

Ec 1936, Keynes

Problem Set 3.

Real-Time Adjustment.

Due Monday, October 11, 11.59 pm.

Question 1. Real-time adjustment and the consequences for equilibrium. (This question has 6 parts.)

This book ... has evolved into what is primarily a study of the forces which determine changes in the scale of output and employment as a whole. (John Maynard Keynes, *The General Theory of Employment, Interest, and Money*, London: Macmillan, 1936, p vii).

Keynes's 3rd pass model gives rise to the possibility of various trajectories for an economy suffering a shock like the collapse of Lehman Brothers in September, 2008. One possible trajectory is given in the diagram below, in which the economy moves from a serendipitous "Goldilocks" equilibrium E to a recession equilibrium E'.

Copy Figure 1 below into your answer paper. Use the diagram and a paragraph or two to answer the following questions.

1. Why is the initial position E a position of full employment and profit maximization?
2. How can a financial event like the fall of the House of Lehman cause real output to fall? In terms of Figure 1, why does output fall from its level at E despite E being a position of full employment and profit maximization?
3. What stops the fall in output at, say, E'?
4. What prevents the price mechanism from propelling the economy back to full employment? Since E' is characterized by both unemployment and profitable opportunities for expanding output, why don't prices and wages adjust to propel the economy back to E?
5. What is the "Keynes effect"? How might it work in real time to move the economy back to full employment?
6. Why might the Keynes effect *fail* to move the economy back to full employment?

After the Fall: Adjustment in Response to a Demand Shock,
September 15, 2008

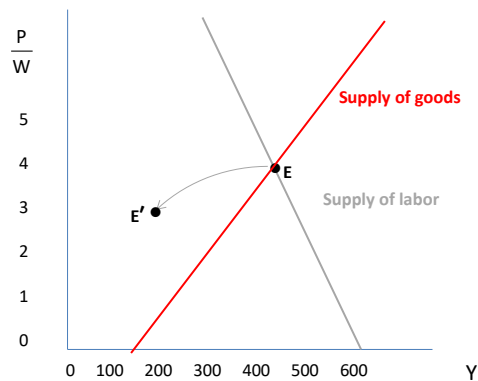


Figure 1

Question 2. Fractional-reserve banking in comparative statics and real time and the consequences for aggregate demand. (This question has 5 parts.)

Chapter 4 of *Raising Keynes* and PS 2 introduced a banking regime in which banks are subject to a (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"—gold ducats—in the system.)

In a comparative-statics analysis of how equilibrium changes when the price level changes, we concluded that fractional-reserve banking added nothing to the story that required a modification of the principal innovation of Modigliani's analysis, namely, that a varying money wage is enough to make a capitalist system self regulating. Specifically, there exists a combination of the money wage and the money price at which both full employment and profit maximization hold, and at which the economy is on its aggregate-demand curve.

Modigliani relied on the Keynes effect in his argument, but there is no Keynes effect when banks make only commercial loans for working capital and expand or contract loans according to the (transactions) demand for money. In this case there is a firewall between asset money and transactions money, and changes in the latter have no effect on the former. Even so, a "bond effect" insures that the aggregate-

demand schedule is downward sloping and this is all that Modigliani needs to restore the invisible hand (assuming elastic investment demand and no liquidity trap).

1. What is the bond effect? In Figure 2 below, which assumes comparative statics, why does the liquidity-preference schedule shift from the solid to the dashed line when the goods price level rises from $P = 0.75$ to $P = 1.0$?
2. Why does this shift in the liquidity-preference schedule assure that the aggregate-demand curve will be downward sloping?
3. Why is there *no* bond effect in the context of real-time adjustment? In terms of Figure 3, what happens to the liquidity-preference schedule when the goods-price level shifts from $P = 0.75$ to $P = 1.0$? *And why?*
4. What happens to the LM schedule in this case?
5. Draw the resulting aggregate-demand schedule in Figure 4. Explain your answer.

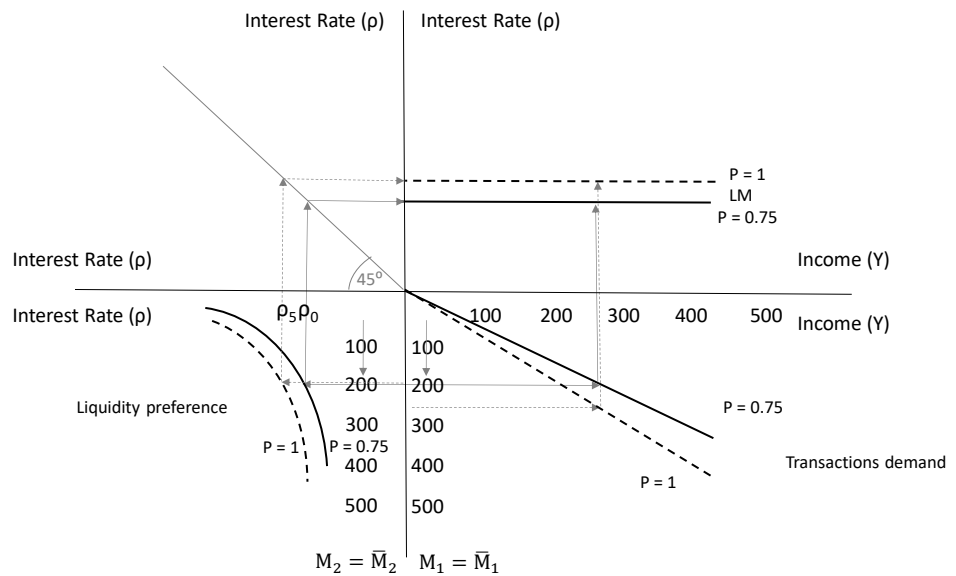


Figure 2

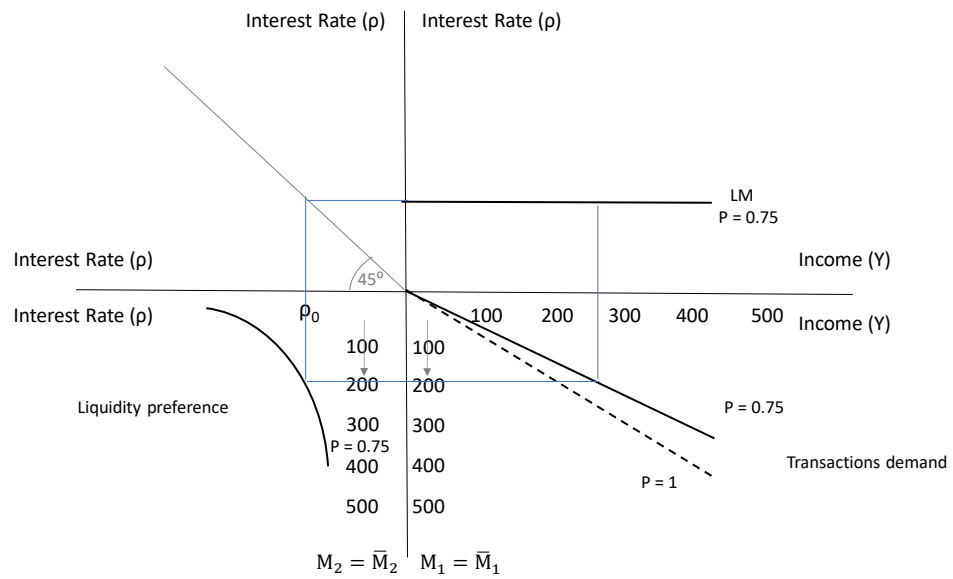


Figure 3

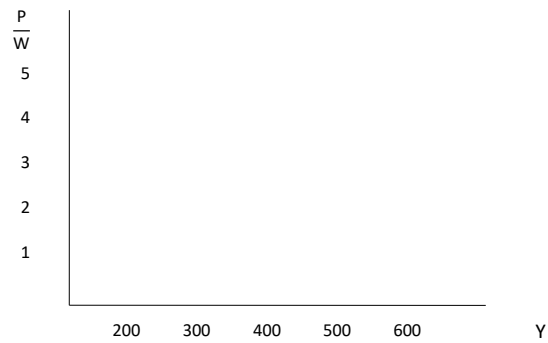


Figure 4