

LECTURE V

THE CIRCULAR FLOW

Every dollar spent is received. That is, every dollar spent by buyers is received by sellers.

IN THEORETICAL TERMS WE ARE TALKING ABOUT A PURELY FREE ECONOMY. OUR PURPOSE IS TO UNDERSTAND HOW THE ECONOMY WORKS AND WHAT ARE THE FACTORS THAT MAKE ECONOMIC ACTIVITY EXPAND OR CONTRACT. AFTER THAT WE WILL INTRODUCE THE GOVERNMENT TO SEE WHAT EFFECT THE GOVERNMENT MIGHT HAVE.

In the market for resources you have the same thing. You have the supply and demand for resources. If the money taken from the market for goods and services is spent in the market for resources, then what was received for the goods and services by the firms is now going to be spent on resources by firms. The money spent by firms becomes the income of the households. The firms need the factors of production (i.e., resources) to produce goods. The money they spend is income. Thus, the money received by the firms for the sale of their goods and services will be spent (will be divided up by the factors of production) which, in turn, will have income which they can spend for goods and services. In other words, every dollar spent is received and every dollar received is spent.

(HOWEVER, IN REALITY ALTHOUGH IT IS ALWAYS TRUE THAT EVERY DOLLAR SPENT IS RECEIVED, IT IS NOT NECESSARILY SO THAT EVERY DOLLAR RECEIVED IS SPENT. WITH THE ECONOMY AS A WHOLE YOU CAN SPEND MORE THAN YOU RECEIVE OR LESS THAN YOU RECEIVE. ADDITIONALLY, THERE ARE OTHER SOURCES OF EXPENDITURE THAN DOLLARS RECEIVED.)

You can spend without receiving. Receipts have to depend on an expenditure but expenditures do not have to depend on receipts.

CREDIT

Credit is something where you transfer over time your purchasing power. If you borrow the money it is a transfer at any moment in time; but, either way it is calling on someone else's resources, either yours in the future or someone else's today. Whereas, in the case of an individual with a stock of wealth upon which the individual can draw, even if income is not earned in the present the individual can still draw upon saving to make expenditures. Thus, expenditures do not depend upon current income, but income depends on current expenditures.

EQUILIBRIUM

If every dollar received is spent you have equilibrium, a level of economic activity from which there is not tendency to move.

ECONOMIC ACTIVITY

Refers to the conversion of resources into goods and the corresponding movement of resources into goods. It is measured in markets as the value of that flow. It is measured by what is called "INCOME". To an economist the concept of income refers to all of those resources that are consumed and converted into goods and services which are converted into resources. It is more than just money receipts of the economy. Thus, you can define economic activity as any activity which uses resources.

GNP AS A MEASURE OF ECONOMIC ACTIVITY

The best measure of economic activity developed by government is Gross National Product (GNP). The GNP is the market value of all of the goods and services produced in the economy within a certain period of time (normally a year) for final use. Why do they say for final use?

EJD. BECAUSE MANY GOODS GO THROUGH A LONG PROCESS FROM THE TIME THEY ARE FIRST CONCEIVED BEFORE THEY REACH THE FINAL CONSUMER. THERE MAY BE HUNDREDS OF INTERMEDIATE STAGES, AND EACH TIME IT GOES THROUGH A DIFFERENT STAGE THERE IS "VALUE ADDED".

So, why do they say for final use?

EJD. BECAUSE ONCE IT REACHES THE FINAL CONSUMER THE ASSUMPTION IS THAT THE GOODS OR SERVICES WILL BE CONSUMED.

What do we mean by consumed? It has been put to its final use. It cannot go any further.

It is very difficult to determine whether or not a commodity is going to be used for final use. Does that mean that all the productive activity of such companies as U.S. Steel would not be measured in GNP? These outputs are inputs in the production of other commodities. Thus, the GNP purports to be a measure of all goods and services produced for final use. But, how do you know it is a measure of those goods and services? What is the problem, for example, of simply taking the total output sold by every firm in the United States and adding it up?

EJD. I WAS THINKING IN TERMS OF THE PRODUCTION PROCESS NOT BEING COMPLETED UNTIL THE GOOD OR SERVICE IS DELIVERED TO THE FINAL CONSUMER.

Therefore, what is wrong with adding up all the output of all the firms along the way? You are DOUBLE COUNTING, which would exaggerate the value. Under those circumstances how are we going to estimate the GNP and avoid double counting? There is a very specific way.

As these goods and services are moving from one intermediate step to another there is VALUE ADDED. What the government does to estimate GNP is that it tries to measure the value added along every step of the way in the production process. The concept of value added can be shown by the example of the sale of bread.

- . Price Value Added
- . Bread \$1.00
- . Flour .15
- . Milling .05
- . Seed .02

The difference between the sale price of the bread and the flour (as the basic raw material for bread) is 85 cents.

So, any firm buys its raw materials and uses its factors of production to modify and transform those raw materials into its output. What is added is its value added.

What does the value added in the above process reflect? It reflects the income received by the firm that can be divided up between its factors of production. In the process of baking bread, let's say the bread is selling for \$1.00 (the buyer is unimportant). The flour costs the baker 15 cents and the grain from which the flour was milled cost the miller 5 cents; the grain cost the farmer 2 cents wood of seed and fertilizer. Adding these together we have \$1.22 of money received along the line, but the bread sells for only \$1.00. Therefore, how can the sale of \$1.00 worth of bread generate money receipts in excess of \$1.00?

We need to take the value added along the way (plus the original 2 cent cost) and the sum of the values added is a measure of the total income of the factors of production. That sum of values added is what is measured as what is received by the factors of production as their contribution to output. If we assume the economy is in equilibrium then it is that factor income which is then in turn spent on goods and services.

MONITORING CHANGES IN GNP/NOMINAL AND REAL

In estimating the amount spent on goods and services you must make the assumption that the economy is in equilibrium. Therefore, the sum of the value added is going to be equal to the amount spent on goods and services. In order to come up with an estimate of GNP, you must simplify things. The purpose of doing this is to ask how the economy is doing, which means you must look at changes in GNP from quarter to quarter or from year to year. This implies that the economy is never in equilibrium. You assume, however, that in each year some of the amount spent is for goods and services in final use. Additionally, the assumption is that discrepancies are fairly consistent.

The measure of GNP will be influenced by the change in the flow of the dollar over time. If you want to measure the GNP in 1929 compared to the GNP today, it

will be larger. But, one reason is that prices have risen rather than that output has risen that much. On the average, income today is three times what it was in 1967 but that is only in dollars, not in terms of the purchasing power of income (that is, in nominal terms).

Deflating.

Government has a way of adjusting nominal value in order to produce real values (the purchasing power value). The way government does this is through the "PRICE INDEX".

For example, the Bureau of Labor Statistics compiles the consumer price index (CPI), which is the average level of prices in the United States in a given month. They compile a list of commodities included in the average American's basket of goods and services and derive proper weights to each of those commodities. Then they test the market and price these items. From this they determine an average price paid for all these goods and services and do this for a base year. The current base year is 1967.

The base year of any index is always equal to 100, so whatever that average price is for 1967 it is set to equal 100. If the average price has gone up over time the new price is expressed as a percentage of the base year price. Today, that price is expressed as 305 (based on 100 at 1967). In other words, when you express the base year in terms of 100, prices have tripled since 1967 (or increased by over 200 percent).

The price of gasoline is a good example. In 1967 the price of gasoline was about 35 cents per gallon. Today, the nominal price is \$1.05 per gallon -- a nominal increase of 200 percent. If we take the 1967 price of 35 cents, divide that by 100 to adjust for the CPI and multiply by 100 to eliminate the fraction, we come up with a price of 35 cents. (Because 35 cents is the price in the base year this process of "deflating" produces the same number as the result, since the CPI is at 100 in the base year.)

In 1984 we take the price of \$1.05 and divide by the CPI (305), and, again multiply by 100 to clear the fraction. Deflating the 1984 price we come up with a price of around 35 cents in 1967 dollars. In other

words, if we were to express the price of gasoline today in terms of 1967 prices of gasoline, that price today is 35 cents. Thus, by dividing by the CPI in the YEAR IN QUESTION you are adjusting for changes in the value of that price index. You are eliminating inflation from consideration.

From 1929 to 1933 we suffered what has been called the "Great Depression". During that period GNP also fell. In nominal terms in 1929 GNP stood at \$96 billion; by 1933 GNP had fallen to \$48 billion -- one half of the 1929 figure. Is it fair to say that total economic activity reflected by those two different levels of GNP was cut in half?

EJD. NO. BECAUSE PRICES ALSO FELL.

The CPI in 1929 stood at 100. By 1933 the CPI had fallen because prices had fallen (demand had declined relative to supply), so the CPI stood at 75.

How do you express the reduction in GNP assuming prices fell between 1929 and 1933? By using the process of deflating. Divide the current GNP in each year by the current price index, multiply by 100 to clear the fraction, and you get the adjusting GNP.

. $\text{CURRENT GNP} / \text{CURRENT CPI} \times 100 = \text{ADJUSTED GNP}$

. $\$48 \text{ bn} / 75 \times 100 = \64 bn

In 1929 (the CPI for that year treated as the base year) GNP was \$96 billion. In 1933 the nominal GNP was \$48 billion. Deflating the 1933 GNP to 1929 dollars produces an adjusted GNP for 1933 of \$64 billion.

DEBT CEILINGS AND THE NATIONAL DEBT

Congress is addressing the issue of raising the debt ceiling on the \$1.5 trillion national debt, which is the highest level it has ever been in nominal terms. But, in real terms the national debt is not higher than it has ever been. It was higher during World War II and there have been times since then that it has been higher.

Milton Friedman has shown that there is no evidence

that there is a correspondence between the national debt and high interest rates. The real value of the national debt today is lower than in any year from 1945 to 1965. During those years the United States economy experienced growth. So, this idea of the national debt being a major obstacle to economic growth is that the real value of the national debt is something that should be considered, not the nominal value.

EJD. IF INTEREST RATES CONTINUE TO SAY AS HIGH AS THEY ARE, ISN'T THE KEY QUESTION WHETHER THE GOVERNMENT CAN PRODUCE ENOUGH REVENUE TO PAY THE INTEREST ON THE DEBT. AND, WHAT WOULD HAPPEN IF IT WOULD NOT BE ABLE TO DO SO.

No. Because the major reason for the fluctuations in interest rates during the last decade has been inflation. And, the major cause of inflation is government printing. So, the government prints the money to pay for these expenditures whether they are paying the interest on the debt or for other things.

EJD. EXCEPT THAT LENDERS ARE FEARFUL THAT INFLATION HAS NOT BEEN LICKED.

Which is why they ask for higher interest rates.

EJD. WHAT IS THERE TO GIVE PEOPLE CONFIDENCE THAT GOVERNMENT IS NOT GOING TO CONTINUE TO DO WHAT IT HAS DONE IN THE PAST.

Not much.

EJD. AND, SO INTEREST RATES WON'T COME DOWN AND WE ARE BACK TO SQUARE ONE. THAT THERE MAY BE A MAJOR PROBLEM THAT GOVERNMENT CANNOT PAY THE INTEREST ON THE NATIONAL DEBT.

It can always pay the interest. All it has to do is print the money to pay it. Government never runs out of money. It can't. How can it? If it has the legal authority to print it.

EJD. IT WILL PAY BACK IN NOMINAL DOLLARS.

Fine. Paying it back in nominal dollars is what makes it easy to pay it back. In real terms you are getting paid back much less, which is why the real value of the national debt is much less -- because inflation

essentially eliminated a good portion of it. Inflation is a tax, the worst kind of tax because it is a tax nobody votes for. It reduces the value of everything.

EJD. CAN I READ INTO THAT THAT YOU THINK THE FED IS PRETTY MUCH TOTALLY A POLITICAL INSTRUMENT AND NOT INDEPENDENT.

No. Quite the contrary. It is totally independent, and perhaps ought to be more of a political instrument. In other words, its activities ought to be regulated by something. Say it has authority to do what it pleases, but that may not be in the best interest of the economy. That is why there are a number of economists who say the FED should be required to increase the money supply at a constant rate over time regardless of what is going on in the economy -- so as to introduce that stability so that we know the money supply will increase very month and every year. If we can rely on that it will cause a decline in both interest rates and inflation.

This is essentially what the gold standard people want today. Anything that introduces stability into the growth of the money supply and prevent too much money from chasing too few goods. The argument between the gold standard people and the staunch supply-siders and monetarists is really an inhouse argument. They all agree on the fact that the FEDs operating procedures are not desirable but argue over what is the best way to achieve stability in the money supply.

EJD. IF WE WERE AT THE POINT NOW WHERE ANTICIPATING TAX REVENUE AND BORROWING WERE SUCH THAT WE KNEW WE WOULD HAVE A DEFAULT AND THE FEDERAL GOVERNMENT COULD NOT PAY THE INTEREST ON THE NATIONAL DEBT, GOVERNMENT WOULD STILL NEED THE FED AS AN ALLY TO INCREASE THE MONEY SUPPLY.

If the FED is not going to let Continental Illinois Bank go under, they are not going to let the economy go under.