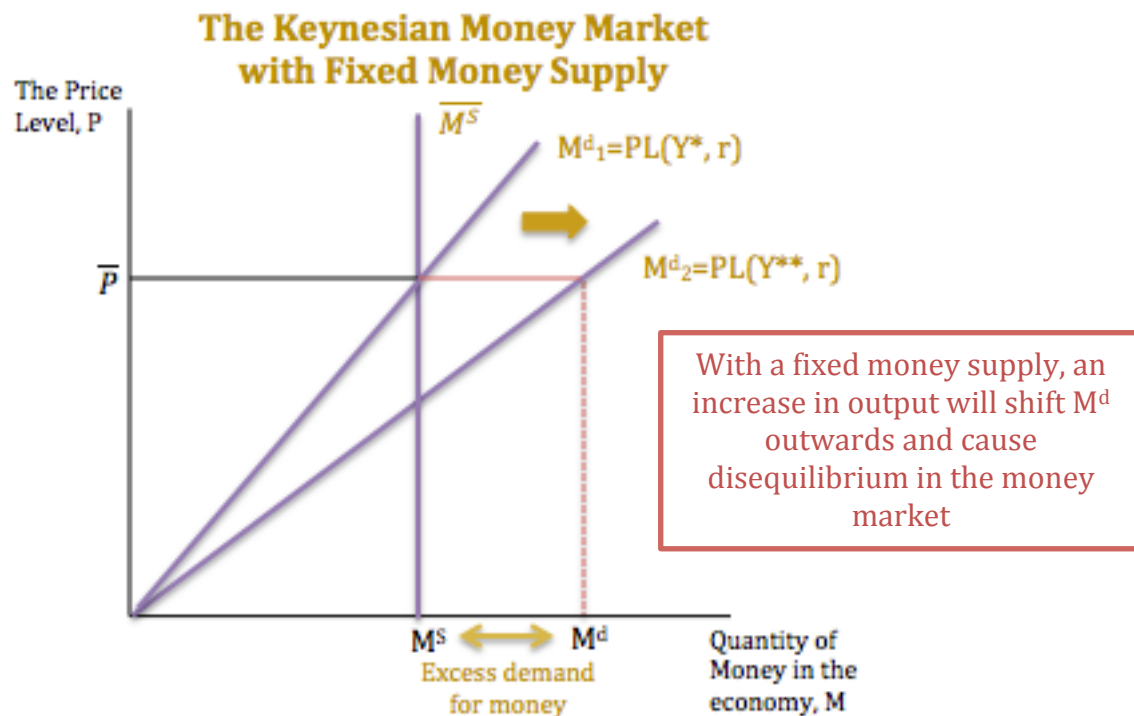


The IS LM Model

Key Premise: Under the Sticky Price Model (where the price cannot change) if the Central Bank also fixes the money supply, then the interest rate must be free-floating for the money market to reach equilibrium.

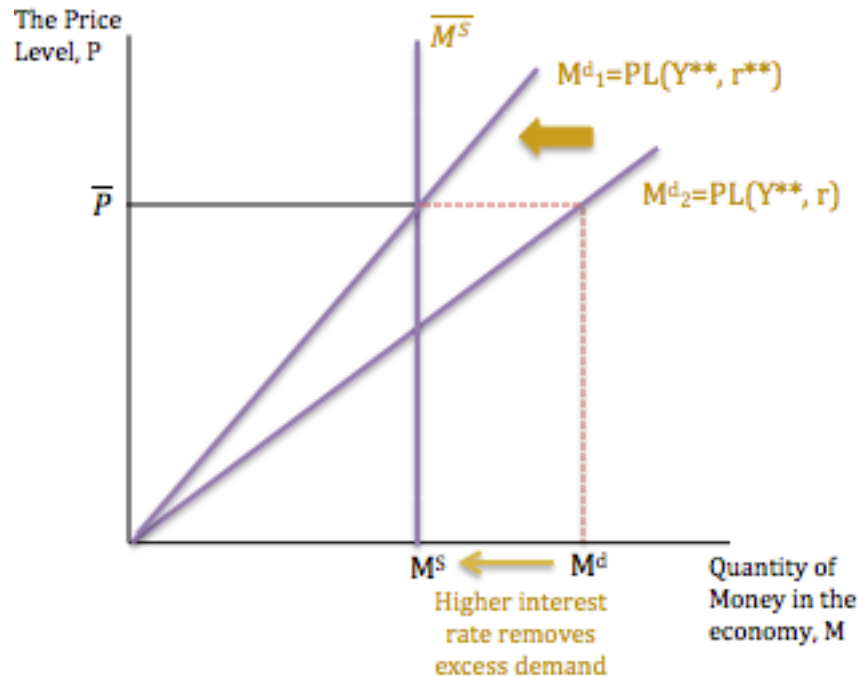


The graph below shows an increase in Money Demand (caused by an increase in output) for the money market with sticky prices *and* fixed Money Supply. Neither the price nor the money supply can adjust to reach the new equilibrium. This would cause disequilibrium. The nominal interest rate (hence real too, by the Fischer Equation) must rise to discourage the demand for money back to the old equilibrium. Remember, a rise in the nominal interest rate will increase the demand for savings (bonds) and so decrease the demand for money.



If the money supply is fixed and output demand increases then money demand shifts right and the money market is in disequilibrium. Only the interest rate can adjust to clear the market.

In the LM Model, the interest rate rises to clear the market



In the LM model, the free-floating interest rate must increase to decrease the demand for money again (by increasing the demand for credit cards). This will shift the demand curve **exactly back** to the old money market equilibrium.

But wait. Nothing has changed? Right?

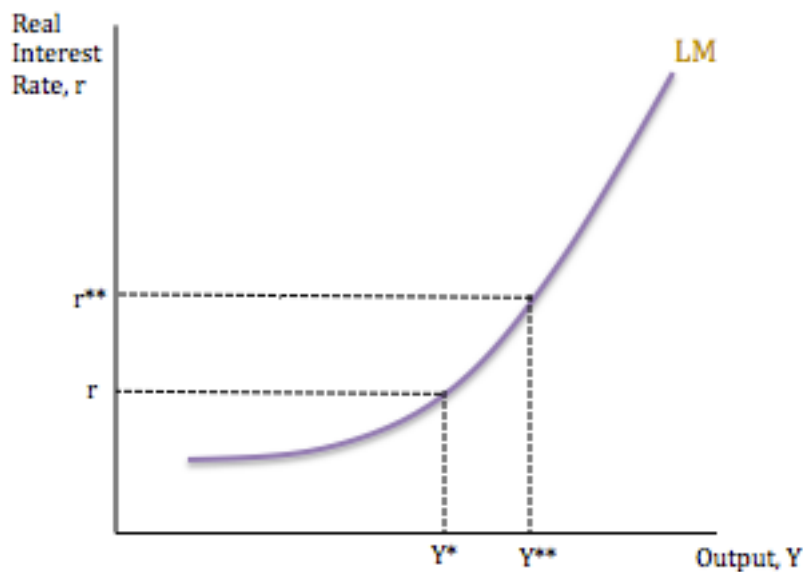
WRONG!

The money market has reached the same equilibrium, with the same sticky price level and fixed money supply, yes.

But the output market has gone from (Y^*, r) to (Y^{**}, r^{**}) where both the real interest rate and output are now higher.

The LM curve plots all the points that the that the money market is in equilibrium. It plots how the interest rate must change with output for the money market to clear.

The LM Curve is upward sloping



So whenever Y increases (or decreases) the free-floating interest rate must increase (or decrease) to clear the money market.

The **LM curve** shows every combination of r and Y for which the money market is in equilibrium.

Why does the LM curve slope upwards?

As shown previously, an increase in the output demanded will increase the demand of money (shifting the M^d curve outwards). In order to keep the money market in equilibrium, the interest rate must increase to decrease money demand back to its old level.

Differences between the LM curve and the Output Supply, Y^s

In essence, the two are very similar. Both curves are entirely constructed from other curves, but whereas the Y^s curve depended on the labour market, the LM curve depends on the money market.

Y^s Curve	LM Curve
<i>Slopes upward because of the Intertemporal Substitution of Leisure; when the real interest rate rises, workers are encouraged to work more today (and less tomorrow)</i>	<i>Slopes upward because an increase in the real interest rate is needed to clear the money market when output demand increases, causing money demand to shift out too.</i>
<i>Incorporates the Intertemporal Substitution of Leisure</i>	<i>Does not incorporate the Intertemporal Substitution of Leisure</i>
<i>Shifts outwards when any exogenous factor causes the labour supply curve</i>	<i>Shifts outwards when the money supply increases</i>

<i>shifts outwards (but not the real interest rate)</i>	
<i>Shifts inwards when any exogenous factor causes the labour supply curve to shift inwards (but not the real interest rate)</i>	<i>Shifts inwards when either the price level or money demand curves increase</i>

Factors that shift the LM curve

- 1) an **increase** in the Money Supply
LM shifts right as the interest rate must fall to increase M^d
- 2) an **increase** in the Price Level
LM shifts left as the interest rate must rise to decrease M^d
- 3) an exogenous **increase** in Money Demand
LM shifts left as the interest rate must rise to increase M^d