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THE ECONOMIC OUTLOOK

Moderator: ROBERT J. JOHANSEN. Panelists: GEORGE R. GREEN, JOEL POPKIN**, Discussant: MALCOLM R. REYNOLDS*

Dr. Green will review the major factors affecting economic growth in the next five to ten years with major focus on expected population shifts, labor force growth, productivity movement, inflation factors and major components of demand.

Dr. Popkin's paper discusses the outlook for 1980 for wages and prices, and describes how that outlook could be affected by various government policies. An assessment will be provided of the inflation outlook for the decade of the 1980's.

Following the presentation of the two papers by the participants from the American Statistical Association, the Discussant will present a discussion of the two papers from the actuary's viewpoint.

MR. ROBERT J. JOHANSEN: Welcome to Concurrent Session R, The Economic Outlook. This is the third of three sessions arranged for by the American Statistical Association.#

Our first speaker is Dr. George R. Green, Chief, Business Outlook Division, Bureau of Economic Analysis, U.S. Department of Commerce. Dr. Green has a Ph.D. from the University of Pennsylvania where his dissertation, "An Econometric Analysis of Costs in U.S. Petroleum Refining Establishments" would be very pertinent today. In his present position, he is responsible for the Bureau of Economic Analysis Plant and Equipment Survey -- both the maintaining and interpreting of data on past, current and planned investment by U.S. business and the surveys that collect the information. He is also in charge of two macro-econometric models of the U.S. economy designed to forecast short- and long-term changes in economic activity. Among other things the models are used to assess the impact of various fiscal, monetary, or other government policies. Prior to his employment in government, he was Executive Director for Short-Term Forecasting at Wharton Econometric Forecasting Associates, Inc.

* Dr. Green, not a member of the Society, is Chief, Business Outlook Division, Bureau of Economic Analysis, U.S. Department of Commerce

** Dr. Popkin, not a member of the Society, is President of Joel Popkin and Company

See introduction to Concurrent Session, Recent Advances in Prediction Theory on page 1227.

Our second speaker is Dr. Joel Popkin who is President of his own econometric consulting company. His firm specializes in the measurement, analysis and forecasting of specific wages and prices and the rate of inflation. His clients include private businesses, government, and trade and international associations. At one time he was Director of the Washington office of the National Bureau of Economic Research, a member of its senior research staff and Senior Staff Economist at the Council of Economic Advisers with responsibility for current price analysis and forecasting. Dr. Popkin has a Ph.D. in economics from the Wharton School of Finance at the University of Pennsylvania and has taught at the University of Pennsylvania, Northwestern University and George Washington University. He is on the Board of the American Statistical Association and is President of the National Economist Club.

The Discussant is Malcolm R. Reynolds; Malcolm will wear two hats during his discussion -- that of an actuary and that of an investment officer and economist.

DR. GEORGE R. GREEN: It is clear at this time that the rate of growth of economic activity in 1979 will be much slower than in 1978 or 1977, but it is not clear at this point that we are in a recession. In 1977 and 1978 real GNP increased by 5.5 percent and 4.4 percent respectively. In the first three quarters of 1979 real GNP as currently measured increased by 1.1 percent in the first quarter, declined by 2.3 percent in the second quarter, and increased by 2.4 percent in the third quarter. While economic activity has definitely slowed down, we have not as yet had two consecutive quarters of decline in real GNP, the commonly accepted definition of a valid recession.

Despite the slower real growth this year, prices have continued to increase at even higher rates. The acceleration of inflation has been spectacular over the last four years.

	1976	1977	1978	1979*
		(percent change)		
Consumer Price Index	5.8	6.5	7.7	13.0
GNP fixed weighted price deflator	5.6	6.4	7.5	9.5

* Annual rate of change for first three quarters

The high rates of inflation in the last few years have been dominated by external forces coupled with a growth in speculative activity. Steep rises in energy (especially petroleum) prices, housing costs, food (especially meat), and medical care have dominated the shocks experienced by the economy during the last six years. These shocks have caused many ripple effects and indeed the effects of these shocks have not completely worked themselves through the economy. Since the big petroleum price rise was in 1973 it will probably be about 1983 before all the ripple effect works itself through. The responses of the U.S. economy, both public and private, in trying to deal with the aftereffects of these shocks have dominated world currency markets. In general, foreign opinion has been that the U.S. has not responded adequately to the shocks and so there has been a deterioration of the dollar and increase in gold prices reflecting these opinions and fueled also by speculative activity both here and abroad.

The increases in domestic prices have led to cutbacks in government expenditures and government attempts to restrain both wages and prices, although mandatory wage and price controls have been avoided as a policy measure. The monetary system has attempted to cope with the situation by an increase in the level of interest rates over the past years although the money stock growth has not slowed markedly. The dramatic actions of the Federal Reserve Board of October 6 gave a clear signal that the Federal Reserve is determined to curb growth in the money supply (defined broadly) no matter how much is required in the way of interest rate increases.

In this month alone the prime rate jumped by 2 percentage points to 14.5 percent (and there is pressure for a further rise to 15 percent) while current mortgage rates are close to 13 percent. For the first time this year interest rates are at least as high as inflation rates.

The root cause of the current slowdown (and impending recession) is inflation, which has eroded both business and consumer confidence, eroded consumer's real income, and led to high interest rates. These factors, in turn, have depressed real consumer expenditures and fixed investment. The current "recession" is centered in this area of fixed investments, especially housing and consumer expenditures.

The increases in prices have been further compounded by a slowdown in productivity growth.

	1976	1977	1978	1979 (est)
% Increase in:				
Output (1972 $) per hour*	.3	1.5	1.1	- .9
Compensation per hour*	5.8	7.9	9.3	9.3
Compensation per unit of output*	5.4	6.4	8.1	10.3

* Nonfarm business sector less housing

The observed increase in inflation from 1976 to 1977 is largely due to increased unit labor costs (wage increases more than offset productivity gains) plus an autonomous increase in farm product (and food) prices. The increase in inflation rate from 1977 to 1978 reflects higher compensation rate increases coupled with lower productivity growth plus, again, farm product price increases. The increase in the inflation rate from 1978 to 1979 reflects huge increases in energy costs and increases in unit labor costs due to lower productivity (not due to higher compensation rates).

Energy prices paid by consumers increased at annual rates of 54 percent in the second quarter of this year and 67 percent in the third. Fuel oil prices this winter are nearly double those of last winter.

Preliminary estimates of third quarter 1979 GNP show that real GNP increased at an annual rate of 2 1/2 percent, and real final sales increased at an annual rate of 5 percent. The strength in the third quarter was in personal consumption expenditures, which increased at an annual 4.25 percent rate, and was concentrated in furniture and equipment, food, clothing, and services. Exports were up 24 percent; about one-third of the increase in exports was due to agriculture products and two-thirds to capital goods, with aircraft accounting for a substantial part. Fixed investment and government purchases showed small changes from the second quarter -- the reduction was entirely accounted for by the correction in motor vehicle inventory. The rate of accumulation of other inventories was about the same in the second and third quarters and these inventories appear fairly well in balance with the current level of sales.

As mentioned earlier, the fixed weight implicit price deflator for GNP was up about 9.5 percent in both the second and third quarters. For many purposes, the best measure of prices in the GNP account is the fixed weighted index of prices of final sales to domestic purchasers, which excludes exports and includes imported goods. That measure increased 10 3/4 percent at an annual rate in the third quarter -- up from an increase of 10 1/4 percent in the second quarter. The acceleration was largely due to energy prices paid by consumers, which showed an increase at annual rates of 54 percent in the second quarter and 67 percent in the third. Consumer food prices rose by 6 1/4 percent in the second quarter but decelerated to a 3 1/2 percent increase in the third quarter. In both the second and third quarters prices paid by consumers outran disposable personal income, and consumer real income declined. The strength in the consumption part of real GNP in the third quarter reflected in part the sharp drop in the personal savings rate from 5 1/2 percent in the second quarter to 4 percent in the third. Based on historical standards 4 percent is extremely low.

Measures of economic activity other than real GNP also slowed down or declined. Many of the leading indicators have been drifting down for several months. Industrial production has been flat as has employment in goods-producing industries. The rate of increase in total employment has

slowed, but the unemployment rate which rose to 6 percent in August was back to 5.8 percent in September, about the average for the year thus far. This drop in the unemployment rate in September was due to a very small increase in the labor force -- the increase in employment was about double the increase in the labor force -- but that probably will not be sustained.

What's in store during the coming months and quarters? What will be the weak and strong forces during the coming year? If we look at the various output components of real GNP the following likely pattern emerges.

First of all, plant and equipment expenditures have been weak in recent quarters but small increases can be expected over the coming months. There has been no pronounced boom in plant and equipment expenditures. In 1972 dollars, nonresidential fixed investment rebounded from a low in 1975 to an increase of about 8 1/2 percent in both 1977 and 1978; during the three quarters of this year the changes in this component have ranged from an increase of 4.8 percent in the first quarter to a decline of less than one percent in the second quarter and an increase of just under 4 percent in the third quarter. While the recent increase in interest rates and slowing of money supply growth will retard the growth in plant and equipment expenditures, the lack of a prior boom should moderate the drop considerably. In addition, such expenditures should be higher in the coming year due to vast increases in leasing activity by both financial institutions and manufacturers, which will mean that smaller firms acquiring plant and equipment will be less vulnerable to the period of tight credit. The expansion of leasing is at a very rapid rate; two companies, IBM and Xerox, have recently moved to fund between 500 million and 1 billion dollars each for leasing operations.

For government expenditures, the prospect is for a very flat performance in the coming months. Total government purchases of goods and services increased at about 2 percent in each of the years 1977 and 1978, but there were declines of nearly 2 percent at an annual rate in the first quarter and over 3 percent in the second quarter of 1979, with virtually no change in the third quarter measured in constant dollars. Public mood and the announced policies of governments at all levels is for restraint in nearly all areas, with selective increases matched by offsetting decreases in other areas. On the state and local level, the expenditures on education in real terms have been held back and will continue to decline because of population factors (these will be dealt with later in the presentation in more depth).

As for the foreign sector, the slowdown in domestic production will almost certainly result in a slowdown in the imports of goods and services produced abroad. This positive force for real GNP will be offset by weak performance by exports due to the expected slowdown in economic activity which is projected for virtually all industrial countries.

As for inventory investment, the correction in motor vehicle inventories has already been worked off by the substantial curtailment of production in the third quarter and the stabilization of sales due to heavy advertisement and price incentives. While the level of inventories excluding automobiles and trucks appears fairly well in balance with the current level of sales, there are possibly some excesses in retail nondurables and these are likely to experience some corrections in coming quarters. But clearly the inventory to sales pattern overall is only at the high end of the normal range and not far out of line at all, in considerable contrast to the previous period of slowdown when inventories were a considerable factor. In the first quarter of 1973, the inventory to sales ratio for all nonfarm inventory including automobiles was a low of 23.3 percent. By the fourth quarter 1974 the ratio reached a high of 26.1 percent. Four quarters later, in the last quarter of 1975, the inventory to sales ratio declined to 23.9 percent. For the second quarter of this year the inventory to sales ratio was 24.3 percent and in the third quarter it was about the same or slightly lower. It seems clear that while there may be some selected inventories which need correction, there is not a large amount of inventory correction remaining. Moreover, the very high interest rates of the current period discourage any further accumulation of inventory investment over that absolutely needed to meet current operations.

Two areas of interest which remain are consumption and housing investment. It is in these two areas where the expected down turn in the coming quarters will be centered.

Residential investment has been an important factor in most slowdowns, and it will play a key role in the months ahead.

It is enlightening to review the pattern of housing activity in the 1974 recession. During the last two quarters of 1972 and the first quarter of 1973 housing starts were at a rate of about 2.4 million units at an annual rate. By the fourth quarter of 1974 and the first quarter of 1975 at the low point of the last recession housing starts dropped to a rate of just 1 million units at an annual rate.

The prospect for the coming quarter is for extremely tight money in terms of mortgage availability with very high interest rates. Mortgage rates in several parts of the country last week were already close to 13 percent, and the availability of mortgage funds during the past week has tightened up considerably (as a reaction to the Federal Reserve announcement of October 6). This effect will not show up for about a month in the housing statistics, because prior commitments for mortgages have already been made by financial institutions, but by Thanksgiving, mortgage funds will be extremely scarce.

New housing starts excluding mobile homes shipments were at a rate of about 2 million units during both 1977 and 1978. In 1979, this should drop to about 1.7 million units with a further drop to near the 1.5 million unit rate in 1980. Currently these starts are running at a rate of about 1.8 million units (seasonally-adjusted annual rates). At the

most, in the first part of next year these starts can be expected to drop to about a 1.4 million annual rate. Thus, while housing starts are expected to show a substantial decline during the next few quarters, both the prior peak and the expected low point are within a narrower range than that experienced during the previous recession.

The most important element in the current down turn is the area of consumption. Consumption expenditures are still adjusting to recent high rates of inflation, drastic increases in energy prices, sharp increases in food prices, as well as some other longer term factors. Personal consumption expenditures in real terms increased about 5 percent in 1977 and 4.5 percent in 1978. The performance in the fourth quarter of 1978 was at a rate of 6.8 percent in real terms. The performance during 1979 has been in direct contrast with that of 1978. In the first quarter consumption expenditures increased in real terms at a rate of only 1.1 percent. In the second quarter a 2.3 percent decline was registered, centered in a sharp drop in sales of domestically produced motor vehicles. In the third quarter personal consumption expenditures in real terms increased at an annual rate of about 4 1/4 percent with strength in furniture and equipment, food, clothing, and services. Sales of motor vehicles stabilized in the third quarter in real terms.

The growth in consumption expenditures in 1977 and 1978 was influenced by two forces which are not likely to be positive factors in the coming period. The first force is the inflation experienced during the past few years and especially the inflation in energy prices and in owner-occupied housing asset values. The energy price increases during the coming winter will exert a major drag on consumer expenditures. Some estimates call for fuel oil prices to be nearly double what they were last winter. Accompanying the inflation in past periods have been wage increases at rates lower than the overall rates of inflation. That is, disposable personal income in real terms has continued to decline. While consumers have tended to focus on inflation and attempted to keep their incomes abreast of inflation, the main effect of higher energy prices is a reduction in real incomes.

This would probably have been much clearer had energy prices increased with offsetting decreases in other prices. Then it would have been quite clear to the public that the increase in foreign income involves as a corollary, lower domestic income. I feel this is a major force in this downturn and it is not at all trivial. For instance, the extra income going to OPEC, to large oil companies and to distributors and retailers of oil products this year amounts to $75 billion on an annual basis. $75 billion is about 5 percent of our GNP. It is the real effect here that consumers have been fighting against unsuccessfully but they have been concentrating on the inflation front. Even now, consumers are just becoming aware that they will not be able to recoup in the near term and return quickly to a level of income equal to that of the average consumer four or five years ago.

A second force influencing consumer expenditures is the increase in housing asset prices and conversion of the increased equities to cash. Housing asset values have skyrocketed in recent years. The price of existing homes increased from $24,800 in 1971 to $38,100 in 1976, an average annual increase of about 9 percent. Since 1975, the increase in median value of existing homes has accelerated. In 1977 and 1978, the average annual increase in home values was 13.1 percent while consumer prices (urban CPI) increased at a 7.1 percent rate. From January to August of 1979, median housing values rose at a 23.6 percent annual rate while consumer prices increased at a 14.1 percent annual rate.

Consumers have reacted to the rapid increase in housing values in two ways which up until now have been a positive effect on consumption expenditures. The increased asset value of an existing house has been used in part to upgrade housing to a higher priced dwelling, using a part of the asset value. This by itself has raised personal consumption expenditures for housing interest and for utility services. Second, part of the increased asset value in the old house has been channeled to purchases of consumer durables including (especially) automobiles. Both of these factors have operated to increase consumption expenditures but as real incomes have been increasingly squeezed by wage increases which have not kept pace with inflation rates, consumers have found their cash positions strained. At the present time, debt servicing by consumers is at an all time high and is not likely to improve markedly over the near term. Much of this debt servicing includes long-term commitments for housing expenditures including high-interest-rate mortgages.

The next few periods are likely to be characterized by a slowdown in the turnover of existing houses and, it was noted earlier, a slowdown in new housing formations as family units find themselves unable to maintain the spiral of constantly trading for more expensive housing. Also, since expenditures for consumer durables in past periods have been substantial, especially in light of continuing declining real incomes, such purchases are likely to fall off sharply during the coming quarters.

Aside from these factors, expectations about consumption expenditures during the next year cannot be optimistic in terms of the savings rate.

Between 1974 and 1978, the quarterly pattern of savings rates varied between 4.9 and 9.7 percent, except for the first quarter of 1977 when the rate was 4.2 percent. The pattern during 1979 shows a 5 percent savings rate in the first quarter followed by a 5.4 percent rate in the second quarter and a sharp drop to 4 percent in the third quarter. Since this 4 percent rate is near the all time low, many economists do not expect it to be maintained. Even if it is maintained, it seems extremely unlikely that further drops in the savings rate will occur. Such a low savings rate indicates that consumer budgets are becoming more strained. The recent large increases in interest rates plus a continual rapid pace of inflation are likely to be followed by cutbacks in expenditures by consumers in an attempt to move the savings rate up to a more normal level.

A few additional comments are in order regarding the real income squeeze on consumers and the failure of incomes to keep pace with inflation. First of all, the inflation has largely been concentrated in areas of energy and food and not subjected to domestic control either by government or business. Secondly, since 1974 we have had declines in productivity which have been quite substantial.

These declines in productivity reflect a number of factors, but I believe that two key factors, the increased attention to environmental concerns and a change in worker life styles, have been major contributors. In particular, the controls on environmental pollution have resulted in expenditures devoted to that purpose which have not contributed to productive output as measured by statistics, and some activities have been cut back because of environmental restrictions and regulations. The second factor has to do with the increasing demand of workers for desirable working conditions, a slower pace of work activity, and a more pleasant life style in general. In a way this can be regarded as some erosion of the work ethic, but another way to view it is in terms of a better people environment. In any case, while it is extremely hard to measure, there seems to be widespread agreement that workers, in general, are not willing to work quite as hard now as they were some years ago and I believe that this has been a substantial factor in the registered productivity decline. One might also include as a factor the absorption of large numbers of women into the labor force. While both the increased attention to environmental concerns and changes in life styles of the population may yield positive benefits, they both have contributed to the declines in productivity and increases in unit costs.

Overall, my outlook is for a recession starting in the fourth quarter of this year, that is, the current quarter. The above considerations lead me to believe that the recession will not be an especially severe one, although that is a trickly question which depends in large measure at the present time on how tight the Federal Reserve policies are, and how long they are maintained. Of course the key to the likelihood of various possible actions by the Federal Reserve is the extent to which wage and price increases are moderate during the coming months. The Federal Reserve has now adopted policies which entail a risk of intensifying a slowdown if an error is made.

On the inflation front, I believe that inflation will be slow to abate. The producer price index increased in September at a rate of nearly 20 percent and the rate for the third quarter was 14.4 percent, about the same as in the first quarter, and a full point higher than the 13.3 percent registered in the second quarter of this year. Further increases in OPEC pricing of petroleum in December and at later times seem almost certain. Inflation in the fourth quarter of this year is likely to remain in the 13 to 14 percent range. Accordingly, I can see little room for improvement in the inflation rate or in interest rates and credit tightness until late in the spring of 1980, but I do expect some moderate improvements after that. Other factors will contribute to continued inflation during the next few years. Large increases in Social Security taxes are scheduled for 1980 and 1981. Domestic oil prices are being gradually decontrolled and will be fully decontrolled by October 1981 and workers will push for wage increases to try to recoup the continued erosion of real wages.

This scenario means that the unemployment rate will rise to well over 7 percent and perhaps reach as high as 8 percent in the second half of 1980.

Past the middle of 1980, my personal view is a slow recovery from the impending recession. I expect to see a slightly positive rate of growth in the last half of next year with stronger performance in 1981, but I do not see at this time any signs of the development of a boom following the current slowdown.

In looking at the longer term for the next five years or so and well into the decade of the 80's I believe we will experience moderate real growth, substantial but moderate growth in prices, and an economy strong enough to absorb the projected labor force growth.

One of the most important characteristics that will affect growth in the decade of the 1980's is a lower population growth and a slower labor force growth, along with substantial changes in the composition of the population. The prime age group from 25 to 50 will rise during the 1980's from 32.5 percent to 37.6 percent of the population. There will be a substantial decline in teenage population. The percentage of the U.S. population under age 20 will fall below 30 percent for the first time in history. There will be substantial increases in the population over 65 with a dramatic increase for persons 75 and over. Four fifths of the population growth will be in the 30 to 40 age group bracket and most of the rest in the 60 and older group.

The slower population growth will be accompanied by a slower labor force growth. During the decade of the 70's, the labor force has grown over 2 percent per year on the average. The average annual rate of increase during the first half of the 1980's decade will be around 1.5 percent with a gradual tapering to an increase of only 1 percent at an annual rate by the end of the decade.

A 4 percent growth rate used to be regarded as a good potential rate for the U.S. economy, but by the end of 1980's with slower population growth a potential growth rate in the area of 3 percent at a maximum seems likely. Even a 3 percent rate assumes a resumption of productivity patterns characteristic of the 1960's and very early 1970's and a discontinuance of the decline in productivity registered during the last five years.

Finally, even with the strong actions taken to discourage inflationary tendencies in the U.S. economy, it seems likely that the problems of inflation will be with us to some extent during all of the coming decade. It is certainly hoped that inflation rates will not stay at double digit rates beyond 1980, but neither will they return to the 2 and 3 percent rates observed during the 1950's. A longer term inflation rate of about 7 percent is possible but given the multitude of uncertainties involved my best estimate for the first part of the 1980's would be 1 or 2 percentage points higher.

This perspective for the decade ahead has many implications for the insurance industry; I shall cite two. First, the slower population growth will have a substantial impact upon the sales of life insurance and related products of the industry quite apart from other factors. Realistic planning for the industry must take this into account. Second, if I am correct that inflation will be a persistent characteristic of the U.S. economy, then changes in institutional arrangements are desirable. In particular, financial agreements in fixed dollar terms can be made more flexible to allow for inflationary effects. One possibility for the life insurance industry is the gradual emergence of life insurance policies which include options for automatic annual increase in coverage to allow for inflation. This concept has already been extended to some homeowners policies which provide for automatically increased coverage in dollar terms and increased premiums determined by increases in the construction price index since the last policy premium date.

My perspective for the U.S. economy in the decade ahead is one of optimism. We can adjust to higher than historical but moderate inflation rates, we can adjust to higher energy prices, we can improve our environment and absorb our population growth, and we can increase our standard of living. Solutions will not be as rapid as some would wish, and the growing pains of an expanding economy in an expanding world will be considerable, but if we accept the realities and the constraints imposed on our nation and act prudently, our nation will prosper economically.

DR. JOEL POPKIN: At the end of 1979, the rate of inflation in the U.S will have averaged about 6.9 percent per year since the end of 1967. The thesis of this talk is that during the decade of the 80's the average will be two percentage points higher. The reason is that inflation in the U.S. seems to have an ever increasing floor. That floor is caused by the lack of downward flexibility in wage rate changes in response to slack in the economy and in labor markets.

Tables 1 and 2 (See Appendix) demonstrate this point. Table 1 contains annual rates of change and average hourly earnings in manufacturing for nine industrial countries for which such data were available from 1960 to 1978. For this analysis it would have been preferable to use a wage measure that reflects straight-time wages better than average hourly earnings which reflect cyclical swings in premium pay for overtime and the mix of employment between high and low wage industries but such data are not available on an international basis, so a measure of average earnings is used to approximate wages. It would also have been better to select a broader wage measure than one which pertained only to manufacturing but that was not possible on an extensive international basis either.

For each country several summary statistics are calculated and appear at the bottom of the table. One is the mean, or the average, rate of change during the 19 year period. Another is the average absolute year-to-year change in the rate of change in wages. This measure shows the extent to which percentage wage increases have fluctuated from year-to-year. A third statistic is the ratio of the latter mean to the former mean. It

measures wage-rate-change flexibility, the observed degree to which wage rate changes can be expected to accelerate or decelerate in the typical year relative to the typical speed at which they are rising generally. This ratio is termed wage flexibility. Wage flexibility in the U.S. is the lowest relative to that of other countries in the table. It is about half the average for the eight other countries.

The same calculations for the same countries and years were made for prices and appear in Table 2. Price flexibility in the U.S. is not lower than that of the other eight countries. In fact, it is somewhat greater than their average. Given its very low wage flexibility, and average price flexibility, the flexibility of prices with respect to that of wages in the U.S. is the highest of any of these countries (the ratio of price flexibility to wage flexibility is found in the last row of Table 2).

Why, then, are wages in the U.S. less flexible than those in most other major industrial countries? The answer lies in the fact that wage bargaining is more decentralized in the U.S. than in other countries and is staggered over time, reflecting the fact that many important labor contracts run for overlapping three year periods. Countries displaying the highest degree of wage flexibility are those in which a few labor leaders bargain for a large part of the labor force and bargaining, for the most part, takes place annually. In such countries, particularly those in which labor is a part of the government, it is possible to reach agreements that provide for rather marked deceleration or acceleration in rate of wage increases from year-to-year. This is not the case in the U.S.

The foregoing is not intended to suggest that the laws of economics are dead -- that wage rate increases will not respond to changes in the excess demand for labor. However, it is intended to convey the fact that given the range within which fiscal and monetary policy are used to slow the economy, a range dictated by political forces more than economic policy goals, fiscal and monetary restraint in the U.S. are incapable of bringing about much downward change in the rate of increase in wages.

Periodically the U.S. economy experiences an upward shot of inflation, usually caused by some agricultural shortage, or more recently by cartel-determined crude oil price increases. Such shocks do not typically get passed through to wages to the full extent. Real wages do fall when our economy undergoes such price pressures. But part of the shock is passed into wages and results in a slight acceleration in the rate of wage gain.

Also, from time to time disparities emerge in the wage structure. Between 1975 and 1977 union wage increases rose about two percentage points a year faster than nonunion wage increases. This disequilibrium could have been corrected by either a slow down in union wage rates or a speed up in nonunion wage rates. The passage of the minimum wage legislation that went into effect in January 1978 ensured that the nonunion would catch up with the union rather than the other way around. This result obviously causes the rate of inflation to edge up.

Nor can "incomes" policies cut into the rate of wage increase in any significant way. In any given year, in the union sector, wage rate increases contracted for in earlier years -- called deferred increases -- bring about union wage increases of about 5 or 6 percent. When the automatic adjustments called for in contracts that contain the cost-of-living clauses are added to these, and given the fact that first year settlements generally average higher than the average annual increase during the life of the typical three year contract, it is not possible to set a wage guideline which can hold wage increases to a figure below that obtained in the year immediately preceding the implementation of these policies.

Such policies might be able to achieve a reduction in nonunion wages which are usually negotiated annually and not subject to formal escalation. Indeed, this appears to have happened with respect to nonunion wages during 1979. At the beginning of the year and before the increase by OPEC of crude oil prices, the 1979 guidelines were used by many employers as a standard for wage rate increases but, as the year wore on and energy prices shot up along with farm prices, employees in the nonunion sector have become increasingly restive. In September, wage increases in predominantly nonunion industries appear to have accelerated. As a result, it does not appear likely that the same wage guideline set for 1979 could be established in 1980. Recently, the Council on Wage & Price Stability has raised the guideline by a percentage point and provided even more room for wage increases for those employees whose wage increases were less than the guideline in 1979.

The result is that wage rate increases, running so far in 1979 at a rate of 7.9 percent for straight-time wages, 9 percent for total compensation per hour, are likely to accelerate next year by about a percentage point. If the economy grows next year -- we do not have a recession -- some of this acceleration will be offset by a rise in productivity. However, the likelihood is that output will be flat next year and so will productivity. This weak economic behavior will deter unit profits from rising which will shave about one-half percentage point from unit labor costs. As a result, we can look for an underlying inflation rate of about 9 1/2 percent next year as measured by the Consumer Price Index excluding food, energy and mortgage interest rates. The GNP deflator will rise about 9 1/2 percent as well.

Consumer food and energy prices and mortgage interest rates are likely to rise at a faster rate than that of 9 1/2 percent for the rest of the Consumer Price Index. This should produce a 10.5 percent rise in the Consumer Price Index from the fourth quarter of 1979 to the same quarter of 1980.

The flat behavior of unit profits will be rather atypical for a year of no growth in output; unit profit would usually decline under such circumstances. However, in recent years, unit labor cost increases brought about by cyclically deteriorating productivity changes have been

passed through increasingly rapidly into prices. In earlier years, producers tended to mark up prices over standard unit labor costs with the result that if short run productivity exceeded its trend, profits rose; if it were less than its trend, profits declined. This is no longer the case. Companies react much more rapidly to actual changes in costs in the short run and these get reflected quickly into prices. Part of this response indeed, has been conditioned by experience with past "incomes" policies and the ever present concern on the part of business that we will again enter a period of mandatory controls.

The 10 1/2 percent outlook for the CPI for 1980, though less than that for 1979, is above the floor for inflation given current rates of wage increase and their downward inflexibility. That floor can be viewed as 8 1/2 percent, based on increases in straight-time wages of about 8 1/2 percent, compensation per hour of 9.8 percent and "labor" productivity of 1.3 percent. During the course of the next five years, if not the decade, it is quite possible that we will encounter years in which the rate of inflation will soar above that floor as it did this year, reaching 12 percent or so on an annual basis. In each year that occurs we can expect wage increases to drift up somewhat, albeit slowly. Depending on the frequency of such double digit years, the underlying floor for inflation of about 8 1/2 percent will gradually drift upward over the next decade.

MR. MALCOLM R. REYNOLDS: Actuaries obviously must be keenly interested in the outlook for inflation. We are interested from the viewpoint of pension valuation actuaries for purposes of conducting those kinds of evaluations. From the life company actuaries' point of view conducting valuations and establishing interest rate and expense assumptions are obviously contingent on the inflationary outlook but we also have to be very concerned about surplus needs and the solvency of our companies.

When I prepared for this concurrent session I expected to be the most bearish person commenting on the outlook for inflation, having the greatest concerns about the possibility of continually rising rates in the future. I prepared a somewhat detailed argument in support of that but find it unnecessary since the two panelists have already presented very effective arguments for the inflation outlook and I agree enthusiastically with their outlook. I guess I am nonetheless the most bearish of the three of us. Messrs. Green and Popkin both conclude on an optimistic note about an outlook that I regard as very pessimistic.

I have two charts (see Appendix) to show you. Chart I shows annual rates of inflation in the United States from 1926 through 1978 with a dotted line for projected 1979. You can see three brief bursts of inflation prior to the 1960's where inflation exceeded 5 percent. The first burst is related to the commencement of the early years of the Second World War, the second extreme burst was the spending surges following the Second World War and the third less severe one in the early 50's related to the Korean War. Until the mid 60's we had a very low trend in the rate of inflation.

I think it is important for us to distinguish between cyclical and secular changes in the rate of inflation. Looking back prior to the 60's you can see that on a secular basis inflation was very low, well below 5 percent with a couple of cyclical bursts at higher levels. As we come into the 60's though we can see the establishment of a secular uptrend in the rate of inflation.

Chart II shows the six year moving average of the rate of inflation dating back to the late 50's and coming up to the end of 1978 for Canada and the United States. That clearly illustrates the secular long-term trend in the rate of inflation that we have been experiencing since the early 60's - a long-term secular up-trending rate of inflation punctuated occasionally by cyclical declines in the rate of inflation. For example, in '75 and '76 we had a rate around the 5 or 6 percent level. I want to emphasize that it is not only prices but also the rate of inflation that is trending upward.

I asked both Doctors Popkin and Green to give me their economic outlook or their inflation outlook in quantitative terms that actuaries can relate to. Chart III illustrates their probability distribution function for the expected annual rate of inflation for the next five years - the first five years of the decade of the 80's and for the second five years of the decade of the 80's.

I find that both of those projections are very pessimistic. You can see negligible probabilities of inflation being reduced even in the latter part of the 80's below a 6 percent level. In the case of Doctor Popkin we see a 50 percent probability of double digit inflation for the last five years of the 80's.

I found both of the papers most interesting and persuasive on the points they were making. I heartily endorse Dr. Popkin's linkage of wages and prices. In the case of Dr. Green's presentation it was indeed refreshing to hear a government economist speak frankly of his economic views. My experience in Canada has been that government economists have an optimistic bias if they give you a forecast at all. Often times when you ask for a projection they simply refer you to the Governor of the Bank of Canada's latest comment, or the Minister of Finance's latest comment. I found it very refreshing to get a frank forecast of how the economy is likely to look in the future.

During a session yesterday dealing with the impact of inflation on pension plans someone developed the analogy of a leaky roof and the roofer coming to repair it. One remedy in the case of a worsening leak was to put a bigger bucket under the leak; the alternative was to fix the leak. If inflation represents a leak in our economic roof, the suggestion at this session is that we need bigger buckets to cope with inflation over the decade of the 80's, but what I find most distressing is that we are saying that we are not going to be able to fix the roof at least through the decade of the 80's.

I have been operating for some time under the impression that our economic goal is to bring down the rate of inflation. I am skeptical about our willingness to pay the price that is required to reduce the rate of inflation, but our goal has been for some time to bring inflation down below say 5 percent at least. To see the probability of such a reduction over the next 10 years to be negligible distresses me considerably.

I was watching TV briefly yesterday while a business commentator on a morning show was talking about the high cost of borrowing. He pointed out that you can go to the bank and get a term loan for somewhere in the range of 12 to 18 percent or you can take a mortgage on your house and pay maybe 12 to 15 percent and if you belong to a credit union you might borrow for 8 to 12 percent, but he pointed out that if you own a life insurance policy with cash values you can borrow for something between 5 and 8 percent. He noted that life companies do not like to talk about that feature very much.

I am not advocating that we go out and advertise our 5 to 8 percent loans, but I think that life company actuaries had better do a lot of thinking about what that guaranteed cash value and policy loan interest rate is going to do to their companies during the kind of inflation environment that we perceive for the 1980's.

Bear in mind that we are talking here about reflected average annual rates of inflation over five year intervals. Implicit in those averages are the possibilities of extreme bursts beyond the ranges indicated for brief periods of time and, probably, correspondingly higher short-term interest rates. Where does all of this end? I am putting the question to Dr. Popkin whose view I do not quarrel with for the 80's. Are we ever going to return to inflation rates below 5 percent levels?

DR. POPKIN: I would like to answer the question by citing some of the average annual inflation rates that other countries have endured over the last decade. In Australia they had double digit inflation in four of the last six years, in the U.K. double digit inflation in every one of the last six years, in France an inflation rate that verged on a double digit inflation rate for a number of years. Other countries have adjusted to this. The nature of our adjustment has not taken the course that a lot of people would have predicted.

What would we have said in the early 1960's if someone had forecast 7 percent annual inflation for the decade of the 70's? I just cannot take a pessimistic view from the kind of inflation forecast that I have made. I think that we have the mechanisms to adjust to what I regard as something that will be an ever upward creeping, underlying rate of inflation and I just think that we will continue to adjust to it.

If we were a closed economy, if we did not trade with the rest of the world, this adjustment would be easy. The real pressure brought to bear on us really comes from the rest of the world. Look at the times when we in the U.S. have instituted incomes policies. In recent times it has really been in response to international developments with respect to the value of the dollar. That was really the reason that we got controls back in 1971; because of problems we were having with the dollar.

If we can manage our international relationships with some modicum of success, I do not think this has to lead to disaster, but a lot is going to depend on how we manage the international part of our affairs. You can see that a lot of sectors of the economy have benefited markedly from the decline in the value of the dollar. Exports are rising, imports slowing down. A lot of highly capital-intensive industries are making their expected gains from this sort of thing and we are creating more jobs as a result of this.

Our system is not going to collapse as a result of what I see on the horizon. I think that 10 years from now we will still be coming to Bal Harbour and our companies will still be paying our way. There will be jams in Miami Airport as we wait to get on planes to spend $500 to travel from Miami to New York.

DR. GREEN: I cannot disagree with what Dr. Popkin has said. I feel we really have not noted what the inflation rates are abroad. Our rates of inflation in the past year and in the current year are higher than in some other countries. Inflation is a way of life we have to become accustomed to. If a doctor says to me "You have a heart problem" I realize it is unfortunate and that I can not run as much as I used to but it does not mean that I have to give it all up. It means I can live a very productive life if I accept that constraint and reality. I think that is what we are dealing with in regard to inflation. Consumers do not want to accept the reality right now that we have had a setback in real incomes and that is part of the turnaround in consumption expenditures that will take place. In the longer term we simply have to accept the reality of more inflation than we've had in the past.

TABLE 1

Percentage Change in Average Earnings in Manufacturing, Selected Industrial Countries, 1960-77

Year Ending Fourth Quarter	Australia	Canada	France	Germany	Italy	Japan	Norway	United Kingdom	United States
1960	4.1	3.4	8.0	9.3	5.0	7.1	2.2	6.6	3.0
1961	3.4	3.3	7.7	7.5	4.8	13.8	10.6	4.6	2.9
1962	0.1	1.6	8.9	8.7	13.7	6.6	5.8	4.3	2.9
1963	2.1	4.8	8.2	6.6	13.3	12.7	5.5	2.8	2.8
1964	5.3	3.0	6.6	8.6	15.4	10.6	6.9	5.1	2.7
1965	2.5	5.9	5.7	6.6	5.5	6.9	8.1	7.1	3.9
1966	5.4	5.6	6.0	6.2	3.9	13.6	7.5	5.0	3.8
1967	4.5	7.9	5.9	4.1	4.6	13.2	8.3	5.4	4.9
1968	9.2	7.3	16.5	5.6	3.3	15.6	10.3	7.4	7.0
1969	3.1	8.0	8.1	9.8	10.1	16.5	7.0	5.9	5.4
1970	5.3	8.4	10.9	15.2	22.6	18.3	15.2	12.9	4.1
1971	14.1	8.7	11.3	7.5	11.8	11.9	9.4	11.2	6.9
1972	9.0	8.0	11.5	8.2	13.0	17.6	9.5	16.8	7.4
1973	14.3	9.9	15.5	10.2	28.7	26.0	11.0	12.2	7.8
1974	35.6	16.5	20.6	12.3	20.6	23.7	21.0	21.9	9.6
1975	11.4	12.9	15.9	7.7	23.0	9.6	17.6	29.3	7.3
1976	14.1	12.6	14.9	5.8	28.3	13.0	16.5	12.1	8.2
1977	14.8[a]	11.2	12.0	7.4	23.6	8.1	8.7[a]	3.7	8.8
(1) Average year to year change	8.8	7.7	10.8	8.2	14.0	13.6	10.1	9.7	5.5
(2) Average change of year to year changes without regard to direction	5.7	1.7	2.7	2.5	5.4	5.3	3.6	4.5	1.0
(3) Earnings flexibility (2) ÷ (1)	0.65	0.22	0.25	0.31	0.39	0.39	0.36	0.46	0.18

[a]Preliminary, first three quarters at annual rates.

TABLE 2

Percentage Change in Consumer Prices, Selected Industrial Countries, 1960-77

Year Ending Fourth Quarter	Australia	Canada	France	Germany	Italy	Japan	Norway	United Kingdom	United States
1960	1.6	0.7	3.5	0.8	1.5	3.2	1.6	1.8	1.3
1961	0.8	0.4	3.7	2.7	2.6	8.2	3.1	4.3	0.8
1962	0.1	1.7	4.2	2.7	5.7	4.5	4.5	2.5	1.3
1963	0.5	1.7	5.3	3.1	7.6	8.2	1.4	2.2	1.4
1964	4.0	1.8	2.4	2.5	5.9	5.1	8.5	4.4	1.1
1965	4.0	2.8	2.5	4.0	3.4	6.1	2.6	4.5	1.9
1966	2.4	3.9	2.8	2.8	2.1	4.1	3.8	3.8	3.5
1967	3.2	3.8	3.3	0.7	3.7	5.7	4.9	2.1	2.8
1968	2.6	4.2	5.3	3.3	0.8	4.5	3.5	5.6	4.7
1969	2.9	4.6	5.8	1.9	4.0	5.9	3.4	5.2	5.8
1970	4.9	2.1	5.2	4.0	5.3	7.8	12.0	7.7	5.6
1971	7.1	4.1	5.8	5.7	4.7	5.4	4.9	9.3	3.5
1972	4.5	5.2	6.9	6.2	7.2	4.5	8.3	7.7	3.4
1973	13.3	9.1	8.3	7.3	11.6	16.4	7.7	10.3	8.4
1974	16.2	11.9	15.0	6.4	24.7	24.6	9.5	18.2	12.1
1975	14.0	10.2	9.9	5.6	11.6	8.5	11.6	25.3	7.3
1976	14.4	5.9	9.9	3.8	21.1	9.4	8.4	15.0	5.0
1977	9.3	9.1	9.2	3.7	15.5	6.2	9.0	13.1	6.7
(1) Average year to year change	6.0	4.6	6.1	3.7	7.7	7.7	6.0	7.9	4.3
(2) Average change of year to year changes without regard to direction	2.2	1.5	1.4	1.2	4.1	4.0	3.0	2.9	1.6
(3) Price flexibility (2) ÷ (1)	0.37	0.33	0.23	0.32	0.53	0.52	0.50	0.37	0.37
(4) Ratio, price flexibility to earnings flexibility	0.57	1.50	0.92	1.03	1.36	1.33	1.39	0.80	2.06

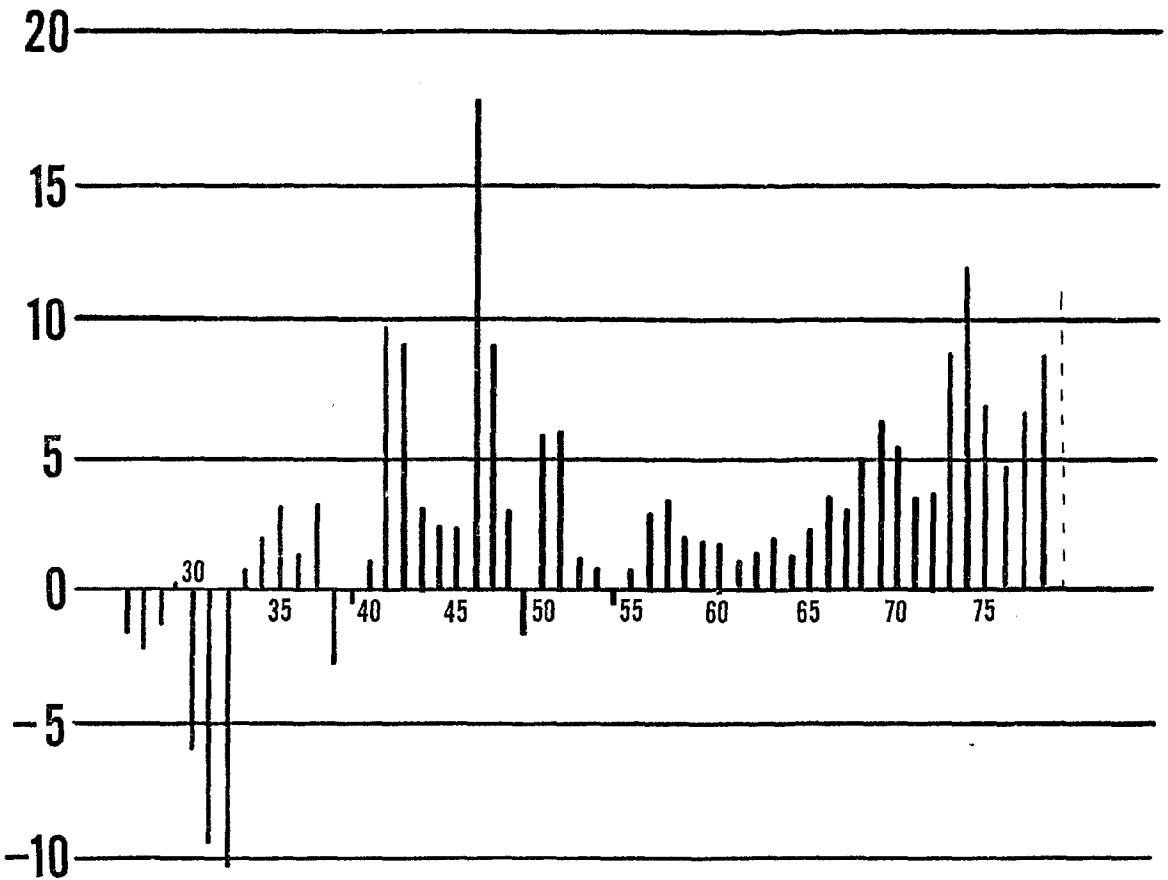
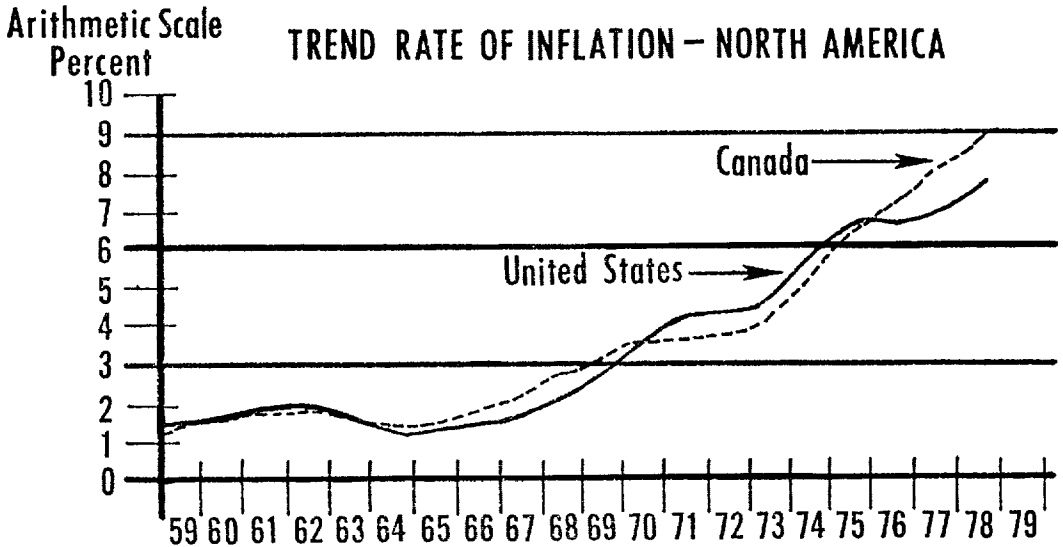

ANNUAL % CHANGE IN CPI (U.S.A.) 1926–78
20
15
10
5
0
−5
−10
30
35
40
45
50
55
60
65
70
75

Chart I

Chart II



Six year compound annual growth trend measured via four quarter moving average of Consumer Price Index.

CHART III

(Showing perceived probabilities of the five year average rate of inflation being within the indicated ranges)

	4%	4-6	6-8	9-10	10-12	12-14	14-16	16	TOTAL
1980 - 84									
Green			35	45	20				100%
Popkin			5	80	15				100%
1985 - 89									
Green		5	25	50	15	5			100%
Popkin				50	35	15			100%