

- Welcome once again as MIT Professor Paul Samuelson discusses the current economic scene. This series is produced by Instructional Dynamics, Incorporated. This program was recorded July 8th.

- I've just received in the last couple of days, two 10-year forecasts. They're by organizations with a good track record. Chase Economics is one of them. You've heard me speak of the track record of Dr. Michael Evans of Chase, a wholly owned subsidiary of the Chase National Bank. But produced by computer and intelligence out of Philadelphia. And the other is by the Townes and Greenspan organization. Which means Alan Greenspan, the brains and heart, and soul of that organization. I thought I might share with you what their long run vision is. Let's use as our benchmark, the last year for which we have reasonably solid facts. I'm referring to 1973. I call the facts reasonably solid, because of course, the 1973 data will still be open to revision. But, we do have the Consumer's Price Index for that year. We do have the real Gross National Product. We do have the real Government Expenditure on Goods and Services. We have the estimate of dollar profits after taxes. And, we have the interest rate, let's say as measured by the AA Corporate Bond rate. Now, what will these same magnitudes be like in 1982? It's not given to all of us to have a view, a peek into the far future. But, certainly, you can ask yourself what you'll be doing in 1982, and you'd like to know where the Consumer's Price Index will be. So, let me report to you what the consistent forecasts by the two different services, each with a good track record, what their best guesses are. I say best guesses, because I think they would be the first to insist that there is no great precision possible in forecasting 10 years ahead. But, these are reasonable extrapolations based upon the most reasonable way of interpreting available evidence. Available evidence on present and past economic data, and patterns of relationships. Well the Consumer's Price Index in 1973, was 133. That means it was just $\frac{1}{3}$ above the base period of 100. And, according to these forecasts, let me start with say, let's do it alphabetically. Let's start with Chase Econometrics, 222.6. And according to Townes and Greenspan, 247.4. If we sort of go halfway between them, you might say, 235 would be the estimate. Now, I don't know whether you'll find that disappointing, or not. I suspect that you will find it a pleasant surprise rather than otherwise. Because it means that in a full 10 years, the Consumer's Price Index, the one that concerns the most of us in our lives as ordinary citizens, it will not have doubled. The doubling would be 266. Of course, it's not too good a story. If it were too good, if it were 133, or 100. You just wouldn't believe it. This is just within the realm of the believable. This represents about a $6\frac{1}{2}\%$ rate of price increase, for the Townes and Greenspan guess. So I guess a little bit less than that for the Chase Econometrics guess. Taken at what it is, I think that's reassuring to any of us who have been concerned that the present 12, 13% annual rate of price inflation, Consumer's Price Index, that that will never be reversed. That's the new steady state, which at best we can hope for as we move into the so-called double digit Banana Republic cantering, modern inflation of the age. What about Real Gross National Product? After all, prices are just the tokens. They can be darn uncomfortable when they're high and when they're rising. And they can have real effects upon the real magnitudes. But what about the Real Gross National Product of the American people? Well, let me give you a benchmark. The benchmark is for 1973, the Real Gross National Product was, 837 billion. Those were in 1958 dollars. You can think of it I guess as just about $\frac{7}{8}$ of a trillion dollars, something like that. Or $\frac{5}{6}$ of a trillion dollars might be more accurate. Now, where will be in 1982, 10 years later? 10 years later counting '73. Will we be at the same level? Will

there be no growth because of pollution concerns, because of exhaustion of national resources? Because of the movement towards zero population growth, and zero economic growth? (speaks foreign words) Well, not according to our authorities. Again, sticking with the alphabetical order, the Chase forecast will be at 1,140.6 billion. I'm giving you all the decimal places. Of course the decimal places don't represent the actual accuracy of the data. They just represent what has to be carried in the computer, just as a check upon the gross numerical accuracy of the computations. That represents about a $3\frac{3}{4}\%$ annual rate of growth. And when we turn to Townes and Greenspan, the picture is pretty much the same. It's a little bit more pessimistic. Just as Townes and Greenspan's been a little more pessimistic on the price front, so it's a little more pessimistic on the real growth front. It's 1,090.3, and I work that out to be about a $3\frac{1}{4}\%$ rate of growth. Of course, if I were really modern and had right in front of me, the new computers, which anybody can have for just a few hundred dollars, I could zip in these numbers and give you the exact percentage increase. It's something very different I can assure you, from the days when I was a graduate student, and one had to punch out at great length on a Monroe or Marshant calculator, tedious computations. Well, let's take the mean between the two estimates and we have have a $3\frac{1}{2}\%$ rate of growth. Now you may say, isn't that a bit on the disappointing side? Because we're always hearing the numbers of about 4%, of being par for the American economy. Well, 4% has been par for the American economy in recent years, but remember we're moving 10 years ahead. And, just to give an example of how you have to keep readjusting the potential trend rate for the United States, you have to take into account the labor force. How can one accurately forecast population as long as 10 years ahead? The answer is very simple if we're talking about labor force, because anybody who's going to be in the labor force 10 years ahead, the labor force that counts, which would be the age 18 and over age 20 and over, is already born. Unless there are some very great surprises with respect to the life table of adolescents and young people, we can pretty much predict hoe many people there will be available for work. Of course what we can't predict with the same actual precision is how many people will be in college, and therefore, some assumptions have to be made. And I think the usual assumption made is, that the leveling off in the college population will pretty much guide what's going to happen. We also have to make estimates of how many people retire early. And here, since there has still been a trend towards early retirement, this is built into the estimates. The more difficult matter is the increase in participation of females at the middle and prime working ages. And the best that can be done here and this is what I'm sure our forecasters have done, is to extrapolate the most intelligent reading of trends up until now. If there's any sign of that process decelerating, that's taken into account in the estimates. The result is that we will have some slow down in the rate of growth of total people in the labor force, in comparison with the earlier years. You might think that we would also have a slow down in the number of hours worked per week. But, very surprisingly, despite almost all past history, in the last 20 odd years there's been almost no change in the average work week. If anything, if you compare just 20 years ago with now at the same stage of the business cycle, you find that the average work week is just a little bit higher. So, all that I think is allowed for there, and perhaps this is a mistake, is an increased number of holidays. 'Cause that still is a dominant trend. Still other adjustments have to be made. We have to forecast what's going to happen to productivity. And, I noticed that Chase Econometrics has taken productivity per man hour, per person hour, and has written that down from 2.6% per annum, to 2.2% for the changed cost of energy. Which is projected to carry forward in important degree, not necessarily in comparison with right this moment, but in comparison with prior to last October's increase in the price of oil by the Middle East countries. So, all in all, this gives rise to about a $3\frac{1}{2}\%$ rate of Real GNP increase. This is consistent I may

say with unemployment not growing chronically and increasing as a percentage of the labor force. By default these estimates, I would probably have to fault them on the side of low unemployment. More precisely, since there are some differences between the two estimators, I'd better point out what they are. The Chase forecast has unemployment in the last part of the decade, below 5%, whereas the Townes and Greenspan has the unemployment rate in the last part of the decade at above 6%. And, therein I suppose lies the principle reason for Chase's optimism on Real Gross National Product. I think I ought to stand back from these numbers, and see whether opinions are now changing in comparison with an earlier time. Some of you may remember that at the beginning of the 1970s I quoted estimates by the OECD organization in Paris, of how the seven principle industrial nations of the world would be likely to grow within the decade of the 1970s. So, we were talking then about the 1970 to 1979, or 1971 to 1980. We're talking now about a 10 year period of two or three years later. But, at that time it was expected that par for the United States, according to the OECD, was about 58% real growth for the decade as a whole. Now it appears that looking forward for another decade, at just slightly later date, that according to our authorities, par is a bit below that. We won't do as much as 50% during the 1973 to 1982 period. That means we won't grow as much as we grew in the 1960s in percentage terms, because I remember it, the percentage increase in real GDP would grow through the United States in the 1960s, was almost precisely 50%. This is after correction for inflation, but not correcting for any changes in population. Well, there is a little slowing down as we move, I suppose, towards services as getting a greater weight in the indicators. And also it may be that we're shifting our emphasis just a little bit towards NEW, towards Net Economic Welfare, toward the things which don't get figured into Gross National Product. But, which really do add to the welfare, or keep us from having a subtraction from our welfare. So I find nothing discouraging in these particular estimates. In fact, let me show my hand here right now and say, that I regard these forecasts as rather on the optimistic side. I would settle, if I can make a bargain with the devil, or with the angels, for this particular outcome. And I imagine that most of us would. You might be interested to know whether in 1982 we're going to live under serfdom, whether the government is going to preempt most of the Gross National Product in real terms. And, even more of the money national income is gonna pass through the hands of the government, and be involved in transfers, welfare, social security and so forth. When I don't have the estimates at my fingertips here on government transfers, but I do have what the real share of government expenditure will be. And, if you can believe our authorities, it's a pretty reassuring viewpoint for those of you who think that the best government is limited government. Let's be even handed and let's begin this time with the end of the alphabet. And so, I ask what does the Townes and Greenspan organization see for the growth in real government expenditure in the 10 years? Real government expenditure, 1958 dollars in 1973, was 144.7 billion. That's 144, 145 on 837. So you can see that the real expenditure was down at about 1/5. And, according to Townes and Greenspan that's going to grow, but it's gonna grow in 10 years, in real terms, only to 189. That's a very small rate of growth. In fact, since Townes and Greenspan thinks that there'll be 1090 at that time, you've slip from a 1/5 of government expenditure going to government, of national product going to government in direct goods and services. You've slip down to I suppose, below 1/6. Indeed, if you look at how that's broken down between federal and state and local, since state and local still has to grow for a variety of obvious reasons, you find that Alan Greenspan is, well how shall I put it? I think from his viewpoint, I would have to put it as extremely optimistic. Because he has government expenditure, federal government expenditure, which is by itself in 1973, 57 billion dollars, 1958 dollars. It grows only by 1982 to 64 billion. That's hardly more than where we were in 1972. Now I have to ask myself, does anybody really

believe that? If you look at the past trends of government expenditures on goods and services, if you look at the political trends, I would add, but please disregard this. If you look at the collective needs that increasingly come to the fore in an affluent society, and then a crowded society, like our modern, industrial society, does anybody really think that this is feasible? Or is this a case of wishful thinking on the part of Alan Greenspan? Alan Greenspan, is a prolific writer, so we know what his general, social philosophy is, and he takes, sorry to say I believe a rather dim view of the effectiveness of governments in spending our money. So, I would think this would be a very pleasing outlook for him. But, I must say I wouldn't bet on it being so modest. Now, by contrast, instead of going up from 145, to 189 as with Townes and Greenspan, the Chase Econometrics model has it going up to 208. Well, that's more, but it's not of a different order of magnitude. So, if you say 200 billion, from 145 to 200 billion, that will pretty much be a mid number for our forecasters. What about profits? Profits after taxes, will there still be a private enterprise? Will there be a corporate enterprise that has enough to pay out dividends and to plow back into capital formation? According to our forecasters the answer to that is yes, definitely. Profits after taxes in 1973, were about 70 billion dollars, 70.4 billion dollars. And, Townes and Greenspan thinks that dollar profits, this is not corrected for inflation, will be 180.3 billion in 1982. And, the Chase figure is 163. So, if you sort of split the difference between them, you'd be at about 170 billion dollars. That represents more or less 2 1/2 times the dollar profits of the present. Well you might say that suggests that stocks are a great buy, because that suggests if the DOW indexes at this moment at about a little over 800, and profits go up by 2 1/2, you ought to multiply the DOW by 2 1/2. And that'll give you something like 2,000. Alas, it's not quite that simple. Because remember, that the base upon which is gonna earn these profits, is going to be larger because of some new adapt and new flotations by companies. I tried for the purpose of this round up to make a rough calculation of what this means with respect to profitability for existing capital that is just allowed to grow at whatever compound rate, plus or minus it's gonna grow. And that turns out to be very, a complex calculation. I would say that on this basis, if profits behave this well, the most that I want to state is that dividends will continue to grow over the years, dividends on existing stock holdings. And that stocks are not grossly overpriced at the existing level of the DOW Jones, or Standard and Poor's, or comprehensive indexes. These are, I remind you again, rather reassuring 10 year forecasts. But, to what are you gonna compare the profitability of common stocks? I think you have to compare them to what's gonna happen to interest rates. Since the Consumer's Price Index has continued to rise at 6 some percent, that of course gets built into the forecast with respect to interest rates. Now, I have at hand here, only the forecast for interest rates of the Chase model. So let me report on what's going to happen to Corporate AA Bonds. They, in 1973, had a yield of about 7.88. And, they, in 1982 in the last part of the decade that we're talking about, are figured by Dr. Evans to have a yield of just about 10%. Just a little bit above 10%, 10.11%. So, you see, that suggests that the real rate of interest will be about 4% only, because a 6% rate for the Consumer's Price Index and a 10% rate for interest gives you about 4% real terms. Perhaps a bit better than that in these forecasts for the last part of the decade. Which is a bit better than has been the case recently. In fact I believe that our forecaster's computers have reversed recent trends, which have been showing an increased share going to labor. And a reduced share going to capital. They're impressed no doubt, by the fact there seems to have grown up a shortage of capacity in many basic materials industries. In paper and glass, and cement, in degree in chemicals. And no doubt that our public utilities are gonna find themselves squeezed. And that will show itself in a shortage of growth of capital formation. As time goes on. Now, I should make some caveats about these forecasts. These are caveats which the forecaster's themselves would make. You'll notice that there's no great up and down of the

business cycle in these numbers. Or rather, if you have the numbers before you and you looked at them in detail, you would find that there is some build up of activity in 1975 and 1976 say. Last part of '75 and '76, because nobody thinks that '74 is gonna be a very great year. We're in a year of stagnation. And some allowance is made for that. And so, there is actually some allowance made, some ups and downs, in the rate of growth of real output in the different years, as you move towards the end of the decade. Just to give an example, but this means nothing, in 1977, according to Townes and Greenspan, the rate of increase of Real GNP will be 4 1/2%, that's better than average. Then it drops to 2.7 in '78, 2.8 in '79, goes up to 4.5 in 1980, down to 2.9 and 2.8 in '81 and '82. Now, Alan Greenspan doesn't profess to know really, whether 1981 is going to be a little bit worse, or a little bit than 1980, that's too far away. It's just that that's a consistent story, which grows out of the present initial conditions. And I think that both he and Dr. Evans would ask us to look at these as kind of trim numbers. But, to put in more or less at random. At random dates in the last part of the decade. A business cycle, at least a mini business cycle, not unlike the mini business cycles which we've seen in the last years. We just don't happen to know whether it's gonna start out in '79, or '80 or in '81. So, with that caveat, you do understand how these are to be interpreted. Now I haven't much time left. I've given the picture, the broad picture. You'll have to subscribe to the services to get the detailed argumentation upon which this is based. And that's of course where the value lies. And also, to get the detail that's relevant to your own decision making in your own interests. But, what do I really think of this? Well, I think these forecasts are good forecasts. I could not make better forecasts if I set out to do the same thing. And forecast not unlike them could have been made, and were made 10 years ago. But of course, what's happened in the last 10 years, I mean from 1963 to the present, or from 1964 to the present, or 1965 to the present. What's happened could not have been foreseen by the best forecasters. You would not have foreseen the two digit inflation. You would have not seen the stagnation, relative stagnation of so many of the Nixon years. You would have been in the full flesh then, of the John F. Kennedy, early part of the 1960s set of slow, steady improvement. And so it with these forecasts I think that they're good benchmarks. They are what could happen. But I must say, in terms of what's been happening around the world, and what's been happening in our own country, it seems to me, these are about as optimistic as one could imagine. And I would have myself to shade them on the pessimistic side. Although I think that our double digit inflation will recede to 8 or 9%, even within this year and going into the next year. I am not persuaded that for the decade we can be so optimistic as even 6 1/2% on the average. And certainly I don't think we can get there without a good deal more unemployment in the middle part of the decade, than seems to be built into most of these forecasts. So, I have to remind ourselves once again, that the best job that economists can do about economics is better than what any other profession, or discipline can do about economics. But it's still is something which has to be taken with a tremendous grain of standard deviation and variance. And I would myself, want to bias downward these numbers in a less optimistic direction.

- If you have any comments or questions for Professor Samuelson, address them to Instructional Dynamics Incorporated, 450 East Ohio Street, Chicago, Illinois, 60611.