

# CREDIT PROBLEMS IN A WAR ECONOMY



*by*

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On May 28, 1940, President Roosevelt took his first official step toward increasing materially the armed forces of our country by appointing a seven-member Advisory Commission to the Council for National Defense. It became the immediate task of this Commission to prepare the planning blue-prints, and simultaneously to gear American industry to an all-time high emergency speed so that adequate materials, supplies, and equipment would become available as rapidly as possible to produce the greatest stream of airplanes, ships, tanks, guns, ammunition, and essential supplementary war supplies in all history.

A total of \$825,000,000 in Army and Navy contracts was awarded during the following single month of June and \$1,137,000,000 during July, 1940. The total authorized appropriations for our own defense and for foreign aid had reached the stupendous total of \$68,000,000,000 by December, 1941. Large figures are hard to digest. It is evident, however, that the economic drain of World War II is tremendous, and that the drain will be translated into everyday life by a lower standard of living for many, many years.

The defense program took resolute and definite form as soon as the Advisory Commission to the Council for National Defense was appointed. The Selective Service Act was enacted by Congress. Objectives were set for a two-million-man Army, a two-ocean Navy, and a tremendously expanded air force. Contracts for preparing army cantonments were awarded. Clothing, shoes, tents, and food, as well as the complete fighting equipment for all

arms of the service had to be procured for our growing armed forces and also stored for future emergencies. On December 29, 1940, the President set an even greater goal for our defense program than the immediate rearmament of the United States when he declared, "We must be the great arsenal of democracy." The country was warned to "discard the notion of 'business as usual,'" and since that time, the day-to-day problems of production, of finance, and of credit have multiplied and multiplied in an ever more intensified defense, and then war economy.

The Office of Production Management was created in January, 1941, to coordinate the manufacturing facilities of the entire country by seeing that essential materials were delivered at the proper time and in the proper quantities to manufacturers of defense armament, equipment, and supplies. The Office of Price Administration and Civilian Supply was created in April, 1941, with flexible powers to fix prices on individual materials and commodities. Finally, during last August, the President established the Supply, Priorities and Allocation Board, an over-riding policy creating agency, with Vice-President Henry A. Wallace as Chairman. This Board has been uniquely termed the "Supreme Court of the American economy."

### *Battle for Production*

As soon as contracts were awarded in steadily mounting quantities for airplanes, ships, tanks, guns, ammunition, shoes, shirts, underwear, supplementary equipment and supplies, basic financial problems were created automatically for the American manufacturer. These problems were concerned with methods of financing the erection and the equipping of new and enlarged manufacturing plants to meet the sudden overnight expansion in defense contracts, and with fulfilling the working capital financial requirements to handle the increasing volume of business. After years of business drought, industry was suddenly swamped with orders. No hypodermic ever worked faster.

The airplane industry most strikingly illustrates this unprecedented situation. Prior to June, 1940, American manufacturing plants had produced relatively few military airplanes. Because war had turned so strategically to the air, attention was riveted immediately on aircraft production. On July 1, 1940,

the Army and Navy had approximately 5,200 airplanes in service. By July 27, an additional 5,974 planes were on order with eighty per cent scheduled for delivery within one year. Four months later 25,000 airplanes were on order. By August, 1941, the unfilled orders for planes amounted to the fantastic total of \$7,140,575,000 and the orders were still headed skyward. The steady piling up of these tremendous contracts called for an immediate and unprecedented rapid expansion in manufacturing facilities.

A typical airplane manufacturing corporation, for example, on December 31, 1938 had a tangible net worth of \$1,500,000, a net working capital of \$1,000,000, an inventory of \$1,000,000, receivables of \$300,000, and an efficient but small plant valued at \$400,000. An annual volume of \$4,500,000 was being handled and unfilled orders on hand amounted to \$1,500,000. By December 31, 1940 unfilled governmental orders of this one modest manufacturer had skyrocketed to \$60,000,000. The tangible net worth on that date had been increased from retained net profits and the sale of capital stock to \$3,000,000, the net working capital had grown to \$1,500,000, the inventory including work in process had expanded to \$4,200,000, the receivables had increased to \$600,000, and the enlarged plant facilities were now being carried on the books at \$1,600,000. Within two years the tangible net worth had doubled, the net working capital had increased fifty per cent, the inventory had more than quadrupled, the receivables had expanded one hundred per cent, the plant facilities had quadrupled and arrangements were being made for additional expansion, and unfilled orders had advanced forty fold.

No such spontaneous expansion had ever previously taken place in any division of industry in the history of our country or of any other country even during the mirage decade. This example is no current isolated incident. Today most of the manufacturers of airplanes and many of the manufacturers of airplane parts and accessories are actually going through this identical stage of almost instantaneous metamorphosis from relatively small business to big business. The early life history of the automobile industry is being re-lived in the airplane industry, but this unfolding biography is being compressed before our very eyes into a critical period measured by months.

The radical change in the financial condition of this particular manufacturer of airplanes between December 31, 1938, and

December 31, 1940, was only the beginning of a trend which will continue with individual business enterprises just as long as our war production spirals rapidly upward. More manufacturing plants and larger manufacturing plants are absolutely essential to obtain the increased production; inventories of raw materials, work in process, and finished products will expand steadily as the enlarged production facilities are put to work; and when the finished products are turned over to the Army and to the Navy, the receivables will increase. Time is the essence of success in this greatest of all American war efforts. Ways must be found and corners must be turned to fulfill these tremendous contracts in the shortest possible time. This is our all out objective and the transition period is far from over.

Manufacturers of tanks, anti-aircraft guns, shoes, shirts, canvas bags, and the thousands of other products required in the daily operations of the Army and the Navy, are encountering similar problems of suddenly expanded production, but in a modified way compared with the typical manufacturer of airplanes, parts, and accessories. In some cases new plants must be erected, in other cases existing plants must be enlarged. In some cases a manufacturing concern with limited current assets and a modest line of bank credit obtains a relatively large order for war equipment and supplies. In such a situation the demand for cash to meet everyday expenses becomes suddenly and disproportionately heavy. What sources of funds are available to meet the expanded payroll, to purchase the necessary raw material requirements, to carry the increased inventories and the larger receivables?

Sub-contractors have the same identical financial problems and, at times, have supplementary problems of an equally fundamental nature. Army and Navy authorities in many cases seek the larger manufacturing corporations and insist that prime contracts be accepted. Only in most unusual instances have sub-contractors, particularly small concerns that are not widely known, found Federal authorities knocking at their front doors. Not only has the typical small potential sub-contractor had to locate the proper official, but when located, the official, at times, has had to be educated and to be sold that a particular small plant had produced certain specific parts, articles, supplies, or equipment of great importance in a war economy, and that the same plant was equipped to produce other essential items needed in some war-time assembly line, items which had never before been

turned out at this particular plant. These handicaps have been and are still severe to the potential small sub-contractor whether located in eastern Massachusetts or in western California.

This unprecedented industrial expansion program is the harvest of the greatest worldwide military crisis since the days of Napoleon. Three broad financial and credit problems are the immediate results:

1. The problem of the war manufacturer in financing the erection and the equipping of requisite increased plant facilities to fulfill contracts on schedule.
2. The problem of meeting increased payrolls and of financing suddenly swollen inventories and receivables.
3. The problem of the mercantile creditor in considering the extension of credit to concerns appreciably affected directly or indirectly by the war program. Such concerns include not only those which have obtained war orders but many others that are not engaged in producing defense or war equipment and supplies.

### *Financing Emergency Plant Expansion*

The erection of essential new plants and additions to old plants by manufacturers that have been awarded contracts for war equipment or supplies are being financed in three different ways: by the private resources of the manufacturer which might or might not involve short-term bank loans in the normal course of business; by the use of an arrangement which has become known as the Emergency Plant Facilities Contract; and by the Defense Plant Corporation, a direct wholly-owned subsidiary of the Reconstruction Finance Corporation and as such an agency of the Federal Government.

*Private Resources*—Under more normal conditions of political and economic stability, when even large industrial corporations have had to go actively after business instead of having business thrust upon them, new plants have customarily been erected and old plants have customarily been enlarged out of the private resources of the manufacturer. This method of financing plant expansion might or might not have been supported by short-term borrowings and long-term borrowings.

If the required funds came out of the resources of the manufacturing enterprise, the net working capital would have been decreased a corresponding amount. If the funds had been provided by short-term borrowings, the extension of that credit would generally have been accorded by a commercial banking institution, occasionally by some other business enterprise, by an affli-

ated concern, or by an interested individual. If the funds had been provided by long-term borrowings and so reimbursed the net working capital, the credit instrument might have represented a term loan from one or more commercial banking institutions and insurance companies, a mortgage loan granted by an insurance company or some other business enterprise, or an issue of bonds, debentures, or serial notes underwritten by a group of investment bankers and distributed to the public. In all of these situations, title to the real estate, buildings, and equipment which comprised the new plant or the addition, would have been carried in the name of the manufacturing enterprise and there would have been no wandering from the customary beam.

These methods of financing the cost of plant facilities out of private resources have their roots imbedded so deeply and so strongly in our American economic history, that they were widely and very naturally used in the early months of this emergency. Certain easements to assist these methods of financing defense and war plant expansion were taken into consideration when the *Second Revenue Act of 1940* was framed. Concerns which had expanded their manufacturing facilities for this work out of their own private resources after June 10, 1940, or which might expand their facilities in this manner during the present emergency period, are allowed by this Act, to depreciate the full costs of the additional facilities for tax purposes over a five-year period by deducting up to one-fifth of the total costs of the emergency facilities in any taxable year for all income tax purposes, both normal and excess-profits.

The right to amortize the cost of new plant facilities completely over a five-year period is, in all cases, conditioned upon securing a document which has become technically known as a *Certificate of Necessity*. This document certifies that the newly erected and equipped facilities are necessary in "defense" work. In addition to this certificate, prime contractors must file a second document known as a *Certificate of Non-Reimbursement* which certifies that the manufacturer is not and will not be reimbursed by the Government for the cost of these facilities. Sub-contractors, sub-manufacturers or sub-builders are required to file *Certificates of Necessity* but not *Certificates of Non-Reimbursement*.

Until October 30, 1941 both of these certificates required the signature of the Advisory Commission to the Council for Na-

tional Defense and the signature of either the Secretary of War or the Secretary of the Navy. On October 30, 1941, the President signed a bill liberalizing and simplifying this tax amortization law by requiring only the certification of the Secretary of War or the Secretary of the Navy. Moreover, a *Certificate of Non-Reimbursement* no longer is required if amounts involved are less than \$15,000. Such additional facilities are defined as "any facility, land, building, machinery or equipment, or part thereof," necessary in the interest of national defense. The emergency period is defined as "the period beginning June 10, 1940 and ending on the date on which the President proclaims that utilization of a substantial portion of the emergency facilities . . . is no longer required in the interest of National Defense."

The typical processes of financing emergency plant expansion out of private resources were used extensively in the early months of the defense program by many manufacturers that obtained essential contracts. As more and more contracts were awarded, as speed in the completion of contracts was heralded as an absolute necessity, and as pressure along with unfilled orders piled up, it became apparent that the original program for emergency plant expansion, in many cases, was only the prelude to a program which needed rapid readjustment upward. With this acceleration in the need for still more and then even more plant capacity, many of the manufacturers that had initially financed their expansion with their own private resources, now turned to one or both of two newly developed mediums of financial assistance, the Emergency Plant Facilities Contract and the Defense Plant Corporation.

In those cases where the net working capital of an industrial concern was too limited to stand the increasing strain of financing its own plant expansion, private resources could not be used. In other cases where the net working capital was adequate and the funds were available from private resources, some managements were reluctant to overbalance their financial condition with excessive fixed assets and heavy charges on borrowed funds, a situation which might become critical at the end of the present emergency. One lesson which American industrialists learned from the first World War was not to own excessive plant capacity in an inflated war economy, a condition which could become financially dangerous under more normal conditions of peace.

*Emergency Plant Facilities Contract*—The method of financing defense plant expansion which has become known as the Emergency Plant Facilities Contract was initially approved by the Assistant Secretary of War on July 12, 1940. Since then it has been revised in minor respects. Under this method, the full costs of constructing emergency plant facilities theoretically continue to be provided initially by the private resources of the manufacturer. At this point, arrangements exist for the manufacturer to be reimbursed completely with cash for these expenditures, including interest on borrowed money during the construction period. The reimbursement comes directly from the Federal Government in sixty equal monthly instalments over a period of five years.

Because of this absolute guarantee of reimbursement by the Federal Government, the manufacturer may, and in a large percentage of cases has borrowed the necessary funds from a depository bank or some other financial institution, and assigned its claims against the Federal Government under the Emergency Plant Facilities Contract as security for the loan. The legal right to assign such payments from the Federal Government to others was provided by the *Assignment of Claims Act of 1940*, as explained later on page 19. The more important basic terms of an Emergency Plant Facilities Contract are as follows:

1. The concern entering into the contract furnishes the labor, machinery, tools, facilities, supplies, and services, necessary for the construction of the new manufacturing facilities according to specifications.
2. The title to all such "Emergency Plant Facilities" is held by the concern entering into the contract during the full period of the construction and until after the termination of the contract.
3. The Federal Government reimburses the concern entering into the contract for the cost of such "Emergency Plant Facilities" in sixty equal instalments on the last day of each of sixty consecutive months, beginning normally with the first calendar month following the completion of the facilities.
4. If after ninety days from the termination of the contract a fair cost value is not agreed upon, the concern entering into the contract must transfer the "Emergency Plant Facilities," unencumbered, to the Federal Government. The Federal Government agrees not to sell or to lease these properties without giving the concern entering into the contract a reasonable opportunity to buy or to lease them at the same price proposed to any other business enterprise.
5. Upon termination, the concern entering into the contract may retain title to these facilities by paying the cost price to the Federal Government, less an amount including depreciation, obsolescence, and the loss of value due to use for National Defense purposes from the date of completion or acquisition of such facilities to the date of notification of termination of the contract.
6. Provisions for the protection of the concern entering into the contract are included in case the contract is terminated by the Federal Government before the date of expiration.

At the present time, the Ford Motor Company is erecting and equipping a plant at River Rouge, Michigan, for the construction of Pratt and Whitney aircraft engines costing approximately \$30,000,000 in accordance with an Emergency Plant Facilities Contract. These funds are being furnished entirely from the resources of the Ford Motor Company which will be repaid in sixty equal monthly instalments by the Federal Government.

Under the operations of Emergency Plant Facilities Contracts, the net working capital of the manufacturer is decreased if the construction of the new facilities, as in the case of the Ford Motor Company, is financed from beginning to end by the manufacturer. The net working capital, however, will be maintained if financing is accomplished by means of term bank loans which usually are secured by the assignment of amounts due from the Federal Government under the contract. In either event, the cost of construction is paid off gradually by the Federal Government according to the provisions of the contract.

By this newly developed process of financing, banking institutions are enabled to make sound loans, plant facilities are rapidly erected during the present emergency, the manufacturer may acquire the facilities if desirable when the emergency is over, and the basic financial condition of the manufacturing concern does not become overbalanced with excessive fixed assets.

At the time of the original negotiations with the Federal authorities for the erection of emergency facilities, there is determined an option price, as outlined in the fifth of the above points, cost less depreciation at pre-determined rates, less obsolescence and loss of value due to use for defense purposes, at which the manufacturer may repurchase the facilities at the end of the sixty-month period. When all instalments have been paid in accordance with the Emergency Plant Facilities Contract at the end of the five-year period, the Federal Government acquires title to the plant facilities, unless the concern which is using the plant should purchase the property at the option price or at a lower re-negotiated price.

If the manufacturer does not acquire the facilities at the end of the emergency, the Federal Government may sell or lease the plant to some other enterprise, go into industrial activity itself or through some agency, or allow the plant to depreciate through disuse. Whether the Federal Government will or will not engage

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in many additional forms of manufacturing activity itself or through governmental agencies, will be one of the basic problems of politics and of economy after the immediate emergency has passed into the pages of history.

By March 31, 1941, outstanding commitments under Emergency Plant Facilities Contracts including some plants already completed, some in process of erection, and some on which work had not been started, aggregated \$158,160,000. Seven months later, on October 31, 1941, these commitments had reached \$298,052,000. What additional expansion has since taken place in this unique method of financing the erection of plant facilities has not reached the interested ears of the business world.

As of April 30, 1941, the Board of Governors of the Federal Reserve System in co-operation with the Office of Production Management made a survey of outstanding defense loans and commitments accorded by commercial banks and trust companies in one hundred and one leading cities. The banking institutions located in these particular cities accounted for almost all of the "defense" lending in our banking system at that time. This interesting survey disclosed outstanding bank loans to finance plant facilities of \$142,000,000 or approximately one-third of all outstanding "defense" loans of these particular banking institutions. Aggregate commitments for the same purpose amounted to \$266,000,000 or about forty per cent of the total commitments for all "defense" purposes. These loans and commitments included unsecured lines of bank credit as well as lines secured by the assignment of payments from the Federal Government under Emergency Plant Facilities Contracts.

Plant facility loans and commitments up to April 30, 1941, had been obtained largely by the aircraft and shipbuilding industries. No complete classification of defense loans by type was made in this survey, but it was reported that approximately thirty-five per cent of the dollar volume of plant facilities loans, or about \$50,000,000, had been made against amounts due from the Federal Government in accordance with Emergency Plant Facilities Contracts.

As of June 30, 1941, the American Bankers Association sent questionnaires to 506 of the largest commercial banking institutions in the country for somewhat similar information regarding outstanding loans and commitments for defense activity. Thirty-

five banks reported no defense loans and 102 banks failed to reply. The remaining 369 commercial banking institutions located in one hundred and forty-two cities, reported aggregate outstanding commitments with and without security to finance the erection of plant facilities of \$513,000,000. A supplemental survey made with 376 commercial banks and trust companies in one hundred and forty-six cities as of September 30, 1941, disclosed 2,892 commitments for construction work and plant facilities totaling \$633,000,000, an increase of twenty-three per cent in the three-month period. Outstanding loans represented approximately forty per cent of these commitments.

In only two cases has the Reconstruction Finance Corporation made loans against amounts due from the Government in accordance with Emergency Plant Facilities Contracts, and in one case a Federal Reserve Bank underwrote seventy-five per cent of such a loan which had been granted by a member commercial bank.

*Defense Plant Corporation*—On June 25, 1940, the Reconstruction Finance Corporation Act was amended by Congress to make increased financial assistance available for national defense. By this amendment the Reconstruction Finance Corporation was empowered to grant loans to or to purchase capital stock in any corporation for the purpose of producing, acquiring, and carrying strategic raw materials as defined by the President, for plant construction, expansion, and equipment, and for working capital to be used in the manufacture of equipment and supplies essential to our national defense.

In less than two months this amendment was utilized. On August 22, 1940, the Reconstruction Finance Corporation organized among other wholly-owned direct subsidiaries, the Defense Plant Corporation with an authorized and paid-in capital of \$5,000,000. Among its extensive powers the Defense Plant Corporation has the specific right to purchase, lease, or to acquire machinery and equipment to manufacture airplanes and parts, tanks, ordnance, and other products essential for national defense, and "if the President of the United States finds that it is necessary for the Corporation to engage in the manufacture of arms, ammunition and implements of war, to engage in such manufacture itself." All plants which have been erected and equipped by the Defense Plant Corporation since that time have

been leased to manufacturers. None are being operated directly by the Defense Plant Corporation.

Under this streamlined arrangement, funds are fully supplied by an agency of the Federal Government to construct and to equip plant facilities essential to the emergency program, and it is not necessary for the manufacturer to incur any liability directly or indirectly in the process. Many manufacturers prefer this arrangement to the Emergency Plant Facilities Contract under which the debt is fully offset by a promise of the Federal Government. These plants are constructed, and according to many contracts, are equipped by the manufacturer for the account of the Defense Plant Corporation and the Defense Plant Corporation pays as the work progresses. When the construction is completed the manufacturer operates the facilities on a five-year lease generally on one of the following two arrangements:

1. A rental of \$1.00 per year, in which case the manufacturer does not charge the Government a price for the product which includes any charge for the facilities. Such a rental agreement is generally made with concerns that sell the entire output of newly constructed and equipped facilities to the War or Navy Departments.
2. A rental large enough to cover a fair rate of depreciation on the entire cost of the plant during its useful life. Such rental agreements are generally made with those concerns that sell partly to the War and Navy Departments and partly to private customers. In this type of case, the rental for the facilities may be included in the price which the concern charges for the product.

The Defense Plant Corporation has become the most important unit in the construction of emergency plant facilities. It is being used to a far greater extent than the private resources of manufacturers or the Emergency Plant Facilities Contract. By January, 1941, the total commitments of the Defense Plant Corporation, including some plants already erected and equipped, work in process, and commitments on which work had not been started, amounted to \$350,000,000. Six months later, on June 30, aggregate commitments had reached \$788,000,000, and by November 15, 1941, the total had jumped spectacularly to \$2,290,000,000. Commitments aggregating \$65,444,200, the largest on record have been made by the Defense Plant Corporation to the General Electric Company. These funds are being used to erect plants at Erie, Pa., West Lynn and Everett, Mass., and Schenectady, N. Y. for the manufacture of aircraft and naval equipment, and at Fort Wayne, Ind., for the manufacture of aircraft equipment. The Bethlehem Steel Corporation has received commitments of \$55,777,000, only moderately smaller.

The manufacturer generally has the privilege of acquiring title to the plant facilities being leased from the Defense Plant Corporation at the end of the emergency period, on the same basis as title may be acquired directly from the Federal Government on plants which are financed in accordance with the Emergency Plant Facilities Contract.

### *Financing Defense Production*

During the seven months of 1940 after President Roosevelt had taken his first official step to increase the armed forces of our country, the production of few defense orders was delayed because of the inability of a manufacturer to obtain adequate current financing. The early absence of this particular financial problem seems to have been due to two facts, first, the dollar volume of initial defense orders was rather moderate as judged by more recent war standards, and second, by far the greater part of the first large wave of defense orders went to the larger nationally-known corporations that had adequate funds and credit to finance the increased production without any strain.

Before the end of the second quarter of 1941, however, working capital problems were spontaneously arising in most industrial centers, and such problems, moreover, were increasing in importance. The normal open lines of bank credit of many concerns in healthy financial condition were being fully utilized, and additional credit far beyond these normal requirements was needed. At the same time, many of the larger and better established corporations were working close to capacity, and an increasing proportion of the orders in the now rapidly expanding emergency program was going to medium-size and smaller manufacturers whose financial resources were inadequate for the immediate task. Many of these medium-sized and smaller concerns had lines of bank credit which were relatively limited, while others had absolutely no bank credit on any basis.

The solutions to the financial problems caused by inadequate net working capital and mushrooming production, problems of meeting larger payrolls, of purchasing heavy raw material requirements, of carrying greatly increased inventories and heavier receivables, are to be found in the lending operations of commercial banking institutions, of the Federal Reserve Banks, of the

Reconstruction Finance Corporation, and of the War and Navy Departments of the Federal Government.

*Commercial Banking Institutions*—The larger nationally known corporations such as the United States Steel Corporation, Bethlehem Steel Corporation, General Electric Company, Westinghouse Electric & Manufacturing Co., and The Baldwin Locomotive Works, Inc., have had no working capital problems in financing defense and war production. If credit was needed, additional short term loans on straight paper were obtained in a normal manner from depository banks. When, however, a manufacturer was already in a weakened financial condition and then obtained large emergency business, or when a small or moderate size manufacturer in sound shape obtained a contract which would require bank credit far in excess of normal borrowing capacity, typical problems of financing defense production arose.

Commercial banks and trust companies are in existence to grant loans. No matter how much a banker may like to extend credit to depositors that are not in healthy financial condition, or that need excessive accommodation, he is unable to do so unless he has every reasonable assurance that he will be adequately protecting the deposits of his bank and the capital entrusted to his care. Customary credit standards are being modified somewhat by progressive bankers under the pressure of the existing emergency, but it is obvious that reasonable credit standards cannot be completely ignored.

If a thorough analysis of an account indicates that a prospective loan may not be adequately protected if made on the straight paper of the depositor, the banker customarily requests additional security. Until the rise of credit problems peculiar to our intensifying war economy, this security might have represented the endorsement or guarantee of officers and directors, the discounting of notes receivable, a mortgage on real estate and buildings, the assignment of accounts receivable except sums due from the Federal Government, the pledge of merchandise, of securities, of the cash surrender value of life insurance, of stock interest in subsidiaries, or other methods which have become widely known and used. In unusual cases the banker might finally decide after a thorough study of a situation that even with such additional security a particular loan still might not be adequately protected.

During the past eight years, a steadily increasing volume of profitable loans has been made by commercial banking institutions against assigned accounts receivable as security. According to a law which had been enacted by Congress on July 29, 1846, entitled *An Act in Relation to the Payment of Claims*, the assignment of receivables due from the Federal Government was specifically prohibited. As increasing proportions of the receivables of many manufacturers working on emergency orders became due from the Federal Government, the prohibition against assigning these claims as bases for loans became a widely advertised bottleneck, particularly to those concerns whose financial condition did not justify the extension of open bank credit.

This situation was remedied by the passage of the *Assignment of Claims Act of 1940* by Congress in October. This Act assisted manufacturers that were handling substantial defense contracts in obtaining bank credit, by permitting payments from the Federal Government due or to become due under a contract of \$1,000 or more to be "assigned to a bank, trust company, or other financial institution, including any Federal lending agency." When such accounts are now assigned, payments from the Government are made directly to the bank or other assignee but only upon the satisfactory fulfillment of the contract requirements by the manufacturer.

As a result of this effective and practical law, a manufacturer that now has a substantial amount due from the Federal Government, possesses a valuable asset which may be offered to a banker as security for a loan if the financial condition of the business is inadequate to support an open line of bank credit. Notice, however, that payments from the Federal Government are conditioned upon the satisfactory fulfillment of the contract requirements by the manufacturer. In other words, the banker in extending a loan to a prime contractor working on defense business, must have every reasonable assurance that the management has the skill, the organization, and the proper equipment to fulfill the contract. If the finished products do not meet the requirements and the specifications set forth by the Federal Government, and the assigned receivables consequently are not paid at maturity by the Government, the manufacturer might become financially involved and the lending banker might become the unwelcome and unexpected owner of a very badly frozen loan

notwithstanding the assignment of what appeared to be the highest possible rated receivables.

Some manufacturers in going after defense and war business have failed to realize the precise nature of the detailed specifications, and when they have applied to their banker for a loan, have had difficulty in convincing him of their ability to handle the work satisfactorily. It is widely evident today, that bankers generally regard the ability of management to perform on such contracts of more importance than the precise financial condition of the business, itself, as a basis for credit. The importance of this ability is easily realized by the one fact that many concerns have received contracts to produce articles which they had never made prior to the existing emergency.

Before products are accepted by the Army or the Navy, they must be inspected. If the manufacturer has a large plant, the final inspection might take place at the plant, otherwise the products would normally be inspected after arrival at a depot of the Federal Government. If the final inspection is carried on at a depot, appreciable expense and complications may easily ensue in the rejection or reshipment of defective items back to the plant. On the other hand, if an inspector is stationed by the Federal Government at the plant, and products are inspected as they come off the assembly line, rejections may be kept to a minimum by making immediate improvements in the manufacturing processes. Serious loss from rejections might easily ruin a small or moderate size manufacturer.

The outstanding importance of skill and ability, proper equipment, and trained employees in fulfilling contracts, is exemplified in the recent experience of a century old ship-building corporation that had been engaged over the years in building private yachts. Immediately following 1930, the typical problems in a lengthening depression materialized. The volume shrank each succeeding year, operating costs were contracted, every possible penny of expenditure was squeezed out of the expenses, but losses continued to be the outstanding characteristic of the income account. The net working capital decreased along with the losses, but up to December 31, 1939, a satisfactory margin was maintained with current assets of \$305,000, current liabilities of \$145,000, and a net working capital of \$160,000.

In October, 1939, contracts aggregating \$980,000 had been

obtained from the Navy Department to construct four harbor tug-boats. Specifications called for steel hulls. Inasmuch as all of the boats previously constructed by this corporation had been of the wooden hull type, approximately \$40,000 was expended to improve the plant and the shop facilities so that the yard would be in a position to construct steel hull boats. These expenditures immediately brought about a corresponding decrease in the net working capital.

Two of the tug-boats were completed during the latter part of 1940. Unexpected difficulties had been encountered due to inexperience in constructing steel hull boats. Change after change was made but finally the boats met the full requirements of the contract and were accepted by the Navy. In constructing these two boats, not only was no profit earned, but an actual loss of \$137,000 was assumed. A corporation which on December 31, 1939, had a tangible net worth of \$490,000 and a net working capital of \$160,000, one year later had a tangible net worth of \$353,000 and a deficit in net working capital of \$17,000. As soon as the *Assignment of Claims Act of 1940* became a law, payments on the government contract were immediately assigned to protect the bank loan. What payments will finally be made to mercantile creditors of this enterprise on long, past due trade accounts is in the rarefied realm of abstract conjecture.

A financing technique which supplements the use of credit obtained from commercial banking institutions which has long been in existence, and which is also being widely used at this time, is known as "partial or progress payments." A manufacturer receives payments on account from the Federal Government when certain stipulated work has been completed and then uses these funds to repay or to reduce loans from lending financial institutions. A builder of mine sweepers, for example, might receive a payment of ten per cent of the contract price when the keel is laid, ten per cent when the frame is completed, ten per cent when the vessel is planked or plated, ten per cent when the deck is laid, twenty per cent when the main engine is installed, ten per cent when the vessel is launched, and twenty per cent when the vessel is delivered—each item, of course, subject to rigid inspection and approval. The final ten per cent would then be withheld by the Federal Government for a specified guarantee period which invariably runs from three to six months.

The use of "partial or progress payments" is a considerable help to manufacturers that are somewhat short on net working capital and whose products have a high unit value. Bank credit quite often is needed to carry over the current manufacturing period while approval is being obtained from the Federal inspector, and while payment checks are being drawn and delivered.

The banking survey made by the Board of Governors of the Federal Reserve System in cooperation with the Office of Production Management as of April 30, 1941, and mentioned on page 14, disclosed the fact that one-third of all outstanding defense loans made by the commercial banks and trust companies in the one hundred and one leading cities, were for the erection of plant facilities, and that \$283,000,000, or two-thirds, were for production purposes. Sixty per cent of the outstanding defense commitments, or \$308,000,000, was also for production purposes. The greater portion of these loans and commitments was outstanding with manufacturing concerns in the more established industries, such as manufacturers of machinery, textiles, and iron and steel products. Approximately seven per cent of the loans had been made on the assignment of claims due from the Federal Government. When the American Bankers Association had completed its survey of September 30, 1941, assignments were being obtained on twenty-eight per cent of all defense loan transactions.

The survey made by the American Bankers Association as of June 30, 1941, and mentioned on page 15, disclosed aggregate outstanding working capital loans and commitments of \$788,000,000 by the 369 reporting commercial banking institutions, with and without the assignment of payments due from the Federal Government. Three months later, working capital loans and commitments of the 376 reporting banks and trust companies in one hundred and forty-six cities had increased to \$1,332,000,000, an expansion of 71 per cent. As of June 30, outstanding loans represented approximately sixty-one per cent of the commitments.

An industrial concern that is able to finance the manufacture of defense and war products in a normal manner with short-term bank loans is free from the tremendous amount of red tape which seems to accompany financing by the Federal Government. This established customary method of financing current business

operations is the most flexible arrangement; the amounts to be borrowed and the length of borrowing vary readily with the need. If credit is required in excess of the anticipated amount, the circumstances are discussed with the lending officer of the banking institution that granted the outstanding loan. Additional funds are obtained more easily in this everyday routine from a banking institution than from the Federal Government. The greater part of working capital financing for war production purposes is being furnished in this manner by commercial banks and trust companies in accordance with recognized practices.

*Federal Reserve Banks*—By an Act of June 19, 1934, Congress enlarged upon the powers of the twelve Federal Reserve Banks as reserve institutions, but authorizing the extension of loans directly to established business enterprises for working capital purposes. Loans of this nature have never been large. As a result of this Act, the Federal Reserve Banks stand ready to grant credit to finance war production where such loans cannot be obtained from commercial banking institutions.

Requests for defense loans for working capital purposes from the Federal Reserve Banks have been very limited. Between May 29, 1940, and November 26, 1941, only 470 applications for aggregate working capital loans of \$93,142,000 were received by the twelve Federal Reserve Banks direct from business enterprises. Of this number, 347 or 74 per cent of the applications were approved for total potential loans of \$81,095,000. During this approximately eighteen-month period outstanding direct loans of the twelve Federal Reserve Banks, together with participations in loans with member banks, increased from \$22,587,000 to \$30,569,000. At the same time outstanding unused commitments expanded from \$8,852,000 to \$14,735,000. The amounts involved in these figures are very modest, as opportunities for individual Federal Reserve Banks to grant working capital loans have been kept to a low level by the more aggressive attitude of commercial bankers in all parts of the country.

The Federal Reserve Bank of New York over this period of time received only one application for a defense working capital loan and that application was for a commitment of \$500,000. The commitment was granted and subsequently retired without any portion of the sum having been used. By the latter part of November, 1941, the Federal Reserve Bank of Philadelphia was the most active of the Reserve Banks from which information

regarding defense loan activity could be obtained. The Philadelphia bank had outstanding twenty-five direct and participating defense loans aggregating \$4,000,000. The Cleveland bank was next with eight outstanding loans and participations with member banks aggregating \$894,000. Boston and Dallas each had one such loan. Kansas City had no outstanding defense loans but it did have outstanding commitments of \$1,460,000.\*

*Reconstruction Finance Corporation*—The Reconstruction Finance Corporation was created by Congressional legislation on January 22, 1932, at the suggestion of President Hoover as an emergency agency to extend credit to banking and financial institutions of all kinds such as commercial banks, savings banks, trust companies, building and loan associations, insurance companies, mortgage loan companies, and credit unions. Subsequent legislation provided for the extension of credit under almost every conceivable circumstance and to all types of prospective borrowers from states and territories to business enterprises, and to other agencies of the Federal Government. An amendment which was passed by Congress on June 12, 1940, provided specifically for the granting of loans to corporations to aid in national defense.

In a recently published and very enlightening volume entitled *Financing Defense Orders*, Lynn L. Bollinger of the Harvard Graduate School of Business Administration tells the experience of an inventor who developed a device early in 1941 for use in military aircraft. The inventor "had had little practical experience in production management and had virtually no capital to invest in a business. Nevertheless, in view of the advantages of his device he had received a large order from a manufacturer of military aircrafts. Because of inadequate equity capital and doubt regarding the inventor's managerial ability, banks would not finance the venture. Being a sub-contractor, he could not obtain a Government advance payment. He applied for an RFC loan, and upon first investigation was refused. The aircraft manufacturer who had ordered these devices reported that they were an essential part of a newly designed ship which had been ordered in large quantities by the Air Corps. For this reason the Air Corps officers informed the RFC that it was important for defense purposes that the applicant receive sufficient

\* No information regarding working capital loans or commitments for defense or war purposes was available at the time of this study from the Federal Reserve Banks of Atlanta, Chicago, Minneapolis, Richmond, St. Louis, or San Francisco.

capital to finance the production. The RFC then made the loan.”

Not all loans made by the Reconstruction Finance Corporation are of this type. Probably a substantial portion of the loans made by this ubiquitous agency of the Federal Government has been made, however, as a last resort, after searching investigation and analysis by banking institutions had failed to reveal a sound basis for the extension of credit.

The procedure for obtaining a loan from the Reconstruction Finance Corporation is neither short nor sweet. It generally involves negotiations lasting from three to nine weeks, the submission of elaborate forms to district offices that then report to headquarters at Washington where the decision is finally made by the Board of Directors. When the loan is granted, the Reconstruction Finance Corporation in accordance with its established practice, generally limits management compensation, takes whatever security is available to protect the loan, and insists upon having an agreement that the management may be changed while the loan is outstanding if the executive personnel is not satisfactory to the lender.

The Reconstruction Finance Corporation is granting a much larger proportion of the working capital loans to manufacturers handling defense and war contracts than the twelve Federal Reserve Banks, but at that, only a modest proportion of the total available volume. An indication of the relative number of defense and war loans handled by the Reconstruction Finance Corporation is found in the fact that as of March 20, 1941, only seven per cent of defense contracts assigned to lending agencies had been assigned to this agency of the Federal Government. Total defense loans for the entire country being handled by the Reconstruction Finance Corporation were reported on May 7, 1941, to be \$194,150,079, and on September 15, 1941 to be \$473,960,000. This latter amount included the two loans on Emergency Plant Facilities Contracts mentioned on page 15. It also included a number of loans in which commercial banks had participated.

*Advances from Federal Government*—In recent years progressive commercial bankers have gone out of their way to cultivate possibilities for making new types of sound loans. Special efforts have been made to facilitate the emergency program by extending all possible credit to concerns that have obtained defense and war contracts. Notwithstanding the *Assignment of Claims Act of 1940*, situations continue to materialize

which do not appear to represent sound banking risks. These situations often may be handled by partial or progress payments.

As the momentum of the defense program began to roll along, it became evident that the volume of emergency orders obtained by many manufacturers with light or inadequate net working capital would call for greater financial assistance than could be readily obtained from partial or progress payments. To break this anticipated jam the Federal Government in June, 1940, authorized advance payments up to thirty per cent on Army and Navy contracts when "in the interest of national defense." Since that time, cash advances from the Federal Government have provided the actual sinews of war for many producers of defense equipment and supplies.

The radio manufacturing industry provides an interesting example. A particular concern was organized to manufacture experimental parts and accessories with a modest capital of \$30,000 in the early ear-phone laboratory stage of radio reception. As the radio industry developed with national advertising and instalment sales, this manufacturer became widely known as a specialist in developing and producing a certain limited number of essential parts and accessories. Over the years, however, the earnings were quite sporadic, in one year moderate profits would be recorded, and in the following year the final result would call for the purchase of a bottle of clear red ink. Early in 1939 the tangible net worth amounted to \$76,000, the increase from the initial paid-in capital of \$30,000 having resulted almost entirely from the sale of additional stock for cash and not from retained earnings. For the year 1940, an annual sales volume of \$250,000 was forecast and on this basis quite a reasonable net profit was anticipated.

When the sales were run up on the adding machine for the full year of 1940, it was realized that the annual volume had actually amounted to \$400,000, a sixty per cent increase over the budgeted figure of \$250,000. This spectacular increase in sales was occasioned by contracts obtained from the War and Navy Departments in July, 1940. These defense contracts aggregated \$650,000 and were only partially completed during 1940. The unfilled portions, combined with the anticipated regular commercial business, it was now expected, would bring the volume for 1941 to the neighborhood of \$800,000.

This sudden growth in net sales on a limited, year-end net

working capital of \$40,000 brought about difficult financing problems for the management. No amount of skillful legerdemain could handle the expanding volume on such limited net working capital without incurring exceptionally heavy liabilities. There was no other answer. The budgeted sales volume of \$250,000 for 1940 would have given a turnover of net working capital of 6.25 times for the year, which would have been high. The actual turnover for 1940 was ten times, and the anticipated turnover for 1941 was twenty times on this same net working capital figure. Whether liabilities were light or heavy made no difference to the Army or the Navy; they needed the particular products of this corporation in a rapid big way.

In this predicament the liabilities incurred in the initial heavy purchases of raw materials to produce the contracted volume, and at the same time to satisfy the regular customers, went up like an oil-well gusher. The financial condition ran out of hand in the latter part of 1940 necessitating a general extension on the outstanding trade indebtedness for four months. The rather involved financial picture characterized by an exceptionally heavy inventory and excessive indebtedness was now thoroughly analyzed by an up-and-coming local banker. The banker finally agreed to extend a line of credit of \$100,000 secured by amounts due under Government contracts and the assignment of receivables from the Federal Government as shipments were made. Even this credit, which was considerably in excess of the tangible net worth of the corporation, was insufficient to work out the situation. The treasurer of the corporation now discussed the financing problems with representatives of both the Army and the Navy. It was finally decided that the bank credit should be supplemented by thirty per cent cash advances by the Federal Government on the face amounts of the contracts. With these additional funds, the enlarged program for 1941 is being handled, and from present indications at a reasonable profit to the manufacturer.

Many recipients of advances from the Federal Government are in far more healthy financial condition than this manufacturer of radio parts and accessories. Many manufacturers actually have a choice between using adequate bank credit or an advance from the Federal Government. The potential bank credit might be on unsecured notes, on the assignment of claims against the Federal Government, or on any other bankable basis. With these

alternatives available, the management might select the advance and use it in lieu of bank credit as no interest must be paid on the advance from the Federal Government. In such a case the line of bank credit would be held in reserve. The concern, however, must be a prime contractor. A surety bond is required for the full amount of the advance payment, and the cost of this instrument at one and one-half per cent of the advance eats very materially into the savings in interest.

Advances from the Federal Government cannot be made to sub-contractors. In theory the sub-contractor may, by individual negotiations with the prime contractor, arrange for the prime contractor to advance to him his proportionate share of the thirty per cent advance. In theory the second sub-contractor may, in the same manner, negotiate for his share from the first sub-contractor, and so on through successive lower layers. In everyday practical operations, the difficulties encountered by a sub-contractor in obtaining his proportionate share of an advance, are very great. These difficulties center around two stumbling blocks, each of which, at times, are overly effective, (1) more than a nominal amount of legal red tape and, (2) the all too human disinclination of businessmen to accept the responsibility for passing out Government funds unless they obtain definite assurance that no liability will be involved.

It is very unfortunate that advances from the Federal Government cannot be proportionately relayed with more ease and celerity to sub-contractors since it was estimated by defense officials in September, 1941, that twenty-seven per cent of the volume of defense contracts had been turned over to sub-contractors, and the percentage was steadily increasing. Prime contractors and sub-contractors who anticipate any financial problems should become well acquainted with the Financial Section of the Office of Production Management in Washington. This Section is providing a helpful, interested, practical service to manufacturers of war equipment and supplies. All forms of private and governmental financial assistance are facilitated.

### *Problems of The Mercantile Creditor*

Industrial concerns that were in healthy financial condition prior to the receipt of war contracts, and where these contracts have not been abnormally heavy for the size of the manufacturer,

have presented no new credit problems. On the other extreme are business enterprises which had been operating in a strained financial condition, and which are now devoting practically all of their rapidly expanding facilities to the battle for production, like many of the airplane and parts manufacturers, ship-building companies, and smaller manufacturers of precision machinery. Whether mercantile credit should or should not be extended to many of the concerns in this latter group, cannot be answered by the normal yardsticks of credit measurement. A thorough knowledge of the operations of these concerns and a qualified opinion regarding the skill and the ability of the management to fulfill contract requirements in a satisfactory manner, are needed to make an intelligent, liberal, but sound analysis.

These problems of credit interpretation are widespread and they come home to roost in a most concentrated troublesome manner to producers and distributors of products on the extensive and continuously growing priorities critical list of the Office of Production Management. Most important among this strategic group are manufacturers of steel, aluminum, brass, magnesium, methanol, nickel, tin, tungsten, vanadium, zinc, and chlorine. While credit problems from a mercantile viewpoint are intensified with debtors that are working on orders for war equipment and supplies, they also exist and affect concerns outside of this circle.

*Concerns Working on War Products*—Orders for materials to be used in the manufacture of equipment or supplies for the War or Navy Departments, or for any country being assisted under the Lend-Lease Act, must be accepted whenever received from a prime contractor or a sub-contractor, unless the order conflicts with one of the following four points. These points were enumerated and explained by the Office of Production Management in Priorities Regulation No. 1 dated August 28, 1941:

1. Impossibility of delivering the order on schedule by reason of previously accepted orders bearing higher or equal preference ratings.
2. Unwillingness or inability of the buyer to meet regularly established prices and terms of sale or payment.
3. If the material ordered is not of the kind usually produced or capable of being produced by the manufacturer.
4. If the order specifies deliveries within fifteen days, and if such compliance would require the termination before completion of a specific production schedule already under way.

The Priority Division of the Office of Production Management in the same regulation requested that all refusals to accept

“defense” orders be reported immediately to it. Upon the prospective mercantile creditor thus falls the responsibility of declining orders, if the credit risk, after careful analysis seems unsound, and if it appears that payments cannot be made in accordance with established terms of sale as outlined in the second of the foregoing points.

From a careful study of these four points, it is clear that if an industrial concern that has a priority order for the purchase of strategic materials is in an extended financial condition, that order, *ipso facto*, does not need to be filled. The prospective creditor may insist that the buyer, if a prime contractor, obtain financing from the Reconstruction Finance Corporation, from a Federal Reserve Bank, or that arrangements be made for a cash advance from the Federal Government, if its own bank or banks will grant no loan. With such financing arranged or completed, the priority order would then be filled on regular terms, against a partial cash down payment, or be shipped on a COD basis.

An Eastern manufacturer of fabricated wood and metal parts for airplanes on December 31, 1940, had current assets of \$370,000, current liabilities of \$405,000, a deficit in net working capital of \$35,000 and a tangible net worth of \$90,000. The liabilities were more than four times as large as the tangible net worth, an unusually extended condition. On the face of this balance sheet it was obvious that current creditors were well out on a limb and that no new suppliers would sell the account. Although the financial end of the business had been poorly, perhaps disastrously handled, the manufacturing end had kept right up with the times. Its products were dependable, widely used, and in growing demand. Unfilled orders from airplane and other parts manufacturers working on defense contracts were substantial.

As the enterprise was not a prime contractor it could obtain no direct cash advance from the Federal Government, and as its business was coming from quite a number of accounts, negotiations to obtain its proportionate share of advances from prime contractors looked like an impossible task. At any rate, such negotiations would have consumed valuable time, and time actually meant life or death to this concern. These problems were finally discussed comprehensively with the lending officer of its local depository bank. The orders on hand were from well-known reliable customers. The banker now agreed to extend a liberal line of credit on assigned receivables. With these funds available,

the prospective creditors that had held up shipments of essential raw material because of the weak credit risk, now proceeded to fill all orders on a COD basis. Every one was as happy as a retailer without price restrictions. The necessary raw materials, however, would never have been obtained if the mercantile suppliers had not been convinced by the new line of credit set up by the local banker that they would be promptly paid.

It has been and is no unusual occurrence for a seller whose standard selling terms are net thirty days, to grant special terms of sixty, ninety, and even one hundred and fifty days to old, reliable, but financially extended customers that are unable to obtain adequate bank credit and for some reason have obtained no advances from the Federal Government. No tacit understanding has been created that credit must be extended by the industrial producer of raw material to a manufacturer of war supplies or equipment when the examination, in a particular situation, indicates that the credit risk of the prospective creditor, is unsound. That continues to be a matter of individual judgment and prerogative in a democracy that will accept only a world consecrated to the four freedoms—"freedom of speech and expression, freedom of every person to worship God in his own way, freedom from want, freedom from fear."

Financial statements of concerns engaged wholly, or for the most part in the production of war equipment and supplies, and particularly of those in highly specialized lines, usually show heavy liabilities. Such situations cannot be interpreted strictly in accordance with standards of analysis applicable under normal conditions. In arriving at a conclusion regarding the stability of such risks, favorable operating and performance records over a period of years may offset what in more normal conditions might be considered an unbalanced financial position. In the case of concerns producing war products, information on the following five points is particularly desirable:

1. A segregation of net sales to Government agencies from other net sales, or in the case of sub-contractors, sub-suppliers, sub-manufacturers, or sub-builders, a segregation of net sales to primary contractors on defense and war orders from other net sales.
2. A segregation of Government receivables from other receivables, or in the case of sub-contractors, sub-suppliers, sub-manufacturers, or sub-builders, a segregation of primary contractor receivables on defense and war orders from other receivables.
3. The amount and the nature of unfilled defense and war contracts on hand on the statement date.

4. A description of all arrangements in effect to finance necessary plant expansion, and increased defense and war production.

5. A clear understanding of the extent of management familiarity with the products to be produced, of the skill and knowledge of the labor, and of the necessary equipment to fulfill specific requirements of Army and Navy contracts.

*Concerns Working on Non-war Products*—Two situations are affecting those manufacturers that have obtained no defense or war contracts. In the first situation is the typical manufacturer whose operations have been materially reduced because the available supply of his primary raw material has been substantially cut by priorities, such as manufacturers of aluminum cooking utensils, metal furniture and equipment, washing machines, electric ranges, refrigerators, vacuum cleaners, and electric ironers. An increasing number of small business enterprises that have been unable to obtain sufficient quantities of raw materials and no war orders as primary contractors or as subcontractors, are gradually locking their front door, liquidating their liabilities, laying off employees, and quietly, or not so quietly as the case may be, going out of business.

In the second situation is the manufacturer that is able to obtain sufficient quantities of all raw materials except one vital ingredient, such as a manufacturer of varnish that might have plenty of petroleum solvents but no synthetic resins, plumbers who have difficulty in obtaining one-half inch brass pipe, manufacturers of upholstered furniture that need metal springs, or manufacturers of laundry supplies that are being restricted in their purchases of chlorine. Here is a vital problem of inventory unbalance which has been expanding in recent months and which will become more fundamental as our war economy continues to intensify. To analyze these situations the credit manager of a prospective mercantile creditor must become increasingly familiar with the operating problems of customers, problems which will continue to become more acute as greater proportions of raw materials go into the production of war supplies and equipment.

Manufacturers of certain types of plastic compounds, for example, use formaldehyde extensively in the base. As formaldehyde is made from methanol, its production is limited not only by existing plant capacity but also by the amount of available methanol. The existing plant capacity to produce methanol has been reduced by the necessity of turning over part of these facilities to produce greatly needed increased quantities of ammonia. Because of this reduction in available methanol, decreas-

ing quantities of formaldehyde are being made available to manufacturers of plastic compounds. As a result, the output of various types of plastic compounds has likewise been reduced. An increasing proportion of the current production of plastic compounds is being delivered to molders with priority ratings. The compound remaining after shipments to concerns working on defense orders, either as prime contractors or sub-contractors, represents only a portion of the normal needs of molders not operating on defense products.

In this situation, a manufacturer of plastic compound may (1) stop selling all molders without priority ratings except those in the best financial condition, or (2) pro-rate available supplies to all customers without priority ratings except those in very poor financial condition. It is his responsibility to determine in some way which old customers will obtain some of the essential raw material to keep in existence, and in that determination the credit soundness based on thorough knowledge and analysis must play a logical part. As a steadily increasing proportion of the available plastic compound is taken by molders working on defense products, the difficulties of those not working on defense orders will continue to grow. This situation is typical in a growing number of basic industries.

### *Highlights of 1940 Ratios*

Few of the financial and credit problems of our unfolding "defense" economy which have been outlined in the preceding pages, had been translated, to any appreciable extent, into the financial condition of respective divisions of industry and commerce by the closing days of 1940. The total defense program initiated in June, 1940, called for the expenditure of \$28,500,000,000. This initial estimate had been upped by successive steps in unofficial quarters to no less than \$150,000,000,000 by the end of 1941. Contracts for only \$11,153,000,000 were awarded during 1940, and actual cash disbursements before the end of that year amounted to but \$1,885,000,000 or 6.6 per cent of the total appropriations. The injection of this amount of purchasing power into the business world had only a moderate immediate effect.

*Two Important Ratio Trends*—Two of the fourteen selected ratios used in these comparative yearly studies, showed a noticeable change during 1940, (1) the ratio of current debt to

tangible net worth, and (2) the ratio of current assets to current liabilities, more generally known as the "current ratio." In forty-two of the seventy divisions of industry and commerce surveyed over the five year period from 1936 to 1940 and printed on pages 52 to 71, the ratio of current debt to tangible net worth was higher in 1940 than in 1939, and in fifteen of these lines, the ratio was the highest over the entire five year period. Of the forty-two lines which disclosed higher proportions in this particular ratio for the year, twenty-eight were manufacturers, nine were wholesalers, and five were retailers. The obvious explanation of this trend was that the current assets, consisting principally of cash, receivables, and merchandise, were beginning to bulk heavier toward the end of the year, 1940, as the production of war equipment and supplies began to get under way, and current liabilities were expanding correspondingly.

With heavier current assets and larger current liabilities, lower current ratios for the 1940 figures would be expected, and that is exactly what occurred. Out of the seventy divisions of industry and commerce for which comparative yearly ratios have been determined, forty-two showed lower ratios of current assets to current liabilities, with the greatest concentration in the manufacturing lines, and the least in the wholesaling lines.

*Little Change in Other Ratios*—Wholesale prices, according to the index of the Bureau of Labor Statistics of the Department of Labor showed practically no change during the year, rising only a fraction of a point from 79.2 in January to 80.0 in December of 1940. As a result of the relatively limited amount of actual defense spending in 1940, and the stability of wholesale prices, the remaining balance sheet ratios disclosed no appreciable effect of our emerging defense, and then war economy.

Increased investments in plant facilities are playing a most strategic part in our changing world. We must expand plant capacities if we are to produce the "goods" and become "the great arsenal of democracy," so absolutely essential to the prosecution of this greatest of all world conflicts. The ratios of fixed assets to tangible net worth which are the indications of increasing investments out of private resources in real estate, buildings, machinery, and equipment, disclosed no particular significance for 1940. Eighteen of the manufacturing lines, eight of the wholesaling and only two of the retailing lines listed on pages 52 to 71, showed increased percentage investments in fixed assets

during the year, and these increases are all of a minor nature. In other words, twenty-eight of the divisions of industry and commerce disclosed an upward trend in this particular ratio, while forty-two showed a downward trend.

The turnover of net working capital was greater in 1940 for twenty-four lines of business activity and smaller for forty-six lines. This turnover was higher in seventeen manufacturing lines, three wholesaling lines, and four retailing lines. In nine of the divisions, the turnover for 1940 was the highest for the five-year spread from 1936 through 1940. Among these nine lines were manufacturers of industrial machinery, canners of fruits and vegetables, manufacturers of paints, lacquers and varnishes, packers of meat and provisions, and wholesalers of lumber. In these particular divisions of industrial and commercial activity, the increased volume was of large proportions.

Other selected ratios which normally would be of particular interest at a time of such fundamental industrial adjustments as we are going through, reflected little change. The ratios of net sales to inventory, for example, disclosed nominal variations for the year. In twenty-eight divisions of business activity this particular ratio was greater, in thirty-three it was smaller, in seven it was the same in 1940 as in 1939, and in two specialized lines this particular ratio could not be computed. The changes whether upward or downward were of a minor nature with but three exceptions, manufacturers of industrial machinery, manufacturers of curtains, draperies and bedspreads, and wholesalers of knitted outerwear. In these three fields, the ratio of net sales to inventory was the highest in 1940 for the five year spread.

Since December, 1940 the tempo of basic changes in our economy has continued to step up rapidly. Along with the tremendously increased Federal appropriations, expanding contract awards, and actual cash expenditures, has come a sustained upward surge in wholesale prices. On December 13, 1941, the wholesale price index of the Bureau of Labor Statistics reflected an advance of 16.8 per cent over a one-year period. Farm products in this broad index had increased 34.9 per cent, while all commodities other than farm products had increased 13.5 per cent during the same period. The 1941 year-end figures of industrial and commercial business enterprises will show greater effects of these more powerful impacts on what has since become our steadily intensifying war economy, than the 1940 figures showed.

RATIOS FOR THE YEAR 1940

*The tables on the following pages, 38-49, give the fourteen important ratios with inter-quartile range for 72 lines of business activity based on 1940 figures. The 72 lines of business activity consist of 36 divisions of manufacturing, 24 of wholesaling, and 12 of retailing.*

(TABLES NOT REPRODUCED)