

FOUNDATIONS OF POLITICAL ECONOMY AND ECONOMIC IDEAS

Dr. Jaanus Poppe

NOTICE

This lecture has not been edited by the speaker. It has been reproduced directly from the reporter's notes for the students and faculty for reference and study purposes.

You have been granted access to this unedited transcript under the same restrictions imposed on lecture attendance, namely, no notes or extracts will be made and you will not discuss it other than in the conduct of official business.

No direct quotations are to be made either in written reports or in oral presentations based on this unedited copy.

Reviewed by: Colonel J. H. M. Smith, 21 December 1962

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

1962 - 1963

FOUNDATIONS OF POLITICAL ECONOMY AND ECONOMIC IDEAS

30 August 1962

CONTENTS

	<u>Page</u>
INTRODUCTION--Colonel John H. M. Smith, USAF, Member of the Faculty, ICAF.....	1
SPEAKER--Dr. Janus Poppe, Member of the Faculty, ICAF.....	6

NOTICE

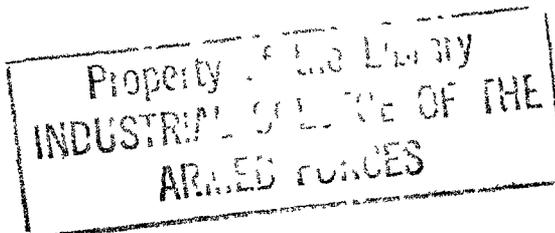
This lecture has not been edited by the speaker. It has been reproduced directly from the reporter's notes for the students and faculty for reference and study purposes.

You have been granted access to this unedited transcript under the same restrictions imposed on lecture attendance; namely, no notes or extracts will be made and you will not discuss it other than in the conduct of official business.

No direct quotations are to be made either in written reports or in oral presentations based on this unedited copy.

Reviewed by: Col. J. H. M. Smith Date: 21 Dec 1962

Reporter: Grace R. O'Toole



Publication No. L63-14

INDUSTRIAL COLLEGE OF THE ARMED FORCES

Washington 25, D. C.

FOUNDATIONS OF POLITICAL ECONOMY AND ECONOMIC IDEAS

30 August 1962

COLONEL SMITH: Gentlemen:

Before we start on our Review of Economics, Section No. 3 of Unit I, we thought it might be appropriate for a moment just to pause and look back over our shoulders to see where we have been before we take off on where we are going, and also before I have the opportunity to introduce our guest lecturer this morning from our own faculty.

Well, we have already been through the section on the U. S. Position Today and completed yesterday our Contemporary Political Thought In Government. We are on the threshold of the Economic Section. In fact, we were already introduced to it by Dr. Zurcher the other morning. He sort of opened up the door. It happens to be a Dutch door, so it is only half-opened, and our Dutchman will open the rest of it today.

Certainly, one of the things we have found out is that we don't always get full answers from our government speakers to all of our questions. We also know from Mr. Ward that there are many frontiers that are maybe even unknown to the New Frontier.

Dr. Friedrich told us that our Western heritage puts ^{us} in a frame of thinking that we should recognize and be aware of, because Dr. Karski showed us quite well that other people don't think the same way we do. We'll have our own ICAF Dr. Karski convincing us of that this morning.

So then we come to the Economic Section, which will consist of 11 lectures and 10 discussion periods. You will be familiar with the educational processes that are going on here, or the procedures, because they will be the same as we had during the Government Section--lectures followed by instruction periods. We have some good visiting instructors, professors from the local universities, who will be sitting with us during the next week and a half.

Certainly, Dr. Zurcher pointed out to us that we should understand something about economics because we don't understand many other things. Mr. Kennedy showed it to us also a couple weeks ago when he gave what I thought was a fairly representative ICAF oral presentation on the economic subject. He used the charts and I thought did fairly well. So we know that economics is important.

We found this particularly true when we tried to get some of these economics instructors this summer. We found that they were all off in Europe or in in the Government or somewhere else. We are convinced that economists are important people and, therefore, when you have finished this course you'll become amateur economists yourselves and will be in great demand by General Electric, General Motors, General Dynamics, and General McNamara.

So we will try, then, through reading, through discussions, through lectures, and through your own exchange of ideas and information, to provide a broad background on economic principles and economic problems, to give you that background essential, we feel, to a better understanding of the curriculum, a better understanding of our own national economy, as a base better to understand that of other nations.

It will also give us a common language, we'll discover this morning when Dr. Poppe talks to us. As Parker Colmer would say, "He may speak to you with a Dutch accent, but it may sound like Greek to you." When you are through with this, I'll wager you will understand what some of the words do mean.

You will also have developed during this time opportunities to appreciate economics and to take an active part in this learning process and to broaden the areas in which you can actively, yourselves, seek further understanding. It is the old sponge-versus-the-shark idea. You just don't wait to soak it up; you go after it.

Now, we have 11 lectures, as I said. I could go down the whole list of them. I don't know whether this would be of particular use to you. There is one thing certain--several of the lecturers will be asking you to bring to class with you, to the auditorium, the various booklets that are issued to you. For example, the Economic Indicators form for August you should bring with you to class, because when our good Professor Gainsborough talks about economic indicators he will be referring constantly to the individual issue which is listed on page 44. There will be other occasions, too, and we will inform you of when you should bring your materials with you.

There is no question that this is a basic Review in Economics, and one of the essentials of that review is the opportunity for you to use a basic economics test by one of our own visiting professors, Professor Ulmer, on Economics: Theory and Practice. This is a basic college text in economics which will be with

you during the entire time, and you will note, if you check through the reading assignments, that it ties in very closely with the lectures and prepares you for those, and in addition, when you get through, you've done most of the book.

Now let's look a little bit at what the curriculum offers by way of economics instructions, for which this particular period will be of assistance to you.

When we get into the national scene In Unit II, discussing the management of national security programs and budgets, we'll find there that we'll be examining various factors that are brought to bear on the formulation and implementation of national policy. Although we may not have any specific lectures on economics, you will find that when people are talking about many of these aspects economics will be an important part.

There will be some emphasis during that unit upon programing and budgeting, which is, of course, defense economics in its pure sense.

In Unit III, Human and Natural Resources, we will be examining the basic essentials of national power and those things that are put together in an economic system by which a nation is able to develop those factors, those resources, and to project them towards achieving national objectives.

Materiel Management again is this close relationship between defense and the civilian industry. We hark back again to the words of President Eisenhower in his swan song, in which he pointed out the dangers of this sort of liaison. What is that liaison between the military and industry? In inherent economic studies throughout Unit IV we'll have an opportunity to go into the laboratory of American

industry at the end of that unit and examine economics in application in the various industrial areas in the United States. You will have one week of laboratory practice.

Economic Stabilization is your graduate course of economics. I am sure when you finish that, with the broad background and foundation you have gained during this next week and a half, you will be well ready to receive any M. B. A. 's or Masters of economics degrees that anybody will want to give you. This will bring to a very sharp point your economics understanding.

In the international scene during Unit VI, Economics Capability, you can't get away from the discussion of politics, economics, and international relationships in almost the same breath. Here we will see the opportunity of being able to analyze the national economies—not just that of the United States but of the U. S. S. R. So the tools that you will be given today and in subsequent lectures during the Economics Section will apply definitely here. Again you go into the laboratory, and this time the laboratory of the world, for our International Field Studies. We will have a chance to talk to managers, economists, business men, bankers, and labor leaders first hand in the foreign countries that we visit. This is the real laboratory of the world, during Unit VII.

Then, finally, during Unit VIII, we bring all of these things together.

So this, gentlemen, is the way we hope to project into the year's study the basic economics that you'll be getting today.

Now we are about ready for our launching. Dr. Janus Poppe of our faculty

will turn up enough G's during his talk to use up all of the G's in our GNP.

Gentlemen, I am pleased to present Dr. Poppe.

DR. POPPE: Thank you very much, Colonel Smith. I really do not deserve those kind words, but then I got a severe case of bursitis lately, and I don't deserve that, either.

Admiral Rose, Gentlemen:

Economics has its own vocabulary and the same words may have different meanings to different people in different context, and at different times. For instance, in modern economics theory, investment to the economist means expenditures for new plant and equipment. To you it means the purchase of common stock right now. A few minutes from now you will think differently. To my wife—and that question came up a couple days ago, investment means the purchase of a hat. She came home and said, "Sweetheart, look at what I bought. A wonderful investment!" When I look in her closet and see all those diversified investments I really get a feeling of affluency. I told her that this was actually consumption and consumption of the type that Thorstein Veblen refers to as conspicuous consumption. She said, "No. You can't eat it. It is not consumption." In other words, if I had been a horse or a goat and I could have eaten some of those straw hats, I would have been able to prove my point.

The first observation about economics is thus that it has its own vocabulary and that before we can understand the words we must carefully look at the definition of each word, before we can intelligently discuss the subject. Economics has sometimes been defined as common sense made difficult. To a degree this

is true, and for the next 14 days we will prove it from this platform. As one of my colleagues pointed out yesterday, I am setting the stage for this utter confusion.

Economics, then, is the science that deals with human wants and their satisfaction. It is a study of those activities of man concerned with production, distribution, and the consumption of goods and services. As a social science, it is denied many of the means of experimentation and research which are often open to the natural sciences. Human beings have wills of their own and resent being treated as guinea pigs for the purpose of social experimentation.

The economist cannot make use of the test tubes, and is forced to rely largely on the more indirect methods of observing man's actions in society. Under such circumstances, when the economist wishes to ascertain the effect of a single cause, he is forced to make a mental abstraction to allow for the influences of other causes in which he may not be interested at the time but which may be of great importance in producing the actual results. The phrase, "other things being equal," *ceteris paribus* is therefore a standard idea, although it is recognized that in the actual world things never remain the same or equal.

As a warning, I would like to project that you will save yourselves many hours of bewilderment if you take special care to familiarize yourselves with the assumptions that underlie the formulation of economic principles. Failure to realize this significance may lead you to conclude that something is all right in theory but all wrong in practice. Nothing that is wrong in practice is ever right

in theory. If the conclusions of the theory do not harmonize with the apparent results in practice, either the theory itself is wrong or we are attempting to apply the theory to practical conditions without recognizing the difference between actual circumstances and the assumed conditions which were postulated in the statement of the theory.

For example, in economics we formulate the proposition that other things being equal people will buy more of the same product at a lower price than they will buy at a higher price. As stated, this proposition is true, but let us examine some of the assumptions implicit in the phrase, "other things being equal," that may or may not be fulfilled in practice. It is assumed that people's incomes remain the same, that their tastes remain the same, that the prices of other goods remain the same, that no new substitute for the goods is discovered, and that no price decline is anticipated.

In attempting, then, to apply this proposition in practice and to predict whether a decline in a given price will increase the sale of a product, we must know the assumptions upon which the principle rests and the extent to which they are fulfilled by the practical situation. The importance of assumptions, therefore, in economic reasoning, cannot be overemphasized.

One of the most important assumptions underlying all economic reasoning is that of the rationality of human conduct. By rational conduct, from the viewpoint of economic reasoning, we imply that given a choice among several lines of conduct a rational individual will try to select that course of action which seems to

him to promise either the greatest amount of satisfaction or the least amount of dissatisfaction. For example, if offered a choice between articles of the same kind at different prices, the rational individual will choose the cheapest, or, if offered a number of distasteful jobs at the same time at the same rate of pay, the rational individual will choose that one which promises to be the least distasteful.

The economist is not trying to explain the ultimate causes that motivate the rational behavior of individuals. Why rational human beings desire to ornament themselves with diamonds is a matter for the psychologists to explain. But, given the fact that people do desire them and that diamonds are scarcer in relation to human wants than, let us say, shoes and socks, the economist can explain why the price of shoes and socks is lower than the price of diamonds under ordinary circumstances.

Another strong force which tends to modify ~~the~~ influence the economic conduct of rational individuals is social habit or custom. When an economically rational individual is confronted with a social custom that forbids a course of conduct that he does not like, he has a number of possible alternatives to consider. He may conform to the custom; he may try to evade it; he may openly defy it; or he may try to have the custom abolished or changed. The alternative he chooses will depend upon the intensity of his desire to do the forbidden act and upon the relative degree of dissatisfaction promised by the different alternatives.

We are straying somewhat into the realm of sociology, yet, when we realize that prohibition provided an economic incentive for the bootlegger, that high taxes

encourage evasion, and that styles, or changes in styles, can result in prosperity or bankruptcy for the business man, then we see the importance of social habits, customs, and laws in influencing our economic affairs .

In explaining the economic life of our society, we must devote our main attention to the rational economic calculations of the average man. As such, we are not interested in the economic decisions of the odd ball, nor do economic laws based on the rational conduct of the average individual explain the economic conduct of any one person. To the extent that the individual differs from the average we must allow for personal idiosyncracies, but, if we have taken proper account of the rational actions of the average individual, we should be able to explain the economic actions of a group of persons and to predict under certain circumstances the way this group will react to different economic policies.

I would like to conclude this part of the presentation with a quotation from John Maynard Keynes, whose biography I hope you will read sometime during the academic year. Keynes wrote: "A person who masters economic principles has a bag of mental tools which he can use at will to solve specific problems. The problems will change from time to time, but the tools will always be available to handle new situations as they arise."

This explains somewhat the story of the alumnae at a certain university who returned after 25 years and asked their professor to show them some of the exam questions that he was giving in economics. When the professor gave them the exam questions they said, "Professor, these are the same questions you gave 25 years ago." He said, "Yes, that's correct. But the answers are different today."

The question now may be raised: How did modern economic thinking develop? Who are the economists contributing the most to our present-day economic philosophy? The first one to mention is Adam Smith, a Scotch bachelor, a professor of moral philosophy in the University of Glasgow. At the time Adam Smith wrote, the industrial revolution had not yet transformed economic life. Adam Smith was really the spokesman for the small enterprising merchants in England, and in his inquiry into the nature and causes of the wealth of nations he made out a classic case against the archaic system in existence at that time and gave us the first systematic treatment of the study of economics.

In place of the planned economy of mercantilism, Smith called for freedom in combining the factors of production, land, labor, and capital. He pointed out that greater specialization would increase wealth. The role of government he said should be passive, that government should practice a policy of freedom, of laissez-faire, as the French call it. Smith maintained that competition was a definite and an essential element of a system of free enterprise, and we associate the free-enterprise system with the classical school of economics of Adam Smith.

The next author influencing our present-day thinking is Thomas Robert Malthus, who put his finger on the real world problems of population and depression. Malthus observed his environment keenly and noted that during the Napoleonic Wars industrial capitalism had made remarkable advances in Great Britain. Factories had become numerous; the population increased by leaps and bounds; and England had become a battleground of hostile classes. When we look at the population statistics of that time, we see that population doubled approximately every generation.

Unemployment, depressions, hunger, and malnutrition gradually transformed the age of enlightenment which had prevailed during the 18th century into the age of pessimism and the recognition that man's future was bleak. In the same way ~~that~~ we have an error of rising expectations today in the less-developed nations, so did we have a period of pessimism and the prospect of growing disillusionment in the England of the day of Malthus.

This process of growing disillusionment was exemplified in an essay by Malthus, entitled Essay on Population. The Malthusian thesis felt that population always tends to outrun the means of subsistence, only subject to certain checks, such as disease, war, and famine. The poverty of the poor was explained as the result of passion of the sexes and their own lack of prudence and foresight. The masses of labor were operating under the doctrine of the iron law of wages. The plight of the poor was of their own making. It was from this picture that economics achieved the name of the dismal science, and Malthus has been referred to as the prophet of doom.

There are two possible approaches to the study of economics. We could start by examining the economic motives and actions of individuals or individual firms and industries, and then build up to a picture of the economic system as a whole. This method has been referred to as microeconomics. The other method is called markro-economics and starts with an examination of the total national income, total production, total consumption, and total savings and investments of a nation.

Our economic studies at the College will concern themselves mostly with the markro-economics aspects. For this reason I will devote most of the remaining

time to some of the concepts which are fundamental in understanding the neoclassical synthesis which is accepted in broad outline by all but approximately 5 percent of the extreme left-or-right-wing economists.

It was an English scholar by the name of John Maynard Keynes who gave capitalism a bold and vigorous theoretical foundation on which many of our present economic policies rest. The opinion is widespread that Keynes has explained what determines the volume of employment at any given time and that governments have it in their power to maintain stable and high levels of employment and national income within the framework of our traditional economic environment.

To explain some of the concepts of Keynes economics I have a set of hypothetical data on the screen. I am always reminded of the story of the corporation director who was a good speaker, a great speaker, but had all his speeches ghostwritten for him by an assistant, a young Ph. D. One day he was called upon to give an after-lunch speech. Before reading the speech he went over to the luncheon. He started his speech and explained what was wrong with our economy. Then he went on to say that we could have on our earth the heaven-on-earth concept, and he said, "I will now give you the five points that will bring to us really the ideal society, the ideal economy, and great prosperity." Then he turned the page, and when he turned the page he read, "Dear Sir: You are now on your own. I have just resigned."

I am now on my own. Look at the years 1935, 1936, and 1937. Assume that during these years we had incomes of \$70 billion, \$80 billion, and \$90 billion.

I refer to income as Y . In other words, I denote the total income of the Nation

by the capital letter, Y. Note that there is an increase in income over these years, without specifying why the increase took place. Now, the increase is \$10 billion in each year. I refer to this increase as delta Y. The Greek letter, delta, indicates a change, so I have a change in Y, a change in income, which is this \$10 billion. Then I have given the consumption figures for those years. For instance, for 1935 I had an income of \$70 billion, I had a consumption of \$60 billion. For 1936 I had an income of \$80 billion and I had a consumption of \$67 billion. There is also a change in consumption, notice, and/the result of an increase from \$70 to \$80 billion, as I have an increase in consumption from \$60 to \$67 billion.

Now, if you have an income, you spend some. What is left over, we usually refer to as savings. So, if you take the total consumption for the Nation in 1935, being \$60 billion, and the total income for the Nation being \$70 billion, then the savings of the Nation are \$70 billion minus \$60 billion, or \$10 billion. For 1936 the savings are \$13 billion dollars. Note the change in savings—\$3 billion.

Some observations: First, when income increases, consumption has a tendency to increase, but the rate of consumption has a tendency to decrease, while the rate of savings has a tendency to increase. Savings will increase. So the higher the income, you will find, the higher will be the tendency for saving.

Now, some concepts: In the first place, the ratio between consumption and income in a nation--C over Y, for 1935, for instance, was \$60 billion over \$70 billion which is equal to .86. We refer to that concept as the average propensity to consume. For 1936 the average propensity to consume was \$67 billion over \$80 billion,

which equals .84. It means that on the average the American people in 1936 spent 84 cents out of every dollar. Consequently, they saved 16 cents out of every dollar.

The next concept is the marginal propensity to consume. The marginal propensity to consume is a ratio between a change in consumption and a change in income. Thus, ΔC over ΔY , between the income levels \$70 billion and \$80 billion during the year 1935 is ΔC , 7, over ΔY , 10--7 over 10 is .7. For 1936, ΔC over ΔY , between the income levels of \$80 and \$90 billion, is 6 over 10, which is .6. It means that as a result of increased spending we have increased consumption, and we could say that the marginal propensity to consume is the ratio between a change in income and a change in consumption. But you can turn it around and say that there is an increase in consumption as a result of a change in income, ΔC over ΔY . ΔC is the result; that is, the change in consumption, which is the result of the change in income.

The next concept that we then discuss is the multiplier, which is the ratio between a change in investment and a change in income. For instance, the multiplier is expressed as follows: K , the investment multiplier, is equal to ΔY over ΔI . That is, in Keynesian economics, by definition the multiplier is the ratio between a change in income and a change in investment. Later on we say that there is a change in income as a result of a change in investment.

The original multiplier concept was introduced by a man by the name of Kahn in England in 1931, whereby he explained and justified public expenditures for the purpose of causing primary employment, and that as a result of this primary

employment you would have secondary employment, tertiary employment, et cetera. For instance, yesterday, we had a \$900 million appropriation total for the purpose of public expenditures, because it will give primary and secondary and tertiary employment.

Now, a basic equation in Keynesian analysis is equilibrium, or a level of equilibrium--and you will hear more about that word later on. Y is equal to C plus I . That is, income in the aggregate, total income, is equal to consumption plus investment, at an equilibrium level. Equilibrium has sometimes been defined as that state where none of the factors of production desires to change.

Then, savings, in Keynesian analysis, has been defined in such a way that it is the residue, and consequently the difference, between income and consumption. Consequently, savings is thus income minus consumption. From that you can see that, if I , for instance, bring the S over the C , over here, then we have Y which is equal to S plus C . From that I gather that savings equal investment.

In an economy there are two sectors. One sector does the saving--you and I do most of the saving. But the investment banker, or the insurance company, does the investing. In other words, it is a different function. We see, thus, that over the long run investments cannot deviate from the volume of savings. You cannot invest more than you have saved.

Then, a change in savings is also equal to a change in investment. You can see over there, for instance, that, if savings change by \$3 billion, from \$10 to \$13 billion, we also will have \$3 billion more to invest. There is a tendency for

those two to be equal.

Then, a change in income is equal to a change in consumption, plus a change in savings, but, since the change in savings is equal to a change in investment, the change in income is equal to a change in consumption, plus a change in investment. You can see that, for instance, here. You have a change in income of \$10 billion which is equal to a change in consumption of \$6 billion, plus a change in savings of \$4 billion.

Then the next equation is when we bring this delta C over to that side. We have the delta I, the change in investment, which is equal to the change in income minus the change in consumption. Now remember by definition that the multiplier was K, equal to delta Y over delta I, the ratio between the change in income and the change in investment.

Then I may say, if I substitute for delta I what I have here, that K is equal to delta Y over delta Y minus delta C. I substitute delta Y minus delta C for delta I. Then, if I divide this by delta Y, I have thus K is equal to delta Y over delta Y minus delta C. I divide by delta Y and I get K is equal to 1 over delta Y divided by delta Y, which is 1, minus delta C divided by delta Y. But delta C over delta Y was the marginal propensity to consume. Consequently I have thus K is equal to 1 over 1 minus the marginal propensity to consume.

Why this exercise? By definition we have the multiplier is a ratio between a change in income and a change in investment. The next thing is that I have to have the statistics to find K, to find the multiplier. I have the statistics; if I relate them

because
to the marginal propensity to consume / I have the change in consumption in an
economy and the change in income, consequently I can describe the factor, K.
If I take as an example the multiplier between the income levels of \$80 and \$90
billion here, then you will find that the multiplier is equal to 1 over 1 minus the
marginal propensity to consume-- .6. So I have this 1 over .4 which gives me
2.5. What does that mean? It means that, if I have a multiplier of 2.5 and for
one reason or another--and I am not going into the reason why there is a change--
I assume that the change in investment is 10, then the final impact of the national
income will be 25. In other words, the impact will be multiple.

May I have the next graph, please? As an example, I took some statistics
out of the Economic Indicators. For 1955 and 1956 incomes were as follows: \$274
and \$292 billion. This gives me a change in income of \$18.5 billion. I checked
the consumption figures. They were as follows: \$256 and \$269 billion. The change
in consumption was \$13 billion. I now can find the marginal propensity to consume,
which is 13 over 18.5. Here we have ΔC over ΔY , between the income
levels, \$275 billion and \$292 billion, which is equal to .7. The multiplier during
that year was equal to 1 over 1 minus .7 which equals 3.3--meaning that, if I
have an investment change of \$1 billion, the final impact of that investment change
on the national income approximately 3 years later, about 13 income propagation
years, will be, not \$1 billion but \$3.3 billion.

May I have the next graph, please? The only thing I want to observe here is
a relationship between income and consumption. For instance, notice that in 1929

gross national product was \$104 billion and consumption was \$79 billion. Then, when the gross national product went down the consumption went down. In the later stage, when the gross national product goes up, in these instances you will see that consumption goes up. So there is a relationship between consumption and income where consumption will follow income.

I want you to look at the unemployment figures for a minute. For 1929 we had 1.5 million people unemployed. For 1932 we had 12, and notice for 1933 that we had 12.8 million people unemployed--24.9 percent--25 percent of the labor force. It then goes down when gross national product goes up. Finally, in 1943, we reach the point where we had practically full employment. I want you to keep in mind this set of statistics: in 1935 and 1936 the investment, the total government expenditures, and then the volume of unemployment, which is on the decrease here.

Next slide, please. Here I have those same figures. In 1935 and 1936 investment increased from 6.3 to 8.4, and there was a change in investment of 2.1. Now I am just getting this change in investment--an increase in investment.

I also looked at the government expenditures for that particular year, and I noticed that the total government expenditures went up by \$1.8 billion, from 10 to 11.8. The total government expenditures, of course, are made up of Federal, State, and local. The Federal expenditures went up from 2.9 to 4.8. Now, if I take those two together, I just insert another factor. I insert additional government expenditures. I could say I made my change in investment a little bit larger, artificially, because I did not have control over the increase in investment--that is private,

domestic investment, which is private enterprise--but I do have control over what the Government can do. So we assume, then, that, as a result--this is an actual statistic--we have a change in delta Y plus a change in government expenditures--\$3.9 billion. This has been a little farther to the right. But, when you have an increase in expenditures of \$3.9 billion, you cannot spend it all on the first of January nor on the 31st of December. So what I did was chalk it in four equal parts. The reason why I took four parts --which is about 3 months--is because there is a concept of the so-called income propagation period which is the period necessary for expenditures to filter down to the next level. So I have this \$3.9 billion and I am going to expend it over the year in amounts of \$975 million.

I make another assumption that the average weekly wage for that period is \$50. When Professor Gainsborough is here he will go into these concepts of hours worked, remuneration per hour, wage, et cetera. So we have the statistical data to determine the number of hours worked and the wages per hour.

Let's assume that the labor receives \$50 a week. Then for 3 months he will receive \$600. That means that for \$600 we can keep a man employed for 3 months. All right. We start with the additional expenditure of \$975 million. That is the first installment. Divide it by \$600 and you get a figure of 1,625,000 men employed for 3 months, as a result of the expenditure of \$975 million.

In the second income propagation period I expend the next \$975 million. That will give me 1,625,000 people employed, but, for the \$975 million, which is now filtered into the whole national income, then comes the marginal propensity to

consume concept. I have assumed here that the marginal propensity to consume is two-thirds, or .67, which means that the multiplier will be 3. Then two-thirds of that will filter down from the first income propagation period and from the second, and, as a result 1, 083, 000/more people will be employed in that second period, and the total employment figure will increase to 2.7 or 2.8 million.

In the third income propagation period you have \$975 million. You get 650 from the second and the first and 433 from the first. This will give you an increase in employment of 3.4 to 3.8 million.

Finally, when you have expended the full \$3.9 billion, the result will be 3.908, after one year. If you go on, finally after 13 income propagation periods, about 3 years, the result will be 4, 875, 000. The final impact of the national income is 3 times \$3.9 billion or \$11.7 billion.

But notice you will have to sustain a rate of investment increase of \$975 million for every income propagation period. For instance, one mistake made during the Roosevelt Administration was that once you had done that, and they refer to that as priming the pump, you could forget about it. If you forget about it after one year you find it is beginning to peter out, because the \$975 million is not here any more, but you still have the 650. The following income propagation period this 650 disappears, but you still have the 433. Then you find, of course, that the number of additional employees is beginning to decrease as the volume of unemployed is beginning to increase.

You will notice here that unemployment had decreased to 77, but what is more important, that the volume of employment, which includes the new labor entering the labor force, increased from 42 million to 46 million, approximately.

Now, these are hypothetical data. I am not trying to prove anything. The only thing is, I want to use it as an example.

There are two possible approaches, then, as I said, to an analysis of Keynesian economics. If what I just explained is valid, the solution of the basic problems of democratic nations is in sight. As you noticed, two institutional assumptions dominate Keynesian thinking: (1) That consumer expenditures are limited to national income and are unlikely to expand unless income expands. (2) Investment opportunities are limited in a mature economy, such as our own. Private investment, therefore, may continue year in and year out at a level that falls below a level that is necessary to maintain full employment.

The essential thesis of the system is that aggregate effect on demand, that is, the total amount of money spent on goods and services, determines the level of economic activity. This lack of consumption, that is, purchasing power, and not a large enough increase in net exports, not enough private investment at home--all these factors--may contribute to persistent mass unemployment.

We may escape this fate only if investment and consumption, the main factors which make up the effective demand, are supplemented by government spending.

Unfortunately, this theory reflects a pleasant but a dangerous illusion. Although it has been refined and elaborated upon, the practical significance of the modifications of the theory is somewhat problematical.

Arthur F. Burns, the Chairman of the Council of Economic Advisers under Mr. Eisenhower, has pointed out that *satiricis paribus* is a slippery tool which may lead to serious error if the premises accepted for the purpose of reasoning are contrary to fact.

Notwithstanding, during the last 15 years, the United States has moved in a Keynesian direction, with modifications and refinements making up a body of economic theory which we refer to as neoclassicism. The preceding was the income-determination part of neoclassical doctrine. The analysis is far from complete enough to give an accurate picture of our complex economy.

The observation I would like to make--and this can be substantiated by looking at what has happened in the last 30 years--is that we are gradually moving away from *laissez-faire* to the managed or controlled economy. Neoclassicism itself is a devastating blow to *laissez-faire*. Neoclassicism holds that modern economic phenomena are not ~~a part~~ from culture as a whole. Economics cannot be isolated and abstracted from its environment.

Because of the rigidities imposed by business monopolies and trade unions, we have what we may call somewhat of a hardening of the arteries in the economic system. The price system upon which a free-enterprise system thrives is unable to bring about economic equilibrium of the kind that we desire, that is, at the level of relatively full employment and relatively stable prices.

It is argued that government intervention is necessary to achieve this kind of stability, that we advocate such fiscal measures as tax decreases, deficit financing,

and public works. In our present frame of thinking, prosperity and economic stability can be obtained by vigorous free enterprise in which business and labor have to play a responsible role. Only in case the economy does not perform to give us the satisfactory level of employment and the desired stability is the Government brought into the picture. In our system it is the Federal Government which is responsible for the maintaining of a reasonable level of prosperity.

Now, I have given some elements of wisdom, and I do not want to part until I relate the story of the man lying on his death bed who called in his son. He said, "Son, I am going to die. I have only one small possession, but it is very valuable. I am giving you a glass and I want you to remember to drink only on one side of this glass. Will you promise me?" The son said, "Yes, Dad, I will." The son went out of the room. He thought, "Gee. Why would the old man want me to drink out of this glass only on one side?" So he went back, and he said, "Dad, I have one final and last request. Why do you want me to drink on that one side only?" His Dad got up and said, "Don't you see, Stupid? If you drink it from this side the water all goes in your shirt."

Thank you.