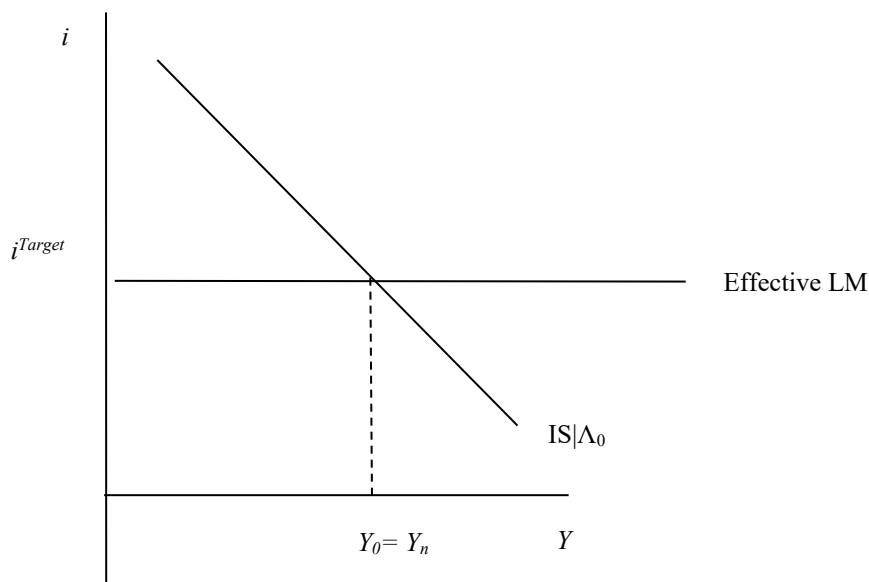


The Covid Economic Crisis in IS-LM

This handout includes summary graphs and points from Blanchard's chapter on the Covid pandemic interpreted using a two-sector IS-LM model. Refer to the lecture slides for how to interpret the model in the context of real world developments.

1. The Standard IS-LM Model with Central Bank rate targeting

The whole economy can be interpreted as one where all that matters is aggregate demand, vs output. Assuming the central bank sets a target interest rate, then we have the following picture.

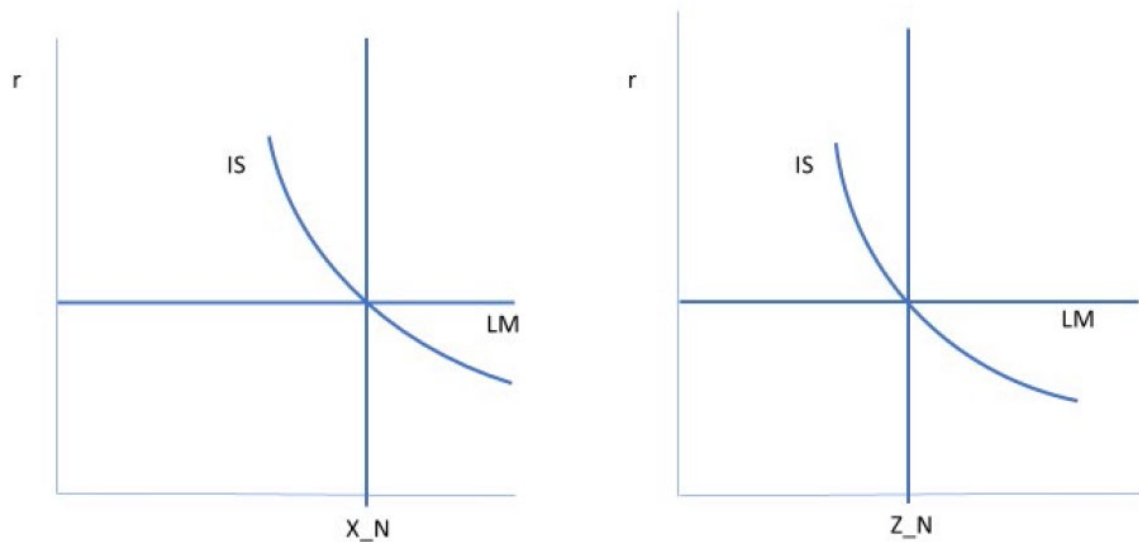


In the figure above, I've assumed that equilibrium output (Y_0) happens to equal potential GDP (Y_n), also known as the natural rate of output.

2. Modified IS-LM Model with Two Sectors

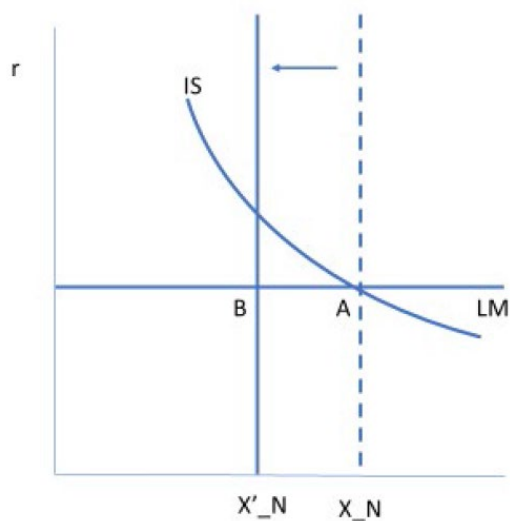
- Model as two sectors
- Affected sector: hotels, airlines, restaurants, and suppliers (output X)
- Non-affected sector: all else (output Z)
- Outputs are somewhat substitutable
- Central bank targets short term rate
- Start at natural rate in both sectors, (X_n, Z_n)

Figure 3. Initial equilibrium in both sectors



Assume now the Pandemic strikes, so public health measures are imposed reducing the amount of X output that can be supplied. This is represented by a shift inward of the

Figure 4. Decrease in output in the affected sector



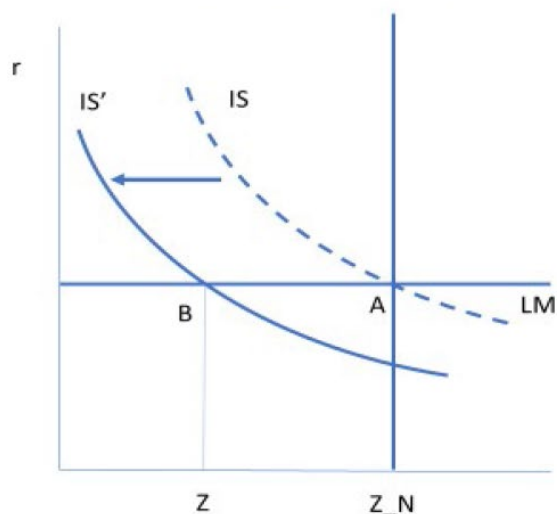
Three spillover effects:

- If X, Z substitutable, then demand for Z will rise
- If there is a reduction in income in X sector, that will decrease disposable income in X sector, reducing demand for Z

- If there is uncertainty regarding the future economic situation and policies, then Z will again tend to fall.

Assume the second and third effects dominate. The IS curve shifts to IS' .

Figure 5. The decrease in output in the non-affected sector, absent a macroeconomic policy response



Output in sector not directly impacted by the pandemic will tend to fall, from Z_N to Z in the above graph.

3. Policy Responses in the Two Sector IS-LM Model

Expansionary fiscal policy can shift out the IS curve in the Z sector (also in the X sector, but since output is constrained, there's no impact on output and employment in that sector). That is shown as a shift out of the IS curve to IS'' . *On its own*, equilibrium is at D , and this will increase output to Z'' .

Expansionary monetary policy (in the context of interest rate targeting) can shift down the effective LM curve, to LM' . *On its own*, equilibrium is now at E , and this will increase output to Z''' .

Both expansionary fiscal and monetary policy will shift out the IS to IS'' , shift the effective LM down to LM' . Equilibrium in this case would be at point C , output at the level indicated as Z in the figure below.

Figure 6. The decrease in output in the non-affected sector, given the macroeconomic policy response

