consumer of paper products and also a large producer. Dispersed throughout the region are more

than 400 paper mills, not counting the country's first—built on a tributary of the Wissahickon by William Rittenhouse in 1690, and still standing as a museum piece.

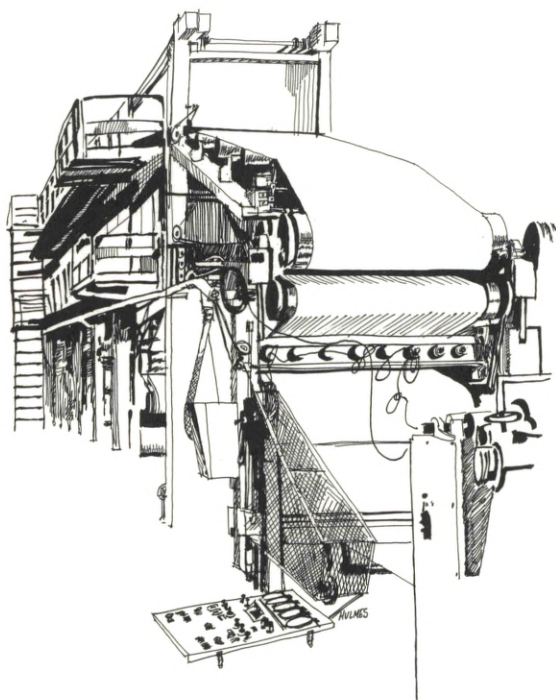
Over half of the district's paper mills are small establishments in terms of employment but they turn out a tremendous tonnage of converted paper products such as bags, envelopes, folding paperboard boxes, set-up paperboard boxes, sanitary food containers, and corrugated shipping containers—all of which are in great local demand for shipping the products of the area's diversified industries to market.

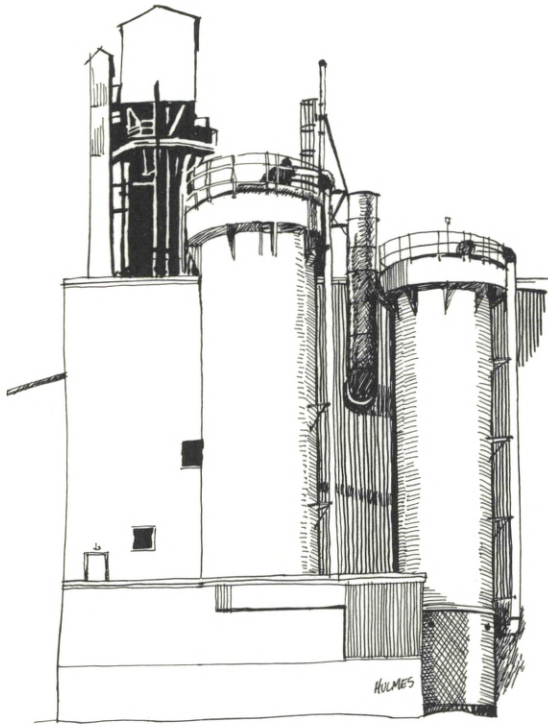
Among the largest producers in the district and originally established here are Scott Paper, a pioneer and leader in sanitary tissue products; and Glatfelter, a fully integrated manufacturer of printing and fine paper used in books and business forms. Within the district also are branch plants of big companies headquartered elsewhere, notably Weyerhaeuser, International Paper, Container Corporation, St. Regis, and Owens-Illinois Glass—a company that makes so many glass containers that it acquired several paper mills to make the cartons for packaging the glass products.

Competition

Papermaking has been competitive for years, but competition today is different and more intensive because competitors are different and more expansive. Formerly, competition was restricted largely to producers in the same general line of products, but as a result of vertical integration there is now a score of large companies operating in the various grade groups of paper and paperboard. Out of this grow intensified competitive pressures for several reasons.

Practically all of the large integrated companies are already well established in all or nearly all of the major markets according to





grade of paper. Moreover, the leading companies are also seeking greater geographical dispersion of their markets, mill capacities, and timber resources across the nation and in foreign countries. Today's huge investment costs per ton of mill capacity make for much larger minimum economic size mill construction and greater specialization, so that the pressure for full utilization of larger mill capacity increases competition for markets.

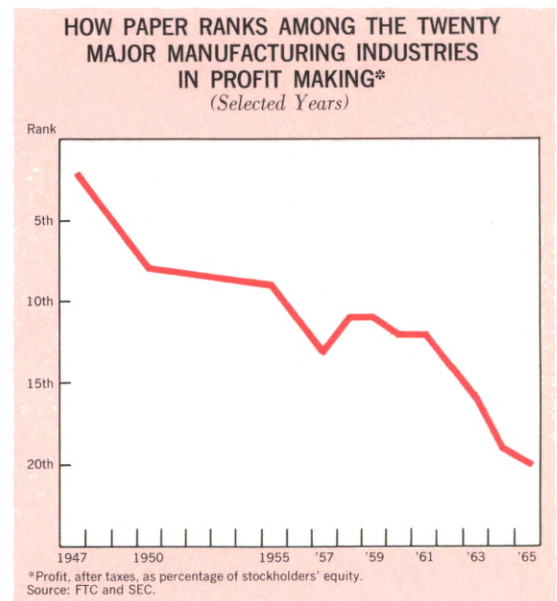
As in other industries, some of the largest companies have attained their huge size not only by normal growth but also by merger or consolidation with other concerns. Corporate marriage is the quickest way to acquire productive capacity in another geographical region or to round out the product line or to get into a related line and, incidentally, gain stature overnight. Two

companies recently merged to become U. S. Plywood-Champion Papers, Inc., and thereby became the second concern to break into the billion-dollar annual sales class.

The biggest companies, however, are not necessarily the most profitable. If profitability were a function of size, how could the smaller paper companies survive the competition of their multi-million-dollar competitors? But they do, and frequently show much better records of earnings.

Profits

Although some paper companies issue financial statements that gladden the hearts of their stockholders, profits for the industry as a whole reflect a growing intensity of competition. Using as a measuring stick the rates of profits, after taxes, on stockholders' equity and plotting the paper industry's rank among the country's 20 major groups of manufacturing industries show a surprising result. Paper, as the chart indicates,



slipped from second place in 1947 to ninth in 1955, and to the tail end in 1965.

The fact that paper came in last in the 1965 race for profits does not mean that the industry was unprofitable, for it earned 9.4 per cent on stockholders' equity, but 19 other industrial groups did better. A peculiarity of the industry which intensifies competition is the tendency toward overcapacity.

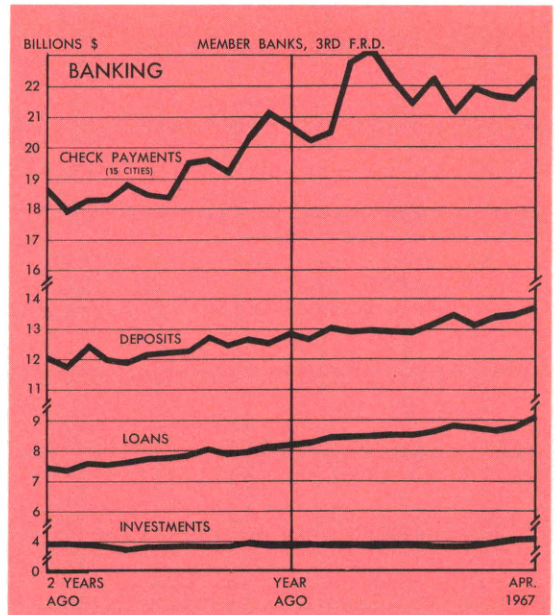
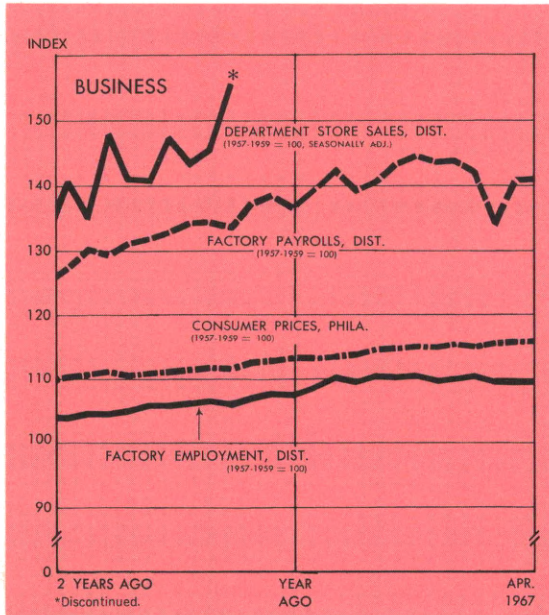
Every so often the industry goes on a stampede of plant expansion. Foreseeing larger markets, a few concerns build new plants or enlarge existing mills and, not to be outdone, other companies follow suit. As the additional capacity goes on stream the industry's capacity becomes topheavy and so does its price structure. Then, hungry for tonnage to get fuller utilization of capacity, paper men cut prices. With a lower price structure the industry muddles through a period of austerity until growing demand again

catches up with capacity. But, by and by, a new wave of construction breaks out and the cycle of resurgence and remorse is repeated.

The industry is at present actively building additional plant capacity. During each of the past two years, capacity was increased in excess of 2 million tons. This year the industry plans an additional 3½ million tons capacity and 2.8 million more in 1968. Paper manufacturers feel that the current expansion is not excessive in view of the growing domestic demand and the prospect of increased exports. A deficiency in European timber resources is almost certain to stimulate exports of pulp, paper, and paper-board products from this side of the Atlantic.

That's the way the paper industry is—big, widely scattered, forest-anchored, market-oriented, largely integrated, highly mechanized, over-capacity prone, merger-minded, and relentlessly competitive.

FOR THE RECORD . . .



SUMMARY	Third Federal Reserve District			United States				
	Per cent change		Per cent change		Per cent change		Per cent change	
	April 1967 from		4 mos. 1967 from year ago		April 1967 from		4 mos. 1967 from year ago	
	mo. ago	year ago	mo. ago	year ago	mo. ago	year ago	mo. ago	year ago
MANUFACTURING								
Production				0	+ 1	+ 3		
Electric power consumed	- 3	+ 1	+ 4					
Man-hours, total*	0	- 1	- 2					
Employment, total	0	+ 1	+ 2					
Wage income*	0	+ 2	+ 3					
CONSTRUCTION**	+16	-16	- 6	- 1	-13	-11		
COAL PRODUCTION	+19	+58	+ 5	+ 9	+47	+11		
BANKING								
(All member banks)								
Deposits	+ 2	+ 7	+ 6	+ 2	+ 6	+ 6		
Loans	+ 3	+10	+10	+ 1	+ 6	+ 7		
Investments	+ 1	+ 5	+ 2	0	+ 8	+ 5		
U.S. Govt. securities	- 2	- 4	- 6	- 4	+ 2	0		
Other	+ 4	+16	+11	+ 4	+15	+12		
Check payments***	+ 3†	+10†	+ 8†	+ 4	+12	+12		
PRICES								
Wholesale				0	0	+ 1		
Consumer	0‡	+ 2‡	+ 3‡	0	+ 2	+ 3		

LOCAL CHANGES	Manufacturing				Banking			
	Employment		Payrolls		Check Payments**		Total Deposits***	
	Per cent change April 1967 from		Per cent change April 1967 from		Per cent change April 1967 from		Per cent change April 1967 from	
	mo. ago	year ago	mo. ago	year ago	mo. ago	year ago	mo. ago	year ago
Standard Metropolitan Statistical Areas*								
Wilmington	+ 1	+ 1	0	+ 1	+ 2	+ 1	- 2	-12
Atlantic City ..					- 3	0	- 1	+ 8
Trenton	+ 3	- 4	+ 3	- 4	-23	+ 4	+ 3	+16
Altoona	- 1	0	+ 4	0	0	+ 9	0	+ 8
Harrisburg	- 2	+ 4	- 2	+12	+ 3	+12	+ 2	+ 9
Johnstown	0	- 1	- 6	- 2	+ 4	+ 1	+ 3	+ 8
Lancaster	0	0	- 1	- 2	0	+ 1	+ 1	+ 6
Lehigh Valley ..	0	- 1	+ 1	+ 1	+ 5	+ 3	+ 2	+ 5
Philadelphia	0	+ 1	0	+ 3	+ 6	+14	+ 2	+10
Reading	- 1	- 2	+ 1	-12	- 1	- 2	+ 2	-40
Scranton	- 1	+ 3	0	+13	+ 2	+ 3	+ 1	+ 7
Wilkes-Barre ..	+ 2	0	+ 4	+10	+ 4	+14	+ 2	+ 8
York	- 1	+ 4	- 2	+10	+ 4	+19	+ 1	+ 5

*Production workers only	†15 SMSA's	*Not restricted to corporate limits of cities but covers areas of one or more counties.
**Value of contracts	‡Philadelphia	**All commercial banks. Adjusted for seasonal variation.
***Adjusted for seasonal variation		***Member banks only. Last Wednesday of the month.