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**Ottawa Economics Association**  
**Ottawa, Ontario**  
**10 February 2015**

## Minding the Labour Gap

### Introduction

Thank you for the invitation. It's a real pleasure to be here with my colleagues in Ottawa. As economists and policymakers, we are keenly aware of the continuing challenges facing the global economy. Even though Canada has had its share of setbacks over the last few years, we are fortunate to have been on a relatively steady growth path, with low and stable inflation. At least part of the credit has to go to sound economic and financial policies, as well as the prudent behaviour of our financial institutions.

The U.S economy has been gathering strength and we have seen growth in Canada become more broadly based. But the Canadian economy is still operating below its potential, and the sharp drop in oil prices is a setback. That is why the Bank of Canada lowered the policy rate a couple of weeks ago.

What I'd like to do today is walk you through the Bank's assessment of how much room the economy has to grow and why we're minding the labour gap. I'll then talk about how lower oil prices will affect this picture, both domestically and globally. And finally, I'll explain what all of this means for monetary policy.

### The Divine Coincidence

You won't be surprised when I say, as a central banker, that my objective is to achieve low, stable and predictable inflation. And so my interest in assessing the capacity of the Canadian economy is related to that goal.

Of course, the 2 per cent inflation target is a means—it's not the end. It is the best contribution monetary policy can make to the economic and financial well-being of Canada. And achieving the inflation target is consistent with closing the output gap and attaining full employment in a typical business cycle. Among economists, this is known as the "divine coincidence."<sup>1</sup>

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I would like to thank Stephen Murchison and Eric Santor for their help in preparing this speech.

This business cycle has been far from typical. It spans a particularly destructive recession. Companies discarded unneeded capital and eliminated jobs. Many closed their doors for good. We know that a large number of firms in Canada simply disappeared, and with them, so did significant physical capital. But people are not like capital—the workforce is still available to be productively employed.

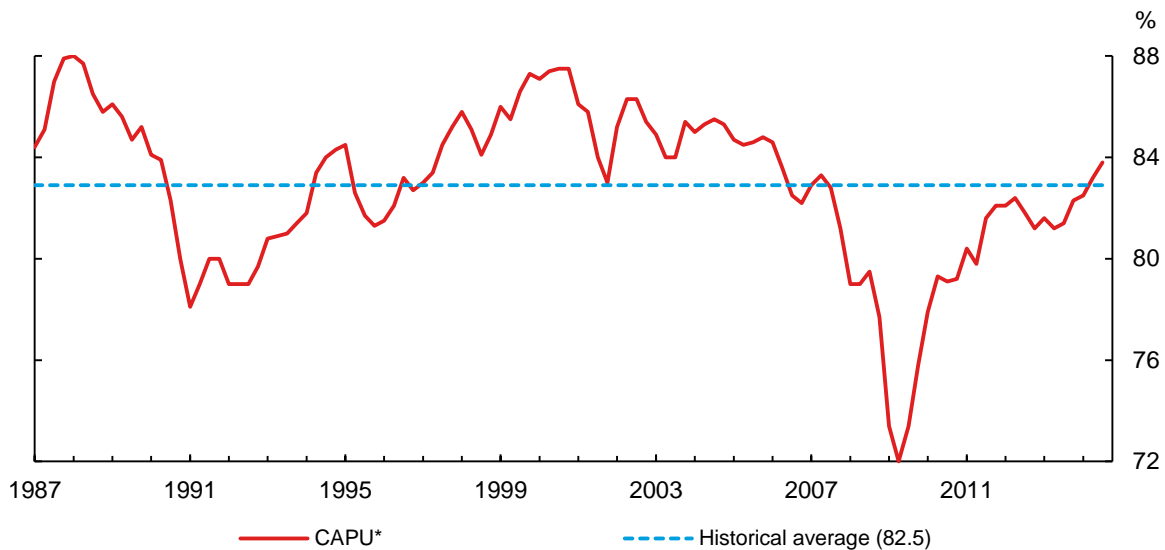
It is critical that we consider the labour market for two reasons. First, we want to correctly gauge underlying inflation pressures in Canada. Understanding the degree of slack in the economy helps us avoid making policy decisions that could trigger inflationary or disinflationary pressures. Second, we don't want to inadvertently stifle the rebuilding phase of an economy that will need to adjust to a lower price of oil. Right now, measures of economic slack that focus exclusively on the labour market show greater unused capacity than broader measures do.<sup>2</sup>

### The Space Between the Gaps

The Bank relies on a wide range of indicators to assess the degree of underlying inflation pressures. This is because there is uncertainty around any single one. Our indicators range from simple capacity utilization measures to results from the *Business Outlook Survey* and more complex statistical analyses.<sup>3</sup> And we continue to build our tools to measure output gaps.

Right now, simple measures of capacity utilization are actually somewhat above historical averages (**Chart 1**). Firms have been telling us that they are producing more with existing capacity rather than investing in new productive capital. Growth over the last few quarters has been mainly fuelled by a pickup in labour productivity. It has not been due to a material improvement in employment (**Chart 2**). In fact, employment growth last year was less than what would be consistent with growth in the economy's potential.<sup>4</sup>

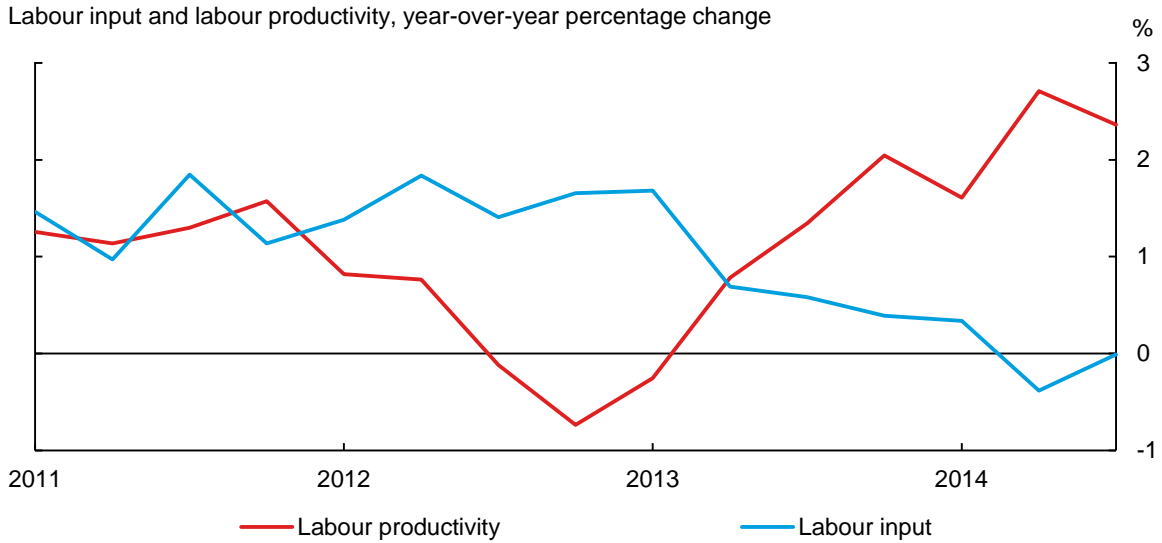
**Chart 1: The aggregate capacity utilization rate is currently above its historical average**



\*The aggregate CAPU measure includes most goods sector industries (namely, forestry, utilities, mining and oil and gas extraction, construction, and manufacturing).  
Source: Statistics Canada

Last observation: 2014Q3

## Chart 2: Firms are producing more using existing capacity



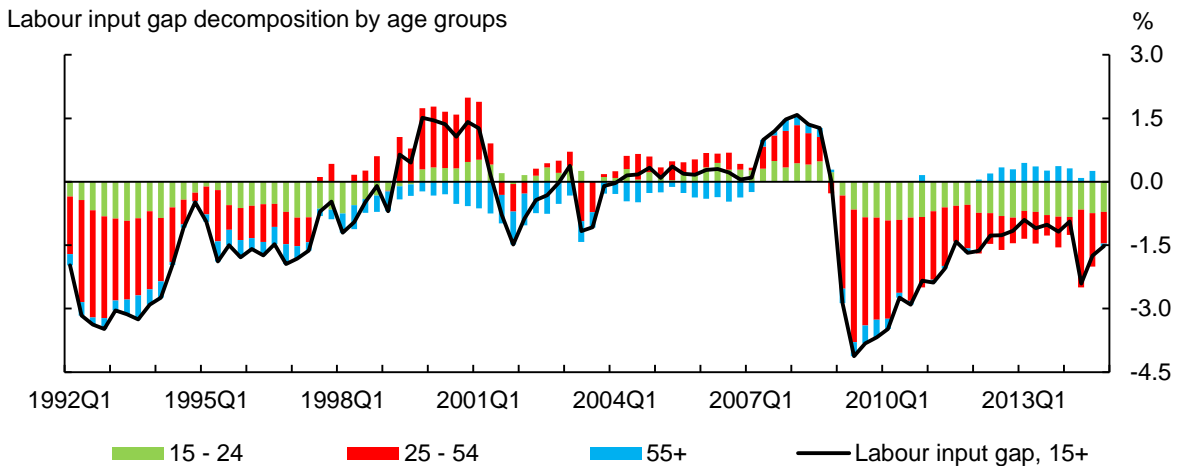
Source: Statistics Canada

Last observation: 2014Q3

You can get a better sense of how important this is when you take a structural approach to measuring the output gap. We used a growth-accounting framework to help us estimate the output gap and the labour market gap.<sup>5</sup> For those who are interested in learning more, we just posted a paper on this on our website.<sup>6</sup>

What this method tells us is quite important. Excess capacity in the labour market, the “labour gap,” was about 1 1/2 per cent at the end of last year, which is the equivalent to a shortfall of about 270,000 jobs.<sup>7</sup> That’s roughly twice the size of the Bank’s overall assessment of the output gap. The beauty of this measure is that it accounts for demographic changes, and so we can get a better read on what is cyclical and what is structural. Prime-age and young workers are those who remain underemployed, while the contribution of older workers to the labour gap is close to zero (**Chart 3**).

## Chart 3: Youth and prime-age workers comprise all of the labour gap



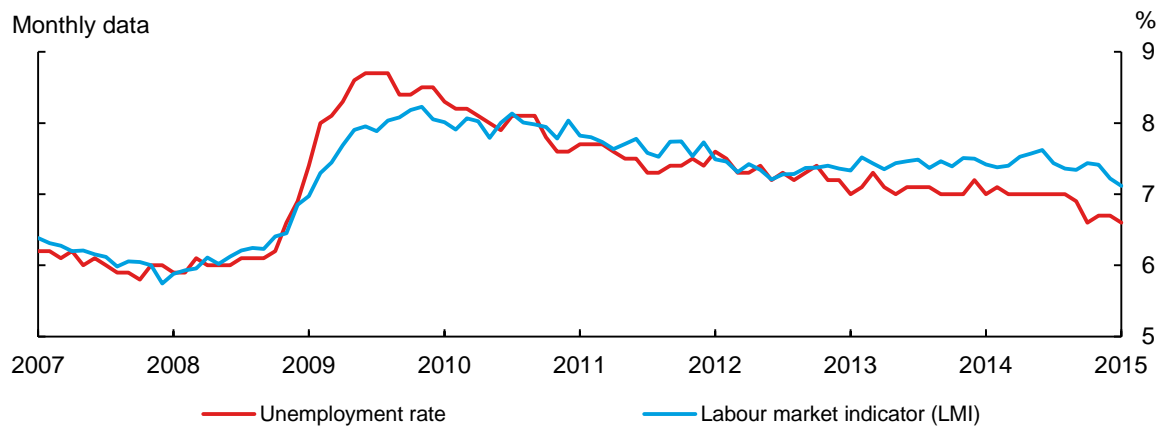
Sources: Statistics Canada and Bank of Canada calculations

Last observation: 2014Q4

Another measure we use is the labour market indicator (LMI), which we started publishing on a regular basis this year. This indicator shows that the overall labour market has more room for improvement than the headline unemployment rate would suggest.<sup>8</sup> The unemployment rate is currently close to its post-recession low of about 6 1/2 per cent, while the LMI has fluctuated in a narrow range around 7 1/2 per cent since the end of 2011 (**Chart 4**).

There are a number of factors that explain this difference. Average hours worked remain low, and more than one in four people who have part-time jobs would prefer to work full-time.<sup>9</sup> At the same time, the participation rate of prime-age workers—the core of our labour market—actually fell substantially in 2014. And average unemployment duration is lingering close to its post-crisis peak, at about 21 weeks. That is a long time to be unemployed. You might be starting to lose your skills, you're adjusting your lifestyle, and you may even be thinking about dropping out of the labour force. That is valuable capacity at risk.

#### **Chart 4: Labour market slack is greater than indicated by the unemployment rate**



Sources: Statistics Canada and Bank of Canada

Last observation: January 2015

It's not surprising, then, that wage increases remain subdued despite strong productivity growth. Consequently, there are currently no inflation pressures coming from the labour market overall.

Some of the prolonged weakness in labour markets is to be expected. The quality of jobs erodes in a downturn.<sup>10</sup> Finding a job is harder. The process of matching workers to jobs deteriorates rapidly and is slow to improve. Firms wait for greater certainty about the recovery before they hire, and workers hesitate to leap to new jobs when they feel insecure. The pace of improvement in this matching process depends on the duration and the strength of the expansion.<sup>11</sup> The pace of growth is something that monetary policy influences directly. Setting the right monetary conditions, in the context of our inflation targeting regime, is the best thing we can do for the labour market.

## Oil Matters

The recent drop in oil prices matters a lot for how the recovery continues to unfold. Canada is a net exporter of energy, and so the price of oil has implications for both the speed and distribution of growth.

Oil prices are down by about 50 per cent since last June, and that has caused a significant drop in our terms of trade—the price of what we export relative to the price of what we import.<sup>12</sup> The fall in oil revenues will be large and is occurring already. Overall domestic demand will weaken as the impact of this decline spreads through the Canadian economy via channels such as wealth, income, and interprovincial trade. If oil prices were to average \$60 per barrel and monetary policy did not respond, gross domestic income would be about 4 1/2 per cent lower by the end of 2016.<sup>13</sup> That would affect incomes of Canadians.

While some regions will clearly bear more of the brunt than others, the impact will be felt across the country. Nearly one-third of the goods and services purchased by the Alberta energy industry are drawn from other provinces—and so are the workers.<sup>14</sup> Lower incomes would also lead to an increase in household imbalances. We laid all this out in our January *Monetary Policy Report*.

Many of the negative effects of lower oil prices on growth happen swiftly. Energy-related firms are already paring back investment and hiring intentions. We expect capital investment in the oil and gas sector to fall by about 30 per cent in 2015. This is huge given the importance of investment in this sector for overall growth. Current spot prices are below full-cycle break-even cost estimates for most oil sands projects, which can typically range from \$60 to \$100 per barrel. So unless firms cut costs and become more efficient, continuing production will not make good business sense.

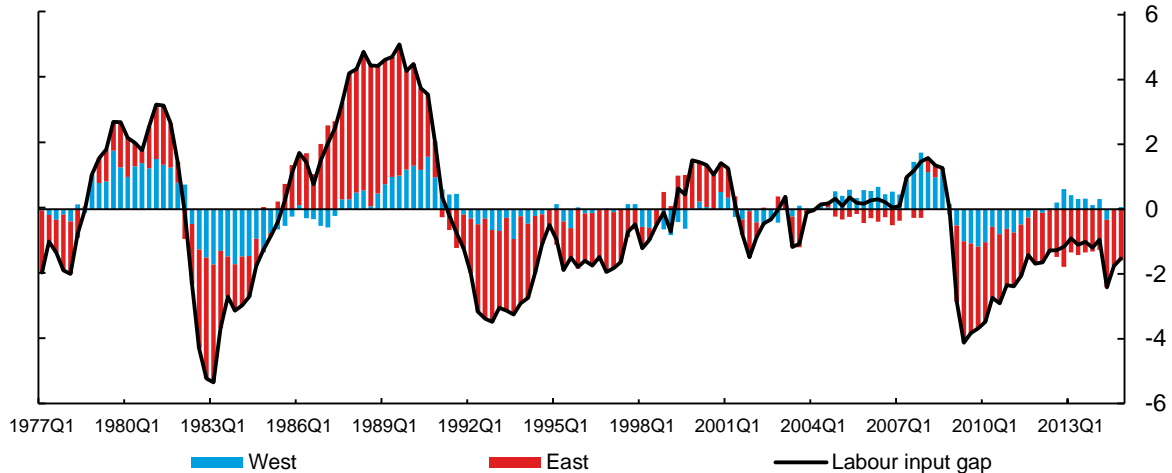
Fortunately, there will be some offsets, although these will take longer to materialize and are uncertain. The stronger U.S. economy and a weaker Canadian dollar will cushion the impact of lower oil prices, and so we expect some further improvements in the non-energy export sector. Our *Business Outlook Survey* shows manufacturers are more positive about investment intentions and employment. This is important for provinces such as Ontario and Quebec that have supply-chain links to the energy sector.

If low oil prices persist, they will spur a significant reallocation of workers across sectors and regions.<sup>15</sup> We've seen this happen in previous oil price cycles, as energy-intensive regions gear up and then gear down. This affects labour market conditions across the country. Because oil prices were so strong up until mid-last year, there is currently no slack (and there was even a little excess demand) in provinces west of Ontario. All of the current slack in labour markets is in provinces east of Manitoba (**Chart 5**).

This will change as the economy adjusts. A relatively hot spot in the Canadian economy is now cooling. How quickly the adjustments happen depends on the timing of contracts and firms' expectations of the depth and duration of oil-price weakness. We're already seeing signs that the stream of workers commuting to Alberta from other parts of the country is slowing. Fly-in-fly-out contract workers, many of whom are from Atlantic Canada, may be the first to feel the effects.<sup>16</sup>

## Chart 5: All of the current slack in labour markets is in provinces east of Manitoba

Contribution to the total labour input gap (adjusted for 1977 - 2001 average)  
Quarterly data



Sources: Statistics Canada and Bank of Canada calculations

Last observation: 2014Q4

## Inflation Easing Globally

Oil prices are also affecting the global economy in ways that matter to Canada. First, lower prices offer a much-needed boost to global growth. Second, they are pushing down global inflation.

I'll start with the positive effect on global growth. It couldn't have come at a better time, given the excess capacity we see in many countries, especially in advanced economies.<sup>17</sup> Global labour market conditions are not any better, with unemployment rates often above 10 per cent. So, labour gaps are significant. In some places, we are seeing long-term unemployment, involuntary part-time work, and other indicators of hysteretic effects in labour markets.<sup>18</sup>

It's no surprise, then, that real wage growth has stagnated. The share of income that is going to labour has been falling, continuing a trend that started three decades ago (**Chart 6**). The decline implies that more income is going to those with a higher savings rate. So they aren't spending the income. Fortunately, lower oil prices are providing some offset by putting money back in people's wallets. Overall, lower oil prices will boost global economic growth, particularly in the United States and China, Canada's major trading partners.

So, we've talked about growth. Let's turn now to the effect that the drop in oil prices is having on inflation. Lower headline inflation increases the risk that inflation expectations become unanchored, particularly in the euro area, where inflation forecasts have been revised down (**Chart 7**). Clearly, monetary policy actions taken by the European Central Bank and other central banks around the globe will help to anchor inflation expectations.

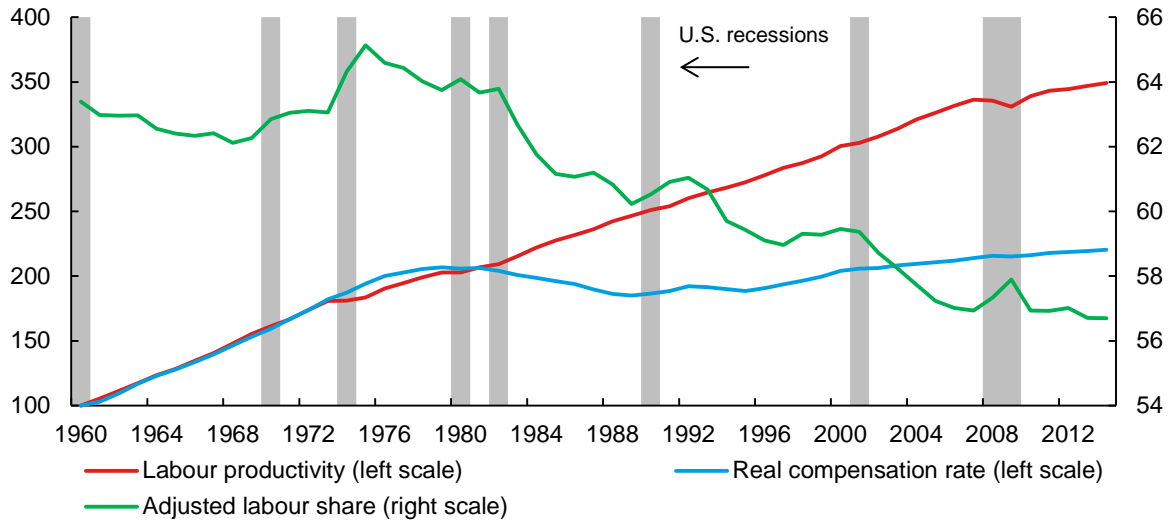
Canada has a very open economy, so the boost in world growth is good for us. Global inflation or disinflation trends matter, too. Our work shows that up to a quarter of the variance in core inflation in Canada can be explained by a common global factor. That is, developments that affect inflation at the global level can have an impact on inflation here at home.

**Chart 6: Labour share of income has fallen across the OECD countries**

Average labour income share, labour productivity and real compensation

Index: 1960 = 100

Per cent of GDP



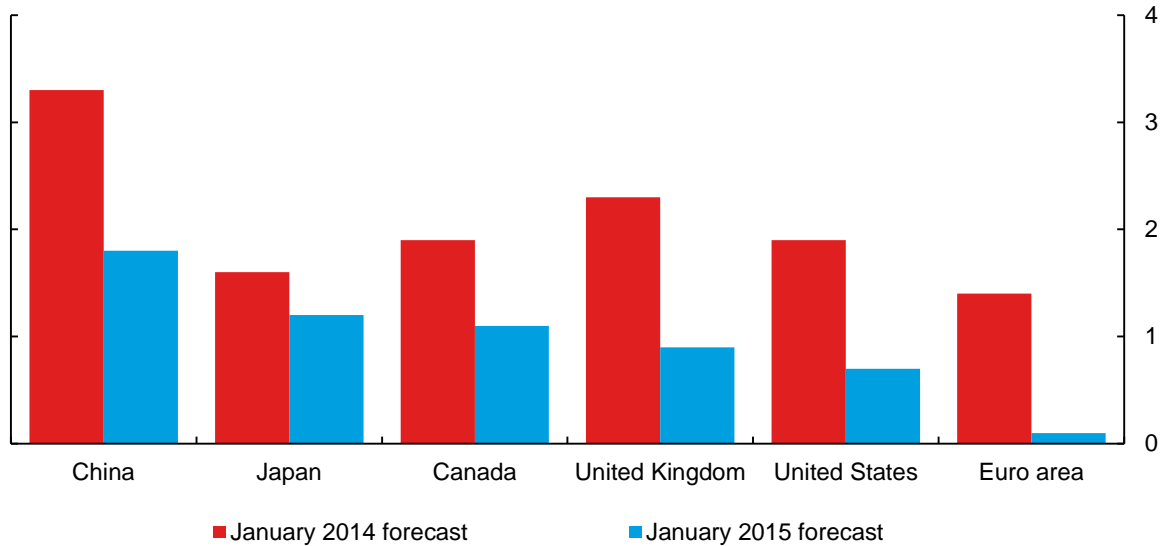
Note: OECD labour share is calculated using a weighted average of members for which labour-share data are available since 1960. Sources: OECD, AMECO and NBER

Last observation: 2014

**Chart 7: Globally, inflation forecasts have been revised down for 2015**

Total CPI

%



Source: Consensus Economics

## Fuel in the Tank

Now, let me turn to what this means for monetary policy. In the days leading up to our policy decision on January 21, we considered the implications of the fall in oil prices and whether our policy rate of 1 per cent was still appropriate. Monetary policy was already stimulative. Yet our initial projections suggested that if oil prices were to settle around \$60 per barrel, and we did not change the policy path we had anticipated last October, it would take until late 2017 for the output gap to close. We thought that was an unreasonably long time frame, especially coming on the heels of successive delays in closing the output gap and achieving full employment.

The oil-price shock increased the downside risks to inflation, particularly given the uncertainty about the strength and timing of the offsets coming from the stronger U.S. economy and a weaker Canadian dollar. That, in and of itself, warranted a response. Lower oil prices also increased the risks to financial stability because they could trigger the household vulnerabilities that we had warned about in our *Financial System Review*.

In order to meet our inflation target over a reasonable time frame, while insuring against financial stability risks, we lowered the policy rate. What we expect to achieve extends beyond the 25-basis-point cut itself. Our policy action has eased monetary conditions by affecting the full range of asset prices. This is the normal transmission of monetary policy and will support the sectoral adjustment needed to strengthen investment and growth. It will also support financial stability by helping offset the reduction in incomes and the risk of higher and more persistent unemployment.

With this new starting point, we reduced our growth expectations for the first half of 2015 to 1 1/2 per cent. We expect the economy to then rebound in the second half of the year, reaching its full capacity around the end of 2016—a little later than expected in October.

Weaker oil prices will pull down the inflation profile, more than offsetting the direct effect on prices that we are seeing from a lower Canadian dollar. We expect headline inflation to fall temporarily below 1 per cent this year and move back up to target next year.

The labour market will recover as the output gap closes and the divine coincidence that I talked about earlier will eventually be re-established. This happens as output increases, firm creation and business investment picks up, and capacity is rebuilt. As this occurs, the signals coming from the labour market gap and output gap will become more consistent.

Of course, there is a risk that additional capacity won't be added fast enough to keep the output gap from temporarily going positive. An economy pushing up against the limits of its capacity may be just what is required to signal the need for additional investments and to draw workers back into the labour force. There is uncertainty about how much potential can be rebuilt, and we need to take this into account in our risk-management approach to monetary policy.



Our inflation-targeting framework gives us flexibility on the timing to achieve the inflation target while also taking into account other important dimensions of the economy—such as financial stability and the economy’s potential.<sup>19</sup> Stifling the rebuilding phase of the recovery could mean lost economic opportunity. That being said, if potential output growth turns out to be lower than we think, we have the tools to bring inflation back to target.

## Conclusion

There is no doubt that the Canadian economy has room to grow. The stronger U.S. economy, a lower dollar and our monetary policy response will work to keep the recovery in Canada on track and to get inflation sustainably back to target. There will be some adjustments across the country as non-energy exporters take on the mantle of growth. As this happens, Canadian firms and workers will need to demonstrate the impressive ability to adjust that we have seen in the past. Monetary policy is contributing to this effort by providing an environment of low and stable inflation, while supporting the adjustments needed to return the economy to sustained and balanced growth. We’ll get there and it will be a very good thing for Canada.

## ENDNOTES

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1 Divine coincidence refers to a situation in which aggregate demand, long-run supply equilibrium and price stability are complementary objectives. See O. Blanchard and J. Galí, “Real Wage Rigidities and the New Keynesian Model,” Working Paper No 05-14, Federal Reserve Bank of Boston, October 2005.

2 In the parlance of the 1960s and 1970s, we are seeing a divergence from Okun’s Law, which holds there is a negative statistical relationship between growth and unemployment. Okun’s Law is named for economist Arthur Okun who, in the early 1960s, showed that in the United States, unemployment tended to fall by 1 percentage point for every three percentage point rise in GDP.

3 T. Macklem, “Information and Analysis for Monetary Policy: Coming to a Decision,” Bank of Canada Review (Summer 2002): 11–18.

4 Monthly net job creation was about 10,000 in 2014, roughly 3,500 lower than what would be consistent with growth in potential.

5 The integrated framework (IF) is based on the growth-accounting framework that decomposes potential GDP into contributions coming from trend labour input (hours worked) and trend labour productivity (output per hour worked). On the trend labour input side, the IF uses an empirical model that largely depends on demographic developments, as well as other factors such as school enrolment and disincentives linked with employment insurance. On the trend labour productivity side, the approach links the capital stock with investment to identify trend capital deepening and uses a combination of filters and detailed analysis of variables such as investment in machinery and equipment and research and development to estimate trend total factor productivity.

6 L. Pichette, P. St-Amant, B. Tomlin and K. Anoma, “Measuring Potential Output at the Bank of Canada: The Extended Multivariate Filter and the Integrated Framework,” Discussion Paper No. 2015-1, Bank of Canada, January 2015.

7 The estimate of 270,000 jobs corresponds to approximately 1.5 per cent of the Bank's structural estimate of trend employment in 2014Q4.

8 The LMI looks much deeper into the labour market than the unemployment rate by combining eight indicators of labour market health: underutilization rate, unemployment rate, long-term unemployment, separation rate, participation rate (prime-age), wage growth, average hours worked, and job-finding rate. The LMI is scaled to be comparable with the unemployment rate, and thus provide a simple benchmark against which to judge whether the unemployment rate is evolving in a manner consistent with broader labour market conditions. See K. Zmitrowicz and M. Khan, "Beyond the Unemployment Rate: Assessing Canadian and U.S. Labour Markets Since the Recession," *Bank of Canada Review* (Spring 2014): 42-53.

9 Increases in involuntary part-time work were observed across age groups and accounted for virtually all of the increase in the share of part-time employment. For additional details on the evolution of labour force participation rates and part-time employment across age groups and regions, see C. Cheung, D. Granovsky and G. Velasco, "Changing Labour Market Participation Since the Great Recession: A Regional Perspective," Discussion Paper No. 2015-2, Bank of Canada, February 2015.

10 L. B. Kahn and E. McEntarfer, "Employment Cyclicalities and Firm Quality," NBER Working Paper No. 20698, November 2014.

11 P. Diamond and A. Sahin, "Shifts in the Beveridge Curve," Federal Reserve Bank of New York Staff Report No. 687, August 2014.

12 T. Lane, "Drilling Down—Understanding Oil Prices and Their Economic Impact" (speech to Madison International Trade Association, Madison, Wisconsin, 13 January 2015).

13 The impact on income is relative to a scenario in which the price of Brent crude remains at US\$110. See Bank of Canada *Monetary Policy Report* (January 2015): 25–26.

14 "Fuel for Thought: The Economic Benefits of Oil Sands Investment for Canada's Regions," Conference Board of Canada Report, October 2012.

15 P. Antunes and K. Beckman, "Regional Shake Up: The Impact of Lower Oil Prices on Canada's Economy," The Conference Board of Canada, 20 January 2015.

16 The Conference Board estimates that about \$375 million in income from fly-in-fly-out workers accrued to Atlantic Canadians in 2014. See P. Antunes and K. Beckman, "Regional Shake Up: The Impact of Lower Oil Prices on Canada's Economy," The Conference Board of Canada, 20 January 2015.

17 We estimate that the excess supply is about 1.0 to 2.0 per cent at the global level.

18 A variable is said to exhibit hysteresis if there is no tendency for it to revert to some mean value after a disturbance causes it to change. The variable remains permanently at that new value until another shock disturbs it. For evidence of hysteretic effects in the United States, see D. Reifschneider, W. Wascher and D. Wilcox, "Aggregate Supply in the United States: Recent Developments and Implications for the Conduct of Monetary Policy," Finance and Economics Discussion Series 2013-77, Board of Governors of the Federal Reserve System, 2013.

19 M. Carney, "A Monetary Policy Framework for All Seasons" (speech to U.S. Monetary Policy Forum, New York, New York, 24 February 2012).