going to do so. We can only be useful to the Congress in answering questions such as: what do you think would happen if the economy did this or that? And we have to, in that context, say what we think is the most likely outcome. We also have to alert you to the fact that economic analysts are not united in their assessment of some of these factors. That is what we are prepared to do and can do.

Mr. Hawkins. But I think your reports and statements are being quoted as being in opposition to even the feasibility of achieving a sufficient growth rate to get us down to 3 percent or under by 1980. Inasmuch as you are being quoted in that regard, it seems to me it does affect policies and it does affect the handling of legislation when statements that we disagree with are made without supporting evidence.

We don't know what to argue about because we don't know what

rate of growth you anticipate.

We are talking about H.R. 50. So it does affect us. Let us point out what models you use and what you put into the computer to get out the results that you get so that we will have something to address ourselves to in terms of what our projections are. Then, if you can convince us that we are wrong, we certainly want to be convinced. But, we want to have the facts and not just beautiful statements that become meaningless because they are not backed up.

Mrs. RIVLIN. We would be happy to describe the way we make statements of the relationship between economic growth and inflation.

Mr. Hawkins. Thank you, very much. Mr. Daniels. Thank you, Mrs. Rivlin.

This concludes today's hearing. I would like to say that Prof. Robert E. Hall, the professor of economics at Massachusetts Institute of Technology, who was scheduled to appear here today has been put over to tomorrow morning. He will be our first witness.

We will adjourn today and reconvene tomorrow morning at 10

o'clock in this room.

[Whereupon, at 12:30 p.m., the hearing was adjourned, to reconvene at 10 a.m., Friday, April 9, 1976.]

FULL EMPLOYMENT AND BALANCED GROWTH ACT OF 1976

FRIDAY, APRIL 9, 1976

House of Representatives,
Subcommittee on Manpower, Compensation, and
Health and Safety
of the Committee on Education and Labor,

Washington, D.C.

The subcommittee met at 10:25 a.m., pursuant to recess in room 2175, Rayburn House Office Building, Hon. Dominick V. Daniels (chairman of the subcommittee) presiding.

Members present: Representatives Daniels, Hawkins, Gaydos,

Beard and Sarasin.

Staff present: Dan Krivit, counsel; Saralee Schwartz, research assistant; and Nat Semple, minority counsel.

Mr. Daniels. The Subcommittee on Manpower, Compensation,

and Health and Safety will come to order.

This morning we continue with hearings on our bill, H.R. 50, the Full Employment and Balanced Growth Act of 1976. Our first witness is Prof. Robert E. Hall, economist of the Massachusetts Institute of Technology.

Welcome, Mr. Hall.

STATEMENT OF ROBERT E. HALL, ECONOMIST, MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Mr. HALL. Thank you, Mr. Chairman. Would you prefer that I read the entire statement, or summarize?

Mr. Daniels. Mr. Hall, we leave that entirely to your judgment. If you desire to submit your statement for the record, I will ask unanimous consent that it be printed in full and you may proceed to summarize and highlight the points you desire to make.

Do you desire to submit the statement?

Mr. HALL. Yes, I do.

Mr. Daniels. I will ask unanimous consent that this statement of the witness, Professor Robert E. Hall, be incorporated in the record at this point, in full.

[Prepared statement of Robert E. Hall follows:]

PREPARED STATEMENT OF ROBERT E. HALL, PROFESSOR OF ECONOMICS,
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

I am grateful for the opportunity to present an appraisal of the Full Employment and Balanced Growth Act. Since the U.S. economy is still operating far

(239)

below its potential, there is no question about the central importance today of the problems that the Act proposes to solve. Any improvements in federal economic policy-making that will help prevent the repetition of the devastating economic experience of the past two years will be welcomed by every citizen of the United States.

The Full Employment and Balanced Growth Act rests on two basic premises about the American economy and the role of federal policy-makers within it. First, the Act declares that the recent unfavorable performance of the economy is in large part attributable to deficiencies in national economic policy. It creates new bodies and procedures for formulating economic policy to avoid these shortcomings in the future. Second, the Act establishes a clear numerical goal for employment policy: Unemployment is not to exceed 3 percent within the adult labor force. Policy makers are to achieve this goal through aggregate monetary and fiscal policy, and through supplementary manpower and related programs. I support many of the reforms embodied in the Act for improving the performance of federal economic policy. In this appraisal, however, I shall concentrate on the second premise, which bears on issues of primary professional concern to me.

With present structure of the labor market, and with present knowledge about the potential impact of structural reforms within the power of the federal government, the unemployment target of the full Employment and Balanced Growth Act is unrealistically low. Unemployment rates in the range of 3 percent among adults, or 3.8 percent of the total labor force, are definitely not permanently sustainable, though they can be achieved for brief periods. In the past 20 years, the adult unemployment rate has reached 3 percent only in the three peak years, 1966, 1968, and 1969. The exceptionally tight labor markets of those years touched off a burst of wage inflation whose effects are still being felt today. Recognizing that expansionary monetary and fiscal policies cannot by themselves sustain the low unemployment target, the Act also provides for structural manpower policies to make the target feasible in the longer run. In my opinion, the Act substantially exaggerates the potential contribution of these programs, and may serve to discredit the genuine smaller contributions of such programs under more realistic goals.

At the present time, I believe it is unwise to adopt a single permanent target unemployment rate. Certainly the target for the next two years ought to be well below the present high level. But I believe that a target as low as the 3 percent in the Full Employment and Balanced Growth Act would raise false expectations about the performance of the U.S. economy. The disappointment of these expectations would only add to the prevailing mood of skepticism about government policies in general, and about the conduct of economic policy in particular.

ISSUES IN DETERMINING THE TARGET UNEMPLOYMENT RATE

One of the most striking features of the Full Employment and Balanced Growth Act is its establishment of a specific numerical target for the unemployment rate—unemployment is not to exceed 3 percent among adult members of the labor force. The limitation to adults has escaped general attention, and the Act is usually thought to mandate a target of 3 percent of the total labor force. The implied target for the total unemployment rate is in fact closer to 4 percent, as the following data reveal:

[in percent]

Year	inemploy- ment rate	Total unemploy- ment rate
965	3.8	4.5
966	3.0	3.8
967	3. 1	3.8
968	2.8	3.6
969	. 2.8	3.5
970	4. 1	4.
971	5.1	5.9
972	4, 7	5.6
973	4.0	4.9
974	4.7	5.4
975	 7.8	8. !

The Act requires that labor market conditions like those of 1966 he made permanent. Since the target was reached in 1966 and surpassed in 1968-69, there is little question of the feasibility of the target in one year or transitory period. In fact, the target could be reached in much less than the four years permitted by the Act. The substantive question is the ability of the economy to sustain such tight labor markets year after year. The great majority of economists would agree that exceptionally tight markets cause wages to rise faster than they would otherwise. The logic of this view is quite persuasive—tight markets mean that employers bid against each other for scarce labor, and workers are able to select the best paying job from a wider set of alternatives. The view has been sustained in countless research studies using a great variety of data on wages. Among economists, many supporters of the Full Employment and Balanced Growth Act would concede the inflationary implications of the unemployment target, but would argue that the inflation could be tolerated or offset by other policies. However, another influential body of opinion holds that an unemployment target of under 4 percent is not just inflationary but is unsustainable for more than a few years. According to this view, wage inflation would worsen every successive year that monetary and fiscal policy achieved the target, and sooner or later no further expansion would be adequate to maintain such tight conditions in the labor market. Adherents of this view point to the experience in the late sixties, when four years of unemployment near or below the target level apparently provided wage inflation with a momentum that carried it through the early seventies even in the face of significantly higher unemployment in 1970 and later. Those economists who believe that 4 to 5 percent unemployment is sustainable will concede that the momentum of wage inflation cumulates during periods of unemployment much below that

Estimates of the unemployment rate below which wage inflation begins to develop momentum differ somewhat, but none to my knowledge that include the period 1966-1973 suggests that it is much below 5 percent or much above 6 percent. A reasonable single estimate is 5.8 percent, or 5 percent of adults, though it should be recognized that there is a good deal of uncertainty about its precise value and that it has grown over time in the past ten years. The growth was attributable to shifts in the composition of the labor force toward groups wih higher unemployment rates (mainly the young) and perhaps to certain trends in the structure of employment and levels of unemployment benefits. Estimates also differ for the rate at which wage inflation accelerates when the unemployment rate is pushed below the sustainable level, but a reasonable estimate seems to be one-half percentage point of additional wage inflation for each full year during which the unemployment rate is held a percentage point below the sustainable level, As a rough illustration of the working of this process, consider the following example: Wage inflation in 1976 apparently will be about 8 percent. If the economy achieved the goal of the Full Employment and Balanced Growth Act in 1977 and subsequent years, wage inflation would be 9 percent in 1977, 10 percent in 1978, 11 percent in 1979, and 12 percent in 1980. These projections do not include the extra inflation that might accompany such a large discontinuous drop in the unemployment rate. The Act permits a much slower movement toward the target, in recognition of these adjustment costs. These projections are roughly consistent with what happened in 1966-69. Extrapolation beyond four years is dangerous, because there has been no comparable historical experience of very tight labor markets for more than four years.

The weight of the evidence suggests that the adoption of the Act's unemployment target and its achievement with expansionary monetary and fiscal policy alone would commit the United States to continuing high rates of wage inflation, inflation that would worsen progressively. The Act relies on two additional types of policies to protect the economy against this inflation: Measures that reduce prices relative to wages, and structural policies in the labor market that reduce the sustainable unemployment rate. In the first category, the Act asserts that expansion itself will reduce costs relative to wages by increasing supply. Further, it mandates policies to limit food prices and to reduce monopoly power. Whatever their magnitude, all of these have only a transitory effect on price inflation relative to wage inflation. No matter how aggressively they are pursued, within a few years the long-term historical rela-

tion between wage and price inflation will re-establish itself, with prices rising between two and three percentage points more slowly than wages. For the long run, the Full Employment and Balanced Growth Act in effect puts full reliance on structural manpower policies to eliminate the otherwise inflationary effect of its low target for the unemployment rate.

STRUCTURAL POLICIES IN THE LABOR MARKET

The Full Employment and Balanced Growth Act calls upon structural policies to reduce the sustainable unemployment rate from nearly 6 percent to below 4 percent of the total labor force, or from 5 to 3 percent for adults. It mandates two types of programs with which the federal government has had a good deal of experience since 1961: aid to depressed regions and a variety of programs directed specifically at youths. There is no question about the magnitude of the problems addressed by these programs. For example, if unemployment among teenagers could be reduced to the average level for adults, the sustainable unemployment rate for all workers would fall by nearly one percentage point. Youth unemployment is a complex problem stemming from the combination of limited entry-level opportunities for jobs with real futures and from the turnover associated with the high level of personal freedom granted to the young today. Programs that get young workers started on promising careers simply have not worked out yet, and the substantive obstacles to their large-scale implementation are very serious. Programs with the more modest goal of providing summer employment for teenagers have been successful and ought to be expanded, in my view. In any case, reductions in unemployment rates for youths can do very little to help in achieving the Act's unemployment target, which relates to adult unemployment alone.

The principal structural policy proposed by the Act for the adult labor force is the creation of jobs in federally operated public employment projects and in private nonprofit projects. Direct employment certainly can reduce the unemployment rate. The central question is how much of this is a reduction in the sustainable unemployment rate and how much simply adds to inflationary pressure in the labor market. Suppose we knew the answer to this question: that is, we could specify what fraction of public jobs were non-inflationary. Then each million public jobs would reduce the sustainable unemployment rate by one percentage point (assuming a labor force of 100 million, a level that will be reached in the next few years), multiplied by the non-inflationary fraction. Further, the number of public jobs needed to bring about a two percentage point reduction in the sustainable unemployment rate is simply the non-inflationary fraction divided into two. The value of the non-inflationary fraction is a matter of debate. One extreme view holds that the fraction is one -every public job reduces sustainable unemployment by one individual. Then the Act's target could be achieved by creating two million public and nonprofit jobs. The other extreme view holds that public demand for workers is just as inflationary as demand from any source, and asserts that the fraction is zero. Under this view, no public employment program of any size could achieve the target.

There is persuasive evidence against both extremes. On the one hand, public employment tends to bring workers from groups with high unemployment rates into the labor force, even if they are not hired directly by the program. Similarly, the tightening of the labor market accomplished by public employment increases guits among workers who are dissatisfied with their jobs and take advantage of improved conditions to find better jobs. In addition, past experience with employment programs suggests that some of the workers hired under them will not come from high unemployment groups, in spite of the intent of the program. Administrators of the programs face incentives to maximize the productivity of the workers they hire, and generally the most productive workers are the least subject to unemployment. This problem is even more acute in labor market programs supporting private employment. To the extent that the workers hired are those with good prospects elsewhere, a public employment program is inflationary. In view of all of these influences, it appears that the non-inflationary fraction is not above one-half, and could be even lower. On the other hand, the non-inflationary fraction is certainly greater than zero. because public employment programs can have a favorable effect on the composition of employment, biasing it toward groups with high unemployment rates. The Act contains some specific provisions with exactly this intent.

In my opinion, the evidence supports the view that between a quarter and a half of the reduction in unemployment achieved by a public employment program is non-inflationary. This implies, in turn, that between four and eight million public jobs would be required to achieve the 2 percent reduction in the sustainable unemployment rate that the Full Employment and Balanced Growth Act mandates. At a gross cost to the taxpayers of, say, \$10,000 per year for each job, the total gross cost of the public employment provisions of the Act would be \$40 to \$80 billion per year. The net cost would be less because the cost of unemployment compensation and income maintenance would fall by perhaps \$10 billion.

On the basis of these calculations, I have to conclude, regretfully but firmly, that the feasibility of the Act's structural program is very much open to question at this stage. Its open-ended guarantee to underwrite the employment of as many workers as necessary to maintain the target rate of unemployment could require an infeasibly large expansion of the federal budget. Public employment on the scale required by the Act would surely displace many other essential social expenditures. It poses a particular threat to programs that provide income to individuals who are unable to work and who would not benefit from an employment program on any scale.

CONCLUSIONS

The Full Employment and Balanced Growth Act is a move in the right direction, but it is too large a move. It establishes a target for unemployment that is simply infeasible in today's economy. There are two dangers in setting such an unrealistic target. First, the actual performance of the economy may fall short—unemployment may remain above the target in spite of the best efforts of policy makers. Then the adoption of the target invites further disillusionment about the capabilities of government. Second, the attempt to achieve the unattainable may bring an accelerating inflation and an eventual popular reaction against such expansionary policies, possibly terminating in deep recession. At this stage, the country would be better served by a more judicious expansionary policy.

Mr. Hall. Mr. Chairman and members of the subcommittee, I am grateful for the opportunity to present an appraisal of the Full Employment and Balanced Growth Act. Since the U.S. economy is still operating far below its potential, there is no question about the central importance today of the problems that the act proposes to solve.

Any improvements in Federal economic policymaking that will help prevent the repetition of the devastating economic experience of the past 2 years will be welcomed by every citizen of the United States.

I support many of the reforms embodied in the act for improving the performance of Federal economic policy. In this appraisal, however, I shall concentrate on the unemployment target established by the act, which bears on issues of primary professional concern to me.

With present structure of the labor market, and with present knowledge about the potential impact of structural reforms within the power of the Federal Government, the unemployment target of the Full Employment and Balanced Growth Act is unrealistically low.

Unemployment rates in the range of 3 percent are definitely not permanently sustainable, though they can be achieved for brief periods.

Recognizing that expansionary monetary and fiscal policies cannot by themselves sustain the low unemployment target, the Act

provides for structural manpower policies to make the target feasible in the longer run. In my opinion, the act substantially exaggerates the potential contribution of these programs, and may serve to discredit the genuine smaller contributions of such programs under more realistic goals.

At the present time, I believe it is unwise to adopt a single permanent target unemployment rate. Certainly, the target for the next 2 years ought to be well below the present high level. But I believe that a target as low as the 3 percent in the Full Employment and Balanced Growth Act would raise false expectations about the performance of the U.S. economy. The disappointment of these expectations would only add to the prevailing mood of skepticism about Government policies in general, and about the conduct of economic policy in particular.

My testimony then reviews material that appeared in Dr. Rivlin's statement as well as about the relationship between the adult unemployment rate and the total unemployment rate. This is subject, of course, to the question which I understand is still open about the

exact definition of an adult in terms of the act.

Mr. Hawkins. May I interrupt at that point because reference is made to the definition of adult as being unclear in the act. I think I stated yesterday as I have stated several times, and I think the witness should also be informed that when the bill was referred to this subcommittee, that definition was clearly stated to mean those 16 years of age and over.

I think there should be no confusion in these hearings that we have in any way confused that definition. I interrupt at this point only to be informative and not to debate the issue, but simply to say that rightly or wrongly, the bill does define adult as being those

16 years of age and older.

Mr. Daniels. I might further state that the staff has what we refer to as a blue sheet on this bill, and the definition of adults is clearly set forth in this blue sheet. If you desire a copy of it, Professor Hall, I would be glad to let you have it.

Mr. HALL. That would only strengthen the point I make in my statement that I believe the goal set here is too low. Where I refer to a goal of 3.8 percent, it should be replaced with a goal of 3.0 percent, which I would regard as less sustainable than 3.8 percent.

In reviewing the performance of the United States economy in the recent past, since 1965, we find that the total unemployment rate reached its minimum in 1969 at 3.5 percent. That is below the 3.8 percent that I thought the act established, but well above the 3.0 percent that I now understand the act establishes as a goal.

In any case, I would conclude, at least with respect to the goal in the 3 percent range that it is a target that can be achieved. I don't

want to be misunderstood in my testimony here.

It is not a question of whether it can be achieved with a sufficiently expansionary policy but the issue I want to address is whether it can be sustained; that is, whether the economy could continue to operate in the neighborhood of the target for several successive years and that is the question that I, as a student of this question, am very skeptical about.

The great majority of economists would agree that exceptionally tight labor markets cause wages to rise faster than they would otherwise.

Furthermore, and this is a point which I want to emphasize in my testimony, an unemployment target of under 4 percent is not inflationary but is unsustainable in the sense that the inflationary pressure accumulates as the unemployment is held below a certain level which I refer to as the sustainable unemployment level.

Adherents of the view that I advocate point to the experience in the late 1960's when 4 years of unemployment near or below the target level apparently provided wage inflation with a momentum that carried it through the early 1970's, even in the face of sig-

nificantly higher unemployment in 1970 and later.

Estimates of the unemployment rate that I refer to as the sustainable unemployment rate vary for today but a consensus of economists who have studied this carefully, I think, would say it is between 5 and 6 percent, and probably closer to 6 percent than to 5 percent.

I have used a number for today of 5.8 percent. I recognize that that number is too high. We would all agree that that number is too high, but I think we need to recognize that that is the number.

I would like now to refer to a page that I circulated today, which is not in the testimony itself but will appear in the revised version of my testimony. It tries to address this question of whether it is true that tight labor markets and low unemployment rates bring about inflation.

Let me emphasize that when I refer to inflation I refer to wage inflation, not to price inflation. There have been many important episodes when price inflation and wage inflation were different.

One of the misunderstandings between economists and others on this issue is that the point that is being made here refers to wage inflation. We must study separately the relationship between price

inflation and wage inflation.

The historical record from 1948 to 1975 appears in this supplementary sheet and I read this as showing very clearly that when the unemployment rate drops below the sustainable rate, or is pushed below, by aggregate policy or whatever reason, we find that wage inflation becomes higher than it was in the previous episode.

I have identified four episodes of more than 1 year when we tried to operate the economy at an unemployment rate below the sustainable level. In every case we achieved it. There was no disaster in the

economy.

But I point to the third column where we can see 1951 is the clearest case. We heard vesterday that there was a mystery about this period because it was a period of low unemployment and low inflation. But that was looking at the wrong inflation variable with respect to the proposition that has been established by economic reserach.

It was wage inflation that that proposition referred to. And look at what happened to wage inflation in the Korean War period, 1951 to 1953. It jumped well above what had been before—not well above what it was in 1948. But again, 1948 was a year of very low unemployment.

We had another period, not as sharp as that one, the 1955-57 period where the rate of wage inflation increased from the 3.2 percent level in 1954, 3.5 in 1955, 5.9 in 1956, 5.7 in 1957.

Then we entered the long period of wage stability. Wage stability is a point of approximately 2 to 3 percent increase because prices

systematically rise less quickly than wages.

And then, the most informative period with respect to this bill was the 1964 to 1970 period, when the unemployment rate dropped to a very low figure and reached its minimum, as I have said before, in 1969 with 3.5 percent, but it was a long period of sustained low unemployment.

The bill, as I interpret it, wants to re-establish the labor market conditions of that period. But I point to what it did to wage inflation. We saw a smooth increase of wage inflation throughout that period.

It actually reached its peak in 1968, but fell back only slightly. What happened during that period is that a new base was set with respect to wage inflation in the 7 percent range. And we have been living with that base ever since.

The 1971 recession put us only three-tenths of a percentage point above what I interpret the sustainable unemployment rate in that year to be, 5.6 percent. That recession did almost nothing to reduce

this base level of wage inflation.

And then we went through another expansionary period, the fourth expansionary period, which was 1972 to 1974. It was nowhere near as sharp an expansion and nowhere as tight a labor market during

that period.

But in 1973, the average unemployment rate dropped below 5 percent over the year and, once again, wage inflation accelerated. The acceleration that took place during that period is somewhat more than we would ordinarily have expected and I would attribute that to the fact that prices were rising relative to wages during that period, primarily the oil price increase.

That added further to this base level of wage inflation. But primarily, I would attribute today's rate of wage inflation—the wages for 1976 will probably increase by approximately 8 percent—to the establishment of the new base of wage inflation during the 1960's, during the period which the act attempts to emulate by re-establish-

ing such a tight labor market.

I read this record as unambiguous evidence in favor of the proposition that tight labor markets cause not just high rates of wage inflation but increasing rates of wage inflation. I don't think that we could have sustained the 1960's period for too many years more than we did because of this acceleration of wage inflation.

Many of the problems of the early 1970's even before November 1973, I believe, are attributable to the wage inflation that began as a

result of extremely tight labor markets in the 1960's.

I conclude from this that—I think the act agrees with this-it would be inappropriate to use monetary and fiscal policy to achieve labor market conditions of the 1960's without trying to do something else to lower the sustainable unemployment rate, so that the second part of my testimony then addresses the issue of whether structural policies of the kind embodied in the Full Employment and

Balanced Growth Act can do something to improve the situation, that is, to make an unemployment rate in the 3 to 4 percent range sustainable.

The principal structural policy proposed by the act for the adult labor force is the creation of jobs in federally operated public em-

ployment projects and in private non-profit projects.

Direct employment certainly can reduce the unemployment rate. I will not take the position I believe other economists have that one loses all the employment through displacement effects and things like that.

I think well-designed programs can, in fact, achieve the reduction of the unemployment rate. But the question is how much of that reduction is simply the kind of reduction that you could achieve with aggregate policy, particularly monetary policy, and how much of it is simply the kind of reduction in unemployment that causes the wage inflation that I have just discussed, and how much of it is truly a reduction in the sustainable unemployment rate.

My impression, based on a fairly careful study of the evidence that I carried out several years ago, which I believe is still relevant, is that a substantial fraction of what can be achieved by the public employment program is very closely the same as what can be achieved

by monetary policy.

Only between a quarter and a half of the reduction in unemployment brought about by legislation of this kind could be called noninflationary; that is, reduction in the sustainable unemployment rate. One can then compute the number of jobs required in order to get the reduction in the sustainable unemployment rate essentially by dividing by that fraction that I just referred to.

Unfortunately, the result of that is very large numbers. If the fraction is as low as a quarter, it takes four public service jobs to reduce

the sustainable unemployment rate by one individual.

If the target is a reduction in unemployment of 2 million and the fraction is 4 then it could require 8 million public service jobs. I don't believe that the authors of this legislation anticipated that anything like 8 million public service jobs are what would be called for to achieve the goals of the legislation.

This computation gives numbers in the range of 5 to 10 million public jobs depending on the particular assumptions and the interpretation of the goal established by the act. It seems to me that that suggests that the magnitude of the program being discussed here is rather larger than I think was really anticipated when the legislation

On the basis of these calculations I have to conclude regretfully, but firmly, that the feasibility of the Act's structural program is very much open to question at this stage. Its open-ended guarantee to underwrite the employment of as many workers as necessary to maintain the target rate of unemployment could require an infeasibly large expansion of the Federal budget.

Public employment on the scale required by the act would surely displace many essential social expenditures. It poses a particular threat to programs that provide income to individuals who are unable to work and who would not benefit from an employment pro-

gram on any scale.

There is a large number of such individuals. It includes families where the logical activity of a single parent is taking care of the children and, therefore, is not a wage earner; it includes the dis-

Reliance on public employment alone, especially such a large program, poses a danger to the other kinds of programs that we have

to protect—those that supplement incomes directly.

The Full Employment and Balance Growth Act is a move in the right direction, and I feel personally strongly that we have not had enough expansionary policy. I don't want my remarks to be interpreted as supporting the position that the recession we just had was inevitable, that we couldn't have had a more expansionary program.

I think we should have had much more expansionary monetary policies than we did, and even today, I would endorse a more ex-

pansionary monetary policy.

Although the move is a move in the right direction, it is too large a move. It establishes a target for unemployment that is simply infeasible in today's economy. There are two dangers in setting such an unrealistic target.

First, the actual performance of the economy may fall short. Unemployment may remain above the target in spite of the best efforts of policymakers. Then the adoption of the target invites further disillusionment about the capabilities of Government.

Second, the attempt to achieve the unattainable may bring an accelerating inflation and an eventual popular reaction against such expansionary policies, possibly terminating in deep recession.

At this stage, the country would be better served by a more judici-

ous expansionary policy.

Thank you, Mr. Chairman.

Mr. Daniels. Thank you, Professor Hall, for your testimony.

Professor, I think it is generally agreed upon that this country is having economic problems. What do you see are the shortcomings of the administration's coordination of long- and short-term economic planning goals?

Mr. Hall. As I see it, the major problem the economy faced was the increase in oil prices that resulted in a very confusing situation with respect to policymaking in 1974. I am, in some respects, sympathetic to the problems that were faced but I believe, in retrospect especially, one can see that we should have had a more expansionary

monetary policy during that period.

We should not have permitted interest rates to rise as far as they did. We were misled by the notion that targets for the amount of money created should not respond to the determinants of the price level, especially those that are outside the system, outside wages, for example, the price of oil. On the contrary, we should have had a monetary offset in 1974 to the oil price increase.

Then, I don't think we would have had anything near the reaction we had in 1975. I interpret it as a lagged response to extremely tight monetary conditions in 1974. I am not an expert on the exact formulation of policy. I would rather not try to comment on the procedural reforms that might be required.

My professional expertise is in the areas of substantive economic questions, particularly inflation, unemployment, and what can be

done to correct those problems.

Mr. Daniels. I notice your statement, which I read very carefully, did not deal with the marketing questions. Basically, do you deal with that part of H.R. 50, relating to the establishment of a minimum goal for employment policy that is not to exceed 3 percent within the adult labor force, which the bill would try to accomplish in a 4-year period of time?

I gather from your testimony that you are opposed to H.R. 50. Do you have an alternative program? Would you care to suggest to this

committee any alternative legislation?

Mr. Hall. Mr. Chairman, I am not an expert in the actual formation of economic policy, and particularly not an expert in proposing legislation. I do think that important policy mistakes have been made, but I think I would rather leave it at that and not try to go beyond my professional expertise in this area.

Mr. Daniels. You do have some expertise in the area of unemployment. Specifically, how would you deal with the high levels of youth unemployment, problems of regional unemployment, and the hard-

core problems of structural unemployment.

Mr. HALL. The most serious problem we face today is simply high unemployment in all categories. I think the first order of business should be an expansionary policy that gets us down to at least what

I refer to as the sustainable unemployment rate.

That is, today we have 7.5 percent unemployment. I believe the great majority of economists and certainly myself, would favor, as I refer to in my testimony, a judicious reduction of the unemployment rate through expansionary aggregate policies to achieve an unemployment rate in the range of 5 to 6 percent.

Let me say, first of all, by far the most important policy we can use today is the kind of policy addressed in the first part of the act;

that is, expansionary, monetary, and fiscal policy.

I would emphasize today particularly the importance of expan-

sionary and monetary policy.

Mr. Daniels. You said in the course of your testimony an unemployment rate target of 3 percent can be achieved, but it could not be sustained. Specifically, why can't it be sustained for a long period

Mr. Hall. The difficulty we had, as we found in the sixties was that wages began to rise faster and faster, as we pushed the unemployment rate below the sustainable rate-I gave a numerical example, which I did not refer to here. It appears in my statement.

If we went to approximately 4 percent unemployment, or 3.8 percent unemployment, it appears that that would generate approxi-

mately 1 percent of additional wage inflation each year.

So that, starting from 8 percent this year, we might have 9 percent in 1977, 10 percent in 1978, 11 percent in 1979. I think one can draw the conclusion from that that fairly soon we would begin to get a reaction against that kind of policy that leads to the kinds of rates of inflation that are present today in Great Britain.

And as this process proceeds we would become like a South American country. I don't believe that is the direction that the public wants aggregate policy to go in, so I believe quite strongly that one has to be judicious in pushing the economy beyond the kind of unemployment rate that historically appears to be the point at which this process of accelerating inflation is set off.

Mr. Daniels. In your judgment, can't we adopt any plans or economic policies with respect to production interest rates to curb such

a rapid rate of inflation?

Mr. Hall. Mr. Chairman, I believe the only policy I have seen that can actually do that in the short run is controls, particularly

wage controls. I don't believe wage controls are a good idea.

The legislation does not, as I understand it, mandate wage controls. I don't believe wage controls could possibly be a permanent solution. And I don't see other policies that I can point to today, expansionary policies, that would do anything but cause the economy to be on the historical track, and which would cause us to repeat the experience of the late sixties and go through the kind of policy problems that we had in the period from 1971 to the summer of 1973.

I don't foresee a repetition of the oil price increase but I certainly forsee a repetition of the kinds of problems that resulted in the adoption of price and wage controls in August 1971. The difficult period from 1971 through 1973, is the kind of period we would have under the adoption of the specific numerical unemployment target that ap-

pears in this legislation.

Mr. Daniels. I see nothing in this bill which recommends or advocates wage and price controls. I don't think that was the intent of the author. Are you in favor of tax incentives for private industry?

Mr. Hall. Are you referring to investment incentives?

Mr. Daniels. In other words, what incentives would you give to private industry to encourage them to expand, which would encour-

age employment opportunities.

Mr. Hall. Mr. Chairman, I don't believe any policies relating to the subsidy of private businesses really can affect the structural relationships I refer to. I oppose any kind of subsidy program. I oppose the investment tax credit particularly because I don't believe that those policies do anything but stimulate demand in the same way that we can achieve with much simpler aggregate policies, monetary and fiscal policies that have an aggregate effect.

I believe that it is an illusion that one can effect the relationship between unemployment and inflation through policies subsidizing either employment or investment. There is a program for subsidizing investment and we are now discussing policies for subsidizing

employment.

I see no scientific evidence that those policies can affect the relationship that I refer to. I believe they all do affect unemployment. I am not denying the impact of those programs, but I believe that they have an affect on unemployment which is just like the affect of monetary policy.

If they cause the unemployment rate to fall below a range of 5 to 6 percent, I believe they will cause accelerating inflation just as any

other expansionary policy.

Mr. Daniels. What is your opinion about the Federal Reserve System? You heard Governor Partee testify yesterday morning before this committee. Do you believe the system of Federal Reserve, as presently operated, is working, or does it possess any shortcomings?

Mr. Hall. Mr. Chairman, I would prefer not to try to evaluate the structure of policymaking. I am simply not an expert on that subject. I do know something about what I believe are mistakes in mone-

tary policy that we made in the past.

I am not sure I attribute those to structural problems in the way the Federal Reserve System makes policy. For example, I am not sure in 1974, if the Federal Reserve were integrated into the executive branch they wouldn't have done essentially the same thing they did, which is an excessively contractionary policy permitting interest rates to reach totally inappropriate levels.

But as I say, my professional expertise is more in the direction of identifying past errors and not trying to comment on political changes that could bring about a better performance of policymaking

in the future.

Mr. Daniels. One final question; what provisions of H.R. 50 do

you support and endorse?

Mr. Hall. Mr. Chairman, one of the policies I particularly support is trying to do something about teenage unemployment. I am glad to hear that the target is interpreting to include teenagers. It is very important to observe that something like 1 percent of the labor force consists of unemployed teenagers. That is, we could achieve a good deal with respect to teenagers.

There is one kind of teenage unemployment that is particularly susceptible to Federal policy, and that is, summer unemployment. We have had summer employment programs, Federally supported programs, for teenagers in the past; the Neighborhood Youth Corp, for example, and under CETA I understand there have been summer

programs.

I think we could do more. I think the summer employment of teenagers is not the kind of program that becomes a burden in the future. It is impossible, by definition, for example, for the workers to become permanently attached to employment programs, simply because teenagers don't remain teenagers forever. For the summer programs, that is particularly true. I would say that the goal of structural policies of that kind has to be modest.

We simply can't point to successful experiences with manpower programs that will give me the kind of confidence that would be required to endorse a comprehensive, large-scale program that threatened to provide long-term employment to members of the labor force.

At the moment I simply don't see the scientific evidence that that kind of policy achieves what is hoped to achieve. I would prefer to rely on the kinds of policies we have today for supplementing people's incomes when they are unable to find work and not try to shift immediately to a concept of providing income almost exclusively through providing jobs.

There are some real dangers, some unproven propositions that underlie the notion that public employment is the largest part of the solution to our problems. I do endorse parts of this legislation. I am

not against all its provisions, but I am very, very reluctant to endorse its basic reliance on public employment.

Mr. Daniels. In addition to the approval of the Neighborhood Youth Corps, what other programs do you feel you could support with reference to youth unemployment, which is exceedingly high, in regard to minorities, black and Hispanic youths. It is exceptionally higher in these groups.

We do have the Youth Conservation Corps but it is a temporary program which operates only for a period of about 3 months during the summer. Would you endorse a program for making that a perma-

nent program on an all-year-round basis?

Mr. Hall. Mr. Chairman, I would prefer to see programs for youth that were more oriented toward trying to do something about the transitional problems; that is, trying to get teenagers started on successful careers.

I think one of the problems with the job corps kind of program that puts teenagers in an isolated camp, or something of that kind, is that when they leave that program they are not launched on a career.

They still face the problem that young workers face, of trying to find a place in the labor market that puts them on a ladder that gives rise to something that could be identified as a career.

Many kinds of programs that are attractive and appropriate for the summer problem I don't think are the right direction to go with respect to permanent year-round programs for youth.

Mr. Daniels. Thank you.

I recognize the gentleman from Connecticut, Mr. Sarasin.

Mr. Sarasın. Thank you, Mr. Chairman.

Professor Hall, I do thank you for your testimony this morning. Do I understand the weight of your testimony to be generally nega-

tive to the proposition of H.R. 50, as it is presented?

Mr. Hall. Congressman, the thing I identify as the most serious problem in this legislation, and the reason I would not support it in its present form is its establishment of a numerical goal for the unemployment rates, which I believe is inappropriately low. I particularly oppose the open-ended mandate to achieve that program through public employment. There are other aspects. I can easily imagine endorsing a version of this legislation that did not try to set a numerical target, but rather, reinforce the Full Employment Act of 1946 by making it clear that we wanted to have a publicly discussed annual unemployment target.

That kind of legislation I would support. I also am very skeptical about public employment programs on virtually any scale, and certainly on the scale that seems to be implicit within this legislation.

Mr. Sarasin. As I understand the legislation, it contemplates public employment as a last resort after all the other methods set forth are exhausted, and then the Government will hire individuals at comparable wage rates.

There has been much criticism of the wage policy. I wonder if you would address yourself to that subject.

Mr. Hall. I share the concern expressed yesterday about the provisions of the bill that seem to require that fairly high wages be paid under these jobs for precisely the reason that was indicated yesterday, that this will tend to make the adherence of a particular person holding these jobs to the job permanent because it will pay more than comparable jobs in the private sector.

It is an unfortunate fact that the Government tends to pay wages that exceed the comparable wages in the private sector, even though, in the case of the Federal Government, for example, there is specific legislation that requires the Federal Government to pay not more

than the private sector pays.

In fact, if you examine, as I have, a body of data on wages paid to individual workers and try to compare workers with similar skills, you find that the Government tends to pay 10, 15, 20 percent more to its employees than the comparable employees in the private sector.

This means that a public employment program which requires even just that the workers hired under this program would be paid the same as comparable Government workers has the danger that by paying this much it essentially removes the incentive for an individual to locate a private sector job.

I think that is a dangerous feature of public employment programs that stimulate employment, either directly by the Federal Government, or indirectly by, as we have today in CETA, with support of the State and local government because the State and local govern-

ments tend to pay above the prevailing wage.

We go beyond that in this legislation with respect to construction in particular by requiring that the provisions of the Davis-Bacon Act apply. It appears that the actual operation of the Davis-Bacon Act is to cause construction workers hired under it to be paid substantially more than are paid to many workers doing the same kind of work in the private sector.

The Davis-Bacon Act seems to operate in practice to provide the maximum wage paid in a fairly large area for each particular job. All those provisions seem to operate in the same direction, of provid-

ing excessive wages.

Let me say, on the other hand, that I don't favor the kind of program that Arthur Burns has proposed that sets extremely low wage rates for public employment and then says that public employment is required in order to get unemployment compensation.

That, I think, is going much too far in the opposite direction. It is going much too far with the notion that when we help out individuals with their income that it should be in the form of providing

employment.

However, if there is to be a public employment program it certainly seems to me that it should be somewhere between those two proposals. It should pay more than is paid by unemployment compensation—some half or 60 percent of the wage, but it shouldn't have

this wage comparability provision.

That is a very dangerous provision. There should be some compromise between those two issues, which provides an incentive for workers under public employment to return work in the private sector, but does not go through what I believe is an inappropriate policy of tying very low unemployment compensation or other forms of income supplements to public employment.

Mr. Sarasin. On questions asked by Chairman Daniels, you commented you were opposed to subsidizing investment, or subsidizing the creation of jobs in any form. I wonder if you would address yourself to the question of productivity in American industry, especially as opposed to productivity in other nations' industry and the claim that is made by economists that we are very far behind in productivity because we have not made the investment in new tools, equipment and machinery to allow our workers to produce as much as other nations have?

Mr. Hall. One of the major reasons we haven't made the kind of investment we should have recently is that we have a very contractionary monetary policy, as I mentioned before. We missed out on a good deal of investment that should have taken place in 1974, and especially 1975 as a result of running a very contractionary policy.

I agree, we are not where we should be today as far as productivity because we don't have the capital we should. The answer, as I see it, is not trying to attack that problem where we see it—in inadequate capital stock—but it is simply to recognize that the reason we have inadequate capital stock is we do not have a sufficient expansionary aggregate policy.

But beyond that—

Mr. Sarasin. Let me interrupt you at that moment because I am not sure I understand you. If we were to have this expansionary policy you are referring to, are we not talking about increasing the rate of inflation during that period?

Mr. Hall. It is always true. Let me turn it around because the unemployment rate during the period I am referring to was way above what I regard as an appropriate target and way above the sustainable unemployment rate.

We got some benefit from the recession in the sense that, as I mentioned, wage inflation is probably going to be only 8 percent when it peaked out at around 11 percent during some quarters of 1974.

So it is true that we would have a bit more inflation today had we had a suitable expansionary policy. But the other side of the coin, and in some calculations I have done suggested it almost offsets that; we would have a more productive economy today, because we would have more capital in place today if we had not had the recession.

The benefit is in prices, not in wages. I emphasize again, that prices do not exactly track wages. We would have gotten a benefit that is referred to specifically in this act, which I do believe in, that an expansionary policy does give us a dividend of prices relative to wages because it generates more capital goods and enables us to produce more output with the same labor force, which lowers prices relative to wages.

Let me go back to the question. Beyond that, it seems to me, reaching full employment gives about the right level of productivity. It is not fair to the American economy to say that it is substantially less productive than many other economies.

There are very, very few other economies that are as productive as the U.S. economy. It is more than twice as productive than, say, the British economy. It is more productive than the Japanese economy.

We shouldn't sell short the accomplishments of the American economy in terms of the level of productivity. It is not clear to me, beyond providing full employment, that there is much the Government can or should do to try to stimulate the growth of productivity.

In particular, I question many kinds of programs to put money into, say, research and development on the assumption that is going to give a large dividend in productivity. I don't think you can document that.

In the past, for example, the Federal Government has put an enormous amount of money into research on nuclear development and it is not at all clear that that research is going to pay off.

It is not clear today that highly advanced technologies that seem to promise a large increase in productivity have actually paid off their investment by the Federal Government. So I remain skeptical of our ability to do anything about productivity beyond providing full employment, and I emphasize again, I endorse the concept of reaching full employment implicit in this bill. I do have this qualification about what the numerical target is.

Mr. Sarasin. I don't think anyone argues with the goal of full employment. The question is, how do we get there and do we exacerbate the situation if we are to try and be the employer of last resort, tighten the labor market, increase the pressure on wage inflation, which I have to assume translates into price inflation at some point.

In your chart you have talked about the increase in the rate of inflation in hourly compensation. I would like to ask you, when that does translate into price inflation is there a lag, and what period of time are we talking about?

Mr. Hall. There is not a very systematic lag you can point to. Generally speaking, wage inflation and price inflation co-exist. A major failure of that proposition took place in 1974, and is one of the reasons for confusion about the relationship between unemployment and price inflation.

Prices rose in 1974, primarily because of increases in the price of oil and food. That was a good example of where prices moved very differently from wages. I emphasize that because I think that is the major source of misunderstanding with respect to the relationship between unemployment and inflation.

There is a long-term historical relationship which, until the middle of 1973 was quite predictable, which said that price inflation was the same pattern as wage inflation but was 2.4 percentage points per year below wage inflation.

And that 2.4 percentage points is the trend of productivity. You can afford to pay labor more than we charge for goods because the labor systematically, over time, is producing more goods.

But if you look at individual episodes—the Korean war episode is a good example—it is not necessarily the case in any particular year that prices and wages do the same thing. Sometimes during that period prices rose much more than wages. I will cite 1974 as the leading example.

Prices can rise very dramatically relative to wages. However, in the long run this relationship that I refer to, 2.4 percentage points difference, has to reassert itself.

It is a fact that prices are determined by costs and by far, the leading component of cost is labor cost. You cannot avoid the fact that sooner or later a persistent pattern of wage inflation will reveal itself as a persistent pattern of price inflation, 2.4 percentage points lower.

Mr. Sarasin. So even if we were to go to controls, which are only indirectly contained in this bill, and don't refer to wage controls at all but only price controls, it would only be a matter of time before those pressures would be applied and we would be

right back into a standard relationship.

Mr. Hall. Yes. As I understand it, the issue of wage controls is not something that is really going to be debated here. I think there is widespread agreement that wage controls represent a very difficult unsustainable policy. The pressure that is generated to eliminate wage controls becomes stronger and stronger as time goes

We can sustain fairly effective wage controls throughout a period like World War II where there is immense popular support for it, but peacetime permanent wage controls are, I think, just out of the

picture.

I think the legislation is quite appropriate in not even addressing that as a possible tool or policy because it simply could not achieve,

on a permanent basis, the goals of this legislation.

Mr. Sarasin. So you would agree, as I understand your statement, that although we were able to achieve this during World War II, we are talking about a completely different set of circumstances?

Mr. Hall. Yes.

Mr. Sarasin. Which are not analogous to a peacetime situation? Mr. Hall. That is right. In some respects this bill attempts to establish something like the economy we were successful in operating during World War II, but I am told—though I was 3 years old at the time—that there were even some signs of difficulty during the wartime period and we know that the policy and controls collapsed rather rapidly at the end of the war.

In any case, I don't see that we have anything like the mandate from the people to establish a World War II forced draft kind of economy today. And yet, my reading of this bill is that that is

really what is being called for.

I emphasize we had 1 percent unemployment in World War II. Certainly, this bill is more realistic than trying to say we could

reestablish 1 percent.

Mr. Sarasin. We also had 50 million men under arms and were destroying half the goods we were producing, which is a pretty convenient way to create a demand. During that period, it is my recollection—also having been relatively young during the time we really lived with that controlled policy for a very short period of time and it was falling apart toward the end.

We not only controlled wages and prices but we controlled supplies. We controlled the amounts of goods that were available to the people. Suppose we want to go back to that and take some of these goods off the grocery shelves. We could run a fairly efficient operation, although I would think we are much more dependent today upon outside sources over which we have no control than we were during the period of World War II, energy being a classic example.

And certainly, most of all, raw materials are no longer supplied and located in this great country. Much of the effort in H.R. 50 appears to direct its attention to a great deal of centralized planning.

That, frankly, worries me. If I thought we could run anything very well from Washington I probably would endorse it, but I look at how successful we are with the Post Office and I just don't think we can do anything right here.

I would hate to see this country decide to give up its collective

wisdom to all of the brains down here.

Mr. Chairman, I thank the gentleman for his testimony. I have no further questions.

Mr. Daniels. The gentleman from Pennsylvania, Mr. Gaydos.

Do you have any questions?

Mr. GAYDOS. Mr. Hall, did I understand you to say you do not favor any wage or price controls under any circumstances?

Mr. Hall. That would be an overstatement. I don't know of an episode that has taken place in the 10 years I have been an economist where I, at any time, would have endorsed wage and price controls.

I certainly did not in August 1971, but it would be going much too far to say some episode couldn't happen in the future. There is one kind of wage policy that I don't really think is wage control and yet, is quite relevant for some of these considerations, and that is where the Government sets the wages it pays to its own workers.

The Government is a nontrivial fraction of total employment. When I talk about wage numbers, they include the Government. There are some questions I have about Government wage policy, particularly the tendency I find in the data for governments to pay wages-not so much increases that are inappropriately high, but the whole level of government wages seems to be excessive.

Mr. GAYDOS. We are talking about wage and price controls. I am not talking about what governments are paying. I asked you a simple question on wage and price controls. You suggested in 1971, when they were put on by the President, then Mr. Nixon, that you didn't agree with them.

Let me ask you a question. He kept them on approximately the first 9 months to a year. Were they working at that time? Did they

work the first year they were in effect?

Mr. Hall. The statistical evidence on the actual impact of wage controls is not at all clear to me, but I do point to one situation which suggests that they worked. My criticism of wage controls is not to say that they don't work, but I don't like the things that

When we let go of wage controls finally, in May 1974, there was a perceptible increase in wages discontinuously associated with that particular episode. There is no question in my mind that wage controls are effective in the sense that they do reduce wage inflation.

I think the kinds of political problems and allocation problems and the things people have to do to escape the wage controls make wage controls a very undesirable policy.

Mr. Gaydos. Do I understand you are saying then that wage and price controls do work under certain circumstances, and they have worked, although you don't accept them? Is that what you are

saying?

Mr. Hall. Let me turn to price controls because I haven't said much about that. Price controls do something which wage controls do not do, which is, they cause shortages. In 1973—I refer now to the period before the oil price increase—price controls on many kinds of products resulted in the disappearance of those products from the shelves.

It was impossible, for example, to buy many kinds of plumbing fixtures in the summer of 1973. I believe that is attributable, in large part, to the fact that we imposed price controls on those

products.

It is particularly an illusion to imagine it is a good idea to impose price controls without wage controls. It is the incentive to produce the controlled goods that disappears. Producers won't sell below cost.

I think what we learned is that they weren't selling that far above cost to begin with and the price controls quickly caused shortages. I think shortages represent the total useless waste of resources within the economy.

There is simply no reason why we should trade product price inflation for standing in line. Standing in line is a purely wasteful activity. So I would particularly caution against price controls as

a solution to this problem.

Mr. Gaydos. Let me ask you, Professor, if I may interrupt you, you seem to be very set against any type of Government subsidies. That is the position you have taken. You don't agree with them and we are talking about an almost unlimited amount of Government subsidies available, both in the private sector, military-industrial complex, building and running of ships, the whole business.

You take the position that it's bad and you wouldn't recommend it and we shouldn't be doing it under the circumstances. I think that is your position. I would like if you could, in a relatively short time, give me some acceptable substitutes for existing Gov-

ernment subsidies in these areas.

I can talk about Penn Central, all the farms and farm products. As I mentioned before, our ships, our foreign tax credits, we give our corporations investment tax credits, which you don't like, our R. & D. building mechanical hearts. I could give you a list for 1½ hours.

But what would you put in place thereof and how would you handle the complexity of problems that we have undertaken to

subsidize, as a Nation and Government?

Mr. HALL. Let me say first there is one kind of subsidy I very strongly favor which we do and to a large and successful extent, which we don't want to give up, and that is we subsidize the poor. We do that in a large number of ways and we have some very effective programs for putting dollars in the hands of the poor.

I don't want to suggest for a moment—

Mr. Gaydos. Wouldn't it be nice if instead of putting money in the hands of the poor to make some jobs available so they wouldn't be receiving money that way? Isn't what this bill is all about?

Mr. Hall. That is right, and the bill is very clear that one of the first tools we should use—and one I repeatedly endorse—is monetary policy to provide as many jobs as we can without pushing the

economy into an unsustainable region.

Mr. Gaydos. So I don't lose my train of thought, you have been referring to monetary and fiscal policies. We all have agreed that the employment of people, making jobs in this legislation, is the element of last resort because in our bill we do mention in general terms, some changing, some new approach and we give broad powers in the area of monetary and fiscal policy, which you are alluding to.

Is that true at this time, that our existing monetary and fiscal

policies have failed?

Mr. Hall. Congressman, I am not exactly sure what it means for a policy to fail but I would certainly point to mistakes that have

been made in the past.

Mr. Gaydos. We have a lot of unemployment and it has failed, hasn't it, otherwise we wouldn't need this bill? If our monetary and fiscal policies, as they are now constituted, were working we wouldn't be sitting here and wasting your valuable time, or our committee's valuable time. Hopefully, we would be on another piece of legislation.

Mr. Hall. Supposing unemployment today were 5.8 percent, then I think we would be having very much the same kind of discussion we are having now. I would be saying we have gone as far as it is

safe to go with monetary expansion.

We either have to learn to live with 5.8 percent unemployment or we have to design some policies apart from monetary policy that

can push that level down.

Mr. Gaydos. Your conception and opinion at this time is that because of the explanation you gave earlier that we are destined as a Nation, under existing circumstances, sans some kind of big change, to live with 5½ to 6 percent unemployment. Is that what you are saying?

Mr. Hall. I think that is a fair summary of what I am saying. Mr. Gaydos. Can I go back to 1947, 1948, and 1950, where we had all the war plants then ceasing to exist; we had all the soldiers coming home, 15 million; we had the baby boom on us at that time. The same type of projections were made, that we would never be able to sustain any kind of a reasonably acceptable unemployment figure.

That just hasn't happened to be the truth. In that period until now, we have had some periods of recession. We had some great

periods of almost unheralded expansion. Isn't that true?

Mr. Hall. As I pointed out, the periods of expansion were when wage inflation did exactly what I referred to here; it accumulated. My feeling is that the period you are referring to, which is 1964 through 1970, I read the Government data as showing very clearly that that represented an unsustainable situation in that labor market.

Mr. Gaydos. Let me ask you this. It is predicted, and I think you will agree with the predictions that you have in the long term, there are demographic shifts in our work force. I am talking namely about a larger proportion of our adult population who are going to be consumers rather than producers and we are going to have less people working proportionately.

Mr. Hall. Could I say something about that because that is a little bit misleading. What has happened is there has been a large increase in the fraction of adult women who are in the labor force, enough so that the overall fraction of the population that are

workers as well as consumers is rising.

That is offset to a certain extent by the fact that people are

retiring earlier.

Mr. GAYDOS. I have an article here from the Wall Street Journal of last Wednesday, April 7 by a man I think you have great respect for, Mr. Peter F. Drucker. He has an article here that is so concise and on the point we are discussing.

He says this: "Looking at all its parts, the basic tendency of the American economy for the next 5 or 10 years is not toward a labor surplus but a shortage." And he cites in the article many sustaining

elements to justify his conclusion.

I am submitting to you, Professor, I think you have been very concise in your opinion, but there are people and qualified individuals in this country that feel diametrically opposite to what you have expressed before the committee, namely, that our labor force is going to be smaller.

It is not going to be larger, it is going to be smaller and consequently, if logic follows, we should be well able to sustain a 3-

percent unemployment factor in the economy.

Mr. Hall. The structural relationship I refer to is one between the unemployment rate itself and the rate of wage inflation and is not related to the size of the labor force—that is, the fraction of the total population that is in the labor force. I believe that fraction is largely relevant for the question I have addressed.

One of the advantages of an unemployment target is that it is adaptable to these questions. It doesn't really matter. We can't set a quantitative production target because we just don't know what

fraction of the population will be working.

But we can set an unemployment target and I think the bill is exactly right in focusing on the unemployment rate as the appropriate target. We can set an unemployment target even if we don't know what fraction of the population will be working.

Mr. GAYDOS. I take it you have taken a counter position to Mr.

Drucker.

Mr. Hall. I feel at a disadvantage because I haven't read the article.

Mr. Gaydos. I will make it available to you and appreciate any comments you can make.

Mr. SARASIN. Will the gentleman yield?

Mr. Gaydos. Yes.

Mr. SARASIN. I have read some of Mr. Drucker's material. It seems to me it doesn't agree with H.R. 50, although you may be

able to find something that supports it. I don't think he would agree at all with the concept of this bill and I don't think he would be arguing with Professor Hall.

Mr. Gaydos. I will respond to my colleague, who I have a deep admiration and respect for. I would suggest very pointedly I am not talking about what Mr. Drucker's feelings are toward this

legislation.

We are talking about his position as a man of distinction in his particular economic field taking the position that the American future, as far as the labor market is concerned, indicates a shortage, as counter distinguished from a surplus.

I only cite Mr. Drucker to sustain that position. Let me conclude by thanking you, Mr. Hall. You are very intense in your positions. I disagree with some of them but I would like to have a concluding

observation on your part.

Do I understand you correctly when you did state in your studied opinion that we in this country could not, under any circumstances, reasonably expect to sustain an unemployment rate of less than 5½ percent.

Mr. Hall. That would be somewhat of an overstatement. I read the evidence today as showing that without structural changes we

could not sustain an unemployment rate below 5 percent.

My most likely figure for that is 5.8 percent. But, let me say, things can change. We could discover a policy—I don't know of such a policy today—that changes that relationship dramatically.

It is certainly true the number I would have given for that 10 years ago would be lower. It might be as much as a half percentage

point lower because things change in the labor market.

The changes that have taken place in the past 10 years have been adverse. Let me point out that the adverse changes I think have come to an end. I do not anticipate, on the basis of what I know about the labor market today, that the 5.8 percent will drift up any further.

And, in fact, as the number of births in this country reached a peak in 1957, those people are almost graduated from being teenagers and things are going to get better. The outlook from here is not for the gloomy upward drift in the sustainable unemployment rate for the future.

We have reached the very worst point today.

Mr. Gaydos. Thank you very much, Professor. I imagine I will have to presume that professors are going to be in that 6 percent unemployment area too.

Thank you, Mr. Chairman.

Mr. Daniels. I now recognize my distinguished colleague from

California, the author of the bill, Congressman Hawkins.

Mr. Hawkins. Mr. Hall, as a follow up to the question asked by Mr. Gaydos, on page 5 of your statement in which you deal with the question of a sustainable rate of unemployment, you use a figure of 5.8, or 5 percent of adults. Is that the amount of unemployment that you construe to be sustainable, or an appropriate target; which is it?

Mr. Hall. I have avoided saying that the sustainable rate should always function exactly as the target. I can imagine situations where the target would be different from the sustainable rate.

However, I would oppose the adoption of any single target much below the sustainable rate because by definition of the sustainable

rate I don't believe that target can be sustained.

Mr. HAWKINS. You used sustainable rate. What is such a rate

when you say that?

Mr. Hall. The sustainable rate is something you deduce from the data by looking for an unemployment rate below which the rate of wage inflation tends to accelerate.

Mr. HAWKINS. What is a 5.8, as it is used on page 5?

Mr. Hall. It is an estimate of an unemployment rate such that when the unemployment rate is much below 5.8 percent we observe not just high rates of wage inflation but rising, accumulating rates of wage inflation.

Mr. Hawkins. Then it is a benchmark you use?

Mr. Hall. It is a benchmark exactly.

Mr. HAWKINS. This, as defined in the statement, means 5.8 percent of adults, which excludes teenagers.

Mr. Hall. The 5.8 percent is on the basis of the entire labor force.

Mr. Hawkins. You said 5 percent of adults throughout your statement. You use adults as excluding teenagers. Is that not true?

Mr. Hall. My understanding in writing this, which I now find to be incorrect, is the conventional definition used in government data, adults being people who are not teenagers, that is, 20 and above, as a technical matter.

The 5 percent means 5 percent among members of the labor force

age 20 and above.

Mr. Hawkins. It is more than a technical matter. On page 3 you have tables that relate to adult unemployment rate and one which relates to the total unemployment rate. You have made a very sharp, definite distinction throughout the statement that when you talk about adult unemployment you exclude teenagers; isn't that true that throughout the statement, whenever you make a statement that says "adult unemployment" you are not referring to teenagers?

Mr. Hall. That is only when I read the bill. I did encounter the phrase "adult unemployment". I assumed, mistakenly, the definition used there was the same as used by the Bureau of Labor Statistics.

All of my research has been carried out in terms of the official unemployment rate, which I now understand to be the same unemployment rate as set by the bill, which I believe is the correct unemployment rate to be the target.

All references to the adult unemployment rate in this paper should

simply be ignored.

Mr. Hawkins. Are we to understand on page 5, when you make the statement that a reasonable single estimate is 5.8 percent, or 5 percent of adults, that you are not excluding teenagers?

Mr. Hall. The 5.8 percent includes teenagers. That sentence, I see now, is ambiguous. It should read, "a single reasonable estimate is 5.8 percent of the entire labor force".

Mr. Hawkins. That would have made it clear, but as you stated here, your so-called target is not 5.8, or 5 percent of adults, according to the reasoning that you have used. It would be at least one-half or 1 percent larger if it included teenagers.

Mr. Hall. The 5.8 percent does include teenagers. It refers to

the unemployment rate for the entire labor force.

Mr. HAWKINS. Then "5 percent of adults" should read, as you define them, much more than 5 percent because in that reference you have excluded teenagers; is that not so?

Mr. Hall. That is right. If you set the target on the basis of the adult labor force, which has a significantly lower unemployment

rate, the target should be lower.

Mr. HAWKINS. So you are talking about a target not around five but substantially larger? It is at least 5½ to 6 percent.

Mr. Hall. That is exactly right.

Mr. Hawkins. I just wanted to know what you called a target. Now, are you going to say to all of those still unemployed, when you reach that so-called target of 5½ or 6 percent, that all of you who are unemployed can just forget about any hope of ever becoming employed?

Are we to reach a point below which we would disregard all others who may be unemployed? What do you do to those who do

not get by the gate at that point?

Mr. Hall. At 5.8 percent unemployment, the typical unemployed person remains unemployed for less than 4 weeks, so we should not talk about the unemployed in that situation as if there were a mass of people excluded from jobs.

About half of them are people who are on lay-off from their jobs and who have a good expectation for returning to their original jobs. The other half consists primarily of individuals who have just entered the labor market within the past 4 weeks and are looking for work.

It is not correct to say that at that kind of unemployment rate there is, in any sense, a large group of workers who are unable to find jobs. Rather, there is a large group of workers who are just about to be recalled to the jobs they already have.

They should not be identified as jobless at all. There is another group who are looking for work but haven't quite found it yet. We should not misunderstand what 5.8 percent unemployment means.

It is a very different world from 9 percent or 8 percent or even 7½ percent where we find a significant number of people who have gone a fairly long period of time without finding work. But at 5.8 percent unemployment we reach a situation where the great bulk of the unemployed are in the process of finding work or returning to jobs.

They are not at all a large group of people.

Mr. HAWKINS. Mr. Hall, you know that absolutely isn't true. You know there are groups of the population such as minorities and women who, at 5 percent, will have an unemployment rate of twice that figure. Teenagers would probably have three times that rate.

This average of which you speak certainly does not wash out completely. These special groups, who are not going to be called

back to some job, or who have never had a job and are never going

to locate one, have larger rates.

I am asking you what you do if you reach the 5 percent and, let's say, there are individuals who have never been in the labor market or who have been unemployed for a year or longer. What are you going to say to them? What are you going to do with them who, at this rate, are going to be left out?

They are American citizens entitled to the same rights as others.

What are you going to say to them?

Mr. Hall. In the first place, the group with the largest unemployment rates is teenagers. I have discussed that as a special problem. A good part of the difficulty with teenagers is their inability to find summer work.

It is important when you see a large unemployment rate for teenagers that a good part of that number—not all of it—represents the fact that the economy simply does not provide enough

summer jobs for teenagers.

I endorsed the provisions of the act referring specifically to providing summer employment for teenagers. Beyond that, we should recognize that at 5 percent unemployment the typical unemployed person remains unemployed for less than 4 weeks.

That applies even to those groups with very high unemployment rates. The problem with high unemployment is not a problem of people who permanently cannot find work. The difficulty—and I refer again to 5.8 percent unemployment—is at unemployment rates like that you find, for example, the Black unemployment rate will be higher. It will be at least 8 percent.

If you look into the details of that, it is not that that means there is that fraction of Blacks somewhat excluded from work, it is that the kind of work they get doesn't last very long, they get laid off more frequently—more frequently is by far the largest

explanation of that.

There are problems in the labor market, and I certainly don't want to paint a picture which says that the labor market works perfectly. One of the major problems is that for various reasons, minorities get laid off jobs more frequently. But it is not accurate to interpret those numbers as saying those are people who can't find work.

It would be much more accurate to say those are people who, for one reason or another, find themselves becoming unemployed more frequently. However, the duration of their unemployment is no longer, and in some cases, shorter than it is for the more advantaged members of the labor force.

Mr. Hawkins. Are you saying they are unemployed because of personal characteristics, or are you saying they are unemployed

because there are no jobs available?

Mr. Hall. There are certainly jobs available at 5.8 percent unemployment. The difficulty is there are not permanent jobs for one reason or another. These groups of high unemployment are laid off more frequently from those jobs so that if you look at the job histories, and this is true of young people in general, you find they are moving between jobs. It is not an unavailability of work. It appears to be their difficulty in locating long-term permanent work.

When we see 10 percent unemployment that doesn't mean 10 percent of the labor force is unable to find work. It is 10 percent of the labor force is between jobs or about to find a job.

It is still a social loss. It is still something we should very much concern ourselves with. But, we shouldn't interpret that to mean that 10 percent of the labor force is simply unable to find work.

Mr. HAWKINS. Let's get to wages because I think the thrust of your statement deals with wages. You seem to have an obsession against high wages. Let me ask you whether wages have an influence on economic growth and lew unemployment, and if economic growth has lagged, in real terms, behind productivity gains?

Mr. Hall. I have studied that question. There is essentially no lead or lag relationship systematically between prices and wages. Others have done research on this question and reached the same

conclusion.

There is one very important episode which I believe has dominated the thinking on this issue today, which is that prices rose starting in late 1973 because of food and oil. There was, by necessity, a reduction in the real wage that took place during that period because the terms of trade with respect to oil in the United States shifted very adversely.

We simply had to have higher prices relative to wages as long

as we were forced to accept a high world price of oil.

Mr. HAWKINS. That isn't the point. I am asking you with respect to productivity. Let's put it this way. With respect to productivity,

are wages leading or lagging behind rising prices?

Mr. Hall. Mr. Congressman, today prices are rising less rapidly than wages. We are just about now back on the traditional historical relationship where there is a 2 to 3 percentage point increase in the real wage, the ratio of the wage to the price.

Today we are getting back into the more traditional relationship where we are talking about, say, for the next year an 8-percent increase in wages, 6-percent increase in prices, and therefore, a 2-

percent increase in the real wage.

The relationships were very much dislocated in the 1973-74-75 period on account of the real loss to the economy associated with

the increase in the price of oil.

Mr. Hawkins. Would you give us a period of time, any period of a year or more, and use whatever time you want to, in which wages have led prices and productivity. Will you point out a period of time in the last 20 years in which that situation was true?

Mr. Hall. The most striking episode of that kind was more than

20 years ago. It was during the Korean war.

Mr. HAWKINS. Within 20 years, at what time have wages been

leading prices?

Mr. Hall. Wage inflation and price inflation was very closely associated through the third quarter of 1973, and the largest single discrepancy was on the order of half a percentage point.

Mr. HAWKINS. Was it actually leading?

Mr. Hall. There was no systematic tendency for either kind of inflation to lead the other. It was a very close relationship.

Mr. HAWKINS. Let me get to the last point. I would like to address my questioning to your statement. After you have ignored all

the priority programs in H.R. 50, and after you have misinterpreted the main emphasis of the bill, and its use of monetary and fiscal policies, its use of economic development programs, its countercyclical aid programs for youth, et cetera, you end up with the main emphasis on public jobs in the private sector, which is a terminal program and the program of last resort.

You then get into some rather strange mathematics on pages 10 and 11. First of all, you say there is an open-ended guarantee to underwrite all who may not have been employed in the conventional

manner.

This completely ignores the fact that criteria have been carefully set out on page 33 of the bill in terms of those who would apply for the jobs and how they would be considered, beginning on line 12, where we say "such priority criteria, where it may be appropriate to establish the order in which persons able, willing and seeking to work are provided jobs."

And then the criteria written are the duration of unemployment, the number of employed persons in the household, the number of people economically dependent on any such person, and so forth. Yet, you call this an open-ended guarantee to underwrite the employment of as many workers as are necessary to maintain the

target rate of unemployment.

Even overlooking that misreading of the bill, or not having read the bill, you get down to a hypothetical situation in which you indicate that from 5 to 8 million persons are going to be put into public jobs.

I am sure you wouldn't agree with the 8 million because, if there are only 7½ million unemployed at the present time, I assume you

would agree with some number halfway between that.

But, let's hypothetically, say, 5 million persons would be put in as a final resort under this bill—the argument with which you conclude, which I think is not a valid one to use because we don't anticipate this bill doing such a thing—and we had 5 million jobs and we used 10 thousand per job, that would be \$50 billion.

Confirmed evidence before this committee would estimate that for every 1 percent of reduction of unemployment there would be \$32 billion gained as a result of the unemployment compensation reduc-

tion, welfare reductions, and so forth.

So, if we count 2 percent reduction, that would leave \$18 billion for that 5 million jobs. In terms of the fact that those 5 million persons would then be producing goods and services, would you ignore completely in this calculation, this MIT mathematics, the multiplier effect?

In other words, you are saying that though people are going to get jobs there would be no impact on the total economy. If you leave that out altogether then you end up with a differential cost of between \$40 and \$50 billion, in your terminology, and a \$10 billion

saving and a \$40 billion outlay.

Would you say that is a correct formulation that would ignore completely the impact and multiplier effect, the actual savings that would result and the fact that you now have persons who are not a total liability, but who are producing goods and services as opposed to those who are not producing anything?

Would you say that if we could accomplish that with \$18 billion, we probably would be doing a great service to the Nation to solve our economic problems at the cost of \$18 billion?

Mr. Hall. Most of the advantages you have alluded to there are the advantages of any expansionary program. The reason I don't address multiplier effects is that we have policies which require, essentially, no movement of resources for achieving expansion, namely, monetary policy.

I don't think what you said is quite right about my position on this bill. I put primary emphasis on the fact that aggregate mone-

tary and fiscal policy can do a lot more than it has done.

It should do more today. In the first place, you have got to compare alternative ways of reducing unemployment and even if you found several that seemed to have very favorable computations of the kind you have done, you still are obligated to take the best.

Monetary expansion is essentially free. There is nothing you have to do by way of setting up programs, hiring highly skilled administrators, putting resources into the program. It costs a nickel to

expand the money supply by \$1 million.

We have got to compare one expansionary policy with an alternative and I felt that monetary expansion on a cost-benefit basis is

the most effective.

Let me go back to some of the earlier remarks you made. Let us not for a moment have the illusion that increasing public employment by 1 million workers reduces unemployment by anything like 1 million workers.

That is a very elementary mistake that is made and gives a very strong bias toward these programs, but it is wrong because everytime you tighten the labor market all kinds of other effects take place to cause an offsetting increase in unemployment.

It is well known, for example, that workers come into the labor force in response to improved conditions in the labor market. That is one of the reasons that we get a large social dividend from decreasing the unemployment rate. It is precisely that we bring more people into the labor market.

Some of those people become unemployed in the process of finding work. I have tried to give some impression of what would be realistic to get from this kind of policy, and it is nowhere near 1 million reduction in unemployment for each 1 million increase in jobs.

Mr. Hawkins. I didn't assume that at all. I was using the formulation that you used, not that I would agree with it. Let me just simply ask you this. Don't you believe monetary and fiscal policies which would be the main weapons used under H.R. 50 are the proper approaches to use and that the use of these, while it would not solve all of our economic problems, certainly should be the beginning of the solution to the problem.

And this, backed up with a proper manpower policy and program plus economic development that would reach specific industries, groups and areas of the country, would make the emphasis on public service employment, which seems to be the main thrust of your statement, more manageable and certainly, as a residual program, much smaller than the \$80 billion to which you refer on page 10.

Mr. HALL. I have studied the programs you refer to that are other than public employment. I think there are some good programs. I am not against manpower programs but I think and believe people who operate these programs and design them would agree it is just creating a false illusion to think you could achieve a reduction in sustainable unemployment rate of the magnitude embodied in this bill through those kinds of programs.

We have valuable programs—

Mr. HAWKINS. In my question I didn't ask you necessarily to pick out one factor. I said a collection of these programs, and I mentioned about 10 of them, coordinated and integrated into some sort of a specific policy approach. Would that not go a long way toward making the type of public jobs to which you refer in the final pages of your statement manageable, and certainly of a very small magnitude?

Mr. HALL. My impression is the achievement of those programs is, at the very outside, half a percentage point in the unemployment rate, nowhere near the 2.8 percentage points that is the gap between the 5.8 that I see today as what we can get with aggregate

policy, and 3.0 that is in the bill.

It boils down to a question about the evidence of the kinds of policies. Perhaps I wasn't clear. I was referring to the 10-plus or minus kinds of programs that you were talking about; training

programs, area targeted programs.

I did a study a few years ago that tried to be comprehensive in that and to appraise what the prospects for reducing the unemployment rate through these programs. It is not zero. There have been successful programs, but we should not oversell those programs.

It would be grossly overselling those programs to think that very much of the 2.8 percentage points of unemployment that we need to eliminate could be done with the kinds of programs that we have

had success with in the past and know about today.

In other words, I would interpret this bill as putting, in effect, primary reliance on, first of all, aggregate policy to get 5.8 percent, and public employment plus perhaps half a percentage point at the outside for the other structural policies.

But, most of that 2.8 percent—let's say 2.3 percent of it—has to come from the public employment part of it. My impression of the legislation—I am not an expert at reading legislation—is that the bill requires policy makers to achieve the 3 percent using all of the

different tools it makes available to them.

My interpretation of the effect of those tools says that the one that can have an effect if it is operating on a large enough scale is public employment. We can go as far as 5.8 percent with aggregate policy and then we have to rely on public employment to get most of the remaining 2.8 percent.

The arithmetic I do in my statement shows how many jobs the evidence suggests would be required to get 2.8 or 2.3 percent. The answer is, it is a lot, a lot more than many supporters of this legislation have in mind.

Mr. HAWKINS. Thank you very much.

Mr. Daniels. Professor Hall, the committee desires to thank you

for your appearance and your testimony.

Mr. Gaydos. Mr. Chairman, it is my distinct pleasure to welcome, on behalf of all Pennsylvanians, a Governor I have been personally acquainted with for a long time, and who has on numerous occasions, unselfishly given of his time to come here to Washington on most important problems such as the energy shortage we had, the truckers strike and on various economic problems.

Mr. Chairman, it is my distinct pleasure at this time to introduce to the committee as our next witness, the Honorable Milton Shapp,

Governor of the State of Pennsylvania.

Mr. Daniels. Governor Shapp, I welcome you to this hearing and await with interest your testimony on this very important bill.

STATEMENT OF HON. MILTON J. SHAPP, GOVERNOR OF THE STATE OF PENNSYLVANIA

Governor Shapp. Thank you very much, Mr. Chairman and Mr.

Gaydos, I greatly appreciate your kind words.

Mr. Chairman, members of the subcommittee, I welcome this opportunity to testify in support of H.R. 50, the Full Employment and Balance Growth Act of 1976. I should also like to treat some economic matters not contained in this bill and also give some of my observations to the statements made by the previous witness.

This year, 1976, is the seventh in a row in which the Nation will

have an intolerably high level of unemployment.

Since 1968, the official unemployment rate has averaged well over 5 percent. The real rate of joblessness, counting those forced to work part-time, has averaged 8 percent. Unemployment among minorities and youths has been at least double this.

And who knows really how many idle people have simply thrown up their hands at the hopelessness of the situation and have disappeared even from the statistics. I would like to comment just briefly on the statement that I just heard with disbelief that 5.8 percent or even 5 percent should be considered a normal unemployment rate in this country, or this is what we are going to have.

I say that this country cannot sustain this unemployment rate without going down the drain in the future. I think if we just said to ourselves if this Nation were at war, what would be the unemployment rate. We would say it would be fractional unemployment, zero, except for those people between jobs or studying to have jobs.

I submit that is what we should be heading for as a policy of this nation right now in peacetime because it is attainable and it must be attainable. I don't go with computer studies. I would rather think in terms of human beings than computer models.

I am truly appalled that in spite of this abysmal record, the Ford administration has rejected this bill as unnecessary and labeled its goal of full employment as impossible. This is the height

of hopelessness.

To say that this great Nation, with all its tremendous wealth, great variety and quantity of resources, and its remarkable human