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NATIONAL INCOME

24 September 1947

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Publication Number L43-10

THE INDUSTRIAL COLLEGE OF THE ARMED FORCES
WASHINGTON, D. C.

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NATIONAL INCOME

24 September 1947

MR. WASSEL AL: I think you are about to undergo a mental somersault from the lecture you heard earlier this morning at the National War College to this one.

As you already have noticed, in determining economic war mobilization, we are not following the old procedure of taking little items here and there and piecing them together finally. Instead, we are taking a country's whole economic productivity and determining what share of it can be used for the economic war potential. There, of course, we deal with the problem of national income.

I would like to point out to you that, whereas in the past National Income and economic statistics were considered to be a sort of final result of all studies on economics that preceded them, the trend now seems to be in a somewhat different direction. People now begin to study economic phenomena by taking national income and dissecting it.

This is the last lecture that you will have in this course--I dare say this whole year--on National Income. We are very fortunate to be living with us this morning, Mr. Osborne, who has worked on National Income since 1927, first for the National Industrial Conference Board and later with the Department of Commerce. The Department of Commerce has recently completed a monumental study on United States National Income which required five years to do. Mr. Osborne played a considerable part in completing that study.

I take very great pleasure in introducing Mr. Harlow D. Osborne.

H. OSBORNE: Yesterday at this hour, Colin Clark gave us some figures on the productivity of various countries. I think there is always some danger that we will not fully appreciate figures of that nature when they are given, as these were, casually, in dissection, and apparently out of a hat, because we know that in real life we cannot get worth-while results out of a hat.

Of course, the figures that Mr. Clark gave us were not out of a hat. Actually, they were the final product and the end result of the operation of an elaborate apparatus of economic analysis, the apparatus which we designate loosely as National Income Research. This morning I would like to take you behind the scenes for a very brief illustration of the mechanics of this apparatus and show you, if I can, just

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what the various statistical series represent and the sort of things that you can do with those series, for your own purposes, as those purposes arise.

I. NATURE AND COMPOSITION

Personal Income. To begin with, I ask that you recognize the basic fundamentals about "Personal Income," and related series.

You know, of course, that your own personal income--the pay check you get twice a month--has a very great bearing on your own welfare. That income reflects your output and, in general, is the most important factor in your economic activities. It occurred to economists a great many years ago that it would be desirable to have a measure that would do for the Nation as a whole what each individual's calculation of his own income does for himself, as a measure of his prosperity. National income research started, basically, from this idea of your own personal income, expanding until consent to cover the Nation as a whole.

In the Department of Commerce, one of the national income series which is of most interest to business and government now is based on just that concept. It is the total of personal income from all sources, whether dividend checks, salaries, pensions or something else. That statistic is Personal Income. The Department publishes an estimate of it every month.

In the course of time, it became apparent to the economists that this aggregate of the incomes of all the people had its limitations for economic analysis. For one thing, it was plain that the receipt by people of a given amount of direct relief did not necessarily indicate that the prosperity of the country as a whole was increased by that amount, because no current work was done for the relief payment. Thus, the idea of national income as an aggregate of personal incomes was modified. Economists tended to drop out those personal incomes which are essentially "transfer payments," for which no current service is performed but which, from the national standpoint, are transfer, from one pocket to another pocket.

It occurred to them also that often we don't receive quite as much income as we earn. For example, if any of you hold industrial securities--and many of you undoubtedly do--you know that the earnings report published in the newspaper is not necessarily an indication of the size of your prospective dividend check, because the corporation is going to hold some of that money for reinvestment. Similarly, if you are under a retirement system and some day you will receive a personal income that you won't have to work for at that time but which you are earning now. It is not spendable yet but you are earning it now. Considerations of

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that sort gave rise to the second basic series of the national income statistics. This is what is properly defined as National Income.

National Income. National Income is defined as the earnings of labor and property from current production, whether you as earners get them now or not. National Income which is essentially the market price paid for the use of productive resources--for labor and for the use of capital with due allowance for the production of capital used in the production process. And when you are interested in conversion of resources from one purpose to another, you are automatically interested in the National Income total and its details.

At that point, the economists and statisticians seem to be getting far away from certain important practical aspects of income. To the consumer, the question of what he can buy with his income is more important than the question of whether he has earned it. National Income has to do with resource use, another series was needed to measure the final product of the use of resources. Accordingly, Mr. Clark and others developed the concept of the National Product.

I should warn you that I am using the Department of Commerce terminology--Department of Commerce titles--for these series. I think they are worth remembering, because the tendency is for all countries and for all the compilers and users of these statistics to get together on these names for the figures.

National Product. Mr. Clark refers in his books to "National Income." He really means what we call National Product, what the British and the Canadians will hereafter call National Product. It is easier to remember the meaning of the National Product series in one's title than it is, too, because essentially National Product is the total product of the economy in a given period valued at market prices--valued at the price that the user or the purchaser actually pays for it.

Summary. You may now forget about the Federal Income series for the time being. For purposes of economic war potential, the National Income and the National Product are the two basic series, the National Income being essentially a measure of resource use and the National Product being essentially a measure of output and market prices.

NATIONAL PRODUCT

I would like next to talk for a little while about the National Product, what it is and how it can be used.

Mr. Clark gave an illustration which, as I have intimated, was based on what we call National Product statistics. His view, perhaps,

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the most spectacular illustration that could have been given. We took the figures for each country, got together the data for all the industries--for agriculture, manufacturing, mining, service, trade, and so forth--boiled them all down to one essential sum, and compared it with the corresponding sums for other countries.

Analysis of National Product. But I think in a good many cases the primary usefulness of those National Income and Product figures will be, as Mr. Lasselman said, in connection with the process of dissection. When you are studying economic war potential intensively, you will go into questions concerning the possible output of industries producing fuel, industries producing steel, and so on. You can answer those questions in orderly fashion if you start from the springboard of the National Product, because the National Product is dissected (in existing statistics for many countries and in projected statistics for others) into these and other categories. One of the "breakdowns," as we say, of the National Product is by type of commodity.

An illustration of this breakdown is in a table in the report which Mr. Lissel van referred to, recently released by the Office of Business Economics of the Department of Commerce. We have something like 250 different commodity classes. The total of such consumer goods expenditure normally accounts for about 75 or 80 percent of the total National Product. There are all sorts of goods and services, in that table--admissions to baseball games, expenditures on clothing, on food, and so on--on; sort of detail that you want and a great many that you won't want at any particular time--but that you might want sometimes.

The second breakdown is to show who gets these goods. The Government nowadays gets a fairly substantial proportion of them. In recent years we have had the Government's consumption of National Product broken down into war uses and non-war uses. As you can see, that makes it possible for us to tell how much the war is costing us in terms of absorption of the National Product. It makes it possible for us to compare our war effort with the war efforts of other countries. It makes it possible for us to infer how consumers are making out in the United States as compared with how consumers are making out in the United Kingdom, for example.

The third type of breakdown is, as I marked it on the outline, by type of cost entering market price. One pays, for example, 15 cents for a pack of cigarettes. For many purposes it is interesting to know and significant to know just why that costs 15 cents and where the money goes. That question would be answered in a National Product breakdown by type of cost. As we all know in a general way, labor gets possibly two or three of the 15 cents, capital gets possibly less than one of the 15 cents, and most of the rest goes to the Government for the little blue stamp on top. The facts about this are very significant when we are considering, for example, the possibility of diverting resources

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from the manufacturer of cigarettes to the manufacturer of machine guns. On the basis of 15 cents a pack, it appears that cigarettes might account for quite a large volume of resources, whereas, as a matter of fact, we find that they account for a small volume of resources and for quite a large volume of receipts by the Government. That is the third type of breakdown, the significance of which will be more apparent in a few minutes.

Development of Estimates. I have mentioned that statistics are available for some countries and will be available for others. The importance of knowing about the National Product is going to increase very rapidly in the next few years. As you know, whenever there is a war one of the more-or-less desirable by-products is a vast mass of statistics, and we never quite get back to our prewar state of innocence in that respect.

Now, both World War I and World War II provided a great stimulus to the development of National Income--both National Income statistics and National Income theory. As a result of World War I and the international organizations that followed, we will find almost every country of any importance in the world making National Income and National Product estimates. Moreover, they tend to base them pretty largely on the theoretical basis that I am outlining this morning, because this basis has been developed partly by means of international conferences and because the countries which developed it and took part in the conferences are the leading countries, which other countries are going to follow.

Therefore, although, as matters stand in 1947, it is not possible to get this much detail from many important countries--notably the USSR--it is reasonable to expect that it will in the future be possible to get these figures. The figures will be available and they will be widely used, so that the importance of understanding what we mean by National Income and Product and what we can do with National Income and Product goes a great deal further than would be indicated by even statistics as interesting as those Mr. Clark gave you yesterday.

Use of National Product Statistics in International Comparisons. I mentioned that the National Product can be used for international comparisons. I have indicated on my outline just what sort of comparisons it can be used for. You will understand that there are sorts of comparisons. There are all kinds of variations and refinements that we will get into if and when we become actively interested in the subject. In the meantime, there is no necessity for me to stress these things, because when the time comes for you to see them you probably will have forgotten any details I might give you this morning. However, when we do come to the section on international comparisons, I will go into a little more detail about it.

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You will note that all of these comparisons are summaries. They are the boiled-down essence, and they are likely to conceal important facts which you should also take into account when making any important decisions on the basis of the figures. They partake of the nature of averages, and the limitations of averages are illustrated by the story of the statistician who was six-feet-six inches tall and had a wife who was five-feet-six-inches tall. When he built a house, he took an average and had all the ceilings six feet from the floor--which didn't work out too well for him. So I would like to caution you that when you are using totals--when you are using figures like the figures that Mr. Clark gave you yesterday or any other figures which summarize a whole national economy--you must be careful to make sure that you know what underlies those figures. For example, he pointed out in connection with his figures that productivity in agriculture in Australia is higher than in the United States and that productivity in industry is a great deal lower. From the standpoint of economic war potential in particular, that fact becomes very important in the light of resource utilization.

NATIONAL INCOME

Let us now return to National Income, the earned income, the earnings from all sorts of labor and property. National Income also yields some of its most interesting and useful fruits by the analysis of dissection. The National Income can be analyzed by either of two classification schemes.

Analysis of National Income. The first classification is according to industry. You can find out just how much the steel industry or the petroleum industry contributes to the National Income. For your purposes, that means how much of our resources are being used now by those industries and, secondarily, how much of our resources are being used by other industries akin to those which might be converted for use in the steel industry or the petroleum industry if that became necessary.

The second type of classification is by institutional forms of factors of production. Essentially that is what we call "distributive shares," or salaries and wages, profits, interest, and rent. I say "institutional forms." That phrase is rather important because the proportion of the National Income earned in each of these forms depends on the country's institutions. It might be supposed, for example, that in Soviet Russia there would be no profits and that particular factor share, that particular institutional form, might disappear into higher salaries and wages. As a matter of fact, it does not, because the Soviet statisticians include the government's profits from the operation of industry in computing their National Income. Such a disappearance of profits has, moreover, actually taken place to some extent in the United States figures in the twentieth century.

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In the last 30 years the unincorporated business enterprise has lost its relative importance here. The returns from the unincorporated business enterprise are reported as profits. We call them profits because they accrue to the man who takes the risks and runs the business, but, in fact, these profits have always included, for the most part, the return of that man's labor in his store or on his farm, or whatever the business enterprise may be. As a result, when unincorporated business becomes less important in the national economy, we find that the profits total tends to decline, and the salaries-and-wages total tends to increase, because, after a man incorporates his store, he pays himself a salary and all of his labor is paid for in the form of salary, instead of most of it being paid for in the form of profits.

We must take this particular breakdown with due attention to context when it comes to making international comparisons and when it comes to making comparisons and forecasts for a particular country. We should interpret it with an eye to the institutional changes that have taken place.

Uses of National Income Estimates. Now, with the National Income as with the National Product, we find that a good many countries do not have national total figures representing the earnings of labor and property from current production. They have something like it, and as time goes on what they have is going to get more and more like it. But as matters stand at present, in using the foreign figures we should bear in mind that they do not all automatically conform to the definitions that I am giving here. And those who make estimates have to make very careful adjustments in the foreign figures--and sometimes in our figures--so that there will be agreement between our definition and their definition and so that, in turn, comparisons will be valid.

As I pointed out before, is it possible, using the National Income statistics, to compare one industry with another as to the resources each is using. We may want to do that to find out what an essential war industry has sufficient resources to give you the production we are after. We may want to do it to find out whether a nonessential industry could spare some resources for conversion to war purposes.

Quite obviously, we will have to go deeper into the question than that. It is possible to do some strange and wonderful things by way of conversion--toy factories into munitions factories, for example--but there are some types of conversion that are impossible, too. We would have to look beyond those figures in a very sickly detailed approach as I am talking about to find out to what extent the resources now being used--in trade and service, for example--are capable of being converted for use in war industry.

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Second, in using these National Income figures, we can take any of the comparisons that I referred to before in connect with the National Product and convert them from output terms to resource-use terms. That becomes important in such cases as the tobacco industry where the output figures represent very largely tax.

II. INTERNATIONAL COMPARISONS

With the National Income and the National Product statistics both available in the detail in which they are available here and will become increasingly available in other countries, it is possible within our framework to carry out practically the whole of this analysis of economic war potential that Mr. Wasserman mentioned. The income figures and the Product figures are not by any means sufficient in themselves to carry out either that analysis or any other analysis completely. A great many other facts are needed--the degree of industrialization, for example. But those figures do provide a framework--in terms of the commodity breakdowns, in terms of the industry breakdowns, in terms of the type-of-user breakdowns, and so on--which will protect us from getting lost in the mass of detail we will accumulate about petroleum supplies, steel supplies, transportation networks, and so on other items. These details all fit into the patterns of the National Income and National Product statistics.

THE BASIC METHOD

Let us go on to international comparisons. When we start, as statisticians did ten or fifteen or twenty years ago, with National Income estimates for a large number of countries, each country's estimate made by the statisticians of that country according to their own ideas of what National Income was, we find that international comparators are quite dangerous. What it was necessary to do, and what it is still necessary to do to some extent, what Colin Clark did, and what those other people mentioned in Recent Examples (p. 10) was this: To begin with, they got the foreign figures in the utmost possible detail. Every little crumb of information they could get they gathered, carefully sifted, evaluated to make sure that it was what it purported to be, and then fitted it into its place in the standard Income framework. Simple addition then gave an estimate of the National Income or National Product of the foreign country. That is what I am talking about when I refer to conceptual adjustments. It merely means making sure that the facts for all countries are mounted on the same framework, that the definitions agree. Somebody--Colin Clark or the UN or the FAO or Morris Copeland--has to go through this process in detail and do that job for you, to begin with.

The second thing to have to consider is the matter of currency conversion, because when we get the figures for the United Kingdom, they

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are in pounds sterling, then we get the figures for the USSR, they are in rubles, and so on; whereas, what we want is a figure in dollars so that we can compare the foreign total with the United States total in dollars.

This is the sort of thing, of course, that underlies what Colin Clark gave you yesterday. He said, "Forget about money. Think in terms of an international unit consisting of a basket of goods and services such as could have been purchased for one dollar in the United States in a certain period." He did not go into any great detail as to how to find out the number of rubles, for example, in one international unit—the value in rubles of the basket of Russian goods and services. Yet we need this figure, just as we need to know the number of yards in a meter in order to convert a Russian distance for comparison with a distance in the United States.

That must be done to put the currency totals into comparable units is to look at all the classes of products in the United States and in the other country to see how their prices compare from country to country.

Take a pair of shoes to illustrate: The Copeland Study took something like 40 different grades and kinds of shoes and compared the English prices with the American prices on each. A composite ratio was obtained indicating that a given grade of footwear could be purchased for, say, \$6 in the United States and a pound and a half in the United Kingdom. This dollar/pound ratio was applied to the British National Product component, consumption of footwear, to convert it into dollars. The arithmetic here is the same as you use when you apply a foot-meter ratio to convert a distance measurement into feet.

That is the process that has to be gone through not only with shoes but with representative items from every class of products in the National Product figures: shoes, ships, sealing wax, calibers, and so on. And to the extent that we can get items representative of each of these classes of products, and to the extent that we have detailed classes of products, we can get a good deal of precision in those comparisons. To the extent that we have to rely on data for only a few products, your margin of error will increase.

But, as you could see from a consideration of Mr. Clark's figures, even a very substantial margin of error in his initial estimate of the productivity of China would not invalidate major conclusions. The differences among countries as to productivity are so great that it is possible, even with the data that we have available today—and much more will be available in the future—to get figures which give a good idea of the relative output of these various countries in total, and in terms of particular essential industries.

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I have noted that these international comparisons are dangerous and tricky. For purposes such as those of Colin Clark you may erase the phrase "dangerous and tricky." It is quite feasible to do that sort of comparison. Any good income statistician can do it and get extremely valuable results. For one type of detailed comparisons which are sometimes made, however, and for comparisons between countries where the figures show that there is not too much difference, you will want to take particular pains to look behind these figures and to do as I said Morris Copeland did - look at every scrap of information that you can find about the economies of these countries to check and double-check your conclusions.

RECENT EXAMPLES

I have spoken of recent examples of international comparisons. The Copeland study for the Combined Production and Resources Board I referred to was a comparison of the United States, the United Kingdom, and Canada. It appraised the war effort in terms of percentage of National Product and percentage of National Income devoted to war purposes. There was also a comparison to see in which countries civilians fared better during the war and in which countries civilians suffered most in comparison with prewar years. And there was a comparison of munitions production.

These were carried through on the basis of very fine-spun dissection of the National Income and National Product figures. Mr. Copeland himself, nevertheless, was not entirely satisfied with it. But the purposes which Mr. Copeland had in mind were purposes which required a much narrower margin of accuracy than most of your purposes will require in connection with the economic war potential of existing countries.

Another report was an analysis by Raymond Goldsmith of the impact of war on the economies of various countries. The impact, as he measured it, was expressed in terms of the proportion of the national output (National Product) that was devoted to war purposes. It is somewhat easier to compare countries as to percentage of product devoted to war than it is to compare them as to absolute amounts of resources or absolute amounts of products devoted to war. The reason is that a good many of the considerations which make the currency conversion factors--which we have talked about--subject to a considerable margin of error in the direct comparison of war output do not come into the picture when we are talking about ratios. Our price-level conversions may be a little faulty. We may say the pound should be valued at \$4.67 where actually it should be valued at \$4.25 or \$4.30. But ratios are not affected by that particular error because they can be computed without any conversion of pounds into dollars.

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The Goldsmith analysis concentrates on ratios to measure, first, the relative share of national income used for war purposes, and second, the effect on the country's capital resources--as capital wealth, a. property--of the war activities. That effect, obviously, consists partly of bomb damage, to consist partly of the wearing out of industrial equipment which may very well not be replaced; and it consists partly of the drawing down of foreign balances to finance imports of needed foods and munitions. England was fairly hard hit, undoubtedly, in all three of these categories. Such an analysis is important from the standpoint of economic war potential because it casts light on the question of how long a country can maintain a given war effort.

The third set of examples of international comparisons consists of those presented by the United Nations and the Food and Agricultural Organization. These agencies are interested in them from the standpoint of how much each country can afford to contribute toward the operation of the international organizations. For that purpose their National Income sections have put together the best figures that could be quickly obtained from a great many countries, some of which had never made any National Income estimates of their own, and have adjusted them as accurately as possible to a standard income framework. The importance of the United Nations and the FAO compilations to you is this. If you want now a figure for the national income of any foreign country, your best procedure is to contact these two organizations and get the figures that you want, because they have pulled together what is known. The Statistical Section of UN is in fact preparing a book on the subject.

I think I have mentioned sufficiently already the extent to which all over the world National Income research is developing--and more and more figures are becoming available. In that connection, I might add that statisticians and economists from a half dozen Latin American countries are here now in the National Income Division of the Office of Business Economics to spend a year learning how to estimate National Income. They will go back to their own countries, and in a fullness of time we will have detailed figures for those countries--Argentina, Brazil, Venezuela, Mexico, and so on--and those figures will be comparable with our own figures, so we can use them for all of the purposes we have in mind.

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Some of the specific dangers which Celso Clark and the FAO and the United Nations people have to consider in getting together figures for the international comparisons are. (1) International variations in; (a) definitions of totals and components; (b) price structure, including

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administered prices; (c) quality of apparently identical items; (d) consumption patterns; and (e) institutional factors affecting resource-use patterns (and excess capacity) and (?) incomplete and unreliable data. Most of them are probably clear to you, but one or two may not be. The problem of price structure mentioned may be illustrated as follows. If in one country munitions happen to be cheap and in another country munitions happen to be expensive, then National Product breakdowns for the country where munitions are expensive will tend to show that it is devoting a relatively large proportion of its output to the war effort. The figures for the country where they are cheap will tend to show that that country is devoting a smaller proportion of its output to the war effort. If you want to figure out how much more can be expected of these two countries, you will always have to look into the possibility that there is such an international difference in price structures.

If, when we make price comparisons, we compare a cheap pair of shoes in Japan with an expensive pair of shoes in the United States, we will get the notion that the yen will buy a great deal more--compared to the dollar--than is actually the case. Then we will overestimate the conversion ratio and consequently the Japanese totals in dollar terms.

In China much rice is used. In the United States much wheat is used. It is very difficult to compare the income or the output of these countries in terms of national totals because the Chinese basket is half full of rice and the United States basket is half full of wheat--and it is difficult to tell just what ratio should be used in comparing rice with wheat.

The institutional factors affecting resource-use patterns are things that you will probably take up somewhere else, but I may list a few. Obviously trade-union practices sometimes provide a barrier interfering with full conversion of resources. They sometimes facilitate conversion. Again, a country's foreign trade patterns are likely to have a bearing on its use of its own resources and on the pattern of its output.

FORECASTING

Forecasting national income for purposes of business-cycle analysis is as full of danger as it is dangerous and tricky as I have emphasized in the outline. Some of the people we have made attempts to forecast business cycles have spectacularly come to grief. The principal value of experience probably is that it underlines the importance of a careful study of all related factors as well as of the National Income and Product figures. The peculiar value of the latter is to provide you with a starting point, a method of summarizing, and a method of orienting yourself in the process of your analysis.

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Apart from cycle analysis, it is not easy--in fact, it is extremely difficult--to say what the National Income or Product of the United States will be at some particular future time. You have too much unpredictability in the matter of technological progress and changes in institutional framework which affects the development and utilization of resources. But it is possible to make useful and practical working hypotheses. You can do this with a pretty decent margin of accuracy or at least a reasonable hope, a reasonable expectation, that you won't be far wrong.

Best practice suggests that you look at the resources, look at manpower--the trends in labor force--look at productivity per man, look at the trends in the length of the work week, and put these things together to get a total Product and a total Income for a given period. Such a process was carried through by the Twentieth Century Fund and a number of others.

You might be interested, incidentally, in looking at that Twentieth Century Fund report. It is called America's Needs and Resources. It is written in nontechnical language and is quite readable. It contains a good many interesting details and, incidentally, includes a few well-chosen graphs on the relationships between normal National Income and Product and the Income and Product that would be possible in an all-out war effort.

Now, I think the dangers in forecasting are sufficiently indicated by considering some non-measurable factors as (1) variations in public policy and of the forces determining trends in long-term relationships and (2) of incomplete and unreliable data. Public policy may change without notice and business confidence, business attitudes, may change without notice. Those things are not particularly important for your purposes. Forces determining trends and long-term relationships are also changing and you will have to watch this carefully.

IV. CONCLUSION

In summary, I could say that one of your chief uses for National Income and Product statistics is as a protection to yourself against getting lost in the millions of statistics about specific industries and specific commodities that have to be considered in connection with a potential war effort. The National Income and Product framework protects you from getting lost because all of those statistics will fit into this framework. You can always go back to your National Product breakdown of products if the economy needs it. "Steel output fits in here. The needs of the steel industry for resources fit in here in the National Income pattern," and so on.

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Second, the figures enable you to summarize, as Colin Clark did yesterday, the results of all of our long and complicated analyses.

Finally, they enable you to check your conclusions. They protect you against the risk, for example, of having planned to divert labor and capital from the service industries to manufacturing and also having planned to divert the same labor and capital from the service industries to transportation. Any error such as that will show up elsewhere, and firm in the National Income and Product summaries.

However, these figures are not a substitute for analyses of the extent of industrialization of this and other countries, and of institutional factors. One of the latter was touched on by Mr. Clark yesterday when he referred to the Russian habit of making mistakes: such a habit would be an institutional factor.

With this I think I have about covered the outline. I prepared it with the thought that you might be spared a good deal of note-taking, and I have tried this morning to give the outline enough flesh so that you will not be able to look at a point that strikes you as being of interest and know just what point refers to and why. As to points to which I failed to give sufficient coverage, I will be glad to go back to those if anyone cares to raise a question.

MR. HASSELMAN: I would like to lead off with a question.

Not so long ago I came across an analysis of magazine articles written in some of the scholarly publications in the Soviet Union and I found that they are making studies there on the National Income of the United States and the United Kingdom. Would you give us your opinion as to why they should be so interested in our National Income?

MR. SPRINGS: It would be nice to suppose that they are going to try to profit by our example in attempting to raise their scale of living. I hope that that is all they are interested in. Of course, among these people will be economists who are interested in our National Income for exactly the same reasons that we are interested in it, from the standpoint of economic potential.

MR. HASSELMAN: Pursuing that question, I would like to ask you if you know of any private research organization or private individuals that are making a study of the National Income of the Soviet Union. To my knowledge, the only study that has been made to date of any consequence was made by a government organization here in Washington, and they immediately stamped it "Confidential" and made it impossible even to find out who did the study or to give other people a chance to contribute to it.

REFUGEE

MR. OSBORNE: I wish I could say that I know just where you could get the figures. Mr. Clark mentioned yesterday, you will recall, that he knew of no reliable or satisfactory Russian figures for any year later than 1936. If anyone is interested in figures going that far back, they can be obtained either from his own report, "A Critique of Russian Statistics," or from a article in "Studies in Income and Wealth," Volume 3, by Paul Studecki. That probably would be a starting point. So far as current statistics is concerned, I am sorry to say that I do not know of any institution which would be able to supply you with current figures.

A forthcoming issue of the Harvard "Review of Economic Statistics" will contain a report by a group of economists who have been studying the available data, and this should be most helpful.

DR. HUNTER: Mr. Osborne, you called attention to the importance of taking into consideration in your analysis of National Income figures certain institutional factors. Now, in the studies of National Income figures and projecting them into the future, especially comparative studies, how much of an attempt is made to project institutional trends?

MR. OSBORNE: Institutional trends are at the very base of our forecasts. In fact, if there is no stability of institutional factors, for casting would be utterly impossible. What you do essentially is to say that your institutions are developing slowly in this or that direction. Assuming that they continue to do so, what is likely to be the extent of your basic resources, such as man-hours available for work? What is likely to be the pattern of consumer expenditures? Given those things, what is likely to be the extent and pattern of business investment and fixed capital? What is likely to be the level of imports and exports, and so on. Forecasting is based, you might say, primarily on these institutional factors.

Now, in international comparisons, they are not a help; they are a hindrance, because you have to say, "If I ever set down in the middle of Australia or wherever, how much of an income would I have to have to be as well off as I am here in Washington with my present income?" That question is affected by a great many institutional factors--such obvious ones as free government services and consumer performers, and many others less obvious.

All those things have to be considered. For your purposes, you will want to consider them in this general way: You say, "Our way of life is a good deal like the English way of life. Therefore, probably we can compare our figures with the English figures without giving too much thought to institutional factors." But when you

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compare us with the Chinese or the Russians, you will want to thought of institutional differences not over to be very far from your ends.

QUESTION: Mr. Osborne, in deriving figures on National Income and National Product, in what way are the wholesalers treated to prevent it duplications? Where do they fit into the picture?

MR. OSBORNE: As you know, the economy of the United States or any other country operates as a sort of flow of goods and money. The Government says "money to me, I pay it to my landlord, the landlord pays it to the point wholesaler, and so on. Possibly the point wholesaler pays it to the government and the Government says it back to me. The problem in National Income and National Product research is to select a suitable point inside that flow and then measure what goes past the point.

In the National Income nothing is counted twice because we measure the flow of earnings at the point where they accrue to the individual earner. The flow of earnings is carefully separated from the flow of gifts and other "transfer payments," and only the former is measured for National Income purposes.

The total value of sales transactions in the United States in a given year comes to several times the gross National Product because in a given year the volume of transactions relating, for example, to a pair of shoes, is likely to include the purchase of the shoes by the wholesaler from the manufacturer, the mark-up by the retailer from the wholesaler, and the purchase from the retailer. Those things go into the National Product only once. The point at which we measure this flow is the point at which the goods are acquired by their consumer or their final holder for the accounting period.

The pack of cigarettes isn't illustrated the National Product once before is included in the National Product at the point where I buy it--as a purchase by me. Manufacturers' orders, inventories or wholesalers' ending inventories are included at the point where the manufacturer makes or the wholesaler buys them. Services purchased by Government are included at the point where the Govt buys them, and so on.

So far, you have still left the door open to the risk of duplication. The first holder of inventories for one period may sell his goods to someone else who will be their consumer or final holder in the next period. If so, the same goods will be counted for a second time in the second period. To take care of this danger, we keep an eye on final holders who are likely to resell their holdings. Specifically, in calculating National Product for any period we subtract inventories at the start of the period from inventories at the end. This subtraction automatically cancels the net statistical effect of the sale or

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recording of the goods held at the start of the period. And it is logical, too, because such goods are produced in a previous period and so do not a long in the current period's National Product.

QUESTION: It is my impression that the submission of these reports is still a voluntary matter. How do you cope with the reluctance of the company that doesn't like to disclose information lest you in turn pass it on to its competitor?

MR. OSBURN: The National Income research organizations in most countries utilize all available data, and much of the work is based upon required reporting--in the Census enumeration, for data, too. The only statistics that we gathered ourselves for this whole report, with its 54 tables and 1600-odd statistical series, were some questionnaire studies of professional incomes.

This is the sort of basis on which the National Income and Product figures are founded. In the first place, there is the social security system. Every employer who falls under social security, either in the regular federal system or your own Armed Forces system or the railroad system or any other system, reports to the system how much money he paid to his employees. And that we get pretty accurate figures on total salaries and wages in the United States--salaries and wages are about 70 percent of the National Income.

Ten or fifteen percent more is made up of property income distributed by corporations. Corporations report to the income tax people every year how much they took in and what they did with it. The income tax people insist on that, so they will know that the corporations are not kidding them about their net income. The income tax people make the aggregate figures available to us, so we know with a small margin of error, probably, just what corporate profits amounted to in any year, what corporate interest payments amounted to, and so on.

Then, for farmers, we have census material every five years, and the Department of Agriculture is constantly doing field studies based on sample cooperators to keep those census figures up to date practically from month to month. We know more about what is going on economically in agriculture in the United States than any other country in the world knows or has ever known about its agricultural situation. Agriculture accounts for a large part of the unincorporated sector of private business. Most of the rest is covered by the census of Trade and Service, and by short-term reports collected by the Department of Commerce.

On the National Product side, the estimates are made partly on the basis of reports from purchasers and partly on the basis of production records. For what the Government buys, we have the Government

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figures, of course. For what industry does by way of capital investment, we have census figures of production of capital goods.

I think it was the census figures to which the question particularly referred. The census figures give reliable benchmarks. Sampling is voluntary in many, or most, of the current surveys, but extensive cooperation is the rule, and statisticians have developed very highly involved and automatic ways of making adjustments, so that they can estimate aggregates from these sample results. So far as the National Income and Product figures are concerned, that is not now a serious problem.

When our Latin American trustees go back to Brazil and Colombia, they are going to find a real problem because their people are not conscious of the importance of statistics as our people are. Just as to our country, we don't worry too much about that in connection with these figures.

As to the figures showing how many people get income last year of under \$1,500 and how many people got an amount of \$1,500 to \$2,000 and that is happening in the lower income class, and so on, we have obvious statistical problems. The data for the higher income classes are usually quite nice pieces; and down at the bottom we can't rely too heavily on the data either because at that end many people just don't know. That is why you can say all these statistics on National Income and Product with all sorts of breakdowns by industry, commodity, and so forth, but methods of securing an up-to-date estimate of how many people get income in this income bracket and how many people get income in some other income bracket have not yet been developed.

Mr. EASTLAKE: I want to thank you very much, Mr. Osborne. What you have presented I am sure will be of great help in our studies.

(3 November 1947--450)S.