Volume Title: Regularization of Business Investment

Volume Author/Editor: Universities-National Bureau Committee for Economic Research

Volume Publisher: Princeton University Press/NBER

Volume ISBN: 0-87014-195-3

Volume URL: http://www.nber.org/books/univ54-1

Publication Date: 1954

Chapter Title: Financial Policies for Regularizing Business Investment

Chapter Author: Neil Jacoby, J. Fred Weston

Chapter URL: http://www.nber.org/chapters/c3030

Chapter pages in book: (p. 369 - 450)

FINANCIAL POLICIES FOR REGULARIZING BUSINESS INVESTMENT[1]

NEIL H. JACOBY AND J. FRED WESTON
UNIVERSITY OF CALIFORNIA

THIS ESSAY deals with two related issues: How and to what extent are business investment decisions influenced by the supply of funds? How may the terms of supply of funds to businesses and business uses of funds be altered in the interest of greater regularity of investment in the future?

Other papers presented at this conference examine the past behavior of business investment, the potential gains from its regularization, and the practicability of achieving it in particular areas. The objectives of this paper are to study the ways in which finance impedes progress toward the goal, and how financial policies—both public and private—may be altered in the direction of removing those impediments. In making this study, we assume that a more regular flow of business investment is both desirable and feasible in the American economy, an assumption that is examined in detail by other papers.

The analysis has been organized into four principal parts.

First, economic theories and empirical studies dealing with the relationships between the supply of funds and the level of business investment are critically reviewed. Increasingly, economists have recognized that flows of money are, in fact, stubborn barriers to the smooth operation of economic processes. The rate of interest and other conditions of supply of money and credit have long commanded the attention of economic theorists as important, or even dominant, factors in the investment behavior of the firm and in general business fluctuations. A brief evaluation of this body of thought and of related empirical studies indicates strategic factors that may be influenced by public and private financial policies designed to regularize investment.

Second, prevalent financial policies of American business enter-

[1] Research assistance provided by the Committee on Research, University of California, Los Angeles, is gratefully acknowledged. The authors also acknowledge with gratitude comments and suggestions by Melvin de Chazeau, of Cornell University; D. Gordon Tyndall, of the Carnegie Institute of Technology; and Geoffrey H. Moore, Thor Hultgren, and Daniel M. Holland, of the research staff of the National Bureau of Economic Research, all of whom read this paper in manuscript.

prise are examined to show how decisions between alternative policies affect the regularity of the firm's investment. A study of the process of investment and of the way the firm makes its financial decisions suggests ways in which policy changes would promote regularity of investment.

Third, the uses to which business managements put *internal* funds at their disposal are examined, and alternative policies for using internal funds are explored. The disposition of internally supplied funds is to a considerable degree subject to managerial policy decisions that have an important influence upon the volume of business investment. What has been the relationship between retained earnings and the timing of business asset expansion in the past? To what extent would internal funds suffice to finance a program of investment regularization? How might altered dividend policies affect the ability of businesses to achieve regularity in their investment?

Fourth, attention is turned to the *external* supply of funds, mainly derived from financial institutions. Relevant financial policies of each type of fund supplier are examined from the point of view of their past effect upon the regularity of the supply of funds to businesses. Proposals are advanced for increasing the regularity of this supply in the future by the adoption of new policies.

It is apparent that three distinct areas of financial policy bear upon the regularity of business investment and that these policy areas are interrelated. At the broadest level, federal fiscal-monetary policy operates, not only as an autonomous direct influence upon business investment, but also through its influence upon the policies of the commercial banks and other financial institutions. Within the framework established by federal fiscal-monetary policy lies the area of policy determination by suppliers of funds. Finally, within this total environment are formulated and executed the financial policies of fund users—the business enterprises whose regularity of investment should be increased.

Recognizing the pervasive nature of finance in the economy and the great complexity of financial institutions, arrangements, and practices, this paper makes no pretense of comprehensiveness. An effort has been made to bring major problems and concepts into focus, and to indicate the principal contributions that financial policies can make to greater regularity of investment in the future. Only incidental consideration has been given to federal fiscal and monetary policies, because they have received much study. Attention

has been focused herein upon the not-so-well-explored area of private financial policies.

The Relation between Financing and the Volume of Investment in Economic Theory

MONETARY AND MONETARY OVERINVESTMENT THEORIES OF THE BUSINESS CYCLE

As is well known, Hawtrey gave financing a crucial role in the explanation of variations in business investment by holding that changes in interest rates charged to merchants by the commercial banks dominated the merchants' inventory holdings.[2] Changes in investment in inventories set in motion a cumulative expansion in production, fed by expansion in bank credit and increases in the velocity of circulation of money. The upper turning point resulted from credit restriction by the banks, which brought into operation the forces of the downswing in production.

Cogent criticisms of Hawtrey's theory have been made. Business inventory policies are more heavily influenced by anticipations of the future volume of sales and the future level of prices than by the interest costs of holding goods. It is, moreover, doubtful if changes in sales volumes and prices are caused mainly by alterations in the money supply. Finally, many will disagree that continued availability of bank credit is sufficient to maintain a general economic expansion.

Variations in the availability of liquid funds also occupy an important position in the theories of Tugan-Baranowsky, Spiethoff, Schumpeter, and Hayek.[3] Although distinct differences separate the theories of these writers, all ascribe a similar role to the supply of financing. A plethora of loanable funds and favorable costs of borrowing encourage investment. Not only does ready availability of funds initiate or reinforce a cumulative expansion, but it is also a major influence in developments leading to the upper turning point. Having encouraged businessmen to an expansion of the "higher" stages of production, financing institutions are ultimately led by their tightened reserve positions to restrict credit. At that

[2] R. G. Hawtrey, *Trade and Credit*, Longmans, 1928; *The Art of Central Banking*, Longmans, 1932; *Capital and Employment*, Longmans, 1937. Also Gottfried Haberler, *Prosperity and Depression*, League of Nations, 1941, pp. 14-28.

[3] Cf. Haberler, *op.cit.*, pp. 33-71; R. A. Gordon, *The Dynamics of Economic Activity*, California Book Co., 1948, pp. 17-21; A. H. Hansen, *Business Cycles and National Income*, Norton, 1951, pp. 277-322, 384-393.

point "overinvestment" may be said to have occurred in two respects. First, the volume of investment goods in the process of construction is excessive, gauged by the amount that consumers are willing to finance through voluntary savings. Second, the capacity of industries producing other investment goods (e.g., the machine tool industry) is too great for the reduced scale of new investment projects. The supply curve of capital funds shifts to the left and becomes increasingly inelastic, and interest rates rise. Because of this rise in interest expense (and in the costs of labor and raw materials), capital goods cannot be completed at costs below the estimated present values of their future net incomes, and volume of investment falls sharply. Different writers stress different aspects of the process, but all emphasize the stimulating influence of availability of liquid funds at the beginning of the upswing and agree that retrenchment by financial institutions is an originating factor in the downswing.

These writers were undoubtedly influenced by the institutional setting of an international gold standard, which produced increasingly tight reserve positions for banks in a country that expanded credit at a relatively rapid rate. Furthermore, an expansion of credit in one country at a faster pace than in other countries resulted in gold losses by it to other countries through both price and income effects. At present, national monetary management reduces the extent to which financing exercises such "automatic" restraints upon credit expansion within one country. The role of financing has become a function of the actions of the national monetary authorities. Yet the power of finance to influence the volume of investment remains, although the institutional framework of control has altered.

In his synthesis of business cycle theories, Haberler assigns an important role to variations in the money supply, when he states: "The two most essential conditions for the smooth progress of an expansion are, broadly speaking, an elastic supply of money and an elastic supply of means of production. Both are essential. If either is lacking, the situation becomes precarious."[4]

Monetary and monetary overinvestment theories of business cycles emphasize the influence of the "available supply" of liquid funds upon the level and the direction of movement of business investment. But the "available supply" of funds is a complex concept that requires analysis. From the point of view of a business enterprise seeking funds, what are ordinarily called the "terms" of supply of funds embrace the following distinct aspects or dimensions: first,

[4] *op.cit.*, p. 356.

the *price* of funds, or the effective rate of interest charged; second, the *credit standards* applied by fund suppliers to applicants for funds; and third, *qualitative features* of available financing arrangements. Other economic theories, to which we now turn, have focused attention upon one or another of these aspects of the supply of investable funds.

INVESTMENT AS A FUNCTION OF INTEREST RATES

Theoretically, the money cost of funds unquestionably influences the quantity that will be taken. To consider a hypothetical case, loans available at a zero (or negative) rate of interest, coupled with a perpetual term to maturity or continuous renewal, would stimulate private investment and spending even under the most adverse conditions. But it is not realistic to consider a supply curve of funds of this nature. As Fellner has pointed out, a loan at zero interest rate with no maturity (a perpetuity) is equivalent to a subsidy, "the demand for which, of course, is unlimited."[5] He notes that a zero interest rate on a loan with a *finite* term to maturity and no assurance of renewal is sufficient to restrict demand. The hypothetical example indicates that large enough variations in the interest rate and in the terms of loans will influence the quantity of investment.

In older cycle theories, the price of funds was thought to be pivotal in determining the demand for funds. For example, the cumulative process developing from a divergence between the "natural" and the "market" rate of interest in Wicksell's theory may be recalled. In recent theories, interest rates are assigned a much less important role in equating the demand for and the supply of funds. The effects on income of shifts in the investment function or in the propensity to save are said to be the dominant equilibrating forces. In his *General Theory*, Keynes argued that new investment is carried to the point that "brings the marginal efficiency of capital in general to approximate equality with the rate of interest."[6] On the other hand, during a downswing expectations deteriorate so seriously that no practicable reduction in interest rates would suffice to revive new investment. (Even though the pure rate of interest fell to zero, the administrative costs of lending and the premium of uncertainty would make it difficult to reduce the long-term loan rate below about 2 per cent per annum.) On these grounds, doubt was ex-

[5] William Fellner, *Monetary Policies and Full Employment*, University of California Press, 1947, p. 169.

[6] John M. Keynes, *The General Theory of Employment, Interest and Money*, Harcourt, Brace, 1936, p. 248.

pressed whether interest rate policy could induce additional investment during periods of deteriorating expectations or could curtail investment during periods of rising anticipations characteristic of the boom. Nevertheless, Keynes and other theorists did not express the view that the influence of the level of interest rates on the rate of new investment was negligible.[7]

It is accurate to say, however, that the dominant recent view is that the rate of new investment by businesses is inelastic with respect to the level of interest rates. The grounds for this view are: interest represents a very minor element of cost in short-term investments;[8] uncertainty and other variables overshadow the influence of interest expense in long-term investments;[9] and empirical studies indicate that businessmen's investment decisions are little influenced by the level of interest rates.[10]

Certain modifications of the recent thesis have been urged. Machlup argued that interest rates appear to have greater influence when their effects as capitalization factors are taken into account,[11] and that practicable variations in interest rates may greatly influence the investment decisions of borrowers with very low credit ratings who can procure funds only at such relatively high rates of interest as 10-15 per cent or more.[12] He also expressed doubt as to the validity of previous empirical studies on the ground that questions regarding the influence of the interest rate on quantity of funds borrowed were framed with reference to *prevailing* rates rather than with respect to borrowings under alternative rates.[13] Further, other empirical studies have led to opposite conclusions.[14]

[7] Mordecai Ezekial, "Statistical Investigations of Saving, Consumption, and Investment," *American Economic Review*, vol. 32, June 1942, p. 283, note 10. Also, "If we suppose all the other determinants of investment to be given, we can consider the effects of different levels of the rate of interest." Abba P. Lerner, *Economics of Employment*, McGraw-Hill, 1951, pp. 89-90.

[8] Friedrich Lutz, "Interest Rate and Investment in a Dynamic Economy," *American Economic Review*, vol. 35, December 1945, pp. 812-826.

[9] John R. Hicks, *Value and Capital*, Oxford University Press, 1938, p. 226.

[10] Lawrence Klein, *The Keynesian Revolution*, Macmillan, 1947, pp. 65-66, referring to the Oxford studies and that of Ebersole.

[11] Fritz Machlup, "Interest as Cost and Capitalization Factor," *American Economic Review*, vol. 25, September 1935, pp. 464-465.

[12] Machlup in Paul T. Homan and Fritz Machlup, eds., *Financing American Prosperity*, Twentieth Century Fund, 1945, pp. 467-468.

[13] *ibid.*, p. 467, note 44.

[14] C. O. Hardy and J. Viner, *Report on the Availability of Bank Credit in the Seventh Federal Reserve District*, U.S. Govt. Printing Office, 1935; C. H. Schmidt, "Unsuccessful Postwar Security Financing," *Volume and Stability of Private Investment*, U.S. Govt. Printing Office, 1950, especially pp. 652-653.

The value of businessmen's opinions about the influence of interest rates on their investment decisions has been challenged by Roos for a different reason: "If a thousand business men were picked at random, as many as eight or nine hundred might say that they give no consideration to changes in the long-term rate of interest in their business planning. Yet such answers would prove exactly nothing . . . for the majority claiming not to base decisions on the interest rate would actually base decisions upon the expected course of a number of variables which stand as proxies for the interest rate."[15] Many businessmen follow the leadership of bankers or of other business managers who are influenced by the interest rate, or they consider their own financial position, the course of equity prices, or their orders on hand, all of which are influenced by the interest rate.

It is significant that economists who, in theoretical discussion, regard the interest rate as having little effect upon the volume of investment, often prescribe policies that implicitly assign an important influence to the interest rate. Thus Hansen observes that rising interest rates hurt "sound investment" in the economy as a whole, but do not effectively restrain the speculative extravagances of the boom.[16] Whether or not this is a valid criticism of interest rate management as a countercyclical device, it does credit interest rates with power to influence "sound investment," which is presumably a substantial part of aggregate investment. Likewise, Hansen's endorsement of public control over capital issues, for the purpose of restraining excessive investment during the boom, clearly implies that the costs of equity financing influence the rate of private investment.[17] It must be acknowledged that both of these quotations from Hansen indicate that interest rate policy may restrain an expansion, but he would hold that interest rate policy is virtually impotent to reverse a contraction.

It may be concluded that economic theories diverge in the emphasis that they place upon price of funds—the interest rate—as a determinant of the investment decisions of business firms. Further empirical research into the interest elasticity of the demand for investable funds will be required to narrow this divergence and to

[15] Charles F. Roos, "Business Expectations in Theory and Practice," mimeographed paper presented at 63rd Annual Meeting of the American Economic Association, December 1950.

[16] A. H. Hansen, *Economic Policy and Full Employment*, McGraw-Hill, 1947, p. 145.

[17] *Business Cycles and National Income*, *op.cit.*, p. 553.

discover its true significance.[18] In any event, the interest rate is only *one* of the conditions of supply of funds. As was pointed out previously, the credit standards of suppliers and the qualitative features of the financing contracts they offer are also important dimensions of the supply of funds available to business enterprises.

INFLUENCE OF CREDIT STANDARDS AND "RATIONING" OF FUNDS ON INVESTMENT

Suppliers of funds may alternately expand and contract the quantity of funds they will make available at a constant or relatively invariant interest rate. This behavior has been described by Professor A. G. Hart and others as "rationing" of capital and credit, because the total amount of the supply and its allocation among fund users is determined—as is true of all rationing schemes—by other factors than price.[19] Capital and credit rationing have considerable effects upon the volume of business investment. Suppliers of funds often inhibit investment by an unwillingness to advance funds to firms willing to invest them—at the current or even at a higher interest rate.[20] To the disappointed applicant, an absolute shortage of funds appears to exist. Such rationing of funds by suppliers would, of course, aggravate fluctuations in business investment if it were more severe during periods of depressed business and pessimistic expectations than it was when business activity is high and anticipations are optimistic.

The dominant instrument of rationing of funds by suppliers is *temporal variation in the credit standards* they apply to applicants for funds. Credit standards mean the set of tests of eligibility for credit that lenders apply with respect to a given type of financing contract. The nature of credit standards is indicated by the familiar three C's, capacity, capital, and character. The first two can be evaluated to a considerable degree by financial ratio analysis. Profitability is a useful index of capacity; the current ratio and the debt-equity ratio are informative measures of the general financial position. Moral risk is revealed by past history with bankruptcy, fires, etc., and by ledger experience indicating promptness in paying bills,

[18] Cf. W. Braddock Hickman, *Trends and Cycles in Corporate Bond Financing*, Occasional Paper 37, National Bureau of Economic Research, 1952.

[19] A. G. Hart, *Anticipations, Uncertainty and Dynamic Planning*, University of Chicago Press, 1940, pp. 39-50, 67-74; *Money, Debt and Economic Activity*, Prentice-Hall, 1948, pp. 198-203.

[20] Cf. Ruth P. Mack, *The Flow of Business Funds and Consumer Purchasing Power*, Columbia University Press, 1941, pp. 265-267.

etc. Variations in terms of credit also indirectly represent variations in credit standards in that tighter terms increase the level of credit standing required to meet such terms, and conversely. It has not been generally recognized that variation in credit standards is the principal *means* by which rationing of funds is conducted. But formidable evidence in support of this proposition has accumulated. Thus, it is now clearly understood that the volume of consumer credit used for purchases of durable goods is influenced not so much by variations in its interest cost as by changes in requirements of down-payments and maturity of a loan—i.e., by the nonprice terms of the contract, which are credit standards the borrower is obliged to meet.[21] Likewise, in the financing of business enterprises, the provisions contained in stock certificates, bond indentures, term loan agreements, and other financing contracts are frequently of much greater importance to both supplier and user of funds than the interest rate.[22]

Credit standards operate to affect the availability of funds in two ways. They may be held relatively constant through the business cycle, while the financial position of businesses improves during the upswing and deteriorates during the downswing, causing variations in the availability of funds to them. More likely, financial institutions aggravate the perverse effects of credit standards upon the instability of investment by raising credit standards during the downswing and relaxing them during the upswing. This has been suggested by a number of theorists.[23] Empirical analysis of urban mortgage lending practices indicates that credit standards were relaxed during the boom years of the twenties.[24]

Further investigative work is required to test the hypothesis that

[21] See Avram Kisselgoff, *Factors Affecting the Demand for Consumer Instalment Sales Credit*, Technical Paper 7, National Bureau of Economic Research, 1952.

[22] It is not plausible that lenders generally ration credit on the principle of "first come first served," seniority of customer, or strength of personal friendship. Lending institutions beyond the smallest are obliged to operate on a basis of rational principles, uniformly and impersonally applied. The principle of meeting a definite credit standard satisfies this requirement.

[23] Delegation on Economic Depression, League of Nations, *Economic Stability in the Postwar World*, 1945, p. 155; Gordon, *op.cit.*, pp. 18, 24; R. A. Musgrave, "Credit Controls, Interest Rates, and Management of Public Debt," *Income, Employment and Public Policy*, Norton, 1948, pp. 230-231; Fellner, *op.cit.*, p. 162.

[24] R. J. Saulnier, *Urban Mortgage Lending by Life Insurance Companies*, National Bureau of Economic Research, 1950, pp. 79-88; "Insurance Company Urban Mortgage Lending and the Business Cycle," *Journal of Finance*, vol. 5, December 1950, pp. 303-306.

variations in credit standards exert a more powerful influence upon the position and slope of the supply schedules of funds offered to business firms than do changes in interest rates, and that federal monetary policies produce their most important effects upon credit standards. It appears likely that a restrictive monetary policy causes banks to reject a larger proportion of loan applications, or to grant reduced credits, rather than to increase the loan rate. Conversely, an "easy money" policy primarily produces a relaxation of credit standards, with a small reduction in the loan rate as a product of secondary importance. If this be true, the leverage of monetary policy upon the volume of business investment is more powerful than many recent writers have realized.

QUALITATIVE FACTORS IN THE SUPPLY OF FUNDS AND FINANCING "GAPS"

Apart from the price of funds and the credit standards imposed by suppliers, the available supply of investable funds is defined, from the point of view of businesses using funds, by the types of financing contracts that suppliers are ready to enter into, *the interest rate and credit standards being given.* Financial institutions and other suppliers may materially affect the volume of business investment by their willingness, or unwillingness, to enter into types of financing contracts that meet the demands of business firms. Reference is made here to such qualitative features of financing contracts as term to maturity, collateral security required, repayment schedule, limits on current ratio, limits on dividends and salaries, etc. (An equity contract may be thought of in the present context as a loan by the stockholder in perpetuity, with no fixed or contingent claim for interest.)

Business financing contracts, whether for debt or equity funds, are far from being a homogeneous "product," in the mind either of the supplier or of the user. There is a high degree of "product differentiation" in financial markets. Even though the availability of funds to businesses may be adequate—or even redundant—on certain types of contracts, it may at the same time be seriously deficient on other types. Thus it avails a business little if commercial banks stand ready to make a practically unlimited amount of six-month loans secured by marketable securities, if the firm requires a five-year term loan secured by equipment, repayable from the anticipated profits to be realized by its installation. The volume of business financing depends, therefore, upon achieving *balance* in the supply of different

financial "products" in markets where variations between "products" are numerous. It depends also upon the ingenuity and skill of suppliers in devising financing contracts that meet the demand found in the market.

Qualitative factors in the available supply of funds have received comparatively little attention in economic literature. Such analysis as has been given has been treated under the caption "financing gaps." While further investigation is required to establish their existence, at least three kinds of financing gaps have frequently been said to exist at certain times. First, an *equity capital gap* is said to be indicated by the relatively high earnings/price ratios of equity shares of stock in business corporations, in comparison with their loan rates or bond yields. As a result, firms are reluctant to engage in equity financing; as their debt/equity ratios approach the limits of financial prudence, asset expansion cannot continue, because the firms choose not to use equity funds (at current high costs) and will not incur higher risk by increasing their borrowings. (Empirical support of these propositions has not been provided.) The existence of such a gap, as is pointed out later, would reduce the average volume of investment, but would tend to make the amount of investment more regular through time than it would otherwise be.

Second, a *small-firm financing gap* is alleged to exist. This gap is said to lie in the high costs of debt, as well as equity, financing for small businesses in comparison with the costs of funds to larger enterprises. Expenses of flotation and risks of small stock issues are high for the small firm. Potential purchasers desire the prospects of large returns and usually a measure of control over the firm, because of the large uncertainties. Owners of small firms are typically reluctant to share control. Long-term credit is also restricted to the small firm because of its high mortality rate, while short-term credit does not meet its needs for permanent working capital or fixed assets.

Third, a *venture capital gap* has been said to exist, because enough funds to finance new firms (large as well as small), new products, new areas, and new technologies have not been available. It has been generally recognized that the increased progressivity of the tax structure, the changed distribution of income, and the increasing institutionalization of savings have all adversely affected the supply of funds to risky ventures. It is not clear to what extent rational changes in the policies of existing fund-supplying institutions or what new types of financial institutions would serve to close this gap.

Financing gaps unquestionably have an adverse effect upon the average level of investment activity. Whether they dampen or enlarge cyclical fluctuations in business investment appears to depend upon whether they change through the business cycle. Further consideration is given to this question in treating the financial policies of fund-supplying institutions.

The Demand for Funds, Business Financial Policy, and the Regularity of Investment

Whereas macroeconomic theory, in dealing with the role of financing in general business fluctuations, focuses attention upon the *supply* of investable funds, analysis of the *demand* for funds by business enterprises generally appears in writings on the behavior of business firms. Fluctuations in realized business investment are, of course, a product of fluctuations in demand as well as of variations in supply. Hence it is useful to observe factors that influence business demand for financing.

THE DEMAND FOR FUNDS BY THE FIRM

Theoretically, the investment plan of the firm may be formulated prior to, and independently of, its plan for financing a particular project. Conceptually, the choice by management of a plan for financing new investment—the set of decisions on the use of internal versus external funds, and of equity versus debt or long-term versus short-term debt—is guided by a different set of factors than is its investment plan per se.[25] But in view of the "lumpiness" of investment goods, and the numerous imperfections in the markets for investment goods and for funds, the practical alternatives for business policy usually are a limited number of combinations of investment plans with attached plans for financing, from among which a choice must be made. In practice, it is difficult to separate investment decisions from financing decisions because the two types of decisions are usually made concurrently. Capital budgeting and financial planning are interrelated operations. Since the essence of financial policy formation is planning, financial administration must be, and is in practice, closely geared to investment planning. Con-

[25] See F. and V. Lutz, *The Theory of Investment of the Firm*, Princeton University Press, 1951, chaps. 14-17, for a treatment of the theory of investment financing. For an extension of the theory, see also Neil H. Jacoby and J. Fred Weston, "Factors Influencing Managerial Decisions in Determining Forms of Business Financing: An Exploratory Study," *Conference on Research in Business Finance*, National Bureau of Economic Research, 1952.

sequently, a search for means of stabilizing business investment cannot avoid an examination of the entire process of investment planning and financial decision making in the individual firm.

In economic theory, the investment plan of the firm is generally considered to be guided by the wish to lift the present value of the future stream of expected gross revenues above the present value of the future stream of expected costs, both being discounted at the market rate of interest.[26] The optimum investment plan is reached when an additional unit of investment, of whatever type, makes a zero or negative addition to the profit prospects of the firm. This general theoretical statement does not, of course, identify the specific factors that influence the business decision makers to invest, and thereby to increase the demand for funds, internal or external. Economists have pointed to a large number of such factors that affect relatively short-term investments, including current change in the output of finished goods, percentage of productive capacity currently being utilized, costs of additional capital goods, recently realized profits, expected profits, degree of uncertainty about the future, current and prospective liquidity of the firm, the interest rate, and availability of particular types of financing contracts. Motives for investment that affect the long-run competitive position of the firm include the objective of reducing costs, product improvements, the improvement of production processes, and matching the competitive actions of rivals.

Although the acceleration coefficient, along with the multiplier, is accorded a pivotal role in recent business cycle theories,[27] considerable reservation toward it has also been recorded. For example, Gordon, citing the studies of Kuznets and Tinbergen, has observed that business investment decisions depend upon a good deal more than the amount of current change in the output of finished goods—which is the conclusion of the acceleration principle. The ratio of capital equipment to physical output, or of inventories to sales, does not remain constant through time in any firm. Even when the "excess capacity" of a firm has been eliminated after a cyclical rise, the firm will not add to its productive capacity, if it lacks confidence in the

[26] F. and V. Lutz, *op.cit.*, especially p. 16. When uncertainty is taken into consideration, selection of the investment plan is influenced by the degree of aversion to risk (*ibid.*, pp. 188-192), following the indifference analysis between expected values and associated dispersion presented by O. Lange, "A Note on Innovations," *Review of Economic Statistics*, vol. 25, 1943, pp. 19-25.

[27] R. F. Harrod, *Towards a Dynamic Economics*, London: Macmillan, 1948; J. R. Hicks, *A Contribution to the Theory of the Trade Cycle*, Oxford: Clarendon Press, 1950.

continuance of higher demand, or if it has difficulty in raising additional funds of the type it demands. "Increases in capacity depend more on anticipations about future output than they do on currently observed changes in demand."[28]

In their recent study of the relationship between planned and realized business investment programs, Friend and Bronfenbrenner offer the following succinct summary of factors affecting business investment programs: "Investment programs are affected not only by factors determining a firm's demand for capital goods but also by those determining the supply of such goods. On the demand side, investment decisions are largely a reflection of discounted profit opportunities, with due regard for the uncertainty with which those expectations are held, and due allowance for the expected cost of financing. At times, of course, funds may not be available on virtually any terms. The expected rates of return on investment, which in turn reflects estimated fixed and variable costs, is a function of many different variables, including the level of and the rate of change in sales, orders, utilization of capacity, prices, and costs, and technological and institutional development. It is affected by, though not completely determined by, past experience. An investment decision in response to a given expected rate of return and cost of financing may further depend upon the financial condition of a business, including its liquidity and debt-equity position. It will also be influenced by other non-economic as well as economic characteristics of the firm and period, of which the most important are those affecting the degree of confidence or certainty which is placed on the appraisal of prospects."[29]

It was found by Chawner that there was a closer similarity between annual movements in the total capital expenditures of American manufacturing firms and their total net profits between 1915 and 1940 than there was between capital expenditures and any other related factor for which data were available.[30] Changes in interest rates or in factory building costs did not bear a simple or direct relation to changes in the volume of investment outlays. This appears to suggest the dominance of recently realized profits as a determinant of business investment. The high correlation between the two series may reflect either or both of these facts: high realized profits

[28] Gordon, *op.cit.*, pp. 54-56, 66-67.

[29] Irwin Friend and Jean Bronfenbrenner, "Business Investment Programs and Their Realization," *Survey of Current Business*, December 1, 1950, p. 12.

[30] Lowell J. Chawner, "Capital Expenditures for Manufacturing Plant and Equipment," *Survey of Current Business*, March 1941, p. 13.

provided *means of financing* high investment outlays, or high realized profits were taken as *evidence of favorable future profit prospects* by business managements. Conversely, of course, large investment will usually result in high levels of profits. Chawner's general conclusions were that capital outlays in given manufacturing industries were determined in varying proportions by one or more of the following influences: relative importance of capital facilities (versus other factors of production); technological changes in products and methods of manufacture; rate of output relative to available productive capacity; profitability of operations; costs and availability of capital goods; expectations of the entrepreneurs; and governmental tax, regulatory, and other policies.

The foregoing brief résumé demonstrates that neither a priori reasoning nor analysis of statistical aggregates has succeeded in identifying and arranging in the order of their importance the numerous factors that influence investment-financing decisions by the firm. Recent studies of the internal processes of capital formation by firms are therefore next examined.

THE PROCESS OF INVESTMENT PLANNING AND FINANCIAL DECISION MAKING IN THE FIRM

In the face of multivalued expectations, uncertainty, "lumpy" investment goods, and numerous imperfections of the markets both for capital goods and for funds, business investment and financing policies are a combination of rational calculations, rules of thumb, and exercises of "judgment." Gort examined the planning of investment in plant and equipment by twenty-five large electric utility companies.[81] He found that there was no single "planning horizon" for investment in fixed assets, "but rather a series of successive points or approximations, each serving a different purpose and characterized by different degrees of clarity." Thus all the large firms maintained very long-term projections of demand for electricity—the dominant factor affecting plant investment decisions. This frequently implied looking ahead more than twenty years, although usually no explicit time dimension was involved. As the future time interval shortened, such tentative plans became more specific, and led to more definite investment decisions. For example, about ten years in advance of planned requirements for electric generating capacity,

[81] Michael Gort, "The Planning of Investment: A Study of Capital Budgeting in the Electric Power Industry," *Journal of Business*, vol. 24, no. 2, April 1951, p. 79; continued in vol. 24, no. 3, July 1951, p. 181.

rights of way and sites were sometimes purchased. At a "horizon" of about five years, plans were further elaborated by preparation of cost estimates and adoption of tentative plans for financing. At a "horizon" typically of three years, a formal construction budget based on engineering studies was adopted. The issuance of orders for construction work and equipment normally occurred at the last feasible moment before the new plant was expected to go into operation, after allowing for the prevailing time required for construction and for delivery of equipment by manufacturers.[32]

Because of their monopoly position and the relatively high predictability of demand and cost, firms in the electric utility industry might be expected to have unusually distant horizons of investment planning and to make infrequent revisions in investment plans. The horizons were comparatively long (though less than might be supposed), but Gort found that investment plans, up to the dates of actual commitments of funds, were quite flexible and were frequently revised. All firms adopted an annual capital budget showing sums approved for expenditure on plant and equipment during the current year, and amounts to be carried over into subsequent years in the case of large projects. During the budget year, additions typically averaged 15-20 per cent of the original budget, and cancellations averaged 30-40 per cent.[33] Apart from changes arising from unanticipated price movements, errors in cost estimates, or alterations in construction schedules, basic changes in investment plans were, at times, a dominant source of divergence of realized from planned investment. The occasions for making these basic changes apparently were alterations in the forecast of secular growth of demand, and unanticipated fluctuations in general business conditions. Even in an industry wherein the possibilities of investment regularization appear to be large, investment plans possessed much inherent instability.

A study of capital formation in a group of thirteen medium and large manufacturing firms in the Minneapolis area found that the processes of investment planning were less systematic, the horizons

[32] Deliveries of generating equipment during 1948 were being made by manufacturers between eight and twenty-eight months after orders were received, depending upon the type of equipment. In periods of high *general* investment activity, this interval rose markedly. If the individual firm would plan to purchase capital goods in periods of slack general investment, it would benefit by a smaller interval between work orders and delivery, apart from savings in cost that would probably be made.

[33] Gort, *op.cit.*, vol. 24, no. 2, April 1951, p. 92, table.

were much shorter, the amount and frequency of revisions in plans were much greater, and the influence of short-term changes in the firm's prospects and financial position was much heavier, than in the large electric utility concerns.[34] Investment plans generally were made for a year ahead; even these plans were not systematically described and controlled. Only half the firms used annual capital budgets, usually broken into a first part, which presented a list of physical plant and equipment projects approved for the current year, and a second part, which provided a plan for financing their acquisition. A significant feature of the financial budget was that projected available *internal funds* were frequently treated as a ceiling for capital outlays; in other cases, depreciation allowances functioned as a ceiling. Capital outlay plans were revised frequently, principally in response to changes in anticipated profits, but sometimes in response to unanticipated investment opportunities. Profits were the key variable to which investment plans were geared, changes in realized profits tending to lead changes in capital outlays, and forecast profits being only slightly adjusted projections of recently realized profits.

The predominant motive behind the acquisition of new equipment was to reduce costs, and most firms cast the computation of cost reduction in the form of a "pay-off period" calculation: How quickly will savings from new installation equal its cost, assuming current rates of output continue? "The pay-off period insisted upon ranges widely for the firms studied—from six months to ten years, with a cluster around one to three years on minor projects and five to seven years on major projects. . . . Uncertainty and fear associated with obsolescence, changing tastes, and depression are the usual bases for demanding short pay-off periods."[35]

Firms with pools of idle funds were predisposed to augment investment, but the availability of internal funds appeared to act as a limiting factor for most firms. "Firms that need not worry about working capital and adequate internal sources in the form of profits also have easiest access to outside capital. Yet their unwillingness to become beholden to creditors, to share control with new stockholders, or to dilute per-share earnings induces them to skim off only the cream—and many profitable plant and equipment projects

[34] See A. Upgren et al., *The Minneapolis Project—A Pilot Study of Local Capital Formation*, School of Business Administration, University of Minnesota, 1951; also Walter W. Heller, "The Anatomy of Investment Decisions," *Harvard Business Review*, vol. 29, no. 2, March 1951, p. 95.

[35] *ibid.*, p. 101.

gather dust on the shelf. On the other hand, companies haunted by working capital shortages cannot generally get outside funds on attractive terms as to share prices, interest rates, length of loans, controls demanded by banks, and so forth. So the cost-saving projects they badly need to keep their competitive heads above water stay on the shelf."[36]

The 1948 survey by the McGraw-Hill Company of the investment plans of large manufacturing and public utility firms for the five-year period 1949-1953 suggested the existence of much longer and more specific investment plans than are indicated by the Gort and Minneapolis studies.[37] Yet this impression is probably illusory, because the survey embraced only very large firms in industries where capital investment per worker was highest, plans were explicitly predicated upon an assumption that "a high level of prosperity continues," and these plans probably had a high degree of tentativeness. What factors were found to influence the long-range investment plans of these firms?

Three out of four firms applied the rule that new equipment should "pay for itself" in five years or less. When the rationale of this standard was requested, "The answer given by many companies is that they can spend all the money they have within these limits." This suggests that the amount of internal funds available was the real constraint, instead of the amount of annual reduction in costs effected with new equipment. Nevertheless, half of the manufacturing companies reported that they were operating at 90 per cent of their capacity or better, but most of them desired additional capacity that would permit an operating ratio 5 to 10 per cent lower—which presumably reflected the influence of current output and the current supply of investment goods on investment plans.

Three quarters of the firms planned to use internal funds alone to finance their planned capital outlays. Only 15 per cent of them planned to borrow, and 9 per cent to issue new shares of stock. Yet 20 per cent of the firms expressed a desire to sell stock and only 4 per cent to borrow—evidence of a certain hiatus in the capital

[36] *ibid.*, pp. 101-102.

[37] See *Business' Needs for New Plants and Equipment, 1949-55*, McGraw-Hill, 1949. The survey covered investment plans of the largest firms in the steel, chemical, petroleum-refining, machinery, electrical equipment, auto, transportation equipment, and food-manufacturing industries, plus railroads, electric and gas utilities, transportation and communication, and mining firms. Jointly, the firms employed five million workers and accounted for about three fourths of the capital outlays of all American manufacturing industry. See p. 12.

markets. Almost two thirds of the firms reported they would increase planned capital expenditures, if a more liberal depreciation allowance were made for income tax purposes.

These surveys of capital formation processes indicate that business policy makers tend to modify and limit their investment decisions by certain self-imposed rules of financing, which may be thought of as constraints on policy from the standpoint of economic theory. The principal constraints are:

1. An aversion to external, and a preference for internal, financing of investment.

2. An aversion to borrowing, and a preference for equity financing of investment.

3. An insistence upon a short "pay-off" period for new capital goods, that is, a marginal rate of return upon *new* goods that is probably higher than that being realized upon the firm's *present* capital goods.

These studies reveal some major sources of instability in the investment plans of American business firms. They indicate two focal points of change in the processes and in the factors influencing business investment decisions that might lead toward greater regularization of realized investment: revisions in the planning process and in evaluation of factors influencing plans, and revisions in the self-imposed financial constraints within which business policy makers appear to operate.

MEASURES FOR REGULARIZING THE INVESTMENT PLANS OF THE FIRM

The horizon of investment planning by a firm, for any given degree of specificity, appears to be determined mainly by the firm's size, the composition of its assets, the economic characteristics of its industry, the "dynamism" of the environment in which it operates, and the set of expectations of its owners and managers, including their risk-preference functions. What may be termed the "optimum" horizon of investment planning will range widely, being long for a large public utility firm such as the American Telephone and Telegraph Company, and quite short for a small firm such as a retail gasoline station. In a dynamic economy, where competition is vigorous, every firm confronts large uncertainties about the nature of technological change, shifts of population, and fluidity of consumer tastes and preferences, and their impacts on revenues, costs, and profits. These "inherent" uncertainties shorten the "optimum" planning horizon, but they cannot be reduced without sacrifice of economic progress

and consumer welfare. In any event, for the great majority of small firms with (necessarily) short planning horizons, these uncertainties probably produce investment decisions to expand or contract plant, equipment, and inventories that in large measure cancel out in the aggregate. The opportunities for lengthening horizons are clearly largest for medium and large firms. The hypothesis advanced here is that the "optimum" horizon is typically longer than the actual planning horizon used by the medium and large firm. How, then, may owners and managers of substantial businesses be induced to move toward the "optimum" horizon?

One measure to promote longer and more stable investment planning would be wider use within firms of systematic forms and procedures for projecting demand for, and costs, profits, and related requirements of, capital goods, and long-term studies of these factors. The mere task of "thinking through" alternative long-range courses of action, and committing to paper all of the investment implications of whatever course is decided upon, can hardly avoid producing a stabilizing effect. Studies of profits realized on various assets through good times and bad would be likely to produce a shift in emphasis away from recently realized profits toward long-term expected profits as a criterion of investment outlay. The comparative infrequency of long-term plans of operation among firms of substantial size indicates a wide scope for improvement in investment-planning procedures.

More important, however, are measures to reduce the feelings of uncertainty about the future that appear to weigh heavily in the minds of business policy makers. We have reference here, not to what have been termed the "inherent" uncertainties of competition in a dynamic economy, but to uncertainty about the adequacy of aggregate demand and the recurrence of deep depression, and uncertainty about changes in the taxation, investment, and regulatory policies of government. This calls for a reduction in both the magnitude of the uncertainties and also in the *estimates* of those magnitudes by business policy makers. While governmental policies cannot be expected to become fully predictable in an unstable world, general acceptance of long-term goals for fiscal and monetary policy and business regulation would reduce the vacillation of business managements. It also appears probable that business managers currently exaggerate the probability of recurrence of prolonged depression. If so, education in the nature of recently developed stabilization devices would promote more regular investment decisions.

INTERNAL FINANCIAL CONSTRAINTS AND INVESTMENT REGULARIZATION

It is evident that the financial constraints mentioned above tend to reduce the aggregate amount of business investment or its average level through a business cycle. By narrowing the range of acceptable financing plans, they must inhibit investments that would otherwise be made by some firms at some times, without producing an offsetting expansion in the amount of investment made by these or other firms at other times. Whether or not they operate to amplify cyclical fluctuations in aggregate business investment is another question, which calls for a consideration of their separate effects through the different phases of the cycle.

A general propensity toward internal financing by businesses will, per se, exercise a stabilizing influence on investment. This is so because firms would engage in further investment during expansions if they were willing to utilize external financing to a greater extent. Although the absolute amount of internal funds is largest during prosperity, the amount of investment that would take place would be even greater if external funds were used to an increased degree. In contrast, during contractions internal funds are more than ample to finance the net investment that actually does take place. Reliance upon internal funds alone therefore would reduce the amount of investment during periods of prosperity and augment it during periods of depression. Theoretically the limiting case would be one in which business firms relied exclusively upon internal financing and steadily committed the internal funds available to operating assets. On these assumptions, business investment would have been considerably more regular through business cycles than it has been.

A consistent propensity of business firms to finance investment by issuing equity shares and avoiding debt *does* tend to produce cyclical instability in investment. This is true because the terms of sale of new equity shares are relatively better than the terms of loans during periods of prosperity, and they are relatively worse during periods of depression. The cyclical patterns of business loan (in particular, long-term) rates and of stock prices and stock yields support this proposition. One must conclude that this propensity tends to augment the volume of stock offerings, the inflow of funds, and the amount of investment undertaken by businesses during the boom, and to produce the reverse effects during the slump, in comparison with a situation in which business policy makers were "rationally" neutral toward both debt and equity financing at all times.[38]

[38] See Hickman, *op.cit.*, pp. 16-25.

Much evidence has accumulated in support of the proposition that there is a strong managerial aversion to debt. The ratios of debt to total assets for broad samples of manufacturing and trade corporations are presented for the interwar period in table 1 and chart 1; table 2 presents similar data for the post-World War II era. Three salient characteristics stand out. First, the ratio of debt to total assets has been relatively stable throughout the period, notwithstanding a remarkable decline in the price of credit relative to the price of

TABLE 1

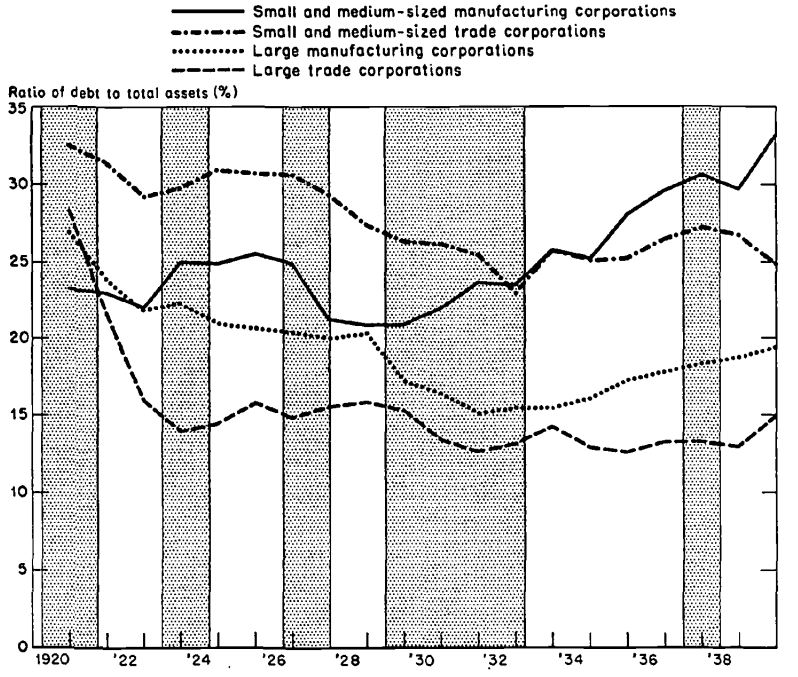
RATIO OF DEBT TO TOTAL ASSETS, SAMPLES OF MANUFACTURING AND TRADE CORPORATIONS, BUSINESS CYCLE PEAKS AND TROUGHS
1916-1939
(end-of-year data)

	Business cycle peak or trough[a]	*Large manufacturing corporations*	*Large trade corporations*	*Small and medium-size manufacturing corporations*	*Small and medium-size trade corporations*
1916				19.3	23.5
1917				22.0	28.4
1918	3Q			20.4	29.4
1919	2Q			22.2	29.5
1920	1Q	26.9	28.3	23.3	32.5
1921	3Q	23.9	21.5	23.0	31.4
1922		21.8	15.9	22.0	29.2
1923	2Q	22.3	13.9	25.0	29.7
1924	3Q	20.9	14.4	24.9	30.9
1925		20.6	15.7	25.5	30.7
1926	3Q	20.4	14.8	24.9	30.6
1927	4Q	20.0	15.5	21.2	29.3
1928		20.3	15.8	20.8	27.3
1929	2Q	17.2	15.2	20.8	26.3
1930		16.4	13.4	22.0	26.2
1931		15.1	12.6	23.7	25.5
1932		15.4	13.1	23.5	23.0
1933	1Q	15.4	14.2	25.8	25.8
1934		16.0	12.9	25.2	25.1
1935		17.2	12.6	28.1	25.2
1936		17.7	13.2	29.6	26.5
1937	2Q	18.3	13.2	30.6	27.2
1938	2Q	18.7	12.9	29.7	26.7
1939		19.4	14.9	33.2	24.9

[a] From National Bureau of Economic Research reference cycle chronology.
Source: NBER *Corporate Financial Data for Studies in Business Finance*, 1945, mimeographed.

Chart 1

Ratio of Debt to Total Assets
Samples of Manufacturing and Trade Corporations
Related to Business Expansions and Contractions,* 1920-1939



Source: National Bureau of Economic Research, *Corporate Financial Data for Studies in Finance* (Mimeographed, 1945).

* Shaded periods are business contractions, based on NBER reference cycles.

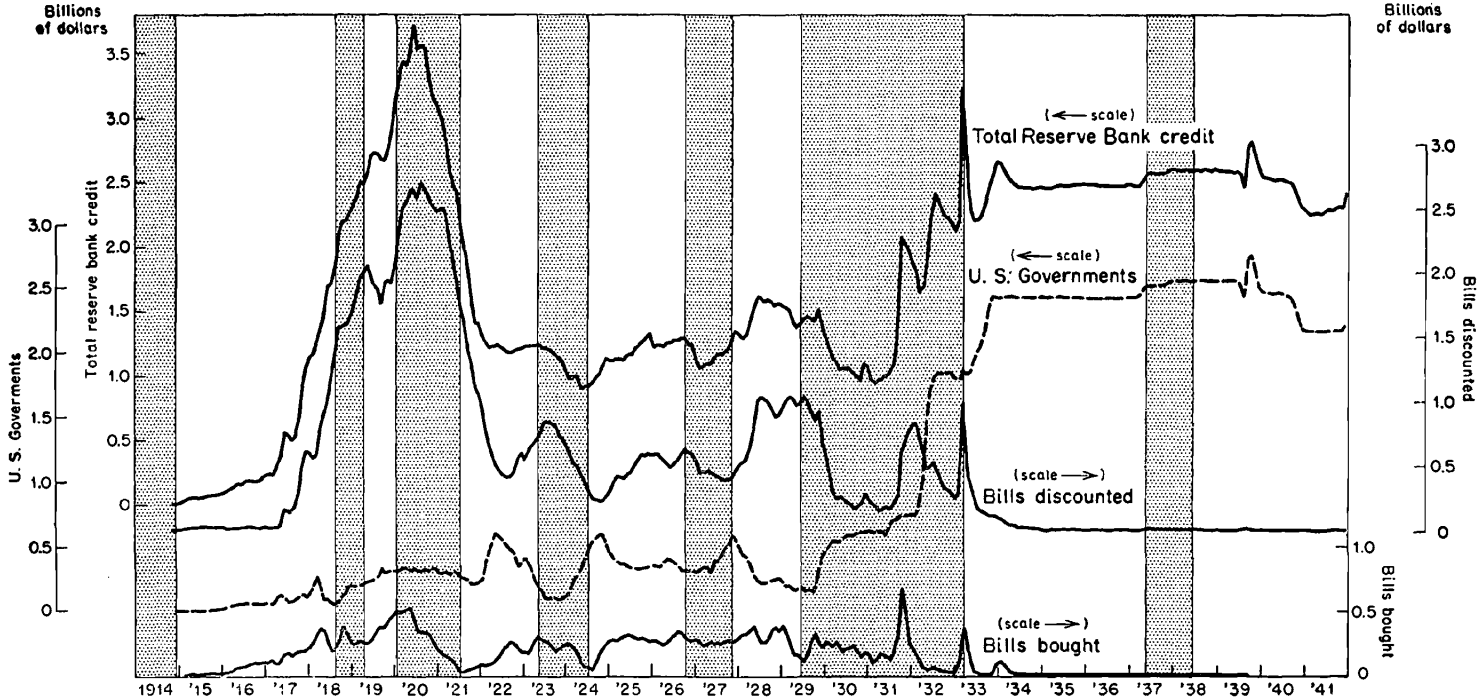
equity funds. Second, the debt ratio was relatively smaller for the larger businesses. Third, firms have often reduced their debt ratios during periods of cyclical expansion.[39] In addition, Chudson's analysis shows that the ratios of all categories of debt to total assets are lower for profitable than for unprofitable firms.[40] It follows from these relationships that industrial firms have discounted heavily increments of net income secured by trading on the equity. Incurring

[39] We have also analyzed the separate behavior of the current liability items and of the long-term debt component of the total debt figures presented in table 2. It was found that the current liability items rise in expansions and decline in contractions. Long-term debt, on the other hand, characteristically declines during expansions and rises during contractions.

[40] W. A. Chudson, *The Pattern of Corporate Financial Structure*, National Bureau of Economic Research, 1945, p. 8.

Chart 2

Volume of Reserve Bank Credit Related to Business Expansions and Contractions,* 1914-1941



Source: Board of Governors of the Federal Reserve System.
Data were seasonally adjusted, where required, by National Bureau of Economic Research.

* Shaded periods are business contractions, based on NBER reference cycles.

debt appears to have been less an act of positive policy than a course of action forced by lack of alternatives.[41]

TABLE 2-A
RATIO OF LIABILITY ITEMS TO TOTAL LIABILITIES
ALL MANUFACTURING CORPORATIONS
SELECTED YEARS, 1945-1951

	December 31, 1945	*December 31, 1948*	*June 30, 1950*	*June 30, 1951*
Current debt	22.5	21.3	18.5	24.5
Long-term debt	7.0	9.7	9.8	9.2
Total debt	29.5	31.0	28.3	33.7
Capital, reserves, and surplus	70.5	69.0	71.7	66.3
Total liabilities	100.0	100.0	100.0	100.0

Source: National City Bank of N.Y., *Monthly Letter on Economic Conditions, Government Finance*, December 1951, p. 142.

TABLE 2-B
RATIO OF LIABILITY ITEMS TO TOTAL LIABILITIES
ALL NONFINANCIAL CORPORATIONS, 1945-1950
(end-of-year data; dollar amounts in billions)

	1945	*1946*	*1947*	*1948*	*1949*	*1950*
Total debt	$128.5	137.6	150.0	158.5	156.5	173.4
Per cent of total liabilities	48.9	49.0	49.0	48.3	46.5	47.1
Total equity funds	$134.5	143.5	156.2	169.9	180.1	194.7
Per cent of total liabilities	51.1	51.0	51.0	51.7	53.5	52.9
Total liabilities	$263.0	281.1	306.2	348.4	336.6	368.1

Source: Dept. of Commerce, *Statistics of Income* and *Survey of Current Business*.

[41] Hickman observes that bond financing tends to decrease during expansions and to increase during contractions. He observes further that costs of bond financing relative to common stock financing are higher in expansions and lower in contractions. Thus comparative costs do provide a rational basis for this shifting. *op.cit.*, pp. 16-20. But this practice may also be reinforced by the desire to reduce debt when the firm is able to during expansions, and the increase in debt during contractions may also be influenced by the lack of available alternatives.

Further evidence of aversion to debt is provided by a study of the financing of a group of medium-size and large manufacturing enterprises during 1927-1951 by Loughlin F. McHugh and Leonard G. Rosenberg, "Financial Experience of Large and Medium-Size Manufacturing Firms, 1927-1951," in Dept. of Commerce, *Survey of Current Business*, November 1952, p. 12. One half of the firms had negligible or no indebtedness on long term throughout both the prewar and postwar periods. Those firms that were moderately indebted declined from 16 per cent of the group in the late twenties to 8 per cent of the group in 1951.

If the propensity for equity financing is the most important type of financial constraint operating to destabilize business investment, what measures would serve to bring about a "rational" attitude by business managers toward debt financing? Federal tax policy already provides a powerful incentive for debt financing, by treating interest paid on loans as a deductible expense in calculating taxable corporate income, but not permitting the deduction of preferred or common stock dividends as expenses.

It is possible that this anomaly in tax policy has already gone some distance toward overcoming the aversion to debt financing. Prospects of continuous secular inflation would also provide inducement for increasing debt. But the most hopeful lines of action to eliminate unwarranted aversion to borrowing are the adoption of measures to reduce the risks of borrowing and to reduce the appraisal of those risks in the minds of business managers. The appropriate measures are like those prescribed for lengthening and stabilizing investment plans, namely: cultivation by government of expectations of general economic stability in the future; more general use of long-range forecasting and planning procedures in business, including studies of past profit trends; and education of businessmen in the real magnitude of the risks and concurrent rewards in taking a debtor position. Much of the aversion to borrowing springs from apprehensions of prolonged depression in the future. If the probability of long depressions in the future were thought to be less, this aversion might be reduced.

The insistence of business firms upon an "irrationally" high rate of return on newly acquired capital assets would also amplify cyclical fluctuations in aggregate business investment, *if* it may be assumed that this propensity is itself stable through the business cycle—an assumption that cannot be verified with data at hand. The reason is that the "pay-off" standard for new equipment will probably not be met until cyclical expansion has proceeded to the point where operating rates, profits, and business anticipations are high. Conversely, a diminishing number of cases will meet the standard as business declines into depression, and operating rates, profits, and anticipations become more pessimistic. The application of any standard *consistently* through the business cycle would therefore tend to augment investment when it is highest, and to diminish it when it is lowest. During a slump, however, businessmen probably become more "cost conscious" and may relax such standards to produce less instability than would otherwise occur. But they may

also apply a greater discount factor to expected returns and thus more than offset the tendency to lengthen the required pay-out period. The remedy once again lies in improving the general tenor of expectations.

Availability of Internal Funds and Investment Regularization

ROLE OF INTERNAL FUNDS IN FINANCING BUSINESS INVESTMENT

Economic theorists have recognized the importance of the availability of internal funds for the volume of business investment. Kalecki puts great emphasis upon the role of business savings as a link between the level of income and the amount of investment in his recent theory of business cycles.[42] He argues that the level of corporate saving is correlated with the level of consumer income: a high level of corporate saving "stimulates investment because it makes it possible to undertake investment without increasing indebtedness." Availability of internal funds influences the rate of investment through its effect upon corporate liquidity. As Katona has observed, an investment decision is equivalent to a decision to reduce liquidity.[43] For investment to occur, the liquidity of the firm must either be high already, or else its prospective flow of cash must be favorable to increased liquidity. Terborgh and Dean have noted that many firms make only such investment as may be financed by internal funds available[44]—a finding corroborated by the Minneapolis study, previously cited.

The thesis has been advanced that the proportion of business investment financed internally has risen greatly during recent years, to the point where contemporary businesses—at least, large firms—have become "independent" of external sources of funds. This extreme view does not hold up under analysis. Studies of the relationship between annual expansion in total assets, retained earnings, and external funds acquired during the years 1915-1940 by samples of businesses of different sizes have been made. They reveal, first, that the ratio of earnings retained during a given year to total assets at the beginning of the year changed very little over the twenty-five-year period; second, that the ratio of expansion in total assets during

[42] M. Kalecki, "A New Approach to the Problem of Business Cycles," *Review of Economic Studies*, vol. 16, 1949-1950, p. 61.

[43] George Katona, *Psychological Analysis of Economic Behavior*, McGraw-Hill, 1951, p. 249.

[44] George Terborgh, *Dynamic Equipment Policy*, McGraw-Hill, 1949, pp. 228-229, and Joel Dean, *Capital Budgeting*, Columbia University Press, 1951, pp. 53-55.

a given year to total assets at the beginning of that year was much more variable than the rate of earnings retained; third, that changes in the degree of dependence upon external funds were more nearly determined by changes in the rate of asset expansion than by changes in the propensity to retain earnings. For years in which rates of asset expansion were comparable, there was no observable tendency for the proportion of funds provided internally to increase.[45]

Nevertheless, the uses of internal funds are crucial for investment regularization, both because they finance a large proportion of business asset expansion and because they are under the control of business managements to a considerably larger degree than are external funds. What has been the cyclical behavior of retained earnings in relation to the timing of asset expansion? Have internal funds limited investment during periods of cyclical depression? If business firms in the aggregate had sought to regularize investment, would internal funds have been sufficient to finance such a program? How would alternative dividend policies have affected their ability to do so?

THE CYCLICAL PATTERN OF NET PHYSICAL ASSET EXPANSION AND RETAINED INCOME

A summary of cyclical variations in net physical asset expansion, retained income, and external financing for three groups of manufacturing corporations over the nineteen-year period 1923-1941 is presented in table 3. The broadest category of firms—"All Manufacturing and Mining Corporations"—exapnded their net physical assets by $13.6 billion during five periods of cyclical expansion. They disinvested to the extent of $9.8 billion during four periods of cyclical contraction. Retained earnings equaled more than half of their net investment during upswings. During downswings, a very large proportion of net disinvestment was associated with negative retained income (i.e., dividend payments exceeded current earnings). Negative external financing (i.e., repayments of funds) equal to

[45] N. H. Jacoby and R. J. Saulnier, *Business Finance and Banking*, National Bureau of Economic Research, 1947, pp. 93, 208. While external financing by large manufacturing corporations was negative for the period 1923-1941 as a whole (see following pages of present study), this resulted mainly from the large absolute amounts of *negative* external financing ($600 million) during the expansions of 1928-1929 and 1939-1941. On the other hand, positive external financing of large manufacturing corporations during the upswing of 1933-1937 amounted to $736 million. For further analysis along these lines, see S. P. Dobrovolsky, *Corporate Income Retention, 1915-43*, National Bureau of Economic Research, 1951, pp. 64-81.

TABLE 3

CYCLICAL VARIATIONS IN CORPORATE INVESTMENT AND FINANCING
1919-1943

	Net physical investment			*Retained income*			*External financing*[c]		
	Expansion periods[a]	*Contraction periods*[b]	*Total period*	*Expansion periods*	*Contraction periods*	*Total period*	*Expansion periods*	*Contraction periods*	*Total period*
All manufacturing and mining corporations, 1923-1941 (millions)	$13,635	$—9,755	$3,880	$ 7,085	$—8,746	$—1,661	$6,550	$—1,009	$5,541
NBER sample of *large* manufacturing corporations, 1922-1943 (millions)	3,909	—826	3,083	4,630	—67	4,563	—721	—759	—1,480
NBER sample of *small and medium-size* manufacturing corporations, 1919-1943 (thousands)	7,339	—2,163	5,176	12,457	—5,085	7,372	—5,118	2,922	—2,196

[a] Peak years are included in expansion periods.
[b] Trough years are included in contraction periods.
[c] Net external financing = net physical asset expansion — retained income.
Source: S. P. Dobrovolsky, *Corporate Income Retention*, 1915-43, National Bureau of Economic Research, 1951, computed from tables 4, 5, 6.

more than 10 per cent of disinvestment during downswings took place. Over the whole period 1923-1941, net investment of about $4 billion took place, and external financing of $5.5 billion was used, demonstrating that external funds not only equaled all net investment but, in addition, provided funds for negative retained income of more than $1.5 billion.

Dobrovolsky's data reflect aggregate and not specific corporate experience. The relationships are somewhat altered when the experiences of the net-income and no-net-income corporations are distinguished. Our study of the 1926-1941 period for all manufacturing corporations revealed that dividends in relation to total assets averaged 5 per cent for net-income corporations, but only 1 per cent for no-net-income corporations. While the dividend pay-out ratio of net-income corporations was higher during contractions (85 per cent of net income) than during expansions (68 per cent of net income), the pay-out per cent exceeded 100 in 1932 only (105 per cent). It is the dividend payments of the deficit corporations during contractions that make it appear that, for the corporate system as a whole, dividends have been paid in excess of earnings.[46]

The data present a familiar pattern. Net expansion of business assets occurs during upswings; net disinvestment during downswings. Retained earnings make a substantial contribution to investment financing during upswings; while disinvestment makes possible dividend payments by conversion of assets into cash during downswings.

The pattern differs, however, when we compare large with small corporations. For *large* firms, retained earnings equaled not merely a portion of their net expansion of assets during upswings, but more than 100 per cent of that expansion. During contractions, they disinvested relatively little, and retained relatively little income. Their external financing in the aggregate was negative over the whole period. *Small* manufacturing firms, in the aggregate, also retained income during cyclical upswings equal to much more than 100 per cent of their net physical asset expansion; but during contraction periods their *negative* retained income was about 250 per cent of their disinvestment. During periods of expansion, the smaller firms were able to reduce external funds in use by an amount that was five sevenths of the expansion of their net physical assets; during downswings they found it necessary to resort to external financing

[46] We are indebted to Daniel Holland and Thor Hultgren for suggesting that this further analysis be set forth explicitly.

to the extent of about 150 per cent of the contraction in their net physical assets. Over the entire period 1919-1943, small and medium-size manufacturing firms engaged in a small negative amount of external financing, of about two fifths of their net physical asset expansion. (See table 3.)

The data in table 3 present an over-all conspectus of the relation between net physical investment and the relative use of internal versus external financing. Some special characteristics of the table may be observed. There are an unequal number of expansion and contraction years in the analysis. Peaks are included in expansions and troughs are included in contractions. No explicit recognition is made of the greatly different characteristics of the period of the twenties as contrasted with the thirties. A more detailed analysis therefore was made of the data and different arrangements of the data were effected, but the story conveyed by the table was not thereby altered.

One aspect, however, that the table does fail to bring out is the relation between the rate of asset expansion and the degree of dependence on internal financing. In years in which asset expansion was moderate, internal financing covered more than 100 per cent of the investment. At high rates of asset growth, internal funds fall short of financing the full amount of expansion.[47] When the asset change is negative, retained earnings are characteristically negative. (This latter point is also shown by table 3.)

Two important issues are raised by these patterns of behavior. First, what is the influence of corporate dividend policies upon fluctuations in effective demand and (via the accelerator principle) upon induced investment? Second, are internal funds adequate to finance regular business investment?

Corporate dividend policies have been characterized, alternatively, as aggravating and as mitigating fluctuations in effective demand. It is beyond the scope of this inquiry to review the opposing arguments, but the issue is relevant because dividend policy obviously may affect the regularity of investment. The influence of dividend policies upon fluctuations in aggregate demand depends upon two relationships: the nature of cyclical variations in corporate propensities to spend compared with the marginal propensities of individuals to consume, given the prevailing income distribution among consumers and the distribution of corporate dividends by income level; and the forms of saving used by corporations com-

[47] Dobrovolsky, *op.cit.*, pp. 86-91.

pared with those used by individuals. When these interrelationships are fully explored, the following conclusions emerge. Whether dividend policy amplifies or dampens the cyclical upswing depends upon a comparison of the marginal propensities to spend of the individuals who receive the retained earnings that would otherwise have been paid out as dividends, with the marginal propensities to spend of the individuals who would be the source of the funds procured through external financing if the funds that would have to be retained had been paid out. The net influence of dividend policy upon the cyclical contraction depends upon the alternatives to disbursing dividends in excess of earnings. If the funds otherwise would be retained as cash balances, obviously the policy of payment in dividends has desirable effects. If the alternative is to use the funds to replace fixed assets or inventories or to finance price reductions, the conclusions are less certain.

From these relationships, one may formulate the "optimum" corporate dividend policy from the point of view of investment regularization. This formulation assumes that there is no problem of secular underinvestment, and that the salient problem is to mitigate cyclical fluctuations by reducing investment and effective demand during periods of high activity and by increasing them during periods of low activity. The "optimum" corporate dividend policy for investment regularization would be to retain a high proportion of earnings during the upswing and to hold them in cash or government securities purchased from the Federal Reserve banks. During periods of contraction, holdings of government securities would be liquidated by sales to the Federal Reserve System, and cash balances would be drawn down to finance investment in plant, equipment, and inventory, and to pay out cash dividends. Thus large profits during upswings would not be utilized to feed effective demand, whereas low profits or losses during downswings would not lead to actions that further reduce effective demand.

Dividend policies of corporations do not, of course, conform to this "optimum" policy. Large retained earnings during upswings are characteristically invested in plant, equipment, and inventory, and idle balances are at a minimum. The marginal propensity of corporations to spend during upswings is probably higher than that of individuals. During downswings, it is true that the dividend pay-out ratio increases, and for corporations in the aggregate, cash dividends in excess of income are paid out. Nevertheless, cash balances are increased by reducing the volume of operations and the investment in

all other assets of the firm. Receivables, inventories, and fixed assets are not fully replaced and are partially converted into cash through sales of finished products. (They are only partially converted into cash if sales are made at prices that do not cover full unit costs.) Thus the disbursement of cash in excess of retained income during downswings follows from contraction of assets and, in smaller corporations, is associated with some external financing. In such periods, it is likely that the marginal propensity of corporations to spend is lower than that of individuals. While the characteristic patterns of disbursement of cash dividends in excess of profits is per se a stabilizing influence, the disinvestment of assets and the accumulation of idle balances are undoubtedly *destabilizing* influences of much greater magnitude.

It was observed previously that a firm's preference for internal financing tends to stabilize investment by restraining the rate of asset expansion during upswings. But the effect of such a predilection during downswings is less certain. On the one hand, the rate of asset expansion at such times is small or negative, so that internal sources can finance the investment taking place. On the other hand, negative external financing occurs during contraction periods, which probably reflects a preference for reducing external obligations rather than engaging in additional investment. Hence the aversion to external financing may aggravate the deficiency of investment during the contraction periods. The crucial problem is *how to induce business managements to increase, or at least not to diminish, investment during contractions.* Assuming that such inducements can be found (a matter dealt with by other papers), would internal sources suffice to provide funds for a substantial amount of additional investment?

AVAILABILITY OF LIQUID BALANCES DURING PERIODS OF LOW INVESTMENT ACTIVITY

Empirical data demonstrate conclusively that idle cash balances held by corporations have risen during contraction periods.[48] Yet it is well known that such balances increase during downswings mainly as a consequence of a rise in the precautionary motive for holding cash, and of an adverse state of expectations in the economy as a whole. It may be argued that these cash balances would be available for financing increased investment. Yet they would not

[48] See F. A. Lutz, *Corporate Cash Balances, 1914-43*, National Bureau of Economic Research, 1945, pp. 5-8.

have been accumulated in the first place had the state of expectations of the business community been more favorable. It is clear that the altered use of cash balances would have contributed to higher investment during contraction periods, but the question remains whether they could have financed a program of investment regularization.[49]

The relation between the indicated amounts of gross fixed property expenditures required for investment regularization and the free liquid balances available is studied in tables 4, 5, and 6.[50] Table 4 shows this relation for all nonfinancial corporations annually during the period 1926-1944; table 5 reveals it for a sample of eighty-four large manufacturing corporations during the period 1921-1939; table 6 tabulates it for a sample of seventy-three medium-size and small corporations during the period 1917-1939.[51]

For all nonfinancial corporations to have had regularized investment during the years 1931-1932—the years of lowest gross fixed property expenditures—would have required additional investment of approximately $9 billion per annum. Free liquid balances were slightly over $1 billion, with an indicated deficiency, therefore, of about $8 billion per annum. Considerable external financing would therefore have been required to finance investment regularization during these years. The additional investment needed for 1938-1939 would have been approximately the same as that required for 1931-

[49] It is emphasized that free liquid balances represent only a part, not all, of the cash balances of the corporations. Free cash balances were calculated by Lutz by the following procedure. A ratio of cash to payments for the years 1922-1929 was used as a normal ratio of cash for transactions purposes. This ratio was applied to the volume of transactions in individual years to indicate the amount of cash required for transactions purposes. The differences between transactions cash and the total cash balances of corporations are termed *free cash* or *free liquid balances*. See *ibid.*, pp. 40-41.

[50] We have not attempted to calculate the amount of additional total private investment required for full-employment national-income levels, as shown in W. F. Butler, *Business Needs for Venture Capital*, McGraw-Hill, 1949, pp. 11, 13.

[51] The gross fixed property expenditures needed to regularize investment were calculated as follows. Both cyclical and secular considerations were taken into account. The years 1921-1929 were assumed to comprise a period during which investment activity consistent with high employment occurred. Actual gross fixed property expenditures of the firms for these years were averaged and centered on the year 1925. Using an estimate of growth in national income and investment of 4 per cent per annum (see A. H. Hansen, *Business Cycles and National Income, op.cit.*, pp. 479-480), the indicated amount of gross fixed property expenditures required for investment regularization for each year was calculated by multiplying the calculated average centered on 1925 by $(1.04)^t$, where $t = 0$ at 1925. It is significant that the average of the amounts so calculated for the years 1921-1929 approximates closely the average of the actual amounts.

TABLE 4
GROSS FIXED PROPERTY EXPENDITURES AND FREE LIQUID FUNDS
ALL NONFINANCIAL CORPORATIONS, 1926-1944
(billions)

	Actual gross fixed property expenditures (1)	*Amount of gross fixed property expenditures required for investment regularization*[a] (2)	*Indicated additional gross fixed property expenditures required for investment regularization* (3)	*Free liquid balances* (4)	*Deficiency of free liquid funds to finance investment regularization* (5)
1926	$ 8.9	$ 8.1	$—0.8	$1.3	$—2.1
1927	8.2	8.4	0.2	1.3	—1.1
1928	8.7	8.7	...	1.4	—1.4
1929	10.3	9.0	—1.3	1.4	—2.7
1930	4.5	9.4	4.9	1.4	3.5
1931	1.1	9.8	8.7	1.2	7.5
1932	—0.3	10.2	10.5	1.2	9.3
1933	3.4	10.6	7.2	1.1	6.1
1934	3.9	11.0	7.1	1.1	6.0
1935	4.1	11.4	7.3	1.1	6.2
1936	7.4	11.9	4.5	1.2	3.3
1937	8.3	12.4	4.1	1.1	3.0
1938	2.6	12.9	10.3	1.2	9.1
1939	6.2	13.4	7.2	1.3	5.9
1940	8.3	13.9	5.6	1.6	4.0
1941	14.0	14.5	0.5	1.9	—1.4
1942	7.8	15.1	7.3	3.0	4.3
1943	4.8	15.7	10.9	4.2	6.7
1944	4.4	16.3	11.9	4.6	7.3

[a] Actual for 1921-1929, averaged and centered on 1925. 1926-1944 calculated as $7.8 billion $\times (1.04)^t$, where $t = 0$ at 1925.

Sources: Col. 4 for 1926-1941 based on data from F. A. Lutz, *Corporate Cash Balances, 1914-43*, National Bureau of Economic Research, 1945, p. 113; ratio of transactions cash to cash balances of large manufacturing corporations applied to col. 2 data in *ibid.*, p. 113; all other data from Bureau of Internal Revenue, *Statistics of Income.*

1932, with the deficiency of free liquid balances of about the same order of magnitude. Multiplier effects would doubtless reduce the $8 billion estimate, but the deficiency would be likely to remain appreciable.[52]

[52] The use of a fixed annual rate of investment to measure the adequacy of internal funds for financing a policy of regularization of business investment is admittedly somewhat artificial. Since it assumes cycles of the patterns historically experienced, it exaggerates the burden that would be placed upon private investment. Realistically, a policy of regularizing business investment would doubtless center attention on prompt action at the initial stages of the downturn and call for joint government and private countercyclical measures. But since the details of such programs are the province of other papers, it

TABLE 5
GROSS FIXED PROPERTY EXPENDITURES AND FREE LIQUID FUNDS
EIGHTY-FOUR LARGE MANUFACTURING CORPORATIONS
1921-1939
(millions)

	Actual gross fixed property expenditures (1)	*Amount of gross fixed property expenditures required for investment regularization*[a] (2)	*Indicated additional gross fixed property expenditures required for investment regularization* (3)	*Free liquid funds* (4)	*Deficiency of free liquid funds to finance investment regularization* (5)
1921	$ 410.1	$ 594.7	$ 184.6	$ 111	$ 73.6
1922	374.2	618.5	244.3	93	151.3
1923	575.4	643.3	67.9	−86	153.9
1924	504.6	669.1	154.5	41	123.5
1925	635.5	695.9	60.4	−100	160.4
1926	889.8	723.7	−166.1	−109	−57.1
1927	944.0	752.6	−191.4	5	−196.4
1928	793.7	782.7	−11.0	160	−171.0
1929	1,135.4	814.0	−321.4	−54	−267.4
1930	1,037.2	846.6	−190.6	103	−293.6
1931	413.0	880.5	467.5	423	44.5
1932	365.4	915.7	550.3	619	−68.7
1933	306.9	952.3	645.4	592	53.4
1934	482.8	999.4	516.6	389	127.6
1935	584.3	1,030.0	445.7	260	185.7
1936	804.0	1,071.2	267.2	34	233.2
1937	1,204.8	1,114.0	−90.8	−326	235.2
1938	692.3	1,158.6	466.3	105	361.3
1939	659.7	1,204.9	545.2	289	256.2

[a] Actual for 1921-1929, averaged and centered on 1925. 1921-1939 calculated as $695.9 \times (1.04)^t$, where $t = 0$ at 1925.

Sources: Col. 1 from National Bureau of Economic Research, *Corporate Financial Data for Studies in Business Finance, Section A, Large Corporations*, 1945; col. 4 from F. A. Lutz, *Corporate Cash Balances, 1914-43*, NBER, 1945, p. 116.

appeared useful to sketch the general dimensions of this aspect of the problem under assumptions not dependent upon a specific set of altered policies.

Another qualification in the procedure must be to take note of the fact that the free liquid funds are balances outstanding at the end of each year. They do not represent flows for each year. If the free balances were spent on investment in a given year, they presumably could not be spent the following year. Hence the expenditure of liquid balances in a given year undoubtedly would alter the level of liquid balances in subsequent years.

These necessary qualifications in the procedure emphasize that setting out these relationships does not purport to indicate exactly what amounts are involved but rather to indicate more clearly, by means of a specific quantitative illustration, the nature of the problem.

TABLE 6
GROSS FIXED PROPERTY EXPENDITURES AND FREE CASH, SEVENTY-THREE MEDIUM-SIZE AND SMALL MANUFACTURING CORPORATIONS, 1917-1939
(thousands)

	Actual gross fixed property expenditures (1)	*Amount of gross fixed property expenditures required for investment regularization*[a] (2)	*Indicated additional gross fixed property expenditures required for investment regularization* (3)	*Free cash* (4)	*Deficiency of free cash to finance investment regularization* (5)
1917	$1,870.5	$1,314.0	$ −555.5	$−532	$ −23.5
1918	1,281.1	1,366.6	85.5	−634	719.5
1919	1,482.9	1,421.3	−61.6	−471	409.4
1920	3,727.9	1,478.2	−2,249.7	−902	−1,347.7
1921	2,623.0	1,537.4	−1,085.6	−18	−1,103.6
1922	1,292.0	1,598.9	306.9	−301	607.9
1923	1,931.7	1,662.9	−268.8	−52	−216.8
1924	2,508.0	1,729.5	−778.5	35	−813.5
1925	1,279.5	1,798.7	519.2	−60	579.2
1926	1,850.0	1,870.6	20.6	25	−3.4
1927	2,350.3	1,945.4	−404.9	191	−595.9
1928	1,130.7	2,023.2	892.5	181	711.5
1929	1,223.4	2,104.1	880.7	136	744.7
1930	1,325.3	2,188.3	863.0	143	720.0
1931	327.1	2,275.8	1,948.7	550	1,398.7
1932	380.8	2,366.8	1,986.0	691	1,295.0
1933	319.3	2,461.5	2,142.2	502	1,640.2
1934	189.8	2,563.7	2,373.9	443	1,930.9
1935	−23.8	2,666.2	2,690.0	230	2,460.0
1936	924.9	2,772.8	1,847.9	−49	1,896.9
1937	951.5	2,883.7	1,932.2	−156	2,088.2
1938	390.1	2,999.0	2,608.9	396	2,212.9
1939	89.2	3,119.0	3,029.8	421	2,608.8

[a] Actual for 1921-1929, averaged and centered on 1925. 1917-1939 calculated as $1{,}798.7 \times (1.04)^t$, where $t = 0$ at 1925.

Sources: Col. 1 from National Bureau of Economic Research, *Corporate Financial Data for Studies in Business Finance, Section B, Small and Medium Corporations*, 1945; col. 4 from F. A. Lutz, *Corporate Cash Balances, 1914-43*, NBER, 1945, p. 119.

The situation is somewhat different for the eighty-four large manufacturing corporations. Free liquid funds could have financed nearly all of the additional investment of half a billion dollars per annum required during the years 1931-1932. For the years 1938-1939, however, the deficiency would have been of about the same proportions as that for all nonfinancial corporations.

The data for the sample of seventy-three medium-size and small manufacturing corporations show a pattern closer to that of all

nonfinancial corporations. The deficiency of free cash to finance investment regularization for the years 1931-1932 amounted to about 75 per cent of the additional gross investment required. The deficiency for 1938-1939 would have been 80 to 85 per cent of the additional gross investment required.

The foregoing analysis demonstrates that, except for large corporations during 1931-1933, investment regularization during the 1930's could *not* have been financed from internal sources under *ceteris paribus* assumptions. The adequacy of internal funds to finance investment regularization depends upon one's judgment as to whether the 1931-1933 period or the late thirties should be taken as characteristic of the situation of large firms when additional investment is needed. If the former (subject to the qualifications expressed as to whether the liquid balances are in reality *available* to finance additional investment), internal sources would be sufficient to finance investment regularization by large firms during downswings. Since large corporations would doubtless be looked to for initiating a program of stabilizing private investment, their strong cash positions during downswings are an encouraging indication of its feasibility. On the other hand, during a period such as the late thirties, even the large corporations would find it necessary to resort to substantial external financing for the requisite asset expansion.

Small and medium-size firms would require a large amount of external funds to finance investment regularization. Any aversion that financial managers of these firms might have to external financing is often reinforced by an inability to meet the necessary conditions for securing the funds required. Policies of fund suppliers therefore take on great significance in considering the possibilities of investment regularization by these firms.

On balance, it appears that the predilection of firms for internal financing of investment and their aversion to securing, or inability to secure, external financing would inhibit the achievement of investment regularization. Appreciable modification of these attitudes, as reflected in past financing patterns, would be a *sine qua non* for investment regularization.

EFFECTS OF ALTERNATIVE DIVIDEND POLICIES ON ABILITY TO FINANCE INVESTMENT REGULARIZATION FROM INTERNAL SOURCES

If free liquid funds have not been adequate for financing investment regularization in the past, would alternative dividend policies have made possible a greater contribution from internal sources? As indi-

cated previously, a realistic appraisal of the role of alternative dividend policies must take into account a comparison of alternative propensities to spend of corporations and individuals at different phases of the cycle, and differences in the form in which they hold savings. Furthermore, in terms of the logic of the sequence of decision making, the more appropriate question is: If investment regularization were achieved, what would be the effects upon corporate dividend policies? Although these matters are not explored herein, it is useful to examine the possible contributions that alternative dividend policies might make to internal financing of investment regularization. Two alternatives are examined. Under each of them, the same aggregate amount of dividends would be paid over an extended period, but the *cyclical pattern* of disbursements would be different. In the first case, a *stable aggregate amount* of dividends would be paid each year. In the second, a *stable dividend pay-out ratio* would be followed. The effects of these alternative dividend policies on the cyclical magnitude of free liquid balances are shown for all nonfinancial corporations in table 7, for the sample of eighty-four large manufacturing corporations in table 8, and for the sample of seventy-three medium-size and small corporations in table 9.[53]

The actual dividend policies of corporations show a cyclical pattern that roughly follows fluctuations in the level of general business activity. Retained earnings are higher during upswings even though dividends are also higher, because of the great amplitude in the swings of corporate net income. During downswings, the amount of dividends paid out is lower, but retained earnings may in fact be negative, because of low net income or losses. Thus the basic pattern of actual dividend policies is a high amount of dividends and a relatively low ratio of dividends to earnings during upswings; during downswings, a relatively low amount of dividends and a high ratio of earnings paid out.

The differences between actual dividend payments and those that would be made under a policy of paying out a *stable amount* of

[53] The reader is reminded that this analysis stems from the observed predilection of firms for internal financing. Hence it is reasonable to neglect, at this phase of the analysis, relative cost-of-capital considerations of the firm. We are, of course, cognizant that the market value of the firms' equities may be a major consideration and that, consequently, these dividend policies may not be acceptable to such managements. However, the alternative policies discussed are sufficiently reasonable and sure of acceptance to make the calculations based upon them both realistic and informative.

TABLE 7
EFFECT OF STABLE DIVIDEND POLICIES ON CYCLICAL BEHAVIOR OF FREE LIQUID BALANCES
ALL NONFINANCIAL CORPORATIONS, 1926-1944
(billions)

	Net income (1)	*Cash dividends* (2)	*Changes in cash dividends if stabilized at $3.8 billion, the average for the period* (3)	*Changes in cash dividends if payment ratio stabilized at 0.77, the average ratio for the period* (4)	*Free liquid funds* (5)	*Free liquid funds with stable dividends* (6)	*Free liquid funds with stable dividend ratio* (7)
1926	$ 6.8	$4.4	$—0.6	$—0.8	$1.3	$ 1.9	$ 0.5
1927	5.9	4.8	—1.0	—0.3	1.3	2.3	1.6
1928	7.6	5.2	—1.4	0.6	1.4	2.8	0.8
1929	7.5	5.0	—1.2	0.8	1.4	2.6	0.6
1930	2.4	4.9	—1.1	—3.1	1.4	2.5	4.5
1931	—0.8	3.6	0.2	—3.6	1.2	1.0	4.8
1932	—2.7	2.3	1.5	—2.3	1.2	—0.3	3.5
1933	0.4	1.9	1.9	—1.6	1.1	—0.8	2.7
1934	1.7	2.6	1.2	—1.3	1.1	—0.1	2.4
1935	2.7	3.2	0.6	—1.1	1.1	0.5	2.2
1936	4.4	4.2	—0.4	—1.0	1.2	1.6	2.2
1937	4.6	4.4	—0.6	—0.9	1.1	1.7	2.0
1938	2.2	2.9	0.9	—0.5	1.2	0.3	1.7
1939	4.8	3.5	0.3	0.2	1.3	1.0	1.1
1940	6.2	3.8		1.0	1.6	1.6	0.6
1941	9.1	4.2	—0.4	2.8	1.9	2.3	—0.9
1942	9.0	3.9	—0.1	3.0	3.0	3.1	
1943	9.7	4.0	—0.2	3.5	4.2	4.4	0.7
1944	10.0	4.2	—0.4	3.5	4.6	5.0	1.1
Total	$95.0	$73.0					

Source: Cols. 1, 2 from Dept. of Commerce, *Statistics of Income*.

dividends or following a stable *pay-out ratio* appear from tables 7, 8, and 9 to be quite systematic.

Under the stable-amount dividend policy, there would have been disbursed a smaller amount of dividends during upswings and a larger amount during downswings than were actually paid out.[54]

[54] Under the assumption that the same total amount of dividends for the several cycles covered by our data would be paid out, we calculated the total amount of dividends that were actually paid over all of the years included in the study, and divided this by the number of years to secure the amount that would be paid each year.

TABLE 8
EFFECT OF STABLE DIVIDEND POLICIES ON CYCLICAL BEHAVIOR OF FREE LIQUID FUNDS
EIGHTY-FOUR LARGE MANUFACTURING CORPORATIONS, 1921-1943
(millions)

	Net income (1)	*Cash dividends* (2)	*Changes in cash dividends if stabilized at $472 million, the average for the period* (3)	*Changes in cash dividends if payment ratio stabilized at 0.70, the average ratio for the period* (4)	*Free liquid funds* (5)	*Free liquid funds with stable dividends* (6)	*Free liquid funds with stable dividend ratio* (7)
1921	$ 159	$248	$ 224	$ −37	$ 111	$−113	$ 148
1922	334	248	224	−14	93	−131	107
1923	558	300	172	−90	−86	−258	4
1924	539	316	156	−62	41	−115	103
1925	728	369	103	141	−100	−203	−241
1926	885	472		148	−109	−109	−257
1927	769	538	−66	−1	5	71	6
1928	1,036	594	−122	131	160	282	29
1929	1,266	654	−182	231	−54	128	−285
1930	774	631	−159	−91	103	262	194
1931	300	556	−84	−346	423	507	769
1932	−77	333	149	−333	619	470	952
1933	219	268	204	−115	592	388	708
1934	335	307	165	−72	389	224	461
1935	530	379	93	−8	260	167	268
1936	877	650	−188	−35	34	222	69
1937	1,014	707	−235	−3	−326	−91	−323
1938	382	381	91	−114	105	14	219
1939	728	531	−59	−23	289	348	312
1940	958	631	−159	39	414	573	375
1941	1,172	674	−202	144	303	505	159
1942	938	519	−47	136	317	364	181
1943	966	561	−89	115	409	498	294
Total	$15,467	$10,867					

Source: Cols. 1, 2 from F. A. Lutz, *Corporate Cash Balances, 1914-43*, National Bureau of Economic Research, 1945, p. 116.

Under this type of stable dividend policy, free liquid funds would be increased during upswings, decreased during downswings. If a stable pay-out ratio policy were followed, the results would be precisely the reverse. A stable dividend rate results in a higher

TABLE 9
EFFECT OF STABLE DIVIDEND POLICIES ON CYCLICAL BEHAVIOR OF FREE CASH
SEVENTY-THREE MEDIUM-SIZE AND SMALL MANUFACTURING CORPORATIONS
1917-1942
(thousands)

	Net income (1)	*Cash dividends* (2)	*Changes in cash dividends if stabilized at $1,400 thousand, the average for the period* (3)	*Changes in cash dividends if payment ratio stabilized at 0.72, the average ratio for the period* (4)	*Free cash funds* (5)	*Free cash funds with stable dividends* (6)	*Free cash funds with stable dividend ratio* (7)
1917	$ 3,390	$1,608	$ −208	$ 942	$−532	$−324	$−1,474
1918	3,106	1,421	−21	819	−634	−613	−1,453
1919	3,621	1,358	42	1,252	−471	−513	−1,723
1920	6,460	1,494	−94	3,176	−902	−808	−4,078
1921	−1,227	866	534	−866	−18	−552	848
1922	384	1,466	−66	−1,189	−301	−235	888
1923	3,659	1,664	−264	970	−52	212	−1,022
1924	2,491	1,547	−147	243	35	182	−218
1925	3,492	1,797	−397	713	−60	337	−773
1926	3,699	2,336	−936	324	25	961	−299
1927	3,828	2,624	−1,224	126	191	1,415	65
1928	2,936	2,615	−1,215	−500	181	1,396	681
1929	3,309	2,531	−1,131	151	136	1,267	−15
1930	367	2,016	−616	−1,752	143	759	1,895
1931	−837	1,290	110	−1,290	550	440	1,840
1932	−2,310	585	815	−585	691	−124	1,276
1933	−483	551	849	−551	502	−347	1,053
1934	−20	926	474	−926	443	−31	1,369
1935	−240	753	647	−753	230	−417	983
1936	929	918	482	−248	−49	−531	199
1937	941	1,105	295	−428	−156	−451	272
1938	110	813	587	−734	396	−191	1,130
1939	222	832	568	−672	421	−147	1,093
1940	1,727	888	512	352	379	−133	27
1941	3,011	1,110	290	1,060	418	128	−642
1942	2,488	1,094	306	700	949	643	249
Total	$50,170	$36,208					

Source: Cols. 1, 2 from F. A. Lutz, *Corporate Cash Balances, 1941-43*, National Bureau of Economic Research, 1945, p. 120.

amount of dividends during upswings and a lower amount during downswings.[55] Higher dividends during upswings and lower dividends during downswings would decrease free liquid funds during upswings and increase them during downswings. The magnitude of the changes brought about by the alternative dividend policies would be appreciable for all nonfinancial corporations and for medium-size and small manufacturing corporations. It would be relatively moderate, however, for the large manufacturing corporations.

Comparing the hypothetical free liquid balances of corporations under stable dividend policies with the additional gross fixed property expenditures required for investment regularization, the following relationships are revealed for the three groups of corporations in tables 10, 11, 12. For all groups, the pursuit of a stable dividend policy would, of course, aggravate any deficiency in liquid balances to finance the additional asset expansion required for investment regularization. Contrariwise, the policy of a stable pay-out ratio would reduce the deficiency of free liquid funds for financing additional investments during downswings.

The degree to which a stable pay-out ratio could help firms finance additional investments during downswings is substantially different for each group of corporations. For all nonfinancial corporations, the increase of free liquid funds would be relatively small, so that a substantial deficiency of liquid balances needed to finance investment regularization would still remain. For large manufacturing corporations, there was, of course, no deficiency in the 1930-1933 downswing; but a stable pay-out ratio would have increased the ability of these large corporations to finance asset expansion during that downswing. However, the estimated increase in liquid funds during the late 1930's was quite small and would not have financed the amount of asset expansion needed for investment regularization in that period.

The influence of a stable pay-out ratio on the ability of medium-size and small manufacturing corporations to finance investment regularization would have been large. Cash balances would have

[55] In fact, during years when net incomes are negative, this would strictly call for a negative amount of dividends under a stable dividend rate policy. However, this is difficult to implement practically, so zero dividends were assumed under a stable dividend rate when, during downswings, net income was negative. Again, the behavior of net-income, and net-deficit, corporations would have been different, but to have distinguished between them here would have unduly complicated the presentation without altering significantly the aggregate results.

TABLE 10
EFFECT OF STABLE DIVIDEND POLICIES ON AVAILABILITY OF FREE LIQUID FUNDS TO FINANCE INVESTMENT REGULARIZATION
ALL NONFINANCIAL CORPORATIONS
1926-1944
(billions)

	Indicated additional gross fixed property expenditures required for investment regularization	*Free liquid funds with stable amount of dividends*	*Deficiency*	*Free liquid funds with stable dividend ratio*	*Deficiency*
1926	$—0.8	$ 1.9	$—2.7	$ 0.5	$—1.3
1927	0.2	2.3	—2.1	1.6	—1.4
1928		2.8	—2.8	0.8	—0.8
1929	—1.3	2.6	—3.9	0.6	—1.9
1930	4.9	2.5	2.4	4.5	0.4
1931	8.7	1.0	7.7	4.8	3.9
1932	10.5	—0.3	10.8	3.5	7.0
1933	7.2	—0.8	8.0	2.7	4.5
1934	7.1	—0.1	7.2	2.4	4.7
1935	7.3	0.5	6.8	2.2	5.1
1936	4.5	1.6	2.9	2.2	2.3
1937	4.1	1.7	2.4	2.0	2.1
1938	10.3	0.3	10.0	1.7	8.6
1939	7.2	1.0	6.2	1.1	6.1
1940	5.6	1.6	4.0	0.6	5.0
1941	0.5	2.3	—1.8	—0.9	1.4
1942	7.3	3.1	4.2		7.3
1943	10.9	4.4	6.5	0.7	10.2
1944	11.9	5.0	6.9	1.1	10.8

Sources: Tables 2-A, 2-B, and 5.

been enough to finance investment regularization in 1930 and almost enough in 1931. There would, however, have been a substantial deficiency during 1932 and subsequent years in the decade of the 1930's.

The effects of alternative dividend policies upon the availability of liquid balances to finance investment regularization are summarized in table 13. The adoption of a policy under which a stable annual amount of dividends would be paid out would aggravate the deficiency of liquid balances for financing the asset expansion needed during downswings. The adoption of a stable pay-out ratio would reduce the deficiency during downswings. However, it would not have completely removed the deficiency for all nonfinancial cor-

TABLE 11
EFFECT OF STABLE DIVIDEND POLICIES ON AVAILABILITY OF FREE LIQUID FUNDS TO FINANCE INVESTMENT REGULARIZATION EIGHTY-FOUR LARGE MANUFACTURING CORPORATIONS
1921-1939
(millions)

	Indicated additional gross fixed property expenditures required for investment regularization	*Free liquid funds with stable amount of dividends*	*Deficiency*	*Free liquid funds with stable dividend ratio*	*Deficiency*
1921	$ 184.6	$—113	$ 297.6	$ 148	$ 36.6
1922	244.3	—131	375.3	107	137.3
1923	67.9	—258	325.9	4	63.9
1924	164.5	—115	279.5	103	61.5
1925	60.4	—203	263.4	—241	301.4
1926	—166.1	—109	—57.1	—257	90.9
1927	—191.4	71	—120.4	6	—197.4
1928	—11.0	282	—293.0	29	—40.0
1929	—321.4	128	—449.4	—285	—36.4
1930	—190.6	262	—452.6	194	—384.6
1931	467.5	507	—39.5	769	—301.5
1932	550.3	470	80.3	952	—401.7
1933	645.4	388	457.4	708	—62.6
1934	516.6	224	292.6	461	55.6
1935	445.7	167	278.7	268	177.7
1936	267.2	222	45.2	69	198.2
1937	—90.8	—91	0.2	—323	232.2
1938	466.3	14	452.3	219	247.3
1939	545.2	348	197.2	312	233.2

Sources: Tables 3 and 6.

porations during any of the downswings; nor would it have removed it for medium-size and small manufacturing corporations except during part of the major, 1930-1933 downswing. Alteration of the time pattern of dividend disbursements would contribute to, but would not assure enough funds from internal sources to finance, investment regularization.[56]

[56] The additional investment required to achieve investment regularization was calculated herein from the data of actual historical performance of firms. There is evidence that larger firms only "skim the cream" from investment opportunities because of their aversion to external financing. (See Upgren et al., *op.cit.*, p. 21.) This suggests that the additional asset expansion that would be necessary by large firms to make their requisite contribution to total investment regularization may be higher than the method here used implies.

TABLE 12
EFFECT OF STABLE DIVIDEND POLICIES ON AVAILABILITY OF FREE CASH FUNDS TO FINANCE INVESTMENT REGULARIZATION SEVENTY-THREE MEDIUM-SIZE AND SMALL MANUFACTURING CORPORATIONS, 1917-1939
(thousands)

	Indicated additional gross fixed property expenditures required for investment regularization	*Free liquid funds with stable amount of dividends*	*Deficiency*	*Free cash with stable dividend ratio*	*Deficiency*
1917	$ −555.5	$−324	$ −231.5	$−1,474	$ 918.5
1918	85.5	−613	698.5	−1,453	1,538.5
1919	−61.6	−513	451.4	−1,723	1,661.4
1920	−2,249.7	−808	−1,441.7	−4,078	1,828.3
1921	−1,085.6	−552	−533.6	848	−1,933.6
1922	306.9	−235	541.9	888	−581.1
1923	−268.8	212	−480.8	−1,022	753.2
1924	−778.5	182	−960.5	−218	−560.8
1925	519.2	337	182.2	−773	1,292.2
1926	20.6	961	−940.4	−299	319.6
1927	−404.9	1,415	−1,819.9	65	−469.9
1928	892.5	1,396	−503.5	681	211.5
1929	880.7	1,267	−386.3	−15	895.7
1930	863.0	759	104.0	1,895	−1,032.0
1931	1,948.7	440	1,508.7	1,840	108.7
1932	1,986.0	−124	2,110.0	1,276	710.0
1933	2,142.2	−347	2,489.2	1,053	1,089.2
1934	2,373.9	−31	2,404.9	1,369	1,004.9
1935	2,690.0	−417	3,107.0	983	1,507.0
1936	1,847.9	−531	2,378.9	199	1,648.9
1937	1,932.2	−451	2,383.2	272	1,660.2
1938	2,608.9	−191	2,799.9	1,130	1,478.9
1939	3,029.8	−147	3,176.8	1,093	1,936.8

Sources: Tables 4 and 7.

POTENTIALITIES OF INTERNAL FUND MANAGEMENT FOR INVESTMENT REGULARIZATION

It should be emphasized that investment regularization would probably have a much greater effect upon dividend policies of businesses than the latter could have upon the regularity of investment. If investment were regularized, asset expansion would be relatively smaller during prosperity and relatively greater during depression than at present. Furthermore, if aggregate business investments

TABLE 13
EFFECT OF ALTERNATIVE DIVIDEND POLICIES ON AVAILABILITY OF LIQUID BALANCES TO FINANCE INVESTMENT REGULARIZATION

Dividend policy	*Amount of dividends to be paid compared to amount of dividends actually paid*	*Amount of liquid funds available for financing additional investment for regularization compared to amount under actual dividend policy*	*Deficiency in liquid funds to achieve investment regularization under alternative dividend policies compared to actual dividend policy*
Stable amount policy			
Upswing	Smaller	Greater	Smaller
Downswing	Greater	Smaller	Greater
Stable pay-out rate policy			
Upswing	Greater	Smaller	Greater
Downswing	Smaller	Greater	Smaller

were more regular, profits probably would be more regular also. Hence dividends could be larger during prosperity and smaller during depression. It is by no means certain that they would be, because of business managements' predilection for financing internally.

In any event, changes in dividend policies hold little promise for substantially altering the ability of business enterprises in the aggregate to finance a regular rate of investment from internal sources. In the first place, the sequence of decision making is such that investment decisions are less influenced by dividend policy than the latter is determined by investment decisions. Secondly, the amount of additional investment required for regularization is so great in comparison with the average level of net incomes and the availability of liquid balances that any feasible alteration in dividend policies would not make a substantial change in the relationship. For all companies whose common stocks were listed on the New York Stock Exchange, the average dividend pay-out ratio during the period 1871-1938 was 67 per cent of net income after taxes.[57] The pay-out ratio of the corporations analyzed here was somewhat higher, being 80 per cent for all manufacturing and mining corporations during the years 1926-1944, 70 per cent for large manufacturing corporations during 1921-1943, and 80 per cent for small and medium-sized manufacturing corporations during 1917-1942. Yet the average annual amounts of dividends disbursed for the three groups were, respectively, $3.8 billion, $474 million, and $1.4 million. When these sums are compared with the average amounts by which liquid funds were insufficient to finance regular investment during cyclical contractions—$6-8 billion, $250-350 million, and $1.5-2.5 million respectively—it becomes clear that even a substantial reduction in the average pay-out ratio could make only a minor contribution toward ability to finance regular investment internally.

These relationships are all predicated upon rigid *ceteris paribus* assumptions. In reality, there is much doubt about the availability for dividend disbursement of liquid balances held for precautionary motives. On the other hand, the calculations may grossly understate the amount of available internal funds that would result from higher realized corporate profits, as expanding investment caused consumer incomes and corporate sales to increase. The great complexity of the interrelationships makes it impracticable to evaluate the strength of this latter factor.

[57] Alfred Cowles, 3rd, and Associates, *Common Stock Indices*. Principia Press, 1939, pp. 42-43.

The analysis made herein is useful primarily in indicating the extent to which, given past cyclical patterns of investment, alternative dividend policies could influence the level of liquid balances, and thus provide a source of potential financing. It confirms the conclusion that external funds in large amounts would still be necessary to achieve the goal of regularity of investment.

The External Supply of Funds and Investment Regularization

Although alterations in the investment-financing policies of business enterprises could reduce cyclical fluctuations in business capital formation, a comprehensive program to regularize business investment would also require changes in the terms upon which external funds are made available. The principal fund-supplying institutions are commercial banks, investment banks, insurance companies, commercial finance companies, investment and community development companies, governmental credit agencies, and nonfinancial business firms. These external sources of business funds are now examined with attention focused upon these aspects of their operation: their relative importance as suppliers of business funds; the types of financing contracts and services that they have characteristically supplied; the types of governmental regulation and restraint to which they are subject; their liquidity requirements; the degree of freedom that they possess in their financial policies; and changes in public policies and in their own financial policies that might make for greater regularity in their supply of funds in the future.

COMMERCIAL BANKS

The commercial bank continues to be the most important single institution supplying funds to American business enterprises. Insured commercial banks held $26 billion of "commercial loans" at the end of 1950, and this figure does not include all of their outstanding business credit.[58] Perhaps more important is the fact that the commercial banking system is pivotal in the financial structure of the nation. Its operations, along with those of the federal government, may alter the total supply of the means of payment and affect the ability of other institutions to furnish funds to businesses.

Characteristically, commercial banks have maintained close, con-

[58] *Federal Reserve Bulletin*, August 1951, p. 982. That insurance companies are now close on the heels of commercial banks as suppliers of funds is evidenced by their holding $25.4 billion of "securities of business and industry" (also an incomplete measure of their total business credit) at the end of 1950. Institute of Life Insurance, *Life Insurance Fact Book*, 1951, p. 54.

tinuing relationships with their business customers and have provided them with informal management counsel. A majority of bank loans are made to enterprises of medium and small size, but the largest amount of bank credit flows to firms of considerable size. Typically, bank loans to business carry a short term to maturity, although there has been a tendency during recent years for banks to make "term loans" with maturities of five years or more and to provide continuing loan contracts secured by inventory, machinery, equipment, and other business assets. Banks also provide some long-term business credit through their purchases of corporate bonds and notes. They are debarred by law from furnishing equity capital directly.[59]

How have commercial banks influenced the timing and volume of business investment? Cyclical fluctuations in their total loans and investments correspond closely to the timing of peaks and troughs of general business cycles. During the interwar period 1919-1941, cyclical variations in their business loans accounted for the major part of the variation in the total assets of commercial banks. On the basis of this kind of evidence, the view is generally held that banking policy has aggravated cyclical swings in the level of business activity. It is said that bank managements have strengthened the cumulative forces of the downswing by calling loans, refusing to renew loans, and failing to make new loans. But this proposition cannot be proved from *ex post* data, for such data do not show whether expansions and contractions of outstanding bank loans were *initiated* by business borrowers or by bank managements. Other types of evidence must be considered.

Interest rates charged customers by banks rise during cyclical expansions and fall during contractions.[60] Indexes of conformity are of intermediate rank.[61] The average reference-cycle amplitude of short-term interest rates is moderately high.[62] The evidential value of these facts is doubtful. The rate of change in interest rates during some phases of the cycle is probably of more influence than their general movements during cycles. But more important, it is our judgment that changes in the price of credit are a less significant indicator of alterations in the conditions of supply of bank credit

[59] The relationship between commercial banks and business financing is developed in Neil H. Jacoby and R. J. Saulnier, *Business Finance and Banking*, National Bureau of Economic Research, 1947.

[60] Wesley C. Mitchell, *What Happens during Business Cycles*, National Bureau of Economic Research, 1951, p. 44.

[61] *ibid.*, p. 92. [62] *ibid.*, p. 106.

than are alterations in the credit standards and credit terms that are employed by lending officers.

The existence of an "unsatisfied demand" for bank credit by businesses during the early 1930's has been widely regarded as an indication of restrictive bank lending policy during depressions.[63] The early 1930's may not fairly be regarded as a typical period of economic recession, characterized as it was by world-wide monetary derangement, closure of banks in many communities, and a national banking "holiday" in March 1933. Moreover, surveys of the "demand" by business firms for bank credit—or indeed for funds from any other source—may be expected to reveal "unsatisfied" demand at almost any phase of the business cycle. The existence of unsatisfied demand for credit simply reflects the existence of a demand schedule for funds. Those applicants unable to qualify under the credit standards of the supplying institution, or unwilling or unable to pay the prevailing price for credit of the particular form desired, will always be dissatisfied.

Another type of evidence said to show cyclical perversity in the supply of bank credit is the behavior of cash balances of commercial banks. If bank liquidity be measured by the sum of vault cash plus excess reserves, the data show only negligible annual changes in the ratio of liquid to total assets during the period 1919-1933. Yet this is not conclusive, for it merely reveals ex post facto results. What is needed is evidence of what banks *attempted* to achieve rather than the relations that finally obtained between holdings of cash and holdings of other assets.

The liquidity preferences of the London clearing banks were analyzed by measuring their relative holdings of cash and short-term loans, on the one hand, and their investments and long-term loans, on the other hand, after allowance for yield differentials.[64] It was found that "The banks are most illiquid in the slump, gain liquidity in the depression, to attain their most liquid position in the early or middle years of recovery, and gradually become less liquid through later recovery and boom."[65] While this tends to confirm the general impression that banks seek to increase their liquidity during downswings and allow it to deteriorate during upswings, the evidence of cyclical perversity in the supply of bank credit is fragmentary.

[63] See Hardy and Viner, *op.cit.*, pp. 9-10; also L. H. Kimmel, *The Availability of Bank Credit, 1933-1938*, National Industrial Conference Board, 1939, p. 65.

[64] A. J. Brown, "The Liquidity-Preference Schedule of the London Clearing Banks," *Oxford Economic Papers No. 1*, October 1938, pp. 49-82.

[65] *ibid.*, p. 80.

Assuming that bank credit policies are cyclically perverse, an important question concerns the extent to which their behavior is determined by governmental policy, and the extent to which it represents the independently formulated policies of bank management.

Government influences commercial bank credit policy in two important ways: by bank examinations and by central banking action affecting commercial bank reserves.

Bank-examining agencies have been criticized for taking an unduly short view in the valuation of bank assets, and for restricting credit by placing low values on loans and other assets during periods of depressed business activity. It seems clear that, at least up to 1938, when examination policy was formally revised, examiners failed to recognize that the definition of a "submarginal" loan or investment was to a considerable extent a function of the general level of economic activity. Loans that appear to be "unsound" at a national-income level of, say, $100 billion may become prime credits at a national-income level of $200 billion. Obviously, bank-examination procedure could contribute to investment stabilization by taking the long view in assessing bank assets.

The operations of the Federal Reserve System have dampened the high and narrow peaks in call money rates, thus moderating the cyclical behavior of short-term interest rates.[66] The net effects of this achievement are doubtful. On one hand, the reduction in the swings of interest rates may have a procyclical effect on investment. On the other hand, the prevention of a panicky, tight market at the top of a boom has removed what in some pre-1913 cycles was a strong reinforcing, if not an originating, factor in downturns. The consequences of the influence of Federal Reserve policy on interest rates in other stages of cycles are likewise difficult to assess because of a complex of factors.

The best objective measure of central bank performance in influencing the cyclical pattern of member bank loan policy is the record of changes in the volume of outstanding Federal Reserve credit during the different phases of business cycles.[67] (See chart 2.)

[66] Arthur F. Burns and Wesley C. Mitchell, *Measuring Business Cycles*, National Bureau of Economic Research, 1946, pp. 333, 393; Mitchell, *What Happens during Business Cycles, op.cit.*, p. 43.

[67] Federal Reserve Board, *Banking and Monetary Statistics*, pp. 395-396; E. A. Goldenweiser, *American Monetary Policy*, McGraw-Hill, 1951, p. 138; Burns and Mitchell, *Measuring Business Cycles, op.cit.*, p. 78.

To some extent Federal Reserve bank credit outstanding is a passive result

Whereas a countercyclical central banking policy would require reduction in Federal Reserve bank credit during upswings and sharp increases during the early stages of downswings, it is notable that such credit increased appreciably during four of the six upswings of the period 1914-1938. For the six downswings encompassed by this period, central banking action appears to have been appropriate during three and inappropriate during three others. Central banking policy during three critical periods has been especially criticized: (1) during 1928 the Federal Reserve System increased its holdings of bankers' acceptances despite a high level of business activity and a stock market boom; (2) it increased its discount and acceptance rates during the autumn of 1931, and pursued an anemic open market policy in the face of developing depression; (3) it failed to control the money supply during the post-World-War-II period, up to the partial reversal of its bond support policy during March 1951, although a great inflation of the price level occurred during 1946-1950.[68] In considering the impact of Federal Reserve policy upon commercial banks' credit policies, it must be conceded that the professed recognition by the Federal Reserve authorities of need for countercyclical policies by the central banks has frequently not found expression in their actions. While special circumstances may explain why the Federal Reserve System failed to take the requisite countercyclical actions, it is clear that its policies were largely responsible for the attempts of commercial banks to attain liquidity during severe downswings in the past. Is the record likely to be better in the future?

A number of factors provide grounds for hope that central banking policy will aid commercial banks in stabilizing their credit policies in the future. The need to protect gold reserves has been reduced. The Glass-Steagall Act of 1932 and the Banking Act of 1935 have expanded greatly the eligibility of commercial banking assets as collateral for Federal Reserve credit, to a point where

---

of fluctuations in the level of business activity and fluctuations in commercial bank policy. Also, the limitations imposed by the gold standard are a factor to be taken into account in appraising Federal Reserve policy before 1933. Despite these qualifications, the series is a dependable index of the direction of Federal Reserve bank influence during past cycles.

[68] For cogent criticism of central banking policy, see L. Currie, *The Supply of Money in the United States*, 2nd rev. edn., Cambridge University Press, 1935, p. 47; L. Mints, *Monetary Policy for a Competitive Society*, McGraw-Hill, 1950, pp. 45-47, 181. For a moderate defense of the policy, see Goldenweiser, *op.cit.*, pp. 131-182, especially 159-160.

Federal Reserve banks may advance funds to commercial banks on any "sound" assets. There is also much wider recognition of the principle that a central bank has a primary responsibility to contribute to sustained high levels of income and employment. If the central banks are liberal in their acceptance of collateral from commercial banks during depressed periods, no fundamentally sound bank should be permitted to fail through lack of liquid funds in the future. Nevertheless, the failure of the System to restrain credit expansion during the postwar boom raises the disturbing possibility that new problems and future situations may lead to new failures.

Within the framework of federal monetary policy and of public examination and regulation in which they operate, what contributions could commercial bank management make to business investment regularization? Although the potential contributions may seem limited because of the low capital-liability ratios of commercial banks, their vulnerability to withdrawal of deposits, and their dependence upon central bank policies, two courses of action appear worth pursuit. One is a revision by banks of past policies of procyclical variation of credit standards. The other is further development and use by banks of longer-term and continuing credit relationships with business enterprises.

It has been suggested that one of the major devices whereby banks have altered the availability of credit has been variation in their standards of credit eligibility. It has been said that banks alternately relax credit standards in prosperity and tighten them in depression.[69] Although evidence has accumulated in support of this view,[70] it is as yet far from conclusive. Pilot studies by the authors of variations in the typical financial ratios applied by business credit analysts in determining the credit worthiness of a business reveal patterns that vary temporally and among lines of business. Additional evidence on the cyclical behavior of bank credit standards is required to increase our understanding of the role they might perform in regularizing investment.

[69] See, for example, C. R. Whittlesey, *Principles and Practices of Money and Banking*, Macmillan, 1948, pp. 338-340.

[70] Thus it has been found that 18 per cent of all issues of foreign bonds from 1920 to 1924 were defaulted, whereas the ratio of defaulted issues made during 1925-1929 rose to 50 per cent. A. F. Burns, *New Facts on Business Cycles*, 30th Annual Report, National Bureau of Economic Research, 1950, p. 30. A survey of urban mortgage loans by life insurance companies revealed relaxation of credit standards during the late 1920's. R. J. Saulnier, *Urban Mortgage Lending by Life Insurance Companies*, NBER, 1951, pp. 85-89.

During contractions, the financial condition of firms declines; during expansions, an improvement takes place. If banks apply the same credit standards during upswings and downswings, variations in the availability of financing will still aggravate cyclical fluctuations in investment. *Contracyclical* changes in credit standards would be required to offset, or more than offset, alterations in financial positions of firms. If commercial bank managements have firm assurance by the central bank authorities of their ability to procure Federal Reserve credit on a basis of fundamentally "sound" loans, and if they act on this premise, they will be enabled to apply more lenient credit standards during depressions than they apply during years of high activity. This would encourage borrowing during contractions and decrease it during expansions.

However, it may be too much to expect private institutions to behave as central banks (especially if they have reason to fear that central banks and the fiscal authorities are likely to behave as individuals). Perhaps it is more realistic to propose that banks apply *stable* credit standards throughout the cycle.[71] A policy of stable credit standards would have the effect of restricting bank loans in the boom and augmenting them during the slump, in comparison with what they are under the (presumed) present procyclical variation in credit standards. In the degree to which appropriate contracyclical fiscal-monetary policies are pursued and success in stabilizing private investment is achieved, the application of stable credit standards will reduce the reinforcing effects of cyclical variations in the financial ratios of loan applicants.

Since the early 1930's, commercial banks have used new business lending techniques that have enabled them to compete in loan markets in which they were formerly not effective competitors. These new techniques have affected the cyclical availability of bank credit to business. Among them is the "term" loan. Term lending has increased the duration of loans and made borrowers less vulnerable to the calling of, or failure to renew, short-term advances. This stabilizing feature is, however, weakened by the fact that term loans are typically repayable in monthly, quarterly, or annual installments, and the entire amount of the outstanding loan balance becomes due upon default of any installment. Up to the present time, acceleration of the maturities of term loans has not been experienced in substantial volume, because banks have not been under strong pressure

[71] Even this moderate contribution to a stable money supply would require effective support by the Federal Reserve banks.

to achieve liquidity since 1935, and because business activity has been generally expanding.

Other types of lending arrangements that have been increasingly used by commercial banks include accounts receivable financing, inventory financing, and the financing of machinery and equipment on installment terms. They are essentially continuing credit arrangements, automatically adjusted to the needs of the borrowing firm. Being collateralized, they have enabled small and medium-size firms to obtain the equivalent of long-term credit in amounts that hitherto were not available. While there is no assurance that banks would not cut off such credit by applying more rigid standards during a slump, the fact that these loans are collateralized and automatically adjusted to the volume of business operations makes an enforced contraction in the use of bank credit less probable than under conventional short-term bank advances. More extensive use by banks of such credit arrangements would therefore be a stabilizing factor.

INVESTMENT BANKS AND THE SECURITIES MARKETS

Mere inspection of annual fluctuations in the amounts of corporate securities offered in the United States—whether for refunding or for new money, whether debt or equity securities—shows the great instability of the flow of funds from this source into American business enterprises.[72] Have the decisions of investment banking institutions on alternative financial policies accounted for some part of this instability, and thereby made business investment less regular than it would otherwise have been?

It should be recognized that investment banking institutions operate within a comparatively narrow range of independent action. Their total liabilities at typical points of time and their total annual volume of security underwritings are very large in comparison with their capital. The net worth of 400 leading American underwriting

[72] The contracyclical operations of the bond market and the procyclical operations of the equities market have been observed in connection with the previous discussion of the cyclical behavior of debt/equity ratios. The failure of the bond market to perform its countercyclical functions in 1931-1932 has been pointed out by W. Braddock Hickman, *op.cit.*, p. 24. Hickman suggests that the bond market also behaved atypically in 1946-1949, observing that "the net volume of bond financing reached an all-time high in 1948 at the crest of the business expansion." Dan T. Smith observes that the relative change in debt versus common stock financing during 1946-1949, compared to previous periods, is surprisingly small when the altered circumstances (relatively low stock prices, higher taxes, rising commodity prices) are considered. See *Effects of Taxation—Corporate Financial Policy*, Harvard Graduate School of Business Administration, 1952, p. 288.

corporations and partnerships was estimated at $535 million at the end of 1950.[73] Allowing for numerous small firms not covered by this survey, it is safe to put the aggregate capital of the "industry" at not more than $600,000,000. This may be compared with total new securities offered for cash in the United States during 1950 of $19,770,000,000, and with corporate security offerings in that year of $6,139,000,000.[74] Even if offerings of governmental securities be ignored, the underwriting industry "turned over" its capital funds more than ten times during 1950. If governmental security offerings be included, the turnover was about thirty-three times.[75]

The comparatively small magnitude of underwriting capital places severe limitations upon the ability of underwriters to assume risks. Timing new issues so that they are made during favorable securities markets and clearing under-written securities rapidly from portfolios are imperatives of operation. Underwriters must rely heavily upon the commercial banking system for credit to enable them to meet underwriting commitments and to carry securities pending distribution to holders.[76] The policies of commercial banks in meeting this demand are, of course, materially affected by prevailing federal monetary and fiscal policies, as well as by their own anticipations regarding security prices.

Financial commitments of investment banks are, then, rather closely circumscribed by the expectations prevailing in financial markets and reflected in security prices, by the credit policies of commercial banks, and by the current strength of demand by medium-size and large businesses for external funds. The induction of larger capital funds into investment banks would, of course, widen the range of their independence and enable them to carry larger risks, but this is limited by the relative profitability of their present capital funds.

Yet security underwriters undoubtedly do exercise *some* independent influence upon the supply of external funds and business investment decisions.[77] Part of this influence lies in their activities in

[73] *Finance*, March 15, 1951, p. 31.

[74] Securities and Exchange Commission, *Statistical Bulletin*, vol. 10, no. 6, June 1951, p. 5.

[75] While investment houses in the aggregate do not actively participate in the initial sales of the total volume of government securities, it is meaningful to consider their operations, as major distributors in the total money market, in relation to both private and public flotations.

[76] Data on the extent to which investment bankers employ financing from commercial banks are not available.

[77] The exaggeration of the current economic power of investment bankers in

providing financial counsel to business firms, although the nature of such counsel and its bearing upon business investment are difficult to assess.[78] A study of cyclical changes in the asset and liability structures of investment underwriting firms over a considerable period of years would throw light upon cyclical variations in the character of their financial counsel, and upon the question of whether they have, on balance, sought liquidity in periods of depression and used funds intensively during periods of prosperity, thereby accentuating fluctuations in business investment. Unfortunately, adequate data for such an analysis are lacking.

The investment banking firm has a large opportunity for affecting the regularity of business investment in the ingenuity with which it can devise types of financing contracts acceptable both to issuing companies and to security buyers, and in the prescience with which it can discern and aid types of financial institutions (a recent example is investment banking sponsorship of the investment company) that would serve to bridge "gaps" in the smooth flow of savings into investment. Whether investment underwriters as a group have used these opportunities well on the average or have been more aggressive during periods of prosperity than during periods of depression cannot be determined finally.

It appears likely that the credit standards reflected in bond indentures covering public issues of debt securities display the same cyclical perversity that appears in bank credits to business. If so, a policy of stabilizing credit standards through the cycle—which would entail greater liberality of terms during contraction periods and greater stringency of terms during cyclical upswings—would produce stabilizing effects. Investment banks may be expected to possess some influence over the terms of indentures and could exert it in a stabilizing direction.

---

the literature may be attributed to a failure to recognize the effects of basic changes during the past twenty years in the financial organization of society; notably, the growth in money supply, the growth in the fiscal-monetary powers of the federal government, the emergence of large and financially powerful business corporations, the divorce of commercial from investment banking, the development of governmental credit and loan-guaranteeing programs, etc. There is a marked "cultural lag" between the literature and the facts.

[78] See J. F. Weston, *The Economics of Competitive Bidding in the Sale of Securities*, University of Chicago Press, Studies in Business Administration, vol. 13, no. 1, 1942, for a summary of institutional policies and practices of investment banking and the relevant literature. In the pending lawsuit *U.S. v. Morgan, Stanley and Company*, et al., U.S. Dist. Ct. So. Dist. of N.Y., both parties stipulated to the fact that financial counseling is a function of investment bankers.

Certain changes in the law and regulations governing public offerings of new securities might also enable investment bankers to exercise a stabilizing function. For example, the rule that registration statements and prospectuses of issuing firms must carry detailed profit-and-loss statements covering the three years preceding offering of a new issue may unduly focus the attention of investors upon the recent earning power of the issuer. If such disclosures were required over longer periods of time, where data were available, this might serve to make security offerings during periods of depression more acceptable.

INSURANCE COMPANIES

The pervasive quest for personal financial security has built life insurance companies into major financial institutions. As issuers of annuity contracts and insurance policies, many of which contain a large savings element, these companies have had a steady rate of increase in their annual incomes and total assets during the present century. Assets doubled during each decade since 1910. Annual income has risen steadily, with a relatively brief interruption during the early 1930's, to the point where it amounted to $11 billion during 1950. The increase in life insurance company assets during 1950 was about $4 billion. This vast inflow of investable funds endows these companies with great powers to finance investment and to affect the nature and regularity of capital formation. For example, the percentage of long-term corporate bonds held by them grew from about 10 per cent of the amount outstanding in 1929 to over 33 per cent in 1948.[79]

As suppliers of funds to business enterprises, life insurance companies have performed some functions different from those of commercial banks, although competition exists between them in major segments of the credit market. The operations of life insurance companies have been too centralized to provide continuous financing or mass financing of small loans. Their fiduciary responsibilities to policy-holders have tended to limit their loans to borrowers of large amounts possessing high credit ratings. They have specialized in medium- and long-term credits provided through open market purchases of corporate bonds, notes, and debentures; direct private purchases of such instruments; and mortgage loans on the security

[79] See Hearings, Subcommittee on Investments of the Joint Committee on the Economic Report, *Volume and Stability of Private Investment*, 81st Congress, 1st Session, December 1949, U.S. Govt. Printing Office, 1950, p. 398.

of business real estate and buildings. Only a limited amount of equity financing has been provided by them up to recent years. New and small firms and "venture" enterprises have so far had little access to their funds. Life insurance companies are presently the dominant institutional source of medium- and long-term business credit.

While it is often said that life insurance companies, unlike commercial banks, are able to concentrate in medium- and long-term credits because their liabilities are of longer term, this distinction is technically invalid. The bulk of insurance reserves are legally subject to withdrawal on demand or on short notice as policy loans and cash surrender values. The relative stability of life insurance assets during cyclical downswings has been due mainly to the attitudes of policyholders, who have not feared "runs" on insurance companies and who have sought to maintain intact the pools of savings associated with the protection represented by their policy contracts. Hence the liquidity requirements of these companies have been consistently low.[80]

Strong secular growth and cyclical stability also have characterized the assets and annual income of life insurance companies. Yet their portfolios of assets have changed materially over the years. After the 1920's, they shifted investments heavily from railroads to public utility and industrial enterprises. Their mortgage loans during the twenties were principally to large industrial and commercial enterprises, whereas the proportion of residential housing mortgages had increased considerably by 1950. Holdings of government securities and of open market industrial securities increased relatively, while mortgage loans and policy loans fell from the levels of the mid-twenties.[81]

Have the apparently large potential contributions of life insurance companies to investment regularization been realized? It has been concluded from an analysis of changes in the ratio of cash to net assets held by insurance companies that the increased preferences for liquidity exhibited by them reinforced the contractions in investment during the early 1930's and during 1938.[82] This ratio in-

[80] The ratio of the number of policies surrendered for cash or lapsed during a year to the mean number of policies in force has been quite stable at 6-7 per cent. During the depression years 1930-1933, the average lapse rate rose only to 10.5 per cent. Institute of Life Insurance, *op.cit.*, pp. 42-43.

[81] *ibid.*, pp. 54-56.

[82] See Homer Jones, "The Optimum Rate of Investment, Savings Institutions and the Banks," *American Economic Review*, Proceedings, vol. 38, May 1948, pp. 327-329.

creased from 1.6 per cent in 1928-1929 to 3.3 per cent by 1933 and to 4.5 per cent at the end of 1935. On the other hand, it has been argued that they "contribute to contracyclical actions by making funds available during depression through policy loans and withdrawal of cash values . . . increasing the supply of funds available for consumption expenditures."[83] However, it appears that life insurance companies secured the funds for increasing their policy loans during the early 1930's mainly by reducing their investments in mortgages and business securities. Thus they simply transferred spendable funds from one segment of the economy to another, with no certainty that the propensity to spend was, on balance, increased. Insurance company executives have sought to be absolved from responsibility for a substantial relative decline in their outstanding business credits during the major downswing of the thirties on the grounds that the timing of their investments is determined mainly by the flow of income to them and that the life insurance company is passive with regard to the volume of funds it advances to businesses. "After all, a life insurance company cannot create a demand for its funds, but must choose those investments which are offered by the economy."[84] This view requires substantial qualification. Insurance companies sell a "commodity"—the use of liquid capital—for which a demand schedule exists. Like all demand schedules, the demand for capital may be altered by product differentiation and selling effort; with a given demand schedule, the quantity taken may also be influenced by variations in price.

The amount of funds supplied to businesses by insurance companies might also be altered in a contracyclical direction by use of appropriate variations in the credit standards they apply, or even by adherence to a stable set of credit standards in good times and bad.[85] The credit policies of insurance companies need not, and in the authors' opinion should not, be passive in nature. During cyclical upswings, the funds flowing to life insurance companies increase, as consumers' savings swell with rising incomes. The companies' total assets increase at a more rapid rate than during cyclical down-

[83] Hearings on *Volume and Stability of Private Investment, op.cit.*, p. 415.
[84] *ibid.*, p. 302.
[85] See preceding discussion of this point with reference to commercial banks. The evidence concerning cyclical variation in credit standards of life insurance companies is conflicting. Professor Saulnier's study *Urban Mortgage Lending by Life Insurance Companies, op.cit.*, indicates use of procyclical variations. On the other hand, an insurance company executive has expressed the view that his company attempted to apply contracyclical variations. Hearings on *Volume and Stability of Private Investment, op.cit.*, p. 277.

swings. It is not necessary that this increase in their assets be used to feed the cumulative forces of expansion. The application of tighter credit standards would then restrain private investment, and the otherwise idle funds of insurance companies could be used to purchase government securities, preferably from the Federal Reserve banks. During downswings, the opposite actions should be taken. Credit standards should be liberalized to expand the flow of funds into business investment, and if the growth of insurance companies were not enough to provide funds for this purpose, they could draw down the portfolios of government securities that they built up during the upswing, preferably by sale to Federal Reserve banks.

Such an investment policy would not only contribute to investment stability but would enhance the profits of insurance companies. There is evidence that the investments made by insurance companies late in periods of expansion result in the highest loss rates.[86] At such times insurance companies apparently either relax their credit standards or project the currently high earnings of applicants of funds too optimistically. If they raised their credit standards in the contracyclical fashion here proposed, it is probable that uninvested funds that would be diverted into government securities would yield larger net returns than funds invested in private securities, after losses and defaults on the latter were accounted for.

It is also probable that the proposed investment policy would produce capital gains, because the yields of private securities would be relatively high (their prices, relatively low) when purchased in depressions, and relatively low (their prices, relatively high) when sold in prosperity. Adoption of Professor Hart's proposal that monetary policy should cause government securities to sell at a discount during expansions and at a premium during contractions would broaden the opportunity for, and increase the likelihood of, such capital gains from a contracyclical portfolio policy.

A much-discussed possibility for contracyclical financing by insurance companies is extension of their investment in equity securities of business enterprises. Because a substantial part of consumers' savings flow to insurance companies, legal restrictions on the amount insurance companies can invest in equity securities have channeled these savings into forms of debt. The cost of debt financing has become relatively low, and the cost of equity financing relatively high—a circumstance that may not only impede the flow of savings

[86] See Burns, *New Facts on Business Cycles, op.cit.*, p. 30.

into investment but also produce unbalanced debt/equity ratios for borrowers. It is also argued that very-heavy indebtedness is undesirable, because it increases the borrower's vulnerability to cyclical reductions in net income and to insolvency. If insurance companies were permitted to invest more of their assets in common stocks, the demand schedule for equities would shift to the right, and a substantial increase in the amount of equity financing would presumably occur. A considerable part of this increase might be expected to represent equity financing of medium-sized and small firms and "venture" enterprises, for which such financing is extramarginal under present conditions. These are the principal elements of the case that has been made for enlarging the powers of insurance companies and other savings institutions to purchase common stocks.

The proposal to expand the power of insurance companies to invest in common stocks raises many issues beyond the scope of this essay. It is important to observe, however, that whether this proposal could aid cyclical stability in the flow of funds to business enterprises depends heavily upon the *timing* of such investments by insurance companies. If insurance companies took the professional investor's long view of the values of equity securities, it is likely that the higher yields of such securities associated with their lower prices during periods of general business recession would result in large purchases. Possessing a stable annual flow of income and a fairly continuous increase in their total assets, insurance companies could increase their rate of purchase of common stocks as prices fell. This would tend to stabilize stock prices and the volume of equity financing. Opposite portfolio policies could be followed as common stock prices rose during the upswing. It is probable that contracyclical stock purchase policies would not only help to even out the flow of funds to businesses but would also raise the average annual amount of expansion in business assets.

During recent years, insurance companies have been permitted to make limited direct investments in urban land and to make income-producing improvements thereon. Under these powers they have made substantial investments in land and buildings for industrial, commercial, and residential uses. In particular, they have erected buildings meeting the requirements of business firms and leased them to these firms for long periods of time, on terms expected fully to amortize their cost and to provide a suitable rate of return on the funds committed. This financing has had the same economic effect as advances of long-term credit to, or even equity investment

in, the business firms holding long-term leases on such properties. The insurance company's ability to take the long view of the profitability of a business enterprise, arising from its stable inflow of income and low liquidity requirements, appears to equip it with power to make funds available for investment in the fixed assets required by businesses at times when funds from other sources are unavailable. Thus it is able to encourage direct investment in business assets in depressed periods and to exert a restraining influence during booms.

Closely related to the construction and long-term leasing of properties to business enterprises is the sale-and-lease-back agreement, into which insurance companies have entered since 1946. Under this arrangement, a business enterprise sells its land and improvements to an insurance company and leases the same property back at an annual rental payment that over the term of the agreement will amortize the purchase price and provide a fair rate of return thereon. Insurance companies regard their investment in such properties as equity positions. The sale-and-lease-back agreement possesses certain superiorities over the conventional real estate mortgage loan from the point of view of cyclical stability. Default in payment of an installment of a mortgage loan causes the total principal and interest to fall due. In the event of default upon a lease, acceleration of the rental payments does not occur; the lessor may either collect past due and current rentals or terminate the lease and take the property back. In reorganization, if the lease is rejected by the lessee business, the lessor is limited to a maximum claim of three years' rental. Hence the amount of the obligation is reduced as against a mortgage loan, and the pressure for cumulative attempts to achieve liquidity is decreased. Another stabilizing feature of the sale-and-lease-back agreement is that the risk of fluctuation in the value of a capital asset is shifted from the business enterprise to the insurance company, which is better able to bear it. One may readily envision contracyclical uses of such financing devices. During downswings, insurance companies might expand their purchases of business properties and thus release funds that a business could use to meet other commitments or finance inventories.

A business financing device that has recently become widely used by insurance companies is the term loan and the private purchase of corporate bonds, notes, and debentures. This device gives insurance companies direct contacts with potential borrowers and thus enables them to apply contracyclical credit standards more

easily than in open market purchases of debt securities. Moreover, these evidences of debt are not traded in the securities markets, and they oblige the insurance companies that extend credit to these firms to make long-term appraisals of their credit worthiness. This is salutary for investment stabilization. However, term loans to, and private purchases of debt securities from, business firms have so far been limited mainly to firms of substantial size with high credit ratings.[87]

To summarize: the ability of life insurance companies to contribute to more stable business investment is potentially large. Realization of these potentialities would require certain changes in public regulation of these firms, notably the granting of broader powers to acquire common stocks and to make direct investments. It would also require insurance companies to adopt definite contracyclical measures in portfolio management. Recent developments in the business financing activities of insurance companies, particularly sale-and-lease-back agreements, loans, and private purchases of securities possess inherent superiorities over conventional financing devices from the standpoint of cyclical investment stability, and their further extension would be desirable.

COMMERCIAL FINANCING COMPANIES

Commercial financing companies are of rising importance as a source of funds for business enterprises. It has been estimated that 4,000 specialized financing companies possessed combined capital funds of approximately $3 billion at the end of 1950, had a combined borrowing capacity of two and one-half to three times this amount, and conducted an annual financing volume of about $27 billion. It was also found that the capital funds of specialized financing companies had increased approximately six and one-half times during the twenty-one years 1929 through 1950, compared to an increase in total capital funds of commercial banks of less than four times.[88]

These firms engage in factoring or lending against business accounts receivable; in installment equipment financing; in lending against the security of warehouse receipts on business inventories;

[87] But cf. *The 1951 Yearbook of Private Placement Financing*, E. V. Hale and Co., 1951, in which it is argued that the importance of smaller borrowers in direct placements has been underestimated.

[88] Study by Theodore H. Silbert, president, Standard Factors Corp., reported in *New York Times*, June 17, 1951.

in making term loans, and occasionally in providing equity capital to businesses. Many large commercial finance companies combine credit extension to business enterprises with provision of cash loans or installment credits to consumers of durable goods against the security of automobiles, furniture, and major household appliances; hence it is difficult to measure the *business* credit in their total operations. It may be argued, however, that provision of credit directly to consumers replaces credits that business enterprises would otherwise be impelled to extend, so that the aggregate operations of such specialized financing institutions directly or indirectly affect the supply-demand relationship for business funds.

Professor Haberler studied the temporal movement of *consumer* credit used for the purchase of durable commodities during the period 1929 through 1940, with these conclusions: "A pronounced cyclical pattern is displayed by the three basic series that are used as measures of credit expansion and contraction. These are the monthly series showing the volume of new credits granted, the amount of credit outstanding, and the 'net credit change' (that is, the change in outstanding credit from month to month). All three move in close correspondence with the ups and downs of general business cycles."[89] He pointed out that credit intensifies the cyclical swings in consumer expenditure and hence in economic activity, functioning like an amplifier or resonator.

It might be expected that cyclical movements in the business credit supplied by commercial financing companies would also follow general business fluctuations. A study by the present authors of the annual movements of the combined principal asset and liability components of the CIT Financial Corporation and the Commercial Credit Corporation—the two largest commercial financing firms—over the period 1929-1950 confirms this expectation. It was found that both their outstanding credits (receivables) and their short-term indebtedness conformed closely to movements of general business, except in the war period, 1942-1945, during which restrictions on the production of many consumer durable goods and government financing of business enterprises serving the national defense effort produced a deviation from the pattern. Thus credit outstanding shrank during 1929-1932 to a very low level; expanded rapidly up to the end of 1937; fell during 1938; recovered to a new high point by the end of 1942; again fell precipitously to the end of

[89] Gottfried Haberler, *Consumer Credit and Economic Fluctuations*, National Bureau of Economic Research, 1942, pp. 2-3.

1943; and, after 1945, climbed rapidly to an all-time peak at the end of 1950. The combined short-term debt of the two concerns displayed an almost identical movement, both with respect to the timing of turning points and the rates of expansion and contraction.[90] If one may assume that these movements fairly reflect cyclical changes in outstanding *business* credit extended by the commercial financing industry, it would follow that commercial finance companies have operated to irregularize business investment.

Commercial finance companies are heavily dependent upon commercial banks for funds. The commercial finance company reacts to the environment provided by federal monetary policies, demands by business firms for funds, and profit opportunities inherent in credit extension. That they appear to have been somewhat more responsive to changes in this environment than have commercial banks—if one may judge from comparable annual changes in outstanding commercial bank loans—may merely be evidence of their aggressive entrepreneurial attitude. A program designed to make commercial finance companies contribute to investment regularization in the future would have to concentrate upon more effective monetary policies operating through the commercial banking system.

Although the net effect of their operations has been to enhance the instability of business investment, commercial finance companies probably have reduced extreme deflation and depression. They have tended to supply credit to medium-size and small firms under conditions where credit risks have been relatively high.[91] Thus they have filled gaps in the credit financing performed by commercial banks and have to some extent reduced the demand of these firms for equity funds by substituting collateralized credit. They probably have enabled many enterprises in straitened financial circumstances to continue through periods of general business de-

[90] The combined holdings of cash and marketable securities by the two firms showed slow secular growth and little cyclical variation over the whole period. They remained at a level of about 10 per cent of total assets through boom and depression. Capital stock and surplus of the two firms also revealed slow secular growth and small cyclical variation in absolute terms. Figured as percentages of total liabilities, equity moved contracyclically, as might be expected. It rose to a level of 50 per cent or more of total liabilities in such depressed periods as 1932 and 1942-1945 and fell to 20 per cent or less in such periods of high credit activity as 1937, 1941, and 1947-1950.

[91] Evidence of this fact is contained in the studies of business financing by Saulnier and Jacoby cited previously.

pression and have thereby reduced the amount of involuntary liquidation and bankruptcy that might otherwise have occurred.

The same opportunity to adopt contracyclical variation in credit standards that exists for the commercial bank or life insurance company appears to be open to the commercial finance company. However, there is evidence that the latter company has not "rationed" credit by variation in credit standards to the extent that the other institutions have. It has allowed a much greater variation in the effective interest rate it charges for funds to perform the rationing function. Thus the problem of stabilizing its supply of funds to business probably must be solved to a greater extent by over-all monetary-fiscal stabilization and by selective credit controls of the type of Regulation W.

INVESTMENT AND DEVELOPMENT COMPANIES

Investment companies enable the small investor to achieve diversification with a moderate commitment, and they provide professional management of investments. The assets of these companies total about $3 billion at the present time.[92] As purchasers of the stocks and bonds of business corporations, they are fund suppliers of growing importance. While a systematic analysis of the cyclical behavior of the portfolios of investment companies has not been made, the general impression is that they were a destabilizing influence during the late twenties and early thirties. Abuses of the investment company device during the twenties have been fully documented.[93] During the past decade there has been a resurgence of the investment company. Its continued development is desirable, for it facilitates investment by individuals of moderate means in equity securities.

Investment companies can contribute to a more regular supply of funds. Their professional managers may reasonably be expected to take a long view of security values. Their actions should, therefore, operate as a balance wheel to dampen fluctuations in equity prices. Since the flow of funds to such companies enlarges during upswings and diminishes during downswings, they could aid stability by diverting funds to government securities purchased from the Federal Reserve banks during expansions. When prices of equity securities begin to sag during economic recessions, government

[92] *Investment Companies, 1950*, Arthur Wiesenberger and Co., pp. 23-24.

[93] Securities and Exchange Commission, *Report on the Study of Investment Trusts and Investment Companies*, 1938-1941.

bonds should be resold to the central bank, making funds available for purchasing common stocks at "bargain" prices. The resulting support of common stock prices in times of business recession should produce more favorable price/earnings ratios and make equity financing by business firms less expensive and more attractive. This investment policy is akin to the "formula" timing plans that have received much attention during recent years.[94] Such an investment pattern would combine favorable contracyclical effects with desirable results for the owners of investment companies. It is one in which private interests and the social welfare coincide.

The investment development company is a special type of investment company whose distinctive features as a source of funds for business enterprise are, first, provision of both financing and continuing management counsel and, second, acceptance of relatively high risks.[95] Although investment development companies as such represent a comparatively new form of enterprise, many investment companies have for some time engaged in "special situation" activities that are fundamentally the same as those of investment development companies.[96] Investment companies tend to make commitments in marketable securities of limited risk, because their funds are secured in a considerable proportion from investors of relatively moderate means. Investment development companies, on the other hand, have been financed generally by wealthy individuals. They can more appropriately make investments in which the dispersion of expected returns is much greater, and possibilities of larger gains or losses exist.

Because investment development companies obtain their funds in large measure from individuals who have less need for retrenchment during cyclical contractions, they might be expected to engage in increased investment activity during periods when total business investment tends to fall off. In particular, they might provide financing for innovations during contraction periods, when the need for increases in autonomous investment is especially great. The technical competence of their managements is another factor that enables

[94] For a concise statement of the basic ideas, see M. D. Ketchum, "Investment Management through Formula Timing Plans," *Journal of Business*, vol. 20, July 1947, pp. 157-158.

[95] An excellent discussion of the basic features of the operation of investment development companies is provided in Hearings on *Volume and Stability of Private Investment, op.cit.*, pp. 447-491.

[96] For a clear example, see S. A. Reep, *The Investment Company—An Agency in New Enterprise Financing*, unpublished Ph.D. dissertation, School of Business, University of Chicago, 1948.

these institutions to be an influence for investment regularization, although one of limited magnitude.

Investment development companies have been utilized to a limited extent by insurance companies and investment companies as an intermediary for making equity investments in venture enterprises. To the extent that these institutions use investment development companies, the average amount of investment in equity securities is increased; of even greater significance, the power of their contracyclical operations is magnified.

GOVERNMENTAL CREDIT AGENCIES

The fact that numerous agencies of the federal government have been empowered to lend money or to guarantee private loans to business enterprises is evidence of a general belief that the availability and terms of external financing do affect business investment decisions, and that private financial institutions have not met the valid credit requirements of business. These agencies include the Reconstruction Finance Corporation, the Federal Reserve banks, the Export-Import Bank, the Smaller War Plants Corporation, and the Veterans Administration. The outstanding business loans and loan commitments of these agencies at the end of 1950 appear to have been of the order of $1 billion. In addition, approximately $19 billion worth of credit and loan guarantees extended by federal agencies to aid agriculture, home owners, and other groups and activities have had manifold indirect effects upon the demand for, and supply of, credit to business firms.

It is beyond the scope of this paper to examine the large question of whether present or different governmental credit programs are needed to fill gaps in the private machinery of business finance, or to determine what impacts federal credit has had upon the financial system and the business economy. We are concerned with a single issue: Have existing federal credit agencies operated to reduce or to amplify irregularities in business capital formation? Prima facie, the independence of these agencies from the restraints ordinarily imposed by federal monetary policies upon private financial institutions appears to equip them with large potentialities for regularizing the flow of business investment in the interest of orderly economic growth. Indeed, this has been one explicit reason for their existence.

An examination was made in 1941 of the role of governmental credit agencies before World War II, and of the extent to which government credit was complementary to, rather than competitive

with, credit supplied by private financial institutions. The conclusion was reached that the operations of the RFC and other agencies had made net contributions to national income after 1932 that were comparable to those made by federal relief grants and direct investments in public works. It was also concluded that the largest part of federal credit was of a type that private financial institutions would not have extended. Although competitive elements were present in the policies of the federal agencies, the bulk of their credits was complementary in nature.[97]

Whatever the past effects of federal credit have been upon the regularization of business investment, it appears clear that the multiplicity of purposes for which it has been extended and the number of independently operated federal agencies that have extended it have combined to prevent the execution of any unified contracyclical policy.[98] The case for a coordinating agency at the highest policy level seems abundantly justified.[99] The existence of such an agency would possess great potentiality for enhancing the contribution made to the regularization of business investment by federal credit agencies.

INTERBUSINESS FINANCING[100]

Nonfinancial business firms provide large amounts of trade credit, short- and long-term loans, and equity capital to other firms. Although such interbusiness financing cannot, by definition, affect the

[97] Neil H. Jacoby, "Government Loan Agencies and Commercial Banking," *American Economic Review*, Supplement, vol. 32, no. 1, March 1942, p. 250.

[98] R. J. Saulnier, "The Growth of Federal Lending, Loan Insurance and Guarantees," National Bureau of Economic Research, Financial Research Program, manuscript, 1952. For a discussion of the impact of federal lending and loan insurance on the economy see H. G. Halcrow, N. H. Jacoby, and R. J. Saulnier, "Federal Programs of Lending, Loan Insurance and Loan Guarantees," National Bureau of Economic Research, Financial Research Program, manuscript, 1953.

[99] One of the recommendations of the Committee on Reorganization of the Executive Branch of the Government (Hoover Committee) was that a National Monetary and Credit Council be established, including in its membership the chairmen of the Farm Credit Board, the board of the Export-Import Bank, the board of the Federal Deposit Insurance Corporation, the board of the Reconstruction Finance Corporation, and the board of the Home Loan Bank, as well as the Secretary of the Treasury and the chairman and the Board of Governors of the Federal Reserve System. See *Task Force Report on Lending Agencies*, U.S. Govt. Printing Office, 1949. See also G. L. Bach, "Bank Supervision, Monetary Policy, and Governmental Reorganization," *Journal of Finance*, vol. 4, December 1949, pp. 269-285.

[100] This section is based upon Neil H. Jacoby, *Interbusiness Financing in the American Economy*, manuscript, 1948.

aggregate supply of funds available to the business population as a whole, the redistribution of this supply among firms may have significant effects upon aggregate business investment and its variation through time. The historical development, present extent, and economic consequences of interbusiness financing need to be analyzed systematically.

Interbusiness financing ordinarily has been interwoven with trade relationships between the financing and the financed firms. Financing of customer firms typically has been undertaken as a means of expanding markets, stabilizing sales, and reducing selling expenses. Financing of supplier firms has usually represented an effort to assure ample and reliable sources of supply of raw materials or equipment, to reduce procurement expenses, to aid sales planning, or to reduce costs of carrying inventories. In trade credit and equipment financing, the funds provided are directly linked with the sale of goods. In purchases of equity funds or extensions of loans, the financing is generally accompanied by some kind of agreement—oral or written, expressed or implied—for future market relationships or is, at least, intended to create a favorable attitude on the part of the financed firm toward the financing enterprise. Nevertheless, firms have sometimes invested in other enterprises without any apparent market relationship. Reliable estimates of the annual volume of interbusiness financing are lacking, but two figures indicate that the magnitude is large. At the end of 1937, all nonfinancial corporations had outstanding $15.6 billion of accounts receivable, and manufacturing corporations alone carried investments other than government securities of $1.4 billion.[101]

By widening the range of external sources of funds available to any firm, interbusiness financing has expanded aggregate business investment. Funds have been provided to many firms unable to obtain them from other sources. "Gaps" in the financial structure have been filled. Has interbusiness financing augmented or dampened cyclical fluctuations in aggregate business investment? To answer this question, we must consider each type.

Sales of goods on open book account, commonly known as "trade" or "mercantile" credit, represent the major category of interbusiness financing. While its relative importance probably has declined, trade credit remains quantitatively the largest of all categories of short-term business liabilities. Kaysen's analysis revealed that trade credit formed 44 per cent of the total current liabilities at the end

[101] Chudson, *op.cit.*, pp. 58-59.

of 1939 and was about two and one-half times as large as bank debt. It also showed that between 77 and 100 per cent of all American businesses, depending upon industry and size, were indebted to trade suppliers at that time.[102] In general, trade credit has moved from older, larger, and more profitable enterprises into newer, smaller, and less profitable firms. At the end of 1937 nonfinancial business corporations as a group had $3.5 billion more of accounts receivable on their books than they owed in accounts payable, showing that they were extending credit in this net amount to unincorporated businesses and individuals.[103]

Analysis of the distribution of aggregate trade credit among firms in different industries and of different sizes at different phases of the business cycle reveals that it has functioned to stabilize business investment. For example, Merwin's study of the financing of small corporations in five industries through the years 1926-1936 showed that these firms were large net users of trade credit, and that their use of such funds increased relative to their use of bank credit during the depressed thirties.[104] It showed that for the small firm, trade credit complemented financing from other sources. This finding has been confirmed by Lintner and Butters,[105] and, inferentially, by Koch.[106] The conclusion seems justified that, as a general economic recession deepens and spreads, the financial positions of an increasing number of small and medium-size enterprises become straitened, risks rise, profits fall, banks curtail loans, and larger and longer trade credits are sought and granted. Converse movements occur as a general upswing in economic conditions broadens into prosperity and boom. Trade credit therefore has distributed funds within the business system in a way that contributes to regularity in aggregate business investment. Because of their superior ability to carry risks and their long-run business interests, larger and better-financed firms show a greater willingness to "carry" small and financially weaker firms through slack periods via trade credits than do commercial banks via loans.

Closely allied to trade credit is factoring, particularly in the

[102] Cited in Jacoby and Saulnier, *op.cit.*, table 3, p. 41.

[103] Chudson, *op.cit.*, pp. 58-59.

[104] Charles L. Merwin, *Financing Small Corporations in Five Manufacturing Industries, 1926-1936*, National Bureau of Economic Research, 1942, pp. 65-66, 73.

[105] J. Keith Butters and John Lintner, *The Effects of Taxes on Growing Enterprises*, Harvard Graduate School of Business Administration, 1945, pp. 126-127.

[106] *op.cit.*, pp. 56-57.

textile industry, by distributors who purchase the accounts receivable of manufacturers and make loans against their inventories. In this case, the flow of credit is *backward*, from distributor to manufacturer, in contrast to the usual flow of trade credit from manufacturer to distributor. Yet the economic effect—a redistribution of the aggregate supply of funds employed in business operations—is similar. Originally, factoring was performed exclusively by distributors of textile products, but now the tendency is to separate financing from distributing functions; specialized commercial financing firms have taken over an increasing proportion of factoring operations. Thus factoring, to a lesser degree, has become a form of interbusiness financing, as defined herein.[107] It is probable that factoring has stabilizing effects similar to those produced by trade credit.

With the increasing mechanization of industry, the financing of machinery and equipment by manufacturers into the hands of distributors and business users has grown in volume. Ordinarily, the financing contracts are loans secured by the equipment and repayable in installments over periods of more than one year. As in factoring, specialized commercial financing institutions have tended to purchase or discount such loans, usually with recourse to the manufacturer in case of default by the buyer. Yet many equipment manufacturers have preferred to carry their own receivables, either directly or through their own financing subsidiary, in order to earn the financing charges, to eliminate the possibility that a financial institution would injure relations with their customers by its collection procedures, to maintain continuing good relations with customers, or to supply business firms whose credit ratings are not acceptable to financing institutions.

In the absence of direct information about temporal changes in installment equipment credit, its economic effects must be inferred from the characteristics of the enterprises that have used it most. The evidence is that larger percentages of medium-size and small firms with low credit ratings in the service, retailing, and manufacturing industries have used this kind of credit than have firms of other sizes and industries, or firms with high credit ratings.[108] Because

[107] See Foulke, *op.cit.*, pp. 186-191; also R. J. Saulnier and N. H. Jacoby, *Accounts Receivable Financing*, National Bureau of Economic Research, 1943, pp. 18-20.

[108] See R. J. Saulnier and N. H. Jacoby, *Financing Equipment for Commercial and Industrial Enterprise*, National Bureau of Economic Research, 1944, pp. 50-52.

such businesses are among those least likely to have alternative methods of financing the purchase of equipment during periods of economic depression, it is a plausible conclusion that the existence of this type of interbusiness financing has augmented business investment in equipment during slack periods. It has probably also expanded investment during periods of prosperity, but proportionately not as much, because of the greater availability of funds from other sources.

Comparatively little is known about the character or temporal behavior of long-term loans and equity funds provided by nonfinancial business enterprises to other firms, although the amounts involved are substantial in the aggregate. Such funds evidently have tended to flow from larger toward smaller businesses, because among businesses in all industries the proportion of "investments" to total assets increases as size of business increases.[109] In many instances, it is known that long-term loans or equity funds have been advanced for the same purposes as trade credit or equipment financing—to enlarge the market for the products of the financing firm or to assure it a supply of needed raw materials. In other cases, equity or long-term creditor positions have been taken with an intent gradually to accumulate a position of control of the financed firm, which may be subsequently taken over and operated as a subsidiary of the financing concern or merged with it.[110]

Although gaps in information preclude the formation of final conclusions, interbusiness financing in the aggregate has almost certainly operated in the direction of stabilizing business investment. Large business corporations tend to be net creditors of the commercial banking system; they possess the liquidity to aid medium-size and smaller enterprises without access to financing institutions. The redistribution of the total supply of funds in the business system that they have brought about appears to have exercised a "cushioning" effect on investment. The encouragement of interbusiness financing, within the limits set by other social objectives, would therefore appear to be a desideratum.

[109] See Chudson, *op.cit.*, p. 89.

[110] Long-term financing arrangements combined with long-term contracts of supply between a financing and a financed firm may, under certain circumstances, raise questions about violation of antitrust laws similar to those raised by outright vertical integration of the two firms. See Richard W. McLaren, "Related Problems of 'Requirements' Contracts and Acquisitions in Vertical Integration under the Antitrust Laws," *Illinois Law Review*, vol. 45, no. 2, May-June 1950, p. 141. However, such possibilities seem to exist with respect to short-term financing and supplying arrangements as well.

PROPOSED NEW FINANCIAL INSTITUTIONS AND TAX REFORMS

Attention has been focused herein upon how the financial policies of existing institutions affect the regularity of business investment.[111] Although it is beyond the scope of this inquiry to examine in detail proposals for new financial institutions and tax measures affecting the supply of funds, these may be noted and their possible influence upon cyclical variation in investment may be observed.

New financial institutions and tax reforms have been proposed principally to fill "gaps" presumed to exist in the present financial structure, notably an alleged lack of long-term credit and equity funds for small firms and "venture" enterprises. The major proposals include general business loan insurance of the FHA type; capital banks to provide equity and long-term credit; reduction of taxes on the income of business corporations, particularly small corporations; and flexible depreciation allowances for income tax purposes. All of these measures are usually recommended as undertakings of the federal government, although the first two might also be effected under private auspices.

Without judging the wisdom of any of these proposals, one may accept as plausible the argument that their adoption would increase the average amount of business investment throughout the cycle. It appears likely, however, that they would tend to aggravate rather than to moderate cyclical fluctuations in investment, because they would tend to augment the supply of funds at times when it is most ample and to direct funds to classes of business firms that are relatively most vulnerable to general economic fluctuations.

It is, of course, conceivable that the new institutions and practices could be operated in a contracyclical manner. Capital banks and loan insurance agencies might vary their standards and terms of capital, credit, and loan insurance contracyclically. Corporate income tax rates and allowable depreciation deductions might also be varied to stimulate investment during slumps and restrain it during booms. These measures would affect investment by firms not suffering from the alleged financial "gaps" as well as by those that are. Whether the practical difficulties of getting adjustments in

[111] The determinants of individual and business saving are relevant to our problem but represent issues much too broad for coverage in this paper. We have not discussed the role of individuals as direct suppliers of funds because their diverse circumstances make brief generalizations more than ordinarily precarious. Nor does space permit adequate treatment of the numerous facets of increased participation by the public in the equity markets—a participation that may already have emerged on a considerable scale.

tax laws and operating policies promptly enough to produce contracyclical effects on investment and the magnitude of these changes would more than offset the procyclical influences that are inherent in them are questions for future study.

Summary

An important general conclusion that emerges from a study of financial policies for regularizing investment by American business enterprises is that no single measure, or set of measures taken by one agency, is adequate by itself. Instead, a very large number of alterations in the attitudes, policies, and decisions of institutions supplying funds to businesses and of firms using funds is required. Beyond that, many changes need to be made in public policies governing the operation of financial institutions, particularly those pertaining to the commercial banking system. Out of many reforms in the financial policies of many agencies—each reform relatively insignificant in its effect—there may be built a more stable pattern of business investment behavior than has been witnessed in the past.

Another general conclusion is that a considerable number of changes in financial policies, operating in the direction of investment stability, would not only promote the public interest but would at the same time serve the private interests of business firms and financial institutions. It would be futile to propose actions by private enterprises to promote the public welfare if they were detrimental to the firms asked to take them. No firm is able to stand against the economic tide. No firm can reasonably be expected to sacrifice its welfare or imperil its survival. Yet there appear to be many stabilizing financial policies in which private interest and the public welfare coincide.

1. Economic theorists have recognized the importance of the availability of funds to business enterprises in their explanations of business cycles. Empirical studies have demonstrated the strong influence of the available supply of funds upon business investment decisions. Yet economic literature has been unduly preoccupied with the price of funds—interest rates—and has not given enough attention to two other important conditions of the supply of funds: the credit standards of supply institutions, and the qualitative features of their financing contracts. These two factors, like interest rates, are amenable to influence by national monetary policies and they have greater influence upon the volume of business investment than they have been credited with in recent years.

The availability and terms of financing exert a strong influence upon business demands for capital goods. Not only may they act as reinforcing or limiting factors, but they may also operate as important initiating causes of general business fluctuations. During recent years there has been an increasing understanding of how financing terms determine the demand for housing and other consumer durable goods. The analogous effect of financing terms upon the volume of business investment has not yet been clearly recognized and described.

2. The investment-financing policies of business enterprises appear capable of alteration in a number of ways that would contribute to stability. More general use of systematic procedures of investment planning and capital budgeting by the firm would lengthen planning horizons, reduce revisions in investment plans, and deemphasize the influence that recently realized profit rates appear to have had upon investment decisions. Such procedures should also reveal the inappropriateness of the rule of thumb many firms follow in treating the internal funds available as a "ceiling" on capital outlays. While the proclivity of business management to finance investment internally probably moderates investment during the boom, it is by no means clear that it operates as a sustaining factor in the slump. The prevalent propensity to use equity financing and the aversion to debt clearly operate to destabilize the rate of investment through the business cycle. Likewise, the apparent insistence upon a higher marginal rate of return from new capital goods than that realized upon the firm's present fixed assets—a short "pay-out" period—aggravates investment fluctuations. These propensities might be modified if the probability of long depressions in the future were reduced. General acceptance by political leaders of definite long-term goals for fiscal-monetary policy and business regulation would reduce the uncertainty felt by managements about environmental changes. More extensive education of management in the nature of recent economic stabilization measures should also diminish the apprehensions of future collapse of effective demand and lead to stabilizing financial-investment policies.

3. The great importance of internal funds in the financing of business investment suggests two questions: First, to what extent would the internal funds available to businesses in the aggregate have enabled them to finance an even flow of investment consistent with sustained high employment? Second, would dividend policies

other than those that have been followed in the past contribute significantly to their ability to do this?

Analysis of data bearing upon the first question indicates that a fuller use of corporate cash balances during economic recessions would have raised investment. Large corporations accumulated substantial cash balances during the early 1930's. Taking multiplier effects into account, their use of an investment regularization policy might have gone some distance toward moderating the decline in business capital formation that occurred. Yet full investment regularity from this source alone probably could not have been achieved.

On the second question, an examination of the hypothetical effects on liquid funds of two types of stable dividend policy—payment of a stable *amount* of cash dividends each year and maintenance of a stable *ratio* of payments to profits—indicates that only a stable payout ratio would have contributed to investment regularization. Nevertheless, this policy does not promise much change in the ability of businesses to finance internally an adequate and regular rate of investment, because the amount of funds required for that purpose appears greater than could be provided by any feasible change in corporate dividend payments.

More important, however, is the fact that both these questions "put the cart before the horse." Dividend policies are strongly influenced *by* investment decisions and consequent financial requirements; they have little influence *upon* them. If regularity of investment could be achieved by other measures, corporate net income would then display less cyclical variation, and a stable dividend policy would not only be more feasible but would, per se, contribute to over-all economic stability.

4. Examination of the external supply of funds to business enterprises by the principal institutional sources reveals many opportunities for reforms in the policies of those institutions and in the governmental policies to which they are subject. These would contribute to stability of fund supply.

a. Commercial banks. Greater regularity in the availability of bank credit to business would be most effectively promoted by central banking policies designed to protect the liquidity of fundamentally sound commercial banks during periods of depression, and to put strong restrictive pressures upon them during booms. The rather discouraging record of the past may be improved in the future, as a result of the experience that has been gained and of the greater powers now possessed by the Federal Reserve System. Bank-

examining agencies may also advance stability by taking the long view in appraising commercial bank assets. Bank managements could make an independent contribution by expansion of term loans and other business financing techniques that provide greater continuity of credit, and by contracyclical variation of their credit standards.

b. Investment banks. Although they possess very limited ability independently to influence cyclical movements in the flow of funds through the securities markets, investment bankers have opportunities to devise "marketable" financing plans, to provide counsel to their clients, and to influence the terms of bond indentures and credit standards, in the direction of greater stability.

c. Insurance companies. As a result of strong secular growth in assets, relative cyclical stability in inflow of income, and low liquidity requirements, insurance companies are in a peculiarly favorable position to contribute to regularity of investment. Among the policies that they might feasibly follow for this purpose are use of contracyclical variations in credit standards and in investment portfolios, further extension of term lending, direct purchases of corporate debt securities, and sales-and-lease-back financing—all of which provide continuing and longer-term credits to businesses. In all of these policy changes, the cooperation of the public regulatory agencies would be required.

d. Investment and development companies. The low liquidity requirements of investment companies, combined with their long-term objectives, also make it feasible for them to pursue a contracyclical investment policy in which the public welfare and their own interests coincide.

e. Commercial financing companies. The heavy dependence of these firms upon commercial banks for funds puts most of the burden of reducing the great cyclical gyrations in their outstanding loans upon commercial banks, and, indirectly, upon the central bank. Commercial finance companies can—and do—contribute to stability by providing high-risk financing (at relatively high interest rates) to business firms in straitened financial positions during slack periods. They should be encouraged to do so, and to extend more medium-term credit under continuing arrangements with business borrowers.

f. Government credit agencies. Free from the monetary policy restraints to which private financial institutions are subject, these agencies appear able potentially to make a large contribution to investment stability by adopting contracyclical credit policies. This

objective would be advanced by establishing, at the highest policy level, a coordinating agency over all of the numerous federal lending and loan-insuring agencies now separately operated.

g. Interbusiness financing. Investment regularity may be affected by the redistribution of the available supply of funds between nonfinancial business firms, a redistribution brought about by extension of trade credit, factoring, installment financing of equipment, and long-term debt and equity investment. The evidence is strong that such interbusiness financing has promoted regularity in aggregate business investment. Its growth should be encouraged, insofar as it is consistent with other public policies.

COMMENT

DAVID GORDON TYNDALL, American President Lines

One of the more important conclusions in Jacoby and Weston's paper is that, owing to a shortage of liquid internal funds, full investment regularity could not have been achieved by a wide margin. This may be true, but the calculations made in the paper do not provide sufficient evidence to support the conclusion. The calculations compare the required additional amount of investment with free liquid funds without recognizing that, had the investment been higher than it actually was, those liquid funds would have circulated and *might* have "financed" the whole of the required investment. The authors do suggest that "multiplier effects would doubtless reduce the estimated deficiency" but give no basis whatsoever for their conclusion that the "deficiency would remain appreciable." Their reasoning presumably rests on certain notions about the velocity of circulation of funds, but it would require a very special measure of velocity to answer the question that they raise and no such measure is given.