

# ECONOMIC VIEWPOINT



## Will the Drop in the Unemployment Rate Drive Inflation Up in Canada?

Canada's unemployment rate has dropped sharply in recent months which, according to economic theory, could trigger faster inflation due to more sustained wage growth, among other things. The historical relationship between the unemployment rate and price fluctuations, however, shows that inflation does not react as sharply to changes in the labour market as we might believe. Moreover, some factors are currently curbing wage growth, while underlying global trends are still moderating the rise by prices. Nonetheless, we can expect price growth to accelerate in Canada, which argues for a gradual rise by key interest rates.

The unemployment rate has come down substantially in the last few years, thanks to favourable economic conditions and the impacts of slower growth by the working-age labour force, among other things. At 5.8% in March 2018, Canada's unemployment rate has reached its historic low in terms of the *Labour Force Survey*, which began in 1976. Note that, according to archival data, the unemployment rate had gone below 5.8% prior to 1976. In June 1966, it even went slightly below 3% (graph 1). That being said, the unemployment rate is currently exceptionally low, historically speaking.

### Relationship Between the Unemployment Rate and Inflation

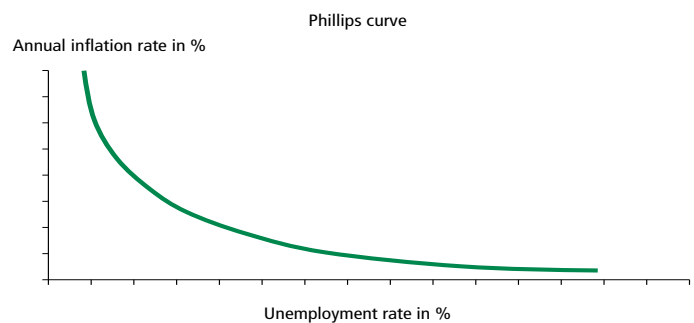
According to the Phillips curve, a widely held economic theory, there is a close relationship between movement by the unemployment rate and by prices. In short, the lower the unemployment rate goes, the higher price growth will be (graph 2). Conversely, a higher unemployment rate means a lower inflation rate. According to this theory, the very low unemployment rate recorded in the last few months could point to a net acceleration in price growth. Of course, a higher inflation rate could have major consequences for Canada's economy. Among other things, interest rates could be raised more quickly, and more steeply.

**GRAPH 1**  
Historically, the unemployment rate is very low



Sources: Statistics Canada and Desjardins, Economic Studies

**GRAPH 2**  
Theoretical relationship between the unemployment rate and inflation



Source: Desjardins, Economic Studies

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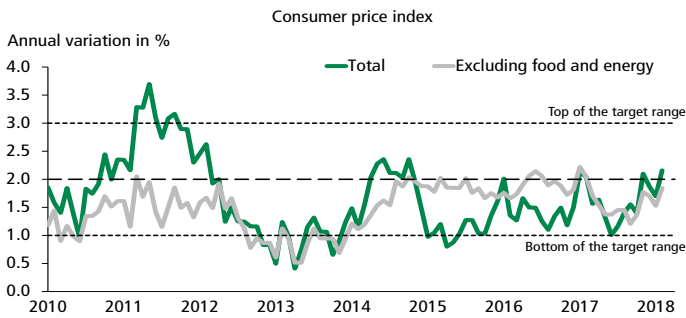
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For now, this does not seem to be materializing, however. The annual change in the total consumer price index remains well entrenched within the Bank of Canada’s (BoC) target range of 1% to 3%. Since 2012, it has even spent much of its time within the lower part of the range (1% to 2%) (graph 3). That being said, there is often a lag between the two measures. It could take several months for a lower unemployment rate to translate into higher inflation. For one thing, wages do not adjust to conditions in the labour market immediately. Moreover, it could take price increases some time to respond to the stronger demand that comes from higher household income. Under these conditions, could the current low unemployment rate trigger faster price growth, but a few quarters from now? To answer that question, we must analyze the history of the relationship between the unemployment rate and inflation.

been lagged by two years to factor in a period of adjustment between the two metrics. The dispersion of the observations within graph 4 seems quite scattered; no shape that could be likened to the Phillips curve is visible.

However, comparisons over a period this long can be misleading, as several structural changes have occurred over the decades. For one thing, the BoC changed its monetary policy in the early 1990s, introducing inflation targets, which transformed inflation’s reaction function. If we start our sample in 1991, the year in which inflation targets came into effect, the relationship between the unemployment rate and inflation still shows strong dispersion (graph 5), although a slight linear trend can be detected. The relationship’s slope is, however, much flatter than the Phillips curve theory suggests. This suggests that inflation’s reaction to fluctuations in the unemployment rate is not as strong as we may have believed initially. The phenomenon is not unique to Canada. According to a [study by the International Monetary Fund \(IMF\)](#), the Phillips curve has flattened in most industrialized countries in the last few years.

**GRAPH 3**  
Inflation has been quite low since 2012



Sources: Statistics Canada and Desjardins, Economic Studies

**The Phillips Curve in Canada**

Graph 4 includes all of the monthly observations of the unemployment and inflation rates since 1966. The inflation metric used is the consumer price index that excludes food and energy. This metric eliminates the major occasional fluctuations triggered by these two components. The inflation data has also

**GRAPH 4**  
Historical distribution of the unemployment rate and inflation



Sources: Statistics Canada and Desjardins, Economic Studies

**GRAPH 5**  
Historical distribution of the unemployment rate and inflation since inflation targets were introduced

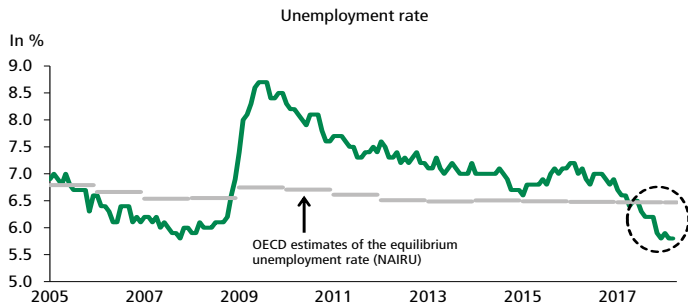


Sources: Statistics Canada and Desjardins, Economic Studies

There are several alternatives for expressing the relationship between the labour market and inflation. Among other things, instead of the unemployment rate, we can use a metric that is more reflective of economic cycles and less reflective of structural changes. The equilibrium rate of unemployment is particularly useful here. Note that the equilibrium rate of unemployment is the unemployment rate that does not trigger any acceleration by inflation; it is commonly known as the Non-Accelerating Inflation Rate of Unemployment (NAIRU). An unemployment rate that is higher than the NAIRU suggests that there is some surplus capacity in the labour market, thereby curbing wage and price growth. An unemployment rate below the NAIRU means that the surplus capacity within the labour market has been absorbed, and that some shortages are emerging. Under these conditions, wage and price growth should accelerate.

As graph 6 shows, the unemployment rate has been below its equilibrium rate since mid-2017, fuelling concerns about inflation potentially accelerating in the coming months.

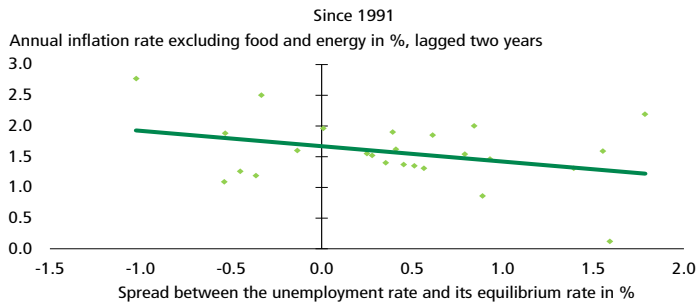
**GRAPH 6**  
The unemployment rate has fallen below its equilibrium rate



OECD: Organisation for Economic Co-operation and Development  
Sources: Statistics Canada, OECD and Desjardins, Economic Studies

The historic numbers on the spread between the unemployment rate and equilibrium rate versus the inflation rate also demonstrate the relation between these two variables fairly well (graph 7). Yet, once again, the curve does not seem as steeply sloped as we might initially assume.

**GRAPH 7**  
Spread between the unemployment rate and its equilibrium rate versus inflation

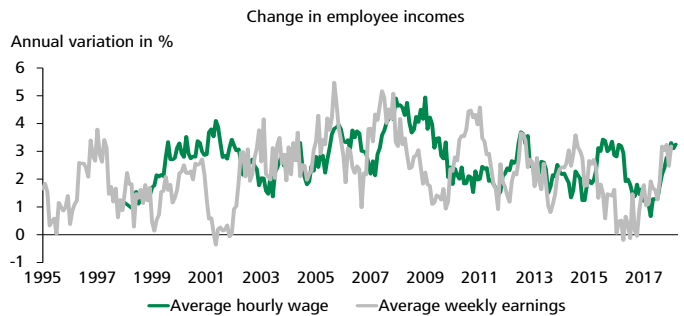


Sources: Statistics Canada, Organisation for Economic Co-operation and Development and Desjardins, Economic Studies

**Other Factors Muddy the Picture**

Some factors that subdue inflation are also at work, reducing the reach of the Phillips curve. Among other things, wage growth has been fairly sluggish in recent years, despite strong job growth and the drop in the unemployment rate (graph 8). It has accelerated recently, but growth remains reasonable. Among other things, this rigidity may be due to the Canadian labour productivity's weak growth. Demographic considerations are also at work, as many experienced workers with higher wages are now retired. They have been partially replaced by younger, less experienced workers who thus earn less.

**GRAPH 8**  
Growth by wages and worker earnings has strengthened recently



Sources: Statistics Canada and Desjardins, Economic Studies

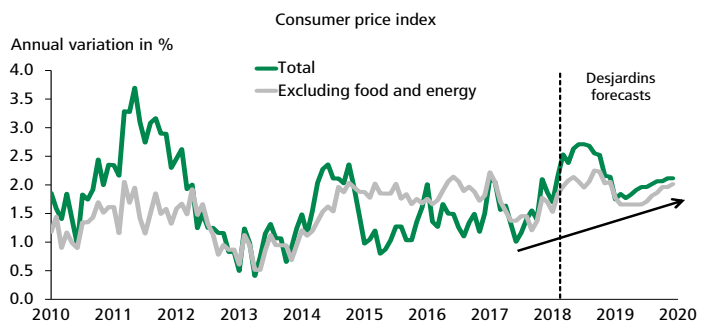
The worldwide boom in electronic trade, with its concomitant increase in competition, is also helping to curb inflation growth. The impact of some technological advances, which may be yielding a hard-to-measure improvement in productivity, is also being blamed. The globalization of trade also intensifies competition, helping curb the rise by prices for some goods and services. Lastly, after several years of monetary policy with inflation targets, inflation expectations are quite well anchored in Canada, reducing volatility in the variation in prices.

**Will Inflation Accelerate?**

All in all, even though inflation's reaction to fluctuations in the unemployment rate seems to be more subdued than we thought, we can still expect some impact. With the unemployment rate historically low and below its equilibrium level, we can expect to see upside pressure on inflation. However, some rigidity in wages and the existence of global structural factors curbing price growth must be considered.

According to our forecasts, the total annual inflation rate should continue to accelerate in the coming months, closing in on the top of the BoC's target range (3%) next summer (graph 9).

**GRAPH 9**  
The annual inflation rate should continue to trend up



Sources: Statistics Canada and Desjardins, Economic Studies

Arithmetic effects could then foster a slight decline, but the uptrend should quickly win out and inflation could converge toward the target midpoint (2%). Note, however, that the risks associated with these projections are somewhat tilted to the upside, so inflation could end up above the top of the target range. This is a fairly substantial change from recent years, when the inflation rate had spent most of its time in the bottom of the target range (between 1% and 2%).

The BoC must, of course, adjust its monetary policy to the new situation. The monetary authorities have already raised their key interest rates three times since July 2017. At 1.25%, the target for the overnight rate remains very low, however, and is still consistent with expansionary monetary policy. Under these conditions, the BoC should continue to raise its key rates gradually in 2018 and 2019. The target for the overnight rate could therefore peak at 2.25% in the summer of 2019.

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