

REVIEW OF MID-TERM EXAMINATION

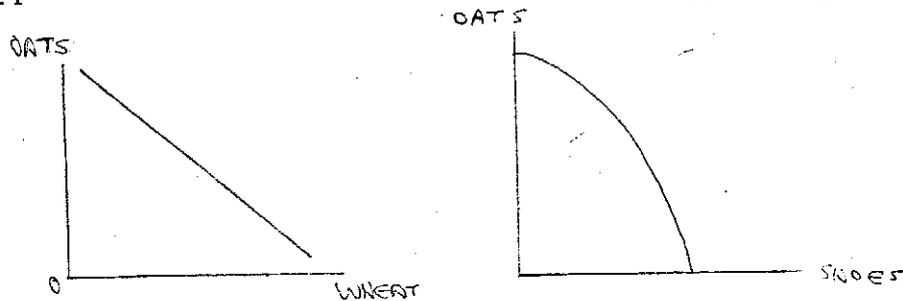
QUESTION 1. IN THE FACE OF RISING INTEREST RATES, SUPPOSE THE PENNSYLVANIA LEGISLATURE IMPOSES AN INTEREST RATE CEILING ON HOME MORTGAGES THAT AMOUNT TO LESS THAN \$50,000. THE PURPOSE OF SUCH A LAW IS TO MAKE IT EASIER FOR LOW INCOME FAMILIES TO BUY HOUSES, SINCE MORTGAGES OF MORE THAN \$50,000 WILL NOT HAVE THEIR INTEREST RATES CONTROLLED. WILL THE LAW FULFILL ITS PURPOSE? USING SUPPLY AND DEMAND ANALYSIS SPELL OUT AS MANY IMPLICATIONS AS POSSIBLE. MAKE REFERENCE TO WHO BENEFITS AND WHO IS HURT BY THIS LEGISLATION, THE NUMBER OF MORTGAGES AND/OR HOMES ACTUALLY PRODUCED, ETC.

One issue is what happens when you impose a ceiling on the interest rate. Another thing is how is the existing supply going to be allocated to existing demand under these conditions. In other words, if the bank is forced to accept a low interest rate it will only do so if the risk it is taking is relatively low. There are a number of ways banks can reduce the risk on a mortgage loan. What can they do?

They can raise the downpayment, raise the income requirements and use other devices to reduce the number of people demanding mortgages.

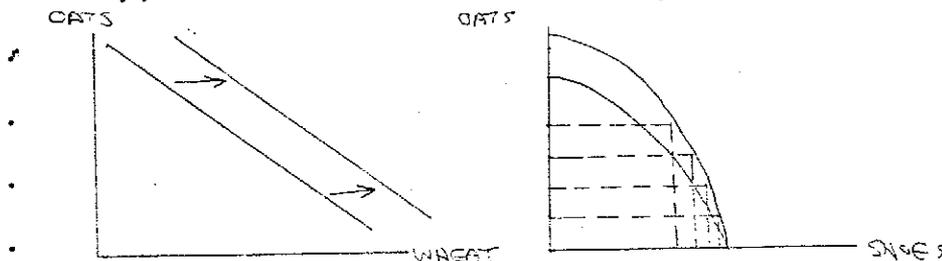
QUESTION 2(a). DRAW A PRODUCTION POSSIBILITIES CURVE FOR OATS AND WHEAT AND DRAW ANOTHER ONE FOR OATES AND SHOES. WHY ARE THEY DIFFERENT? WHAT DOES THE DIFFERENCE REFLECT?

You have oats and wheat which are products that employ the same technology for which the resources are highly substitutable in their use, so that the production possibilities curve between oats and wheat would be close to a straight line. The straight line reflects the fact that the resources are perfectly substitutable from one resource to another. If the resources are not perfectly substitutable, then you lose something when you take resources from the production of one item and put them into the production of another. That would produce a production possibilities curve convex to the origin.



QUESTION 2(b). SUPPOSE A TECHNOLOGICAL DEVELOPMENT OCCURS WHICH INCREASES THE PRODUCTIVITY OF AGRICULTURAL PURSUITS. HOW WILL THIS AFFECT THE TWO CURVES YOU HAVE DRAWN? WHY?

Clearly, the curve will shift out parallel to itself.



In the second case it will shift out but not shift at all on the shoes axis. What that says is that as you reduce the units of any particular commodity by a certain amount the gain is getting smaller and smaller. In other words, to get one more unit of oats requires a larger reduction of the production of shoes (the cost of one more unit of oats is increasing in terms of shoes).

QUESTION 3(a). WRITE AN ESSAY WHICH EVALUATES THE GNP AS A MEASURE OF THE TOTAL VALUE OF GOODS AND SERVICES CONSUMED OVER THE COURSE OF A YEAR.

Answering this question involved an understanding of the goods and services produced which are not measured by GNP -- the illegal and nonmarket goods and services produced.

QUESTION 3(b). HOW CAN WE RATIONALIZE THE USE OF THE "VALUE ADDED" METHOD OF ESTIMATING GNP?

This method simply takes the value added from each stage and adds it to other value added; we say that is an estimate of GNP. But, the question is how do we rationalize the use of summing the value added to estimate GNP. The answer to that involves recognizing that in this circular flow analysis, within the market for goods and services there will be an equilibrium.

And, the amount spent will be equal to the amount received for the goods by the producers.



In the market for resources (or factors of production) we have instead of goods and services being exchanged and sold the factors of production. Here, the amount of expenditure on the factors of production is equal to the amount of income received by those factors.

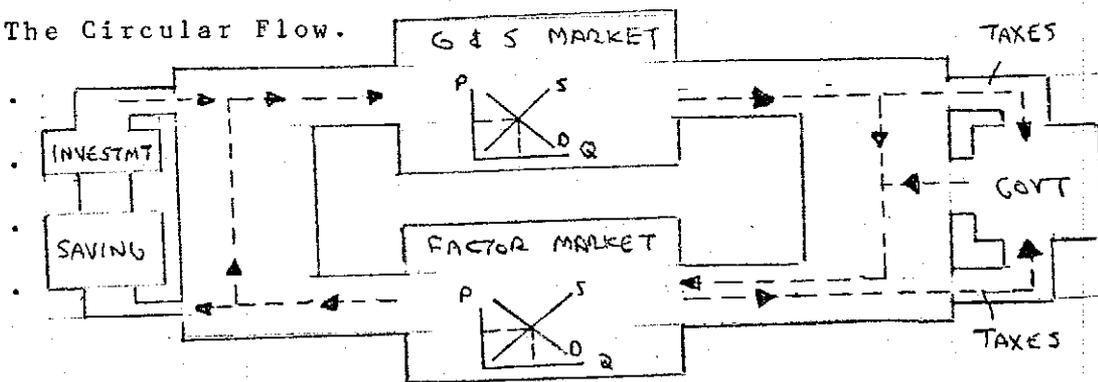
With this situation there is an equilibrium between the two markets. That flow and the disturbances to that flow will comprise the subject matter for our continuing discussion.

LECTURE VII

THE MACROECONOMY

When we talk on a theoretical or abstract level we talk about output in terms of "Q", as if there is a single commodity that represents all the diverse commodities. Our primary concern is what are the factors in principle that make the economy behave as it does. In this context total income is equal to GNP, because all the factors of production are going to spend their income on goods and services. That is how you rationalize.

The Circular Flow.



I am adding a pipeline to the circular flow chart. Think of that pipeline as carrying the flow (symbolically in terms of dollars). As long as the flow remains the same -- to the factors market and through the goods and services market and back again -- total GNP or total income is in equilibrium.

Suppose something happens to change that flow. Suppose the pipeline springs a leak, one possibility being "savings". Instead of spending all their income some people decide to save. Now, some of that is going into savings, which means less of it is going back into the market for goods and services. What happens?

Since not everything is spent GNP will fall. With fewer goods being purchased you need fewer people to produce them. There is a lower level of economic activity because those COMMANDS that cause resources to move in a particular way are being drawn out of the economy (and dollars are commands). Where you spend your dollar determines how resources are going to be employed; when you don't spend those dollars the resources are not going to be employed. Thus, the effect of savings BY ITSELF is to reduce expenditures.

SAVINGS IS DEFINED AS RESOURCES NOT USED UP (INCOME "Y" MINUS CONSUMPTION).

In a dynamic economy where people are trying to improve their material welfare, it is necessary to make investments -- to create capital. To create goods and services which you hope will be purchased. When people go into business they have no sure knowledge that whatever they produce is going to be consumed. They do so in the hope that people will like it and buy. Thus, in order to grow the economy needs investment. You need resources. The issue is where do those resources come from. In addition to that, the resources come from wherever they are available for investment purposes because people are saving and not spending. The point is that that investment would not be a leakage but an injection.

The Banking System

The banking system, which is the financial markets, is

the market that turns savings into investment. This increases the expenditure into the economy which has the effect of increasing income. Thus, for every dollar saved there may be a dollar spent by someone who has borrowed (theoretically; in reality, there may be or may not be.

Many people do not recognize the importance of the financial sector of the economy. The important question is: are they providing a service? The answer is an unequivocal "yes". The service they provide is an INSURANCE SERVICE. What motivates people to save -- security. What motivates people to invest -- profit. Those profits that result from the investment result from taking risks. What the financier does is reconcile the society's desire for security with the economy's need for taking risks in order that the economy will grow. These are contradictory objectives -- security versus growth. But, we should recognize that the financiers play an important role in the economy.

In addition, it doesn't matter whether the economy is a capitalist or a socialist economy. It is the same issue. You want the economy to grow, you have to use resources which are taken away from current consumption. Whether the people are providing for their own security or the economy's central planning authority is providing it. The central question is where do you apply those resources.

#### The Effect of Leakages and Injections.

Getting back to the net effect of a leakage, it is to reduce the size of the economy. We could consider other kinds of leakages and injections. With government, taxes would be a leakage, and government expenditures an injection. How those government expenditures act upon the economy is another issue which has to be considered.

#### Employment and Inflation

The primary concern in the study of the macroeconomy is the level of employment and the level of prices. Or, looking at it another way the level of economic activity which is closely correlated with those two things. Most of the emotional concerns are focused on the level of employment. Why is full employment so

important?

[MONEY IS NOTHING MORE THAN PIECES OF PAPER -- DEBITS AND CREDITS IN BOOKKEEPING SYSTEMS. WHAT IS IMPORTANT IS INCOME OR PRODUCTION IN TERMS OF GOODS AND SERVICES.]

There is a strong correlation between employment and production. It is employment that contributes to a growing economy. The idea of full employment means more goods and services to consume. More material benefits. When people are unemployed there is a problem; the goods and services that could have been produced are not being produced. And, if they are not being produced today they will never be produced, because IF PEOPLE ARE NOT PRODUCING TODAY THAT PRODUCTION WILL NEVER OCCUR; WHEN PEOPLE ARE UNEMPLOYED TODAY THERE IS NO WAY TO EMPLOY THAT LOST LABOR TOMORROW. A barrel of oil, on the other hand, if it is not used today can be used tomorrow. A person if not used today loses that day's work. We never get it back. So, the concern with unemployment of people is a very real concern because it means less output will be produced. At the same time, we must recognize that unemployment might be desirable in certain respects.

[BY DEFINITION YOU ARE UNEMPLOYED IF YOU ARE NOT EMPLOYED AND LOOKING FOR WORK.]

The creation of unemployment in the market may be very desirable in that the laying off of workers may free them for other, more efficient, employment. Additionally, the firm that lays off people has reduced its cost and may be able to operate more efficiently. Thus, the creation of unemployment may contribute something positive to the economy. The blind desire to maintain a very low unemployment rate might not be a wise policy if the market is saying certain people ought to be unemployed (if they are not being efficiently employed in their current use).

#### Zero Unemployment

Suppose there were zero unemployment among apartments or among houses, and you had to move from Los Angeles to Philadelphia. What would you do?

EJD. IN ORDER TO OBTAIN HOUSES YOU WOULD HAVE TO BID UP...

At the moment there is no empty houses. Therefore, you would have to find someone moving from Los Angeles and exchange. You take their house and they take yours, because there is no substitute. However, the fact that you can come into Philadelphia and find many houses for sale means that the people who are trying to sell are in a bind. They want to get out. A landlord who has an apartment vacant for a month loses income. The fact that there are these houses and apartments available means that they are unemployed. So, the unemployment of houses makes it easier for people to move around and economizes on the effort people have to make to find adequate housing.

Retail establishments create unemployment by holding inventories. People can be unemployed, machines can be unemployed, housing can be unemployed. A store that is not used is unemployed.

EJD. I CAN THINK OF TWO EXAMPLES WHERE UNEMPLOYMENT IS VERY POSITIVE. ONE WITH A COMMODITY, SOMETHING LIKE WINE WHERE THE LONGER IT REMAINS UNEMPLOYED THE BETTER IT BECOMES THROUGH THE RIPENING PROCESS.

Well, of course, that is not quite the same because it is not sitting there idle. It is going through a process. What is the second.

EJD. RELATING TO HUMAN BEINGS YOU CAN EMPLOY CHILDREN BUT YOU WOULD LOSE THEIR LONG TERM POSITIVE POSSIBILITIES TO THE ECONOMY BY NOT GIVING THEM ENOUGH TIME TO ACQUIRE THE SKILLS AND KNOWLEDGE NECESSARY FOR THEM TO BECOME PRODUCTIVE.

When people are not working while they engage in investment type activities you might call them unemployed. But, they are not measured as unemployed because they are not looking for work.

In terms of people, the existence of some unemployed people means the economy has a cushion on which it can call. It makes it much more effective. If we had zero unemployment and you wanted to open up a restaurant you would have to go around and find people who were willing to work or leave other jobs. It would be very difficult for change to occur in the economy. Whereas, if you have that cushion of unemployment you can use those unemployed resources.

### The Wartime Economy

One of the examples used in many economic textbooks concerns the mobilization of the United States economy for World War II. The German economy was all tied up and we were coming off a severe recession with high rates of unemployment which made it very easy for us to mobilize, to get people into the defense factories; they were unemployed anyway. Bidding them away from other jobs would have been much more difficult.

Remember that "money" is not what is important; it is goods and services. Real income declined in World War II, as it does in almost every war. You could not get any consumer goods. You had a lot of paper money but you couldn't buy anything with it.

Wars stimulate a lot of activity, but they don't stimulate the growth of the economy from the point of view of the welfare of the people. When you move more goods and services into military use you have less left over for other things. Thus, in war there is very low level of real income.

### Conclusion

The point of all this is that the concept of unemployment has to be considered not from the point of view of whether it is good or bad but from the point of view as with most economic issues -- what is the optimal level of unemployment. Clearly, 10-12 percent unemployment is too high. 2-3 percent might be too low. Most economists will talk about 5-6 percent unemployment being equivalent to what we would call a full employment economy.

Don't forget that when people are unemployed they are not unemployed for their lifetime. They are unemployed for a few weeks or months. If the unemployment rate today is 7.5 percent and the unemployment rate for a year ago was 10 or 12 percent, the same people were not unemployed over that entire time. The ranks of the unemployed are constantly turning over. If anything, the best measure of the hardship associated with unemployment is the average duration of unemployment -- which is 12-14 weeks.

### Unemployment and Politics

Curiously, the unemployment rate is not nearly as good an indicator of who will win an election as is inflation. Historically, you get more swings in administrations because of inflation than because of high unemployment. Because inflation hits everybody, and people who are unemployed are less likely to vote. Therefore, if the inflation rate stays relatively low during the next six months then Reagan will probably be re-elected.

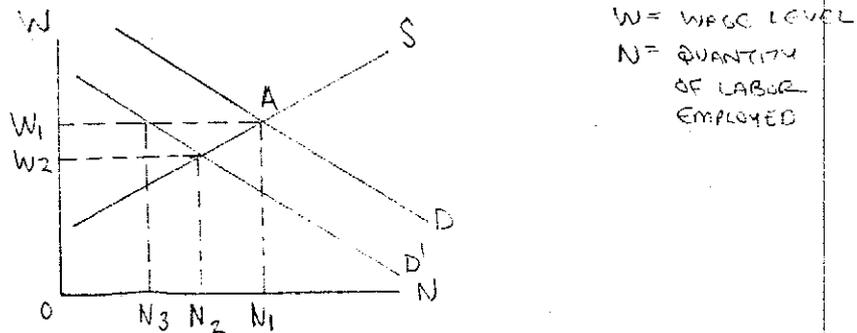
Whatever the optimal rate of unemployment is I am not concerned about that issue at this point. That is irrelevant to us. Our concern is that we recognize that zero unemployment is too low because of the friction it would produce, that some unemployment serves the economy. And, indeed, part of the nation's recognition of this fact is reflected in the unemployment compensation provided to people who must bare the cost of unemployment. In other words, if we recognize that some unemployment may be good for the economy then the next question is, well, then, who should bare the cost of that; the answer is, perhaps, the economy as a whole through unemployment compensation. (Whether that is the best way to spread that cost is another issue.)

#### The Cost of Unemployment.

Let's talk a bit more about unemployment in terms of what causes it. We live in an economy today that is very different from the economy of 100 years ago. 100 years ago the problem of unemployment wasn't such a critical issue. Labor markets were relatively simple in those days, mostly local and the kind of work people did was largely unskilled or semi-skilled. You could easily characterize those labor markets in a highly agricultural economy as very competitive.

In a market that is competitive and there are no obstacles to competition on either the demand side or the supply side the level of employment and the level of wage rates is going to be determined by supply and demand, and there is no unemployment -- supply and demand are equal. Since there is no unemployment it must be a full employment level -- everybody who is looking for work has work. Now, suppose for some reason (and we are begging a question now; we are going to be talking about why this might happen) the demand

for labor falls. What is the dynamics of the market now which leads to the reduction of a new wage rate and a new level of employment?



Initially, we are at point "A". Demand has fallen. At the wage rate of  $W_1$  the demand would be  $N_3$ . The supply of workers is still at  $N_1$ . That is the number of workers working before. All of a sudden demand has declined and there are layoffs. Layoffs (the unemployment) would be  $N_1$  to  $N_3$ . But, that involves just a temporary situation.

In a highly agricultural economy where individual families are more selfsufficient than they are today, where you don't have the division of labor you have today, where people if they are not working in a market have the opportunity of working within the framework of their own homes, in that kind of economy competition will quickly eliminate that kind of unemployment. Competition would serve to lower the wage. If the wage falls, some of those people who were working in the market will drop out of the market and work in nonmarket activities. Some of the employers now confronted with the lower wage will increase the employment, and you get a new equilibrium of employment of  $N_2$ , at a lower wage.

It represents a lower level of employment but there is no unemployment. The supply of employment still equals the demand for employment so there is no unemployment.

The supply curve and demand curve show behavior of people. And, that at a higher wage the supply curve says more labor will be offered to the market. The demand curve says that at higher wages fewer workers will be demanded.

EJD. ONE WAY THAT I WOULD EXPLAIN IS IS THAT THERE ARE PEOPLE NOT EMPLOYED BUT ARE VOLUNARILY NOT EMPLOYED IN

MARKET ACTIVITIES.

Under the agricultural economy people had an alternative to market work. They would still be performing valuable service to their families in their households. The economy today is much more complex. Opportunities for performing valuable services in the household are not as productive as those opportunities for performing services to the market because the market pays better than the household. Today, when people are laid off, rather than stay in the household and look around for something to do, they continue to look for jobs in the market. There are certain implications for this kind of behavior that makes reductions in demand more critical an issue today than 100 years ago.