Ec 1936, Keynes

Problem Set 2. The General Theory and Its Critics

There are 2 questions, each with multiple parts.

Due Monday, October 4, 11.59 pm.

Q1. First- and Second-Pass Models. (This question has 6 parts).

The aggregate-demand schedule that emerges from the first-pass model is given in Figure 1. The AD schedule that comes out of the second-pass model is in Figure 2.

1. How would you explain the difference to someone with only Ec 10 and possibly intermediate macro under his/her/their belt? (One paragraph should suffice, but you are not limited to a single paragraph. On the other hand an explanation like "The first-pass model assumes a given interest rate and the second-pass model a given money supply" is not an adequate answer. Even though this is true, a beginner in economics would not understand it as an explanation of why AD is sensitive to the price level in the one case but not in the other.)
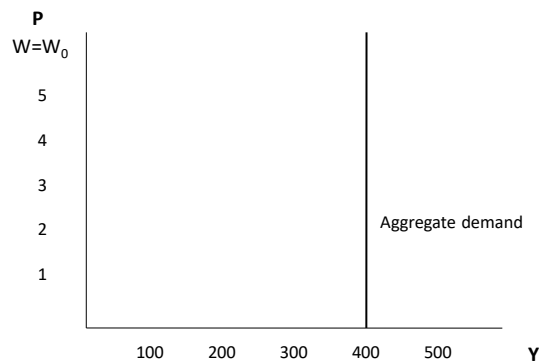

Aggregate Demand For a Given Interest Rate

Figure 1

Aggregate Demand Schedule Determined by Varying P While Holding $\overline{M}$ Constant
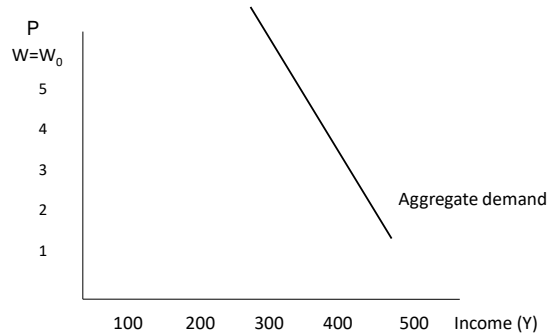

Figure 2

2. Show in Figures 1 and 2 how equilibrium is determined in Keynes's first-pass and second-pass models. What is the major difference between the two models with respect to the determinants of employment?
3. What conclusion does Keynes draw from the equilibrium in the two models with regard to unemployment?
4. Modigliani adopts Keynes's second-pass model with one change: he assumes that the wage rate W is not fixed at W_0. How does this change modify the conclusions to which Keynes's version of the second-pass model led?
5. Modigliani's model leads directly to the familiar aggregate-demand, aggregate-supply model you have encountered in introductory and intermediate economics courses, below as Figure 3. Where does the aggregate-supply schedule come from? That is, who is supplying what?
6. Why is the aggregate-supply schedule vertical? What conclusions can you draw about the relative roles of supply and demand in determining the equilibrium level of output and the price level? How does Figure 3 up-end the conclusions that follow from the first-pass model?
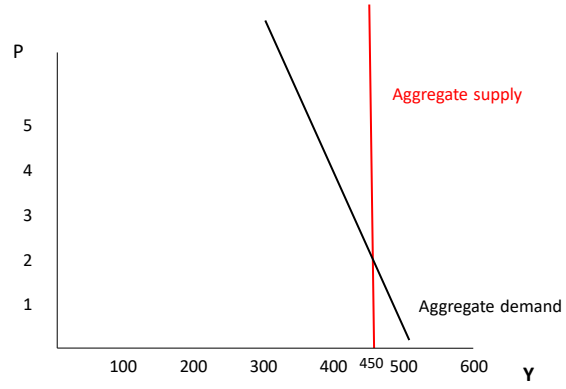
The AD, AS Model

Figure 3

Q2. The impact of fractional-reserve banking on aggregate demand. **(This question has 4 parts.)**

The following tables correspond to a banking regime in which banks are subject to a

Table 1: Y = 266.67; P = 0.75; α = 1														
Wealth Holders				Banks					Restaurants				
Bank Deposits	Non Liquid Assets (Bonds–Market Value)	Commercial Loans		Non Liquid Assets (Bonds–Market Value)	Commercial Loans	Reserves	Bank Deposits		Bank Deposits	Fixed Capital	Commercial Loans	Bonds–Face Value
200	1000	0		0	200	200	-400		200	1000	-200	-1000

Table 2: Y= 300; P = 0.75; α = 1														
Wealth Holders				Banks					Restaurants				
Bank Deposits	Non Liquid Assets (Bonds–Market Value)	Commercial Loans		Non Liquid Assets (Bonds–Market Value)	Commercial Loans	Reserves	Bank Deposits		Bank Deposits	Fixed Capital	Commercial Loans	Bonds–Face Value
200	1000	0		0	225	200	-425		225	1000	-225	-1000

Table 3: Y = 266.67; P = 1; α = 1														
Wealth Holders				Banks					Restaurants				
Bank Deposits	Non Liquid Assets (Bonds–Market Value)	Commercial Loans		Non Liquid Assets (Bonds–Market Value)	Commercial Loans	Reserves	Bank Deposits		Bank Deposits	Fixed Capital	Commercial Loans	Bonds–Face Value
200	**1333**	0		0	266.67	200	-466.67		266.67	1333	-266.67	-1333

Table 4: Y = 300; P = 1; α = 1														
Wealth Holders				Banks					Restaurants				
Bank Deposits	Non Liquid Assets (Bonds–Market Value)	Commercial Loans		Non Liquid Assets (Bonds–Market Value)	Commercial Loans	Reserves	Bank Deposits		Bank Deposits	Fixed Capital	Commercial Loans	Bonds–Face Value
200	**1333**	0		0	300	200	-500		300	1333	-300	-1333

(minimum) reserve requirement of 40 percent of deposits and in which banks' only assets besides reserves are commercial loans to restaurants for working capital. Banks are assumed to create (inside) money to provide the loans restaurants need to finance working capital, and to hold excess reserves whenever these loans are less than the maximum the reserves of 200 ducats support, namely 500 ducats. (Bank reserves are the deposits of households, the (outside) money in the system—in this case gold ducats.

Assume, in the manner of comparative-statics, that there are two worlds, one with a price level P = 0.75, the other with P = 1.

1. In quadrant I of Figure 1 below, show the points on the liquidity-preference and transactions-demand schedules that correspond to each table.
2. Draw the corresponding LM schedules.
3. Using the LM schedules you have drawn and the IS schedule that is already there, construct the corresponding aggregate-demand schedule in Figure 2 below.
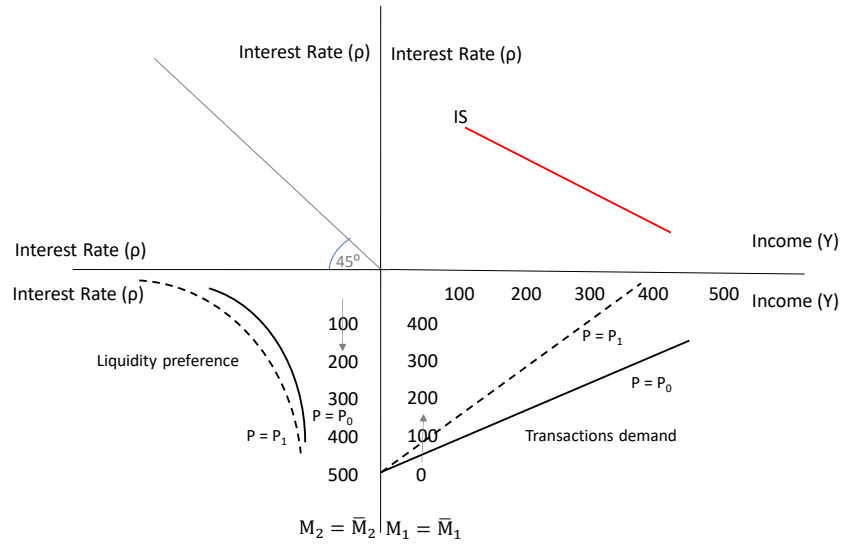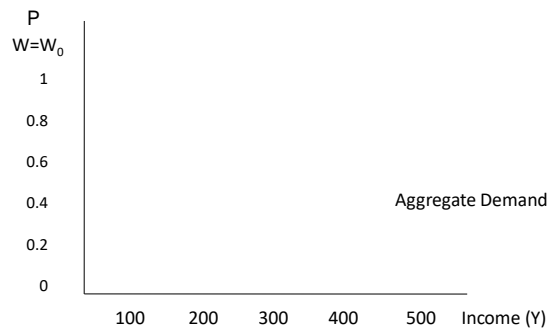4. Why is the AD schedule downward sloping?

Figure 1

Interest Rate (ρ)   Interest Rate (ρ)

IS

Interest Rate (ρ)   Income (Y)

45°

Interest Rate (ρ)

Liquidity preference

100   200   300   400   500   Income (Y)

100   400

200   300   P = P₁

300   200   P = P₀

P = P₀

P = P₁   400   100   Transactions demand

500   0

$M_2 = \bar{M}_2$ $M_1 = \bar{M}_1$

Figure 1

Figure 2

P
W=W₀

1

0.8

0.6

0.4   Aggregate Demand

0.2

0

100   200   300   400   500   Income (Y)

Figure 2