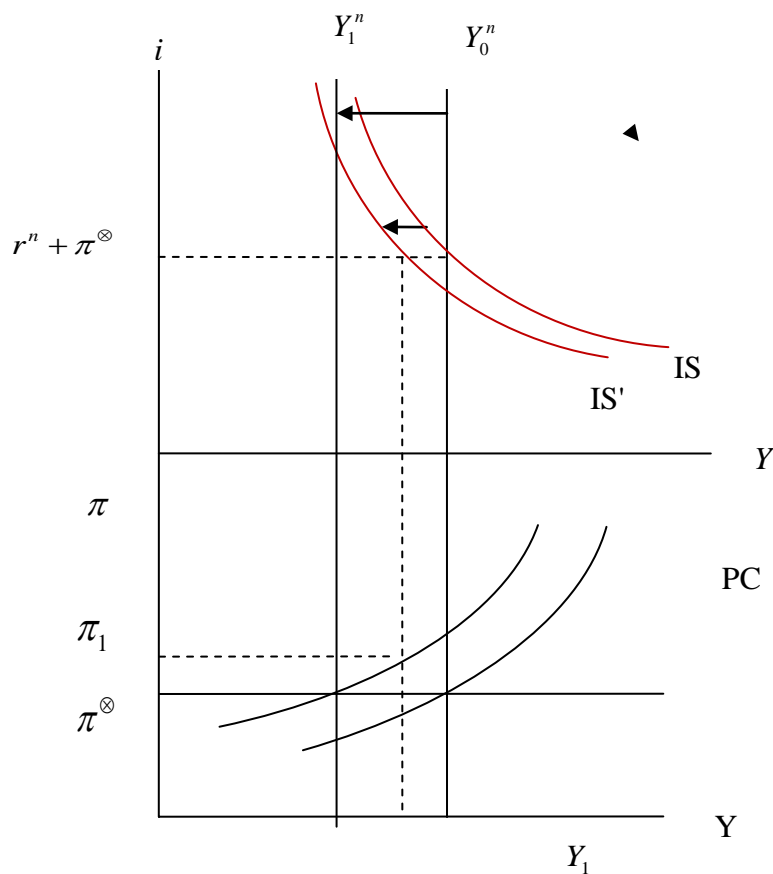


10 MONETARY POLICY

1. Since core inflation is on target the deviation from target of CPI inflation may be due to rising energy prices or changes in indirect taxes, for example. If these effects are perceived as temporary, the central bank can let them pass without raising the interest rate. But if the central bank worries that inflation expectations will be affected, so inflation will continue, this is a reason to increase the interest rate.

2. The natural level of production ~~and the IS curve both~~ shift inwards. Since the shock is temporary, consumption will fall less than income. Therefore, demand will fall less than the natural level of production. If the interest rate is kept unchanged, there will be a positive output gap and increased inflation. Therefore, the interest rate should be increased to counter inflation.



3. The interbank rate determines the cost of funds for banks and thereby the bank lending rates and other interest rates which affect consumption and investment. Thus, an increase in the margin will raise the level of all interest rates in the economy. If the margin increases, the central bank should reduce its repo rate so as to compensate for the increase in the margin. If it does not, there will be lower demand and production.

4. If core inflation increases without an increase in actual inflation, this says that the underlying inflation has increased but this is countered by e.g. falling energy prices or reduced indirect taxes. Typically, the latter effects are temporary, so there is a risk that inflation will increase in the future. Expected inflation may be high or there may be a positive output gap. Thus there may be a reason to raise the interest rate.

5. Following Taylor, we assume that the long run real rate and the inflation target are both 2 percent. Then the Taylor rule is $i = \bar{r} + \pi + 0.5(\pi - \pi^{\otimes}) + 0.5\hat{Y} = 0.02 + \pi + 0.5(\pi - 0.02) + 0.5\hat{Y}$

We assume that the output gap is zero.

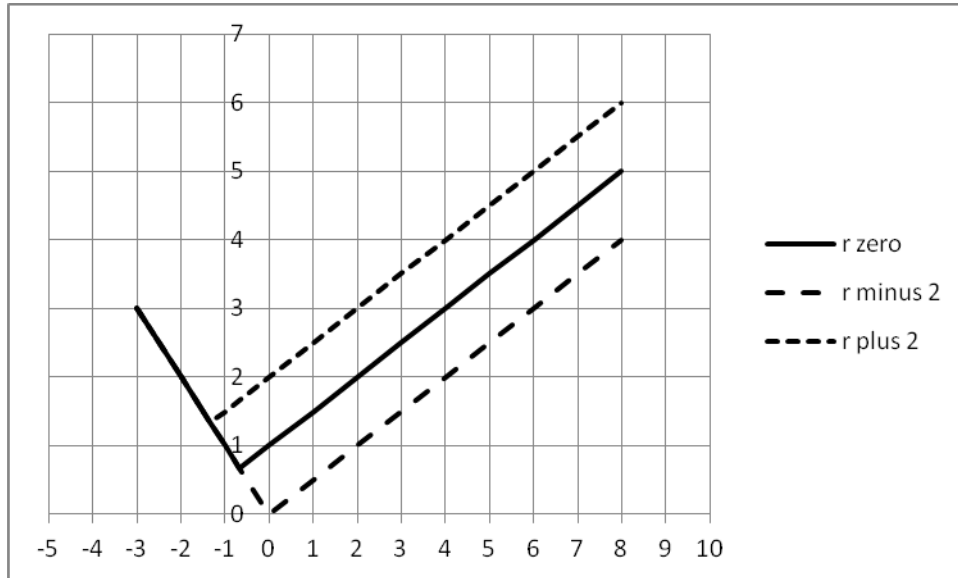
π	i	$i - \pi$
0	$i = 0.02 + 0 + 0.5(0 - 0.02) = 0.01$	0.01
0.02	$i = 0.02 + 0.02 + 0.5(0.02 - 0.02) = 0.04$	0.02
0.04	$i = 0.02 + 0.04 + 0.5(0.04 - 0.02) = 0.07$	0.03

The real interest rate is 1, 2 and 3 percent, so it increases with inflation.

6. The Taylor rule is $i = 0.02 + \pi + 0.5(\pi - 0.02) + 0.5\hat{Y}$ so the real interest rate is $i - \pi = 0.02 + 0.5(\pi - 0.02) + 0.5\hat{Y}$.

Inflation	Inflation	Interest zero	Interest minus 2	Interest plus 2	r zero	r minus 2	r plus 2
-3	-3	0	0	0	3	3	3
-2	-2	0	0	0	2	2	2
-	-	0	0	0	1.33333	1.33333	1.333335
1.33333	1.33333	0	0	0	1.33333	1.33333	1.333335
-1	-1	0	0	0.5	1	1	1.5
-	-	0	0	1	0.666667	0.666667	1.666667
0.66667	0.66667	0	0	1	0.666667	0.666667	1.666667
0	0	1	0	2	1	0	2
1	1	2.5	1.5	3.5	1.5	0.5	2.5
2	2	4	3	5	2	1	3
3	3	5.5	4.5	6.5	2.5	1.5	3.5

4	4	7	6	8	3	2	4
5	5	8.5	7.5	9.5	3.5	2.5	4.5
6	6	10	9	11	4	3	5
7	7	11.5	10.5	12.5	4.5	3.5	5.5
8	8	13	12	14	5	4	6



With a zero output gap, the real interest rate increases with inflation as long as inflation is above minus 2/3. The zero lower bound on the interest rate implies that the real interest rate increases if inflation falls below minus 2/3. (See figure 10.6 in the book.)

With a negative output gap, the nominal and real interest rate are lower, provided that the zero lower bound does not bind.