

Two Lectures on Practical Monetary Policy

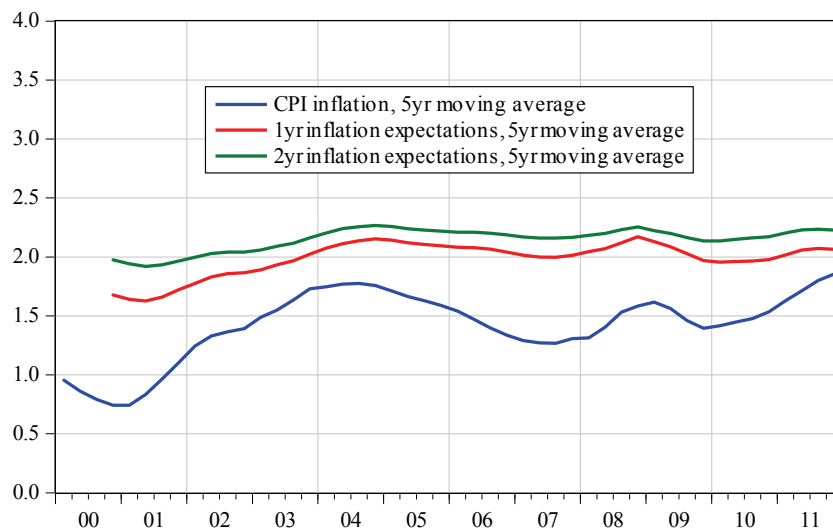
Summary and update of lecture 1

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The unemployment cost of average inflation below a credible target



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Estimated short-run Phillips curve, computed long-run Phillips curve

$$\pi_t - 2 = \beta_0 + \beta_1(\pi_{t-1} - 2) + \beta_2(\pi_{t-2} - 2) + \beta_3 u_t + \varepsilon_t$$

| Coefficient | Estimate | Std. Error | t-Statistic | Prob. |
|-------------|-----------|------------|-------------|--------|
| β_0 | 1.835275 | 0.528245 | 3.474290 | 0.0010 |
| β_1 | 1.127351 | 0.121112 | 9.308356 | 0.0000 |
| β_2 | -0.500917 | 0.110455 | -4.535029 | 0.0000 |
| β_3 | -0.283695 | 0.080984 | -3.503117 | 0.0010 |

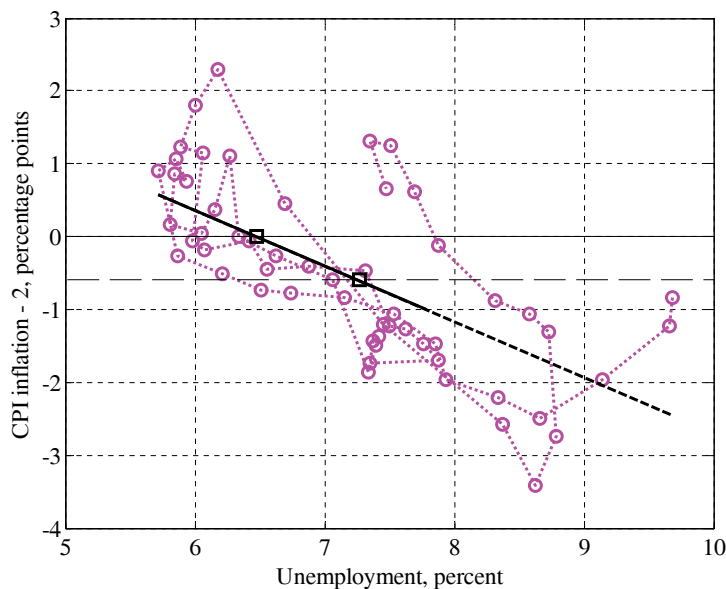
Newey-West lag 4, R^2 0.84, adj R^2 0.83, S.E. 0.51, DW 2.12

$$\pi - 2 = \gamma_0 - \gamma u \quad \gamma_0 = \beta_0 / (1 - \beta_1 - \beta_2) \quad \gamma = -\beta_3 / (1 - \beta_1 - \beta_2)$$

$$\pi - 2 = 4.92 - 0.76 u$$

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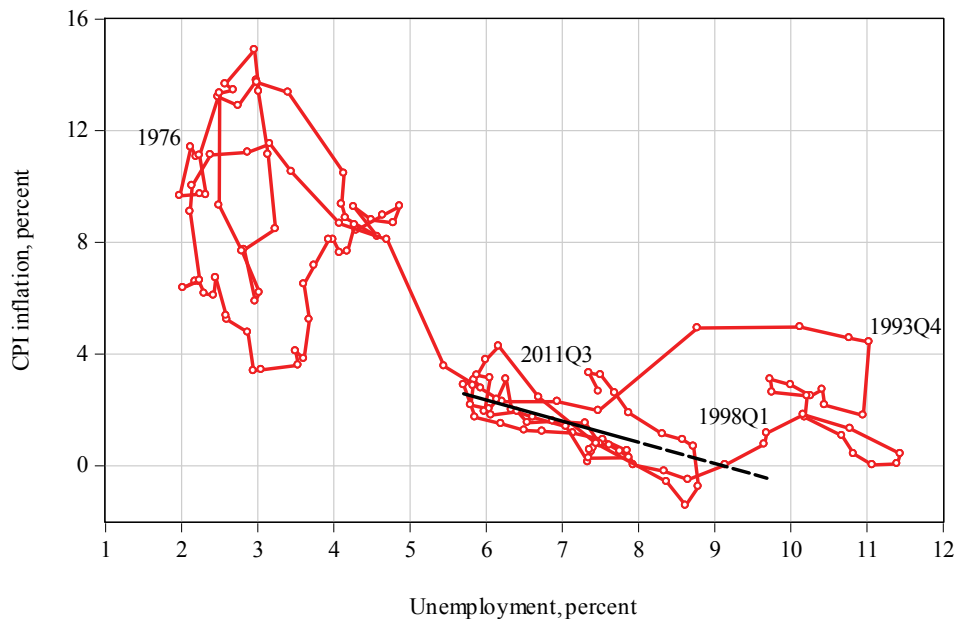
The long-run Phillips curve, 1998Q1-2011Q4



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CPI inflation and unemployment, 1976-2011

Long-run Phillips curve, 1998-2011

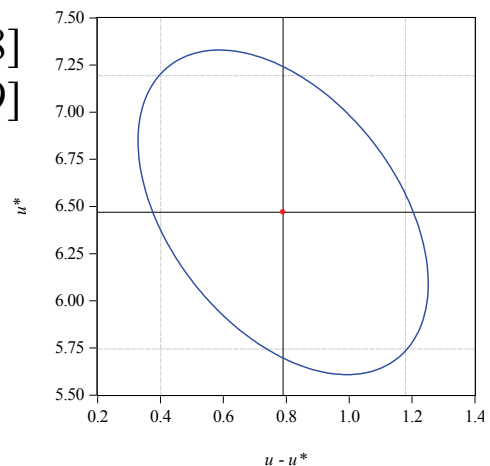


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The unemployment cost of average inflation below a credible target: Confidence intervals

- 95 % confidence interval
 $u - u^* = 0.79 \pm 0.29 = [0.50 \ 1.08]$

- 99 % confidence interval
 $u - u^* = 0.79 \pm 0.39 = [0.40 \ 1.18]$
 $u^* = 6.47 \pm 0.72 = [5.75 \ 7.19]$



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New: Estimated short-run Phillips curve, computed long-run Phillips curve: 4 lags

$$\pi_t - 2 = \beta_0 + \beta_1(\pi_{t-1} - 2) + \beta_2(\pi_{t-2} - 2) + \beta_3(\pi_{t-3} - 2) + \beta_4(\pi_{t-4} - 2) + \beta_5 u_t + \varepsilon_t$$

| Coefficient | Estimate | Std. Error | t-Statistic | Prob. |
|-------------|-----------|------------|-------------|--------|
| β_0 | 1.978442 | 0.555460 | 3.561811 | 0.0008 |
| β_1 | 1.016009 | 0.133194 | 7.628058 | 0.0000 |
| β_2 | -0.407832 | 0.142085 | -2.870331 | 0.0060 |
| β_3 | 0.142264 | 0.109721 | 1.296602 | 0.2007 |
| β_4 | -0.232867 | 0.123699 | -1.882522 | 0.0656 |
| β_5 | -0.313926 | 0.083823 | -3.745113 | 0.0005 |

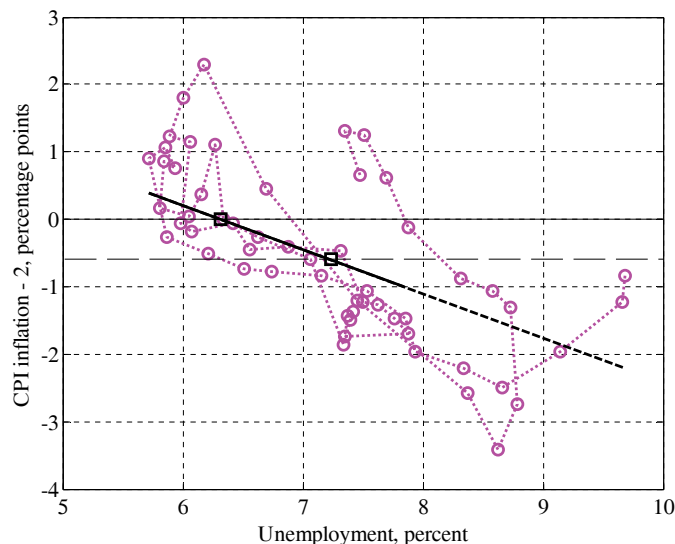
Newey-West lag 4, R^2 0.85, adj R^2 0.84, S.E. 0.50, DW 1.84

$$\pi - 2 = \gamma_0 - \gamma u \quad \gamma_0 = \frac{\beta_0}{1 - \beta_1 - \beta_2 - \beta_3 - \beta_4} \quad \gamma = \frac{-\beta_5}{1 - \beta_1 - \beta_2 - \beta_3 - \beta_4}$$

$$\pi - 2 = 4.10 - 0.65 u$$

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New: The long-run Phillips curve, 1998Q1-2011Q4, 4 lags Flatter curve, larger unemployment cost



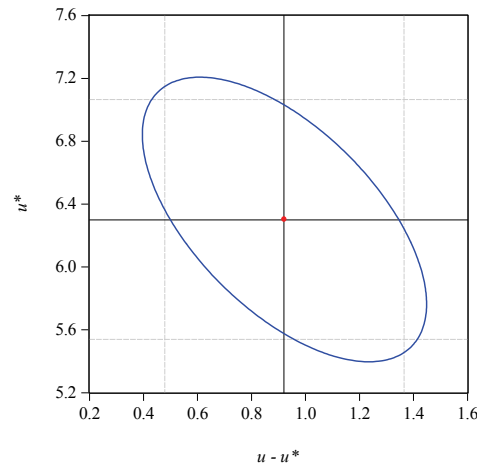
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New: The unemployment cost: 4 lags, confidence interval

- 99 % confidence interval, p.p.

$$u - u^* = 0.92 \pm 0.44 = [0.48 \quad 1.36]$$

$$u^* = 6.30 \pm 0.76 = [5.54 \quad 7.06]$$



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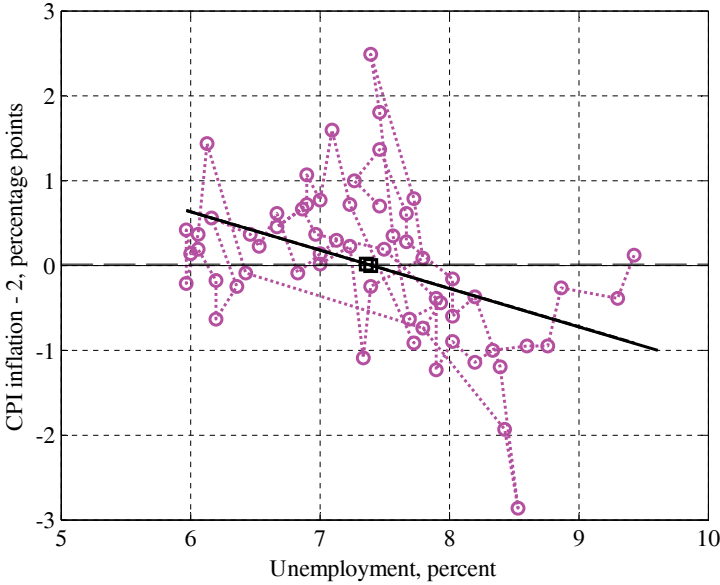
New: Average inflation and targets, other countries

| Country | Index | Period | Target | Average |
|-----------------------------|----------|-----------|----------|-------------|
| Australia | CPI | 1996-2011 | 2.5 | 2.68 |
| Canada | CPI | 1996-2011 | 2 | 1.99 |
| New Zealand | CPI | 1992-2011 | 1 | 2.02 |
| New Zealand | CPI | 1997-2000 | 1.5 | 1.24 |
| New Zealand | CPI | 2001-2011 | 2 | 2.78 |
| New Zealand Dev. fr. target | CPI | 1996-2011 | | 0.55 |
| Sweden | CPI | 1997-2011 | 2 | 1.43 |
| United Kingdom | RPIX | 1995-2003 | 2.5 | 2.48 |
| United Kingdom | CPI | 2004-2007 | 2 | 2.01 |
| United Kingdom | CPI | 2008-2011 | 2 | 3.39 |
| United States | Core CPI | 2000-2011 | (2) | 2.02 |
| United States | Core CPI | 2000-2011 | (1.75) | 1.86 |

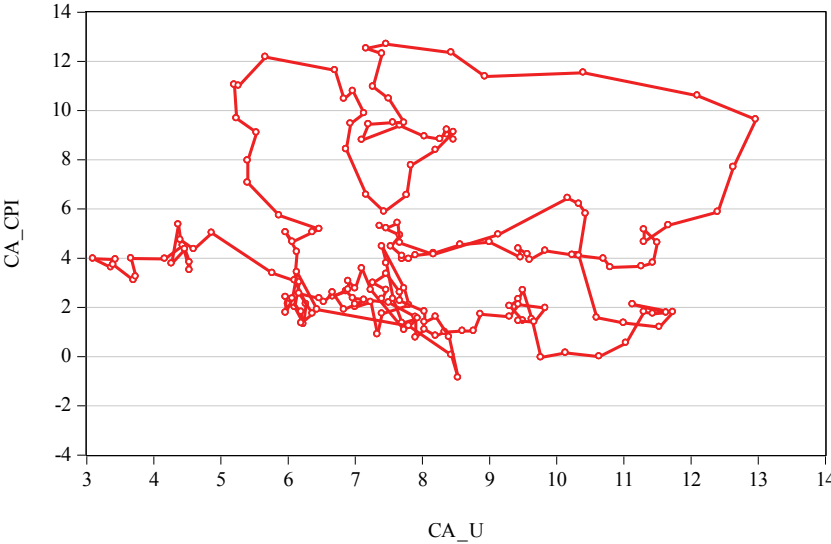
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Canada, 1997Q1-2011Q4

Average inflation on target 2 %

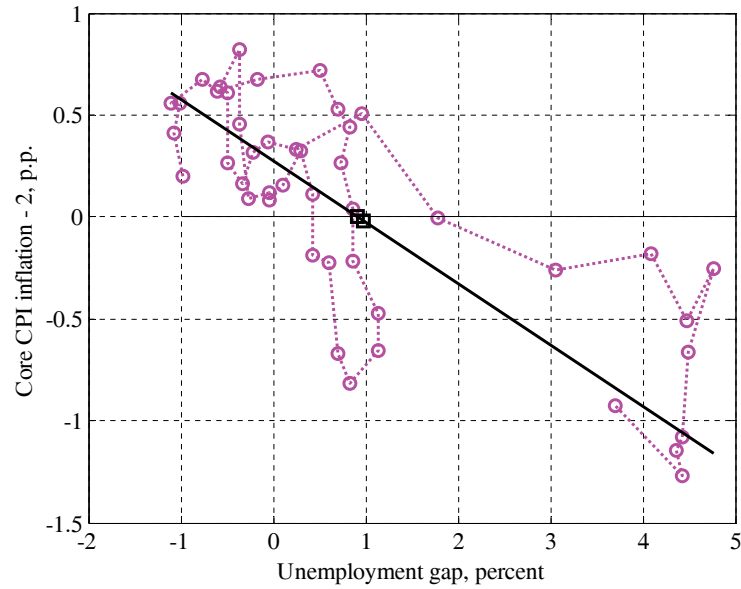


Canada, CPI inflation and unemployment, 1966-2011

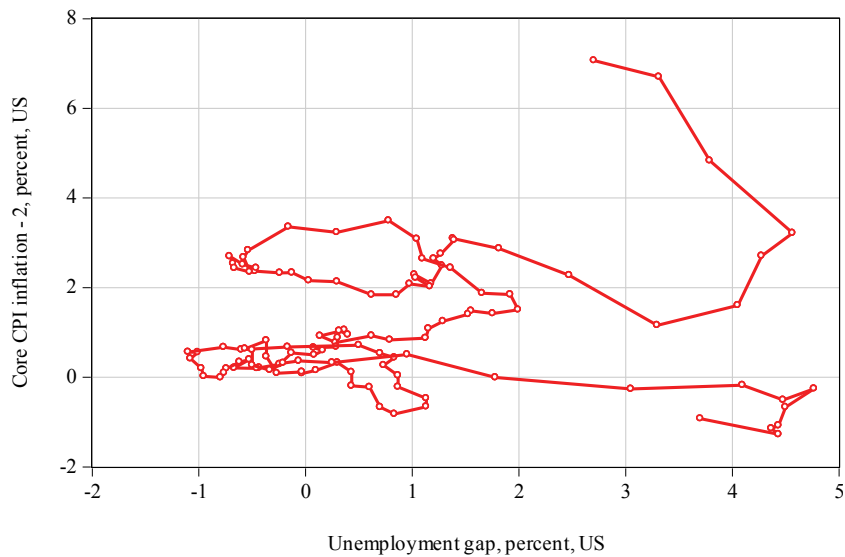


US, 2000Q1-2011Q1 (Fuhrer 2011)

Average inflation 2 %



US, core CPI inflation and unemployment gap, 1981-2011



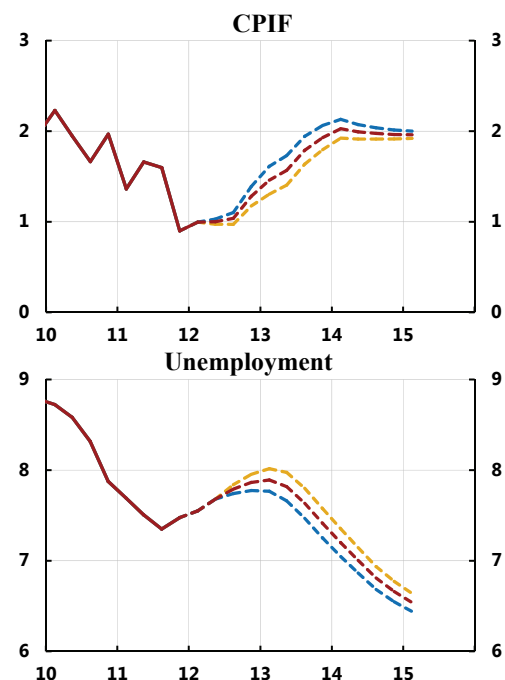
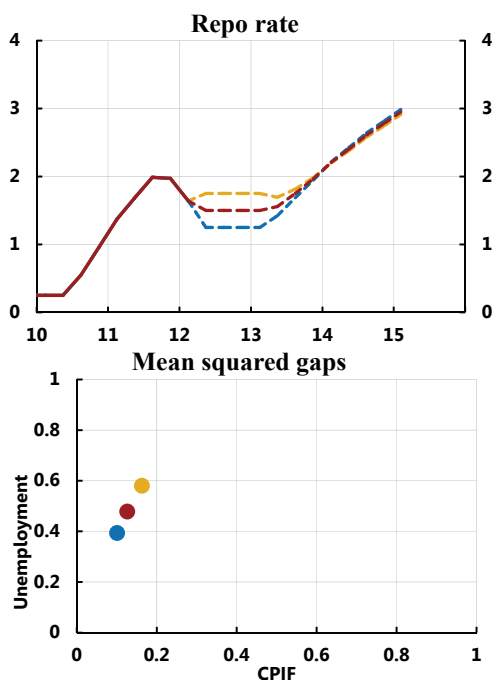
“Inflation targeting” theory and practice

- Starts in NZ 1990, now 25+ countries; great success; flexible, resilient, and robust
- Flexible IT, not strict
- (Mean) forecast targeting: Set policy-rate path so inflation and real-economy mean forecast “looks good” (stabilizes inflation around target and unemployment around long-run sustainable level)
- Uncertainty, still mean forecasts unless specific info
- Judgment
- Practice, efficient and inefficient policy, trade-off stabilizing inflation vs. stabilizing unemployment

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Monetary policy alternatives, April 2012

Foreign interest rates according to the main scenario.
Sustainable unemployment 6.5%

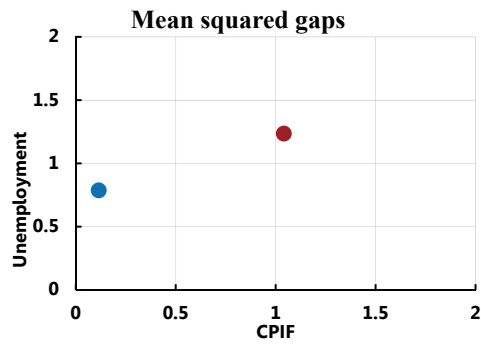
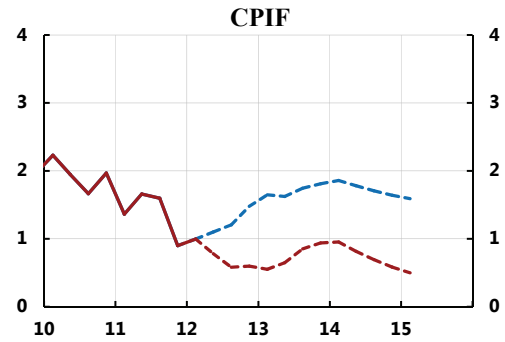
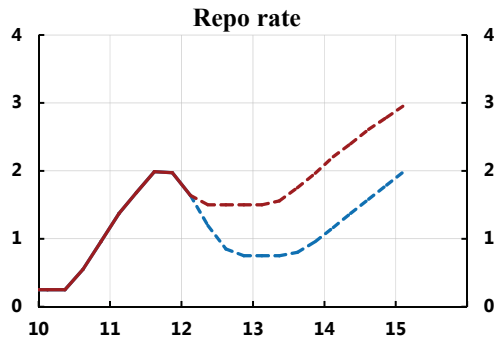


Main scenario Lower repo rate Higher repo rate

Monetary policy alternatives, April 2012

Foreign interest rates according to implied forward rates.

Sustainable unemployment 5.5%



Repo rate as in main scenario Lower repo rate

Sources: Statistics Sweden and the Riksbank