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ate engineers. The nongraduate engineers are so important and unstudied a component of the engineering profession that no wholly satisfactory comparison of supply and demand for engineers will be possible until this gap in our knowledge is closed.

DAVID M. BLANK
GEORGE J. STIGLER

OTHER STUDIES

Personal Income during Business Cycles, by Daniel Creamer, which deals in part with wages, unemployment compensation, and other forms of labor income, was published. Harold Barger's study of employment trends, productivity and costs, in wholesale and retail trade, *Distributions' Place in the American Economy since 1869*, also was published. *Trends in Employment in the Service Industries*, by George J. Stigler, and *The Growth of Public Employment in Great Britain*, by Moses Abramovitz and Vera Eliasberg, are in press. Also in press is the conference proceedings volume, *Measurement and Behavior of Unemployment.*

Gerhard Bry's book, "Wages in Germany, 1871-1945," is being prepared for publication, and Clarence D. Long's monograph, "The Labor Force and Economic Change," is being reviewed by the Board.

Other studies of employment and the labor market are reported by George H. Borts and by Gerhard Bry in Section 1. The reports by Moses Abramovitz and by Richard Easterlin in Section 2 deal with studies of productivity, income, and employment trends.

4. *Banking and Finance*

POSTWAR CAPITAL MARKETS

The Postwar Capital Market Study started operations in the summer of 1955 under a grant from the Life Insurance Association of America. The study's primary objective is an analysis of the structure and development of the American capital market in the decade 1946-1955 that ties a description of the institutional setting and a discussion of the major economic problems involved to an integrated statistical framework of the flow of funds through the capital market and of the assets and liabilities of financial institutions active in the market.

Two steps, partly overlapping, are planned. The first is the development of a set of balance sheets and of financial fund flow statements for all major groups of participants in the capital market – financial institutions as well as nonfinancial business enterprises, households, and governments. The second step will be the preparation of four monographs. Three of these, dealing with the main sectors of the capital market – the markets for government securities, for corporate securities and loans, and for nonfarm mortgage loans – are discussed below by their authors, Roland Robinson, Eli Shapiro, and Saul Klaman. Each study will deal with the underlying economic forces, the institutional setting (including the competition among financial institutions), government policies, gross and net yields, significant changes in these factors during the postwar decade, and important differences between the postwar and prewar periods.

In the fourth monograph, I shall try to tie the results of the other three studies into the framework of the whole saving and investment process, to deal with common problems such as developments in the investment banking machinery and the influence of interest and tax rate changes, and to link developments in the postwar decade to relevant trends during the preceding twenty to thirty years.

The basic statistics are being organized into three bodies of data:

1. Annual estimates of saving and investment for the years 1946 through 1955, continuing (and for 1946 through 1949 revising) those of *A Study of Saving in the United States.*[1] In addition to providing the back-

[1] Raymond W. Goldsmith, Princeton University Press, 1955.

ground for the analysis of the postwar capital market, the new figures will permit comparison with the 1920's and 1930's. I hope that a first version of these estimates will be completed in the summer of 1956.

2. Annual summary statements, also for 1946 through 1955, of the flow of funds through the capital market. These statements will essentially be limited to a rearrangement of Federal Reserve figures; both worksheet data and recently published statistics will be used. We shall, however, show separate figures for some groups of financial institutions (chiefly sales and personal finance companies and common trust funds). This phase of our work was almost completed by the end of 1955.

3. A quarterly detailed statement of the flow of funds through the capital market for the years 1953-1955. This statement will differ from the Federal Reserve pattern in several respects and will be developed throughout from primary sources. The main differences – apart from the quarterly basis – are (a) the provision of separate figures for a larger number of sectors, both among financial institutions and among nonfinancial business enterprises; (b) the distinction of a larger number of assets and liabilities (e.g. the separation of common and preferred stock, of the bonds of the major industries, and of several types of mortgage loans); (c) more elaborate adjustments for valuation changes; and – possibly the most important difference – (d) the use to the greatest extent possible of gross rather than net flows. Work in this area, which involves direct inquiries from several groups of financial intermediaries, started near the end of the year. A first draft of the statement is expected to become available during the summer of 1956.

Participants in the project, in addition to those mentioned above, include Jack Farkas, George Horwich, David Meiselman, and Morris Mendelson.

RAYMOND W. GOLDSMITH

The Government Securities Markets

The markets for the two types of government securities – federal, and state and local – embraced in this section of the project have the common feature of high credit quality. The overriding power of taxation supports all federal securities and most of those of state and local governments. In addition, the ability to indemnify creditors by creating money adds further support to the securities of the federal government. The markets differ, however, with respect to liquidity and the volume of secondary transactions. Work on the market for state and local government obligations was initiated first, and it is only for this area that preliminary conclusions can be reported.

The statistical work on the local government securities market (done largely by Jack Farkas) includes: transcription of underwriting and pricing statistics from the *Bond Buyer,* calculation of a preliminary market sales and inventory series by weeks for the ten-year period 1946-1955; estimation of a quarterly yield series for several maturities and various quality classes of tax-exempt securities; and calculation of the gross market spreads for a small sample of underwriting deals. No formal analysis has yet been undertaken but several interesting characteristics have already appeared:

1. The relationship between the yields on fully taxable and tax-exempt securities (both of high quality) has been widely variable during the postwar years. This could be interpreted as a fluctuating premium for tax exemption, that is, the amount the marginal buyer is willing to pay for this privilege. But our present evidence does not confirm this generalization. The premium on tax-exempt securities has not fluctuated at all closely with changes in present or prospective tax rates. Relative market supplies of these securities appear to be a better explanation of the premium.

We have brought George Lent's estimates of tax-exempt security ownership up to date. These data suggest that the composition of buying groups has changed greatly during the postwar decade (a finding confirmed by underwriters). Some buying groups have high marginal tax rates; others are themselves tax-exempt institutions for whom tax exemption in the securities they purchase is almost a redundancy. These shifts in the composition of buying groups do not appear to be correlated in any significant way with changes in the relative size of the tax exemption premium.

2. Quality differentials among tax-exempt securities lead to pronounced differentials in yields. Capital gains realized on these obligations are not exempt from taxation. For this and other reasons, the yield premium required for a risk to be assumed appears to be fully as great as it is in any other area of financial investment, possibly greater.

3. Because of the factors described above in (1) and (2), the prices of outstanding tax-exempt securities, even very high-grade ones, fluctuate through wide ranges, wider than those of Treasury obligations and even than those of outstanding corporate obligations. And since only coupon interest and not the yield accrued according to annuity computations is exempt from taxes, low-coupon obligations experience unusually wide price fluctuations.

4. Although it is generally believed that large corporations have a material cost advantage over intermediate-sized businesses in the raising of capital, this does not appear to be true of the financing of large and intermediate-sized governmental units. Here cost includes the interest or coupon cost as well as the cost of underwriting taken in the form of gross spreads between buying and re-offering prices. The interest or coupon cost of borrowing to moderate-sized governmental units with a high credit standing does not appear to exceed that of larger governmental units. Indeed competitive bidding often seems to lead to smaller gross margins on issues of around a million dollars than on issues of ten or 100 times that amount. Our data do not disclose a clearly optimum size of issue, but large issues often cost more than moderate-sized issues. Investment bankers frequently advise borrowers to break up their offerings into several units so as to avoid the extra costs involved in a larger issue. It cannot be argued by analogy that business concerns of intermediate size, but with high credit standing, could expect access to the open capital markets at costs proportionately no greater than those met by large concerns. But size may be less of a factor, and credit-worthiness more of a factor, than has often been assumed. Our data cannot be used to suggest that very small governmental units, such as those borrowing a quarter of a million dollars or less at one time, enjoy cost equality with larger borrowers.

ROLAND I. ROBINSON

The Corporate Securities and Loans Market

Since commencing work on the project in late summer, I have been engaged in three related but separate tasks, two of which can be best described as exploratory in character.

In gathering data, David Meiselman and I separated out a number of financial institutions from the Federal Reserve annual money-flow data where they are presently combined with other institutions or groups. These institutions include brokers and dealers, investment companies, sales finance companies, personal finance companies, factors, and common trust funds. We are currently attempting to provide quarterly flow-of-funds data, on a gross basis, for these institutions for the years 1953-1955 and plan to complete this task in the early spring of 1956.

A fair share of my time has gone into exploring whether enough information is obtainable to make possible the preparation of an institutional monograph on the volume of assets handled, portfolio classification and management, income, types of service rendered, classification of customers, and so forth, in the personal trust business. Regrettably the exploration has shown that the necessary information is not yet available. However, a short questionnaire will be sent to a sample of the larger personal trust departments early in the spring of 1956 with the expectation of securing data on trends in total asset holdings and on portfolio composition for recent years. This information will satisfy the need for data on personal trust funds for our comprehensive statistics and will provide a useful addition to our knowledge of one of the large but relatively little known financial institutions.

We plan to develop and supplement the existing interest rate and stock yield series so that the movements of funds into and out of the market can be analyzed and the changes in the utilization of funds from the demand side be explained. An itemization of financial developments in the corporate securities market has been accumulated largely on the basis of interviews with representatives of the financial community. We are continuing our efforts to compile a yield series on private placements in the postwar years, although to date the task has proved to be formidable. Present plans call for organizing the data on the market for corporate securities in tables sometime this summer so that the analysis of the material and preparation of the monograph can get under way in the fall of 1956.

To understand more fully the increasing importance of the nonfinancial corporation as a financial institution, a series of interviews on the formulation of financial policy decisions by management is planned for the late spring.

Eli Shapiro

Nonfarm Mortgage Market

Since my association with the Postwar Capital Market Study in mid-November, my efforts have been concentrated on (1) the development of new data on the operations of mortgage companies, (2) the preparation of a more precise estimate of postwar mortgage indebtedness underlying real estate bonds than has hitherto been available, and (3) the development of detailed quarterly balance sheet data on savings and loan associations and the Federal Home Loan Banks.

To develop financial and other data on the operations of mortgage companies, we have, after several exploratory meetings and negotiations, arranged for the Federal Housing Administration to make available to us aggregate annual balance sheet statements for a sample of FHA-approved mortgages. To supplement these annual data with quarterly figures, we developed a questionnaire to be distributed to the largest 300 mortgage companies in the United States. This questionnaire was sent out early in 1956 through the cooperation and facilities of the Mortgage Bankers Association of America. It is expected that information from FHA records and the questionnaire to mortgage companies will provide the basis for development of the final quantitative analysis of this sector of the capital market.

The value of real estate mortgage bonds outstanding in the postwar period, while admittedly only a small fraction of total mortgage indebtedness, has never been accurately known. In an attempt to quantify the total more accurately and to describe its composition, we made a thorough examination of information on this subject contained in Moody's volumes for 1946 and 1955. Preliminary examination of the data suggests that the total value of real estate mortgage bonds outstanding has declined from approximately \$1.5 billion at the end of 1945 to \$0.3 billion in 1954.

In the next few months I intend to develop questionnaires and procedures for obtaining more comprehensive data from financial institutions than are now available on gross flows of funds into and out of mortgages. An attempt to develop more information on yields and other terms of mortgage lending will also be made. A serious effort will finally be made to develop a further breakdown of the outstanding mortgage debt by type of property, type of lender, and type of borrower, and provide additional information on real estate transactions underlying nonfarm mortgage lending.

Saul B. Klaman

CORPORATE BOND RESEARCH

Revisions of "Corporate Bond Quality and Investor Experience," the second report of the series on corporate bond financing, were substantially completed in 1955. The purpose of this report is twofold: first, to trace movements in the volume of securities offered and outstanding that had various specific characteristics; and second, to examine the experience of investors with securities of different types. It is essentially an analytical volume based on an extensive body of statistical materials compiled by the Corporate Bond Study. The supporting data – together with notes on methods of derivation and suggested uses – will be published as a third report, "Statistical Measures of Corporate Bond Characteristics and Experience." A brief statement of some of the major findings of the study as presented in Volume II was given in last year's annual report. The scope and contents of the two volumes are indicated by the following chapter headings:

VOLUME II

Chapter	
	Introduction and Summary of Findings
1	Plan of the Study and Problems of Measurement
2	Aggregate Experience
3	Agency Ratings
4	The Legal Lists
5	A Market Rating for Corporate Bonds
6	Comparative Performance of Rating Systems
7	Earnings Coverage and Lien Position
8	Size of Issue and Asset Size of Obligor

VOLUME III

1	Characteristics of Outstanding Issues
2	Characteristics of Offerings and Extinguishments
3	Characteristics of Defaulted Issues
4	Measures of Experience over Chronological Periods
5	Measures of Experience from Offering to Extinguishment
6	Measures of Experience on Defaulted Issues

W. BRADDOCK HICKMAN

EXPLORATORY STUDIES IN FINANCE

Exploratory studies in three areas of finance were begun last year with the aid of a grant from the Association of Reserve City Bankers: on lending policies and their bearing on the quality of loans in booms and depressions, on the structure and behavior of interest rates, and on the changing structure of credit and savings facilities. Several members of the staff and a number of consultants from universities, financial institutions, and government agencies collaborated in an effort to determine the needs for further research in these areas and the best methods of attack. Although plans for research projects are still in the formative stage, some preliminary observations on the problems under investigation may be reported.

Quality of credit in booms and depressions. The time seems to be ripe for the provision of new facts about a subject that is close to the heart of the problem of economic instability: the changing quality of credit. Our exploration has uncovered materials that are not being properly exploited and has given us reason to believe that new sources of information can be developed.

A study to consider and devise a system of current reporting on the quality of credit is therefore in order. Such a study should organize and analyze as much information as can be extracted from existing records and develop practicable suggestions for the collection of new information. It would, of course, be imperative to clarify the meaning of "credit quality," compare alternative methods of measurement, and set forth the economic implications of the data in the light of past experience and present-day conditions.

If research is developed along these lines, it should not be confined solely to changes in credit quality during boom periods. Previous studies have shown that the consequences of credit deterioration during booms appear in subsequent depressions, and contribute to their severity. The failure to recognize credit deterioration during a boom may cause a severe shock to business confidence when trouble develops, a sharp contraction in lenders' commitments, and perverse requirements for liquidity by supervisory authorities. Moreover, the apparent losses, charge-offs, and write-downs may not only exaggerate the losses that will eventually be sustained, but also reflect adversely, beyond what subsequent experience will reveal, on the risks attaching to new investment opportunities. Actual and potential developments in both phases need to be set forth and documented if the study's full contribution to the problem of economic instability is to be realized.

Among the analyses that seem most promising are ones on:

1. The changing quality of consumer instalment credit as indicated by loan terms and relevant characteristics of borrowers or their economic circumstances

2. Delinquency, loss, and recovery rates on commercial bank credit in relation to the volume and composition of loan portfolios, valuation reserves, and charge-off policies

3. Examiners' appraisals of loans by commercial banks and other lending institutions: their validity, relation to business conditions, and consequences for cyclical stability

4. The level and trends in financial ratios of individual companies (as indicators of their credit-worthiness), taken in relation to their changing use of credit during booms and depressions

5. The credit files of commercial banks, to determine whether it is feasible to obtain from them periodic summaries reflecting the quality of commercial loans as indicated by lending terms, borrowers' financial status, and so forth

6. Credit ratings by rating agencies, to determine their validity as indicators of the credit-worthiness of individual firms and the feasibility of a summary compilation showing shifts in credit ratings of the business population.

Other projects dealing with the quality of state and municipal security issues, the quality of farm loans, and other credit areas might be useful.

A preliminary paper reviewing some of the results of the exploratory study was presented by Geoffrey Moore at a joint meeting of the American Statistical Association and the American Finance Association in December and was published in *The American Banker,* January 31, 1956. It will appear also in the May issue of the *Journal of Finance*. Another paper, which would develop more fully the implications of previous studies in this field, is contemplated.

Interest rate structure and behavior. The past quarter-century has witnessed dramatic changes in the levels of short-term and long-term interest rates and in the relations between obligations of different maturities and grades with respect to yield and price movement.

These changes in the level and structure of interest rates unsettled various long-held rules of thumb. Because short-term rates had commonly been higher than long-term rates for more than a quarter-century before the Great Depression, many had come to believe that somewhat lower yields on long-term bonds than on short-term paper were "natural." This was sometimes attributed to the willingness of investors to pay something in the form of a lower yield in order to avoid the trouble of repeatedly seeking replacements for their maturing investments. But during the 1930's and 1940's, short-term rates declined so much more than long-term rates that the latter came to be several times the former for obligations of substantially equal quality.

After this type of relationship had persisted for some years, the generalization that interest rates tend to be higher for obligations of longer maturity, became widely accepted as "normal." It was loosely attributed to such factors as the lesser risk of default, the smaller loss in liquidity, and the smaller price risks to which shorter-term obligations are subject. But during the past few years, short-term interest rates have risen more than long-term rates, with the result that a substantial degree of straightening has occurred in the curve of yields to maturity. How can these shifts be explained?

The relationship between yields on high-grade and second-grade bonds also raises questions. Some empirical support, as well as theoretical rationalization, can be found for the common belief that the spread in yields between high-grade and second-grade bonds tends to widen in periods of business disturbance and uncertainty and to narrow in periods of business prosperity and confidence. But the relationship is not a simple one, and closer study of the facts, particularly for recent years, may bring additional insights. How does the spread behave in response to general changes in interest rates? How has it been affected by the creation of partial substitutes for both high- and second-grade bonds in the form of VA and FHA mortgages?

The relative price behavior of different maturities poses another set of questions. For some purposes the price behavior of money market securities is of greater importance than their absolute or relative yields. For example, certain funds may be channeled into short-term obligations regardless of the availability of higher yields on longer-term issues because the investor desires a high degree of price stability. Yet price sensitivity among obligations of comparable quality is not solely a function of length of maturity, and the question arises as to what other factors should be taken into account.

Still other questions arise concerning lead and lag relationships and differences in the effects of central banking operations upon the movements of various types of interest rates. Because the facts have not been subjected to a sustained careful study, we do not know in detail how differently, as to timing or degree, various types of central banking action affect the different parts of the interest rate structure. There have been times when the effects seemed most immediate and pronounced in the short-term sector, and other times when medium- or long-term bonds displayed the speediest or greatest response.

The truth is that there are such large gaps in our factual knowledge of interest rates and in our understanding of their movements that the paucity of useful and reliable generalizations should not be surprising. It would seem wise, therefore, to plan a series of studies designed to build up a body of organized factual knowledge and understanding. Among the topics around which such studies might be centered are the following:

1. The relative price behavior of debt securities of different maturities
2. The structure of interest rates by markets (as contrasted with maturities) and quality
3. Variations in the effects of central banking operations upon the movements of yields and prices in different parts of the money market
4. Tax influences on interest rates

Some aspects of the latter topic were treated in the recent Occasional Papers by George Lent, *The Ownership of Tax-Exempt Securities, 1913-1953,* and by Lawrence H. Seltzer, *Interest as a Source of Personal Income and Tax Revenue.* Further contributions to the broad field of interest rate structure will be made in the forthcoming books by W. Braddock Hickman, "Corporate Bond Quality and Investor Experience," and by Oskar Morgenstern, "International Financial Transactions and Business Cycles," as well as in a new study of basic yields by David Durand.

Changing structure of facilities for credit and savings. Certain significant aspects of the changes in our financial organization have been described and analyzed in the reports published by our Financial Research Program and by other research groups. A comprehensive view is provided in the forthcoming monograph on "Financial Intermediaries in the Saving and Investment Process in the American Economy, 1900-1952," by Raymond W. Goldsmith, one of our Studies in Capital Formation and Financing. This report sketches the growth, over a fifty-year period, of commercial banks, mutual savings banks, saving and loan associations, insurance companies, pension funds, and other financial institutions. During the past twenty-five years many new governmental credit institutions have entered the scene, and the forthcoming monograph, "Federal Programs of Lending, Loan Insurance, and Loan Guarantees," by R. J. Saulnier, Neil H. Jacoby, and Harold G. Halcrow, subjects this development to analysis.

While the broad outline of change is clear, we need to know more about the present financial structure, the events that have brought it into being, and the forces it has generated. What changes in financial organization have accompanied the growth of large-scale nonfinancial business corporations with enormous quantities of liquid funds at their disposal? What changes have occurred in the division of responsibility among the several types of financial institutions, and how have these been reflected in their relative rates of growth and in the composition of their assets and the sources of their funds? For each type of financial institution, what has happened to the regional distribution of offices and branches, and to the size of these and of companies as a whole? What role have mergers played in determining these distributions? What shifts have occurred in inter-company relations, as in correspondent banking arrangements?

If we are to understand the financial structure of today and the directions in which further change are tending, we need to come to closer grips also with the causes of these changes. Particularly, we need to know more about the role of government policy, legislation, and regulation.

But government is not the only source of change in the structure of credit and savings facilities. There are forces originating in economic growth and economic development. The shift in income distribution, one of the revolutionary changes of our time, has played a part: this shift has been accompanied by changes in savings habits and in the direction of investment of savings. The growth of life insurance and the rise of pension plans and related personal and social security systems have had significant effects on the absolute and relative volume of "contractual" savings.

The unprecedented level of home ownership – in part because of the spread of the amortization-mortgage – has led to another significant addition to the volume of contractual savings. People have not only increased in numbers all over the country; they have also moved about in large numbers: migration from one region to another and from farm to city and city to suburb has been considerable. This too has meant shifts in financial needs and institutions.

The trend toward family acquisition of more and more durable goods like automobiles and washing machines has had important effects on the volume of consumer instalment credit and personal loans, just as the availability of such credit has helped swell expenditures on these commodities. Improvement in equipment and methods in the offices of financial institutions has reduced costs of operation, and this has helped make possible services not otherwise feasible.

The questions that arise in this area are important and well worth considering for formulation into a research project. Such a project would be an essential complement to our study of the postwar capital markets, and it would also derive much from the results of this study, which has just begun. It would also be closely related to the studies of the structure of interest rates described above. With careful planning, it may become possible to develop a program that will provide a comprehensive description and analysis of the credit and capital markets as a whole.

FUND FLOW ANALYSIS

Revision of the introduction to my manuscript has been completed. I have brought the data up through 1954 both for the Allis-Chalmers Co. and for the Federal Reserve sample of 200 large manufacturing companies, 1940-1954. The various flows based on the Federal Reserve data move nicely parallel with the National Bureau's eighty-four company sample during the overlap years of 1940-1943. The larger number of companies seem to add only a small percentage to the volume of transactions.

I am now revising the chapter on cash, using the National Bureau's indexes of conformity with the business cycle. After that, I shall add a section to the technical chapter showing how and why the "adjustments" were made in the total asset, working capital, and cash worksheets.

The cyclical pattern of the movement of cash between corporations and the money markets is shown in Chart 3. The broken line reports the net cash received by the corporations from the money market or the net repayments made thereto. In explaining what prompted these transactions, the excess cash payments or receipts for materials, services, capital equipment, and goods sold is shown by the solid line. During the high and rising phase of business activity, with its rapid expansion of earning assets, corporations spend more money than they collect from customers, and so call upon the money market for aid. In the contracting phase, the liquidation of earning assets generates excessive cash which is promptly returned to its source. Both curves, the one for the money market and the one for business transactions, earn perfect scores in the National Bureau's indexes of conformity.

WILSON F. PAYNE

OTHER STUDIES

Four reports were published during 1955 and two are in press:

Urban Mortgage Lending: Comparative Markets and Experience, by J. E. Morton

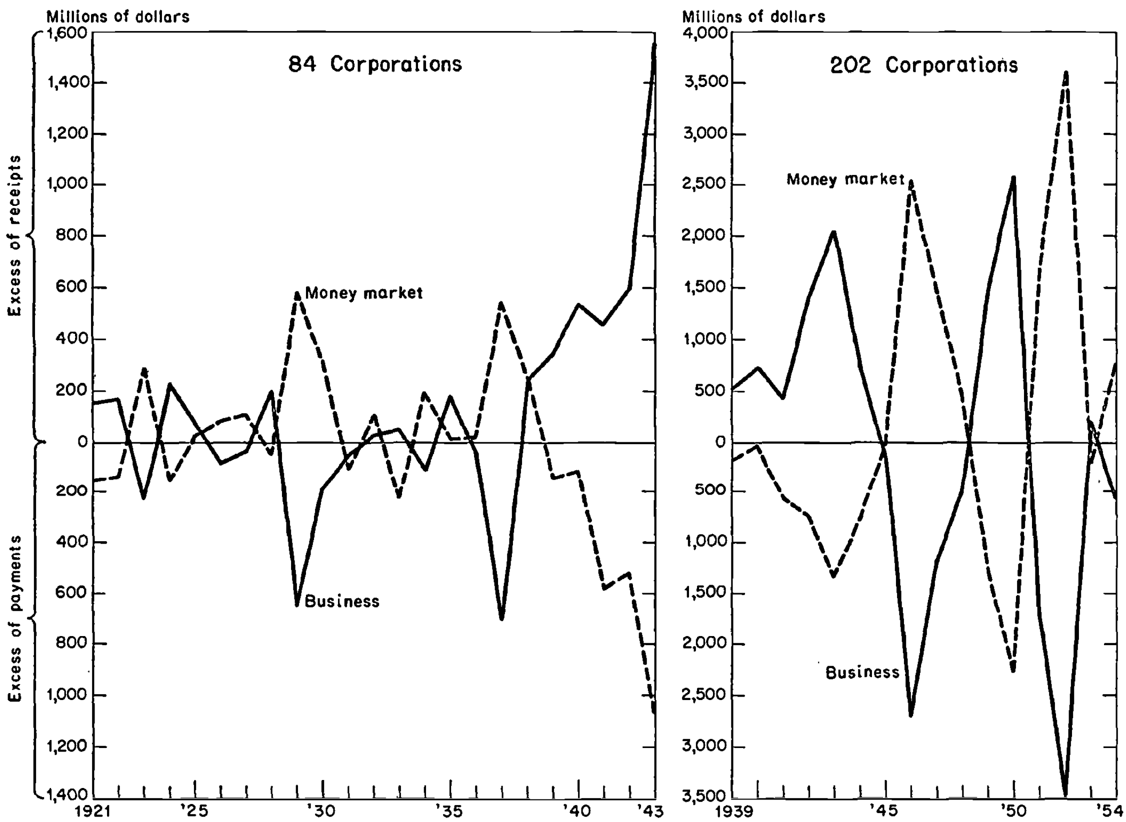
The Ownership of Tax-Exempt Securities, 1913-1953, Occasional Paper 47, by George E. Lent

Agricultural Equipment Financing, Occasional Paper 50, by Howard G. Diesslin

Interest as a Source of Personal Income and Tax Revenue, Occasional Paper 51, by Lawrence H. Seltzer

CHART 3

Flow of Cash on Business and on Money Market Accounts of Large Manufacturing Corporations; 84 for 1921-1943, and 202 for 1939-1954



Source: 84 corporations; "NBER Corporate Financial Data for Studies in Business Finance," mimeographed. 202 corporations; *Federal Reserve Bulletin.*

The Pattern of Financial Asset Ownership: Wisconsin Individuals, 1949, by Thomas R. Atkinson (in press)

Patterns of Farm Financial Structure: A Cross-Section View of Economic and Physical Determinants, by Donald C. Horton (in press)

Raymond W. Goldsmith's "Financial Intermediaries in the Saving and Investment Process in the American Economy, 1900-1952," is being prepared for press.

Four reports will shortly be ready for review by the Board:

"Bank Stock Prices and the Bank Capital Problem," by David Durand

"Corporate Bond Quality and Investor Experience," by W. Braddock Hickman

"Federal Programs of Lending, Loan Insurance, and Loan Guarantees," by R. J. Saulnier, Neil H. Jacoby, and Harold G. Halcrow

"International Financial Transactions and Business Cycles," by Oskar Morgenstern

Wolfgang Stolper's manuscript, "Economic Fluctuations and Urban Real Estate Finance," is being reviewed by the staff. The reference volume, "Statistical Measures of Corporate Bond Characteristics and Experience," by W. Braddock Hickman, is nearing completion.

A preliminary report on certain phases of the study of agricultural credit institutions was prepared by George K. Brinegar.

Other studies in banking and finance are reported in Part Two and in Sections 1 and 2.

5. *Governmental Activity and Finances*

THE INDIVIDUAL INCOME TAX

Occasional Paper 51, *Interest as a Source of Personal Income and Tax Revenue,* has been published. It presents one section of the study of the individual income tax on which I have been engaged for some time. I am now devoting my attention to the relations between personal and taxable income and, more immediately, to the personal exemptions and credits for dependents.

Between 1925 and 1935, the total number of persons who paid income taxes, and their dependents, ranged only between 3 million and 5 million a year, and accounted for only between 2.5 per cent and slightly more than 4 per cent of the country's population. By 1952, they exceeded 100 million and accounted for not far from two-thirds of our total population. This great change was the joint product of statutory reductions in the personal exemptions and the substantial growth and wider diffusion of personal incomes.

In line with other evidences of the rise and wider diffusion of personal incomes in very recent years is that provided by the changed distribution among the different income groups of the dollar amounts of personal exemptions and credits for dependents reported on taxable aggregate returns. Between 1948 (when the law first permitted income splitting between husbands and wives filing joint returns) and 1952, the aggregate amount of these allowances going to taxpayers with adjusted gross income under $3,000 fell by $3.8 billion or 22 per cent; the amount going to those with adjusted gross incomes between $3,000 and $5,000 rose by $4 billion or 18 per cent; and the amount going to taxpayers with adjusted gross incomes between $5,000 and $10,000 rose by $11.8 billion or 137 per cent.

The proportion of the total dollar amount of personal exemptions accounted for by those with gross incomes of less than $3,000 fell from 34 to 21 per cent between 1948 and 1952, and the proportion of the total accounted for by taxable returns with gross incomes of $3,000 to $5,000 fell from 44 to 41 per cent. But the proportion of the total accounted for by those with gross incomes of $5,000 to $10,000 rose from 17 per cent in 1948 to 32 per cent in 1952. This income group accounted for 90 per cent of the entire increase in aggregate personal exemptions in this period. The foregoing figures are all exclusive of exemptions for old age and blindness and exemptions on returns reporting self-employment tax only.

Another phase of the study of the indi-