Christiano
306, Winter 2001
February 19

Lecture 13: Stabilization Policy, the Pros and Cons

The pros of stabilization policy were reviewed last time (and, I briefly summarized them again at the start of today's lecture.) Now I discuss some of the arguments against using fiscal policy to actively stabilize the economy.

1. Long and variable lags.

   (a) Inside Lags. We can distinguish two types of lags that are relevant in the context of stabilization policy - inside and outside lags. The inside lag begins from the time that the shock hits the economy and extends to the point when a policy action is taken. The outside lag starts from the time when the policy action is take to the time when the economy responds. These lags tend to be long, and their length is uncertain.

   The inside lag is relevant for both fiscal and monetary policy. It takes time, sometimes many months, before it is apparent that the economy is slipping into a recession and policy makers can think about responding. The inside lag is particularly long and uncertain for fiscal policy, however. Not only is there the time needed to recognize that a shock has hit, but then the time to take action can take very long. That is because in the case of fiscal policy, action often requires legislative measures, and that can involve many months of wrangling, with an uncertain outcome. An example of the delays associated with fiscal policy is the 1964 tax cut. The administration of John Kennedy wanted a tax cut to get the economy out of the 1960 recession when it came into power in 1960. It took three years to convert that into legislation. By contrast, an increase in money growth began immediately, in 1960.

   (b) Outside Lags. The outside lag can also be long, and how long it is is likely to vary from time to time. For example, the increase in demand that occurs after an interest rate cut produces a depreciation of the currency requires that people adjust their spending plans. Under some circumstances, the time needed for this may be long. Under others, it may be short.

   (c) General Discussion. The delays in policy may have the consequence that a policy response doesn't begin to have its impact on the economy until after the shock has gone away. If this is the case, then efforts to stabilize the economy simply manage to

destabilize it. To see this for yourself, draw the $DD - AA$ curve diagram. Imagine a temporary negative shock to DD, which shifts that curve left at first, and then back to its original position a little later. Suppose the full swing left and then right takes 4 years. It would not be excessive to imagine that the inside and outside lags might be 4 years or even more (recall the 1964 tax cut example mentioned above). In this case, a fiscal policy to shift the DD curve to the right might hit the economy only after the DD curve has shifted back to its original location. In this case, the 'medicine' hits the economy just when it is no longer needed.

Our $J-$curve discussion points to another source of uncertainty about the timing of the effects of policy. That discussion showed that one channel of the effect of monetary policy - the one that operates via the impact of the exchange rate on the current account - is not perfectly predictable. The US experience of the 1980s suggests that the lags are on the order of 2-3 years. The experience in the Asian crisis countries are consistent with the notion that the lags are much shorter.

2. Uncertainty about the magnitude of the response. In our model, the magnitude by which the DD or the AA curve shifts is cut and dry. Just replace the abstract functions like $C(Y-T)$ and $L(Y,R)$ in our model with actual functions and use historical data to pin down the parameters. With all the equations stated precisely, the effects of a shock can be determined quite precisely. But, there are several reasons for thinking that this overstates the confidence we should have about the effects of a shock. First of all, we only have estimates of the parameters of the various equations. We don't know what their true values are. Second, expectations are very important in determining how much people respond to a given policy action. And, the response of expectations is hard to determine. The rest of this subsection elaborates on this point.

   (a) Policymakers Overestimated the Response of Consumption to the 1968 Tax Hike. In the theory we have developed, the response of the economy to a tax cut depends on how households adjust their consumption decisions. In 1968, for example, policymakers were concerned that the tax hike of that year would have a large negative impact on consumption. The loose monetary policy in late 1967 and 1968 reflected the attempt by policy makers to head off a possible recessionary effect of the tax hike (they expected that the tax cut would shift the DD curve left, so they shifted the AA curve up). As it turned out, households did *not* respond to the tax hike in the way policy makers had expected. Consumption hardly fell at all, so that the net effect of government policy, when

monetary and fiscal policy are *both* considered, turned out to be expansionary. When policy makers recognized that they were in effect just stepping on the gas (they thought they were stepping both on the gas *and* the brake!), they were dismayed. They realized that the net effect of policy was to push the economy towards higher prices, and they (over-) reacted very strongly. In effect, monetary policy makers then stomped on the brake and brought the economy to a screeching halt, in the form of the 1970 recession. When they realized what they had done, monetary policy then shifted back to the accelerator...that's the way policy went for several years. This policy was referred to as 'stop-go' policy because of its erratic nature.

(b) Why Did Policy Makers Overestimate the Response of Consumption?

The story about why policymakers overestimated the amount that the tax hike would shift the DD curve left is an interesting and instructive one. To estimate how big a drop in consumption was likely to occur in response to the tax hike, they looked at historical data on tax and consumption changes. The problem with that strategy was that the data were dominated by episodes in which tax changes were perceived to be relatively permanent. In contrast, the 1968 tax hike was unusual in that it was explicitly written into the law that the change was temporary and would soon be reversed. Now, it is generally believed that people's consumption response to a change in their income depends on how persistent that change in income is perceived to be. A temporary change in income produces only a very small change in consumption. A more permanent change in income produces a much larger change in consumption.[1] So, the idea is that people did not adjust consumption much in response to the 1968 tax hike because

[1]To see the intuition behind this, imagine a cab driver who gets paid only for days actually worked. Suppose the cab driver's income drops in one particular month. How much do we expect the cab driver's consumption to drop in that month? Consider two scenarios. In one, the drop in income reflects that the driver caught a flu and had to stay in bed for the month. In the second scenario the driver became permanently disabled and had no disability insurance. The expectation is that consumption would drop a lot more in the second scenario than in the first. In the first scenario the drop in income is only temporary and the driver can keep consumption relatively unchanged simply by borrowing a little at the bank, or drawing down on savings. In the second scenario, the cab driver is permanently poorer, and so is not welcome at the bank. Moreover, it does not make sense to try and maintain consumption by drawing down savings. That's because this strategy will wipe out savings quickly, and will eventually put the cab driver at risk of not being able to pay for any consumption purchases at all. A (former!) cab driver in this second scenario will be forced to preserve their saving by cutting consumption to a bare

they perceived the change to be temporary. Policymakers erred in overestimating how much people would react because they failed to take into account the role of expectations, and the fact that the historical record offered evidence on how much people respond to permanent tax changes, not to temporary tax changes.

(c) The Importance of Expectations in Determining the Response to Policy.

This episode about the 1968 tax cut serves to emphasize the uncertainties about the magnitude of the response of variables to a tax change. The episode suggests that expectations are very important. But, it is very difficult to predict what expectations will be after any particular fiscal policy move.

So, the uncertainty about the magnitude and timing of the impact of policy can frustrate efforts to stabilize the economy. When a given amount of pressure on the brake sometimes has a huge effect and sometimes has no effect, one has to be cautious about trying to fine tune the speed of the economy.

3. The Composition of Output. We have noted that while fiscal policy can be successful in stabilizing aggregate output, the composition of output is affected. This in itself can cause disruptions, which need to be taken into account. For example, suppose a temporary expansion of government spending is designed to make up for a temporary drop in investment. The people losing their jobs due to the drop in investment are not necessarily the ones who are hired with the increase in government spending. The increase in government spending, if it affects a different part of the country or industry than the one where the decline in investment takes place, could put a lot of unwelcome pressure on local resources and may not help at all with the people in the investment industries that have lost their jobs.

4. *Should* we stabilize? Sometimes it is taken for granted that all fluctuations in output are bad, and should be offset by some sort of policy. But, this just isn't true. For example, suppose there has been overbuilding of housing in a part of the country. Prices are low and as a result, I is low. Is this a bad thing? Not necessarily. Given that there are now plenty of houses built, the right thing may well be for construction to pause.

5. Expectations traps. An expectation trap occurs if private individuals take actions based on the expectation of higher prices and then the Fed

---

minimum.

The ideas summarized in this cab driver example are associated with Milton Friedman and are referred to as the Permanent Income hypothesis.

responds to the actions by increasing the money supply and actually producing the higher prices that people expected in the first place. We can use the model to articulate this possibility.

(a) An example of an expectation trap. In this example, private agents develop the expectation that prices will rise. This leads them to raise the actual, current price level (see attached chart). This presents the monetary authorities with a dilemma (the 'inflation dilemma'). Either (i) do nothing and the higher prices that people anticipated will eventually go away. However, with this option there is a period of unemployment. Alternatively, (ii) increase the money supply and avoid unemployment. In this case, the higher prices people expected will occur. If the monetary authorities choose (ii), then they are said to fall into the expectation trap laid by private agents.

The more the monetary authorities 'care' about the condition of the economy, the more likely they are to select (ii) if they find themselves in the inflation dilemma. If people think that the monetary authority is of type (ii), then they are more likely to expect high inflation in the first place, i.e., the monetary authority is more likely to find itself in the inflation dilemma. If people think the monetary authority is type (i), the less likely it is that the monetary authority will find itself in the inflation dilemma.

Here is how we can flesh out this example using our $AA - DD$ curve framework. Suppose, for some reason, that private agents expect prices to rise and the exchange rate to depreciate. Workers ask for and get higher wages when they negotiate wage contracts because firms expect to be able to pass on the higher wages in the form of higher prices. Firms raise prices right away because they think the demand will be there. The effect on the DD curve of the rise in the price level from P to P' is shown in Figure 1. The equilibrium exchange rate is E_1 before the shock. If the exchange rate jumped to E_2 after the shock, then the goods market would be in equilibrium at the old level of output. The percent increase in E from E_1 to E_2 is obviously the same as the percent increase in P from P to P'. This is because the way E and P enter the aggregate demand curve is via E/P in the current account equation.

Now consider the AA curve. The rise in the price level all by itself shifts the AA curve to the left. But, the rise in E^e to $E^{e\prime}$ shifts it to the right. (We assume that E^e jumps by the same percent at P.) It may seem that if the right-shift were strong enough, the net effect of the rise in P and in E^e might shift the AA curve so far to the right that a rise in employment results in the short run. Actually, this cannot happen. To see this, suppose just for

the moment that M rose by the same percent as P and E^e. In this case, it is easy to verify that the AA curve would intersect with the new DD curve at the original level of output, point 3 in Figure 1.[2] But, we want to draw the curves under the assumption that M does not change. This is why the new AA curve intersects the new DD curve at a level of output that is lower than where we started.

We conclude that if the monetary authorities do nothing after the rise in P and E^e, the economy would move to point 2, where there is unemployment. This unemployment would not last forever. As time goes by and the economy passes into the long run, the low level of output results in a falling price level and the DD and AA curves will shift back to where they started. In the long run, the economy is back at point 1. This is what would happen if the Fed chose option (i) and did nothing. Under option (ii), the Fed increases the money supply by a percent that is equal to the percent jump in the price level and exchange rate expectation. In this case, the new equilibrium is 3, not 2. Not only is 3 a short run equilibrium. It is a long run equilibrium too, since output and employment are at their full-employment levels there. By choosing option (ii) the monetary authority in effect 'ratifies' the jump in expectations about the price level. The monetary authority would not be happy about doing this. But, it might nevertheless do it when confronted with the inflation dilemma, to avoid the unemployment that would result from inaction.

(b) A little intuition. Why does unemployment rise if the monetary authority chooses not to 'validate the high price expectations' when confronted with the inflation dilemma? If the monetary authority validated expectations and increased the money supply permanently by the percent increase in P' and $E^{e\prime}$, then the new equilibrium would be at point 3. There would be no unemployment, though the price level would be higher. A decision not to validate expectations in this way would be the same as adopting a tight money policy. It is not *exactly* the same as a tight money policy, of course, since it occurs without any change in the money supply. Still, the effect is the same. The 'tight money' induces a higher interest rate and an appreciated exchange rate (relative to E_2), which is what results ultimately in lower output. The mone-

[2] This is because the way P, E, E^e and M enter the AA curve is via E^e/E (in the UIP equation), and M/P (in the money demand equation). If E rose by the same percent as the rise in E^e (i.e., from E_1 to E_2), then E^e/E would be unchanged and M/P would be unchanged too with the assumed rise in M. So, financial markets would still be in equilibrium at the old level of output.

tary authority could avoid this 'tight money' policy by increasing the money supply enough to prevent a fall in real balances.

(c) Avoiding Expectation Traps. Suppose the monetary authority was absolutely committed to price stability. Under these circumstances, could the chain of events described above ever occur? Probably not, since it would never occur to anyone in the first place that the price level could take off. The only thing that can ultimately allow the price level to take off is an increase in M. If it was fully known and understood that monetary policy institutions would never allow M to take off, no matter what, then anyone who stood up and started forecasting an imminent takeoff in the price level would be regarded as a fool.

On the other hand, if there were a tradition at the central bank of worrying about stabilizing the economy, then a concern that the price level might take off would not sound so crazy. A person could argue that the concern itself can be the cause of the take-off. They could sketch out the above argument, according to which the concern leads to actions which then make it optimal (given the monetary authority's concern for 'stabilization') ex post for the monetary authority to validate the concerns.

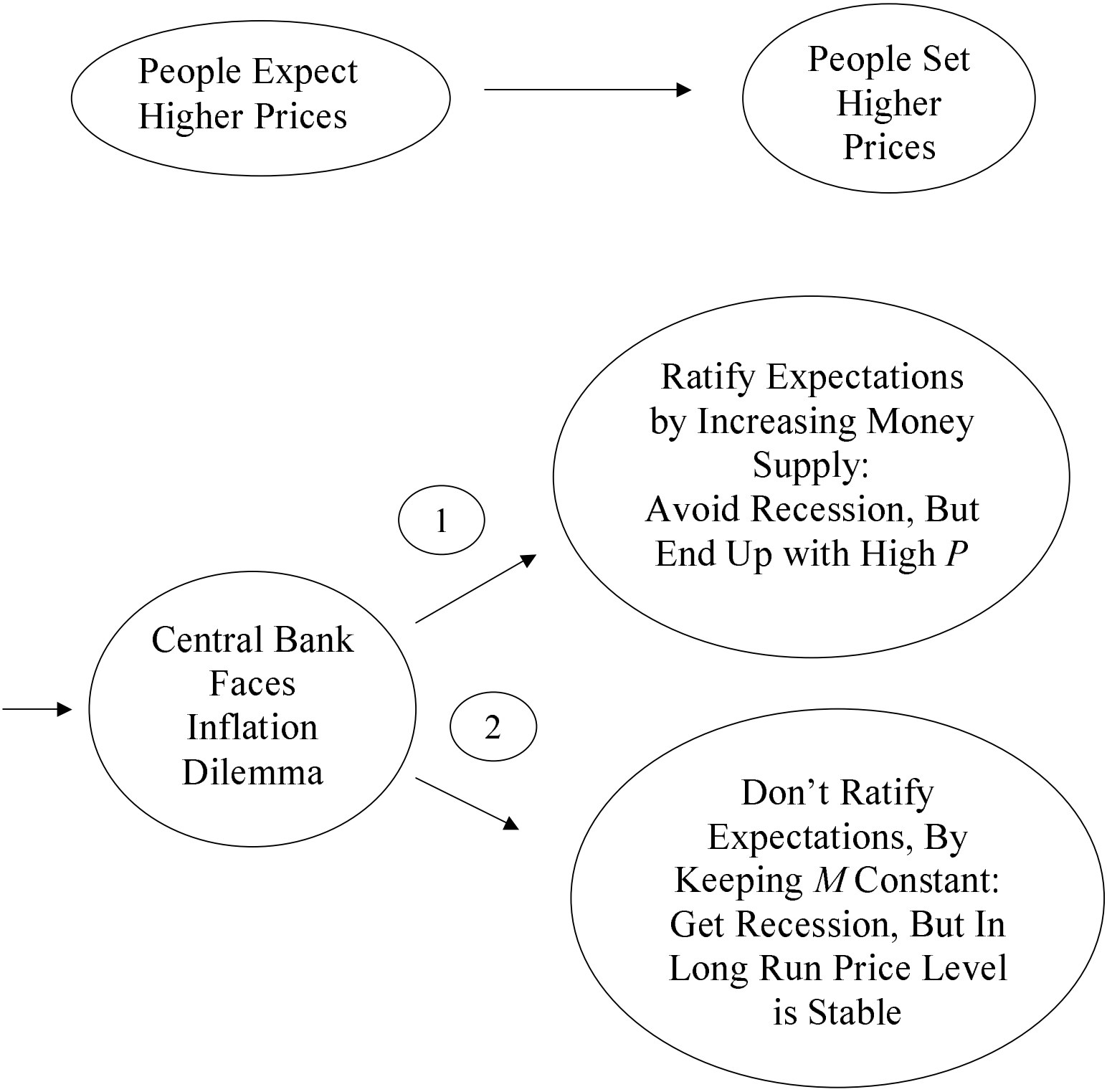
People worried about expectation traps, therefore, argue that the monetary authority should abandon a commitment to stabilize the economy. In the US, the law which authorizes the existence of Fed requires that it be concerned with price stability *and* unemployment. Some argue that this law makes expectation traps more likely. They argue that the Fed's concerns about the cost of not validating expectations of high prices is the reason why inflation was high in the 1970s. Policymakers were surprised and frustrated at how persistent inflation expectations were in 1971, given that there was a recession at the time.[3] Arguably, one reason inflation expectations were so persistent was that people understood that, when confronted with the inflation dilemma, the Fed would always choose to accommodate inflation expectations, rather than risk a short, possibly steep, recession. These concerns lead some to advocate that the law governing the mission of the Fed be changed so that the Fed's only responsibility is price stability.

It is now widely recognized that the Fed needs to do all it can to avoid falling into an expectations trap. An excerpt from Robert J. Barro's book, *Getting It Right (1996,* pages 58-60*)*, illustrates the point. According to Barro, the vice chairman of the Fed in 1994,

[3] A further discussion of the notion that the US fell into an expectation trap in the 1970s appears in Christiano and Gust, 'The Expectation Trap Hypothesis,' Federal Reserve Bank of Chicago *Economic Perspectives*, available on the course web site.

Alan Blinder, who was in line to become Fed chairman some day, actually was a poor candidate. The reason, according to Barro, was that a Fed chairman '...should always appear somber in public, never tell any jokes, and complain continually about the dangers of inflation.' The problem with Blinder, according to Barro, is 'He has an excellent sense of humor, undoubtedly likes small children and defenseless animals, cares deeply about poor people, and clearly believes that expanding the money supply during a recession would, at least in the short run, lower the unemployment rate. With his belief in a short-run Phillips curve there is no way that he would maintain a commitment to price stability when the economy's growth rate slows down. In other words, Alan Blinder is a nice person and a solid macroeconomist but has all the wrong traits for a central bank governor.' Barro goes on to say, regarding a very controversial speech that Blinder gave: 'Mr. Blinder caused an uproar by proclaiming at a Federal Reserve meeting in Jackson Hole, Wyoming, that the central bank ought to take account of the short-run trade-off between inflation and unemployment (that is, the Phillips curve) in the setting of its policy. The consensus reaction was that this attitude was inappropriate for a central banker, apparently whether or not the points were scientifically valid. I agree entirely with this assessment.'

Thus, one reason the Fed should stay out of the business of conducting stabilization policy is that this is the best way it can avoid getting ensnared in an expectations trap. One way to avoid expectation traps is for the monetary authority to follow Barro's suggestion and put on the appearance that it is not even aware of its ability to stabilize the economy. Another way would be to implement legal changes that focus the Fed's attention exclusively on price stability.



- A Central Bank With a Commitment to Stabilize the Economy Likely to Choose Option 1 (and Fall into Expectation Trap) If It Faces Inflation Dilemma
- Central Bank With a Commitment to Price Stability (i.e., Choose Option 2 if Faced with Inflation Dilemma) is Less Likely to Confront Inflation Dilemma in the First Place.

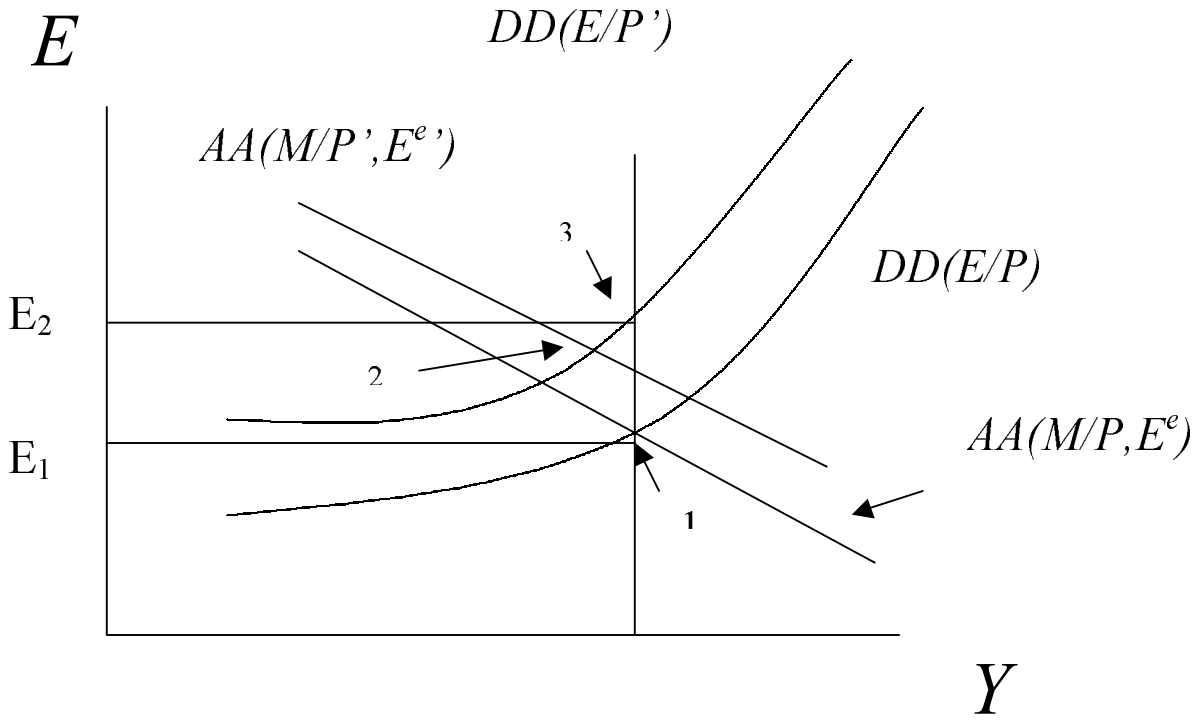


Figure 1: Effect of an Increase in P and E^e