

William Clark: Hello this is William Clark, Financial Editor of the Chicago Tribune, welcoming you on behalf of Instructional Dynamics to this weekly series of commentaries on current economic developments. Reporting to you will be one of the nations leading economists, Professor Milton Friedman, of the University of Chicago. Dr. Friedman, I'd like to start again today with a letter from one of the subscribers. This one comes from a gentleman in California and it's a bit challenging. He starts out by saying "I subscribe to Instructional Dynamics and have been "listening to your very interesting economic lectures." So far so good. Then he says, "However your statements that the economy "has not been slowing down in spite of the tax increase "would seem to be contradicted by the enclosed figures "representing the coincident indicators in the economy. "Dare you answer this criticism in your series of lectures, "I know you dare."

Milton Friedman: I'm delighted to because the point the subscriber raises is, of course, a very relevant one. If you look at the usual figures, you don't have to go to the coincident indicators, supposed you look at the change in dollar GNP from quarter to quarter, then it is certainly true that the change in dollar GNP in the third and fourth quarters was moderately lower than the change in the first two quarters. I don't remember any more the exact figures, but the first two quarters was a bit over 20 billion dollars per quarter, and the third and fourth quarters was down in the neighborhood of about 17, 18 billion. I think that's right, isn't it?

William Clark: Yes, I believe it is.

Milton Friedman: There was a slight slowing down. Does this slowing down mean, therefore, our predictions that the tax surcharge would not have any significant effect on the economy as a whole are wrong? The answer is no it does not mean that. It does not mean that for several reasons. In the first place, there was as it happens a slow down in the rate of monetary growth from about November of 1967 to about May of 1968. At least as measured by broader monetary total. That is currency plus all commercial bank deposits. Given the six months lag, one might have expected that slow down in monetary growth also to produce a slight slow down in the economy. I don't want to stress this too much, because I don't want to be understood as saying that every minor wiggle in the money figure is going to show up in a precisely comparable minor wiggle in income. There's a lot of noise, a lot of leeway in this relationship. All I'm saying is that slow down could just as easily, and in fact, more easily in terms of past relationships be explained by the slow down in monetary growth as by the tax increase. So far as that evidence along is concerned, it's mixed, it's neutral. Second and more important reason why the slight slow down in the economy can not be interpreted as evidence of the tax effect, from looking at what predictions were being made by two classes of people prior to the tax increase, on the one hand there were those who thought the tax increase would have a large effect on the other hand there were those like myself, and more specifically, I want to cite the people who are in the business of making specific forecasts which I am not. There were a group of those who emphasized a monetary approach. Notably I should mention, Harris Trust Company here in Chicago, and the First National City Bank in New York. If you look at the forecast made by these two groups those who emphasize the tax effect forecast a much slower rate of economic growth in the third and fourth

quarter than did in fact occur. They were forecasting something like 10 billion dollar increase per quarter instead of the something like 17 billion. On the other hand, the other two groups, based on these past relationships were making forecasts that came very close to hitting the thing on the nose. In the same way that the Federal Reserve Bank of St. Louis in their November bulletin had a regression study of the relation between changes in GNP and monetary change over the past 15 years or so, that showed monetary change to be the dominate factor on the basis of that they made projections of what you could expect in the third and fourth quarter if monetary growth was at various rates, at 2%, 4%, 6%. And it turns out that if you put in to those projections what actually happened to monetary growth their projections are close to hitting it on the nose. So I would say the evidence as a whole for this period certainly tends to be very strongly consistent with, I won't say it proves, that what you observed was not a consequence of the tax fact.

William Clark: And this matter of the indicators is an interesting subject in itself. I suppose some other time I might question you a little bit about that, but some of the other, the GNP, the Gross National Product, is one of the coincident indicators.

Milton Friedman: Yes it is.

William Clark: Others include the unemployment rate, industrial production, personal income, among others. Are they given different weights in this computation?

Milton Friedman: Well, there are various ways that different people combine them. There is a Commercial Statistical Indicators Associates that these numbers are from. These figures are also published in the Department of Commerce's BCD, Business Cycle Development. There's no single way of combining them. The one point that should perhaps be emphasized about them, is that they include two kinds of series. Those which are in physical volume terms and those which are in dollar terms. The dollar terms series are effected by price change. The physical term series are not. Now whenever you come to the end of the top of an expansion it's inevitable that the physical volume series are going to taper off and slow down. You've reached the, more or less, then limits of growth. For example, when you had a lot of unemployment, it was possible to have very rapid rates of real growth from 61 to 64 or five. Now that you're operating at pretty nearly full capacity, you can't have anything like so rapid rated growth. But what you are having instead is a substantial increase in prices. So, when you get into such an inflationary period the coincident indicators are gonna tell two different stories according as to whether you look at those of them reflect physical output alone like for example employment or industrial production, or whether you look also at those like personal income, retail sales that reflect dollar magnitudes.

William Clark: Dr. Friedman, though as some of the national magazines have noted recently, there has been a rather significant swing in high places toward your way of thinking of the effects of monetary supply on business trends. There are those who still challenge this type of thinking and say that even with the record how can you prove which is cause and which is effect? Can you really demonstrate that money supply is the cause and not simply the effect?

Milton Friedman: Well, the interesting thing to me about the discussion along this line, and I think you are

quite right about the fact that the evidence, the crude evidence doesn't prove it. The interesting thing about this is that the discussion has been mostly about the tip of an iceberg. There is an enormous mass of detailed study about monetary relationships that underlies the particular views that I and others have expressed about the relation of money. What appears in the press is a small part of that. In particular, what most emphasis is put on our assertion which turns out to be reasonably accurate, that changes in the quantity of money, tend to be accompanied by changes in business in the same direction at a somewhat later date. That is to say, just as I was saying earlier, that a slow down in the first half of 68 in the money supply tends to be reflected in economic activity in the second half. That a speeding up, we have been arguing that the rapid speeding up in the rate of monetary growth in the second half of 68 portends rapid expansion in the first half of 69. What point that needs discussion, and the point that other people have emphasized, for example, Professor Samuelson mentioned in one of his earlier tapes, is that the mere fact that one series moves along with the other and indeed that it moves earlier than the other doesn't mean that the first is the cause of the second, and that criticism is entirely valid. If that were the only evidence you had, if the only thing you knew, was this statistical correlation it would no longer prove that one was the cause of the other, then the fact that every single morning you will hear a rooster crow, proves that he makes the sun rise. Clearly the coincidence doesn't prove it, but then it looks a little bit more plausible that the fact that one occurs before the other proves it. But even that doesn't, and let me illustrate that with something particularly economic. As we all know, over a long period, the stock market has tended to move earlier than business. That is to say, as you know, the stock market tends to move down before business tends to move down. The stock market tends to move up before business moves up. And lots of people have argued, therefore the stock market dominates business, that it somehow through the stock market that it effects a business. Indeed one of the most widely believed misconceptions, in my view, is that the crash in 1929 in the stock market caused the business depression from 29 to 33.

William Clark: Oh, I see. It is widely believed, I should say so.

Milton Friedman: Oh yes, John Kenneth Galbraith's written a whole book on that. But it's not true. If you look at the facts, you will find in the first place that the business decline started in August 1929 when the stock market crash came in October. So the decline in the business started earlier. But much more generally, there's a lot of evidence that leads me to believe it's not true. Well, then how do I explain the fact that the stock market moves before business? Very easy. There is some third factor, and I'll come back to what I believe it is, there's some third factor that effects both the stock market and business. But it works on the stock market more rapidly than it works on business. Now what I think that third factor is, as I've suggested, is monetary change. What I believe the correct story is, is when you have a change in the rate of monetary growth, when monetary growth speeds up, this tends to effect the stock market first of all. Very early. Because the stock market reacts very quickly to things that happen. But it doesn't effect business until it's worked its way through the stock market, has effected people's portfolios, the amount of cash they hold. This in turn has effected how much they spend and so, it may be that it hits the stock market now, and it shows up in income six months later. And therefore you observe regularly that the stock market moves before income, before business, not because the stock market causes business movements but because the both are the results of a common force. For example, let me go back to my rooster crowing. The rooster, might get himself into a pattern where he always wake up a half an hour before the sun came up. You

wouldn't argue that because he was waked up a half an hour before the sun came up, therefore that caused the sun to come up a half and hour later. The fact that one series comes before another doesn't prove the first causes the other. That's a great fallacy. Poked a hole, ergo home. Well, how can it? Why is it that I have confidence that the same thing isn't true about the relation between money and business? Maybe they are both consequences of some third factor. What would be the third factor in that case? Well, along the lines of recent theories, that third factor of course would be government spending, investments, autonomous expenditures. That would be the third factor. What's the evidence that I have on that? Well, the evidence that's available, in my opinion, enormous. Very, very large volume of detailed evidence of a variety of kinds which argues that the relation between money and business is not like the one I described between the stock market and business or the rooster waking up and the sun coming up. But is rather the relationship of cause and effect. And I'm a little at a loss to know just where to start digging into this mountain of evidence. Let me suggest first one kind of evidence which may be a little easier to talk about. This is evidence by studying the historical circumstances surrounding particular episodes. From those you can sometimes have almost the equivalent of a controlled experiment. You see the great advantage of the physicist is he can know in a sense which is cause and effect because he knows what it was that produced the initial change. He planned it that way. Well, we have almost the equivalent of some controlled experiments in the United States since the establishment of the Federal Reserve Board, because we happen to have a few occasions on which it is absolutely crystal clear what caused the change in the money supply. It's almost as if you had an experiment. Let me give you one most dramatic example. After World War I, after the armistice 1918, you had very rapid price rises, as you may recall, for the next year and half, until the middle of 1920. In fact of the total price rise in World War I, a third of it came after the war was over. Also, it so happens in that case, that the federal budget came into surplus about the middle of 1919. Price rises still kept going on very rapidly. During that period the money supply was going up very rapidly. It was going up very rapidly first because the Federal Reserve was pouring money out to enable people to buy bonds to finance the government deficit and then after the government budget went into equality the Fed held the discount rate low and this produced a large increase in loans to banks which in turn loaned to business communities. So money supply went up very rapidly. There was a big fight going on all during 1919 between various people who thought the Fed should move sharply to counter the inflation, and the Treasury, who up for the time, was more interested in keeping the interest rates on its refundings low. You know, things don't change over 50 years. They stay the same, and the Treasury's always interested in low interest rates. For some reason, in January 1920, the Treasury suddenly reversed itself, presumably because it had completed its financing. The Treasury came into a meeting at the Federal Reserve Board of the Open Market Investment Committee in favor of raising the discount rate. And the Fed and the Treasury, you see at that time, I should say, the Secretary of the Treasury was an ex officio member of the Federal Reserve Board. That's no longer the case, but it was true then. And also, I should say, that the Federal Reserve Board at that time was headed by a man who had a back-bone of, what is the opposite of steel? Whatever it is.

William Clark: Like a wet noodle they say.

Milton Friedman: Yes. In his memoirs he wrote at one point, you see subsequently, there were Congressional hearings at which the Federal Reserve was sharply criticized and correctly criticized for its inflationary policy during 1919. He wrote in his memoirs at the time, subsequently, referred to that episode and said, but

there was such a thing on the books called the Underwood Act I think, if my memory is right. I'm digging back in my memory, he wrote, under which, if we hadn't done what the Treasury wanted, the Treasury could have arranged to see us fired. This is essentially what he says. And so of course we had to go along. It's extraordinary. This is a very interesting personal thing. It's extraordinary how much personal character matter in these things. I've always been impressed by the contrast between that case where the Federal Reserve was supposedly independent, and yet the head of it went right along with the Treasury. And a corresponding case in France, a few years later in 1926, seven, or eight, I'm not sure the exact year. When the governor of the Bank of France was a man by the name of Emile Moreau. Under the laws of France, the Central Bank was not independent at all. The Treasury could give direct instructions to the Central Bank what to do. Well, one of these episodes when they were having inflation, and this was before they stabilized the franc, Poincare, who was the Premier of France at that time, called Moreau in and gave him an order to buy government bonds in order to provide the government with finance. Moreau said to the Premier, he said, I'm sorry. I can not do that. It is against the law. The law had specified how much the Central Bank could buy government bonds. Moreau said I'm sorry, I can not do that. It's against the law. I will not do that. You may fire me if you want Mr. Premier, but I will not do what you tell me. And of course what happened is that the Prime Minister backed down. That Moreau did in fact carry out the policy he suggested. France stabilized the franc and was able then to restore the franc. It seems to me, those people who talk about the importance of institutional independence are barking at the wrong door. The character of the man is much more important.

William Clark: How important is the personality and character of the gold then in more recent times, certainly?

Milton Friedman: Absolutely. An excellent example of exactly the same kind of thing. Go back to the story in 1920. In January 1920, at their meeting, the Federal Reserve raised the discount rate sharply. Nowadays, we tend not to worry too much about the discount rate. It's not very meaningful number. But the situation was wholly different in 1920, because at that early stage in the Federal Reserve system there had not yet arisen the tradition against discounting by member banks. The idea that discounting was a privilege and not a right developed as a result of the episode I'm describing and it wasn't true. At that time in 1920, member banks were borrowing from the Federal Reserve system a sum which was larger than the whole of their total reserves. That is borrowed reserves were not only negative, they were larger than total required reserves. If you were to look at it in today's figures, I'm not exactly sure what the numbers are, but today's borrowings are about a billion dollars and what are total member bank reserves? They must be in the, I'm not at all sure, let me say. With member bank reserves today are about the order of 26 billion dollars. So the comparable situation today would be if member banks were borrowing 30 billion dollars not one billion dollars. Well, now if member banks were borrowing 30 billion dollars today, what happened to the discount rate would be of more than minor importance. Well, similarly back in January 1920, that was the situation of member banks, and when the discount rate was raised, it really had an impact. Well, it didn't have an impact over night. Immediately, you started to have a slow down in the rate of monetary growth, but it didn't really turn around for about four or five months because it took time for banks to contract their outstanding loans and so on. But the crucial thing is, this occurred in January. It's traceable to this particular meeting to the decision of people to raise the discount rate. Three months or four months later the rate of growth and the

money supply slowed down very sharply. About six months later the economy stopped inflating. You turned around from 1920 to 21, you had one of the sharpest recessions on record. Wholesale prices fell more rapidly than they have ever fallen in that period of time in the history of the United States. Well, if I remember rightly, by close to something like 30% in the course of a six or nine or 12 months. Something like that. I no longer remember the details. Now, that's a beautiful controlled experiment, because it is impossible to and there is no way at all in which you could argue that change in the money supply was itself a consequence of the change in business. If there was any relationship between the money supply what subsequently happened to business, it clearly must have been because money supply influenced business. Well, that's a particular dramatic historical episode of that kind.

William Clark: Yes it is.

Milton Friedman: But it's far from the only one. See, come back later in Federal Reserve history. At 29 to 33, is a little more complicated business because it also, I think gives an example of this kind but it would be a little more complicated to describe it. Next major episode, 37 to 38, is almost just as clear as 20, 21. In this case, what happened was a big argument within the system about required reserves. The Banking Act of 1934 or 35, I forget which year, established a power which did not before exist, namely the power of the Federal Reserve to change required reserves. As you know, Federal Reserve may now make the required reserves of member banks a different number one day than it was a prior day. But it's limited. It must do it within certain minimums and maximums limits. At that time, and I think it's still true today, the maximum limit is twice the minimum. In 1935 there started a discussion within the system whether, with the large excess reserves that then existed, you should not raise the reserve requirement, double it. In fact, it's interesting, one of the reasons why this argument came, really had little to do with economics of it. It so happened that 34, 35 saw a shift of power within the system from the banks to the Federal Reserve Board in Washington. The banks had really run the system before 33. The Board was not out before 29. It so happened that the ability to change the discount rate is technically lodged in a member bank. The power to change the reserve requirement was lodged in the Federal Reserve Board. Therefore some of the banks wanted to have the reserve requirements raised to the maximum amount in order to immobilize one of the powers of the Federal Reserve Board and leave them as the active participant. The interesting thing about these historical episodes are all these extraneous things that enter in. But going back to my main point, this argument finally resulted in a decision by the Federal Reserve Board to double the Reserve requirements in two steps. One, in the middle of 1936 and another in early 1937. Shortly after the first step when the reserve requirements were raised the first time, the rate of growth of the money supply tapered off and started to slow down. After the second one, the money supply turned around and started coming down, absolutely declined. Shortly thereafter, you had the recession of 37 to 38 again a very severe recession in the United States. Here again, you know exactly what produced the change in the money stock and so either you have to argue that the decline in the money stock and in business was a pure accident and a coincidence, or you have to say, that the change in the money stock was the cause of the change in business. It couldn't have been produced by the change in business. Well, as I say, I can multiply such cases. Of course on the basis of any one episode you can't rule out the possibility that it was coincidence. It could be that the 37, 38 case, it was coincidence. But it is very hard to believe that a very, very systematic tendency, for every recession to be preceded by a decline in the rate of growth of the money supply, and every expansion to be preceded by

a rise in the rate of growth in the money supply. It's very hard to believe that that uniform relations is pure coincidence. That's not accident. And it's hard to accept any interpretation of that then either both are consequences of some third thing or one is causing the other, and if one is causing the other, then the fact that you know for these particular episodes precisely what caused the money supply is very strong evidence as to which it is. Well, another kind of historical evidence of a very different kind has to do with the fact that we have observed the same kind of relationship in many different countries and at many different times. Let's suppose that the truth is what people sometimes say, that it's the change in business that's causing the change in money. Then what the relationship would be between business and money would depend on the kind of monetary system you have. Surely, it would be a very different thing in a monetary system which used only gold, with no banks playing a part in it, in a monetary system which used banks but had no central bank, and a monetary system which used banks but had a central bank. For example, the monetary institutions in the United States have changed very greatly over the past century. If you go back a century ago, gold played a much more important part in our money than it does now. It plays no part now. The currency was much more important. Banks were much less important. Up until 1913 there was no central bank. After 1913, you had the Federal Reserve system. In consequence, if the real relationship was round one running from business to money, you would expect the relation would have changed its character in the course of the past hundred years. That is you would expect to find a different relationship. For example, you would expect that the movements in money would have come at a different time in relation to the movements in business and so on. Similarly, you would expect that this relationship would be different in other countries than it is in the United States. The fascinating thing is, that over that whole hundred years so far as we can tell from our studies, the timing relationship between the changes in money and the changes in business have been roughly the same. Obviously there have been variations. I'm not saying it's perfectly precise. But there's no secular change. If you separate out the period before 1913 and the period after 1913, you find no difference. Again, I've studied in some detail the monetary figures for some foreign countries. Let me illustrate with Japan. If you look at the figures for Japan, the timing relationships and the behavior is exactly the same as it is for the United States. Indeed the Japanese case is beautiful, because the Japanese have not been as delectate in their manipulations of the money supply as we have. As a result there are much sharper changes, much sharper increases and decreases and yet the kind of relationship you have is exactly the same.

William Clark: So this is not a purely American phenomenon. This is a world-wide situation

Milton Friedman: Oh yeah. I've looked at these relationships for countries as disparate as Yugoslavia, which is a communist country. Yugoslavia is a wonderful case, because it shows the same relationships, too. Greece, Turkey, Israel, Japan, everywhere you have, not precisely, but very nearly the same relationships.

William Clark: Well, thank you very much, Dr. Friedman. If you have questions or comments or suggestions for topics you would like discussed in this series please send them to Instructional Dynamics Incorporated 166 East Superior Street, Chicago, 60611. This is William Clark. Dr. Friedman and I will be talking with you again next week.