

RESTRICTED

631

WHAT DOES "ESSENTIAL CIVILIAN" MEAN TO ECONOMIC INTELLIGENCE?

22 January 1948

L48-75

CONTENTS

	<u>Page</u>
SPEAKER--Dr. George S. Pottce, member of the staff of the Committee on Foreign Affairs, U.S. House of Representatives	1
GENERAL DISCUSSION	13

Publication Number I48-75

THE INDUSTRIAL COLLEGE OF THE ARMED FORCES

WASHINGTON, D. C.

RESTRICTED

WHAT DOES "ESSENTIAL CIVILIAN" MEAN IN ECONOMIC INTELLIGENCE?

22 January 1948

DR. REICHELBY: Gentlemen, in presenting Dr. George Pettee this morning I am really reintroducing an old friend of this organization. Dr. Pettee has long been interested in the work of the Industrial College, and we have benefited on numerous occasions in the past from his broad knowledge. I also feel perfectly safe in saying that I know of no man better qualified to speak on the subject of economic intelligence than Dr. Pettee. He was called from Harvard University at the beginning of World War II to come to Washington, where he served principally with the Foreign Economic Administration as Chief of the European Enemy Division. In this capacity he analyzed the economies of Germany and the occupied countries. With the knowledge gained during that period, he came out with a book called "The Future of American Secret Intelligence," which was published in the fall of 1946. I commend that book to your attention.

Dr. Pettee is now associated with the staff of the Foreign Affairs Committee of the House of Representatives. In that capacity he made a very extensive and intensive tour last fall of most of the countries of Europe. I am sure that in today's talk he will add some pertinent observations on the European situation. I take great pleasure in introducing Dr. Pettee this morning, who will speak on "What Does 'Essential Civilian' Mean to Economic Intelligence?"

DR. PETTEE: Gentlemen, I have not come here to give you any information at all; nor have I come down here to ask you to give me any information. But I am going to ask some questions. The questions that I can't answer this morning maybe you could answer if you had the opportunity. I don't think you can answer all of them this morning--you can judge that after you have heard them--but I think they are questions that somebody has to answer. I will come to the questions later.

What I mean to try to lay out first is simply the frame of reference, what you have to think about when you think. What does that fine term "essential civilian" mean in calculating the tasks of a war economy operation on your own side? What does it mean for your own economic intelligence in estimating the scope and scale of war as a necessary ingredient in your own calculations?

It means several different things. It is a relative term. There isn't any constant meaning, I think, for the term "essential civilian." It means one thing in a winning war. There we have our own experience. Notice this about our own experience: It is not very definitive. Could

RESTRICTED

we have cut the civilian side considerably more than we did? Could we have won the war without cutting it as much as we did? We don't exactly know the answers to those questions. We know that we were able to win that war on exactly that amount of squeeze, but we have no idea how close the tolerance was.

There is another aspect of it. For a losing war what is the essential civilian? There we have a much more definite historical experience to go on--the German case. It is very doubtful if what was essential civilian in Germany could have been cut any more than it was by any possible means before the end of the war. I don't think there was any way to cut the essential civilian any closer to the bone without finishing the war in the process. So I will say that that is a more precise indication of how far we can go on the losing side of a war.

Now, I introduce these two wartime concepts of essential civilian because there is quite a disparity between them. With the disparity between them there is also a disparity of economic potential that can be mobilized on the two sides. Out of that disparity there arises a rather wide level at which we could have a drawn war, because the apparently losing side can draw on a greater reservoir of convertible civilian economy thanks to the morale factors and so on that enter into the picture.

There are also several concepts, I think, of what is essential civilian in peace, with a view to any possible future war or to the maintenance of national power in even a perpetual peace. First, the most immediate of these is the idea of what is essential civilian in the sense of what is a necessary allowance for what we call the prevention of disease and unrest in occupied countries. There is some kind of concept of essential civilian involved there. What is essential to prevent disease and unrest?

There is a second concept that arises in connection with our old friends, some of whom are still our friends, who think they want things. When the Greeks say they must have so much flour, when the Austrians say they must also have it, when the French and Italians say they must have food, fuel, fertilizer, and so on, how do we test that?

Third, there is the Marshall Plan concept or the European Recovery concept, which, I think, if you scan the arguments closely, is substantially what is essential to the survival of free society. Now, that means free society under stress and pressure, the weaker free societies.

There is a fourth concept and that is what is essential to our own progress, equilibrium, stability (political and social), and our future strength in this country; so that if war were to come in ten years, twenty years, thirty years, or forty years, things would have been going on in our civilian economy that would leave us relatively as strong for any given date. There are certain essentials involved in that picture.

RESTRICTED

RESTRICTED

633

Now, in discussing some of these concepts further I want to talk first about the losing side in a war, because we know most about it, because the available data there are the most precise. I want to talk second about what is essential in peace, because we have it in a sense as an immediate problem, strategically, or from the humanitarian point of view, or any other. The arguments for the Marshall Plan include strategic arguments, humanitarian arguments, and every other kind of argument. So we have it right on our desks at this moment. I want to talk last about the problem of what is essential from the point of view of being the winning side in an unpredictable war, because it has the least immediate urgency and because the solution can profit to some extent from the evidence available in the other two cases.

Let us consider the evidence of what is essential civilian on the losing side of a war. Obviously it lacks one element of a good problem. A good problem is how to win a war, not how to lose one. But in the problem of how far down you can squeeze the civilian side for the sake of the military side there is no better evidence than how far the Germans were able to do it.

There lies a lesson which I think is one of the prime war lessons for economic intelligence, for strategic intelligence, for economists generally, and for political scientists generally. How can a lesson be so general? I would say, for the simple reason that it is basically a philosophical or metaphysical lesson. I emphasize that word "metaphysical" because metaphysics means understanding the nature of knowledge itself, so you can keep strongly in your mind the difference between what you know and what you don't know, so you can calculate from what you know and not kid yourself about what you don't know. I mean this: I think the German war economy is one of the marvelous mines, of pure gold, from the point of view of learning to tell the difference between knowledge and ignorance.

From 1939 to 1945 there was a fairly constant interpretation of the situation in Germany. It changed only in certain superficial ingredients. "The Germans reached the peak last year" remained true of our interpretations throughout that period. "They are going down now" also remained true of our interpretations throughout that period. We believed the doctrine that "They are on a cannon instead of a butter economy" as soon as we heard it back in 1937 or 1938; and we believed, therefore, that they were at their peak. They were totalitarian. You can't be any more total than total. If you are total, you can't go up. If there is any change, it must be down. That is the way we went on thinking.

As a matter of fact, after Pearl Harbor, that is, after the beginning of 1942, when the war was half over in terms of general history, German munitions production on their index tripled. Now, you are not up against the ceiling before you triple your munitions production.

RESTRICTED

RESTRICTED

How do I know that we believed those things? I can remember it. You can remember it. I will give you a couple of short quotations. Here is one from Litvinov, the Soviet Ambassador here in Washington on 13 December 1941, just after the Germans were stopped short of Moscow, just after Pearl Harbor: "Germany's war machine as it now appears considerably surpasses the highest estimates in the number of airplanes, tanks, and other deadly weapons."

There you have one of those so-called corrections which make people think they have corrected a previous impression in the light of new knowledge. Germany's equipment in 1941 had been higher than expectations, but in 1942 the estimate had been adjusted and it was all right. But, if there were clear thinking, that kind of correction would reflect a new, straightway of thinking about German war production. If you examined that statement, you would think, "Okay, we were a little bit off the ball, but now we are on the ball," would you not?

Here is a statement from nearly the same period, February 1942, two months after the other--no substantial time difference: "Germany, Italy, and Japan are very close to their maximum output in planes, guns, tanks, and ships." Franklin Roosevelt made that statement. I submit that, with all due regard for the supposed hypocrisy of politicians, politicians don't consciously stick their necks out on things that are going to prove gross errors. It is not good politics to make a fool of yourself in any kind of political system, and it is not good politics to make statements that are going to look bad later. It was a sincere statement. That is all I mean to imply.

Now, what happened in that regard? Planes, guns, tanks, and ships are the things he mentioned. He said that Germany, Italy, and Japan were very close to their maximum output. They couldn't go more than a little bit higher, if at all. Well, the Germans based their munitions index on that same period, January-February, 1942; so it is very convenient. That stands as 100 on their index. On that same index, from the base in January-February 1942, when Roosevelt made that statement, their peak production for planes reached 323, their guns 408, their tanks 598, and their naval ships 353, all in the year 1944. His average error as a percentage of his guess was about 500 percent, in other words. That reflects the error of everybody else down the line, of course. He was saying that on advice. There was nobody down the line giving right advice with enough force to crack the ice at any rate against that kind of estimate.

Well, now, what does that all suggest? I claim that it shows that Germany up to the time of Pearl Harbor had, as the strategic bombing survey puts it, a cannon and butter war economy; that our scales simply were not sensitive enough to weigh variations of less than 100 percent one way or the other in such factors as what is essential civilian and what is potential munitions production in an economy.

RESTRICTED

RESTRICTED

634

There are various cross tangents that you can draw from this. The British area bombing is one example. They thought in 1940 that a country could be knocked out by bombing housing; so they bombed German housing until they reached the limit, until they ran out of targets. So far as they were concerned, near the end of the war they would have had to think up a new concept of air warfare because there weren't any more German cities to bomb. In the meantime Germany had been tripling munitions production; remember that. Not only did the Germans take munitions out of their civilian economy, but the British simultaneously took housing out of their economy, and it didn't affect their production visibly.

My simple conclusion from all that is no more than this: At the end of the war there was some thinking still to be done on that problem. I think that is as true today as it was two years ago.

Let us turn now to essential civilian for peace and consider, first, disease and unrest in occupied areas. One nice thing about it, there is no serious intelligence problem, in the sense of an inevitable problem. How to get the information is simple if you can get your budget. If you want to know whether Germans are thin or fat in Germany today, you can go out and weigh five thousand of them and see what they weigh. You can determine things like that very closely by the same kind of techniques you use at home in wartime. It is not a problem of our intelligence against enemy counter-intelligence, in other words. It is intelligence, of course, such as you practice at home in wartime. You get the data by ordinary research methods to determine whether they are too hungry or too cold. You know their disease rate, not by their accidental publications, but by counting the cases yourself if you want to, and so on.

For the moment, then, it is an easy problem to get the data and calculate how much Germany does need. There are difficulties in estimating just how much the Germans outside the cities need. We know very accurately what the normal consumer gets in Germany; but, we don't know with any accuracy what the relation is between what the normal consumer gets on paper and the real German farmer sitting at home and eating the pigs, cattle, and sheep that disappeared from the German economy, according to last night's paper, in the last year or two out in the country. We don't know just how much of the crops get into the black market out in the country. But we can, by weighing Germans in cities and towns, get a cold end result that gives us something to go on. That is, after they have eaten those things, if they did eat them if they are all losing weight, we know they are all losing weight.

Now, for our former allies or other countries that say they need our help, we have had constant experience with them as a national problem, of course, since the war. There was UNRRA. There was the thing we call

RESTRICTED

RESTRICTED

Public 84, that is, the law for aid to war-devastated countries, 332 million dollars that was passed last May. Then there was the interim aid law, for which Congress was called into special session in November, and which went through about the middle of December. What is the kind of logic that applies to those things? There is, of course, some kind of idea there of what is essential.

Now, how do we check up on the meaning of "essential" and whether the cases are bona fide cases in such instances? The primary data come in statistical packages, of course. You get the picture that the French normally produce, say, five million tons of wheat; but that this year, because of the drought, only three million were produced. She normally exports enough things to pay for importing one million tons. Her requirements are six; she produced only three this year; so she must import three. Her balance of payments doesn't permit her to pay for three, only for one, so we have to give her two. That is a skeleton of how we figure.

How do we know whether any part of that is accurate? Well, in the first place, crop reports are pretty good. Agricultural economists have in the last fifty years or so developed very substantial experience. Our own crop reporting, you know, is very accurate. Our estimating of French crops is by no means so accurate as our estimating of our own crops. The French estimates of French crops are by no means so accurate either. Statistical reporting at its base level, where important errors enter, is by no means on a good basis in some of those countries, because since the war the societies have not shaken down the percentage of black marketers that existed under the Nazis before they were driven out. Disrespect for law and authority has stayed there. You can't count on some things there too much.

There are some things that you can count on. You can get an accurate impression of what the weather was. If they say, "We had a drought," you can certainly check on that and find that they had a drought. There are the weather reports simply in terms in inches of rain.

Then there are little incidents like the rocks that showed in the Danube this year for the first time in three hundred years. There is the closing of the Rhine to any navigation because the water was so low. Anybody who knows what a drought looks like in this country and was in Germany in September knows that they were having a drought.

I can remember one little incident, of somebody coming home to visit an American family between Frankfurt and Weisbaden and who asked, "Didn't they raise any sugar beets here this year?" It was the harvest season and there were trucks full of sugar beets all along the highway everywhere you went. Yet this person was asking, "Didn't they raise any sugar beets this year?" I pointed to a truck loaded with them and said, "Those aren't

RESTRICTED

RESTRICTED

parsnips; those are sugar beets." This person said, "For heaven's sake. Last year they were this big (four or five inches)." This year they were only two and a half to three and a half inches. An incident like that has a certain conviction about it. It isn't so basic for a national policy, and I don't mean it is; but that kind of thing makes you believe a few statistics when you see them.

Now, in terms of personal detail, confirmed by statistics, I would say that anybody who was in Britain last year would know there was austerity in Britain. You certainly would know it better now than you would have in September, because they cut down on the gas ration in the fall. There are not half so many taxis around London now as there were last summer, nor half so many private cars.

In France the black market rises up and hits you in the face at every turn. It begins when you change some dollars into francs at 119, and then you pay \$2.75 for ham and eggs for breakfast, and pro rata for everything else. It goes on until somebody comes up to you in the Rue de la Paix and says, "Do you want some postcards?" "No." "What do you want? Want to change some money?" "What is the rate?" "250." Not 119. That will hit you on any corner.

The black market is inflation at its bad level. It is inflation at a level where it begins to eat the guts out of a society. It is on a level where an honest man begins to go broke and becomes a damn fool for being an honest, hard worker. Every skunk in the country gets the rewards and every straight fellow in the country takes a licking. When you get a system working that way, the country is going to the dogs fast politically.

Now, in Germany the situation hits you as it doesn't in any other country, I think. Just the ruins, of course, impress everybody who sees them for the first time. I think the Germans impress everybody who sees them for the first time. I remember in Munich going down to the railway station and just standing there for a couple of hours with a Congressman and an American newspaperman, who had suggested that we do that. There was one thing that clinched everything in the mind of the Congressman I was with. I remember a woman, reasonably well dressed, a fairly decent-looking person, hurrying by to catch a train, with the usual heavy bags of some kind in each hand, a big, rather nice handbag in one hand, not quite closed, with the charred end of a piece of wood sticking out of it. She had seen an unburned stick of wood in the ashes of a fire, and that was good enough for her to pick up and take home. That is Germany in one piece. I would just say that the statistics and any amount of impression you get simply tend to confirm that. If you take that as symbolic of Germany, I don't think you would go wrong.

RESTRICTED

RESTRICTED

That kind of thing is backed up by one more piece of evidence. There are tactics of cold warfare that are applied by one country against another through external means. When Russia doubles the price of oil to the Austrian Government out of Austrian oil wells, that is external means. The Russians do that from outside Austria. When they cut down your imports from their territory, they are doing it from outside. When they propagandize over their radio stations, it is from outside. But when you can conduct cold warfare within a country through the resources that are in that country, use the Communist Party in France or Italy, use every other kind of thing within the country you are working on, there is a bad situation.

Now, I would say if you check the weather reports, the crop statistics, the look of the people, every kind of personal detail, with finally the fact that cold warfare can be practiced simply by using the weapons that are there, I think those things confirm one another and I think they clinch the case. There is something that is essential to a healthy civilian economy which is lacking in those countries. The evidence doesn't settle what that thing is or what those things are, but it settles the case that something is lacking.

Now, to turn to the European recovery program and the kind of argument it stands on: I have been puzzled in recent weeks, having been sitting at my desk busy with various things, waiting for the Marshall Plan to get straightened out, hoping somebody would simplify it before it became my urgent business, and then finally taking the documents as presented and trying to find in them the real argument for the Marshall Plan. I would say that the real argument is substantially this: We ought to aid Europe because of essential strategic interests of the United States. It is going to cost us a great deal more, probably, as near as we can estimate, if we don't get Europe on her feet. We must do that because it is to our strategic interest that there be peace. It is essential to peace that the free societies that exist now survive, and that some of the people who are not exactly what you would call free societies become such. In order to do so, some of them must have a higher standard of living than they have now. They must have currency stabilization. They must have the kind of economic justice that goes with it, that is, the opposite of bad inflation, of bad black market conditions. They must get more production. They must keep full employment. They must break this paradox of full employment and low production that they are wallowing in now. In order to get more production, to get going, to prime the pump, they need not just dollars, not just a pat on the back, but certain essential minimum quantities of some foods to power the human energies, and certain materials and equipment. That, I think, is a summary sketch of the logic behind the Marshall Plan.

RESTRICTED

Now, on that I would say, you notice this "essential civilian" does not mean a particular level. I don't think you can say there is a standard of living that France must attain in order to be on the safe side or a standard of living in any other country. The standard of living of those countries varies very widely. It is much higher in France than in Italy, higher in England than in France, far higher in Belgium than in some other places, and so on. I would say there that "essential civilian" means essentially just this: a certain slope. They must get away from the level at which they are now and work toward a fairly decent level, at a reasonable rate of speed.

In the Marshall Plan the level that they are to attain has been set, according to the CEBC goals, or according to our goals, which are substantially the same; at something close to the 1938 standard of living by 1952. It is really substantially higher than the 1938 production level, because they must produce more to pay for their imports now that they have lost their old invisible external assets. They have to surpass the 1938 production in order to get up to their 1938 consumption.

Now, that is not a very inspiring goal. You can take it as one of the measures of where they really are now, that it will take four years of hard work to get up to where they were in 1938. Try to imagine what that would be like in this country. Imagine that to get to the long side of the 1938 level it should take us four years of hard work.

Well, for the moment we don't have to figure what "essential civilian" means in Europe beyond four years, because four years are long enough for a working program, the Lord knows. But for those four years "essential civilian" in Europe can be taken as defined here. I think it means getting back to the 1938 level.

For our own economy I have simply some questions. First, are sixty million jobs on the present level of national income a static standard? If we can keep it up to that for ten years, are we doing all right?

Second, how much of a depression can we take? Assuming that we can't cut recessions to zero, that we can't eliminate all the wiggles that have occurred, how much of a depression can we take? We know what we took last time and we know how much political reaction we got out of it. I don't mean reaction in the right wing reactionary sense; I mean in the scientific sort of sense--reactionary impact.

Third, at what rate must national income go up to be relatively continuingly satisfactory if we are not to take a static standard? What must our national income be in ten years or in twenty years, assuming that our political, social, and economic equilibrium is just as good then as it is now?

RESTRICTED

RESTRICTED

Now, toward these questions, we know that in 1930 to 1939 we took a loss of about three hundred billions in the production which we did not produce that we could have produced, drawing a line between the 1929 and the 1941 prosperity standards and measuring the volume of cavity between them. We know we can tolerate that and come out strong enough to win a thing like World War II. How far can you transpose that kind of experience? How far is it analogous to anything you are going to face again? Is the tolerance of depression constant or does it vary historically? I think history does not suggest that it is constant. We took the depressions in 1907 and 1893 in a very different spirit from the spirit in which we took the one in 1932, I would say.

One kind of summary that I want to present, that may clarify some of this a little, is simply to state the variables that enter the picture, the variables that enter into the concept of essential civilian.

First, the portion of gross national product that is assignable to war will vary in certain respects by countries. This fraction assignable to war is far greater in advanced countries than in backward countries. Take a country like China. The Chinese gross national product is rather great. There are four hundred million of them there, and probably two hundred and fifty million of them are working hard on the land. They do produce enough to eat. The GNP reflects that, and it is a rather large GNP simply because it has such a big population producing it. But only a tiny fraction, five or ten percent, of the energy of China is assignable to war, where for the most advanced countries it runs as high as something around half; maybe higher than that.

Now, the fraction assignable to war does not vary directly with anything like gross national product per capita, because it changes most rapidly in the middle ranges, I would say. You get a country pretty well mechanized as against a very backward country, and the fraction jumps from ten percent to, say, forty percent. If you mechanize as much as to double the GNP per capita, you don't double the fraction of the GNP available for war. It got up to, say, 40 percent for a country like Germany, and it was not much higher for a country like ours. Germany, of course, squeezing harder, exceeded us probably in the fraction of gross national product assigned to war as against the fraction assigned to civilian.

The age of an increment of capital equipment makes a difference. If you introduce some new capital equipment, as Russia did under her Five-Year Plan, or as we did throughout the period since the Civil War, how old will it be when another war comes? That makes a big difference, because the essentiality of civilian use of that capital equipment, the civilian dependence on that capital equipment, grows rapidly. The big power plants that were most available for war use in this country were the newest ones. Notice that. Now, to some extent we were able to cream off some

RESTRICTED

RESTRICTED

(37)

power in places like Brooklyn Edison and New York Edison, where there was big capacity; but where a power plant had been there a long time and the population had learned to use electric lights, electric irons, electric percolators, and so forth, the power had become essential civilian and was not transferable. That is a factor of age in the installation.

There is a factor of age on the civilian durable side, too. How long is it since we have had ten million automobiles in this country? It makes a big difference. In 1930 we had almost as many automobiles as or more than we had in 1940, but in the interval cities had gone on growing the way cities grow when there are lots of automobiles. Commuting in automobiles had become reflected in the structure of cities, and in the relation between where people live or sleep and where they work. To keep all the automobiles in America rolling was far more essential after 1940 than it would have been ten years earlier. Certainly it was infinitely more so than it would have been twenty years earlier.

The condition of an economy for a year or two preceding a war will make a big difference in what will be the essential civilian share of national income or national product during a war. A nice little boom just before a war is a wonderful thing for war production, because it leaves civilian inventories, civilian equipment, in good shape. One interesting little light that was thrown by the strategic bombing survey in Germany is that the German civilian wardrobe was at its all-time high in 1939. We in our intelligence agencies were writing lamentable reports during the war about the poor Germans freezing because they didn't have any clothes, because we didn't know that they started the war better equipped with ordinary clothes than they had ever been equipped with before. That is a great asset. It puts fat on an economy that you can take off during a war. The amount of fat that you can burn off a civilian economy during a war is the measure of how much more civilian sacrifice you can take on any year's national product level.

Now, another variable is that countries vary simply in terms of their own past experience. They won't take depressions exactly the same. They won't take civilian sacrifices exactly the same. The British will react to civilian sacrifices one way, the French another. You can evoke pride in it one country when you evoke only irritation in another within a certain degree.

Also the requirement of what is essential to preserve democracy in a country is not the same thing as the requirement that is essential for democracy to be created in a country where it has not existed. What is essential to keep French society healthy in the next four years is one thing that we may be able to measure. What is essential so that Germany may conceivably become a democratic society or part of a democratic society in any predictable future is another one, that is not answered by answering the first.

RESTRICTED

RESTRICTED

Now, I have six little problems to leave with you. First, economic stabilization is essential for the preservation of our political system and its strength. But what is economic stabilization and how do you get it? If you know how to get it, how do you sell it politically? Mr. Baruch and others get paid for coming down here to tell you things. If you figure that one out, I am sure he will pay you.

Second, the next is the timing. The last time we had a war we did a neat job. We fattened up the civilian inventories with a boom for a year or two; then we converted; and then we armed. Now, there was a stupendous achievement. It was a really marvelous thing. Take your hats off to it. Napoleon never thought of one like that.

It would be nice to do that again. All you have to do is fix the date of M-day and start about two or three years earlier, date back your conversion period and your civilian fattening period, then set a date to start fattening the civilian. If you are not on a boom, you have to get on a boom at that time. Figure that one out. That is the way to fight a war properly.

Third, how to make essentials less vulnerable. Flour milling is a civilian essential, dairies are civilian essentials, and so on. I am not sure there shouldn't be considerable dispersion of some of these civilian essentials simply from the point of view of making the essentials as invulnerable as possible, so that no enemy by chopping a hunk out of them can force you into compulsory refilling out of your wartime economic resources.

Fourth, we talk a lot about stockpiling materials. I wonder if we couldn't think about stockpiling war labor. Suppose you put down copper and brass. Come a war, if you have a war, you have to put that through your furnaces, make brass, bronze, and so on, out of it. You have to put it through your refineries and make electrolytic out of it; then roll it into plates, extrude it into tubes and rods, and so on. Why not have all stock piles in the most processed form that will permit undetermined end use? If you are sure you are going to need a lot of copper tubing, put the copper in your stock pile through as far as the tubing stage. If you are sure you are going to need certain kinds of aluminum sheets, you can stockpile them. Use that as a public works kind of operation for economic stabilization. In times of depression plow labor into your stock piles against war and save billions of man hours in war labor when the pinch comes. I think it is worth examining.

Finally, given a war, how much sacrifice can we demand at home? Here I would say intelligence has to play a very key role, in the first place, in determining enemy war potential; then in determining our own level of what is really essential civilian, that is, how much war potential we must really mobilize to win; and thereby determining the best

RESTRICTED

allocation of resources with regard to what it takes to beat the enemy and with respect to what it takes to maintain a strong society in our own country.

In that respect I have a derogatory comment on the brilliance with which we won the late war. We won it hands down. We haven't quite figured out how we did it. Now, if we can win a war with errors of 200 percent of our guess on what the enemy's munitions potential is, we are not winning it on precise calculations. I am not sure the next war, if there ever is one, will permit any such crudeness of calculations on some of the fundamental factors. We may have to get much more serious about how far we can squeeze the essential civilian economy. And, if we have to get more serious about it, we will have to get colder dope on what the gross magnitude or the scale of the war is, how far we have to go and how hard we have to go to win, and whether we can.

These are the problems I brought down to leave with you. I hope they won't bother you too much.

COLONEL McCULLOCH: In the coming studies at the College, particularly in the Production, Manpower, and Organization and Administrative units, I know that all of you are going to have many occasions to wish that you could quiz Dr. Pettee on some of the problems with which you will be confronted. We have a few minutes this morning for you to anticipate some of the problems to which you are going to want to know the answers. He has willingly submitted himself to you for any questions you want to fire at him. Perhaps you also have some questions left over from Mr. Herter's very fine address last night on the Marshall Plan that you might like to ask Dr. Pettee this morning.

QUESTION: General Marshall, when he presented his ERP, laid down the sum of money that was wanted for that in absolute terms, and said Congress should not go below that. How was he able to specify such a fixed sum? It seems to me there must have been some kind of economic intelligence behind that.

DR. PETTEE: There certainly was. On the other hand, there has been a slight misunderstanding as to just what he said when he came out with what was called the "all or nothing" doctrine in the hearings before the Senate Committee. That issue has been picked up. General Marshall explained himself somewhat more fully later to the questioning by Senator George on the second day he was up there. The same issue has been brought up in other ways by other witnesses before both the Senate Committee and the House Committee.

RESTRICTED

The basic argument is not that 6.8 billion is the exactly right figure and it must not be 6.7. General Marshall did clarify that. He said he was not sure that 6.8 was the exactly right figure. He was sure there was a real minimum where, if you went below that, you would accomplish no good. That is why I emphasized the point that I tried to bring out.

I think the survival of free societies is the thing that sets the real minimum. It is also, I think, a minimum about which precision of calculation is just plain impossible. Therefore, as General Marshall, Mr. Douglass, and the other witnesses maintained, there are great risks attached, great uncertainties, great unknown factors, and we can't be sure; but as a calculated risk, all those who favor the thing have made up their minds that we had better do it than not do it. Most of them do back up the concept that there is a minimum.

Now, the Administration decided that that minimum is 6.8 billion. The evidence that is available is about six inches, I think. It is basically balance of payments evidence, backed up by such arguments as these: You know they need coal. Why can't they pay for the coal they need? They can't pay for it because the aggregate of what they must have over the next four and a quarter years or so is something like 55 billion dollars worth of imports from the Western Hemisphere. Their aggregate of foreign exchange resources to pay for it is something like 40 billion dollars. Therefore somebody must give them 15 or 20 billion, something in that range, for four and a quarter years. You know, as late as the time General Marshall submitted the bill to Congress, he still wanted to say "17 billion for four and a quarter years," and under Senator Vandenberg's protest they withdrew that figure from the projection and left it at 6.8 for the first year and a quarter, or fifteen months from, let us say, the first of April.

The 6.8 is the thing that bothers most of the Congressmen, because you can read these reports and wander through masses of balance of payments arithmetic and you keep looking for that 6.8 and you never get to it until suddenly on some page there is a rather lopsided table that comes out 6.8. Translating the 6.8, it is what Europe needs for fifteen months, minus what she can pay for, minus disease and unrest appropriations already made, minus savings in certain funds and credits previously voted and available to pay for things in these fifteen months, plus 200 million dollars to cover German debts with the rest of the world on balances of payments not yet appropriated by us in any way, and so on; and it comes out 6.82 and they round it to 6.8. Now, behind that are a thousand man-years of work, probably, in the American Government figuring out what they need in terms of items by countries.

I have a feeling that that is an evasive answer. I swear it is about as good as you can get.

RESTRICTED

QUESTION: Dr. Pettee, do you happen to know offhand the relationship between the 6.8 billion and the aggregate national incomes of the nations during that same four-and-a-half-year period?

DR. PETTEE: I am sorry. I do not.

QUESTION: In other words, is it one percent, two percent, three percent, or ten percent?

DR. PETTEE: It is nearer one percent than ten. A year and a quarter is an awkward period. I reckon the gross national product of the lot of the sixteen major nations, plus Western Germany, or call it seventeen nations, runs--to maybe 200 billion dollars a year.

QUESTION: The only reason I asked the question is because there has been a good deal of discussion of relationships or balance of payments.

DR. PETTEE: My guess is that 6.8 is around three or four percent of their gross national product for that same period. I think figures exist in the documents from which you could figure that out, but I don't think the exact answer is in the documents without some arithmetic having to be done.

QUESTION: Has there been any thought of fixing a limit on the administrative cost of the program?

DR. PETTEE: There has not yet. It is apt to come up, because it is something that some Congressman is normally likely to think about. In the course of debates on all these things it almost always does come up. I don't know any way that the thing has been approached so far, except in questions that bring out the fact that the State Department estimates it would take 500 people in this country and 400 over there in the Economic Cooperation Administration.

QUESTION: Looking back on those erroneous estimates made of German war production, could you give us the possible reasons for those mistakes, and how they could be corrected in the future? That is, did you have the proper basic information and misinterpret it, or did you lack current intelligence? Just what caused those big errors?

DR. PETTEE: One very simple way to answer that is that we knew too many things that were not so. We had the same basic weaknesses as Ph.D.'s in general. To illustrate I would refer back to what I said about our idea that they were totalitarian and that they said they were living on cannon instead of butter. By the time France fell we began to be impressed that "totalitarian" really meant something. They had raised the ante. They

RESTRICTED

RESTRICTED

were four times as strong as we thought anybody could be. That must mean that totalitarian, instead of being weaker than laissez faire, is very efficient, not inefficient. Inso factor, it is the top; it is the limit; you can't be any better than that. Because we thought that, we hoodwinked ourselves with strict concepts. They couldn't go anywhere but down from the top.

Now, we had the basic information, but I would say we had ten times as much basic information as we could analyze. The ratio was about ten to one. That means there was a problem of selection, what should be analyzed. How did we solve the problem of selection? We solved it by conventions that were stuck in our minds. Bad habits decided what grindstone we should put our noses to in examining the available data on the German economy.

One of the peculiar aspects of our own war economy was very interesting. I used to follow it very closely in the Saturday Evening Post advertisements. That was our labor efficiency in the war economy. Chrysler, I remember, was boasting about having its own centrifugal castings of cannon borings that cut the lathe time on the Bofors boring job from twelve hours to twenty minutes on anti-aircraft cannon. When you cut your lathe time from twelve hours to twenty minutes, you not only save the time of the lathe, but you save the time of a darn fine operator. There were a few other things like that. Boeing was bragging about its discovery that its layout was more efficient than that at Willow Run because the subassemblies on a thing like a big bomber did not leave the poor workman reaching sixty feet for his screw driver when he wanted one on the main assembly line.

I picked these things up and I told my people to go to the German war economy and see if they could find anything comparable. I told them to study the American war setup, our labor-production drive, with the people in the War Production Board, with anybody else in town who could give good advice on what we were doing. I told them to do that so they could get an idea of what could be done about it, get sensitized, and then to go and look for it in Germany.

They went to the microfilms and came back and said, "Why, the Germans had centrifugal castings of cannon borings two years before we did. When they redesigned their basic machine gun, they got it down so the barrel was the only machined part of it. The rest of it was forgings, stampings, and pressings. It was a better machine gun than it ever had been, and it saved a tremendous amount of labor.

When Speer took over the submarine production program in 1943 himself because, as he said, too many good production people under him knew too many things that were not so about production, although he was only a poor architect who didn't know anything about shipbuilding, he cut down the man-hours on German submarines by two thirds. When you can look for things like that and begin to find them, and when you find our own top

RESTRICTED

intelligence people saying there was a shortage of labor in German war industry so that production couldn't possibly go up, what does it mean? There were only six million people who could work in the German war industry. If you could change the efficiency of labor by as much as five hundred percent on a given job in a lot of spots, then can't production change even with a fixed amount of labor? Well, you have to look for such things. I would say all that the basic method consists of is to identify the things you know are not so and throw them out, one after another.

I once made a guess that I can point to now as closer than any temporary guess on an important subject. My method was purely that I studied everybody's guess and looked for what I knew wasn't so. I found a few things. I would reduce their argument to a sort of equation. Then I would identify the factor that didn't belong in the equation and throw it out. If you get a factor into an equation that doesn't belong in it, and somebody else can come along and recognize that you have one in there that doesn't belong in there and throw it out, he can obviously squeeze down your margin of error, can't he? I would say it is as simple as that, but it is awful hard work.

COLONEL McCULLOCH: Are there any further questions? We have a number of visitors this morning. I wonder if any of them would like to ask any questions.

Dr. Pettee, I think next year we shall want to ask you to appear before the class early and give us a lecture on analytical thinking and how to study. We shall want to keep this lecture that you have given us this morning on economic intelligence in our curriculum next year.

On behalf of the students and faculty, I want to thank you again.

(6 February 1948--450)S.

RESTRICTED