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Lecture #13: Stabilization Policy and Fixed versus Flexible Exchange Rates.

1. Stabilization Policy. Last time, we discussed two types of shocks that can hit the economy: a shock to financial markets and a shock to the goods market. We worked out what the effects of such shocks are, assuming policy makers *don't* respond. This time, we discuss the ways in which policy makers can respond to keep aggregate output unchanged. The results are summarized in the following table:

Policy	Drop in Aggregate Demand	Rise in Money Demand
M	Can stabilize output, but exacerbates E, R effects	can work 'perfectly'
G	Can work 'perfectly'	Can stabilize output, but exacerbates E, R effects
T	Can work 'perfectly'	Can stabilize output, but exacerbates E, R effects

I now briefly discuss what the entries in this table mean and how I got them. After that, I discuss the pros and cons of stabilization policy.

- (a) A Bad Shock to Aggregate Demand. We can increase M, G and/or reduce T . We know from previous analysis that an increase in M increases output, reduces R and raises E . So, an increase in M can be found that stabilizes the economy's response to the bad aggregate demand shock. However, since the increase in M moves R and E in the same direction that the bad aggregate demand shock pushes these variables, it follows that this method of stabilizing an aggregate demand shock amplifies the response of the financial variables to this shock. Note that although the response of aggregate output to the aggregate demand shock is stabilized, the composition of output is not. Thus, if the bad shock reflects a fall in I , then output is allocated away from investment and towards the current account (E is high).

Now consider cutting G or T . Obviously (look at the situation in the $DD - AA$ diagram), this can exactly offset the impact of the bad shock on the DD curve. In this sense, this type of policy can eliminate the impact on Y, E, R of the bad shock. Although aggregate output is not affected, the composition of output is affected. Thus, if the aggregate demand shock is a reduction to I , and the shock is stabilized with a cut in T , then more output will

be shifted to consumption and less to investment during the period when I is low. Similarly, if the shock is stabilized with a rise in G , then output is reallocated to G and away from I .

- (b) A Positive Shock to Money Demand. An increase in M can exactly offset this shock. Basically, it pushes the AA curve back up to where it started and the economy is insulated from the shock. There is no impact on output or its composition. All that happens is that households want to hold a relatively larger share of their wealth in the form of money, and the central bank accommodates this wish by pulling out some interest-bearing assets and replacing them with cash (i.e., running an expansionary open market operation). Thus, stabilizing the money demand shock with monetary policy ‘perfectly’ offsets the shock.

Now suppose that the fiscal authorities respond to the shock by increasing G and/or reducing T . Recall that this has the effect of expanding output, raising R and reducing E . Since the impact on R and E is in the same direction of the shock itself, it follows that although fiscal policy can stabilize the output effect of a money demand shock, it amplifies the R , E response to that shock. Note also that while the fiscal response leaves aggregate output unchanged, it does not leave its composition unchanged. In particular, the increase in G results in a reallocation in output away from net exports and towards government spending. Similarly, a cut in T reallocates output away from net exports and towards household consumption.

- (c) Pros and cons of stabilization. The picture of stabilization policy painted above is too rosy. Here are some problems:
- i. Long, variable lags and uncertainty of impact. 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 taken to the time when the economy responds. There is uncertainty in the lengths of both these lags. Also, there is uncertainty in the magnitude of the economic impact of government policy actions.

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.

The outside lag can also be a source of uncertainty, both in terms of the timing and magnitude of the effects of policy. The reason, fundamentally, is that the economy's response to government policy depends on how individuals respond to the policy. And, this just isn't perfectly predictable. For example, the response of the economy to a tax cut depends in part 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 pickup in money growth 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 money and fiscal policy are *both* considered, turned out to be expansionary at this time. 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.

Our J -curve discussion points to another source of uncertainty about the timing and magnitude 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.

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. Uncertainty about timing is also a concern. The delays involved 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.

- ii. The Composition of Output. In the discussion of parts a and b above, it was 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.
- iii. *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.
- iv. Expectations traps. Monetary policy may seem particularly well suited for stabilizing certain shocks, like money demand shocks. Still, the active use of monetary policy for stabilization can get the economy into trouble, even if there is no uncertainty about magnitude or timing. For example, it is possible that the central bank can come under undue political pressure to expand the economy at times. For example, there is a story that Arthur Burns, chairman of the Fed in the 1970s, adopted an expansionary monetary policy at President Nixon's request.¹ According to the story, Nixon was anxious not to lose the 1972 election and wanted

¹This was reported in a 1970 *Fortune* magazine article by Stanford Rose.

to make sure that Burns did not ‘spoil’ things by keeping monetary policy too tight. Although validity of the story is uncertain, it does show how a central bank with a tradition for being willing to stabilize the economy can find itself coming under political pressure to do so.² As we found in our analysis, if the Fed keeps increasing the money supply, each time permanently, then all you get in the long run is rising prices. A permanent change in the money supply just does not have an impact on output in the long run, according to the theory in the class.

A tradition of the Fed stabilizing the economy can also make the economy vulnerable to ‘expectation traps’. That is, it is possible for people to believe, on very slim objective reasons, that inflation is taking off. A Federal Reserve that believes in stabilizing the economy can make this belief be self-fulfilling. It works in this way. Suppose there is a general expectation that prices will rise. Workers will demand high wage contracts. Firms will grant this to them because they also expect the general price level to be high, and so they figure they can pass on the high wage costs in the form of high prices. The high wages and prices then place the Fed in a dilemma. Either the Fed does nothing, in which case a temporary recession occurs. The high prices produce a recession by shifting the DD curve to the left (for each E , they reduce the real exchange rate, which means a lower current account). Eventually, prices come back down to where they were before and in the long run there is no consequence.³ An alternative possible response of the Fed is for it to cave in to expectations (‘fall into the expectations trap’) and expand the money supply. A central bank that is concerned about stabilizing (or, simply not *destabilizing*) the economy, is likely to be tempted into choosing the second option. Of course, this is likely to further encourage people in raising their expectations about inflation. In this way, a well publicized concern for stabilizing the economy can land the Fed in a trap where inflation expectations are persistently high, and where the Fed is constantly struggling with the dilemma of whether to accommodate expectations and get more inflation, or not accommodate expectations and face a temporary recession. In practice, a cen-

²For a discussion of the Fortune magazine article, and an argument that the story in the article is false, see Wyatt C. Wells, *Economist in an Uncertain World: Arthur F. Burns and the Federal Reserve, 1970-1978*, Columbia University Press, New York, 1994, page 100.

³Make sure you can work out this argument in detail with graphs.

tral bank in this situation faces enormous political pressure to avoid the recession, even though it is temporary.⁴

It has been argued that this is exactly the situation the Fed found itself in in the early 1970s. Policymakers were struck at how persistent inflation expectations were in 1971, given that there was a recession at the time.⁵ Arguably, one reason inflation expectations were so persistent was that people understood that in the end the Fed would always choose to accommodate inflation expectations, rather than risk a short, possibly steep, recession.

It is now widely recognized that the Fed needs to do all it can to avoid falling into this type of 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, 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 this belief in a short-run Phillips 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

⁴This is particularly true in the US, where the law governing the mission of the Federal Reserve stipulates that the Fed should be concerned with output and employment, as well as inflation.

⁵According to Wyatt C. Wells, p. 70, during the recession year of 1971, '...telephone workers won a 33 percent raise over three years and a cost of living adjustment; postal workers between 7 and 9 percent annual increases; copper workers a 31 percent raise over three years and a cost of living adjustment; one railroad union a 42 percent increase over 42 months; and steeworkers a 31 percent raise over three years and a cost of living adjustment.'

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.

2. Fixed versus flexible exchange rates. Over time, and in different places, countries have adopted fixed exchange rates and then abandoned the fixed exchange rates. We discussed the operating characteristics of a fixed exchange rate regime. This is a regime where the central bank conducts open market operations so that the outstanding stock of money, M , is consistent with a target value of E .

Under fixed exchange rates, the central bank has to conduct monetary policy to keep the domestic interest rate equal to the foreign rate: $R = R^*$ (recall the UIP relation). If the only shocks are to money demand, then this is no problem. The Fed always supplies money when a demand shock threatens to drive up R , and it withdraws money when the reverse happens. Problems with a fixed exchange rate regime can occur when there is a shock to aggregate demand.

To see this, recall that a bad shock to aggregate demand makes R fall and E rise. The central bank has to respond by preventing the fall in R . The problem is that this requires adopting a tight monetary policy just when the economy is slipping into a recession. This can be a major problem, and it might be politically unacceptable for an economy that is already in a recession. Very likely, citizens would complain at a time like this that the fixed exchange rate target is simply not worth it, by comparison with the high unemployment that goes with a recession.

Next time (11/10/99 lecture) we will discuss the fact that if the aggregate demand shock is experienced by both countries having a fixed exchange rate (the 'correlated shock case'), then the fixed exchange rate regime may not be so bad. It will be emphasized however, that this requires changing (in a plausible direction) the model of the text book. With literally the model of the text book, it does not matter whether the shock to aggregate demand is shared with the foreign country. In both cases, maintaining the fixed exchange rate regime requires reducing output substantially, to the point where the new DD curve intersects with the horizontal line marking the fixed exchange rate.