Why Canada (and the World) Needs More Inflation

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- To varying degrees, countries around the world have fallen into low inflation traps since the 1990s.

- Growth is close to its potential rate on average, but the level of output is persistently below potential.

- Large changes in unemployment rates have little effect on inflation, which remains low.

The Phillips Curve Is Nonlinear

- In a low inflation environment, Phillips (1958) showed that low unemployment raises wages a lot but high unemployment reduces wages only a little.

- Low trend inflation bends the Phillips curve because downward wage rigidity truncates the distribution of individual wage changes.

  - Curve is linear when inflation > 5%.

Low Inflation Bends the Phillips Curve
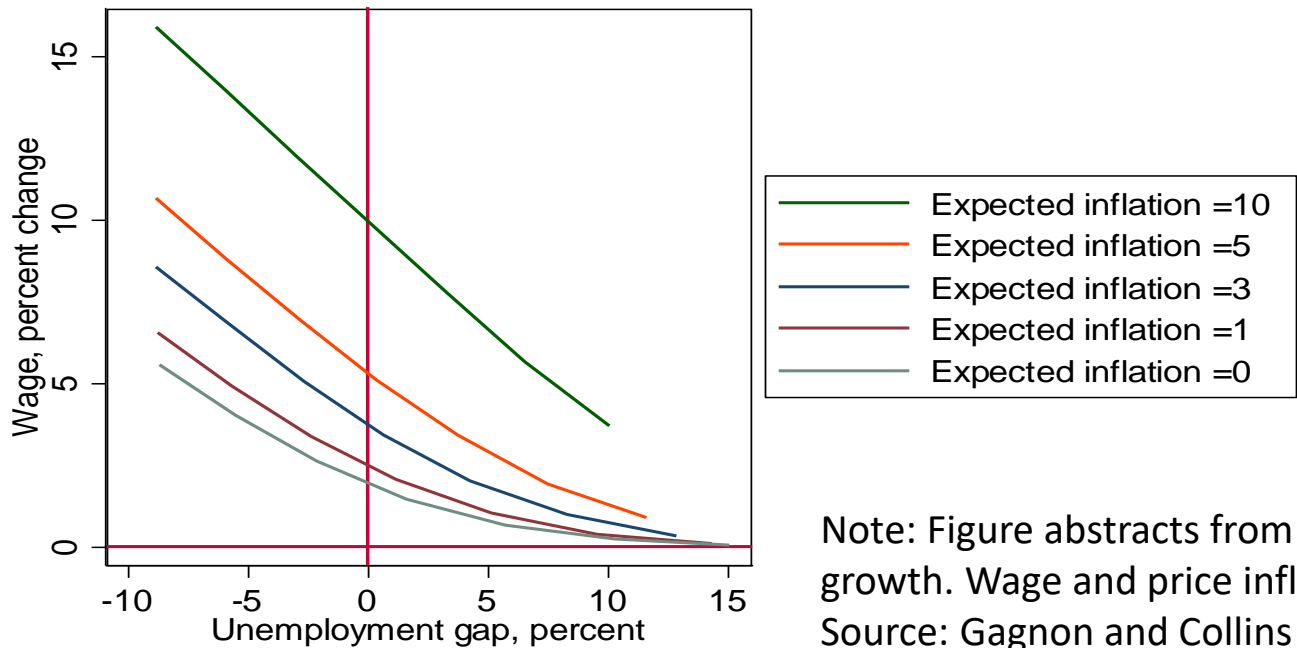
Note: Figure abstracts from productivity growth. Wage and price inflation are equal.
Source: Gagnon and Collins (2019a).

The Low Inflation Trap

- Japan, euro area, Canada have been stuck in the flat region of the Phillips curve for decades.

  - Inflation has been near or below target, with output growth around potential.

  - Yet the level of output has been below potential on average. Potential has been underestimated.

- Keynes (1936) said this was a typical outcome in the ultra-low-inflation gold standard.

Failure of Standard Monetary Rules

- None of the policy rules in the horse race paper avoids the low inflation trap.

  - Low inflation pushes equilibrium output below potential.

  - Neither inflation rate nor price level provides sufficient information to achieve equilibrium output (flat Phillips curve).

  - Linear models cause downward bias in measurement of potential output.

What to Do?

- Raise inflation target to reduce harm from downward nominal rigidities.

- Use correct nonlinear Phillips curve to avoid bias in measuring potential output.

 - Or, aggressively search for maximum sustainable output.

The US Experience

- The United States has broken out of the low inflation trap on two occasions: late 1990s and late 2010s (almost).

- Fed sought to test how low unemployment could go without sparking inflation.

  - Dual mandate with aggressive trial and error.

- Generates more complete data on Phillips curve.

Unemployment in Canada and the US
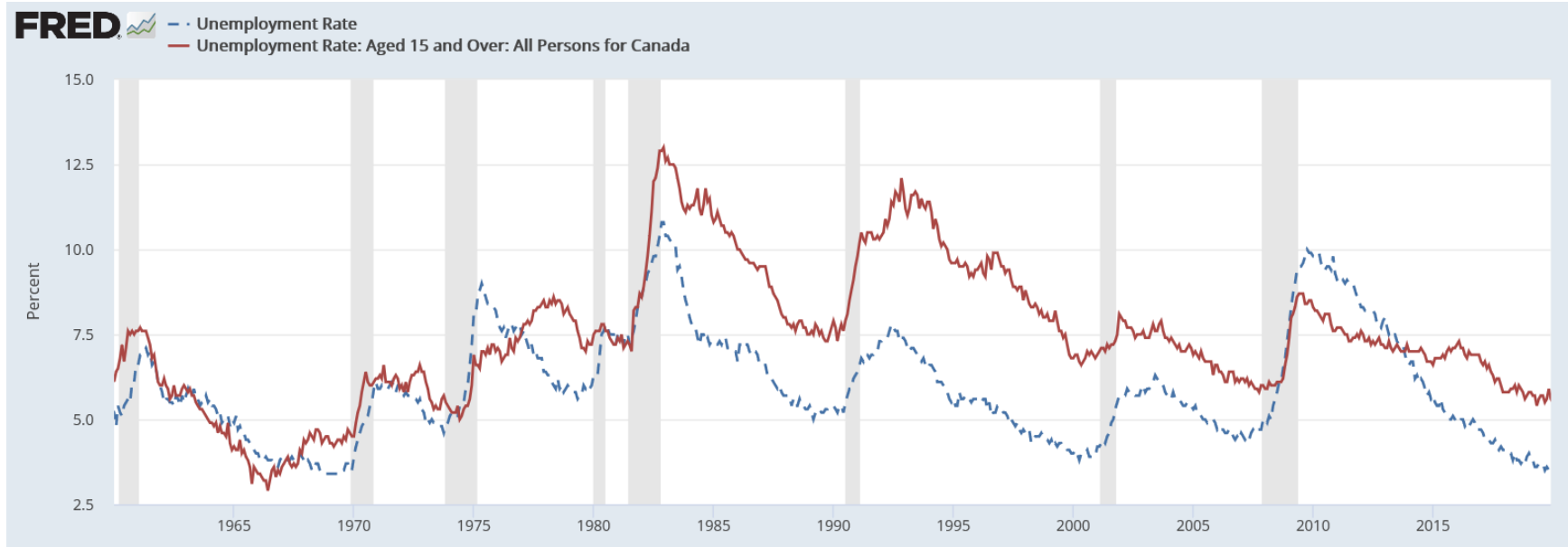
The US Phillips Curve, 1998Q1-2019Q4
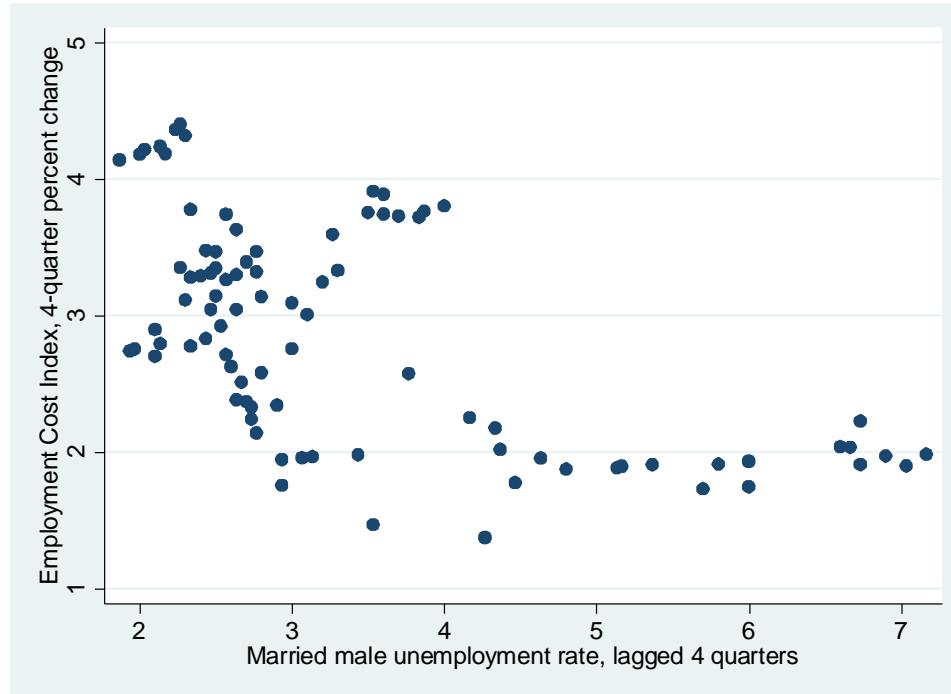
Source: US Bureau of Labor Statistics.

The Benefits of Higher Inflation

- Higher inflation raises equilibrium output toward potential.

- It enables standard rules to work better because Y<Y* causes π<π*.

    - This allows policy to stabilize output at potential.

    - Makes the real world conform more closely to the linear models used in the horse race.

The Benefits of Higher Inflation

- Higher inflation also relaxes the constraint of the effective lower bound (ELB) on interest rates.

- This constraint is relaxed for both short and long maturities, thus freeing up more scope for QE.

The Benefits of Higher Inflation

- The loss function in the horse race paper understates the cost of the ELB.

    - 2 years of output below potential and 2 years above potential imply the same loss as 4 years below potential.

    - ELB episodes generate protracted periods of output below potential. Much more costly than swings around potential.

The Benefits of Higher Inflation

- Policy rules with memory perform better against ELB episodes.

- But even PLT and NGDPLT rules are hampered by the ELB.

  - Moreover, the benefit from these rules relative to standard rules relies on strong assumptions about expectations formation.

How Much Inflation?

- Standard analysis suggests π* of 4 or 5%.

- Taking into consideration QE and forward guidance, π* of 3% may suffice.

  - Each 1% more inflation raises potency of QE by even more than it benefits conventional policy (Gagnon and Collins 2019b).

  - Aggressive forward guidance can also help (Reifschneider and Wilcox 2020).

The Horse Race Policy Rules

- All assume real r*=0.75. I think r*=0. This has caused inflation to undershoot its target in some countries.

- This does not affect ELB simulations because ELB is assumed to be 0.25, whereas -0.50 is possible. Error on r* offsets error on ELB.

Income vs. Price as a Long-Run Target

- Monetary policy more directly and strongly affects nominal income than prices.

- For debtors, certainty about future nominal income is more important than certainty about prices.

- For creditors, certainty about future nominal income is also more important if retirees care about consumption relative to that of workers.

References

Gagnon, Joseph, and Christopher Collins (2019a) "Low Inflation Bends the Phillips Curve" PIIE Working Paper No. 19-6. Washington: Peterson Institute for International Economics.

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Phillips, A.W. (1958) "The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861–1957" *Economica* 25: 283–99.

Reifschneider, David, and David Wilcox (2020) "A program for strengthening the Federal Reserve's ability to fight the next recession" PIIE Working Paper No. 20-5. Washington: Peterson Institute for International Economics.