Comments on Charles Wyplosz "Do We Know How Low Should Inflation Be?"

by

William T. Dickens
Senior Fellow
The Brookings Institution

Very low inflation may not be the best target for monetary policy

- Asymmetric costs of deflation vs. inflation
- Monetary policy may become ineffective with very low nominal interest rates
- Downward nominal wage rigidity prevents labor market adjustment at low rates of inflation
- Near rationality may allow increased output at moderate rates of inflation

In Low Unemployment ‘60s Inflation was Moderate not Low

	Inflation (Avg 60-68)	Unemployment (Avg 60-68)
United Kingdom	3.4	1.9
France	3.6	1.7
Germany	2.3	1.1

Two Complementary Approaches to Estimating Unemployment Costs of Zero Inflation

- Assume model and estimate it (Akerlof, Dickens and Perry 1996 and 2000)
- Estimate flexible functional form for long-run Phillips Curve (Wyplosz 2000)

Advantages and Disadvantages

- Flexible functional form not bound by theory can fit more elaborate model and spurious results less likely
- If results match those of model this is a strong test of the model
- Long-run Phillips curve may not be stable
- Theory may have predictions for short run behavior that can help identify model parameters
- Low power

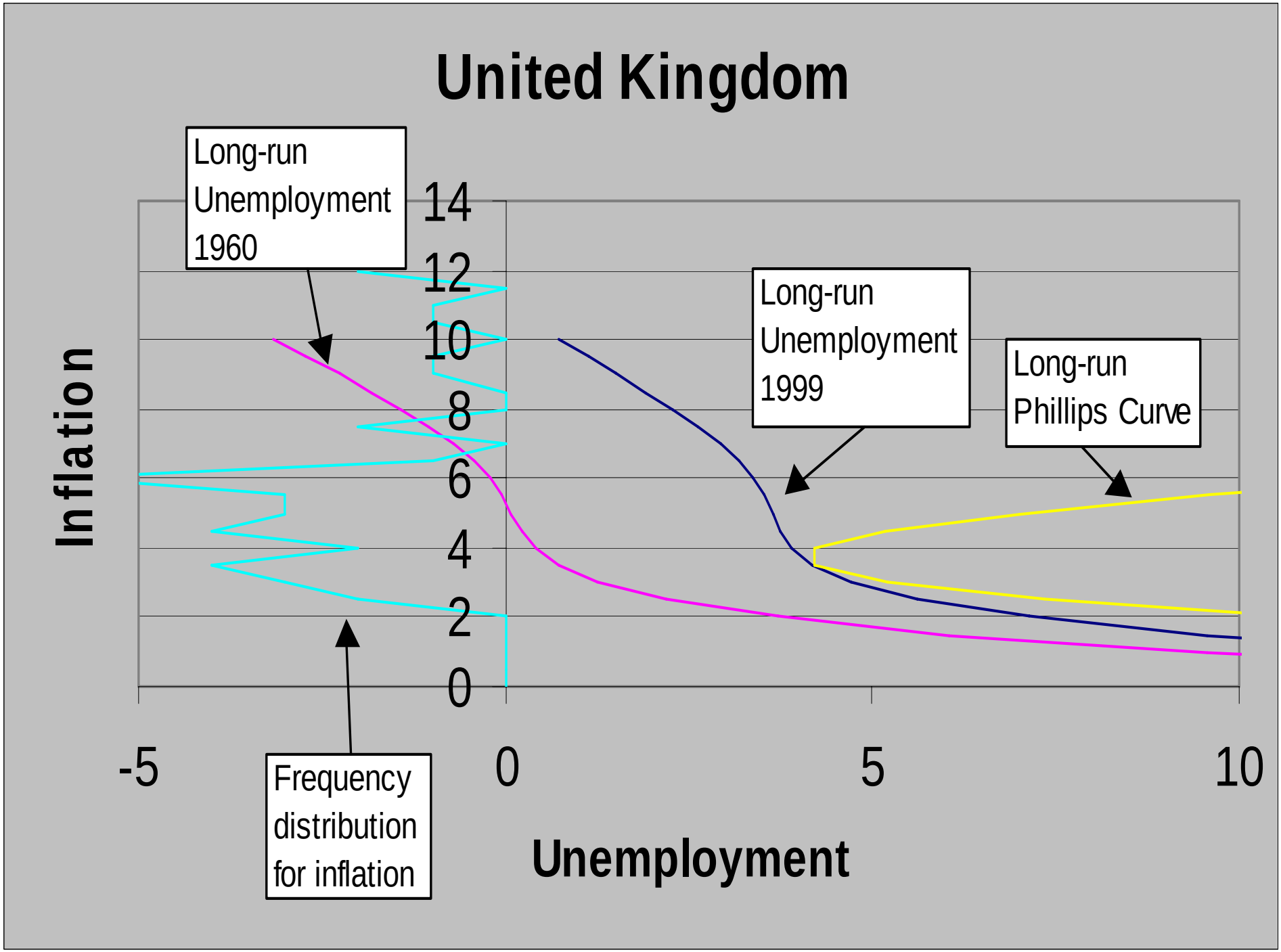
Some Reasons For Skepticism

- Phillips Curves are not structural models identification is quetionable
- Unemployment assumed to be exogenous (recursive) in time frame of model (year or quarter) -- particularly problematic for open economies subject to external supply shocks
- Measuring inflationary “expectations” always a problem

We cannot expect Wyplosz estimates to apply outside the range in which we have data.

So let's look at some of his curves and see where he has data…

(Frequency distributions are for Wyplosz's inflation *expectations* variable -- not actual inflation.)


United Kingdom
Long-run Unemployment 1960
Long-run Unemployment 1999
Long-run Phillips Curve
Frequency distribution for inflation
Inflation
Unemployment
14
12
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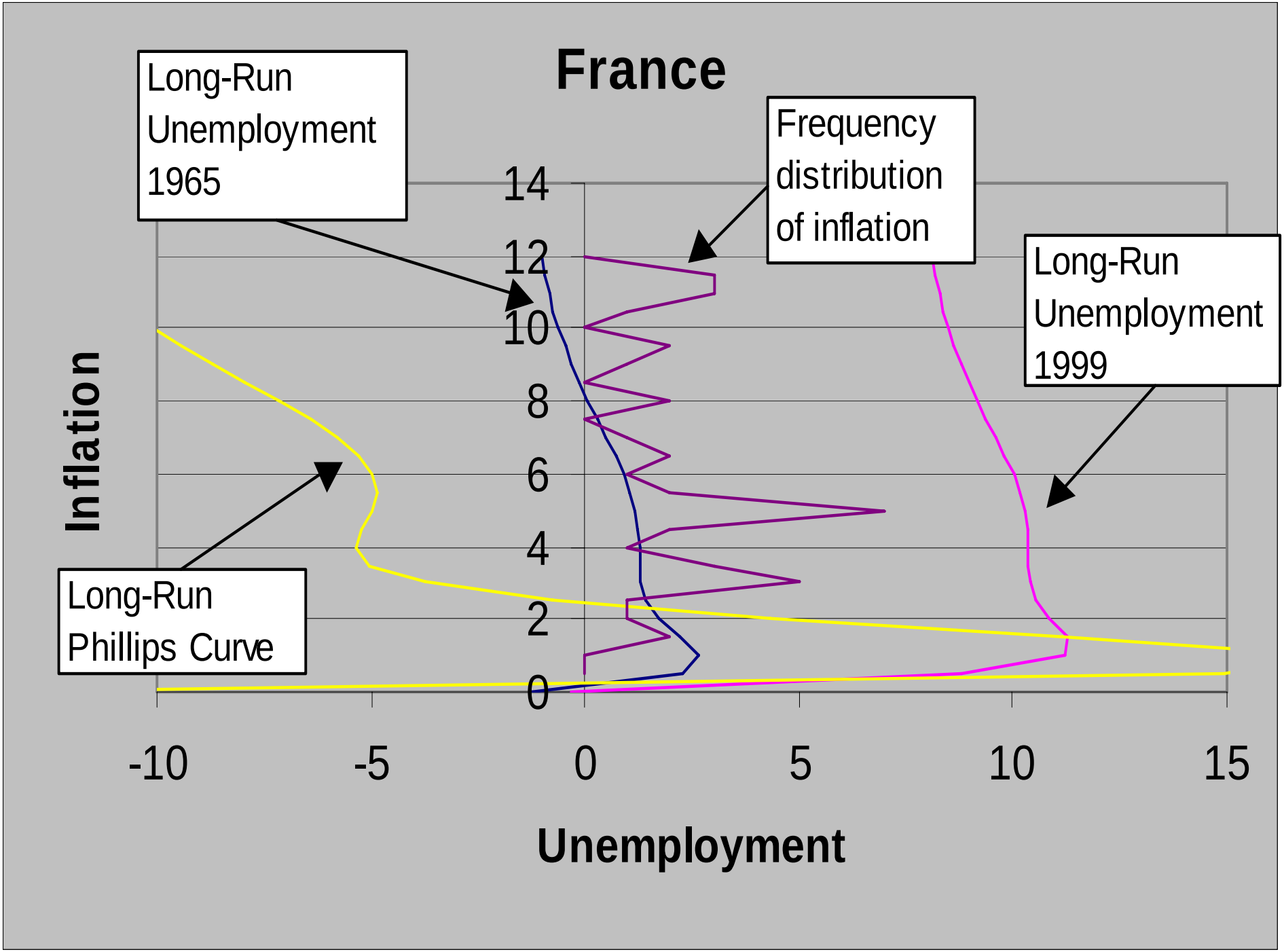
France
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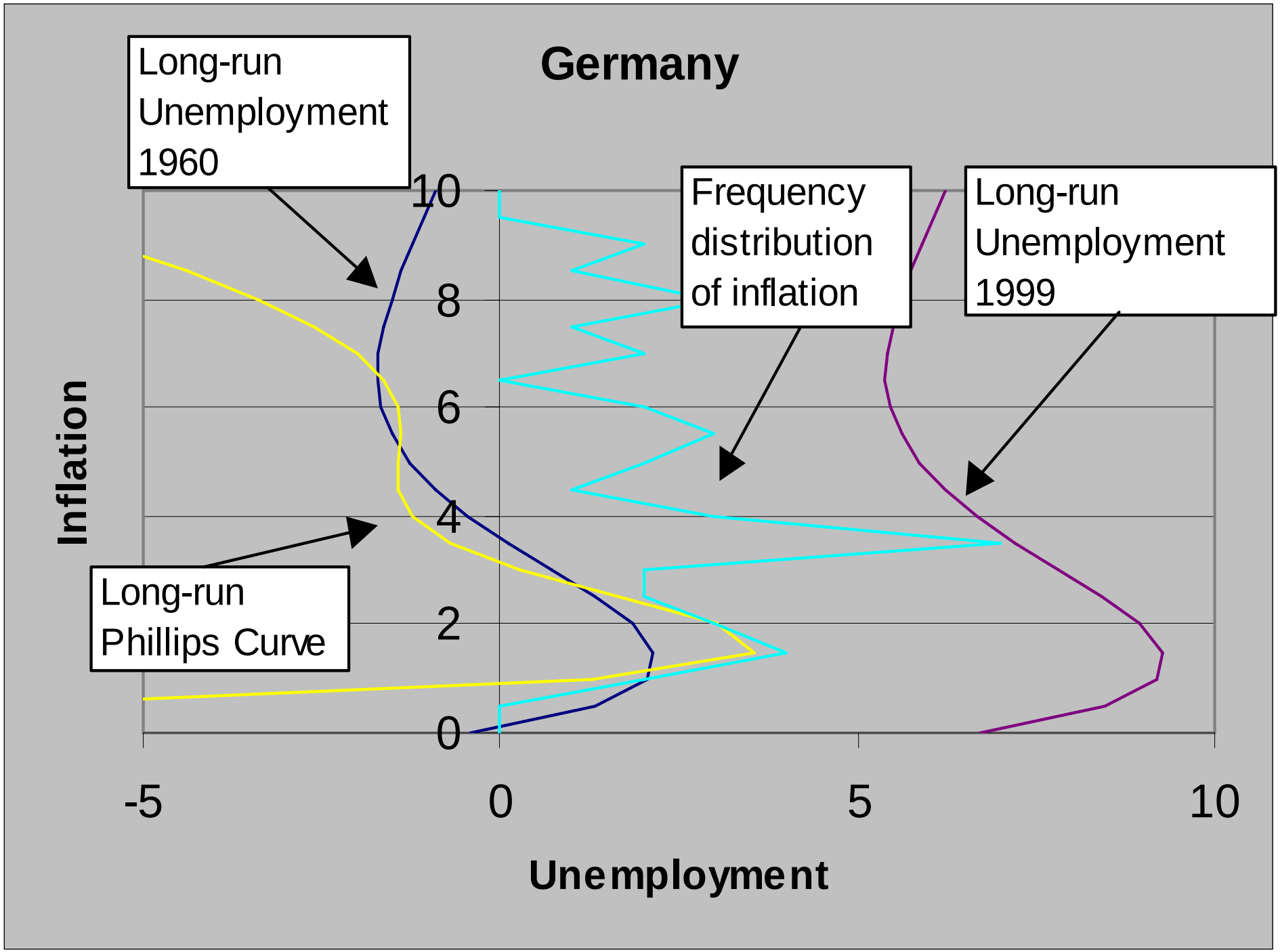
Germany
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Frequency distribution of inflation
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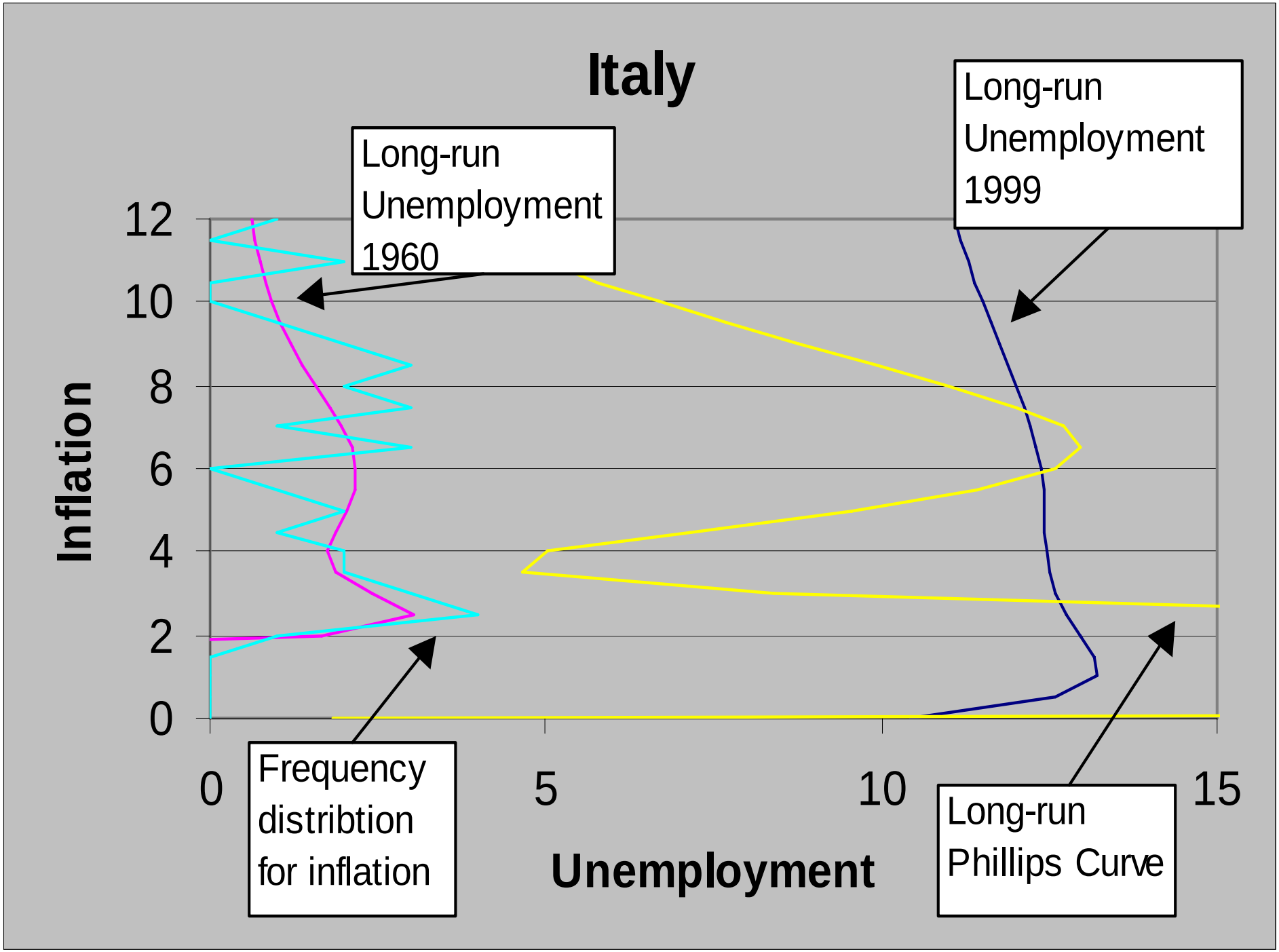
Italy
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Frequency distribtion for inflation
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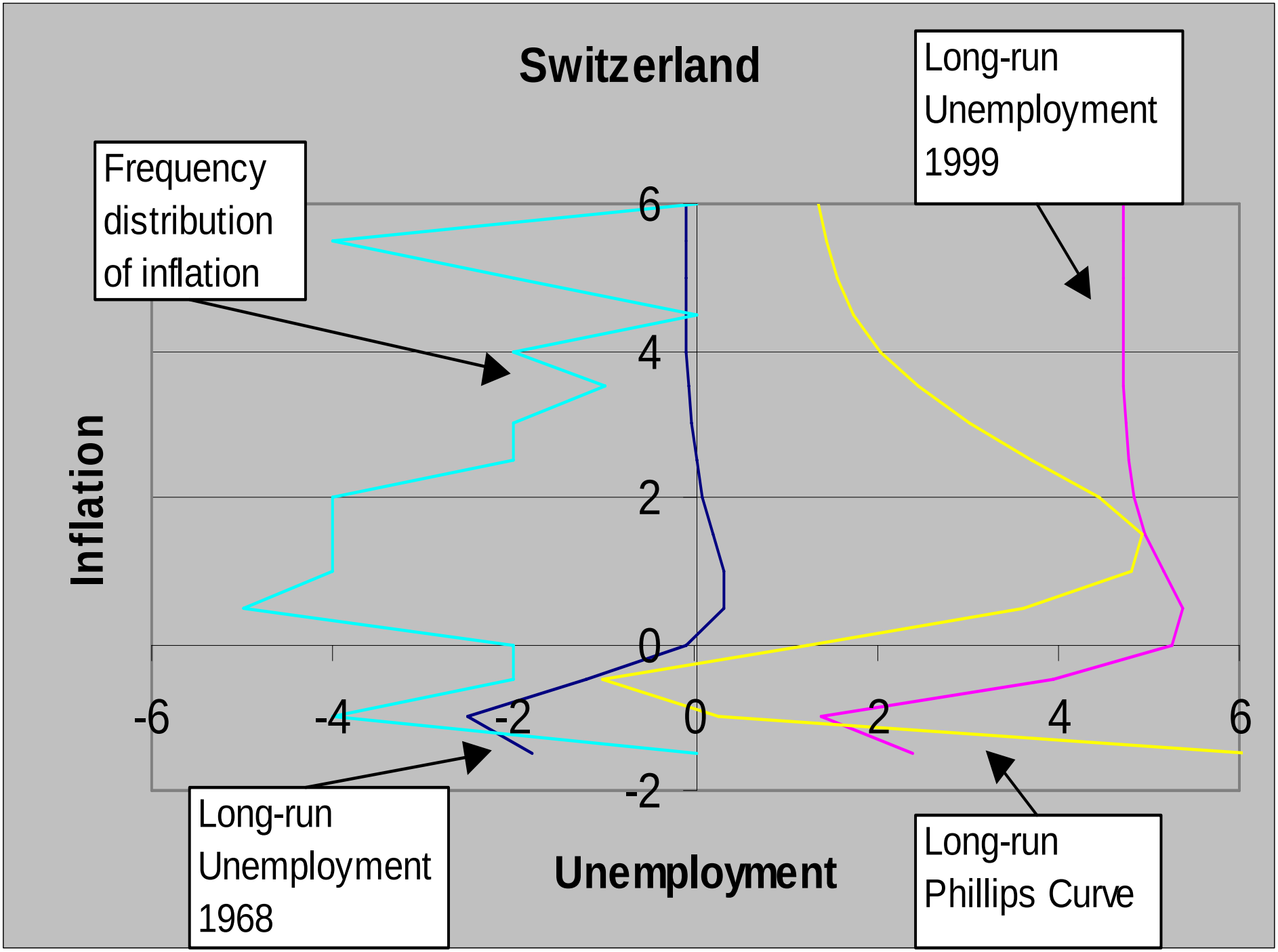
Switzerland
Long-run Unemployment 1999
Frequency distribution of inflation
6
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-6
-4
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Inflation
Unemployment
Long-run Unemployment 1968
Long-run Phillips Curve

What we Might Conclude

- Not clear that curves are plotted properly (transcription errors or miss-understood specification?), but if we can...

- Upward sloping segments at low inflation can be ignored
- Most curves show downward slopes at moderate inflation rates
- Several show inflections in range in which near rationality might be expected to operate

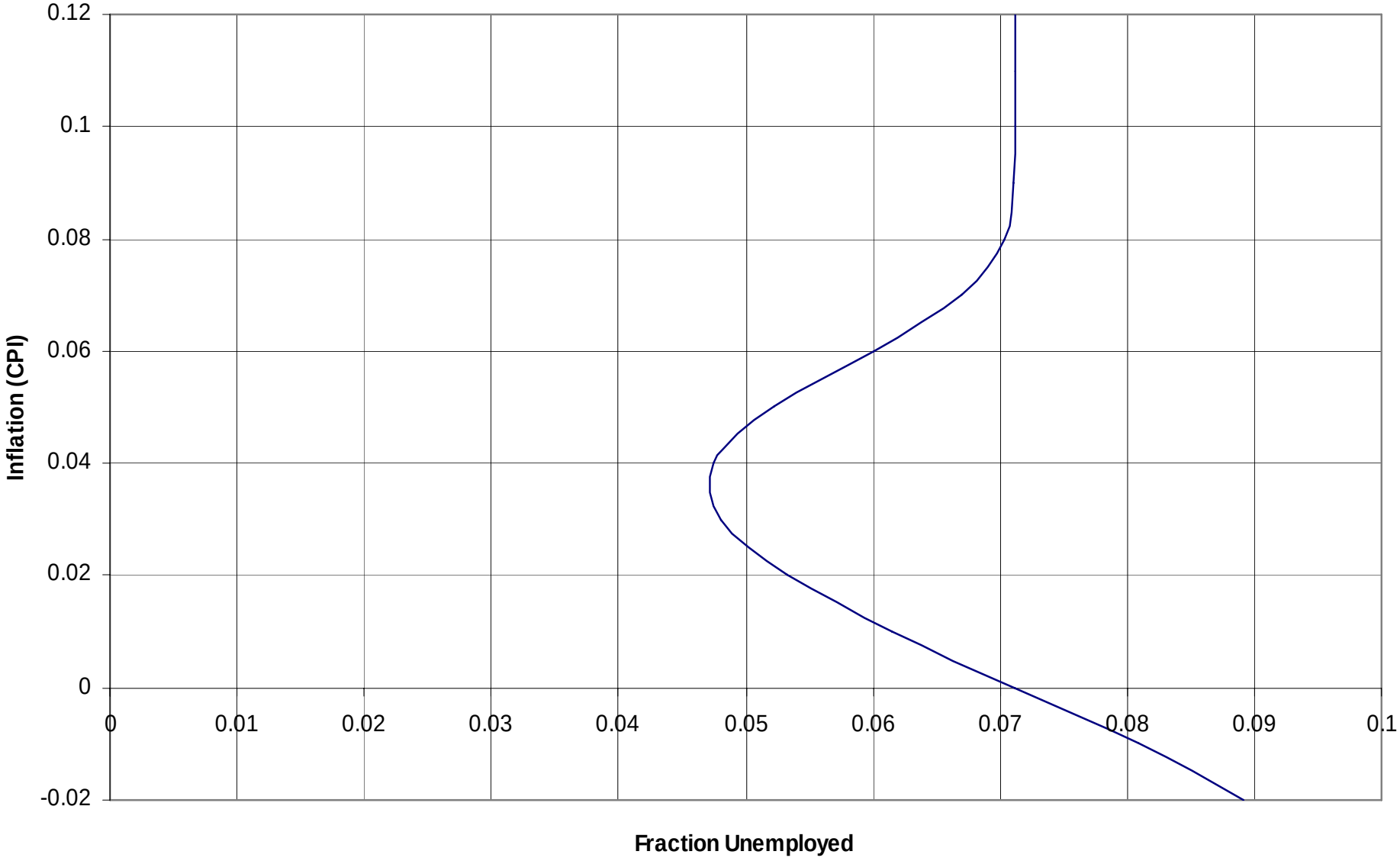
Akerlof, Dickens and Perry ‘96

- ADP 1996 takes account of downward nominal wage rigidity by adding non-linear function of productivity and past inflation to standard Phillips curve. Key parameter is s.d. of desired wage change. The smaller this parameter the lower the rate of wage inflation can be before binding constraint becomes big problem for many firms

Akerlof, Dickens, Perry 2000

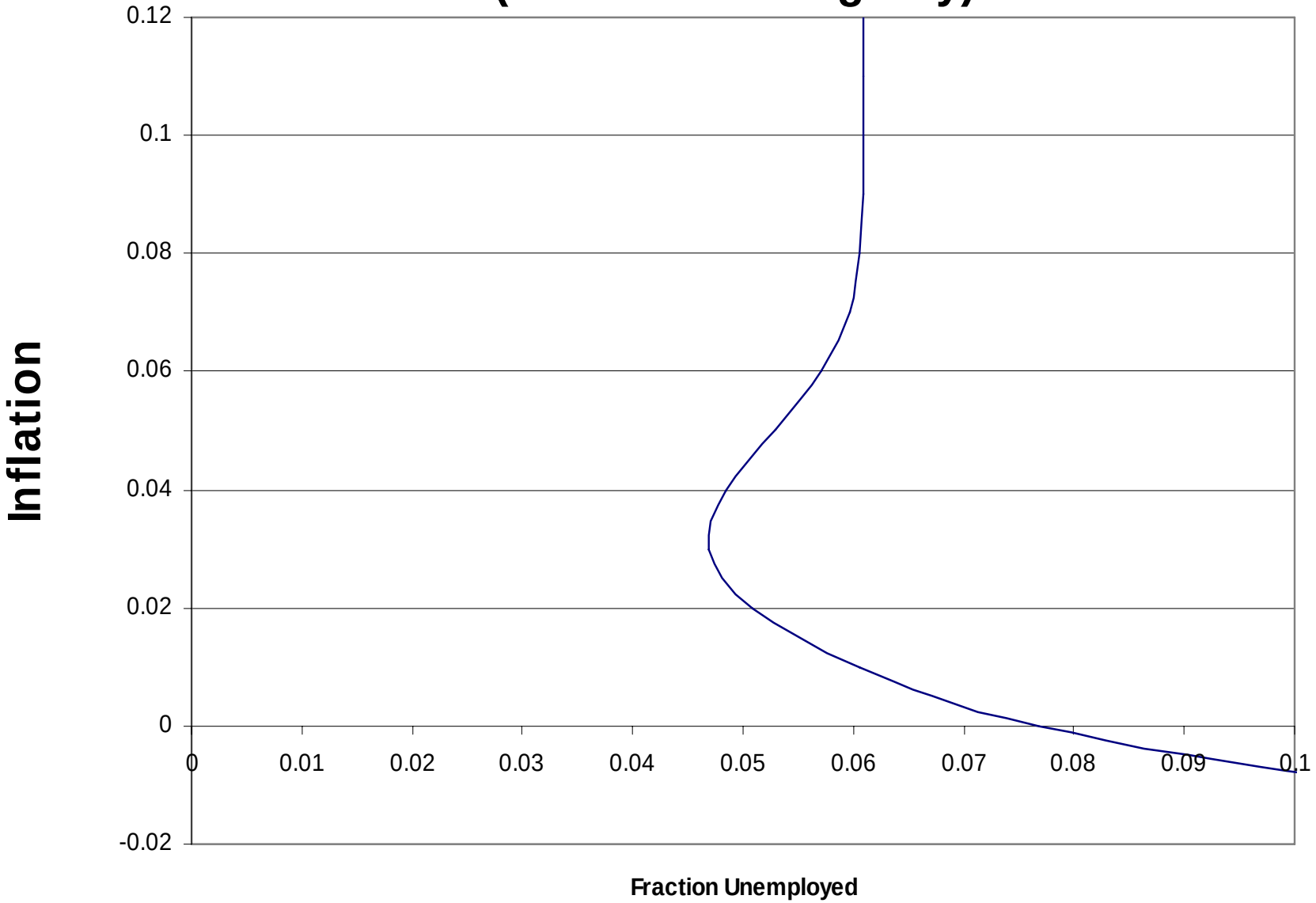
Hypothesize that near rational behavior towards inflation at low rates of inflation (ignoring it or under-weighting it in wage and price setting) leads to non-linear long-run Phillips curve that looks like...

ADP 2000 Phillips Curve for the United States



Or with nominal rigidity taken into account looks like...

ADP Phillips Curve for the United States (with nominal rigidity)



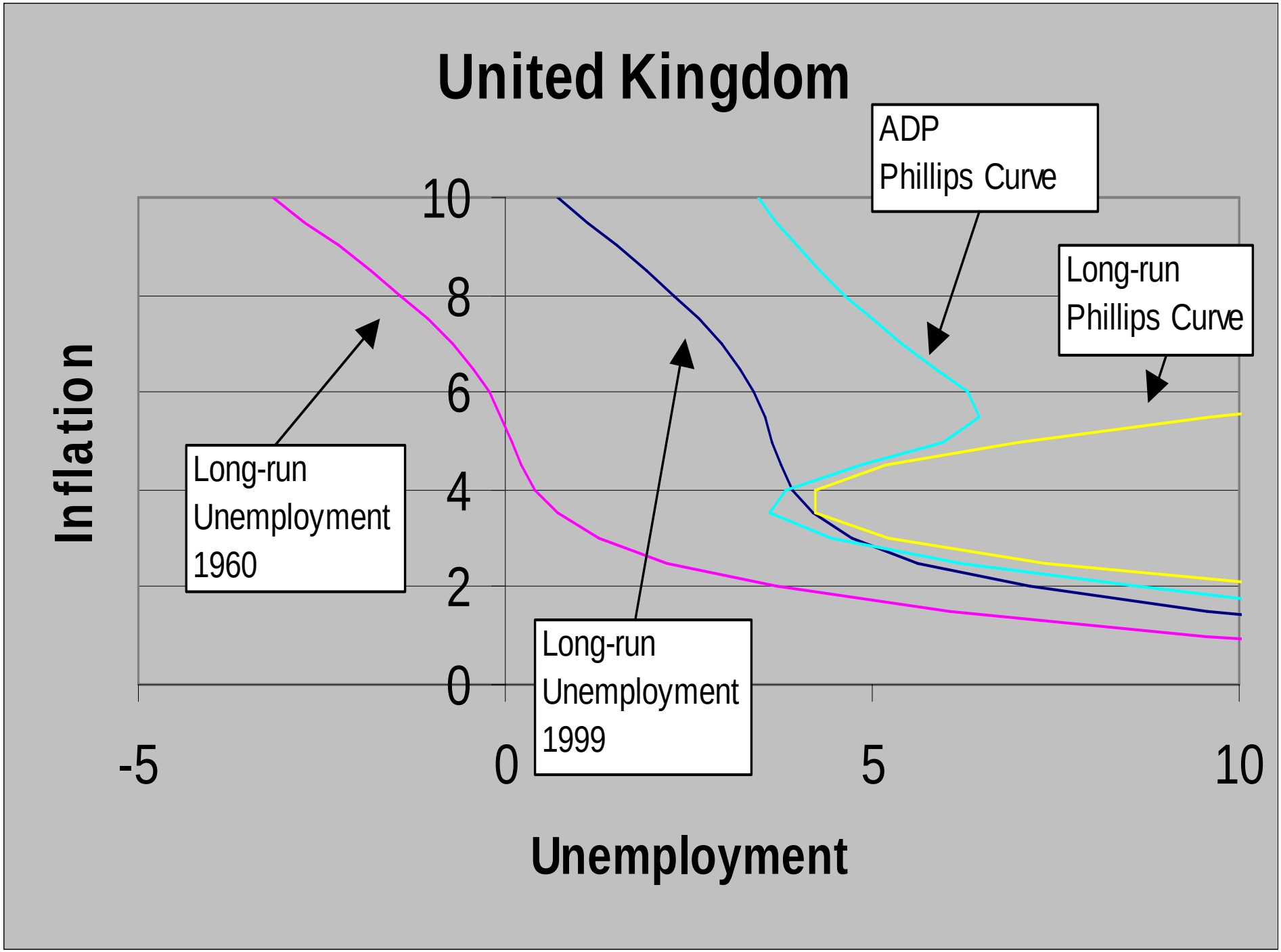
We've now estimated our model for 4 countries besides U.S.

$$\pi_t = \Phi(A + B\bar{\pi}_t^2)\pi_t^e + a(\bar{U} - U_t)$$
$$+ \beta X_t + S_s(r_{trend}, \pi_{t-1}, \pi_{t-2}, \pi_{t-3}, \ldots)$$

The Long-Run Phillips Curve in our Model can be derived as

$$U = \overline{U} + \frac{(\Phi - 1)\pi + S(\pi)}{a}$$

ADP Phillips Curve for Canada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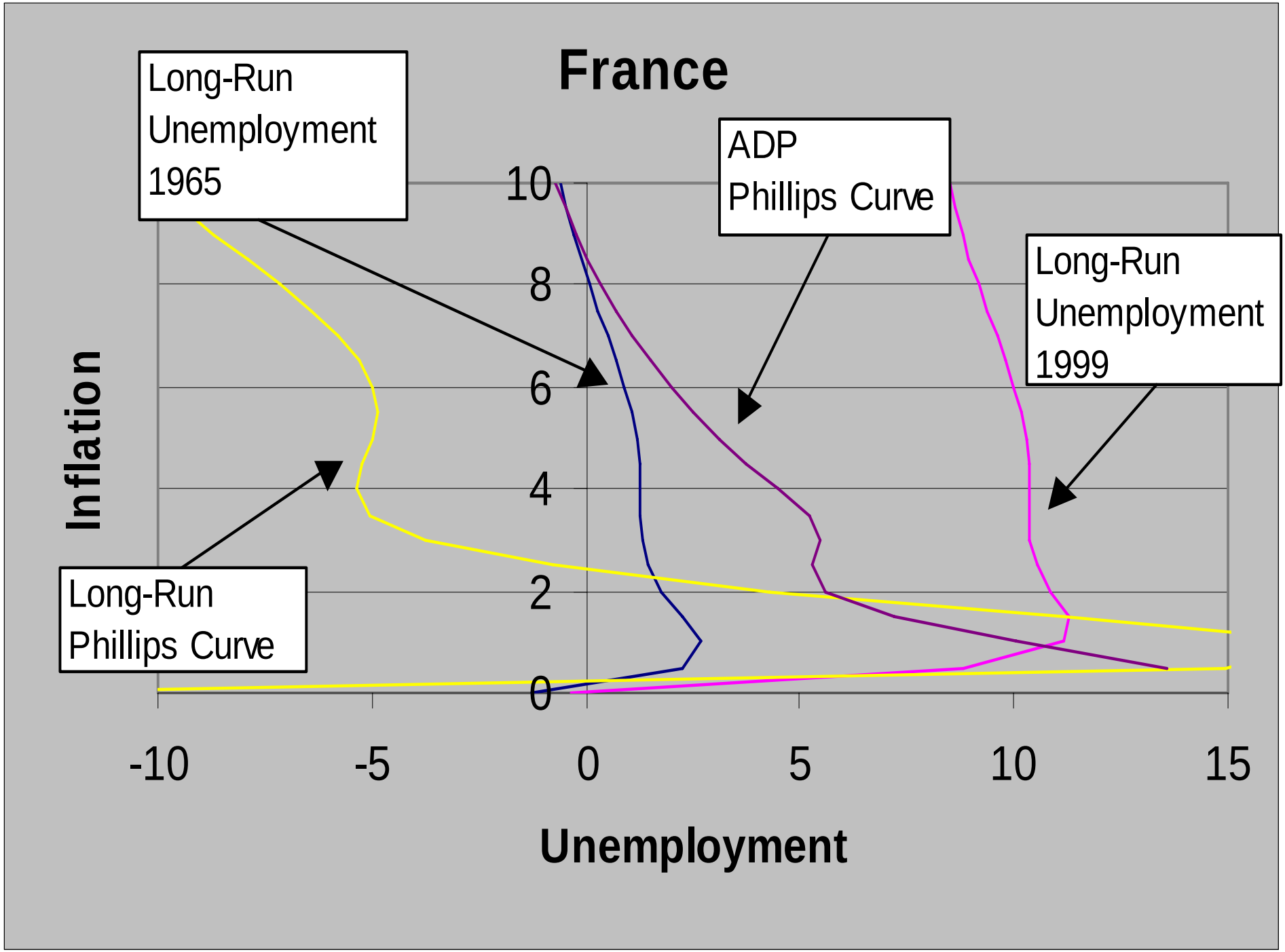
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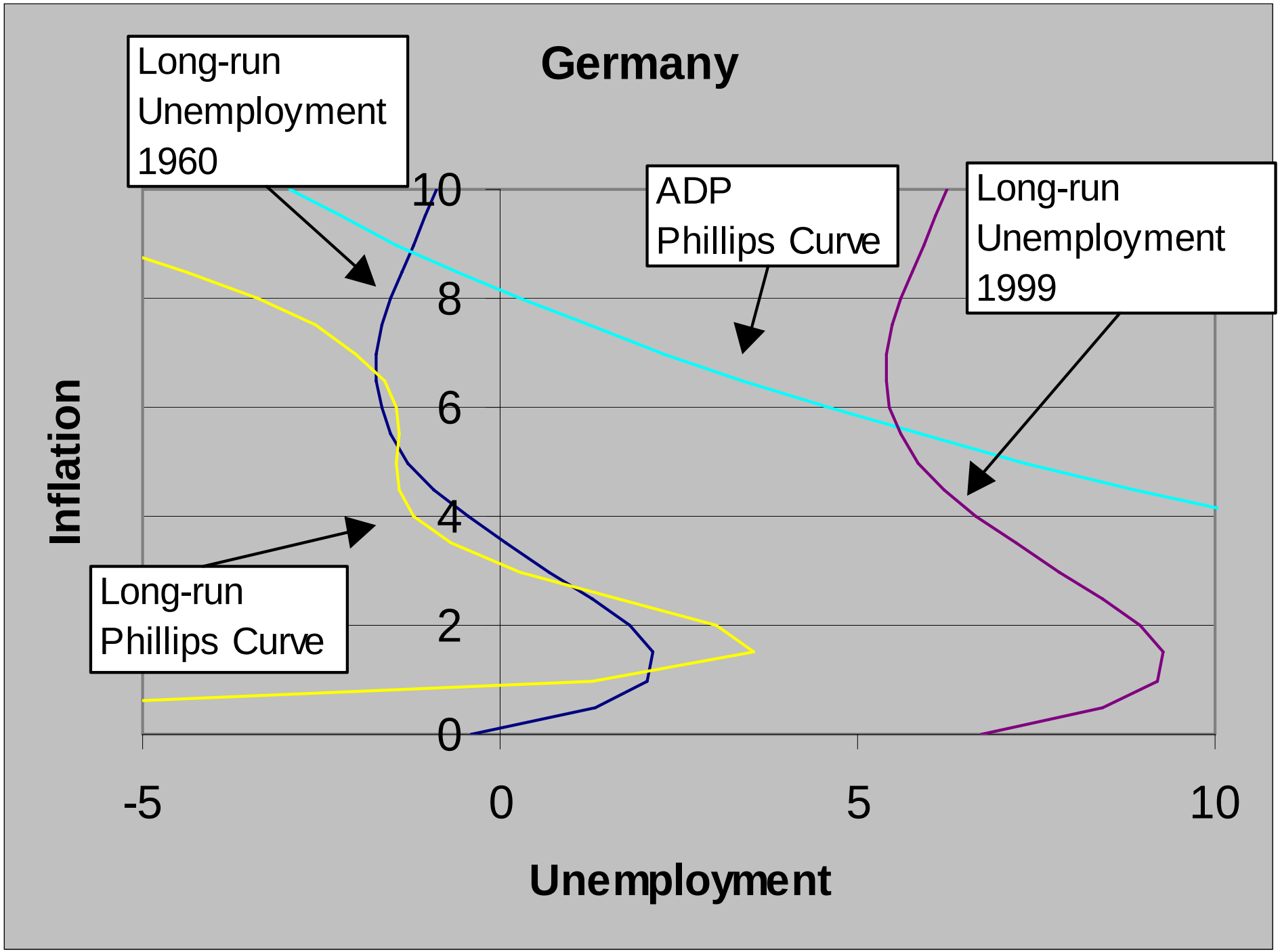
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Conclusions

- Some evidence that there may be a significant cost to very low inflation outside the U.S.
- European results could be interpreted as supportive but are preliminary and it appears that more is going on than is captured by models