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REQUIREMENTS

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POSTWAR CAPITAL FORMATION AND ITS FINANCING IN MANUFACTURING AND MINING INDUSTRIES¹

by

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Business policies in expanding inventories and plant and equipment, and in spending or retaining liquid balances accumulated during the war, will be among the important factors determining postwar economic trends. Reluctance of business concerns in general to expand the basis of operations would react unfavorably on national employment; on the other hand, efforts to expand very rapidly, at a time when demand for goods by domestic consumers will be supplemented by exceptionally large demand from foreign sources, would contribute to existing inflationary pressures. These pressures would be intensified if prospective business expansion should be financed largely by bank credit, either directly through loans or indirectly through a reduction in business holdings of Government securities, rather than by attracting private investment funds.

In trying to gauge possible problems connected with postwar business finance it is helpful to review the available statistics for evidence, first as to the need for new inventories and new plant and equipment, and second as to the need for new financing. With the close of the war, there has been considerable uncertainty over the extent to which wartime inventories and enlarged war plants may have obviated the need for further expansion, and similar uncertainty whether funds will be needed to supplement the wartime accumulations of liquid business balances. Since these uncertainties are greatest in manufacturing and mining industries, where war production and war profits have been concentrated, the present paper will deal with the situation in these industries.

In order to consider developments peculiar to the war period, the analysis throughout distinguishes between industries in which war production was especially concentrated and "all other" industries. Two broad industry groups, "metals and products" and "petroleum, chemicals, and rubber" represent the war industries and the residual group may be characterized as "non-war" industries although many companies had Government contracts.

¹This paper, as well as the other paper in this pamphlet, was prepared under the general supervision of Miss Susan S. Burr, Chief of the Capital Markets Section of the Board's Division of Research and Statistics.

Tentatively, it appears that large as the wartime plant expansion has been, there is still room for substantial private capital expenditures before a reasonably high level of peacetime employment and production can be reached. Whether much new financing will be required will depend partly on price-cost relationships and their effect on profits, and partly on the rapidity of the postwar expansion. If profits should rise to the unprecedentedly high levels predicted by some, and if progress toward full employment should come gradually, little outside financing will be needed. If, on the other hand, price-cost relationships should be such as to keep profits below (say) the 1941 level, the moderate amount of internal funds arising from business operations will probably fall far short of the amounts required for a rapid expansion of production, and considerable outside financing will be entailed.

Quantitative appraisal of the prospects must be greatly qualified by the fact that existing internal funds will probably not be distributed among individual concerns in accordance with their needs, so that a superfluity of funds among some companies will be accompanied by a deficiency among others. The amount of outside financing actually needed will therefore be much greater than can be gauged from over-all data. Already (early in 1946) the importance of this factor has been demonstrated in the considerable growth of new security financing during late 1944 and 1945, and in the more recent expansion of bank loans.

How large a volume of new financing is likely can only be guessed at present. While tentative conclusions can be drawn from the available statistics under certain hypotheses, the presence of statistically non-measurable factors limits practical application of the conclusions. Thus, in the present instance, not very much can be said in advance about the rate of technological innovation and the reaction of businessmen to Government policies affecting prices and wage costs, although these factors may affect very appreciably the magnitudes of business outlays and financing.

POSTWAR PATTERN OF INDUSTRIAL OUTPUT

Underlying any appraisal of postwar needs for plant and equipment, inventories, and other working capital is the question how much market demand is likely to be encountered. For many manufacturing and mining industries (as well as for public utilities, transportation, trade, and service industries), prospective market demand corresponds to prospective consumer expenditures. For a few industries, chiefly within the metal products group, market demand will depend upon the expansion in plant

capacity required in industries serving consumers and in the metal products industries themselves.

The relationship between activity in consumer goods industries and in the metal products industries is evidently not a linear one at various levels of national production; metal products industries are subject to much wider swings than consumer goods industries. Moreover, the relationship is not such that future patterns of production can easily be inferred by looking at the patterns which obtained in the past at various levels of national output.

Activity in the metal products industries involves intricate relationships with such factors as deferred replacement, technological obsolescence, long-range expansion programs, and the like; and the conjuncture of these factors in any particular year is likely to be peculiar to that year. To a lesser degree the same situation obtains in industries producing consumer durable and semi-durable goods. Thus a thorough analysis of prospective patterns of industrial activity would require a great number of studies of consumer holdings of durable goods and industry holdings of plant capacity, with year-by-year projections showing the retirement of existing equipment and purchase of new equipment, and a final integration of the consumer and business segments of the economy, and of the manufacturing and nonmanufacturing segments of business.

Such a comprehensive analysis of the factors determining future market demand and patterns of industrial output has never been made. Moreover, it would be pretentious to attempt it at this time as a basis for "scientific" projections because very important elements still have to be treated by arbitrary assumption. It is fairly certain that the over-all level of national product will expand to new peacetime records as a result of large backlogs of deferred demand, buttressed with unprecedented reservoirs of liquid assets among consumers. But the amount of consumer expenditures relative to current consumer incomes, and also the amount to be spent for services in contrast to goods, and for nondurable in contrast to durable goods, are all matters of unenlightened conjecture. These uncertainties are mentioned to emphasize the tenuousness of projections concerning postwar business expansion, and to serve as a reminder that any one set of such projections is at best illustrative of only one of many possible patterns of economic activity.

In view of these considerations a fairly simple procedure will be followed here of positing a level of gross national product and then outlining a

pattern of industrial activity on the basis of past relationships with gross national product.

Gross National Product in 1948. Viewed in the abstract, the question "what level of demand and when" is an open-end question that permits a considerable range of views depending on the time periods with which the questioner is most concerned. Over the immediate months ahead, there is evidently so large a backlog of consumer demand that inflexibility of supply is probably the chief factor limiting expansion; in evaluating the outlook for such a period, the timing of various factors likely to retard or to accelerate production would be of first importance.

In this paper the prospects for expansion of industrial capacity following the war, and for its financing, will be explored for the intermediate period to mid-1948. For the period as a whole the timing of minor factors affecting the rate of advance may reasonably be ignored and the assumption made that the wartime backlog of consumer demand, plus demand for producers' equipment both in this country and abroad, will provide an impetus for rapidly expanding industrial production and national income, approaching a condition of full employment.

For present illustrative purposes, it will not matter particularly whether the level of industrial output selected for exposition is actually the maximum obtainable in a full employment economy, or whether it is a little above or a little below; it will be sufficient that the level should be reasonably likely of attainment in the next period of active business advance. The annual rate of gross national product used in these calculations for June 1948 (and for the year as a whole) will be 225 billion dollars in current prices, or about 201 billion in 1945 prices.

The assumption in 1945 prices is consistent with postwar trends in gross national product recently calculated by several analysts.² Already (early in 1946) it is apparent that the 1946 price average will be considerably above 1945; if by 1948 prices should be 12 per cent above 1945, the current value of the projected gross national product would be 225 billion

²Four of these estimates, after being adjusted by Everett E. Hagen to a common assumption of 60 million persons in the labor force in 1950 and working hours the same as in 1940, ranged from 202 to 208 billion dollars in terms of 1943 prices. See *Review of Economic Statistics*, May 1945, pp. 47 and 50. In *Dun's Review* for May 1945, Edwin George has also compared various estimates of gross national product at full employment, arriving at somewhat lower figures than Hagen's. If on this basis a figure of 205 billion is assumed for 1950, and adjusted to 1948 by deduction of an average output of \$4,000 for one million fewer persons in the labor force and of an allowance of 5 per cent for lower productivity, the result is 191 billion dollars. Since this figure is specified in terms of 1943 prices, an allowance for the roughly 5 per cent increase in prices to 1945 would bring the total to 201 billion.

dollars. The price factor will be of major importance in increasing business requirements for working capital—that is, for inventories, customer credit, and liquid balances. It will also affect the expenditures needed to achieve any specified increase in physical plant capacity.

Relation of Industrial Output to Gross National Product. Underlying the question of how much industrial capacity is likely to be needed after the war is the question of the demand for manufactured products. It seems quite possible that with the return to peace, the relative importance of manufacturing activity in the national economy may be less than it was during the war; that reattainment of recent wartime levels of gross national product and full employment may mean somewhat less employment in manufacturing, especially the metal producing industries, and more employment in nonmanufacturing lines, with a corresponding shift in the need for plant capacity.

As regards aggregate industrial production, past relationships with gross national product provide only a rough basis for gauging future trends. Graphic comparisons of fluctuations in industrial production and in gross national product (adjusted to exclude price changes) from 1919 to 1945 suggest that industrial output increased proportionately with gross national product from 1920 to 1929, and that 1937 and 1940 were on the line of relationship for this period. In contrast, however, the movements downward from 1929 to 1932, and upward from 1932 to 1937 and from 1938 to 1943, reflect relatively greater variations in industrial output than in gross national product.³

How these past fluctuations are interpreted will affect very considerably the particular figures one may select for industrial output to accompany particular levels of gross national product. The analyst may, for example, accept as normal the proportionally greater movement of industrial output that prevailed over the major part of the past 25 years and decide that a high postwar level of gross national product would involve a level of industrial output not far different from the recent wartime experience. Alternatively the proportional movements from 1920 to 1929 (1937 and 1940 were also in line with this relationship) might be taken as more relevant for the 1946-48 outlook. A third possible interpretation would involve reconciling the diverse relationships by assuming a cyclical

³The comparison of indexes of industrial activity and of gross national product deflated for price movements is at best precarious owing to the possibility of appreciable trend in either series. For this reason the interpretation of historical data needs to be combined with a common-sense appraisal of the factors likely to shape the future.

movement of industrial output that is proportionally greater than the movement of gross national product, coupled with a long-run trend toward expanding the nonindustrial part of the national economy. Statistically the latter would be expressed as a downward time trend in the relative importance of industrial activity.⁴

Quite different results are obtained by applying these three alternative interpretations of the past to gauge industrial activity in the three postwar years under consideration. Application of the relationship of industrial activity to gross national product in 1919-29 and the two years 1937 and 1940 to the assumed gross national product of 201 billion dollars would suggest a production index for 1948 of 204 (1935-39 average = 100); projection of the more volatile movement of industrial production in the periods 1932-37 and 1938-43 would yield an index level of about 244; the third approach, which combines the second with a long-run downward trend in the relative importance of industrial activity, would indicate an index of 205 to 230 depending on the weight given to war-time data.

Pattern of Industrial Activity. In part the indeterminateness of the over-all correlation between industrial activity and gross national product stems from divergent movements of the component parts of industrial production. Another approach which takes account of such differences involves a general judgment as to the postwar trends by industry groups. Projections by this method are presented in the table on page 7. While the industry groups also conceal divergent movements among component industry subgroups, they permit the introduction of more qualitative factors than was the case for the over-all approach.

During the expansion from 1933 to 1937 and again from 1938 to 1942, production in nondurable goods industries as a group increased about proportionately with gross national product. During the war, however, various segments of nondurable goods industries have exhibited con-

⁴A rough calculation indicates that the 1919-45 movements could be fairly well summarized by the equation

$$\text{Industrial production} = \frac{(\text{gross national product})^{1.5}}{10 (1.012)^{(\text{year}-1932)}}$$

where industrial production represents the Federal Reserve index and gross national product is the series expressed in 1944 prices as published in *Basic Facts on Employment and Production*, (Report to the Committee on Banking and Currency, Senate Committee Print No. 4), Sept. 1, 1945, p. 11. The equation reflects the more volatile movements of industrial production in relation to the gross national product, as well as a long-run downward trend of 1.2 per cent a year in their relationship.

siderable diversity. Output of the petroleum, chemicals, and rubber products group rose sharply to wartime peaks in 1943 and 1944 while food and textile products increased less sharply. Activity in other nondurable lines declined slightly in 1942 and 1943; by 1945 output had recovered but was still slightly below the 1941 level.

The reactions of these different nondurable goods industries to wartime needs and restrictions are reflected in the projected levels of production in 1948 suggested in the accompanying table. Output of petroleum,

PROJECTED LEVEL OF INDUSTRIAL PRODUCTION FOR 1948
(Federal Reserve index of physical volume, 1935-39 average = 100)

| Industry group | Wartime peak | | 1945 | 1948 |
|------------------------------------------------|--------------|------------|------------|------------|
| | Year | Index | | |
| Total¹ | 1943 | 239 | 203 | 208 |
| Nondurable manufactures | 1943 | 176 | 166 | 180 |
| Food products | 1944 | 152 | 150 | 155 |
| Textiles and products | 1942 | 157 | 146 | 170 |
| Petroleum, chemical, and rubber products | 1943 | 319 | 263 | 250 |
| Other | 1941 | 129 | 128 | 160 |
| Durable manufactures¹ | 1943 | 360 | 274 | 272 |
| Iron and steel | 1943 | 208 | 183 | 200 |
| Nonferrous metals and products | 1943 | 267 | 204 | 230 |
| Machinery | 1943 | 443 | 343 | 325 |
| Transportation equipment | 1943 | 735 | 487 | 400 |
| Other | 1942 | 148 | 131 | 180 |
| Minerals | 1944 | 140 | 137 | 140 |

¹ Subtotals for durable manufactures and total include allowance for activity in Government arsenals and shipyards.

chemicals, and rubber may fall considerably short of the 1943 peak, food products may be only slightly above their 1944 peak, while textiles and miscellaneous nondurables (leather, tobacco, beverages, paper, printing) may well rise considerably above previous highs.

Activity in durable goods manufacturing has typically fluctuated more sharply cyclically than gross national product, while mineral production has varied more nearly in proportion to it. In conjunction with this cyclical behavior, output of the machinery, transportation equipment, and nonferrous metal industries also evidenced a long-run tendency to drift downward relative to gross national product, as compared with

other manufacturing and nonmanufacturing industries. During the war output of nonferrous metals, machinery, and transportation equipment rose sharply to peaks in 1943 while steel and other durable lines showed little relative growth after the early defense expansion of 1940-41.

Projections of durable goods industries on the basis of past relationships with gross national product are especially precarious in some groups because of new factors that were not present in either the wartime or the prewar situation. In such lines as nonferrous metals and aircraft, the war stimulus is likely to carry over in substantial part into civilian production, and in other fabricated lines, such as autos and railroad equipment, there exist large backlogs of deferred demand.

The table shows the levels of activity that will be assumed to obtain in the individual industries in 1948. The figures for the several industrial groups add to an over-all industrial index of around 208 per cent of the 1935-39 average. In relation to gross national product, this figure stands in about the same proportion as in 1941.

While a level of 208 would be only slightly higher than the 203 recorded for 1945, it represents an altogether different situation in the composition of industrial production, involving a considerable decline in the Government component and nearly a doubling in the output available for civilian consumption. As will be explained later, it has been assumed in this connection that by 1948 Government industrial activity will have ceased at the plants which were operated by the armed services, or for them on a management-fee basis, during the war.

PLANT CAPACITY AND CAPITAL EXPENDITURES

The next question is what capital expenditures would be involved in providing the industrial capacity required for the anticipated level of activity in 1948. This question may be divided into three parts: (1) How much effective plant capacity was in existence at the end of the war? (2) What will be the effect of transition adjustments which involve retiring some parts of existing plants and reducing the effective capacity of other parts? (3) What expenditures will be necessary to bring the residual capacity up to the levels required for 1948 output and at the same time to cover normal retirements of equipment in the interval?

All of these questions presume some standard for measuring the plant capacity in existence at various times, for adding together the capacity of various industries, and then for converting anticipated changes into dollar expenditures. Such a standard, of course, does not exist. About all that can be done is to use dollar values of plant and equipment, as shown on

financial statements of corporations, coupled with dollar figures for retirements and additions. In gauging the effective capacity represented by dollar book values, some allowance must be made for accounting deficiencies, for differences between the prewar prices at which plants were built and the postwar prices at which replacements and additions will be made, and for changes in effective capacity owing to variations in intensity of utilization—that is, in the number of hours a week that plants are worked.

A serious obstacle to such calculations is the incompleteness of data since 1942 on plant valuations and retirements. The chief aspect on which information is available for recent years is expenditures for new plant and equipment. For Government financed plants the data were developed at the War Production Board, and for privately financed plants at the Board of Governors of the Federal Reserve System.⁵

Need for New Plant Facilities, 1941–47. In view of statistical limitations, some of the difficult aspects of the recent war period have been bridged by using the amount of available industrial facilities and the volume of industrial production in 1941 as bench marks in obtaining comparable estimates. As is shown in the table on page 10, the gross book value of corporate plant facilities at the beginning of 1941 was 51 billion dollars. Since very little Government owned plant was being privately operated at that time, this was substantially the aggregate available for industrial operations in that year.

If it be assumed that by 1948 virtually all industrial production outside of Government arsenals and Navy yards will again come from privately owned plants, that these will be worked with substantially the same intensity as in 1941, and that facilities consumed during the period 1941–47 will have been replaced, then it may be supposed that the required increase in plant facilities will be about proportional to the projected increase in output.⁶

⁵Beginning with 1945 the Department of Commerce and the Securities and Exchange Commission have secured quarterly reports on capital expenditures of a sample of manufacturers which will form the basis for more current statistics in the future.

⁶The assumption of a 1948 intensity of plant utilization equal to 1941 is not quite consistent with the assumption involved in the projection of gross national product that the labor force will work shifts of the same length as in 1940, since average hours worked per week were about 5 per cent less in 1940 than in 1941 and the number of hours of plant operation a week presumably corresponded with this. This factor, however, is perhaps less important than the ratio of number of employees to value of plant facilities; in this respect 1948 seems likely to resemble 1941 more than 1940.

In addition to the question of cyclical variation in intensity of utilization, there is a question whether in the long run plant facilities increase in proportion to increases in output. On the one

The projected level of industrial production for 1948 is substantially above the 1941 level; for the three broad industry groups of manufacturing and mining shown in the table the increases in industrial production from 1941 to 1948 ranged from 18 to 52 per cent. These increases may be

PROJECTED NEED FOR PLANT ADDITIONS, 1941-47
Broad Industry Groups of Manufacturing and Mining Corporations
(In billions of dollars)

| Item | All manu- facturing and mining | Metals and products | Petroleum, chemicals, rubber | All other |
|----------------------------------------------------------------------------------------------------|--------------------------------------|------------------------|------------------------------------|------------|
| Gross value of plant facilities, beginning of 1941 ¹ .. | 51.1 | 16.8 | 14.5 | 19.8 |
| <i>Projected percentage increase in index of produc- tion, 1941 to 1948</i> ² | | 38 | 52 | 18 |
| Additional facilities, 1941-47 ³ | 17.4 | 6.4 | 7.4 | 3.6 |
| Replacement of facilities, 1941-47 ⁴ | 16.4 | 6.0 | 5.2 | 5.2 |
| Total required plant additions, 1941-47..... | 33.8 | 12.4 | 12.6 | 8.8 |

¹ Gross value of plant from U. S. Treasury Department, *Statistics of Income for 1940*. Data are before deductions of depreciation and exclude intangibles; they are adjusted to include corporations not submitting balance sheets.

² Percentage increases based on 1948 projections as shown in table on p. 7, except that activity at Government arsenals, Navy yards, and depots is excluded from metals and products in 1941. Indexes used were (1935-39 = 100): metals and products—207 for 1941 and 286 for 1948; petroleum, chemicals, rubber—165 for 1941 and 250 for 1948; all other—134 for 1941 and 158 for 1948.

³ Gross value of plant at beginning of 1941 times projected percentage increases in industrial production 1941-48.

⁴ Figures represent seven times the sum of the following items, reported in *Statistics of Income for 1942*: depreciation plus two-thirds of depletion plus one-fourth of amortization. Two-thirds of reported depletion is included as a rough allowance for new oil-well drillings and other mining prospecting needed to sustain mineral output. Amortization for 1942 is reduced to an equivalent of depreciation by taking one-fourth the reported amount, on the assumption that ordinary depreciation rates are only one-fourth of the 20 per cent a year allowed for amortization.

presumed to require additions to plant facilities in 1941-47 totaling over 17 billion dollars.

Plant and equipment to be retired and replaced over the period 1941-47 may be expected to total more than 16 billion dollars, on the basis of

hand, there is certainly a possibility in many lines that increased scales of output result in certain plant economies, both for line production and for equipment and repair. On the other hand, a static cross-section of the manufacturing industry in any one year such as 1941 suggests that large companies use relatively more plant facilities in relation to sales than do smaller companies. Over a considerable period of time, there is also a distinct trend toward increasing the amount of capital equipment used per employee and this trend is likely to be accelerated in the early postwar years by pressure to keep labor costs at a minimum. On the whole it is probably not overstating the requirements for industrial facilities to assume an increase from 1941 to 1948 in proportion to the projected increase in production.

allowances for depreciation, depletion, and amortization reported for 1942 when the level of industrial production was approximately (slightly below) the prospective average for the years 1941-47. Additions to and replacement of plant facilities in 1941-47 will thus total 34 billion dollars.

As an estimate of the capital expenditures required before the beginning of 1948, the figures in the table are subject to several distorting influences, some suggesting understatement and some overstatement. To begin with, the gross value of plant facilities at the beginning of 1941 is probably 20 per cent or more understated owing to various writedowns which, in accordance with conservative accounting practice, have doubtless exceeded the amount of facilities actually retired from service. To this extent application of the required percentage increased from 1941 to 1948 results in understating the required additions to plant facilities. The replacement allowance for seven years' depreciation tends also to be understated since not all depreciation charges are identified as such in the statistical source from which the data were taken. It is also to be noted that the depreciation figure includes no allowance for accelerated amortization and replacement of privately owned war facilities. Finally, the indicated 34 billion dollar cost of net additions and replacements may be understated owing to increases in construction costs and equipment prices; the gross value of plant existing at the beginning of 1941 was largely in terms of prewar prices whereas wartime and postwar additions may reflect price increases of 20 per cent or more.

More or less offsetting the price consideration is the possibility that the increased technological effectiveness of new materials and types of equipment in many lines may have compensated for changes in the dollar cost of like amounts of physical capacity. Similarly offsetting the understatement of depreciation allowances are two factors tending to keep "normal" replacements below the level of depreciation allowances. One is the fact that, during and for some time after a period of accelerated expansion of plant facilities, depreciation charges tend to rise much more quickly than normal retirements. The second factor is that, for the seven years 1941-47 as a whole, retirements will tend to be below normal owing to the wartime utilization of considerable amounts of over-age equipment, particularly in those categories which are normally replaced after three to five years. As a result some of the retirements which would normally have occurred in the seven-year period will be deferred until after 1947.

Possibly outweighing these two factors is the matter of accelerated obsolescence in the years immediately following the war, when many

innovations in materials, equipment, and production techniques will be introduced. To be sure, some of these changes will be introduced while deferred replacements are being made and thus will not involve the premature scrapping of existing equipment. But it seems altogether likely that, as new and improved equipment becomes more available, manufacturers will tend to replace some existing equipment before its normal retirement date. How much this factor may add to the capital expenditures of manufacturers is difficult to gauge. In the early postwar years 1946 and 1947 the availability of equipment may be a practical limiting factor. Conceivably manufacturers may be able to increase expenditures on this account by as much as 2 or 3 billion dollars in these early postwar years.

On balance it seems likely that the suggested figure of 34 billion dollars of additions to and replacements of plant facilities required in the seven-year period is somewhat low. Consideration will next be given to the extent to which this expansion has been made during the war, and to the size of the indicated residual expansion to be made in 1945-47.

Actual Plant Expansion, 1941-44. Under the exigencies of war production and of the preceding defense program, the principal expansions in new industrial facilities during 1941-44 occurred in the so-called war industries—metals and their products, and the petroleum, chemicals, and rubber group. It became Government policy to provide incentives to manufacturers for expanding war production facilities by granting priorities for materials and equipment and by legislative provision for charging off the cost of such facilities at an accelerated rate in computing taxable income. At the same time restrictions were increasingly applied against the use of critical materials for construction and equipment in civilian industries.

These Government policies are reflected in the table on page 13, which presents the value of plant facilities installed during 1941-44. In the so-called war industries new privately financed facilities over the four-year period amounted to more than 9 billion dollars and equaled nearly 30 per cent of the gross value of previously existing plants; in non-war industries the amount was 3 billion, only 15 per cent of plant values in 1941. That capital expenditures in non-war industries were as high as they were reflects partly the fact that some of them, such as food and apparel, received substantial war contracts, and all of them obtained substantial materials and equipment for maintenance, repair, and operation under the provision exempting small purchases from priority requirements.

The materials could be used by regular plant labor to construct new facilities, and there was probably a very great increase in the extent to which this was done.

Notwithstanding the arrangements for encouraging private construction of war plants, private concerns were in general willing to construct only such facilities as would be usable in postwar civilian production. Most of the more specialized facilities, including some equipment installed

PROJECTED NEED FOR PLANT ADDITIONS, 1945-47
Broad Industry Groups of Manufacturing and Mining Corporations
(In billions of dollars)

| Item | All manu- facturing and mining | Metals and products | Petroleum, chemicals, rubber | All other |
|----------------------------------------------------------------------------|--------------------------------------|------------------------|------------------------------------|------------|
| Total required plant additions, 1941-47¹. | 33.8 | 12.4 | 12.6 | 8.8 |
| New plant facilities installed, 1941-44, total ² . | 26.2 | 16.7 | 6.3 | 3.2 |
| Privately owned | 12.2 | 4.4 | 4.8 | 3.0 |
| Government owned: | | | | |
| Privately operated | 10.7 | 9.0 | 1.5 | 0.2 |
| Government operated | 3.3 | 3.3 | .. | .. |
| Government owned facilities usable after war ³ . | 5.2 | 3.8 | 1.2 | 0.2 |
| Total new plant facilities, 1941-44, usable after war | 17.4 | 8.2 | 6.0 | 3.2 |
| New facilities needed, 1945-47 | 16.4 | 4.2 | 6.6 | 5.6 |

¹ Figures are from table on p. 10.

² Privately owned facilities are estimates of Board of Governors of the Federal Reserve System. Estimates of Government owned facilities are from the following publications: Civilian Production Administration, *War-Created Manufacturing Plant Federally Financed, 1940-1944*, Nov. 15, 1945, and *Facilities Expansion, July 1940-June 1945*, Jan. 16, 1946. Figures exclude 0.7 billion dollars under private ownership and 1.7 billion operated within arsenals and Navy yards. (It is assumed the latter will be retained by the Government indefinitely.) Figures for Government operated and owned plants represent plants operated on a fee basis by private concerns but with sales, costs, inventories, and plants excluded from corporate financial statements.

³ Estimates of usable Government owned installations are described on p. 14.

within private plants, was provided under Government ownership. Thus the risk that an early end to the war might leave business saddled with unusable facilities was obviated. As is shown in the accompanying table, about 11 billion dollars of Government owned facilities were leased for private operation, many with a postwar option to purchase. Facilities costing about 3 billion dollars were merely managed by private companies on a fee basis, but sales and expenses from these plants were handled through Government accounts and were not reflected in private financial statements except as regards the management fee.

Plant Expansion in 1941–44 Usable after War. Industrial facilities provided during the period 1941–44 totaled 26 billion dollars. The privately financed total of 12 billion will be shifted easily to postwar civilian production. However, only a part of the 14 billion of Government owned facilities will have a peacetime use, and the usable facilities will gradually be acquired by manufacturers through lease from the Government or through purchase as surplus war property. Both the plant expansion and the capital expenditures of business in the early postwar years will be correspondingly affected. The extent to which industrial plants constructed under Government ownership during the war will be taken over by private business is a major element in the postwar need for new plant construction, and the terms on which Government plants are taken over will affect the need of business for funds.

Prevailing opinion seems to be that about two-thirds of the Government owned war plants will not be adaptable to postwar production. In reporting on these plants the Civilian Production Administration stated that “not more than 4 billion dollars of the new [Government] plant is readily usable in peacetime. The remainder must be (1) kept in standby condition for use in future military contingencies; (2) scrapped as part of the “expendables” of warfare; or (3) adapted (often at considerable cost) to some peacetime production for which a market exists or can be created.”⁷

If it is assumed that plant facilities classified in the Civilian Production Administration report as having “definite peacetime value” are only 80 per cent equivalent to those under private ownership owing to the reduced emphasis on construction cost, and if a limited adaptability for peacetime use—say 10 per cent—is allowed for facilities classified by the report as “largely irreclaimable,” a rough estimate of 5.2 billion dollars is obtained for Government owned plant facilities that may be operated after the war.⁸

The significance of these assumptions in estimating private plant expansion needed during the years 1945–47 in order to meet production

⁷Civilian Production Administration, *War-created Manufacturing Plant Federally Financed, 1940–1944*, Nov. 15, 1945, p. 3.

⁸More specifically, it is assumed here that Government owned plants will be operated after the war only to the extent of (1) 10 per cent of the Government owned and operated plants in all industries; (2) 10 per cent of other privately operated Government facilities for producing ships, guns, explosives, and ammunition; (3) 25 per cent of the privately operated Government owned aircraft facilities; (4) 80 per cent of privately operated Government facilities in other industries.

needs in 1948 is brought out in the table on page 13. The value of Government owned facilities assumed to be usable after the war is added to the privately owned facilities constructed during the period 1941-44 in order to arrive at the amount available from the period for meeting 1948 production needs. The difference between this amount and the projected total requirements for the seven-year period 1941-47 is the residual amount of new facility construction needed during the years 1945-47. The analysis suggests that this residual of 16 billion dollars will be distributed by broad industry groups quite differently from the wartime additions, in that relatively more of the postwar expansion will be needed in non-war industries.

Whether this amount of new facilities can become available to industrial concerns during this period will depend partly on how fast the output of equipment and construction materials can proceed. It will depend also on the volume of demand for equipment for transportation, public utilities, trade, service, and agriculture, and also for foreign reconstruction. In comparison with the private facility expansions of previous years (made at lower prices), and the increased capacity presently available in machinery and equipment industries, the projected 16 billion dollars appears a feasible figure.

Prospective Capital Expenditures, 1945 to Mid-1948. Capital expenditures of manufacturing and mining companies needed in 1945-47 to provide plant capacity for the projected level of industrial production in 1948 will include expenditures for new facilities constructed during the period and some purchases of existing Government owned plants.

There is little basis for guessing what proportion of the 5.2 billion dollars of usable Government facilities shown on page 13 will be leased to private business and what proportion sold, or how much of the latter may be financed by Government instalment sale credit rather than by bank or security financing. For illustration it may be assumed that one-third will be sold outright, one-third leased, and one-third financed by Government instalment credit. In this event about 3.5 billion dollars worth of usable war facilities would be purchased, although, as will be brought out, it would not necessarily involve this amount of expenditures.

The cost to business of acquiring these facilities would be somewhat less than their original cost. During the past two years a number of large Government plants have been transferred to private ownership at 35 to 40 per cent below their original cost. This is a greater markdown than the 20 per cent discount assumed on page 14 in adjusting the value of

Government construction to comparable private construction. The importance of this development to the present analysis is that the larger discounts probably reflect a reduced life expectancy of the plants more than a reduced current physical capacity. In terms of current capacity, the purchase of Government plants thus means smaller capital outlays than would be involved in construction of corresponding new facilities. Should Government plants be purchased at close to 20 per cent below the "private ownership equivalent" used in the table on page 13, the capacity described as "3.5 billion dollars worth" might cost corporations about 2.7 billion, of which half would be Government sale credit and half would be private funds. About three-fourths of these purchases will be facilities in the metals and products industries.

In order to bring the over-all financing requirements of manufacturing and mining corporations up to the date covered by the analysis in this paper—to mid-1948 (three years after the end of the war)—it is necessary to include capital expenditures for the first half of 1948. These figures, given below, represent an extension of the end-of-1947 rate that is consistent with estimates of total capital expenditures for 1945-47.

COMPONENTS OF CAPITAL EXPENDITURES, 1945-MID-1948

Broad Industry Groups of Manufacturing and Mining Corporations (In billions of dollars)

| Component | All manu- facturing and mining | Metals and products | Petroleum, chemicals, rubber | All other |
|----------------------------------------------------------------|--------------------------------------|---------------------------|------------------------------------|--------------|
| Construction of new facilities, 1945-47 ¹ | 16.4 | 4.2 | 6.6 | 5.6 |
| Purchase of usable Government owned facilities | 2.7 | 2.0 | 0.6 | 0.1 |
| Expenditures, first half of 1948 | 4.0 | 1.3 | 1.5 | 1.2 |
| Total, 1945 to mid-1948 | 23.1 | 7.5 | 8.7 | 6.9 |

¹ From table on p. 13.

Capital expenditures of 16.4 billion dollars for new facilities and of 2.7 billion for purchase of existing Government owned facilities in the 1945-47 period, together with 4.0 billion for the first half of 1948, brings the total for the three and one-half years to 23 billion. As discussed earlier, on page 12, an additional 2 or 3 billion dollars might be spent if supply

conditions permit introduction of more extensive technological improvements.

INVENTORIES AND OTHER WORKING CAPITAL NEEDS

Outlays for larger inventories and extension of customer credit will accompany business expenditures for maintaining and enlarging plant capacity after the war. Liquid asset requirements for current operating purposes will also be larger than they were before the war, but in most lines they will probably be smaller than the amounts of cash and Government securities on hand at the close of the war.

As in the case of plant capacity, prewar relationships are probably a better guide to postwar tendencies than is the wartime experience. The latter is strongly affected by such transitory factors as special inventory and credit arrangements under Government war contracts, restrictions on the purchase of raw materials and the inability to use funds for expanding plant and equipment, high excess profits taxes, and the like. Since 1941 is the latest year free from most of these factors, the relationship existing then between the various items of working capital, such as liquid assets, and dollar sales has been applied to the sales volume that might obtain in 1948 under earlier postulates in order to obtain an approximate estimate of requirements. The two years 1941 and 1948, however, are so far separated both in time and in level of industrial activity that subjective judgment must influence the result to a very great extent. In addition, the projections are subject to considerable variability depending on other developments in the national economy. These will be mentioned but quantitative account of their effect is hardly possible at this time.

Projected Dollar Sales in 1948. The pattern of industrial output projected on page 7 for 1948 is stated in terms of the Federal Reserve index of physical production. In converting these data into dollar sales consistent with the assumption of a general price level 12 per cent above 1945, some assumptions based on the past trend of prices were made regarding the distribution of the price rise by broad industrial groups.

For the years 1939, 1941, and 1945, the table on page 18 presents a comparison of the indexes of physical production, dollar sales, and the price trend that is implied in the relation of these data. Among the three broad industrial groups, the past output and sales data suggest considerable differences in 1945 price levels as compared to 1939. Only a 7 per cent

rise is indicated for the petroleum, chemicals, and rubber group in contrast to 21 per cent for metals and products, and 58 per cent for the "all other" group.⁹ It has been assumed for the petroleum, chemicals, and rubber group that whatever factors—either in technology or in the production index itself—have been responsible for the indicated smaller price increases in the past will continue in the future. Accordingly a further increase of only 2 per cent by 1948 is assumed in the implicit

PROJECTED INDUSTRIAL PRODUCTION AND SALES FOR 1948
COMPARED WITH 1939, 1941, AND 1945

Broad Industry Groups of Manufacturing and Mining Corporations

| Industry group | Index of production (1935-39 = 100) | Dollar sales (billions) | Implied price index (1939 = 100) |
|--------------------------------------|----------------------------------------|----------------------------|-------------------------------------|
| Metals and products: | | | |
| 1939..... | 108 | 18.0 | 100 |
| 1941..... | 206 | 36.9 | 107 |
| 1945..... | 288 | 58.0 | 121 |
| 1948..... | 275 | 63.3 | 138 |
| Petroleum, chemicals, rubber: | | | |
| 1939..... | 110 | 11.2 | 100 |
| 1941..... | 144 | 15.5 | 106 |
| 1945..... | 208 | 22.6 | 107 |
| 1948..... | 201 | 22.3 | 109 |
| All other: | | | |
| 1939..... | 108 | 30.8 | 100 |
| 1941..... | 136 | 43.4 | 112 |
| 1945..... | 138 | 62.3 | 158 |
| 1948..... | 162 | 83.2 | 180 |

NOTE.—Indexes of production are based on Federal Reserve index of industrial production; the metals component of minerals is included with metals and products and the crude petroleum component with petroleum, chemicals, and rubber since they are thus included in the figures on sales. Sales for 1939 and 1941 are based on data in U. S. Treasury Department, *Statistics of Income*; those for 1945 are estimated on the basis of past relationship between shipments (U. S. Department of Commerce data) and sales (*Statistics of Income*). Estimates for 1948 are described in the accompanying text.

price index for this group. By combining this price index with the posited index of physical production in 1948, dollar sales amounting to 22 billion dollars were derived. This level is slightly lower than in 1945 but about 44 per cent higher than in 1941.

⁹ These figures differ from the increases shown by the wholesale price indexes of the Bureau of Labor Statistics for comparable groups. For example, the BLS index of chemicals and allied products shows an increase of over 25 per cent while the index of metals and products shows an increase of 9 per cent.

For other industrial groups it seems likely that larger price increases may be expected. Some of these increases (as in metal products) may be coupled with technical improvements in product, while others (including those related to residential construction) will reflect impatient consumer buying in the face of limited supplies. For simplicity in working out the projections, implicit price increases in the metal products and "all other" groups were assumed to be about 14 per cent from 1945 to 1948; with this increase the weighted average price increase for all industrial groups equals the 12 per cent previously posited in estimating gross national product. Combining the implied price index for metals and products with the production index results in a projection of sales amounting to 63 billion dollars. This is an increase of about 70 per cent over 1941 and 10 per cent over 1945. The same procedure for the "all other" group indicates sales amounting to 83 billion dollars in 1948, an increase of over 90 per cent over 1941 and about 35 per cent over 1945. For convenience, it will be assumed that these sales levels represent both the annual totals for 1948 and the annual rates which will obtain at the middle of the year.

Outlook for Inventory Expansion. In general it is probably safe to assume that the inventories which manufacturing and mining concerns will tend to hold in 1948 will not be proportionately as much above 1941 as the level of sales. Statistical analysis of the inventory-sales relation back to 1929 indicates that changes in inventories tend to lag behind changes in sales and, even after allowance for time lag, they tend to be proportionately smaller. So far as raw materials and their components are concerned, this tendency arises from the fact that inventories serve partly as a reservoir to safeguard against irregularity in receipt of new materials. Consequently the size of the inventory would not ordinarily be expected to vary in proportion to the level of sales.

In gauging 1948 prospects, however, the application of previous relationships of inventory to sales leaves considerable latitude for qualitative judgment. Not only is it likely that the 1948 sales volume will exceed the range of previous experience, but factors of a qualitative nature may well be important. Among these may be a tendency of manufacturers toward abnormally large inventories if prices should be rising sharply or if supply or labor conditions should make the receipt of additional materials uncertain. On the other hand, it is possible that under wartime pressures business concerns may have learned how to program their inventory requirements more closely with current operations and may thus be able to get along with relatively smaller inventories than before the war.

The data for mid-1948 presented below reflect these considerations as well as the relationship of inventories to sales in former years.

PROJECTED INVENTORIES AND LIQUID ASSETS FOR 1948
COMPARED WITH 1941 AND 1944

Broad Industry Groups of Manufacturing and Mining Corporations
(In billions of dollars)

| Industry group | End of year | | Mid-1948 |
|--------------------------------------|-------------|-------|----------|
| | 1941 | 1944 | |
| All manufacturing and mining: | | | |
| Sales..... | 103.1 | 161.9 | 168.8 |
| Inventories..... | 16.8 | 19.2 | 24.1 |
| Liquid assets, total..... | 9.6 | 25.0 | 16.4 |
| Cash..... | 6.8 | 12.3 | 10.8 |
| Government securities..... | 2.8 | 12.7 | 5.6 |
| Metals and products: | | | |
| Sales..... | 40.6 | 73.0 | 63.3 |
| Inventories..... | 7.1 | 9.4 | 10.2 |
| Liquid assets, total..... | 4.8 | 12.6 | 7.5 |
| Cash..... | 3.2 | 5.9 | 5.0 |
| Government securities..... | 1.6 | 6.7 | 2.5 |
| Petroleum, chemicals, rubber: | | | |
| Sales..... | 17.0 | 22.7 | 22.3 |
| Inventories..... | 2.7 | 2.7 | 3.3 |
| Liquid assets, total..... | 1.9 | 3.7 | 2.5 |
| Cash..... | 1.4 | 2.1 | 1.8 |
| Government securities..... | 0.5 | 1.6 | 0.7 |
| All other: | | | |
| Sales..... | 45.5 | 66.2 | 83.2 |
| Inventories..... | 7.0 | 7.1 | 10.6 |
| Liquid assets, total..... | 2.9 | 8.7 | 6.4 |
| Cash..... | 2.2 | 4.3 | 4.0 |
| Government securities..... | 0.7 | 4.4 | 2.4 |

¹ Includes estimated postwar credits on excess profits taxes, as follows: metals and products, 0.9; petroleum, chemicals, and rubber, 0.1; and all other, 0.4 billion dollars.

NOTE.—Inventories, liquid assets, and other balance sheet data for 1941 shown in subsequent tables are corporate balance sheet data from U. S. Treasury Department, *Statistics of Income for 1941*, adjusted to include corporations not submitting balance sheets; those for 1944 are *Statistics of Income* data for 1940, projected to 1944 on the basis of 1940-44 changes for a sample of manufacturing and mining companies. Estimates of inventories and liquid assets for 1948 are described on pp. 19 and 22, respectively.

Sales are based on data in table on p. 18; for 1941 and 1944 sales are annual rates for last quarter of year, and for 1948 for the second quarter, which is assumed to be the same as the year.

The projected inventory holdings for mid-1948 suggest that the bulk of the postwar expansion in inventories may be in the "all other" group of industries. These are predominantly "non-war" industries, including food and clothing production where sharply rising prices during recent years have tended to conceal the fact that physical inventories have been drawn down substantially below prewar levels. The replenishing of inventories in these lines to normal levels, coupled with expansion to keep pace with rising sales of civilian goods, may raise inventories by 3.5 billion dollars between 1944 and 1948.

In the metal products group and also the petroleum, chemicals, and rubber industries, the renewal of inventories was also restricted in wartime. Here, however, the rate of sales may be lower in 1948 than in the war year 1944 so that the need for inventory expansion will be considerably less than in the "all other" lines where sales will be expanding. An aggregate increase of 1.4 billion dollars has been projected for these industries.

The volume of production needed to expand inventories over the 1944 to mid-1948 period will be somewhat greater than is indicated by the inventory estimate, especially in the metal products industries, where scrapping of some war inventories has been extensive. According to Department of Commerce estimates, "war inventories" in the durable goods industries amounted to about 6.5 billion dollars in June 1945. By June 1946 about half of that amount may have been retained at the site or, if taken over by the Government, may have been resold to other manufacturers. The special purpose items remaining might be scrapped and then resold for a fraction of their former book value. Completion of this process might eliminate 2 to 3 billion dollars worth of inventories from the economy. From the standpoint of the drain on private funds, however, the loss incurred as a result of the shift of inventories from war to civilian use was probably not important since such losses were presumably covered by payments received in settling Government contracts.

Need for Liquid Assets. If business conditions should be as favorable as projected here, manufacturers in general may have easier access than ever before to new funds, both for long-term investment purposes and for increasing working capital items. In that event they may well prefer to retain the very liquid position that developed during the war and to secure funds for expanding other assets by increasing bank loans and outstanding securities. If, on the other hand, manufacturers should prefer to keep debt at a minimum and to draw down their liquid balances with

the expectation of replenishing them out of subsequent earnings, their cash and Government security holdings might decline to the minimum amount required for current operating purposes.

It is difficult to gauge how far industrial concerns will go in drawing down liquid assets or what their operating requirements for liquid assets will be. Theoretically liquid asset requirements may be classified in three parts: (1) an amount needed to make frequent cash disbursements for pay rolls and other costs, in cases where receipts from sales come in only periodically; (2) amounts accumulated for infrequent or special payments such as capital expenditures, income taxes, and debt retirement; (3) an extra margin to cover contingencies such as unforeseen delays in receipts. It seems likely that these elements vary less than proportionately with sales, although certain conditions (such as short supplies or rising prices) may tend to increase the desire for liquid assets in order to take advantage of market opportunities.¹⁰

For the purpose of this article it is assumed that requirements for cash in manufacturing and mining industries may be gauged by applying to the projected level of sales for 1948 the ratio of cash to sales which obtained at the end of 1941. The cash-sales ratio was on the whole as low in 1941 as at any time in the past 10 years. As regards Government security holdings, it will be assumed that "operating requirements" will call for holding securities in an amount equal to outstanding income tax liabilities. Before the war, when Federal income taxes were not a large factor in outstanding liabilities, they were not generally matched by holdings of Government securities. During the war, however, many medium and larger size companies appear to have followed a policy of "funding" their accrued tax liabilities by purchasing an equal amount of tax notes and other Government securities. It seems likely that this practice will continue.

On the basis of these assumptions the projected operating requirements for liquid assets in 1948 have been estimated as shown in the table on page 20. The estimates indicate that operating requirements for liquid assets for all manufacturing and mining concerns in mid-1948 may amount to 16 billion dollars, compared with total holdings at the end of 1944 of 25 billion. Possibly about 9 billion dollars, or more than one-third of the

¹⁰For a statistical inquiry into the factors affecting cash holdings of large manufacturers, see Avram Kisselgoff, "Liquidity Preference of Large Manufacturing Corporations (1921-1939)," *Econometrica*, October 1945. This article is an elaboration of a discussion that appeared earlier in Freidrich Lutz, *Corporate Cash Balances, 1914-43*.

liquid assets held at the end of 1944, may thus be in excess of 1948 operating requirements, and these funds may be used for other purposes. The proportion of liquid asset holdings at the end of 1944 which may be available for purposes other than operating requirements appears to be largest in the metal products industries and smallest in the "all other" group.

Net Extension of Trade Credit and Other Working Capital Items.

In general, credit extended by manufacturing and mining companies exceeds on balance the credit received by these companies from other businesses, and the excess tends to vary with the level of operations. During the war the relationship of net trade credit to sales varied somewhat erratically, owing partly to special practices in connection with Government contracts that were designed to reduce the amount of outside financing required by business concerns. Data for the war period thus provide an uncertain base for projecting the amount of credit likely to be extended in 1948. This limitation applies to the projections given in the table on page 24, which indicate the possible amounts of credit to be extended and received by manufacturing and mining companies in the three broad industrial groups.

In 1948 as compared with 1941 and 1944, the projections suggest little or no expansion in net customer credit extended by the metal products group, but a possible expansion of nearly 2 billion dollars by the other groups.

Ordinarily in peacetime the accrual of short-term liabilities other than bank loans has been a minor but steady source of funds in times of business expansion. Disbursements for wages, interest, rent, taxes, and the like are made more or less periodically, but they are provided for in advance as they accrue. This source of funds is quasi-internal in character in that accrual accounts increase more or less automatically with increases in dollar sales and are continuously replenished to meet future liabilities as old liabilities are paid off. Any increase in total accrued liabilities provides funds that can be used to increase assets until such time as the volume of sales declines and the outstanding amount of such liabilities has to be reduced. This form of financing resembles external financing in that the business becomes subject to the contingency of paying funds to outsiders at a time when the level of operations and cost accruals are declining.

In view of the comparatively high level of operations in the war industries at the end of 1944 and the high wartime tax rates then prevailing,

PROJECTED EXTENSION OF TRADE CREDIT FOR 1948
 COMPARED WITH 1941 AND 1944

Broad Industry Groups of Manufacturing and Mining Corporations
 (In billions of dollars)

| Industry group | End of year | | Mid-1948 |
|-------------------------------|-------------|------|----------|
| | 1941 | 1944 | |
| All manufacturing and mining: | | | |
| Receivables..... | 11.7 | 16.2 | 17.9 |
| <i>Less:</i> | | | |
| Accounts payable..... | 6.2 | 8.2 | 10.0 |
| Government advances..... | 0.8 | 1.8 | ... |
| Excess of receivables..... | 4.6 | 6.2 | 7.9 |
| Metals and products: | | | |
| Receivables..... | 4.7 | 8.4 | 7.3 |
| <i>Less:</i> | | | |
| Accounts payable..... | 2.2 | 3.6 | 4.0 |
| Government advances..... | 0.8 | 1.5 | ... |
| Excess of receivables..... | 1.7 | 3.2 | 3.3 |
| Petroleum, chemicals, rubber: | | | |
| Receivables..... | 2.4 | 3.2 | 3.1 |
| <i>Less:</i> | | | |
| Accounts payable..... | 1.5 | 2.4 | 2.0 |
| Government advances..... | 0.0 | 0.2 | ... |
| Excess of receivables..... | 0.8 | 0.6 | 1.2 |
| All other: | | | |
| Receivables..... | 4.6 | 4.6 | 7.5 |
| <i>Less:</i> | | | |
| Accounts payable..... | 2.5 | 2.2 | 4.0 |
| Government advances..... | 0.0 | 0.1 | ... |
| Excess of receivables..... | 2.1 | 2.3 | 3.5 |

NOTE.—Figures for 1941 and 1944 are derived as described in note to table on p. 20. Estimates for 1948 are described on p. 23. Receivables include amounts due from Government. Because of rounding, figures do not always balance to "excess" shown.

the projected level of accrued liabilities for 1948 seems likely to involve a drain rather than a source of funds. The table on page 33 indicates the general magnitude in the shift in accrued liabilities that may be realized by mid-1948. For all manufacturing and mining companies the drain of funds between 1944 and 1948 as accrued liabilities decline may total nearly

6 billion dollars (excluding Government advances). The greater part of this drain will be concentrated in the metal products group.

FINANCING POSTWAR NEEDS

In general the expansion in business assets during periods of rising business activity is financed from three broad sources—depreciation allowances for replacing plant and equipment, retained profits after dividend payments, and external financing. External financing has been a more important source of funds in public utilities and railroad industries than in manufacturing and mining industries. More important to manufacturers have been the funds derived from internal sources—retained profits and depreciation allowances.

The magnitude of various sources of funds for the three broad industrial groups will be considered next. The general proportions of these sources of financing do not differ greatly among the three groups. The much greater capital expenditures projected for the petroleum, chemicals, and rubber group indicate that it may have the greatest need for outside financing. Substantial outside financing is indicated also for the “all other” or “non-war” group, where both output and prices are likely to rise sharply. In contrast the indicated projections for metal products industries suggest a plethora of internal funds.

The aggregate of the needs of individual companies for external financing will necessarily exceed the net need indicated for the group. Some companies will have excess funds while others will have shortages and the practical need for financing will depend on the sum of the shortages without regard for the excesses. Beyond this consideration it should be borne in mind that the estimates and conclusions in this paper rest largely on assumptions, the validity of which will depend on many developments that are not at all clearly foreseeable.

For the period following the end of the war, especially in the case of the metal products industries, funds from internal sources will be augmented by certain transitional adjustments. These adjustments occurred for the most part in 1945 and tended mostly to reduce taxable income of the war years and thus to result in tax credits. The application of these tax credits to 1945 tax liabilities reduced tax payments, especially in 1946, and internal funds were correspondingly larger. These adjustments have aided in financing postwar expansion.

Financial Adjustments of the Transition. From the standpoint of financial statements, the adjustment of individual companies from war-

time to peacetime business has consisted of liquidating certain assets and liabilities that had been built up during the war and (so far as permitted by available equipment and supplies) of adding other assets and other liabilities.

During the transition period the liquidation of assets, including Government securities, will provide some funds for the reduction of wartime liabilities, but differences in timing of receipts and disbursements will probably result in temporary drains of funds for some companies. These drains will be augmented by current outlays for rebuilding inventories, renovating and replacing plant and equipment, reestablishing market outlets, and extending customer credit. In many cases these adjustments, peculiar to the transition period, will be accompanied by expenditures to initiate postwar expansion programs.

As a consequence, the transition period will probably involve a considerable need for external financing by business. Some funds will be used merely for interim purposes, while other funds will be used for more or less permanent additions to working capital and long-term assets. In the process it is to be expected that both banks and security markets will share in providing the funds, with the proportions coming from each depending partly on the terms and conditions granted.

In the first six months of the transition period, from June to December 1945, the external financing of manufacturing and mining concerns has been substantial. Bank loans and security issues to raise new capital appear to have totaled over half a billion dollars. Supplementing these private sources of funds were the partial payments made by Government procurement agencies to war contractors before final settlement of contract claims. By the end of December 1945 applications for such payments had been approved totaling 1.8 billion dollars. That the demand for new financing was not greater during the early transition period reflected the large liquid balances with which most business concerns ended the war and the time required for new industrial equipment and supplies to become freely available in the market. In the first few months after the close of the war (to early 1946), reconversion appeared to be progressing more rapidly than had been anticipated as inventory controls were lifted and both materials and labor became available for immediate resumption of war-scarce products. Subsequently, however, limitations on the flow of materials and components, coupled with some interruptions from labor disputes, retarded the growth in output of industrial equipment and limited inventory expansion in all lines.

For the purpose of gauging the prospective need for financing to mid-1948, however, some of the interim financing may be ignored. Some borrowing will be retired from the proceeds of Government contracts, while other borrowing may be retired from retained profits in 1946 and 1947. From the standpoint of the postwar period as a whole, the principal transition adjustments that need to be taken into account are those relating to tax credits and reconversion costs.

Among the most important of these was the accelerated amortization of plant facilities erected for war production. In order to promote the construction of facilities for war needs the Second Revenue Act of 1940 provided that new plants which were certified as necessary by the war procurement services could be amortized for tax purposes over a 60-month period. Should the facilities become nonessential before the end of 60 months, producers might secure a certificate of non-necessity and reallocate the unamortized portion over the previous life of the property. This reallocation would result in tax credits for previous years amounting to perhaps 75 per cent of the reallocated value.

For the purpose of these tax provisions, the President terminated the emergency on September 29, 1945, thus permitting owners to complete the amortization of war plants. Some corporations (in reporting to stockholders) indicated that they would not exercise this option because of the distorting effect it would have on cost relationships in the early postwar years. Most corporations, however, appear to have completed amortization of their facilities for tax purposes but to have arranged by a variety of accounting adjustments to avoid having their net profit affected by this procedure. For the purpose of the present analysis it will be assumed that substantially all the unamortized war facilities will be written off before 1948 with resulting tax credits at approximately 75 per cent of the amortization. From September 1940 through August 1945 certificates of necessity amounting to 4 billion dollars had been issued to manufacturing and mining concerns, and it appears that about 45 per cent of the facilities represented had not been amortized by the end of September 1945. The amount of unamortized manufacturing and mining facilities amounted to about 1.9 billion dollars, with an indicated tax credit of 75 per cent or 1.4 billion. As is shown in the table on page 31, about two-thirds of this accelerated amortization was in the metals products industry.

Viewed in terms of the use of funds, these credits entailed a reduction in outstanding tax liabilities at the end of 1945 without a corresponding reduction in liquid assets. Instead, the offsetting balance sheet changes

consisted mainly of a writedown of the property account with only a small reduction in net profit. The net effect was an increase of some 1.4 billion dollars in available internal funds.

A second transition adjustment affecting business funds was the financing of plant reconversion to peacetime production. Outlays for this purpose may have totaled 0.5 billion dollars in 1945 and were made largely in the metal products industries. However, tax credits resulting from the outlays represented a substantial proportion of the amounts involved.

Another important balance sheet adjustment during the latter part of 1945 resulted from the availability of postwar credits accumulated by manufacturing and mining concerns on their excess profits taxes for the years 1942 through 1945. At the end of 1944 these credits, and the bonds evidencing them, amounted to about 0.92 billion dollars in the metal products industries, 0.13 billion in the petroleum, chemicals, and rubber group, and 0.38 billion in the "all other" group. In order to make the credits available at a time when they might aid the adjustment to peacetime production, the Tax Adjustment Act of 1945 provided that bonds which had been issued for the postwar credits on 1942 and 1943 taxes should be redeemable on or after January 1, 1946, and that the credits on 1944 and 1945 taxes should be immediately applicable to tax liabilities of those years.¹¹

Other adjustments in financial statements following the war will involve recoveries on foreign subsidiaries that had been written off in 1941 and 1942. These recoveries will presumably entail an increase in tax liabilities. Estimates are not yet available on the magnitude of this adjustment.

Internal Sources of Funds. Probably the most important factor affecting the need for outside financing during the postwar expansion is the amount of earnings to be retained after deduction of costs and charges, taxes, and dividends. This, in turn, will depend on the volume of sales, business and Government policies with respect to prices, a variety of costs (with wage rates and technological productivity the main questions), possible legislative action in further reducing corporate income tax rates, and business policies with respect to dividend payments.

¹¹These provisions accelerated the availability of credits provided under earlier revenue acts and led to reclassification of certain noncurrent assets into the short-term category, thus increasing the amounts classifiable as current working capital and liquid assets. In the classification of assets used in the present analysis, however, postwar credits through the end of 1944 were included with Government security holdings and consequently their accelerated availability does not enter the picture as it has been presented here.

In projecting to mid-1948 the possible earnings available after dividends, the volume of profits before taxes was first estimated by applying the relationship between sales and profits before taxes for the period 1939-43 to the sales projections for later years. In making this projection for the metal products group, some allowance was made for

PROJECTED ELEMENTS IN RETAINED PROFITS, 1945-48
Broad Industry Groups of Manufacturing and Mining Corporations
(In billions of dollars)

| Industry group | 1945 | 1946 | 1947 | 1948 (6 months) |
|--------------------------------------|-------|-------|-------|--------------------|
| All manufacturing and mining: | | | | |
| Sales..... | 142.9 | 145.0 | 160.2 | 84.4 |
| Profits before income taxes..... | 15.5 | 13.6 | 14.9 | 7.7 |
| Net profits (after taxes)..... | 5.5 | 8.7 | 9.4 | 4.8 |
| Dividends..... | 3.2 | 4.0 | 5.1 | 3.1 |
| Retained profits..... | 2.3 | 4.7 | 4.3 | 1.7 |
| Metals and products: | | | | |
| Sales..... | 58.0 | 55.0 | 61.0 | 31.6 |
| Profits before income taxes..... | 7.7 | 5.5 | 6.3 | 3.3 |
| Net profits (after taxes)..... | 2.5 | 3.4 | 3.9 | 2.0 |
| Dividends..... | 1.2 | 1.5 | 2.0 | 1.5 |
| Retained profits..... | 1.3 | 1.9 | 1.9 | 0.5 |
| Petroleum, chemicals, rubber: | | | | |
| Sales..... | 22.6 | 20.0 | 21.2 | 11.1 |
| Profits before income taxes..... | 2.5 | 2.2 | 2.3 | 1.2 |
| Net profits (after taxes)..... | 1.1 | 1.6 | 1.6 | 0.8 |
| Dividends..... | 0.9 | 1.0 | 1.1 | 0.6 |
| Retained profits..... | 0.2 | 0.6 | 0.5 | 0.2 |
| All other: | | | | |
| Sales..... | 62.3 | 70.0 | 78.0 | 41.6 |
| Profits before income taxes..... | 5.3 | 5.9 | 6.3 | 3.2 |
| Net profits (after taxes)..... | 1.9 | 3.7 | 3.9 | 2.0 |
| Dividends..... | 1.1 | 1.5 | 2.0 | 1.0 |
| Retained profits..... | 0.8 | 2.2 | 1.9 | 1.0 |

NOTE.—Estimates described on pp. 29-30. Figures for 1945 exclude special reversion outlays and plant adjustments, since these are assumed to have been charged to reserves or surplus.

higher costs by assuming that half the saving resulting from the elimination of the excess profits tax at the end of 1945 will be passed along to labor and other elements in the cost structure. It should be emphasized that this adjustment is merely a guess. Since both sales and pay rolls are typically several times as large as profits before taxes, relatively large fluctuations

in the latter may follow relatively small changes in prices or wage rates. Actual profits before taxes might be 50 per cent larger or smaller than the projections shown in the table on page 29. A comparatively small allowance for such an increase in costs was included in the projection for the petroleum, chemicals, and rubber group, while figures for the "all other" group include virtually no adjustment for increased costs beyond extension of the trend of the 1939-43 relationship of profits to sales.

In projecting taxes and dividends—the other elements affecting retained earnings—it has been assumed that in general effective income tax rates will average about 38 per cent, and that dividends will at first increase much less than net profit but will tend in 1947 and 1948 to increase more rapidly and to approach the prewar relation, when dividends were approximately two-thirds of net profit.

The estimates of net profit (after taxes) and retained earnings in the early postwar period are obviously subject to an exceedingly wide range of error. No attempt has been made to resolve all the uncertainties involved in the broad assumptions made on such component factors as prices, wage costs, and taxes. Rather, an effort has been made to arrive at a fairly reasonable set of figures on retained earnings as a source of funds for business expansion. It should be noted, however, that the component factors are to a considerable extent interrelated, and that the course of developments in individual factors may be influenced considerably by the net results of their combination. More specifically, managerial policy will tend to seek such prices for industrial output as will yield a "legitimate" profit, while organized labor will in turn refer to the size of profit increases as a guide to its demands on wage rates. There is also some reason to think that dividend policies will be influenced by the need for funds for expansion, as well as by current net profit levels.

These considerations were borne in mind in working out the projections shown in the table. It will be observed that the level of net profits in 1948 (annual rate) is projected at 50-60 per cent above that of 1945 in the metal products group and the petroleum, chemicals, and rubber industries, and about 100 per cent above the 1945 level in "all other" industries. Owing to the more rapid increase in dividend payments in 1948, however, the amount of profit retained in 1948 (on an annual basis) is presumed to be about the same as in 1946-47.

The extent to which funds may be provided from internal sources in another manner—through revenues to cover charges for depreciation and

amortization on existing plant and equipment—is illustrated in the accompanying table. Regular allowances for depreciation may total 9.5 billion dollars in the three and one-half year period 1945 to mid-1948, and the final amortization of war plants may result in another 1.9 billion.

The extent to which capital expenditures on plant and equipment may be financed from this internal source of funds is brought out in the table, which also shows the capital expenditures projected for the three and

ELEMENTS OF ESTIMATED CHANGE IN NET PROPERTY, END OF 1944 TO MID-1948

Broad Industry Groups of Manufacturing and Mining Corporations
(In billions of dollars)

| | All manu- facturing and mining | Metals and products | Petroleum, chemicals, rubber | All other |
|----------------------------------------------------------------|--------------------------------------|------------------------|------------------------------------|-----------|
| Net property, end of 1944..... | 27.5 | 8.8 | 9.1 | 9.6 |
| Changes, 3½ years to mid-1948: | | | | |
| <i>Plus:</i> Capital expenditures..... | 23.1 | 7.5 | 8.7 | 6.9 |
| <i>Less:</i> Allowance for depreciation ¹ , etc.... | 9.5 | 3.5 | 3.1 | 2.9 |
| Accelerated amortization of war plants..... | 1.9 | 1.3 | 0.5 | 0.2 |
| Net increase..... | 11.6 | 2.7 | 5.1 | 3.8 |
| Net property, mid-1948..... | 39.1 | 11.5 | 14.2 | 13.4 |

¹ Includes regular amortization of war plants for first nine months of 1945.

NOTE.—Net property represents gross property (excluding intangibles) less accumulated reserves for depreciation, depletion, and amortization. The net tends to be increased by capital expenditures (for replacement as well as for additions) and to be decreased by current additions to reserves. Ordinary retirements of plant and equipment do not affect net property since they involve offsetting reduction in both gross property and reserves.

Net property, end of 1944, derived as described in note to table on p. 20; capital expenditures from table on p. 16; allowance for depreciation based on annual allowances as published in U. S. Treasury Department, *Statistics of Income for 1942*; accelerated amortization of war facilities estimated.

one-half years and the resulting increase from the end of 1944 to the middle of 1948 in the property account (net of reserves for depreciation, depletion, and amortization). This change represents the extent to which funds for expenditures on plant and equipment would need to be drawn from retained earnings or external sources. The proportion of capital expenditures to be thus financed would be smallest (less than 40 per cent) in the metal products industries, in part because of the large amount set aside for amortization of war facilities, and largest (nearly 60 per cent) for the petroleum, chemicals, and rubber group.

Indicated Need for External Financing. The factors in the postwar outlook which have been reviewed thus far provide the basis for a preliminary indication of business requirements for external financing. The need for funds has been suggested largely in connection with the projected capital expenditures, the projected increase in inventories and trade receivables, and substantial payments of income taxes as current accruals decline from wartime levels. Some of the funds could be obtained by drawing down holdings of liquid assets, and a good deal more is likely to be provided out of current operations, as retained profit and allowances for depreciation, depletion, and amortization. The net effect of these various elements in the outlook projected here is shown in the table on p. 33.

The summary brings out major differences in these elements among the three broad industrial groups which have been analyzed separately throughout this paper. While the distribution of capital expenditures on plant and equipment will be fairly evenly divided among the industry groups, the relative demand for funds, other than regular depreciation allowances, to meet this expansion will be greatest in the petroleum, chemicals, and rubber group. Relatively larger depreciation allowances will be an important factor in the other groups, augmented in the metals and products group by final amortization of war plants. Funds needed to meet tax payments as current accruals decline from wartime levels will be largest in the metals and products group, where war taxes were highest; correspondingly the drain on liquid assets as Government securities are used to finance tax payments will be the greatest in this industry group. Financial needs for the purpose of building up inventories and receivables will be greatest in the "all other" group, which includes industries producing for nondurable civilian needs.

In view of the range of error to which the projections are subject, the smaller changes from the end of 1944 to mid-1948 are of doubtful significance. The over-all picture which is focused on the larger changes may be presented briefly as follows (in billions of dollars):

| | Metals and products | Petroleum, chemicals, rubber | All other |
|--------------------------------------------------------------------------------------|---------------------------|------------------------------------|--------------|
| Funds required: To increase net property and retire Govern- ment liabilities..... | 8 | 6 | ... |
| To increase net property and inventories.. | ... | ... | 10 |
| Source of funds: Earnings and reduction of liquid assets.... | 10 | 2 | 8 |
| Implication: Excess of funds available..... | 2 | ... | ... |
| Net outside financing needed..... | ... | 4 | 2 |

MAJOR ELEMENTS IN PROJECTED NEED FOR EXTERNAL FINANCING
END OF 1944 TO MID-1948

Broad Industry Groups of Manufacturing and Mining Corporations
(In billions of dollars)

| Balance sheet item | 1944 | 1948 | Change | 1944 | 1948 | Change |
|---------------------------------------------------------------------------------------|------------------------------|--------------|--------------|---------------------|-------------|-------------|
| | All manufacturing and mining | | | Metals and products | | |
| Liquid assets..... | 25.0 | 16.4 | -8.6 | 12.6 | 7.5 | -5.1 |
| Inventories and receivables..... | 35.4 | 42.0 | +6.6 | 17.8 | 17.5 | -0.3 |
| Net property..... | 27.5 | 39.1 | +11.6 | 8.8 | 11.5 | +2.7 |
| Other assets..... | 13.8 | 14.2 | +0.4 | 4.2 | 4.3 | +0.1 |
| Total assets..... | 101.6 | 111.7 | +10.1 | 43.3 | 40.8 | -2.5 |
| Accounts payable..... | 8.2 | 10.0 | +1.8 | 3.6 | 4.0 | +0.4 |
| Income taxes and Govt. advances ¹ | 12.5 | 5.6 | -6.9 | 7.4 | 2.5 | -4.9 |
| Other current liabilities ² | 5.2 | 4.6 | -0.6 | 3.2 | 2.5 | -0.7 |
| Reserves and surplus..... | 35.0 | 47.5 | +12.5 | 15.6 | 20.6 | +5.0 |
| Balance: outstanding stocks, bonds, and notes payable³..... | 40.6 | 44.0 | +3.4 | 13.5 | 11.2 | -2.3 |
| | Petroleum, chemicals, rubber | | | All other | | |
| Liquid assets..... | 3.7 | 2.5 | -1.2 | 8.7 | 6.4 | -2.3 |
| Inventories and receivables..... | 5.9 | 6.4 | +0.5 | 11.7 | 18.1 | +6.4 |
| Net property..... | 9.1 | 14.2 | +5.1 | 9.6 | 13.4 | +3.8 |
| Other assets..... | 4.4 | 4.4 | ... | 5.2 | 5.5 | +0.3 |
| Total assets..... | 23.1 | 27.5 | +4.4 | 35.2 | 43.4 | +8.2 |
| Accounts payable..... | 2.4 | 2.0 | -0.4 | 2.2 | 4.0 | +1.8 |
| Income taxes and Govt. advances ¹ | 1.7 | 0.7 | -1.0 | 3.4 | 2.4 | -1.0 |
| Other current liabilities ² | 0.5 | 0.6 | +0.1 | 1.5 | 1.5 | ... |
| Reserves and surplus..... | 7.3 | 9.0 | +1.7 | 12.1 | 17.9 | +5.8 |
| Balance: outstanding stocks, bonds, and notes payable³..... | 11.1 | 15.2 | +4.1 | 16.0 | 17.6 | +1.6 |

¹ Includes Government advances at end of 1944 as follows: metals and products, 1.5; petroleum, chemicals, rubber, 0.2; all other, 0.1 billion dollars.

² Excludes notes payable to banks.

³ Includes notes payable to banks at end of 1944 as follows: metals and products, 2.0; petroleum, chemicals, rubber, 0.7; and all other, 1.4 billion dollars.

NOTE.—Figures for 1944 are derived as described in note to table on p. 20. Projections for 1948 are drawn from preceding tables as follows: liquid assets and inventories, p. 20; receivables, p. 24; net property, p. 31; accounts payable, p. 24. Income taxes and other current liabilities are as described on pp. 23-24 and 30; data for reserves and surplus are adjustments of retained earnings 1945 to mid-1948 as given on p. 29. The small increase in "other assets" (representing intercorporate investments and some intangibles) is a rough allowance for the acquisition of new subsidiaries, an item which has been reported on an increasing scale since the war.

Details do not always add to totals because of rounding.

This summary indicates that the metals and products industries, as a group, will not need outside financing, but a fairly large amount of outside financing will be needed in the petroleum, chemicals, and rubber group, and a relatively small amount in the "all other" group. Whatever may be the margin of error in these separate estimates by broad industry groups, they illustrate the fact that, from a practical standpoint, the need for financing by several companies examined individually is generally much greater than the net need for the group treated as a unit. Thus, in the case of the three broad industrial groups analyzed in this paper, the outside financing indicated for two of them totals 6 billion dollars as compared to only 4 billion for manufacturing and mining in the aggregate.

It is not easy to say what these figures mean in terms of the available statistical series on bank loans to business and new security issues. As regards the increase in outstanding bank loans, available statistics are net in that new loans are partly offset by retirements of old loans. Available series on new security issues, however, are gross, that is, they are not partly offset by security issues retired for cash. Accordingly under the mixed liquidity conditions envisaged above for the early postwar years, "security issues for new money" might come to two or three (or more) times the net amount of funds actually absorbed from the market by industrial concerns in the aggregate.

In view of these considerations, it seems not unlikely that a *net* outside financing of 4 billion dollars might correspond to cumulative new security issues plus a net increase in bank loans approaching 8 to 12 billion dollars. If this amount, entailing an annual average of 2.5 to 4 billion a year, should be obtained by industrial companies alone, it would be larger than in any similar period during recent years.

In view of the generally tenuous basis on which the indicated needs for outside financing were reached, there would seem little point in attempting to go further and to suggest how much of the financing might be done by banks and how much through sale of new securities. For all companies in the aggregate there may be little basis for expecting either source to provide the major part of the needs. Judging from past experience, large companies may perhaps rely more on the security markets than on banks, while medium-size and small companies may rely more on banks. Even this guess may prove incorrect if the wartime accumulations of individual savings should induce private investors to become more interested in small businesses, and if banks should continue to adapt

loan terms and interest rates to the varied needs and credit standings of companies of different size.

In the event that the Federal Government should become increasingly interested in nurturing small business as a vital element in the economic and social structure of the United States, more credit might be directed into the smaller concerns, even as the financing of agriculture was promoted by the Government directly and indirectly during the 1930's.

In this connection it may be recalled that, in discussing the purchase of Government owned war plants, it was assumed that half the amount purchased might be financed by Government credit on an instalment basis. In the metal products group, where the analysis indicated an overall plethora of funds, Government credit would presumably be used mostly by small- or medium-size concerns interested in undertaking relatively large expansions. In the petroleum, chemicals, and rubber group, where the postwar need for outside financing appears to be greatest, Government credit might be a relatively minor factor owing to the smaller volume of Government plant facilities suitable for purchase.

LIMITATIONS OF ANALYSIS AND SOME GENERAL CONCLUSIONS

In the present review of postwar capital needs of manufacturing and mining industries and their financing, an attempt has been made to project the wartime financial experience of industrial business as far as possible quantitatively. In doing so it has been pointed out repeatedly that the projections are necessarily based largely on assumptions. On some points past experience may be so definite as to justify the assumption within fairly narrow limits, and on other points the assumption may represent a reasonably informed guess; but in a number of essential respects there is at present little basis for reaching an informed judgment.

These limitations are inherent in almost any set of economic projections into the future. Their effect becomes magnified when the projections involve as complex a subject as the financial position of business, and when interest is focused on an item—outside financing—which is determined as a residual from the various changes in other factors.

In such a situation one may well wonder what useful conclusions can be drawn from the analysis. Without trying to place too much weight on the quantitative aspects of the picture, three important conclusions seem supportable:

(1) There will be a fairly large need for new industrial facilities after the war, even in the metal products industries where most of the Government financed war plants are located.

(2) Corporations are likely to reduce substantially their holdings of liquid assets in order to finance expansion of other assets.

(3) In the industries where expansion of plant and equipment and inventories is largest, considerable outside financing will be needed.

The significance of the first and third of these points is suggested in the opening paragraphs of this paper. The reduction of liquid asset holdings, the second point, has particular significance when viewed from the standpoint of the economy as a whole. If businesses in the aggregate should reduce their Government security holdings without an attendant contraction in the total publicly held Government debt, individuals and financial institutions, particularly banks and insurance companies, would have to increase their investment in Government securities. And a reduction in business balances of cash (currency and bank deposits) would entail an increase in cash holdings of individuals. This would come about through businesses making pay roll and other disbursements to individuals for producing goods which do not enter consumer markets, that is, for inventories, plant construction, and equipment.

The important question arises how much consumers would then be willing to add to their holdings of Government securities and of cash. Would they be willing to absorb as much as businesses spend for increasing assets, or would consumers tend to increase spending pressures, and thus turn some of their funds back to business concerns in the form of much higher profits?

These questions suggest how certain crucial aspects of the postwar national economy can be illuminated by further analysis of business finance. And it is hoped that the analysis presented in this paper may challenge others to go ahead with the many studies and investigations which seem prerequisite to the framing of more adequate assumptions and projections.

LONG-TERM NEEDS OF SMALL BUSINESS

by

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A concrete program for enabling the numerous small and independent business firms to attain greater economic health is a primary need, not only of small business, but of the national economy, in the postwar period.

There exist today within the business structure, in spite of the concentrative trends of the past half-century or more, approximately 3 million individual enterprises that represent diffusion rather than concentration of economic activity. Numerically, these are well above 90 per cent of all business firms. Their significance is not only economic but socio-economic and social. As far as production is concerned, these relatively atomistic units account in the aggregate for about one-third of total sales in the trade, service, construction, and manufacturing divisions of business. Owing to their prevalence in those types of production that emphasize the human more than the mechanical element, their employment of labor is more nearly one-half than one-third of all employment in these lines. Qualitatively their economic work is an essential part of the concert of production, for in adjusting themselves to life in a land of business giants the smaller units have increasingly specialized in those detailed and variable tasks, demanded by particular case business markets and more or less local consumer markets, that are not especially amenable to mass production methods and resist the standardizing techniques. Their influence upon the variety of the standard of living and the character of communities accordingly is an intimate one.

Broader values are those of the order of economic life that is the derivative of multi-unit enterprise. The status of small business is in large part the measure of the status of the competitive system. It is also the measure of the opportunity for personal enterprise and individual economic venturing for the man in business as distinguished from the ladder-like career of advancement within great organizations. Small business in brief is one of the main economic embodiments of individualism with all that it implies, and while obviously a vast range of economic work exists that is beyond the scope of individualistic performance, it may be

for that reason that a somewhat special value attaches to that portion of the economy that interposes a resistance to increasing concentration and enables the institutional values of individualism to maintain and perpetuate themselves.

As matters stand, the man in business abundantly persists, but does so under the pressures of an unfavorable and neglectful business environment. The "small business problem," or complex of problems, is far from new; it has had both a traditional and a modern stage. Traditionally, the problem centered upon the rigors and hazards of unbridled competition and of the helter-skelter venturing of the period of *laissez faire*. The problem in its more modern aspects presents a diminution of those rigors, but has new elements arising from the increasing spread of business size: what was formerly the "business" is now the "small business"; what was formerly an economy of independent ventures is now an area in an economy where highly organized and "established" big businesses predominate. Thus competition includes size competition, and the "satellite" or subsidiary position has entered with the increasing arrangement of firms of different sizes in concatenations or tiers of production. The twin problem of the smaller unit is not only that of possible competitive absorption or extinction, but quite as much that of unilateral bargaining, domination by the great concern with which it vertically deals, pseudo-independence. The individualistic area of the economy finds its individualism not gone, but seriously qualified in the modern world.

Two avenues of approach exist for attacking this broad situation. The first, namely the attempted break-up of large monopolies, has been a feature of national policy for many years, with results that have been conditioned by the fact that a great deal of modern production is possible only through large-scale technology. It is an implication of this policy that small business will expand of its own power if given a chance, and this implication is valid; independent minded individuals do continue to show an apparently undiminished proclivity to volunteer for those economic tasks of which they are capable, and the resilience of small business after its recent setback during the war is being demonstrated today by the founding of new small enterprises at what may be a record rate. The second approach is the application of economic planning, public and private, to the environment in which the small businesses, new or old, must live. That environment should include a full quota of institutional aids, favorable for the small units as well as for the large.

Since the present study is focused on this second approach, the general

nature of such a program may be briefly developed. A rounded attack is needed. Business enterprises do not live from their internal strength alone. The external aids and available facilities, whether economic, scientific, legal, statistical, advisory, or financial, count and count heavily. Big business is abundantly supplied with such aids; indeed, much of the rise and elaboration of the modern external aids to business was developed concurrently with the rise of the great productive enterprises and combinations, and as services to them. It is from this trend that the institutional aspect of the small business problem developed historically. The structure of business facilities and aids developed preferentially by business size, so that today small business lacks an access to the national body of business information and of business funds that is comparable to that enjoyed by the large corporation. Even the services of Government to business show a preferential character by size, paralleling the preferential emphasis of the private services. The general deficiency of normal business facilities for the diffused sector of the business economy, the smaller units, has been referred to, with some force, as an "institutional gap."

The problem, concretely, consists in filling that gap. This is not, doubtless, the entire remedy for the problems of small business, but it presents the obvious initial attack. The existence of adequate facilities, geared to the peculiar structure and characteristic needs of small-unit enterprise, would go at least some distance in strengthening the hands of the individual entrepreneur in coping with his larger problems. Technological disadvantages, for example, would be reduced if technological information were readily available; an adequate flow of funds would do much to liberate the small units from those controls that result from restrictive and often locally monopolistic financing. The small business owner-management equally with the professional corporate management needs and is presumably entitled to the aids of the expert accountant, the business economist, and the business counsellor. When this is recognized, the difficulties of contacting the myriad small businesses and of adjusting the needed services to their particular characteristics begin.

Certain broad requirements must be met. Primarily, the independence of the smaller units must be preserved; independent enterprise is not to be subsidized; it is not so much to be helped as enabled to help itself. The administrative problem is considerable: a two-level system, combining local and immediate contact points with access to the resources of the nation, is strongly suggested as the general plan. The problem is not

purely financial, since questions of management, of legislation and law enforcement, of regional and local development, of taxation and of competition, are involved with those of finance. Perhaps the test of the success of a program of facility aids would be a financial test: namely the automatic revival of the interest of investors in the individualistic order of enterprise, which they traditionally financed in the past. But the various aspects of the entire complex of problems require concurrent attack along a broad front.

Most needed of all, perhaps, is a more general recognition that small business has appropriate functions and an economic efficiency of its own, and that it is entitled to the means for playing its full potential part in the national economy. Economic science no less than Government and private enterprise has neglected this individualistic area of the business structure, and though progress toward an understanding of the sector has been made of late, the body of knowledge is still incomplete. A preliminary necessity is a better grasp of the facts about small business as a guide to the peculiar economic characteristics that a program of aids must reflect. To this factual survey the pages that immediately follow are devoted, after which the features and problems of the required program are discussed.

THE MEANING OF "SMALL BUSINESS"

The meaning of "small business" is to be described rather than defined. The relative adjective "small" refers, not to any specific size of business firm, but to the firm that is small in comparison to other firms with which it competes or deals. "Small business" in its aggregate sense refers to that portion of a given industry, an industry group, or of business as a whole, that is made up of relatively small and functionally individual units.

But a broader meaning attaches to the term, less by definition than by, connotation. The phrase "small business" originated in popular parlance as an antonym of the term "big business," and its increasing acceptance in economics has not altered the suggestion that is conveyed. What is implied is an order of economic life, with distinct sociological implications, that is broadly associated with the lower extreme of business size.

Attempted Statistical Definitions. Although there is no precise size at which the characteristics referred to can be said to disappear, various attempts have been made to delimit smallness in business at some fixed point, by one or another statistical measure of business size. While it is

convenient for purpose of analysis to segregate the lower size-brackets of statistical compilations and to study them separately, such segregation does not constitute a definition and should not be presented or understood as such. A danger exists that, through repeated usage for study purposes, some arithmetical ceiling upon smallness in business may become accepted as a definition and be cemented into law. Various bills introduced into Congress for providing aids to small business have contained such fixed limits, which would arbitrarily have restricted the application of the intended benefits and created unrealistically rigid discrimination among businesses by size.

Qualification of the Statistics. The fallacy of attempts to define "small business" in fixed terms appears, first, when it is considered that no over-all norm or benchmark of business size exists to which the relative adjective "small" can logically be compared. A second qualification is probably more important: there is no single measure of business size that correlates consistently with other measures, and there is no measure that does not reflect the immediate operative position of a business, which in actual life is a variable, as well as its fundamental size.

The usual measures, because the most generally available, are the number of workers employed, the amount of annual sales or receipts, the value of total assets, and the net worth of enterprise. The ratios between these different measures vary according to the sub-type of business; 100-worker firms in trade, manufacturing, construction, service, or finance, for example, will have widely different sales. How sales fail to correlate with business assets is indicated by the fact that in 1939, for the smaller corporations, each \$1.00 in capital assets produced \$2.56 of gross sales in service, \$4.08 in lumber manufacture, \$5.61 in food processing, \$7.92 in the construction industry, \$11.28 in retail trade, \$23.66 in wholesale trade, and \$27.77 in apparel.¹ Net worth has only a vague relation to size in production; a large producing enterprise may have a small net worth.

The same firm accordingly may have different size ratings by different measures. But also the size of a given firm, by any single measure, is likely to vary over a period of time. Size in employment changes with the market prospects, the availability of materials and funds, and other factors. So also does size as measured in sales. Total assets is perhaps the least variable of measures, but data are available only for the corporations,

¹ Corporations with less than \$250,000 in total assets. U. S. Treasury Department, *Statistics of Income for 1939*.

which are about one-tenth of small businesses. The net worth of enterprise changes with the business financial position. Further, the inclusion in size statistics of affiliated establishments as well as independents harms the precision of measurements of the true small business sector. These qualifications, while they do not undermine the value for study purposes of the available data, nullify all attempts to fix a statistical ceiling as a rigid definition of small business. The Department of Commerce, in presenting \$50,000 annual sales or receipts in retail trade, service, and construction, \$200,000 annual sales in wholesale trade, and the employment of 100 workers in manufacturing, as the upper limit of business smallness, is careful to use the term "understanding" rather than "definition." Less careful have been some analysts who, in following the annual statistical trends, have found that in times of rising prosperity the lower size-brackets of business decline in proportion to the whole, and have inferred that accelerated centralization of the economy was implied, whereas the rising cycle merely had placed many small businesses temporarily in a higher size-bracket. Conversely, in a time of decline, businesses of medium size may drop into a lower bracket, giving small business a false appearance of having flourished in recession. All in all, arithmetical definitions of small business are to be avoided, and in considering the statistics on the sector—including those that are presented in the present study—the foregoing qualifications are to be held in mind.

Description of the Term. The meaning of "small business" is in any case, like the meaning of "big business," primarily to be sought through its implied qualitative characteristics. The smaller businesses, concretely, are the numerous one-man proprietorships, which are roughly four-fifths of all small undertakings; most partnerships, less than one-tenth of the number; and the family held or closely held corporations, more than one-tenth. These small units have certain fairly common characteristics. Affiliates of larger companies are excluded by definition; the primary implication of "small business" is the one of business autonomy and independence. The ownership and the direct management of the small concern are generally identical, which is not true of large corporate enterprises; thus the term suggests the individual responsibility of the man in business. Most new enterprises are small and the element of venture in most small businesses is high; accordingly "small business" is virtually synonymous with venture enterprise, especially of the personal risk-taking type. Though local monopolies and product differentiation are not unknown, small businesses generally lack powers of market and price

control and are open to the invasion of competition; to identify them with "free and open competition" may be somewhat idealistic, but the term is generally associated with the concept of competition. Finally, the small units exist in great diffusion throughout the nation; in small communities they are often the mainstay of the local economy, and even in the larger cities they tend to provide the local type of business facility. Thus the term is closely related to the concepts and ambitions of community life. There is, finally, a psychological imputation, that of individual opportunity; one need not fully accept Alfred Oxenfeldt's view that the career of corporation employment and advancement develops a different type of person from the owner-manager of an independent small business but, as John M. Clark comments, "his statement. . . is a challenge to someone to prove it too simple."² The American tradition is dichotomous, one powerful strain being an admiration of bigness for its own sake, an equally powerful and conflicting strain being localistic and individualistic; the term "small business" is linked to the individualistic branch of that tradition. Such are the various facets of meaning conveyed by the phrase.

ECONOMIC MEASUREMENTS AND CHARACTERISTICS

THE SMALL BUSINESS POPULATION

Number and Distribution. The small businesses are extremely numerous. The table on page 44 shows the estimated total number of separate business firms at the beginning of the Second World War, distributed by major industries and by four subdivisions of size in terms of number of employees. Only 4,900 firms, or about 0.1 per cent of the total, had more than 500 workers. Of these few large enterprises nearly half were in manufacturing, public utilities and transportation concerns being second numerically and retail trade organizations third.

Medium-size concerns, those with 50 to 500 employees, outnumbered the "large" group by nearly 10 to 1; even so, they were only 1.4 per cent of all firms in the nation. As in the upper group, half of these were in manufacturing. The proportions that were in construction, wholesaling, financial, and service activities were larger than in the topmost bracket, while those in retail trade and in transportation and public utilities were smaller.

The group of enterprises having 4 to 50 employees would in most industries be accepted as small. This group outnumbered by 10 to 1 the

² Alfred H. Oxenfeldt, *New Firms and Free Enterprise*, American Council on Public Affairs, 1944, p. 5, pp. 111-19.

two upper size-groups combined and included more than 16 per cent of all firms. Trade preponderated, retail and wholesale firms constituting nearly half the entire number; manufacturing assumed second place but accounted for less than one-sixth of the number. In other major industries the proportions were smaller.

ESTIMATED NUMBER OF OPERATING BUSINESS FIRMS, 1939¹
By Industry and Size in Terms of Employment
(In thousands)

| Industry | All size classes | Size classification by number of employees | | | |
|----------------------------------------------------------|------------------|--------------------------------------------|----------------|------------------|-----------------------|
| | | 0-3 employees | 4-49 employees | 50-499 employees | 500 or more employees |
| Total, all industries ² | 3,316.7 | 2,724.3 | 539.9 | 47.5 | 4.9 |
| Retail trade. | 1,601.4 | 1,384.2 | 210.9 | 5.7 | 0.7 |
| Service industries ³ | 638.7 | 571.9 | 62.4 | 4.1 | 0.3 |
| Finance, insurance, and real estate..... | 286.4 | 240.1 | 43.7 | 2.5 | 0.1 |
| Manufacturing. | 214.2 | 102.0 | 86.0 | 23.8 | 2.4 |
| Transportation, communication, and public utilities..... | 207.7 | 180.3 | 23.7 | 2.8 | 0.9 |
| Contract construction..... | 202.1 | 146.2 | 52.7 | 3.1 | 0.1 |
| Wholesale trade..... | 144.8 | 91.4 | 49.6 | 3.7 | 0.2 |
| Mining..... | 21.4 | 8.4 | 10.9 | 2.1 | 0.2 |

Source.—U. S. Department of Commerce, *Survey of Current Business*, May 1944, p. 12. Number of employees refers to paid workers only and does not include entrepreneurs or unpaid family workers.

¹ Corporations that are subsidiaries of other corporations are counted separately, but they are very few in number.

² Due to rounding, totals do not necessarily equal the sum of components.

³ Professional services omitted.

Much the same distribution by industries is found in the “very small” group, consisting of firms with not more than three employees each, and in the majority of cases with none. This group was five times as numerous as the 4- to 50-worker bracket and accounted for 82 per cent of the total number of business firms. In this group the service category had the place second to trade, accounting for more than one-fifth of the total number. Finance assumed third place.

The internal structure of the small business sector indicated in the two lower size-groups of the table is probably typical for a time of peace: in retail trade, virtually half of all small business; in the various services, one-fifth; in finance, which includes small banking, real estate, insurance, and brokerage, about 9 per cent; in the utility group (mainly local land

and water transportation), about 6 per cent; about 6 per cent, also, in the construction industry, and in manufacturing; smaller percentages in wholesale trade and mining. Whether this distribution has held good over a period of years is unknown; there has probably been a long-time shift toward trade and service, and away from manufacturing, in small business as a whole.

Numerical Persistence of Small Business. The standard estimate of the business population for the years prior to the recent past is that of Dun and Bradstreet, Inc., whose records reach back to 1879. How complete are the earlier figures cannot be known, and the total is not distributed by size of firm. On the assumption that the smaller units must have accounted in the past for at least as high a proportion of all enterprises as they did in 1939, and that the fluctuations of business population from year to year accordingly reflect mainly the ebb and flow of small concerns, it can be said that the evidence indicates the numerical persistence of small business rather than the reverse. For the year 1900, for example, this source estimated a total number of 1,174,300 firms in the nation, which was 1.54 businesses for each 100 of the national population in that year; for 1935 the number of firms was 1,982,900, which was 1.56 per cent of the population.³ These two years were the low points of the ratio of businesses to population for the present century prior to the recent war; the high points were the years 1925–29 inclusive, in which the ratio exceeded 1.8 per cent. In most years since the beginning of the century there have been between 1.55 and 1.70 businesses to each 100 of population. Upward movements of this ratio appear to have coincided with periods of business expansion, downward fluctuations with periods of recession, and with the Second World War.

Some turnover of firms within the business population is of course an essential characteristic of the venture sector of the economy and part of the normal process of economic adjustment. New firms are constantly being established and existing ones passing out of existence. The turnover rate, however, varies. Recurring to the Department of Commerce figures, this turnover is recorded as having been exceptionally high since 1939.⁴ Many small firms went out of existence in response to wartime conditions; since the end of hostilities many new firms have been established.

³ U. S. Department of Commerce, *Statistical Abstract of the United States*, 1944–45, pp. 8, 397.

⁴ Howard R. Bowen, Donald W. Paden, and Genevieve B. Wimsatt, "New and Discontinued Businesses, 1940–43," *Survey of Current Business*, July 1944, pp. 7–14.

During 1940 and 1941 existing firms were discontinued and new firms established in roughly the same numbers—about 11–13 per cent of the total number. This, perhaps, was not far from the normal turnover for a period of prosperity. But with the emphasis upon war production and the increased absorption of men in war employment and in the armed forces, the number of discontinued firms sharply increased, while the number of new firms fell off. By 1944 the total business population accordingly had declined by 15 per cent. A sharp revival brought the business population by the end of 1945 to 3,234,800 firms, or within 3 per cent of the number at the end of 1941.

There has been a tendency to ascribe business discontinuances to the deficiencies of small business management. This is a superficial explanation; the influence of the business environment is obviously an important factor, whether as to general conditions affecting earnings, as to the launching of new firms without adequate opportunity surveys or other economic information, or as to lack of external advisory and financial support that would reduce the discontinuance rate.

EMPLOYMENT IN SMALL BUSINESS

Small business is engaged in types of production that rely upon manpower and light equipment rather than heavy fixed capital. Before the war an estimated 10 million persons, including 8 million wage-earners and over 2 million active proprietors, derived their livings from the 3.3 million enterprises in the lower size-brackets in the table on page 44.⁵ Another and more conservative set of measures of smallness currently used in the Department of Commerce and presented in the table on page 47 shows how some 8.4 million workers and proprietors were distributed among five major industry groups of very small business in 1939, and how this employment compared with total employment in those groups.

As the table shows, these very small units in 1939 accounted for a little more than one-third of the total production in the five industry groups that are included, but in so doing employed 45 per cent of the total manpower in those industry groups. Yet their average employment was only three persons each. Retail trade concerns with an average of little more than two active workers (proprietors included) contributed a total employment of nearly 3.5 million. Service concerns of similar size employed more than 1.5 million persons. Construction firms, averaging three persons each, provided more than 600,000 jobs. Small manufactur-

⁵ Donald W. Paden, "Industrial Concentration of Employment," *Survey of Current Business*, April 1945, p. 10.

SMALL BUSINESS AND NATIONAL TOTALS COMPARED, 1939

NUMBER OF ESTABLISHMENTS, NUMBER OF ACTIVE WORKERS, AND VALUE OF OUTPUT, IN FIVE MAJOR INDUSTRY GROUPS

| Industry | Number of establishments ¹ | | | Number of active workers ² | | | Value of output ³ | | |
|----------------------------------|---------------------------------------|---------------------|----------|---------------------------------------|---------------------|----------|------------------------------|---------------------|----------|
| | Total | Small | | Total | Small | | Total | Small | |
| | | Number ⁴ | Per cent | | Number ⁴ | Per cent | | Number ⁴ | Per cent |
| Retail trade ⁵ | 1,770,355 | 1,614,310 | 91.2 | 6,210,788 | 3,487,984 | 56.2 | \$42,041,790 | \$17,836,171 | 42.4 |
| Service ^{6,7} | 718,932 | 703,160 | 97.8 | 2,373,785 | 1,551,548 | 65.4 | 5,281,651 | 2,803,709 | 53.1 |
| Construction..... | 215,050 | 200,299 | 93.1 | 1,300,439 | 610,740 | 47.0 | 4,519,794 | 1,546,275 | 34.2 |
| Manufacturing ⁷ | 184,230 | 168,814 | 91.6 | 7,886,567 | 2,358,968 | 29.9 | 56,843,025 | 17,366,698 | 30.6 |
| Wholesale trade..... | 92,794 | 71,681 | 77.2 | 912,548 | 355,731 | 39.0 | 19,418,547 | 4,100,404 | 21.1 |
| Total..... | 2,981,361 | 2,758,264 | 92.5 | 18,684,125 | 8,364,971 | 44.8 | 128,104,807 | 43,653,257 | 34.1 |

Source.—Data submitted by the U. S. Department of Commerce and later published in *Small Business and the War Program* (Hearings before the Special Senate Committee to Study and Survey Problems of Small Business Enterprises, Dec. 18, 1941), Pt. 1, p. 292. Footnotes 2-4 and 6 have been modified slightly, and footnotes 1, 5, and 7 have been added.

¹ Number of establishments shown in this table differs from number of firms shown in the table on p.44; a firm, and especially a large one, may include several establishments, and establishments of large firms may be small. Firms with more than one establishment are probably most numerous in manufacturing.

² Proprietors included in all groups except manufacturing.

³ Net sales in retail and wholesale trade, net receipts in service and construction, value of product in manufacturing.

⁴ Retail, service, and construction establishments with less than \$50,000 annual net sales or receipts; wholesaling establishments with less than \$200,000 annual net sales; manufacturing plants with not more than 100 employees.

⁵ Includes chain stores as follows: 123,195 establishments, of which 76,410 were small (sales under \$50,000); 1,118,374 active workers, including 247,086 in small stores; \$9,105,825 sales, including \$1,783,289 in small stores.

⁶ Hotels and amusements included.

⁷ Manufacturing establishments with annual receipts of less than \$5,000 are classified as service.

ing establishments, with an average (proprietors omitted) of fourteen wage-earners, accounted for nearly 2.4 million jobs.⁶ Wholesale trade, though not a small business stronghold, provided 350,000 jobs in units averaging five workers (proprietors included).

How great was this contribution of small business to employment, in comparison to the proportionate value of the output of the small firms, is seen in the percentages of the table. In retail trade these small independent establishments, in making 38 per cent of the total sales, employed 52 per cent of the total manpower in trade.⁷ In the service industries the small businesses enjoyed about 53 per cent of the total receipts and provided about 65 per cent of the total employment; a high reliance upon manpower is characteristic of this industry group as a whole. In the construction industry the small business share of 34 per cent in the total production involved the employment of 47 per cent of the manpower, while in wholesale trade the small firms, with 21 per cent of the total sales, utilized 39 per cent of the manpower. In manufacturing, as the table indicates, the small units had about a 30 per cent share in both total production and total employment, but these percentages are subject to qualifications, as will be later seen.

This high factor of manpower in small business is one of its more important structural characteristics. It will be referred to in other connections, as it has significant implications to the problems of servicing and financing this type of enterprise as well as to the potential creation of employment through the expansion of the sector. A given amount of capital investment corresponds to more jobs in small business than in large.

THE PLACE OF SMALL BUSINESS IN PRODUCTION

An understanding of the part played by small business in the production of goods and services requires emphasis upon the qualitative aspects of that production. The data on page 47 tell only the quantitative tale. Such presentations often bring the comment: "Small businesses include more than 90 per cent of all enterprises, yet these have only about a one-third share in the total of production." The fallacy is in comparing incompa-

⁶ The manufacturing figures are more greatly affected than those of the other groups by the inclusion of small affiliates of corporations.

⁷ In these ratios the small chain stores referred to in footnote 5 of the table have been excluded.

rables; the output of bulk production and of the detailed forms of production and service are to a great extent unlike in kind.

Primarily, the figures that appear to suggest a comparison between the output of small and large businesses actually reflect the size of different sub-industries, either supplementing each other by occupying different segments of the same production line, or totally unrelated to each other. To a considerable extent (though not, of course, entirely) the small and larger businesses are found active in different divisions of industry or at different stages of the productive process in the same industry. The output of retail trade, for example, cannot be placed in comparison with that of construction; it is equally incomparable to that of manufacturing. Within the construction industry, little basis of comparison exists between the building of railroads, dams, and bridges, and the surfacing of floors in homes; within manufacturing, the production of ingot steel is incomparable to that of women's hats. Even in specific industries, such as aluminum manufacture, the few large concerns that produce the primary product sell that product to smaller concerns that reprocess the aluminum; the output of the one becomes the raw material of the other. Thus small business and big business output, as reflected in their respective sales, cannot be validly compared.

In brief, a considerable differentiation of function between small and large business exists. Something of this differentiation of function can be indicated by a more detailed breakdown, by sub-industries, of the major industry figures of the table on page 47.⁸ Some of the reasons why small businesses are more appropriate to and prevalent in certain sub-types of activity also can be inferred.

Retail Trade. In retail trade, direct competition among businesses of different size exists to a greater extent than in any other major group. As has been seen, 1.5 million independent small stores, which had in 1939 less than \$50,000 each in annual sales, accounted for 38 per cent of all retail sales. In five of the fifteen subdivisions of retail trade, however, the sales of the small independents far exceeded this percentage. Small stores accounted for about 90 per cent of the total sales of drinking places and filling stations, and for 70 to 80 per cent of all sales made by drug stores, eating places, secondhand stores, and food stores. In five additional lines the small independents had a more moderate but still substantial share,

⁸ Data for this breakdown are from the *Census of Business*, 1939.

ranging from 44 to 59 per cent of total sales; these were the hardware, apparel, liquor, general stores with food, and "miscellaneous" categories.

These are lines in which the capital requirement is moderate, mercantile credit is sufficiently available, inventories are either of standard types or (in the case of apparel) capable of quality differentiation, and convenience of location and service to the consumer is a business advantage.

In the four remaining subdivisions of trade—general merchandise, lumber and building materials, automobile products, and furniture, household goods, and radio—the capital requirement is higher, the cost of inventory greater, and the necessity to finance consumer accounts increases the requirement of working capital and credit. The role of the very small firms in these four lines accordingly was unimportant.

Service. In this heterogeneous group, individual skill and personality, close adaptation to the consumer's varying wants and tastes, and convenience of location are in many cases the primary requirements of success. In service, accordingly, small business is at its height, very small units accounting in 1939 for more than half of the total receipts of all service enterprises. Subdivisions in which these small firms accounted for at least 95 per cent of all receipts included barber shops, hand laundries, cleaning, dyeing and pressing shops, shoe repair shops, metal smithies, watch and jewelry repair shops, radio repair shops, furniture repair and upholstery work, and beauty parlors. In general automobile and mechanical repair, their share was 90 per cent. Some of these are humble industries, yet their importance to the standard of living became evident when their services were scarce during the war. It is also evident that without the mechanical repair services to maintain mass-produced products after they reach the consumer, the automobile, radio, refrigerator, and electrical products output of big business could hardly exist.

In many other of the 104 subdivisions of service the small establishments played a considerable part. But in the amusement industry the share of the small businesses in total receipts was minor, and the same was true of the hotel industry.

Construction. The role of small business is even more specialized in the construction industry than in trade and service. One of the main divisions of the construction industry is that of the special trade contractors or skilled and semi-skilled artisans who are adjuncts to the construction industry in a wide variety of particular tasks. Nearly 45 per cent of all construction receipts in 1939 were in this division and the share of the small units was 55 per cent of the division total. For example, in carpenter-

ing the units with less than \$50,000 annual receipts did 90 per cent of the total volume of business, and in painting, paper-hanging, plumbing, plastering, installation of wooden flooring, sheet-metal work, excavating and grading, and house moving, their share was between 65 and 85 per cent. They also performed about half the total volume in roofing, heating installation, concrete work, masonry, tile and mantel work, and other such specialties. But in elevator installation and repair, and steel erection and repair, their shares were less than 10 per cent.

The other main division, general contracting, which accounted for more than half of the industry's total receipts in 1939, is primarily heavy construction—highways, dams, tunnels, pipelines, railroads, and the like. In this work the small units play a negligible part.

Manufacturing. The size limit of less than 100 active workers, used in the table on page 47, is extremely low for small establishments in manufacturing. The data, moreover, have other important qualifications that prevent accurate analysis of the place of independent small businesses in the 446 subdivisions of manufacturing.⁹ There are two ways, however, of indicating generally the place of small business in the 20 major divisions of manufacturing. The first is by considering the place of the small establishments or plants (irrespective of whether or not they are independent) in each division, and the second by considering the place of the independent establishments (irrespective of their size).

By this combined test, two major industries, namely printing and publishing and apparel manufacturing, appear as preponderantly small business occupations. In 1939 the less-than-100-worker plants accounted for about 60 per cent of the total production in both these broad fields of manufacturing. The independents, small or large, accounted for about 70 per cent of the output. There were 24,000 small plants in the printing and publishing industry, and 19,000 in the apparel group, and small branches of plural-unit concerns evidently were few.

This was not the case, however, in the food processing industry, which included the largest number of small plants, 50,000. These plants accounted for 50 per cent of the entire production, but the existence of combinations in the food industries reduced the total number of

⁹ *The Census of Manufactures*, from which the data for this section are taken, includes some 34,000 affiliated or branch plants in its distribution of 184,230 manufacturing establishments by size. These cannot be segregated from the independent plants, as their size distribution is unknown. The Census subdivides the same 184,230 plants according to plural-unit and single-unit (independent) ownership, but this tabulation is not subdivided by size.

independents of all sizes to 40,000, and their combined production to 39 per cent of the total.

Small business also played a considerable part in 1939 in three other main divisions of manufacturing, namely, furniture and finished lumber production, basic lumber, and, significantly, the "miscellaneous" group, which is fairly large. In all these divisions the small plants provided from 42 to 53 per cent of the total production, while the independents of every size contributed approximately 60 per cent.

In the chemical, textile, leather, machinery, and metal processing groups, small plants and also independent plants were numerous, but they were overshadowed as to quantity of production by the output of the medium-size plants and of the few large primary producers. To the primary producers the small plants generally have a "satellite" relationship, either as preliminary contributors to the bulk production or as reprocessors of the basic output.

In the five most heavily concentrated divisions of manufacturing, namely, the transportation equipment, rubber, petroleum, automobile, and tobacco industries, the share of either the less-than-100-worker plants or of the independent plants was negligible.

Factors determining the size of plant in a given manufacturing industry are many; what is most clear is that the manufacturing plant that is efficient for the given purpose is not necessarily large, and indeed the great majority of all plants are relatively small. Factors determining the existence of plural-unit ownerships are equally difficult to determine. It is to be noted that the value added per worker in manufacturing was higher in 1939 for the smaller establishments than for the larger ones. This probably reflects the types of sub-industry in which the smaller units are primarily engaged. On the other hand the average annual wage in proportion to value added declined with size, perhaps reflecting a greater engagement of the smaller units in seasonal industries and in industries with fluctuating markets and employment.¹⁰

Other Activities. In wholesale trade the share of the smaller establishments is relatively minor. In finance, which is not included in the table on page 47, small firms are numerous, and these are especially important in providing the financing and brokerage services of communities. In 1941, 63 per cent of the commercial banks of the nation had less than one million dollars each in deposits. There are thousands of small real

¹⁰ U. S. Department of Commerce, *Census of Manufactures*, 1939, Vol. 1, p. 120.

estate, insurance, accounts financing, and personal loan companies of local scope. In transportation small concerns play an important part in local haulage, taxicab, and warehousing services.

INTERNAL CHARACTERISTICS OF SMALL BUSINESS

The purpose of the foregoing summary has been not only to indicate the quantitative share of small business in production, but also, by suggesting its qualitative place, to enable something of its internal characteristics to be inferred. Small business appears especially appropriate to certain types of work, in general the more detailed, special purpose, and variable lines of production and service. Its internal characteristics correspond to this order of task. They are, in general, the characteristics of an order of enterprise that represents flexibility in operation and adaptability to the particular market.

High Sales-Capital Ratio. In virtually every major branch of business, the smaller the enterprise, the larger its dollar volume of sales in relation to its value of fixed assets. This internal characteristic of business smallness has at times been interpreted as under-capitalization. More properly it is to be regarded as a reflection of the intrinsic ability of the small entrepreneur to translate small amounts of capital assets into relatively large amounts of sales, or as a high element of "going-concern value" in the small business operation. This is demonstrated in the table on page 54, which classifies different types of business according to total assets and shows the ratios of annual gross sales to investment in capital assets for each size-group in 1939.

For all types of corporate business combined, the gross sales of the smallest concerns in 1939 were nearly three and one-half times as large, for each dollar invested in capital assets, as the sales of corporations with total assets of 1 to 5 million dollars and nearly seven times as large as the sales of firms above the 5 million total assets mark. The rate of progression of the sales-assets ratio varied somewhat among the different industry groups and the subdivisions of manufacturing, but the general phenomenon was remarkably consistent throughout. Four factors combine to produce this statistical result. First, the smaller the enterprise, the more likely it is to be found in some sub-type of business that has a low capital and a high labor requirement. Second, in manufacturing especially, the small units often are found operating in the later stages of the serial process of production; their gross sales accordingly reflect the costs and profits of several preceding stages in production, as well as their own

GROSS ANNUAL SALES PER DOLLAR INVESTED IN CAPITAL ASSETS, 1939
By Total Assets of Corporation

| Industry | Size of corporation (Total assets, in thousands of dollars) | | | | | | |
|-------------------------------------------|----------------------------------------------------------------|-----------|------------|------------|--------------|----------------|-----------------|
| | Less than 50 | 50 to 100 | 100 to 250 | 250 to 500 | 500 to 1,000 | 1,000 to 5,000 | More than 5,000 |
| | Sales per dollar of invested capital | | | | | | |
| All corporations ¹ | \$5.42 | \$3.32 | \$2.59 | \$2.17 | \$1.89 | \$1.60 | \$.80 |
| Retail trade | 13.16 | 11.26 | 9.33 | 7.40 | 7.07 | 5.83 | 5.37 |
| Wholesale trade | 26.48 | 23.90 | 22.23 | 19.53 | 18.91 | 17.93 | 22.95 |
| Service | 4.47 | 2.11 | 1.58 | 1.18 | .86 | .73 | .92 |
| Construction | 11.02 | 7.15 | 6.32 | 7.33 | 5.97 | 5.06 | 3.67 |
| Mining, quarrying | 1.56 | 1.15 | .98 | .92 | .84 | .60 | .51 |
| Utilities, transportation | 3.26 | 2.03 | 1.46 | 1.13 | .72 | .45 | .23 |
| Manufacturing, ² All | 6.64 | 5.14 | 4.57 | 4.02 | 3.41 | 2.87 | 1.95 |
| Automotive products | 8.00 | 5.00 | 5.29 | 4.50 | 3.33 | 3.77 | 3.15 |
| Petroleum, coal products | 10.00 | 4.00 | 4.86 | 5.22 | 4.44 | 3.01 | 1.15 |
| Tobacco products | 7.07 | 7.74 | 7.75 | 5.43 | 6.50 | 4.54 | 7.71 |
| Rubber products | 6.54 | 5.41 | 5.20 | 5.30 | 3.61 | 3.49 | 3.72 |
| Machinery, electrical | 6.75 | 5.80 | 5.75 | 5.93 | 4.24 | 4.59 | 3.54 |
| Transportation equipment | 3.00 | 2.00 | 2.50 | 2.78 | 1.77 | 2.09 | 1.42 |
| Iron and steel products | 5.10 | 4.00 | 3.84 | 3.41 | 2.95 | 2.75 | 1.29 |
| Nonferrous metals | 7.75 | 5.33 | 5.61 | 6.29 | 5.11 | 4.87 | 2.29 |
| Machinery, non-electrical | 3.68 | 3.30 | 2.85 | 3.09 | 2.91 | 2.82 | 2.30 |
| Chemicals | 4.43 | 3.84 | 4.18 | 3.80 | 3.17 | 2.88 | 1.82 |
| Textile mill products | 6.62 | 5.60 | 4.32 | 3.60 | 3.21 | 2.59 | 2.29 |
| Paper | 6.60 | 5.38 | 4.37 | 3.94 | 2.91 | 1.92 | 1.12 |
| Stone, clay, glass products | 3.71 | 2.60 | 2.29 | 2.06 | 2.03 | 1.24 | 1.33 |
| Leather and its products | 20.67 | 17.00 | 12.64 | 12.46 | 10.27 | 7.53 | 5.85 |
| Food products | 6.70 | 5.47 | 5.23 | 5.30 | 5.15 | 4.41 | 4.09 |
| Beverages | 3.93 | 3.05 | 3.02 | 2.27 | 2.30 | 2.94 | 2.92 |
| Printing and publishing | 4.21 | 3.24 | 3.12 | 2.79 | 2.28 | 2.11 | 1.43 |
| Apparel | 29.13 | 32.10 | 25.32 | 21.21 | 16.19 | 10.31 | 5.19 |
| Furniture, finished lumber | 7.67 | 5.38 | 4.34 | 3.96 | 3.35 | 3.16 | 2.47 |
| Lumber and timber | 5.38 | 4.54 | 3.59 | 2.92 | 1.98 | 1.30 | .51 |

Source.—U. S. Treasury Department, *Statistics of Income for 1939*. Capital assets include buildings, fixed and unfixed mechanical equipment, and certain intangible assets including patents, franchises, trademarks, goodwill, etc.

¹ Includes following groups not shown separately: finance, insurance, real estate, and lessors of real property; agriculture, forestry, and fishery; and "other" (nature of business not allocable).

² Includes "all other" group not shown separately.

addition to value. Third, the smaller businesses often economize in the use of capital by renting rather than owning their quarters and at times their machinery, by occupying the less expensive locations, and by having

simple equipment with an avoidance of display. Fourth, the value of patents, franchises, and trademarks is relatively smaller for the smaller units. This characteristic lack of fixed assets is near to the heart of the credit problem of small business, since lenders often base credits upon "bricks and mortar" security rather than upon dynamic size.

The Mechanical Equipment of Small Business. The prevalence of small business in lines of service, construction, and manufacturing that are of the light industry type has been noted. In these lines of production the small-unit type of mechanical equipment prevails. Such equipment is generally to be distinguished from mass-producing machinery by the fact that it exists in separate units rather than as part of a concatenated process; that it requires operative skill and hence is capable of product variation; that it is of the constant cost rather than the declining cost type; and that the capital outlay required for a single unit or a few units is relatively low. Examples are the stitching machines of the apparel industry, the linotype, the baking unit, the wood lathe and plane, the pattern making machines of the metal working industries. Such machines, precisely because they are designed for purposes other than the duplication of identical products, are as efficient for the purposes of variable production as any that are known. It is no accident that small enterprises persist in those types of enterprise in which the market calls for variability and small-lot "custom" specialization, for the technological basis is appropriate to such tasks and permits an efficient business unit to be small.

Type of Efficiency of Small Business. Small business in general emphasizes the human and variable element in production while big business emphasizes the capital and repetitive element. It is customary, in this mechanical age, to speak of efficiency as though it were exclusively a matter of quantity output, of the duplicating or cost reducing order of production, and of uniformity in administration. Yet there is also an efficiency of adaptation, of flexibility, of the power and proclivity to vary that production; and this order of efficiency is exhibited by small business in many ways. The independence of its management liberates it from standardizing restrictions and "red tape," and substitutes the incentive of individualism. Its high labor factor and the adaptable unit machine render the small business capable of particular purpose tasks, of tasks that change from place to place and time to time, and of close response to the needs of small markets. The character of the machinery and equipment renders it possible to reduce or expand operations with relatively little effect upon unit costs. The small business, in short, represents

flexibility rather than the fixed commitment; and if its persistence in the economy has appeared to be in contradiction of standards of efficiency, established by a machine age, perhaps the standards should be extended to include the flexible and variable type of economic efficiency as well as the efficiency of repetition.

Inferences to a Program of Aids. The major elements of the small business problem and the major premises of an attempted solution can now be inferred.

The concrete purpose is to place at the disposal of the small unit enterpriser an adequate quota of those business facilities, nonfinancial and financial, that are required as normal operative needs for this type of enterprise. Such facilities must be formulated in terms of the fundamental characteristics of the type of business to be aided. Primary among these terms is the independent status of the small enterprise, which must be conserved, upbuilt, and, where it has been invaded, restored.

The need for a strengthening of the operative efficiency and the financial position of the smaller units appears most clearly in their relationships to big business, whether those relationships are competitive with, or supplementary and ancillary to, the larger organizations. It is necessary to strengthen the hands of small business in meeting large-scale as well as multiple competition. It is equally necessary to strengthen its bargaining position when such bargaining involves units of very different size.

In so doing, considerable inventive thinking is required. Administration must be such as to reach out to individual enterprises and to particular localities, yet also to provide a higher level access to the technical, managerial, and informational experience and to the financial resources of the nation. The business facilities must be provided in terms of the typical characteristics of small business itself, which differ from those of the larger enterprises in many essential respects.

NONFINANCIAL PROBLEMS OF SMALL BUSINESS

Underlying the financial problems of small business are certain non-financial problems that require solution as a prerequisite to, or concurrently with, the needed taxation, capital, and credit adjustments. The failure of the business environment to offer to the smaller units certain obvious nonfinancial facilities that are readily available to the larger organizations accounts in large part for the difficulties of the small business sector. Increasing perception of the importance of such facilities has resulted largely from earlier attempts to solve the small business

problem through financing devices alone. The slow loan, when inquired into by the banker, more often than not reveals the need of some one item of technological information, of some required information as to productive "know-how" or markets, or of some requirement for advice as to expert practices in management. When the information or advice is sought, it is often found not to be available locally, or indeed not available at all in a form that on the one hand is authoritative and on the other hand can be brought to bear upon the needs of the particular small concern.

During the war the Smaller War Plants Corporation found it desirable to support its credits by services in matters of production technology. Since the war the Department of Commerce has reorganized and amplified its nonfinancial services to small business and now stands ready to provide small business with certain advisory and informational aids. Several types of need are involved.

Need for Technological Information. In manufacturing, construction, and the mechanical services the isolated unit has difficulty in learning of the best and most modern scientific methods in production. Inability to maintain the rapid pace of technological advancement is hardly to be wondered at, since small business until the present time has had no central clearing house of such information. A vast body of technical and scientific information exists in the nation and is, indeed, one of our outstanding national assets; the problem is that of making this asset available to the smaller units wherever they are placed.

Some information that would aid small business is protected by patent rights, or as trade secrets. But much that is of the highest quality remains available, in public and quasi-public hands, in the National Bureau of Standards, the National Research Council of the Academy of Sciences, the Federal and State research laboratories, the endowed research foundations, and the scientific departments of universities. The problem thus narrows to that of placing the individual small business that has a production problem in touch with the best source of advisory aid on that problem.

In 1936 Mr. Bert H. White, a bank official of Buffalo, New York, who had been trained as an industrial engineer, found an ingenious answer. With the aid of the National Research Council he developed a file of the leading scientific authorities and other foremost sources of information on technical production problems, and offered the use of that file as a service to the industrial clients of his bank. Early in the war the system was

handed over as a patriotic service to the Smaller War Plants Corporation, which used it as an aid to improving war production in the smaller plants. The process was simple: upon encountering a technical production problem, the business firm would state that problem in a letter to its bank or to the SWPC; the list of leading authorities in the given field would be looked up in the file, and the query sent in duplicate to the entire list. Upon receipt of the replies, they would be summarized and sent to the querying enterprise, whose management could then select the most appropriate answers and correspond further with their sources as desired. Results proved valuable. Some 35,000 queries, involving about 6,500 different answers, were handled during the war by the SWPC.

This service is now the Technical Advisory Service Division of the newly established Office of Small Business in the Department of Commerce. Its adaptation to the peacetime needs of small business on a permanent basis is a step in filling the "institutional gap."

Need for General Management Advice. Inasmuch as the major asset of most small businesses is the intangible one of their ability to perform, the quality of their management is all important. Small business has had a reputation for mismanagement in the past, but has partly outlived that reputation; during the war many owner-managers made remarkable records of performance and expansion in unfamiliar fields.

The task of small business management is not easy. The same individual is required to be equally competent in matters of production, sales, personnel relationships, customer relationships, accounting, financing, and the broader fields of labor and Government relations and the strategy of enterprise. The small business, moreover, must often meet the standards imposed by larger enterprises with specialists at their command. It is not by accident that many of the leading managers of large enterprises have undergone the training of small business experience.

The improvement of managerial practices is a perpetual need, for which some facilities of course exist. There is an abundant literature upon management; schools of business are numerous; and local bankers, under the stimulus of the American Bankers Association, of late have been increasing their managerial aids to their smaller clients. That such aids to be effective must be supplied at the local level is the working principle of such organizations as the Louisville and Baltimore Industrial Foundations; local advisory services were recommended by the Small Business Committee of the Investment Bankers Association, and are a feature of the New York State program for fostering small business. Yet the local

aids need supplementation; talent varies, and the type of information needed by a given business may not be available locally. Into this gap the Department of Commerce also has entered, as will be described.

Problems of Imperfect Competition. The individual instances of unfairness in competitive practice to which small business is subjected are part of a larger and more profound problem that cannot be adequately treated here.¹¹ Small business is on the firing-line of this problem and not inconceivably might provide a medium through which the status of competition in the nation could be generally improved. One form that the problem assumes is that of inequitable direct competition between businesses of different economic power arising from difference in size; this is most familiar today in the field of trade, in which small business often finds itself in competition against the chain store and the department store; it also is found in other types of enterprise, though perhaps to a lesser extent.

Under pressure of large-scale competition, the small business tends to survive by differentiating its product or location from that of the large competitor. At times also small business has supported legislation that has a bearing contrary to that of the unrestricted or "open" competition for which individual enterprise traditionally stands. This tendency, which has affected the laws of some States especially, has been forced upon small business by its necessity to protect itself against size competition and thus is part of the general problem. It is regrettable rather than remarkable that, under monopolistic pressures, the form of enterprise that conceptually stands for self-adjusting competition should at times adopt practices that are part of the problem of imperfect competition in themselves.

Two affirmative approaches are conceivable: the general one of up-building the smaller units to a better operative position, and the special one of encouraging the small businesses to assist those law-enforcing agencies whose work it is to safeguard the nation against unfair competitive practices. Too often the "little man," when subjected to some unfair practice, has not complained. This has been a detriment to law enforcement in this field, but it may have been due to lack of contact with enforcement authorities, to a feeling that the minor instance of an illicit practice was not worth reporting, or simply to fear of the results upon existing business contacts. There are small business bureaus in the

¹¹ See Howard S. Ellis, "Monopoly and Unemployment," in *Prices, Wages, and Employment*, No. 4 in this series.

Department of Justice, the Federal Trade Commission, and the Department of Commerce to receive complaints of this type. Services on the local level appear deficient.

Problems of Unilateral Bargaining. When not in immediate competition against the larger business, the smaller one may be in a satellite or "vertical" relation in which it purchases products from, or sells products to, the large concern. The bargaining position of the small business in dealing with the larger enterprises is usually weak; such abuses as price dictation, restrictions of supply, "tie-in" sales, and other invasions of the independent status of the small enterprise, arise from this relationship. These too are part of the general problem of imperfect competition.

Some of these abuses, for example those that involve control of sales practices and of the character of inventory by the trade creditor, would be subject to control if there were another and competing source of credit, for example, of cash credit. Other bargaining inequalities may be subject to control under existing law, or by new legislation, but again, as in the case of unfair competitive practices, the contact of small business with the law enforcing and legislative authorities has been deficient.

Problem of Inadequate Information on the Small Business Area. Finally, much statistical and other information that is needed by small business and its advisors, and also by investors, economists, and others who desire to aid this form of enterprise, does not exist. Such information as to markets, for example, as is supplied in normal times to the exporter and to the agriculturist, is not compiled for the small manufacturer; and the statistical study of small business itself is in its infancy. There is need of much greater research into those types of information that small business specifically needs, and of much more adequate compilations of data about small business, if this sector of the economy is to attain a level of efficiency and to assume a place in financial and economic thought commensurate to its importance.

The Department of Commerce Office of Small Business. To a large extent the problem of nonfinancial aids to small business may be summarized as a problem of communication. The individual small business, existing in isolation, has difficulty in making contact with the best scientific, managerial, and factual information of its time, and with those agencies, seemingly remote, that might enforce the law in its behalf. Financial, economic, and Governmental leadership, on its part, also has difficulty in reaching the small businesses, extremely numerous and extremely diffused as they are.

A system for establishing the needed channels of contact in both directions must, ultimately, operate as a two-level plan, combining the local and the national approach. As a step toward the formation of such an advisory and informational service, the Department of Commerce recently has consolidated its previous facilities for assisting small business, together with certain newly established services, into the new Office of Small Business.

This Office, in recognition of the principle that whatever is done to aid independent enterprise must first and foremost recognize its independence, offers a query service, rounded in character, for small businesses to use of their own volition. The Office at this time of writing (early 1946) is just beginning to get under way; its status somewhat resembles that of the program of agricultural advisory aids when first projected. It is designed, however, to serve as a national clearing house for virtually any type of aid, other than direct financial aid, for which small business itself may call.

Under the new organization a letter of query from a small enterprise, addressed simply to the "Office of Small Business, Department of Commerce, Washington, D. C." will bring to bear upon the particular problem the resources not only of the Office itself, but of those agencies within and without the Government that work in cooperation with the Office.

The query is delivered, first, to the Business Counseling Division, which may either answer it directly or refer it to some special branch. This Division deals directly with business proposals and plans, selection of types of business into which an individual may enter, and budgets for proposed enterprises. It has separate subdivisions for considering the queries of war veterans and of nonveterans in these connections.

If the query deals with trade opportunities, choice of locations, capital requirements, sources of funds, sources of supply, advertising, methods of financing, record keeping, pricing, or other matters of internal management, it is referred to the Management Advisory Service Division. This Division has separate subdivisions to deal with queries from retail trade, wholesale trade, manufacturing, and service establishments.

If the query bears upon a scientific, technological, or other problem of "know-how" in production, it is referred to the Technical Advisory Service Division, which was transferred to the Department of Commerce from the Smaller War Plants Corporation in January 1946.

If it bears upon problems connected with short-term credit, risk capital, or taxation, it is referred to the Finance and Tax Problems Division, and if

unfair trade practices are involved, it is referred to the Business Practices Division. Problems related to the industrial development of under-developed or economically unbalanced areas are referred to the Area Development Division, which is designed to work in cooperation with State and local planning boards and quasi-public developmental agencies for the strengthening of regional economies. Finally, there is a Special Services Division, to deal with matters not covered by the other Divisions, especially the relations of small business and the Federal Government, and particular case requests.

It is too early to determine how this new Government set-up of advisory facilities will work out. Small business at all events now has a central contact point with the Federal Government. There appears to be a need for a greater development of the field division and of local small business advisory groups to handle on a decentralized basis those matters that can be locally adjusted and to work in cooperation with the Office of Small Business upon the local level.

INTERNAL FINANCING AND TAXATION

The first financial problem of small business to be considered is that of its internal financing. The crux of this problem is the effect of Federal income taxes, which in recent years have seriously reduced the volume of net earnings and consequently the self-financing ability of many small enterprises. Traditionally the growth of the small units has been financed internally through the "plowing back" of earnings. For this reason, perhaps, the demand for external funds of the type usually supplied by equity capital investment or long-term debt was not in the past the primary element of small business financing.

With the marked increase in Federal income taxes in the past 15 years, internal funds have become a less sufficient source of financing. Concurrently also, the ability to command external funds has been impaired by the effect of increased taxation on the financial position of small enterprises. Thus, it is to a considerable extent the tax situation that has brought the external financing problems of small business to the fore.

Business income is affected by income taxes in several ways. The net income of the corporation is taxed, and then that portion distributed to stockholders is taxed again as individual income. Under the personal income tax the earnings of individual proprietors and partnerships, which comprise the great majority of small businesses, are taxed, as they accrue,

as part of the personal income of the individual. Under the latter arrangement business earnings, like any single source of individual income, are in effect taxed at the highest progressive rate that applies to the entire income of the individual. Earnings of unincorporated businesses are taxed at more sharply graduated rates under the individual income tax, while corporate profits are to some extent doubly taxed, first at the corporation level at less sharply graduated rates and second at the individual level on that part paid out as dividends.

The immediate effect of high taxes on business earnings is to reduce the capacity of the business to finance itself through the plowing back of earnings. This fact is considered by the business manager, who is also the owner in the case of the unincorporated business, as he makes his plans for business expansion and the amassing of reserves. In sectors of business that characteristically have wide fluctuations in net earnings from year to year, retained earnings have also been subjected to wider fluctuations. Under progressive tax rates the income tax liability increases sharply in years when profits are high, and payment of the taxes in the following year, when earnings may be lower or the business may even be suffering a loss, may create a special hardship. The business creditor takes this into account in evaluating credit risk. Thus high income taxes contribute to the uncertain qualities of the credit risk of small businesses.

An important mitigating element prior to the war was the fact that many very small businesses were not reached by the Federal income tax at all. The personal exemption of individual net income below \$2,500 for a married person and \$1,000 for a single person kept outside the scope of the Federal income tax the business earnings of some 2 million individual proprietors, or about three-fifths of all small businesses. Under the lower exemptions currently in effect, \$1,000 for a married person and \$500 for a single person, a very much larger proportion of small business is reached; also at the present rates the individual pays higher taxes on his business profits than before the war. The situation is not to be interpreted as an adverse reflection on more extensive use of the income tax, at progressive rates, as a major source of Government revenues. What is emphasized, rather, is that such a trend should be accompanied by a growing consciousness of the special problems of the small entrepreneur and of the need for adjusting the necessarily heavy burden of taxation as nearly as possible to the distinguishing characteristics of the smaller units and the new ventures in the economy.

Remedies directed to the major difficulties would include adequate

recognition in the tax system of the often highly fluctuating earnings of the smaller businesses, by basing tax liability more nearly on the average level of earnings over a period of years; encouragement through special tax provisions of the amassing of the earned reserves upon which small business so fundamentally depends; and elimination of the inequities that arise from the differing treatment of incorporated and unincorporated businesses under the twofold system of income taxation.

The fluctuating nature of business earnings was partially recognized for the years 1921-29 and again in 1939-41 through the provision that permitted both incorporated and unincorporated businesses to carry forward their losses from business operations as offsets against net income in the subsequent two years. The fluctuations were also recognized in carry-back and carry-forward provisions during the war years. It is believed that reinstatement of the prewar carry-forward provision for an extended period, say for five or seven years, would be justified in the case of small businesses so that income taxes would be determined on the basis of the average level of earnings. A more equitable adjustment of the income tax burden to the varying level of business profits would do much to provide a more reasonable volume of earnings for reinvestment and to strengthen the credit status.

The tax laws, however, should go further and encourage the small business to build up a stronger basic financial position. At present business earnings are taxed whether they are to be used in the enterprise or not, with the exception (of relatively limited importance to small business) that the portion of corporate income retained within the business avoids double taxation under the income tax laws.

A limited encouragement to the amassing of earnings for reinvestment purposes could be provided by allowing the small individual proprietor, in computing taxable income, to take a special deduction based on net earnings reserved for business purposes. Abuse of such a provision as a means of income tax evasion would, of course, have to be prevented. In order to limit the benefit to small business, it would be necessary to restrict eligibility for the deduction to businesses of a specified limited size, in total assets or in annual sales. Also, since the genuinely small proprietor is to be distinguished from the large investor who might seek to finance small business for the sake of the exemption, it would be necessary to restrict the deduction to the owner-operator whose business income provides a high proportion, say 80 per cent, of his entire income. The amount of the special deduction that could be taken by a bona fide

small business in a given year also should be limited in some manner, such as to a given percentage of the earnings from business (before taxes and the deduction), or to a certain percentage of regular depreciation charges, or perhaps to the building up of a total reserve not to exceed a specified percentage of total assets.

The dual method of taxing business profits, depending on whether the business concern is incorporated or unincorporated, presents no problem for many small individual proprietors. For them earnings are either exempt from income tax or taxed at a relatively low rate under the personal exemptions and the low rate at the bottom of the progressive tax schedule. In some respects, however, small business would be benefited by the elimination of this dual system of taxation. First, the small business sector of the economy includes some corporations in addition to many individual proprietors and some partnerships. An equal treatment under the tax laws would be fairer to all small businesses. Second, the attraction of outside investor funds to concerns, small as well as large, is affected by the differing taxes on unincorporated versus incorporated earnings.

The problem of the best over-all method of taxing business profits involves primarily the question of taxing corporate incomes and has implications for the tax system as a whole. It will not be considered here.¹² It may be noted, however, that as far as small corporations are concerned, a more equitable tax burden in relation to unincorporated businesses could be provided by permitting the stockholders to report for tax purposes in the same manner as the members of a partnership.

Adjustment of the tax burden of small businesses to take account of their essential characteristics would contribute greatly to the solution of the financial problem of small concerns in other respects.

PROBLEMS OF EXTERNAL FINANCING

In a nation of abundant financial resources and of a private enterprise economy, it seems peculiarly ironical that small business should have complained for many years of deficient access to external funds. Record of this complaint exists from as early as 1910; since then it has been expressed in varying degrees and forms. That the situation of late has been taken seriously may be seen in the fact that 131 bills bearing on the

¹² For a fuller treatment see Richard A. Musgrave, "Federal Tax Reform," in *Public Finance and Full Employment*, No. 3 in this series.

problem were introduced into Congress in the period 1933-44,¹³ and that since the beginning of 1944 the leading organizations of commercial and investment banking have suggested various plans for opening up new avenues of external funds to small business.

The plans have served to clarify the problem. There is, broadly speaking, a considerable agreement today as to the main elements of the situation. The difficulty is not that of quantity of needed funds. A minor fraction of the nation's savings would apparently suffice. Small business, although its capital requirements have increased with the increasing elaboration of machinery and equipment, is still, as the table on page 54 indicated, a much lighter user of capital than is big business in relation to its production. Tending to reduce the demand is the fact that small business, like all businesses, finances itself wherever possible through the "plowing back" of its own earnings. But whether this is due to preference or to nonaccess to external funds is debatable. When small business voices a demand for external funds, it is likely to be an imperative demand.

The problem, primarily, reflects an institutional gap in that it involves a form of risk-taking to which the existing structure and the prevailing standards and practices of the nation's investment and credit institutions are ill adapted. The reluctance of funds to flow into venture enterprise is the underlying problem. When the funds are institutional, and the ventures small and personal, this problem becomes more acute.

Historical Basis of Problem. In previous times the individual local capitalist placed his funds directly on an ownership basis, in small but promising enterprises with which he was in touch. He shared their risks and profits outright, ordinarily not burdening them with hypothecation of assets, fixed charges, and debt obligations. His ally was often the so-called "personal" banker of the locality, who also supplied the seasonal and short-term credits. These two traditional figures were small business' appropriate financial source.

Both have largely disappeared, the one in favor of the investor in securities of listed corporations and of Government, and the other under the influence of the modern objective standards of loan security and of the avoidance of risk in banking. The unsolved problem is that of their replacement. Various attempts have been made to devise some form of institution that will finance the fluctuating enterprises and ventures. In the years prior to the First World War, when the problem first began to

¹³ U. S. Department of Commerce, *390 Bills: a Digest of Proposals Considered by Congress in behalf of Small Business, 1933-1942*," p. 13; *187 Bills*, same subtitle, 1943-1944, p. 7.

emerge, some communities raised local funds to provide capital for local enterprises. About 20 such funds exist today and in some cases their work has been valuable, but the movement has not become general.¹⁴ A revival of this type of organization, with Government backing, was recommended in 1945 by the Investment Bankers Association of America.¹⁵

An increasing number of the new small businesses started in the later 1920's were financed in considerable part from big business sources, which needed new parts suppliers, outlets, and services. While a marked development resulted, the problem of the pseudo-independent or satellite small business also arose, and the danger of increased financial dependence of small business upon the large corporation was driven home. A current inheritance from the 1920's is the movement for the attainment of true independence by such enterprises, which is advancing especially among concerns engaged in the distribution of petroleum products.

The depression of the 1930's not only drove venture capital into hiding, but also brought the external financing problem of small business to the acute stage where working capital supply was restricted. Lending concerns in search of liquidity terminated short-term lines of working capital credit, with resulting business discontinuances that added to the cumulative effects of the depression. Congress met this situation in part by inaugurating in 1934 direct financial assistance to private business through the Federal Reserve System and the Reconstruction Finance Corporation.¹⁶ The assistance, limited to credits with maturities of not more than five years, and, in the case of the Federal Reserve, to working capital credits, took three forms: direct loans made by the agencies from their own funds; loans shared by them in participation with banks or other commercial lending institutions; and loans made solely by the private lenders with an agency's underwriting or guarantee. The amounts so loaned or guaranteed were not large, but provided relief in individual instances. A primary significance of the experience was in developing the guarantee or particular case insurance of commercial loans by a central underwriting agency. The guarantee emerged over an eight-year period as the best of the three forms of credit support, became the funda-

¹⁴ Chamber of Commerce of the United States, *Community Industrial Financing Plans* (in mimeograph). Also, Ernest J. Hopkins, *The Louisville Industrial Foundation: A Study in Community Capitalization of Local Enterprises*, Federal Reserve Bank of Atlanta, 1945.

¹⁵ *Capital for Small Business: A Statement on National Policy* by the Small Business Committee of the Investment Bankers Association.

¹⁶ Through the addition of Section 13b to the Federal Reserve Act and of Section 5d to the Reconstruction Finance Corporation Act.

mental plan of the large-scale financing of war producers by the commercial banking system in the Second World War, and is the central plan advocated today for a lasting solution of the external financing problem of small business.

The primary form of guarantee developed by this 12-year experience is the "take-out agreement" or "deferred participation." The commercial lender makes the original loan to a business with its own funds and services the loan throughout, but it does so under an agreement entered into at the start whereby at any future time the commercial lender may sell part of the loan to the central guaranteeing agency. If all goes well with the loan, the option to sell is never exercised, and the guarantee fee—stated as a portion of the interest rate on the loan, and paid by the bank as a premium for the contingent protection—goes into the central guaranteeing fund. But if in the commercial lender's opinion loss is threatened, or if the commercial lender desires to become more liquid, the lender exercises his option and the previously agreed-upon portion of the loan is bought by the central guarantor. Thus the "deferred participation" becomes an actual one, and from then on the loan is a partnership transaction between the originator and the guarantor, both the profits and losses being shared *pro rata* on the basis previously agreed.

It may be observed that under this plan the central underwriter has a "pool of risks"; some individual transactions will make a return while others will incur a loss. This is fundamentally the principle of insurance, and it is regarded as the key to the institutional financing of business ventures which cannot be undertaken singly but can be undertaken in aggregates or groups; the larger and more diversified the better. There will be further discussion of this plan.

In 1939–40, when the small business situation was investigated by the Temporary National Economic Committee of Congress, it was found that the restrictions of the 1934 legislation had prevented solution of the equity capital problem of small business, while the period of working capital shortage had contributed to a flourishing development of high-cost lending institutions. The survey emphasized the need of a greater entry of commercial banks into the small business working capital field, also the need that banks should make long-term capital loans to small business.¹⁷ This finding caused controversy at the time, although commercial banks were currently increasing their term loans to large bor-

¹⁷ Temporary National Economic Committee of Congress, *Problems of Small Business*, (Monograph No. 17), pp. 276–77.

rowers, from an estimated 217 million dollars made in 1938 to an estimated 1,352 million made in 1940.¹⁸

During the Second World War the financing problem of small business took the form of a lack of conversion and expansion capital for the small war producers. This was met in part through leases of equipment and direct cash loans by the Smaller War Plants Corporation to firms with less than 500 employees, and in greater part through the guaranteeing of commercial bank loan risks by the war procurement agencies through the agency of the Federal Reserve System under Regulation V of the Board of Governors. The arrangement for guarantee of loans under Regulation V drew on the commercial bank as the source of funds and reemphasized the effectiveness of a central guaranteeing plan behind credit risks in enabling bank credit funds to flow. The Smaller War Plants Corporation authorized 504 million dollars in loans and leases, all to small concerns. The V loan guaranteeing system authorized 10.3 billion dollars in bank credit to war contractors of all sizes, and was an outstanding feature of the financing of war production. The large majority of borrowers were of medium size or small; loans authorized for firms having not more than \$500,000 in total assets aggregated 835 million dollars up to March 31, 1945.

Since the war, groups of the larger commercial banks have offered central protection to the smaller banks through a form of credit pool that offers outright loan participations rather than insurance type guarantees. Also, the Reconstruction Finance Corporation, backed with Federal Government funds, has offered a blanket guaranteeing plan, covering commercial loans up to 75 per cent of their face amount without individual examination of the risks, but with certain standard requirements. Neither of these differently limited central fund plans has been fully tested as yet.

Central Principle of Solution. The experience summarized above points to the principle upon which current thinking centers as a permanent solution for the external financing problems of small business. It is generally agreed that direct Government lending to business, involving dangers of subsidization and of Federal invasion of private enterprise both in industry and finance, should be at most an emergency measure. Also it is generally accepted that the commercial banking system, with its 14,000 outlets, its unparalleled ability to make contact with the smaller

¹⁸ Neil H. Jacoby and Raymond J. Saulnier, *Term Lending to Business*, National Bureau of Economic Research, pp. 2-3.

enterprises everywhere, and its abundant financial resources, would provide the best possible solution of the institutional difficulty if an adequate portion of its credit capacity could be enabled to finance business ventures. It has been well demonstrated that commercial banks will finance difficult and off-standard business situations if in so doing they do not jeopardize their responsibility to depositors and stockholders. The obstacles are mainly twofold: the need for a modification of credit standards, which are somewhat entrenched, and the necessity that the individual bank—primarily the smaller bank—be protected against undue loss of liquidity and undue financial risks on the credits it extends.

There should be established, as a permanent feature of the commercial banking system, a central fund to be used for the underwriting or guaranteeing of business loans, particularly of those credits that an individual bank cannot extend if it must assume the entire risk. The deferred participation plan, which leaves the original lender free and utilizes his funds alone unless and until the transfer of risk is needed, should be the prevailing plan of operation of the central fund. The types of business situation financed, the relations between the guarantor and originators of the credit, and the percentage of risks contingently assumed by the central fund, should all be sufficiently liberal so that the risk margin of credit from institutional sources can be extended into the longer term as well as the short-term loans, into the area of small business, and into the financing of the important venture sector of business enterprise.

This plan applies to both working capital and fixed capital needs of small business. It may be summarized from three points of view. From that of the business that needs external funds, the endorsement made by the central fund amounts to a supplementation of the loan collateral or other security that it can supply. From that of the lending institution, the security behind its loans is upbuilt, its liquidity is protected, and its earnings increased by "new business," which it otherwise could not undertake. From that of the central fund itself, a "pool of risks" is created, and the operation is essentially that of an insurance system, though less rigid than formal insurance. The plan is not new; its features have been tested in other connections; it merely requires adaptation as a permanent feature of the banking system.

Application to Working Capital Credits. This plan applies, first, to credit for working capital purposes. Small businesses, as their high sales volume implies, are relatively large users of working capital. Those that need credit for financing their current operations obtain it at present from a

variety of sources. Despite the variety, the particular situation is often monopolistic; an individual small concern may have a single credit contact and be unable as a practical matter to shift to any other. What is most needed with respect to working capital is a greater competition among credit sources, as a control upon rates and upon credit practices. Also greatly needed is a firmer assurance against sudden reduction or termination of the credit, particularly in times of depression.

The principal forms of working capital credit to small business at present are mercantile credit, extended to trade concerns by the suppliers of their inventories; cash credit, or the equivalent of credit, supplied by factors, finance companies, and small-loan companies that purchase accounts receivable at a discount; and lines of credit based upon accounts receivable as security, or short-term credit upon other security, supplied by commercial banks. The mercantile credit has the advantage of being directly related to the size of a business in volume of sales, rather than to its capital size. So also, within narrower limits, has the credit that is based upon customer accounts rather than upon the capital assets of the business.

Problems in connection with these forms of credit arise at times when sufficient competition is absent. Thus, while mercantile credit provides most small retailers and wholesalers with inventory on a deferred-payment basis and is the mainstay of countless such concerns, its costs in individual cases are often concealed in the prices of commodities and are difficult to calculate; also, where no alternative source exists, "tie-in sales," price differentials, and other creditor controls may occur. The discounting of receivables also is of much benefit to some small concerns that must carry their customers' accounts; many that do so, however, are excluded from this form of accommodation by lack of confidence in their credit policies on the part of financing concerns, and it was in this general field that the TNEC investigators in 1939-40 found instances of unduly high charges. Neither the mercantile credit nor the discount of receivables is subject to adequate legal regulation in some States, a situation that emphasizes the need of increased competition.

Such competition can best be furnished by the commercial banks, in the form of cash credit. Banks have increasingly entered the small business working capital field, with results that have generally benefited the earning capacity of the clients. The charges are inevitably somewhat higher than the charges of a corresponding service to large concerns; the interest rate includes not only true interest, but also the unit cost of

handling and servicing the small transaction, plus a margin for protection against loss. Experience and system, however, can reduce the handling cost, while the proposed central guaranteeing fund, costing only the premium fee, would replace the loss coverage factor. More fundamentally, the guarantee, being tantamount to additional collateral, would enable loans to be made in higher ratios to the equity size, in which, as has been seen, the smaller businesses are characteristically deficient. The guarantee also would stabilize the short-term credit against discontinuance on the basis of temporary or cyclical fluctuations in business earnings. In this way it appears that the major needs of the small business working capital situation would be met by the establishment of a central fund for underwriting the working capital loans of banks.

Application to Long-Term Capital Needs. It is often stated that the main requirement of the small business is a greater availability of "equity" or capital funds. But as to the method by which such funds should be raised confusion exists. Small businesses not infrequently have been advised to sell some portion of their ownerships in order to raise equity capital. Proposals have been made for solving the financing problem of small business by establishing a private or a Governmental investment corporation, to purchase and hold ownership shares in small business, usually with the privilege of reselling them.

Such proposals appear untenable. The primary characteristic of small business, and the one best worth preserving, is its independence of ownership. The management of the great corporation usually does not care and seldom knows who has acquired stock in the corporation, unless the block be so large as to convey a concentration of control. But in the case of the small business, any sale of ownership conveys a considerable degree of control. Within the intimate and personal relationship among stockholders in the closely held or family corporation, or between partners in unincorporated small businesses, even a minority share has a voice, and a difference of opinion readily becomes dissension.

The small business proprietor, if he has faith in his business, wants to retain the full profit of that which he has built, and also is aware of the dangers of dividing the control. The lack of a trading post for small business ownership shares thus is due not alone to lack of investor demand for the less well-known security, but to lack of supply from small business. If the independent proprietor sells a share in his business to a stranger, he assumes an unknown risk; personal considerations enter even in accepting a "silent partner," experience having shown that such a partner

does not always remain silent. If he sells a share to a larger business, or to an investor associated therewith, the independent enterprise tends to become a subsidiary. If, as has been proposed, a private investment company were set up to buy small business equity shares, it would strongly resemble a small business holding company, a situation from which a new set of problems might conceivably arise. If the equity capital source were a Government agency the problems would be yet more fundamental, endangering the private enterprise character of the venture sector of the economy.

These considerations are cogent ones. For small business to raise its needed capital by forfeiting its independent status would be to abolish that which it is primarily sought to preserve. It becomes necessary to regard the problem of supplying capital funds to small business as a problem in the field of term credit. A business debtor's independence is reduced during the life of the debt, but it is not permanently sacrificed.

Obstacles to the Term Loan. That commercial banks should become a source of term loans to small business is among the recommendations of the Postwar Small Business Credit Commission of the American Bankers Association. That the purposes of such term loans should include fixed-capital as well as working capital purposes is contemplated in a pamphlet circulated by the Commission.¹⁹ That these recommendations involve a departure from a long standing tradition in bank-credit practices is of less vital importance than the fact that practical obstacles exist. The difficulties of risk appraisal for small business credit purposes increase when the risk must be estimated in advance for a period of years.

1. Available collateral is likely to be inadequate for a term loan. As the table on page 54 has shown, the typical small business has a relatively small amount of fixed assets in ratio to its volume of business. In terms of credit, this means that its ability to supply first-mortgage security in the form of land, buildings, and equipment is relatively limited. The fixed assets, moreover, often have a special purpose quality, reducing the ability of the creditor to recover the value in resale. Time increases the doubt as to such value. Some additional collateral and assurance of repayment in the distant future appear essential if term funds are to flow.

2. The life prospect of the small business also is a credit risk. Various statistical samples have indicated that the life of the small business is much briefer than that of the large. Such statistics must, of course, be

¹⁹ Association of Reserve City Bankers, *Term Lending by Commercial Banks*, pp. 4-6.

qualified; they often reflect changes in the proprietorships rather than in the actual business life, the fact in many cases being that proprietors come and go, while the business continues and previous debts are assumed. It remains true, nevertheless, that the small business is ordinarily reliant upon one man, its proprietor, and that the longevity of that man, and his continued association with the enterprise, are factors of doubt in term credit.

3. The future of the restricted market upon which the small business rests is difficult to foresee over time. An enterprise selling to one or two business consumers may lose its entire market at a stroke. One that depends upon the consumers of a small town or a neighborhood is dependent on the continued purchasing power of that locality.

4. Earnings of small business are likely to be highly fluctuant. Fixed charges for debt retirement therefore are likely to become delinquent at some time in the life of a term loan, and a considerable flexibility in retirement terms, even in interest payments, is necessary if foreclosure is to be avoided. This does not mean that the debt will not be retired in time. The Louisville Industrial Foundation, which abandoned the "straight-line" payment schedule in favor of various graded payment plans, including sliding schedules, partial recapture of net profits, and liberal use of extensions and refinancings, has had repeated experiences of 10-year loans that dragged on for as much as 15 or 20 years, only to be retired successfully with interest paid in full in the end. Other loans were retired well ahead of time.²⁰ Banking standards, derived from the more stable type of enterprise, must accommodate themselves to fluctuating business earnings and include flexible practices of loan retirement if small business is to be provided with term capital.

5. The culminating obstacle, applying to all four of these considerations, is that the commercial banking system is composed of many unit banks and that most banks interested in small business are themselves relatively small. They must safeguard their liquidity, their individual credit capacities are limited, and in many cases the requisite appraisal technics and flexible practices for the term loan to a small business are unfamiliar in their experience.

Central Guaranteeing of Term Loans. To the obstacles stated above, the central fund credit underwriting proposal emphatically applies. Indeed, without an insurance type protection behind the credit risks of

²⁰ *Op. cit.*, pp. 9-11, 39.

small banks, commercial banking cannot become the source of long- or medium-term capital loans for small business to anything approaching the required extent.

The guarantee, which amounts to a cosigning of the note of the small business by the guaranteeing agency, provides what is in effect the necessary collateral. The risks of changes in ownership and of business discontinuance are cushioned by the insurance. So likewise are unforeseen changes in the market base; the existence of the guarantee enables the creditor to wait while market readjustments are being made. The insurance further provides a safeguard behind which the necessary experimentation in flexible retirement policies may occur. Since the stipulated portion of the credit can be transferred to the central fund at the bank's demand, liquidity can be regained at any time. All these features were fully demonstrated by the wartime loan guaranteeing experience of the Federal Reserve System under Regulation V.

Some General Considerations. The central credit underwriting plan is not new. It was tested over an eight-year period prior to the Second World War under Section 13b of the Federal Reserve Act and Section 5d of the Reconstruction Finance Corporation Act. The culminating proof of its effectiveness occurred during the war, when 10.3 billion dollars in commercial loans to war producers were guaranteed through the agency of the Federal Reserve System, with a loss ratio of only 0.06 per cent.

This was an exceptional situation, since the sales of war products were assured in advance provided they were up to standard; a higher loss ratio is doubtless to be anticipated under peacetime market conditions, especially if a depression should occur. To stabilize the access of small business to loan funds would, however, have an important effect in counteracting depression.

The proposed underwriting of credits has been attacked in certain circles as tending to reduce the independence of judgment of the commercial banks. It is questionable whether the usage of any form of voluntary insurance can be validly attacked upon this ground. As in the other forms, 100 per cent protection of credit risks is not proposed, primarily for the reason that the judgment and responsibility of the lending institution must be retained as an essential feature of the plan.

The Reconstruction Finance Corporation in its blanket guarantee plan provides that the lending institution shall retain at least 25 per cent of each risk exposure. The Board of Governors of the Federal Reserve System, the writers of the Baruch-Hancock Report, and the Small Busi-

ness Advisory Committee of the Department of Commerce have recommended that in individual cases the coverage may be as high as 90 per cent, in order to permit an adequate assumption of ventures and extension of the existing margins of commercial credit to new borrowers. To accomplish the main purpose of the plan, the coverage of risk must obviously at times be high; in the wartime experience under Regulation V, the over-all amount guaranteed was about 85 per cent, and more than half of all V loans carried a 90 per cent coverage against loss. With favorable experience, no doubt, the percentage of coverage would tend to decline.

Much would depend in practice upon the administration of the underwriting fund. This should be liberal. If too selective, small business would remain inadequately financed; if recklessly administered, the fund would have an unduly high loss ratio and the premium rates would rise. The requirement that the lending institution retain a share in the exposure is in itself a protection against recklessness; indeed the more immediate danger is in the other direction, namely, that of a too great avoidance of economically desirable ventures.

It is of the nature of insurance to extend its inclusion of risks as widely as possible in the interest of a large and diversified "pool." This conforms to the purpose of the plan. Finally, the necessity of experimentation and trial and error experience in venture financing is obvious. What is called for fundamentally is the revival of venture in institutional finance. If private enterprise in finance, especially commercial banking, does not solve the problems of financing small business, the pressure for the Government to do so will undoubtedly increase. The banking structure should include provision for a central underwriting of its small-business credit risks.

SUMMARY AND CONCLUSION

The small business sector is of fundamental importance to the economy, not only because large numbers of small enterprises perform a wide variety of detailed economic work, but also because of the need of preserving an area of individualism in business and retaining the essential place of venture enterprise in the economy.

Through a half-century or more of increasing centralization, the small units have continued relatively as numerous as ever. Their place in total production today centers upon those numerous functions that are capable of small-unit performance. For these functions small business has flexible efficiency. The normal quota of business aids has, however, been lacking

and the business environment has been unfavorable to smallness for many years past. The effect of the "institutional gap" in business facilities, combined with the operative limitations of smallness, has been to restrict competition, reduce venturing, and place many small businesses in a dependent and ancillary position.

The first line of attack upon this situation is to make available to the smaller units those nonfinancial business services that are readily available to the large organizations—informational, technological, advisory, and other managerial facilities—together with an increased protection against destructive practices in competition and in the bargaining relationships between small units and larger ones.

The second main approach is financial, calling for adjustments in taxation to aid internal financing, for the provision of adequate access to external funds for small businesses, and for a greater equalization of the differentials in financial services among businesses according to size. Cheaper and more reliable working capital credits are needed. A yet more primary need is term credit for capital purposes.

The problem of commercial banks and other lending institutions in providing such credit can be solved through a central underwriting fund behind their more uncertain credit risks. Such an underwriting fund should be set up in the established central banking agency of the commercial credit system as a permanent aid to small business.