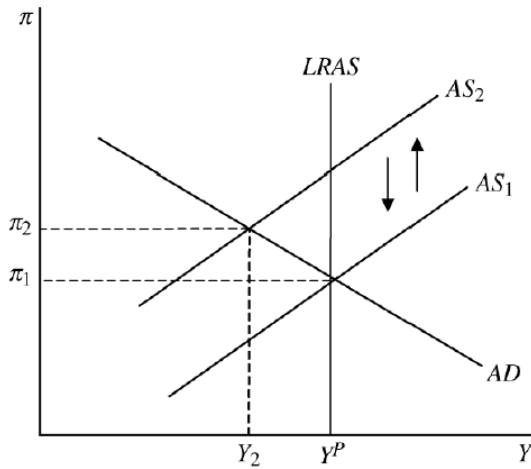


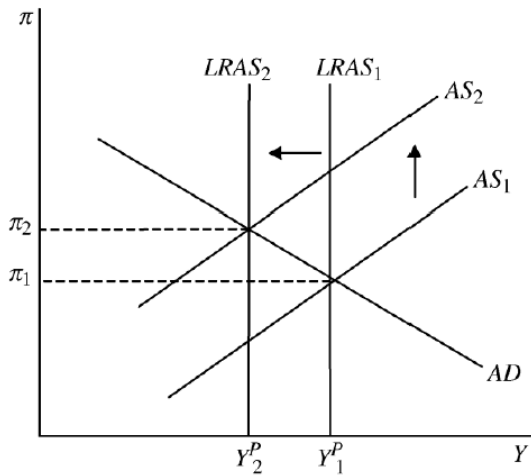
PS 6 Solutions

Chapter 23

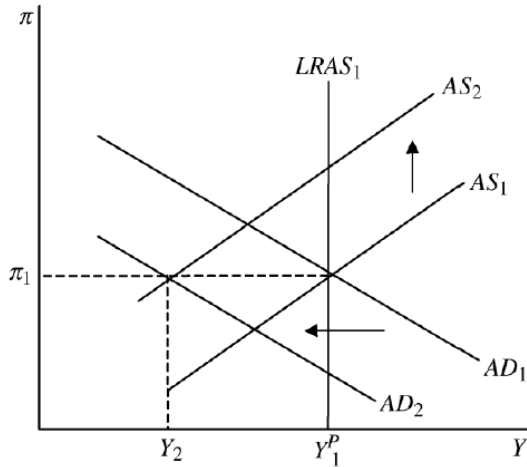
1. A rise in inflation causes monetary policymakers to raise the real interest rate. This reduces planned expenditures and lowers the level of output necessary for goods market equilibrium. The opposite occurs if inflation falls. Therefore, goods market equilibrium will occur at lower levels of output when the inflation rate rises and at higher levels of output when inflation falls. The downward slope of the aggregate demand curve reflects this. The short-run aggregate supply curve slopes upward to reflect the increase in the inflation rate that occurs when the economy's aggregate output of goods and services exceeds the potential output level in the short run and the decrease in inflation that occurs when output is below potential output.
3. The statement is correct. A depreciation of the U.S. dollar makes U.S. exports cheaper for foreign consumers at the same time it makes imports into the U.S. more expensive. As a result, exports increase, imports decrease, and net exports increase. According to aggregate demand and supply analysis, the aggregate demand curve shifts upward and to the right. Note that the depreciation of the U.S. dollar might also affect the short-run aggregate supply curve if U.S. firms import many of their inputs. An increase in the price of inputs will shift the short-run aggregate supply curve up and to the left.
4. When output is at potential, this is considered the full employment level of output. The unemployment rate at potential output is not zero, since structural and frictional unemployment exist. Thus, the factors that determine structural and frictional unemployment determine the natural rate of unemployment, which is also the unemployment rate that occurs when the economy is at potential.
6. When inflation expectations rise, it shifts the short-run aggregate supply curve up, leading to higher actual inflation in the short run in addition to any inflationary effects that may occur, for instance through negative price shocks. This illustrates the danger when inflation expectations become "unanchored" from a low level, in that it is more difficult for the central bank to then stabilize inflation, particularly when a temporary inflation shock leads to higher expected inflation.
9. The short-run aggregate supply curve will shift upward because wages and production costs rise, since workers and firms expect prices to be higher.
12. The inflation rate will be lower than it otherwise would be and aggregate output will be higher. The lower expected inflation will cause the short-run aggregate supply curve to shift down, so that the intersection of the short-run aggregate supply curve with the aggregate demand curve will be at a higher level of output and a lower inflation rate.
20. a. With a temporary negative supply shock, the short-run aggregate supply curve shifts up. In the short run, output falls and inflation rises. This creates slack in the labor market, which puts downward pressure on the inflation rate. As labor market slack continues and inflation expectations fall, the short-run aggregate supply curve shifts back down. Over time the inflation rate falls and output rises until the economy returns to the long-run equilibrium.



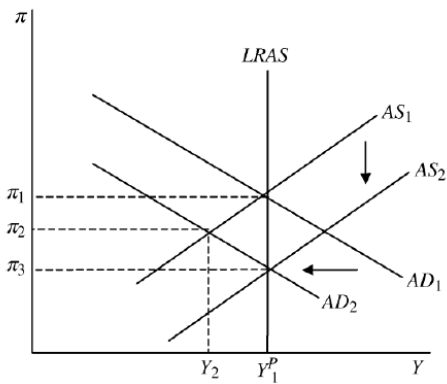
- b. With a permanent negative supply shock, the long-run aggregate supply curve shifts to the left. This creates a condition in which output is now above potential output, and the labor market tightens. As inflation and inflation expectations rise, the short-run aggregate supply curve shifts upward to the new long-run equilibrium. Eventually, output is lower and inflation is higher at the new long-run equilibrium.



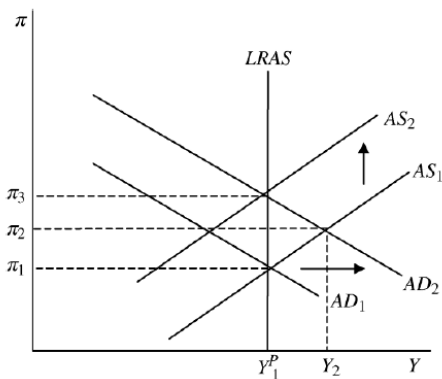
23. In order for the unemployment rate to rise and inflation to remain constant, both the aggregate supply and demand curves would have to shift to the left. If they shift horizontally to the left by the same amount, the result is inflation remaining the same, but output falling and the unemployment rising in the short run, as shown in the graph below.



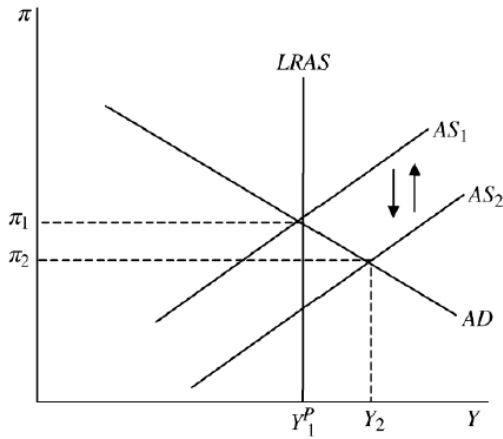
24. (a) Negative demand shock. An increase in financial frictions reduces aggregate demand. Output and inflation fall in the short run; in the long run, output rises back to potential, and inflation falls.



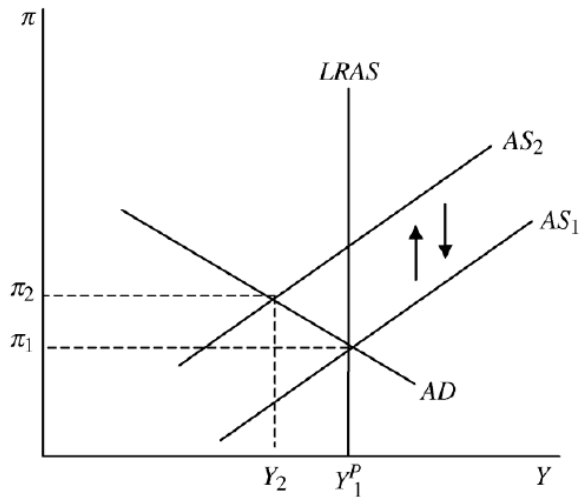
- (b) Positive demand shock. This increases autonomous consumption and investment, which increases aggregate demand. Output and inflation increase in the short run; in the long run, output falls back to potential, and inflation increases.



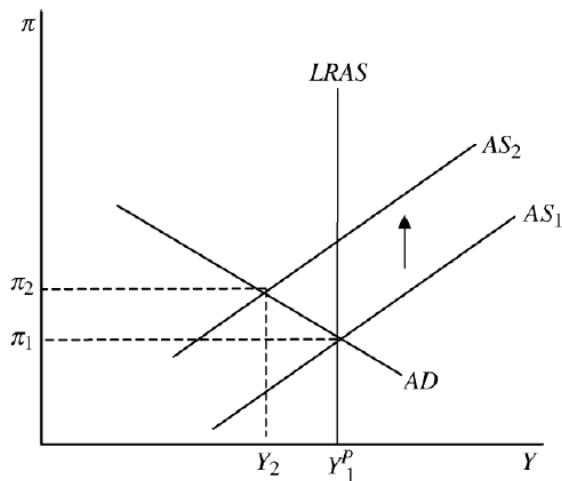
- (c) Positive (temporary) supply shock. This shifts the short-run aggregate supply curve to the right (down). Output increases and inflation decreases in the short run; in the long run, output falls back to potential, and inflation increases, returning to the original level.



- (d) Negative (temporary) supply shock. This shifts the short-run aggregate supply curve to the left (up). Output decreases and inflation increases in the short run; in the long run, output increases back to potential, and inflation decreases, returning to the original level.



25. If the public assumes that the current Fed officials are not that worried about inflation, expected inflation will increase, shifting the short-run aggregate supply curve upward and to the left (as shown in the graph below). During the spring of 2010 Fed officials were in the difficult position of worrying when they might have to increase interest rates to fight inflation as there were already some signs of a possible economic recovery taking place. Increasing interest rates too late would fuel expectations about inflation, while increasing interest rates too soon will slow down the recovery or even send the economy back into recession. It is quite difficult to make this decision, which is why most of the time the conduct of monetary policy is more an art than a science.



Chapter 24

2. False. If the central bank pursues stabilization policy, it can stabilize both inflation and output simultaneously by an autonomous easing of policy. If it lowered its inflation target, this would stabilize inflation temporarily; however, output would still be below potential. In addition, as the economy recovered from the recession, inflation would naturally begin to fall more due to the self-correcting mechanism. Thus in order to allow the economy to move back to the potential level of output, the central bank would need to then continuously adjust its inflation target. Constant adjustment of the inflation target would be inefficient, and could send mixed signals to the public about what it is doing and why.
3. (a) A reduction in autonomous consumption reduces aggregate demand, so monetary policymakers would pursue an autonomous easing of monetary policy to stabilize economic activity. (b) A reduction in financial frictions increases aggregate demand, so monetary policymakers would pursue an autonomous tightening of monetary policy to stabilize economic activity. (c) An increase in government spending increases aggregate demand, so monetary policymakers would pursue an autonomous tightening of monetary policy to stabilize economic activity. (d) An increase in taxes reduces aggregate demand, so monetary policymakers would pursue an autonomous easing of monetary policy to stabilize economic activity. (e) An appreciation of the domestic currency leads to lower exports and higher imports, which reduces net exports and aggregate demand, so monetary policymakers would pursue an autonomous easing of monetary policy to stabilize economic activity.

4. The Fed lowered the fed funds rate to zero during the crisis to offset falling aggregate demand; however, this was insufficient to stabilize aggregate demand and output. As a result, the Fed resorted to nonconventional monetary policy to help offset the financial frictions. This involved liquidity provision and asset purchases, which helped to lower medium and longer-term interest rates, and helped to increase aggregate demand, despite having reached the zero lower bound on the federal funds rate. However, due to the severity of the crisis, these policies were insufficient to fully stabilize economic activity and bring output to potential.
5. The divine coincidence exists when policies that are appropriate to achieve price stability also stabilize economic activity. In this case, policymakers have easier jobs because there is no tradeoff between policy objectives and they do not have to choose between them. They can, in other words, have their cake and eat it, too. The divine coincidence occurs when the economy is beset with aggregate demand shocks or permanent supply shocks, but not when it experiences temporary supply shocks. When faced with either of the first two shocks, policymakers can stabilize both inflation and economic activity by enacting policies to shift the economy's aggregate demand curve and return to long-run equilibrium at potential output. In the case of a temporary supply shock, however, policies that shift the aggregate demand curve to achieve inflation stability will move the economy further away from potential output and those aimed at stabilizing economic activity at potential output will cause the inflation rate to move further away from the target rate.
6. With negative supply shocks, both inflation and the unemployment rate increase. In order to reduce the unemployment rate, an expansionary policy must be pursued, which further increases inflation. On the other hand, pursuing a policy to reduce the inflation rate requires a contractionary policy, which further increases the unemployment rate. Thus, with negative supply shocks stabilization policy requires a tradeoff between achieving the objectives of inflation stabilization and stabilization of real economic activity.
7. In both cases inflation rises and output falls; however, in the case of a permanent negative supply shock, the long-run effects on these variables are permanent. With a temporary negative supply shock, inflation will increase and output fall, but eventually as the shock wears off and the self-correcting mechanism moves the economy back to the long-run equilibrium, both output and inflation will return back to their previous levels. In other words, the adverse effects are only temporary in the latter case, but permanent in the former case.
8. In country A, policymakers chose a policy to stabilize output. In country B, policymakers chose a policy to stabilize inflation. In country C, policymakers chose no policy response, i.e., left autonomous monetary policy unchanged.
9. Uncertain. A temporary positive supply shock has the dual benefits of increasing output and also reducing inflation, so in some sense policymakers get the best of both worlds by *not* pursuing any type of stabilization policy. However, if the supply shock is large enough, it could reduce inflation and/or increase output enough such that it could create more variability and hence uncertainty in inflation, which could actually be destabilizing. In this case, it may be in the best interest of policymakers to pursue a policy that stabilizes the inflation rate in the short run, until the supply shock wears off (this would have the added benefit of temporarily increasing output more than if policymakers did nothing).
22. (a) According to aggregate demand and supply analysis, the decrease in government expenditures results in a shift to the left in the aggregate demand curve, as aggregate expenditures decrease at every inflation rate. As a result, the new intersection point with the short-run aggregate supply curve determines a lower inflation rate and output level than before, as shown below. At this point, output

is below potential output and inflation is below its target. (b) If the Federal Reserve decides to use its monetary policy tools to stabilize inflation, it will effectively decrease the real interest rate at every inflation rate, thereby shifting the MP curve downward. This action will shift the AD curve to the right and restore the economy to its long-run equilibrium, where the inflation rate returns to its target π^T and output is at potential output again. The only long-run effect of this policy is to affect the real interest rate, which is now set at a lower level than the previous long-run equilibrium.

