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REPORT ON SMALL PLANTS AND THEIR ECONOMIC IMPORTANCE.

The attached report by C.P.Tolman of the War Production Board on "The Importance of Small Plants" is well worth reading.

Tolman completed this study, at my suggestion, since his approach robs the issue of "little business" of emotional and sentimental aspects and demonstrates the superior efficiency of smaller plants in most lines of economic activity.

The report also contains a valuable suggestion: the formation of cooperatives of "small industries"--not necessarily engaged in the same line of action--inside a State or a region, in order to obtain necessary technical and financial services.

I understand that W.P.B. is considering encouraging the formation of an experimental group of small industrial concerns in New England, with a view to discovering whether this cooperative approach is feasible.

*J.F.C.*  
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THE IMPORTANCE OF SMALL PLANTS  
Their Problems and a Suggested Solution

by

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"A Small Plant is a business small enough to be comprehensively directed by one man and with invested capital too small to provide a basis for public financing."

Small plants are basically American because they are free enterprises. Their owners have a large stake in their communities throughout the land. They produce most of the necessities of our way of life.

These plants need help -- lots of it -- but not as worthy charities. They must be helped because they are the "companies" in which returning soldiers must march forward to peace. In them our men will forge the sword back into the ploughshare.

FACTS ABOUT SMALL PLANTS

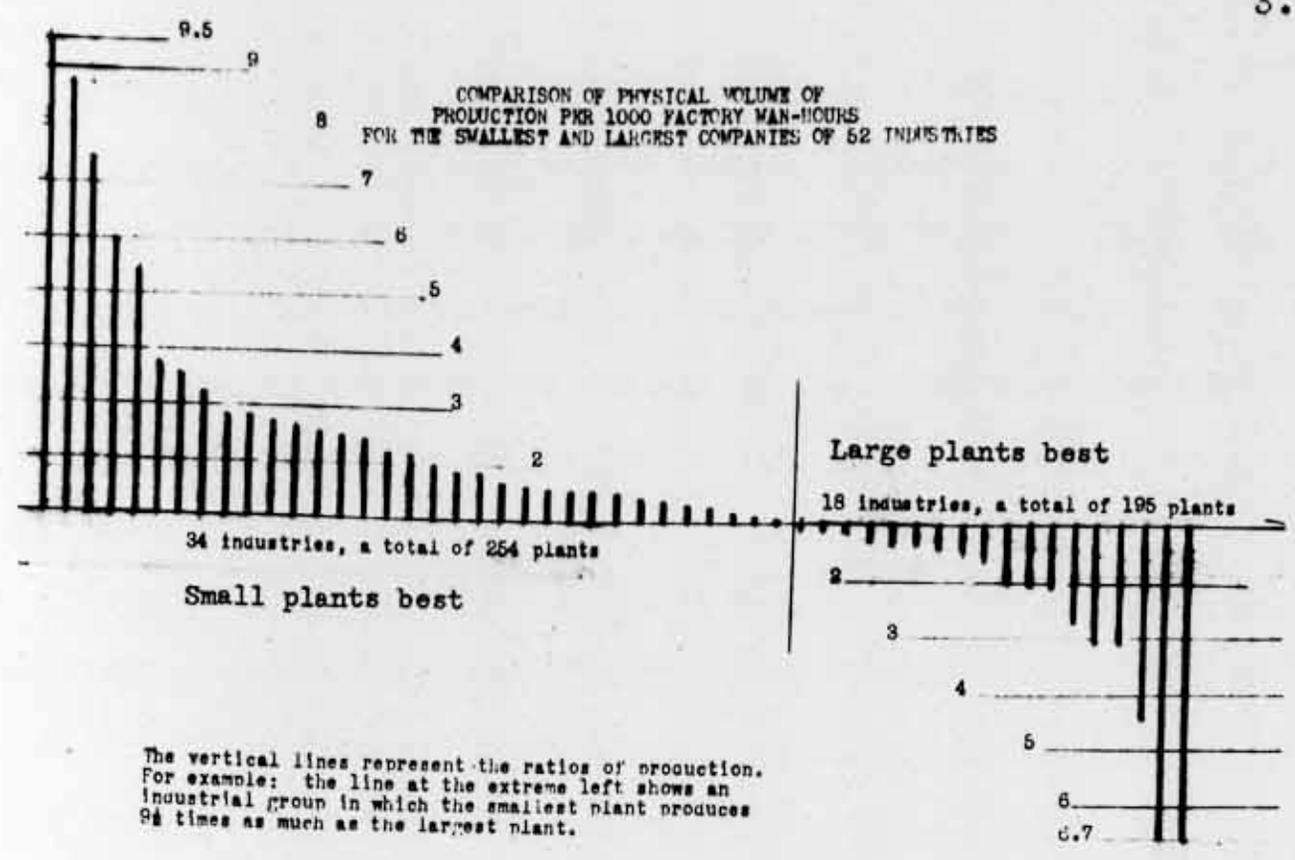
Think of the little plants along the railroad track in your town. Joe Doakes employing twenty men. The Smith Manufacturing Company with five hundred and others in between. Those are the plants we are talking about -- one hundred eighty-two thousand of them -- there are only 2300 larger ones. This means eighty-two times as many "little" ones as there are "big" ones.

How many men work in plants of less than 500 employees? You will be surprised to learn that 5,100,602 were working in these plants in 1939. This is about two out of every three wage earners in manufacturing industries.

What about the dollar value of product? In 1939 these plants made 61.6% of the total value of manufactured products. Their output was worth \$34,994,415,000. . . Most of these products are rock bottom necessities -- things every man, woman, and child must have.

#### EFFICIENCY OF SMALL PLANTS

One more point should be cleared before we talk about the needs of the small plant and how to meet them. Mass production has stirred our love for things of giant size. Dazed by the enormous elephant, we overlook the industrious ant. Thus we have fostered the "Great American Fallacy" that the bigger the factory the greater its efficiency. Nothing is farther from the truth. Contrary to general belief, the smaller plant in most industries produces more per man-hour than the larger plant. This surprising fact is substantiated in the following data from a study of 13,000 plants made by L. P. Alford and J. E. Hannum. Study this performance record of the small plants and consider what these plants could do with their limitations removed.



The chart presents data of 52 product groups. The indications are in favor of the small plant. This high production per man-hour, which must be accompanied by low manufacturing cost, may be a reason for the persistence of the small plant in spite of consolidations and mergers.

An analysis of the data from which this chart was drawn shows the following:

"The smallest company has a higher rate of production than the largest company in 34 industries."

"The smallest company has the highest rate of production in 15 industries and a high rate in 5 industries."

The facts we have just examined raise a question: If the small plants are so "good," why do they need help?

War hit the small industries on the solar plexus. They lost both personnel and raw materials. The number which could be converted to making war products instead of their own familiar specialties was limited by the serious difficulties of teaching and tooling.

Bear in mind that the Government had to supply both money and technical guidance to convert small plants for war production. The small plant "on its own" lacks both money and skilled advisers. Both are necessary for reconversion to peace time production because most of these plants will be making new products or will be using new methods, designs, and materials for their old products.

Both problems must be analyzed so that our solution can be planned to meet the needs in a practical manner.

#### THE PROBLEMS:

1. The problem of financing businesses whose invested capital is too small for public financing.
2. Need for technical advice on manufacturing problems.

#### THE FINANCING PROBLEM:

Banking precedent with respect to industrial financing lays great stress upon "record earnings for the past five years." This often decides whether a loan will or will not be made. Few of the small plants have any worth-while record of earnings for the war

period and would be out of the picture. The pre-war records cannot be very useful because the post war products, and the condition of manufacturing and of marketing will be different. The earning record of those who have had profitable war work is of little significance in estimating earnings from proposed post war civilian products. Must not a better method for determining the soundness of an industrial loan be provided?

It seems obvious that these small plants must be enabled to finance themselves on the basis of their proposed peace time enterprises and their practical ability to perform and manage the kind of work contemplated. This situation can be safely and best measured by practical business men and engineers. This method is recommended later in this article.

Small plants generally manufacture a single product. A change in product or in the raw materials used in its manufacture affects the entire plant. The cost of such a sweeping change will be very large as compared to the total plant investment.

Some years ago, one of our largest industries shut down and retooled for a radical change in the design of their "single product" -- an automobile. Everybody recognized the financial problem of retooling. How much more serious is the problem of financing a similar change in a small single-product plant. A small plant rarely has enough cash reserve for such a job, nor is the total amount of its invested capital enough to serve as a basis for an adequate loan or for public financing.

#### THE TECHNICAL SERVICE PROBLEM:

Most small concerns grew from still smaller beginnings. As they grew each became skilled in making its particular product. This skill was gained through practical experience in making (usually) one product out of certain materials and with certain tools. Skill gained in this manner is 100% useful only when applied to the conditions under which it is gained. Only a part of such skill remains useful when the product, materials and methods of construction are changed. New post war products, changes to different materials and to new manufacturing technique will be hard for these plants. Customers will demand new styles. Low post war prices for aluminum, plastics, magnesium and many other materials will make it necessary or desirable to substitute one or another of these materials for that which they formerly used. Products and manufacturing methods will have to be redesigned because of these changes and to take advantage of new methods or equipment developed in production for war.

Some way in which skilled services can be made available to small plants for the practical and businesslike solution of these urgent problems must be worked out. We shall find that doing this also opens the way for other services which will advance the welfare of these little industries.

TWO PROBLEMS \*\* ONE CAUSE

The cause of both the financial and the technical service problem is obviously the same. These plants are too small for the usual type of financing. Each by itself is too small to justify the employment or to be able to employ the technical services needed to deal with the problems of transition to peace time production.

GROUP ACTION

Together, the small plants can master the problems that confuse them singly.

It is proposed that local groups of 25 to 100 diversified industries set up MUTUAL SERVICE AGENCIES through which the members of each group can act jointly to provide for cooperative financing facilities and for services which they can draw upon individually. The Agency will be the servant, not the master. It is not a merger or cartel. The plan involves no commitment of rights of ownership or of independence of any member plant.

The selection of plants for membership in an individual group should be made to gain the greatest benefit from the diversity factors, seasonal and otherwise in their requirements for financing, so that a given amount of "group capital" can be used to the greatest advantage.

Before discussing the details of organization let us consider sources from which money may be obtained for financing the small plants.

## FINANCING THE AGENCIES

A great deal of money will be needed to re-establish the industries which produced \$34,000,000,000. worth of products in 1939. These small plants can not lift themselves by their boot straps. Funds must be provided to get them going. The total funds and credits derived by their Agencies from membership fees will not be enough. Much of this money will be needed for operating the Agencies because it is planned to keep the membership fees at a minimum.

There are several sources through which money or credit could be provided:

### A. Federal

The most logical source is through the Smaller War Plants Corporation which increasingly is supplying funds and technical services to these small industrial plants.

### B. State

It is to be expected that as the need for aid to small plants becomes more generally apparent State Governments will cooperate in giving financial and other assistance.

### C. Private Sources

Small plants backed by adequate services and financing should develop large earning capacity. After a reasonable period the Record of this earning capacity should attract private capital for investment through its Agency.

#### D. War Bonds

During the transition period from war to peace conditions, small concerns will need all the capital they can get. We may expect that such war bonds as have been purchased by these businesses and by their owners will be sold to a serious extent during this critical period. If the borrowing power can be made substantially equal to their current value, the temptation to sell them will be eliminated. Legislative action could be taken by which the borrowing value of such bonds would be far greater than when used as collateral in the ordinary way.

The importance of preventing War Bonds from being "dumped" when peace is declared is too obvious for comment.

#### ORGANIZING THE AGENCIES

The general form of the organization would follow that of a corporation in which the company representatives would correspond to the stockholders. There would be a Board of Directors elected by the representatives and an Executive Committee. It is suggested that the Board of Directors be chosen by lot from the membership of the group. The first board would be elected for the usual "staggered" terms. Later elections would be by lot from those who had not served. After all members of the group had served, the procedure would be repeated. According to this plan every member would serve on the Board and no clique could get control.

The Board would elect officers, appoint such committees as were needed, determine the make-up of the staff and select its personnel.

The details of organization would vary. A small group would probably employ a small permanent staff and retain other special services on a consulting basis. A large group would have a larger permanent staff. Whether large or small the group should always have a competent engineer on a full time basis in addition to the group manager.

#### KIND OF SERVICES

The services available to the members should include those of an engineer; an accountant and financial man familiar with taxation, government relationships and regulations; a legal advisor, a purchasing officer, medical director and safety director. Labor management and employment services should be provided for. The staff should be advisory members of the Executive Committee and the Committee on Loans to members.

Whatever the source of the funds, administration by the group agency should greatly facilitate getting the money to the plants which need it when they need it because the loan committee of the Agency through long acquaintance would be able to evaluate personal responsibility, business judgment and business integrity better than a stranger. Efficiency in the use of loan funds would be enhanced

because the money requirements of various members of the group would fall at different times.

The Loan Committee of the Group Agency would be able to make the most of funds available for loan. When Joe Doakes comes before this committee, he finds men who understand his business and his problems and are willing to bank upon their knowledge of his integrity and ability to perform. The committee could check closely the borrowers estimate of the amount of money that would be needed at successive steps of this project. There is a sharp distinction between this method of financing and that in which a total amount of money is ear-marked from the beginning, much of which is relatively idle for a considerable part of the operation.

#### OTHER SERVICES

The group organization works two ways for the small plants. It supports the interests of each member with the full strength of the group in matters initiated by him. On the other hand, it makes it possible for governmental and other agencies to give him many useful services through the group, which could not be supplied separately to a host of small plants. A well known example is the effective service which the Department of Agriculture has given to the farmers through their Grange Organizations.

The Agency can give many special services which are highly

beneficial to small plant workers and owners. For example: plants having only a few employees have difficulty in providing for pre-placement physical examination and medical services generally. Through the group organization, however, their employees could be given the essential attention now available only to employees in the larger plants. For example: the group as such could support hospital beds for the use of the employees of the group.

Existing Agencies for the prevention of tuberculoses for the care of the eyesight of industrial workers and for the establishment of dental clinics, could operate effectively through the staffs of the group. Through these "terminal facilities" they could reach the small plants collectively which they cannot reach individually.

Several kinds of insurance are necessary or desirable in industrial operations whether for the industry as such or for the welfare of employees. These can all be handled economically through group arrangements.

The greater importance of the group as contrasted with any of its small industrial members will enable the technical staff to operate much more effectively in arranging for special services which may be required from laboratories, research organizations or from industrial concerns supplying raw materials to the members of the group.

The group staff could manage labor relations and arrange for the interchange of labor among the member companies according to their requirements. This would maintain a high continuity of employment in the area.

This same organization would greatly facilitate the placement of returning servicemen because the government Agency charged with this responsibility could deal through the single Agency and cover the entire group, or the serviceman himself would be saved the frustration of going from plant to plant seeking work.

#### REHABILITATION

Shortage of manpower in war production has taught the important lesson that almost every disabled person can perform useful work when some thought is given to selecting the job and perhaps providing some special facilities. All that has been learned and more that is being learned about rehabilitation will be needed to care for the war injured.

The staffs of the larger plants are progressing rapidly in the study and practice of rehabilitation. Their success has been remarkable. Reports from concerns employing large numbers of so-called disabled workers are practically unanimous in commending the quality and quantity of work and the especially fine record of attendance. These workers need no apologies.

The small plants have no staffs for this special work but the proposed MUTUAL SERVICE AGENCIES would have suitable staffs. This

is one of the more important reasons for organizing these Agencies because as noted in the beginning of this article, these plants employ two out of three industrial wage earners -- over 5,000,000 in 1939.

Should we not do everything possible to open the doors of Free Enterprises to the men who have defended them?

#### MORE SMALL PLANTS

We should have more small plants not only for the economic but for the social betterment of our Country. Small towns and cities suffer the bad effects of seasonal trends when they depend upon one or a few large concerns. With many small plants, the ups and downs overlap. Employment is more continuous because the slow times of some plants are the busy times of others. There are more jobs because small plants use more general purpose machines. Special automatic high production machinery is characteristic of large plants.

Thousands of servicemen are being taught specialties and are learning leadership in the armed forces. We should give them an opportunity to use these new skills and their experience in leadership in the development of small industries whether as workers or as owners. We should not submerge them in the numbered ranks of the assembly lines.

BACK THE SMALL PLANTS

Remember that the small plants produced \$34,994,415,000 worth of goods in 1939. Remember that they employed over 5,000,000 men. The strength of America is in these little plants and not in the large industries. Does it not seem reasonable that until every man has food, a shelter, and a shirt all necessary money, materials, and labor should be made available to these plants before any is allotted to non-essential public improvements? There is plenty of opportunity for the useful and profitable employment of these economic factors in the production of necessities to replace those used up or destroyed during the war period. America needs leaders. One hundred eighty-two thousand plants means at least that many leaders.

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