

1 Reading Guide to Romer Chapter 5.

This chapter can be confusing but does make some interesting points which is why we cover it. This note is intended to help making it less confusing.

Section 5.1. The standard IS-LM model. (See undergraduate intermediate textbooks if you want more explanations.) Romer uses the term MP for the money market equilibrium and use the real interest rate, but you can use either because the price level P (or equivalently inflation) is fixed.

You are expected to be able to present simple analyzes using the IS-LM framework. I suggest you just use the linear formulation.

The AD curve simply summarize what happens in the IS-LM model when the price level change and money supply is constant.

The AS-AD diagram shows what an upward sloping AS curve and a downward sloping AD curve might determine both prices and output. “The problem” is that there is little agreement, even among Keynesians about how to get an AS curve.

Skip 5.2

Section 5.3. Discusses ways to get an AS curve (“Case 1” and “Case 4”) mixed with some observations about fixed prices versus wages in the other two “cases.” It confuses me why he calls it Case 1-4, so try and keep the points below in mind when you read it. Also DO NOT try to understand all the details of the models because that is not the intention (there are lot of loose ends). Romer’s intention is to make some “high level” observations before we get into doing detailed modeling.

Case 1: If nominal wages are fixed (not determined within the model, at least not within the present period) then a change in P results in a change in the real wage W/P . Obviously, wages fixed means that we are not in a competitive labor market and there is unemployment. (In 5.11 assume that the real wage is ABOVE the intersection of the demand and supply curve for labor—nobody uses this model for the case of rationing where there is excess demand for labor.) You should think of the prices as being exogenous to the labor market and showing simply how a labor market with nominal wage rigidity produces unemployment. In other words the P on the Y axis determines Y through using the labor demand curve. The labor supply curve is only there to show

the level of unemployment. This case CAN be used together with the AD curve and now the AS/AD curve together determines output and prices—this is why Romer use the label “flexible prices” on the figure. Romer is quite dismissive of the assumption that wages are rigid while prices are flexible—my feeling is that wages well might be more rigid than prices (at least downwards). The observations that Romer makes about the data do provide quite convincing evidence that this is not the major cause of business cycle fluctuation but that doesn’t rule out that it is of some importance in a full description of the model.

Case 4: Again nominal wages are fixed but firms “set” the price level to get a desired mark-up. (The real world computer models very often use the assumption of a desired mark-up of prices over cost because it fits the data quite well.) You should still read the figure the same way as case 1. Somehow the price level is determined (Romer has the AS/AD intersection in mind) and you find the level of employment as the L that corresponds to the given W/P . Again ignore outcomes where labor supply is less than labor demand.

Case 2: Here Romer is not deriving an AS curve, but simply making the point that a model that has output determined by demand does not *need* to have a non-competitive (non-Walrasian is used as a synonym) labor market. (Romer *does* illustrate in figure 5.12 that that AS curve is flat if prices are fixed, but that is obvious and the figure doesn’t add anything.) In the figure the position of the vertical line is determined by demand in the IS-LM model and the intersection of labor demand and labor supply then determines the nominal wage rate. (Ignore that the vertical line break off to the left in the figure, just draw it vertically.) By having the line break, Romer is simply pointing out that *if* the wage rate gets to be very high, firms will no longer satisfy demand, but the whole point of the IS-LM model is to consider the case with plenty of free resources—at least in my interpretation.) Romer points out, correctly, that many neo-Kenesian models use the assumptions of case 3, partly because it gets too complicated to model imperfections (non-competitiveness) in both labor and goods markets at the same time.

Case 3: This looks confusing and maybe Romer should simply not do the graph but what Romer wants to say is that many New Keynesians believe that we are in a world where both goods and labor markets are non-competitive. So the way he thinks of the figure is as follows: Prices are fixed so the output (and therefore L) is determined by the IS-LM model. However, the labor market is not competitive. The $w(L)$ curve simply indicates that wages are set *somehow* in a fashion that results in W being higher than the wage level that clears the labor market and there is unemployment. Do *not* try to think deeper about what $w(L)$ is illustrating, we might talk about efficiency wages if we get to it, otherwise you will find it covered in the graduate labor elective courses.

Section 5.4 should be fairly intuitive. Equations (5.39)-(5.42) treats the cases where wages are “fixed” but not constant over time. This is “Case 1” with a time dimension added (but the wage rigidity is still not the result of a behavioral model). This very simple model predicts the simple Phillips curve which has provoked a lot of macro research, in particular Lucas’ path-breaking work was an attempt to get an optimizing model of wage setting instead of just postulating something like (5.39). The expectations augmented Phillips curve is important but quite intuitive. ASK ques-

tions if you don't agree.

Sections 5.5. and 5.6 are not good and also outdated, skim them if you like but don't spend too much time on them, there will be no exam questions from those.