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Exploring Hydrospace

Country-Style Wizardry: Bankers Are Managing With Less Excess Reserves

Business Review

Federal Reserve Bank of Philadelphia

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. . . Man's last frontier lies beneath the sea.

Country-Style Wizardry: Bankers Are Managing With Less Excess Reserves

. . . Changes in country bank reserve management make monetary policy more effective.

NEW PUBLICATION

MAINSPRINGS OF GROWTH: studies of the structure of the Philadelphia Metropolitan Economy. This pamphlet, composed of twelve articles from past **Business Reviews,** treats the subjects of employment, wages, banking, port commerce, economic growth policies, and the research and development industry in Philadelphia.

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EXPLORING HYDROSPACE

by Henry A. Watson

Man has only two vast frontiers left to him: outer space and the ocean. Developing and exploring space rests almost entirely with the Government. On the other hand, much of the impetus for developing and exploring the ocean has come from private enterprise. Not only does hydrospace offer a challenge to industry, but also the potential of a good monetary return. Before hydrospace can become one of the country's major industrial market areas, billions of dollars will have to be spent to observe, explore, record and understand it.

What is hydrospace?

Hydrospace is that vast expanse known as the ocean. Its 140 million square mile area covers over 70 per cent of the earth's surface. The study of it is called oceanography, defined in various ways depending on the concern and interest of the definer. Oceanography as used here refers to the study of and activities within the ocean having significant scientific or technical content.

Hydrospace is a hostile environment for man. Oceanographers have traditionally used the known sciences of biology, geology, chemistry and physics in the quest to solve the ocean's mysteries. But the obstacles of storms, darkness of the depths, extreme cold, and unfriendly sea life are fast being overcome as new techniques are perfected.

Present developments and future opportunities

The development of considerable equipment has to some degree resolved the problems of environment. Depending on the surface for air, the traditional diving suit with its heavy metal helmet is suitable for depths of about 250 feet. Scuba divers have made descents to depths of more than 300 feet, but the average range of their apparatus limits them to between 200 and 250 feet.

To go deeper, the oceanographer must use specially designed craft to withstand great pressures. Sea pressures reach seven tons per square inch at six and one-half miles. The first of these craft, the bathysphere, was constructed in 1930 and was able to descend to a depth of 3,028 feet, but movement was restricted. In 1948 the bathyscathe was built to permit movement under its own power and has descended into the sea's deepest known trench, a depth of 35,800 feet. Man has not stopped with the bathyscathe. He has designed some 27 different types of maneuverable craft that permit a depth range from 300 to 36,000 feet.

Spurred on by discovery and extraction of petroleum and development of underwater craft, both industry and Government have been opening vast new vistas for economic development of the ocean. No doubt the leading industrial pioneer in oceanics, in terms of experience and investment, is the oil industry. Since the first drilling rigs went to sea in the 1940's, more than $3½ billion has been invested. Today over 16 per cent of the total world oil production comes from offshore wells, and is expected to increase to 25 per cent by 1975. With the knowledge that petroleum deposits have been located off the coast of New Jersey, potential for the oil industry in the Delaware Valley appears excellent.

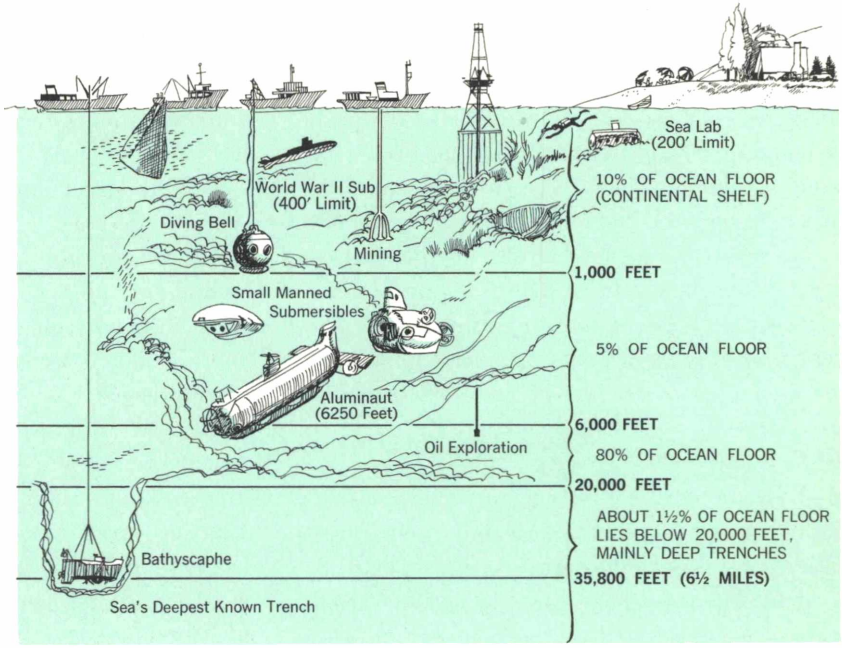
Constant danger to offshore operations posed by a hostile environment has spurred the industry to conduct extensive research on underwater com-

munities where workers will live in glass-domed houses. It is envisioned that by 1975 most stationary platform installations will be located on the ocean bottom.

In addition to oil, supplies of natural gas and numerous deposits of valuable minerals have been encountered on the continental slopes. These minerals include magnesium, cobalt, copper, nickel, iron, tin, coal, silver, gold, sulphur, and diamonds. The mining of some of these, such as tin, iron ore and diamonds, has actually begun. Experts predict that off-shore mining will be a $50 million a year industry within ten years, and within 30 years the ocean is expected to be a major source of many known raw materials.

CHART 1

DEVELOPMENTS IN THE CONQUEST OF HYDROSPACE



Source: National Association of Manufacturers.

Perhaps the most important wealth offered to the world from the ocean is food and most particularly protein. This basic nourishment is in great demand by an estimated two-thirds of the world population. But it is also in very short supply. The development of a fish meal concentrate which has been recently approved by the Food and Drug Administration has been acclaimed as the solution to the world's problem of "protein hunger." Man presently is hauling in from the ocean over 60 million tons of fish yearly. This is only a tiny fraction of the fantastic volume actually available. It has also been demonstrated that 50 tons of algae for chicken feed can be grown annually in a single surface acre of the water. Production of ocean foods is climbing at a rate of 15 per cent a year and is likely to reach the $5 billion level by 1970.

The ocean is virtually one large chemical plant providing sources of exciting new medical discoveries. Marine pharmacologists have already extracted from sea creatures chemicals that kill pain, inhibit the growth of certain tumors, fight viruses, and stimulate the heart.

One of man's first products from the ocean was salt to flavor his food. Desalted water was a waste product. Today this situation is reversed, with the most valuable of its ingredients, potable water, being extracted very economically. Since the first desalination plant went into operation in

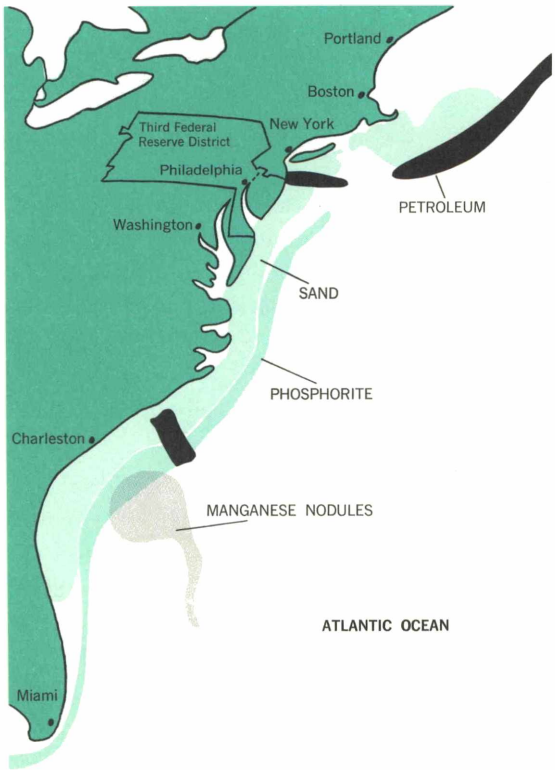
1952, the cost of operation has dropped from $4 per thousand gallons to 25 cents.

Soon, the ocean may also be used as a source of power. Once it is harnessed, power will come from the winds, waves, tides, currents, organic matter in the sea, and from temperature differences.

We are all aware of the greatly expanding demand for recreational facilities along our coast. Use of the shore, inland waterways, and nearby ocean water for swimming, sports fishing, skin diving, boating, surfing and the like is becoming even more popular. Ocean recreation in the United States is estimated to be a $4 billion annual business. It is expected to grow to $7 billion by 1975.

CHART 2

POTENTIAL AREAS FOR DEVELOPMENT OF ECONOMIC RESOURCES



Source: Woods Hole Oceanographic Institution, Massachusetts.

The U.S. Government in hydrospace

Government involvement in hydrospace started with the birth of the Republic when industry first looked to the Government for protection and assistance. Among its earliest acts, the Congress established a seagoing revenue service, a navy, and a marine hospital service.

In the 19th century, the Navy, the Coast and Geodetic Survey and the Smithsonian Institution (founded in 1846) actively encouraged a working relationship with the scientific community and its many ocean-oriented agencies. The Navy, however, was the first organization to approach the subject scientifically. It was Commander Matthew Fontaine Maury who charted the currents, proving that they exerted great influence on the climate and were immense streams with stability and direction. His book, *The Physical Geography of the Sea*, published in 1855, still serves as the basis of our modern science of oceanography.

The twentieth century ushered in a new era for oceanography, as well as many new cooperating agencies. The National Research Council, National Academy of Science, Bureau of Commercial Fisheries, National Science Foundation, and the Atomic Energy Commission are the most outstanding. More recently, the Interagency Committee on Oceanography has taken the lead in development of guidelines and a long-range national oceanographic plan. Along with this, the President's Science Advisory Committee on Oceanography has recommended that the objective of the national ocean program be, "effective use of the sea by man for all purposes currently

considered for the terrestrial environment: commerce; industry, recreation and settlement; as well as for knowledge and understanding." Achievement of this objective will require close cooperation and harmony among the Governmental, academic, scientific, and industrial sectors of the economy.

In 1966 four major events transpired that eventually will guide the United States program in oceanics.

1. *The Effective Use of the Sea*, a report prepared by the President's Science Advisory Committee, contained observations and recommendations to guide the Government's future ocean activity.

2. The Marine Resources and Engineering Development Act established a presidential level council to develop, maintain, and coordinate a comprehensive, long-range marine science program.

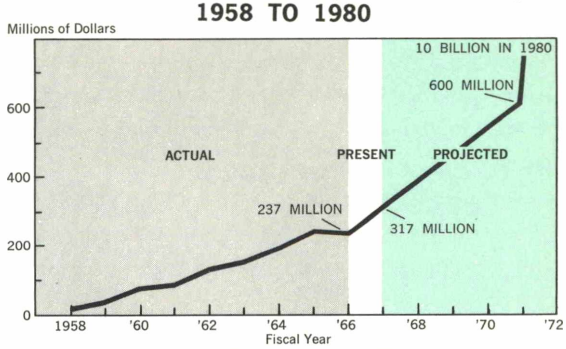
3. The Sea Grant Colleges and Program Act supports educational programs in sea-grant colleges and other institutions' laboratories.

4. The Navy established an Office of Oceanography with direct responsibility to the Chief of Naval Operations.

Because of the ocean's importance to national security, Government spending in oceanography has been steadily increasing. Current annual spending is $310 million. It has been recommended that by 1971 spending be increased to $600 million. It is further envisioned that by the year 1980 the Government will be spending over $10 billion yearly on military ocean projects. Comparing this magnitude to present Government spending of $5 billion a year on space, one can easily see why oceanography is now being thought of as the great research and development market area of the future.

CHART 3

GOVERNMENT SPENDING IN OCEANICS, 1958 TO 1980



Source: Interagency Committee on Oceanography.

Oceanics and the Delaware Valley

Many of the developments which have contributed to the advancement of oceanics had their foundations on the Delaware River. Benjamin Franklin first conceived the idea of determining ocean temperatures and measuring currents by towing a bucket over the side of a ship. The chart he made of the ocean's course, temperature, speed and depth saved mariners two weeks in sailing time. During that period, Philadelphia became America's most active port and the center of the country's commercial, maritime, and civic life. The Navy was established here with the commissioning of the "Alfred" in 1775. Also in that year the Marine Corps was founded in one of the Philadelphia Water Street taverns.

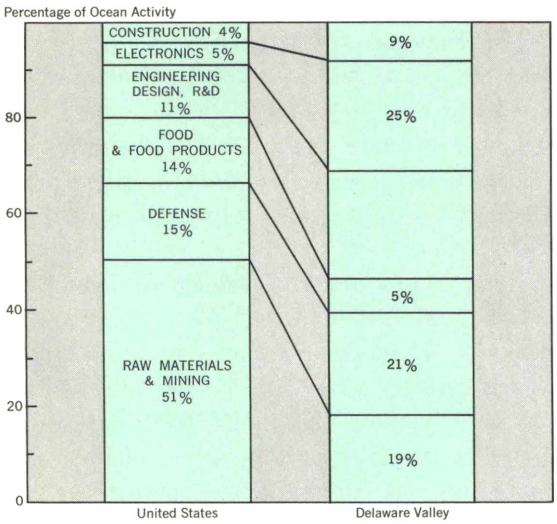
The Delaware River at the end of the 18th century, as today, included much commercial shipping and shipbuilding activity. In 1788, John Fitch put America's first steamboat into operation at the foot of Arch Street. It was at the famous Humphreys Southwark Yard that the U.S. Navy's first frigate was launched. The Philadelphia Navy Yard, the first in the country, was established on that site in 1800. By 1820, Stephen Girard was berthing his fleet on the Delaware. and Philadelphia was America's leading port.

Local industry is jumping in feet first

Today, with the national surge of interest in hydrospace, many industries in the Delaware Valley such as petroleum, shipbuilding, electronics, communications, and instruments have turned full attention to the ocean. The Exide Industrial Division of the Electric Storage Battery Company, for example, has supplied batteries for submergibles since the first submarines were built. The company is also now experimenting in a 20,000-foot equivalent pressure tank to develop external batteries for submarine use. The Sun Shipbuilding and Dry Dock Company has just completed a twinsphere pressure craft for Lockheed's 6,000-foot undersea vehicle "Deep Quest." Sun Ship is also presently working on pressure test chambers for the Navy. Philco-Ford is conducting research in underwater acoustics. General Electric is working on a buoy system and developing the technology necessary to design a complete modular undersea vehicle system for use down to 12,000 feet. G.E. has also been conducting research for the past three years on the application of computers to water pollution control. Leeds and Northrup is engaged in instruments and data-processing research for oceanography. The Tele-Dynamics Corporation is developing meteorological and oceanographic instruments. These and many other companies are engaged in research for pressure vehicles, sensing and recording instruments, underwater engineering, corrosive control, multi-channel sonar, microwave relays, remote manipulations systems, and underwater photography.

CHART 4

TOTAL MANUFACTURING INVOLVEMENT IN OCEANICS



Note: Categories include only ocean-related manufacturing business.

Sources: U.S.—Woods Hole Oceanographic Institution. Delaware Valley—Oceanic Task Force; Greater Philadelphia Chamber of Commerce.

In a recent study conducted by the Oceanic Task Force of the Chamber of Commerce of Greater Philadelphia, 73 manufacturing firms participated in a survey related to current activities in the field of oceanics.[1] Although the committee realized that these firms do not represent the complete involvement in oceanics, it felt that they did comprise a representative sample. The survey has permitted for the first time an overall view of ocean-related manufacturing by major category in the Delaware Valley area.

The results indicate that while very few firms devote their entire operations to oceanics, many are involved to some extent, and some are in as many as three categories. Approximately 50 per cent reported all current ocean activities in the field of defense. Present involvement in design, research and development, testing or engineering is 50 per cent; in electronics and instrumentation, 58 per cent. Forty-four per cent are concerned with raw materials and mining. Although under-

[1] *Oceanics in this article is defined as any business whose income is directly or indirectly* derived *from operations in or related to the ocean's surface, column or bottom.*

water construction and shipbuilding is a high-dollar volume business, only 21 per cent of the firms indicated activity in this field. Food and food products from the sea appear to be the most neglected category. The survey made no attempt to determine involvement in the areas of academic training, recreation or transportation.

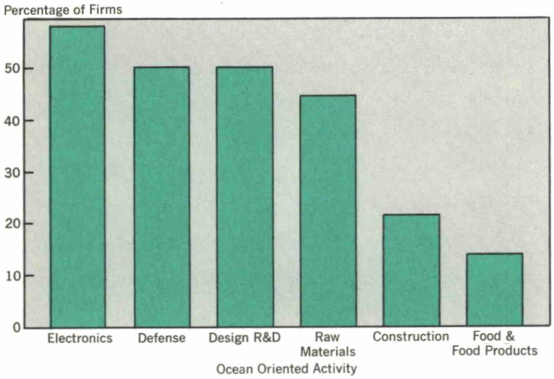
The universities have also plunged in

Educational institutions in this region have responded well to the demands imposed on them by the hydrospace age. Although only a few have specialized in oceanics, many offer programs in related fields.

For 20 years the University of Pennsylvania's Department of Pharmacology has conducted hyperbaric research for the "U.S. Navy's Man and the Sea" project. The Department of Archeology is recognized as the world leader in underwater archeology research. And the University's oceanics-related research in environmental sciences, specifically in gas exchanges with the ocean's surface, has also been a major contribution to the field.

CHART 5

REPORTED FIRM INVOLVEMENT IN OCEANICS BY FIELD OF ACTIVITY



Note: Involvement ranges from one to three categories.
Source: Oceanic Task Force; Greater Philadelphia Chamber of Commerce.

THE OCEAN'S BASIN

It was once believed that the ocean's bottom was a huge, nearly smooth, scooped-out hole. Years of investigation and study now show that the ocean floor has three distinct subdivisions. (a) **The Continental Shelf** is defined as a shallow submarine plain of varying width forming a border to a continent and typically ending at the steep slope which extends to the oceanic abyss. The 1958 Geneva Convention on the Continental Shelf, which was ratified by the United States in June 1964, established the shelf from low-water line at the coast seaward to a depth contour of 600 feet. For the United States, the establishment of the 600-foot depth contour has added about 25 per cent to its territory, making available about 850,000 square miles of wet real estate. (b) **The Continental Slope** is that area extending from the 600-foot depth contour to the deep sea bottom, containing tremendous submarine canyons or trenches, steep cliffs, mountain ranges, hills, plateaus, valleys, plains. And, (c) **the ocean bottom** is that part of the floor which lies at the foot of the Continental Slope and which is termed the abyss.

The University of Delaware's oceanographic and marine science programs were started in 1950 and offer a Master of Science and Ph.D. degree in marine biology. The Lehigh University Marine Science Center was founded in 1962. St. Joseph's College has also started an active program.

Rutgers, New Jersey's state university, in its Agricultural Experiment Station, concentrates extensive oceanographic efforts in three areas: biology, tidal studies, and shellfish research.

Drexel Institute of Technology is largely involved in problems such as water pollution and waste disposal. Drexel is also performing research in water resources, marine erosion and other geological shoreline phenomena.

Two outstanding nonprofit research institutions also giving substantial support to oceanography

are the Franklin Institute Research Laboratory and the University City Science Center. The Franklin Institute's research history goes back to 1830 when it was awarded the first Governmental contract for research on steam boiler explosions aboard naval vessels.

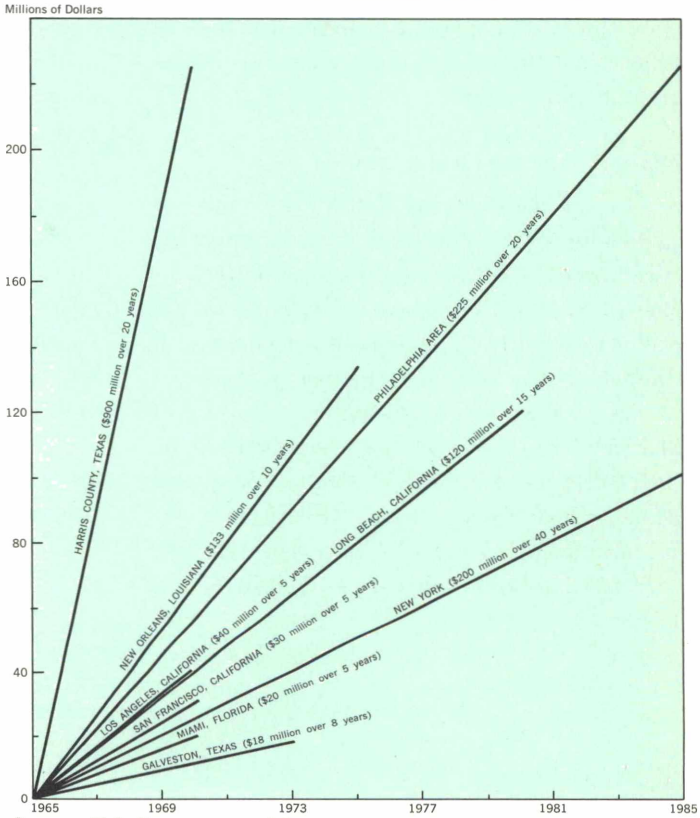
Down to the sea in ships

The most ancient of uses of the ocean by man undoubtedly was for transportation. Today over 90 per cent of the world's goods measured on a weight-mile basis are transported over water. And it is estimated that the United States alone will require 400 million tons of foreign overseas shipments by the year 1970.

A few years ago, the Delaware River Port Authority determined that 96,300 persons in the Delaware Valley were engaged in port-dependent jobs. In addition to the area's basic facilities which are marine-oriented, there are over 1,000 manufacturing concerns involved in port activities. Total domestic and foreign waterborne commerce moving on the Delaware River, which reached 110 million tons during 1965, can be attributed directly to this port-oriented complex.

CHART 6

PORT DEVELOPMENT EXPENDITURES PLANNED AND IN PROGRESS, 1965 TO 1985



Source: U.S. Department of Commerce.

Public-supported construction and renewal of terminal facilities have, however, virtually stood still. Philadelphia has only recently realized the importance of modern facilities to handle the cargoes being generated. To remedy this and to service their industrial complex with greater efficiency, the Delaware River Ports, just as many other United States ports, have undertaken and projected improvement programs covering five to 40 years. Philadelphia's planned 20-year port improvement program of $225 million places the area third in the nation with 14.2 per cent of reported planned public investment. But, with a new era opening in ship-building bringing into use larger vessels, even this outlay will not be enough to keep pace with the changes being made by the industry.

Private industrial terminals, on the other hand, have constantly updated their facilities. A good example of forward thinking is the recent formation of the Delaware Bay Transportation Company. This new venture will undertake construction of a deepwater unloading platform in Dela-

ware Bay for oil tankers. A pipeline will link the platform to the shore. With tankers as large as 500,000 tons in a new era of shipbuilding, this action is needed as present facilities will soon be obsolete, not to consider the problem of maneuverability in the river.

Let's get into our scuba gear

Even though the Delaware Valley has established the broadness of its interest in oceanics and many firms are engaged in supplying products, the community as a whole lags behind in its overall level of activity. Looking at need and demand, it is apparent that both must be met in the years to come. A void does exist, however, because of older industries that continue using methods developed decades ago—methods that are antiquated and inadequate for the demand that is to come. The advantages of oceanics have not yet been translated into terms that these industries can understand.

Faced with the potential and present capabilities, the Delaware Valley has two major courses of action open. The first course is directed at creating an increased research and development atmosphere aimed at acquiring long-term Government oceanic work. One such action attempting to acquire a proposed East Coast oceanographic center is presently under way. The second course is to promote an increased awareness of oceanics.

These two courses of action, supplemented with the present level of activity being generated in the field through involvement, will help give the impetus needed for the Delaware Valley to move into this expanding field. Awareness of the opportunities along with increased research and development work will create the supply of skilled workers available for the new oceanic activities. In turn, the availability of skilled help will escalate the activities of existing manufacturing firms and also attract new industries into the field. Knowledge is the key to economic use of hydrospace.

COUNTRY-STYLE WIZARDRY: BANKERS ARE MANAGING WITH LESS EXCESS RESERVES

by Hugh Chairnoff

A great number of changes have occurred in our banking system during the last 15 years. Some of these changes are especially noticeable at the country banks, those banks outside major metropolitan areas in which the financial sophisticates practice their wizardry.

One such change is unique to the country bank sector. Whereas reserve city bankers always have carried negligible levels of excess reserves, country bankers have been steadily reducing the excess reserves they carry.[1] Yet, bankers relied on the discount window to a considerably lesser extent in the 1960's than in the 1950's (see Charts 1 and 2).

The Philadelphia Federal Reserve District has a story of its own. Country bankers here always have carried lower excess reserves than country bankers elsewhere. But borrowed reserves, once higher than the national level, now also are lower than for all country banks. These differences could reflect the fact that country banks here are larger on the average than country banks in all other districts, though a number of other factors are important too.

[1] *Excess reserves are the difference between legal reserves actually held and legally required reserves. Excess reserves can be used to support increases in derived deposit liabilities or to directly acquire earning assets. Or, bankers may retain excess reserves in order to meet clearinghouse deficits to the extent they are expected. The ratio of excess reserves to total reserves indicates the extent to which bankers have elected to retain reserves for the latter purpose. Borrowed reserves also are expressed as a percentage of total legal reserves. It should be pointed out that essentially similar trends would be obtained if deposits or required reserves were used in place of total legal reserves.*

This article discusses these changes in reserve management at country banks and indicates that they are distinctly different reflections of the need for and cost of liquidity.

DECLINING EXCESS RESERVES

Each banker must consider the cost of carrying non-earning liquid assets such as excess reserves. What is this cost? It is the revenues foregone by not holding earning assets. On the other hand, there is the cost of carrying an insufficient amount of non-earning liquid assets. It is the risk and uncertainty that deposit drains will force the banker to borrow reserves, sell earning assets at a loss, or call loans to customers. The excess reserves each banker will maintain is determined by comparing the cost of being too liquid (carrying unnecessary amounts of non-earning liquid assets) with the cost of being too illiquid (carrying an insufficient amount of non-earning liquid assets). Over the past 15 years, country bankers apparently have decided that the cost of being too liquid has risen relative to the cost of being too illiquid.

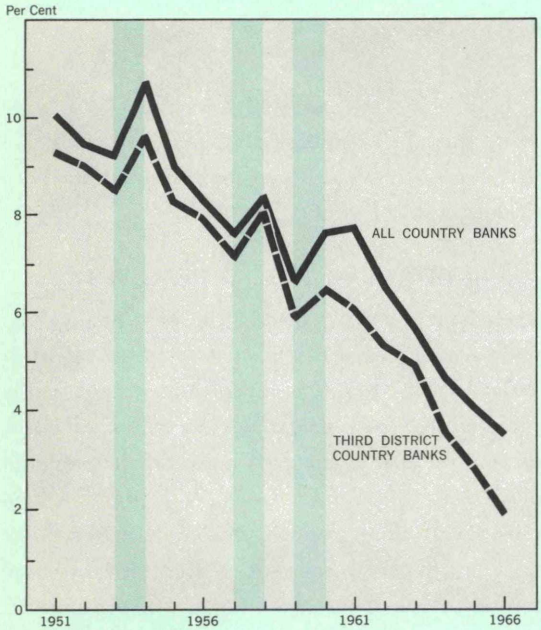
Increasing costs of too much liquidity

The increasing cost of too much liquidity is illustrated by the 3-month Treasury bill rate. Except for recession years, the bill rate has been rising strongly, as indicated in Chart 3. In 1951, country banks sacrificed an average annual return of $15.20 for each $1,000 of excess reserves

CHART 1

Country bankers have persistently reduced the level of excess reserves they carry . . .

EXCESS RESERVES AS A PERCENT OF TOTAL RESERVES*

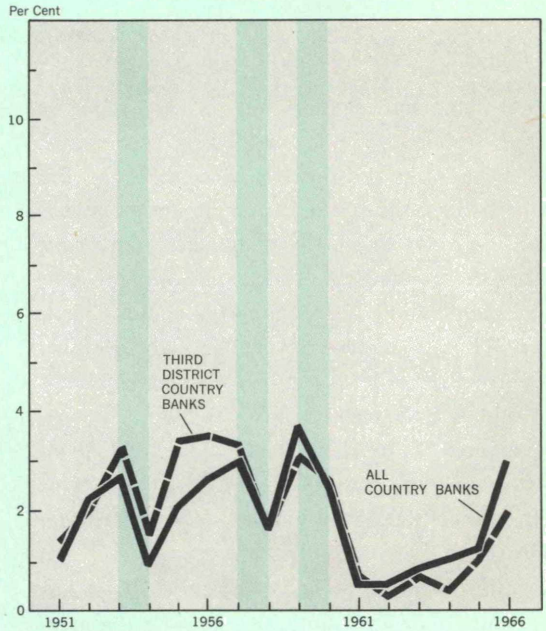


*Annual average of bi-weekly data.

CHART 2

But they have had less need to use the discount window for most of the 1960's . . .

BORROWED RESERVES AS A PERCENT OF TOTAL RESERVES*



*Annual average of bi-weekly data.

held. By 1966 the sacrifice jumped to an annual average of $48.88, more than a threefold increase in 15 years.[2] Strong inducement, indeed, to reduce excess reserves. But the sacrifice of liquidity that is implied in this trend must be weighed against the . . .

Declining costs of illiquidity

Though country bankers have been reducing their excess reserves, liquidity may still appear adequate to them. The changing deposit structure has tended to reduce their need for non-earning assets for two reasons. For one thing, time and savings deposits have a lower average variability than demand deposits. That is, these deposits fluctuate more closely around their average level than do demand deposits. Moreover, the growth of time and savings deposits has been more persistent and of greater magnitude than demand deposit growth. For another, time deposits carry relatively fixed maturities. Bankers have more notice to prepare for the drain at maturity. From 1951 through 1966, time and savings deposits at all country banks grew from 34 per cent to 48 per cent of total deposits.

Another factor contributing to improved stability of the deposit structure is the major effort

[2] *Country bankers, of course, did not invest their excess reserves only in short-term Treasury securities. Like excess reserves, cash assets of country bankers, including short-term Treasury securities, declined as a per cent of total assets from more than 35 per cent in 1951 to about 16 per cent in 1966.*

by business firms and individuals to reduce their checking account balances to the minimum. Businesses and individuals, like banks, have felt the sting of the steeply rising cost of too much liquidity. As a result, more and more banks have been left with a hard core of demand deposits that can be counted on as a relatively permanent source of reserves than in earlier years.

Bankers can have their cake and eat it too

Bankers, thoughtful people that they are, have not gone "whole hog" in trading their non-earning assets for earning assets. As a matter of fact, a number of money market instruments have grown in popularity precisely because they permit bankers, among others, to acquire assets without sacrificing too much liquidity. Perhaps one of the most prominent examples is federal funds.[3] These overnight and weekend loans by country bankers to their city cousins have enhanced the performance of country bank earnings without seriously jeopardizing their liquidity.

Other types of liquid earning assets also are available as a hedge between liquidity and profitability. These assets include commercial paper and finance company paper, interbank loans (very similar to federal funds), and interbank deposits. The first three types are classed as loans in bank reports. Yet they offer liquidity advantages that greatly exceed the liquidity properties of the general notion of a loan.[4]

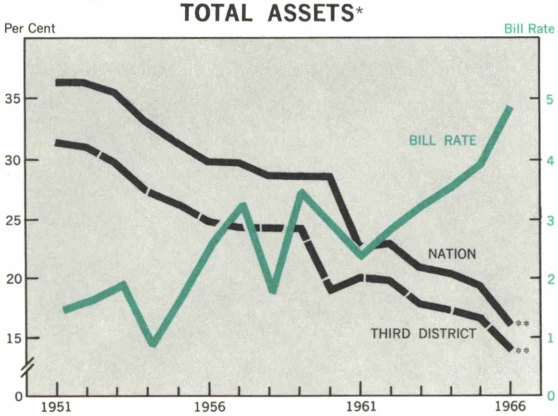
Though country bankers have been holding a relatively stable proportion of their total cash assets in the form of deposits at other banks, they have been holding relatively larger amounts in other types of bank balances. Time deposits held by country banks grew from less than $1 billion in the early 1950's to an average of around $15 billion in the 1960's—another indication of the trade-off of a small amount of liquidity for valuable earning power. Thus, it seems that in the eternal conflict between liquidity and profitability, country bankers thus far have been able to have their cake and to eat it as well.

[3] *The federal funds market and its impact on country banks in the Third District have been discussed at length in the March 1965, April 1966, and August 1966 issues of the* Business Review.

CHART 3

Country bankers also have been reducing their liquid assets under the upward thrust of interest rates . . .

LIQUID ASSETS AS A PERCENT OF TOTAL ASSETS*



**Liquid assets include cash assets as well as Treasury securities maturing in less than one year.*

***Estimated.*

DECLINING BORROWED RESERVES

Another indication that country bankers seem to have successfully adjusted to a lower level of excess reserves is the fact that they have resorted to relatively less borrowing of reserves from the Federal Reserve. Increased skill in managing their reserve positions plus the greater availability of alternative sources of liquidity have permitted smooth adjustment to these lower levels.

The change in country bank use of borrowed

[4] *The loan-to-deposit ratio, an oft-used measure of bank liquidity, has risen steeply over the last 15 years from 32.5 per cent in 1951 to about 59 per cent in 1966 for all country banks. This measure does not discriminate among the divergent liquidity characteristics present in the loan accounts.*

reserves depicted in Chart 2 cannot be explained from a long-run perspective. Wide swings in the use of borrowed reserves indicate that the factors producing reduced reliance on excess reserves are not dominant with respect to borrowed reserves.

To bankers and to the monetary authorities, borrowing reserves from the Federal Reserve is a temporary expedient. Resort to borrowed reserves depends on the availability of other sources of reserves, such as the sale of liquid earning assets, the relative cost of the alternative sources, and the extent and nature of the need for temporary reserves. These factors do not appear to be under the influence of the persistence of time. Their impact tends to vary with the proximate and current monetary situation. Thus, explaining the behavior of borrowed reserves is a complex affair beyond the scope of this article.

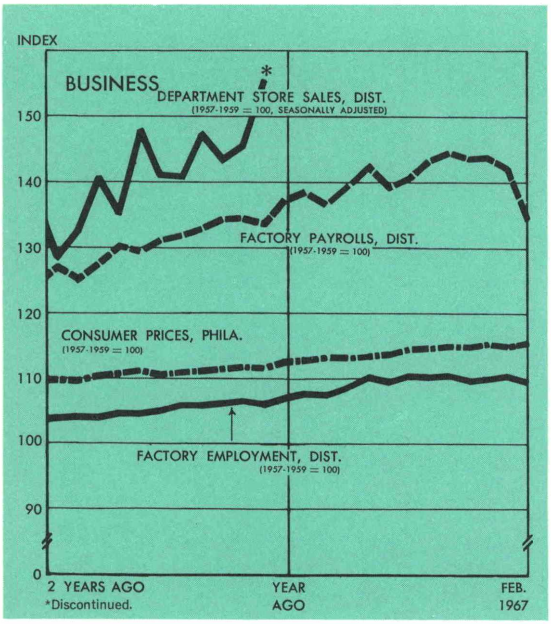
IMPLICATIONS

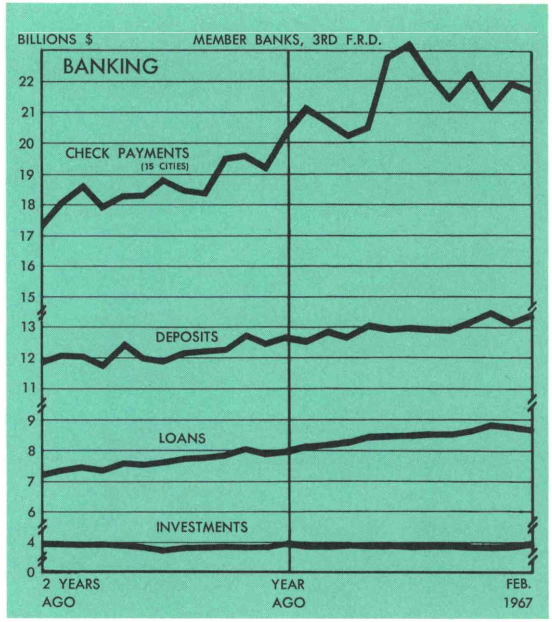
Country bank reserve management has changed in two respects over the last 15 years. On the one hand, country bankers have come to view the risk of carrying insufficient amounts of non-earning liquid assets over longer periods of time as a declining risk. Coupled with rising liquidity costs and greater availability of alternative sources, this view has led them to persistently reduce the excess reserves they are willing to carry. Secondly, these same country bankers have found less need to resort to the discount window when monetary conditions increase the need for reserves beyond the more permanent variety.

These changes in reserve management do have significance for monetary policy. When country bankers idled an average of 10 per cent of their legal reserves, policymakers had to be concerned that excess reserves might be used to offset a policy of restraint. How restrictive the Federal Reserve had to be to accomplish its objective depended on the probability that these excess reserves would be used for bank credit expansion. Now, with excess reserves at a low level, policymakers are not so concerned. The desire to carry less excess reserves has made the string connecting bank reserves and bank credit more taut—the commercial banking system's responsiveness to monetary policy has been enhanced. In turn, monetary policy has become more effective as a means for achieving economic stabilization.

On the other hand, bankers' desire to carry less excess reserves has complicated policymakers' lives a little bit. Holders of interest-bearing financial assets look to a healthy economy for liquidity. Country bankers, as holders of increasing amounts of financial claims against the private sector, have grown more dependent on the economy for safety. Thus, the commercial banking system has become less insulated from the effects of an unhealthy economy. Public authorities, already standing as lenders of last resort, much prefer to provide adequate liquidity in a healthy economy rather than in an unsettling situation. Consequently, financial stability looms larger as a policy objective than it was some 15 years ago.

FOR THE RECORD . . .





SUMMARY

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

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

†15 SMSA's
‡Philadelphia

LOCAL CHANGES

Standard Metropolitan Statistical Areas*	Manufacturing — Employment: Per cent change Feb. 1967 from mo. ago	Employment: year ago	Payrolls: mo. ago	Payrolls: year ago	Banking — Check Payments**: mo. ago	Check Payments**: year ago	Total Deposits***: mo. ago	Total Deposits***: year ago
Wilmington	− 1	+ 1	− 7	− 2	+ 7	+30	− 2	+ 2
Atlantic City	.....	.....	.....	.....	−11	−12	0	+11
Trenton	− 4	− 4	− 9	− 8	+16	+16	0	+10
Altoona	+ 2	+ 6	0	+ 3	− 3	+ 2	− 1	+ 8
Harrisburg	0	+ 6	− 4	+ 9	0	+14	− 2	+ 8
Johnstown	− 1	+ 2	− 9	+ 3	− 4	− 4	0	+ 3
Lancaster	+ 1	+ 4	− 3	0	− 8	+ 6	0	+ 5
Lehigh Valley	− 1	+ 1	− 4	+ 2	− 4	− 1	− 1	+ 2
Philadelphia	0	+ 2	− 4	0	− 3	+ 2	+ 3	+ 8
Reading	0	− 1	− 6	− 5	− 5	−10	+ 1	−39
Scranton	− 1	+ 5	+ 1	+15	+ 7	+ 9	+ 1	+ 6
Wilkes-Barre	0	+ 5	0	+ 7	− 2	+ 9	+ 1	+ 7
York	0	+ 3	− 2	+ 9	+ 2	+14	+ 1	+ 5

*Not restricted to corporate limits of cities but covers areas of one or more counties.
**All commercial banks. Adjusted for seasonal variation.
***Member banks only. Last Wednesday of the month.