TD Bank Financial Group

TD Economics

Topic Paper

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KEY ISSUES ARISING FROM THE BANK OF CANADA'S OCTOBER MONETARY POLICY REPORT

Last Thursday's Monetary Policy Report (MPR) by the Bank of Canada was arguably one of the most informative ever produced, providing good insight into how the Bank conducts monetary policy and providing a clear signal that the monetary authority intends to continue raising interest rates in the coming months. For a review of the content of the MPR please refer to the TD Economics MPR commentary on October 20th and the Weekly Bottom Line from October 21st. However, while the MPR was particularly lucid this time around, the content raises a couple of key questions. First, why did the Bank present a forecast for which the risks are not balanced? Second, how responsive is the Bank's estimate of potential output growth to actual economic developments? The answer to both questions is highly relevant to the determination of monetary policy. Let's review these issues in turn.

Bank's forecast at odds with risks

The Bank is quite explicit that they view the risks to their 2006 forecast for economic growth of 2.8 per cent in 2005 and 2.9 per cent in 2006 as being evenly balanced, but the MPR is equally clear that risks to the projection for 3.0 per cent real GDP growth in 2007 are skewed almost entirely to the downside. In particular, they are concerned, in the context of the unwinding of global imbalances, that domestic demand will not pick up as much as forecast in the non-U.S. economies and will slip lower in the United States.

We share this assessment and have explicitly factored it into our forecasts, giving us a considerably weaker U.S. and Canadian growth picture in late 2006 and through 2007. Indeed, we expect U.S. economic growth to slow from 3.2 per cent in 2006 to 2.7 per cent in 2007, while Canadian economic growth is forecast to moderate from 3.0 per cent in 2006 to 2.5 per cent in 2007.

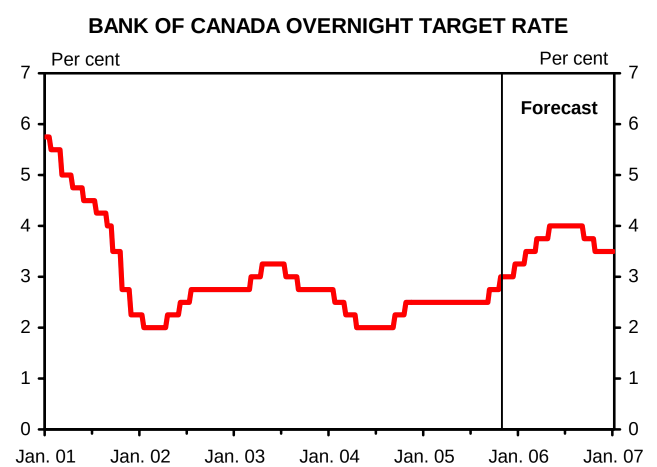
BASE-CASE ECONOMIC FORECAST			
Bank of Canada			
	Real GDP Growth		
	2005	**2006**	**2007**
World	4.0	4.0	4.0
United States	3.5	3.6	3.2
Canada	2.8	2.9	3.0
TD Economics			
	Real GDP Growth		
	2005	**2006**	**2007**
World	4.2	4.1	3.9
United States	3.5	3.3	2.7
Canada	2.9	3.0	2.5
Source: Bank of Canada, TD Economics			

Bank forecasting mode, not mean

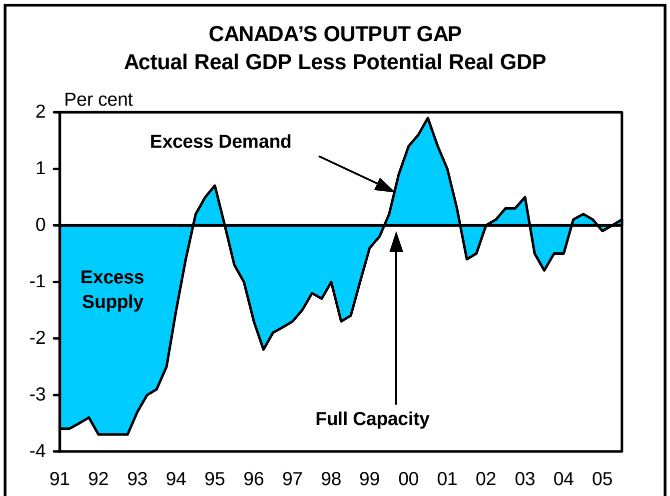
In statistical terms, the Bank has presented a forecast that represents the mode outcome (in the dictionary and statistical sense of "the most frequent value of a set of data", which in this case is the most frequent projection for real GDP growth amongst a range of forecasts based on differing assumptions) rather than the mean outcome (which assuming equal probabilities of events would be a balanced forecast with a 50 percentage probability that the actual result comes in on either side of the predicted growth rate). Whether this is appropriate or not, it certainly has policy implications. With the Bank acknowledging that the balance of risks is to the downside, policy watchers must be mindful of the distinct possibility that economic growth in Canada (and elsewhere) will be weaker than presented in the MPR.

An interesting philosophical debate might be warranted in the economics community with regards to whether it is best to present the mode or the mean forecast. In this case, presenting the mean would have complicated the Bank's communications because, on the surface, it could have created the perception that they were about to make a policy error. In other words, it would have presented a picture of a central bank determined to raise interest rates, when any inflation pressures that develop in the short run could be eventually (and within the time lags of the operation of monetary policy) dissipated by weaker demand growth in a few quarters time without any change in monetary policy. In actuality, this would not necessarily constitute a policy mistake. If the Bank doesn't address mounting inflation pressures now, the inflation environment heading into 2007 might not be benign due to an increase in inflation expectations in the near term that could prove difficult to reverse – a possibility that the Bank's recent Business Outlook Survey suggests cannot be dismissed.

So, it seems to us that even if the appropriate view of economic growth in 2007 is one that is softer than the Bank has presented – and, closer to the TD Economics base case forecast – monetary policy is clearly positioned for a continuation of the tightening cycle in late 2005 and early 2006. However, if one adjusts the outlook to take account of the Bank's words, rather than its numerical forecasts, then there is a reasonable case to be made that the peak in rates won't be terribly high – again, consistent with our forecast that the overnight rate will top out at 4.00 per cent in early 2006. And, once the peak is attained, it won't be long before the Bank ends up cutting rates again. That



Actual data to Oct. 26, 2005; Forecast by TD Economics as at Sep. 2005
Source: Bank of Canada



Last actual: Q3-2005; Forecast by TD Economics as at September 2005
Source: Statistics Canada, Bank of Canada

view would be supported by an expectation that, with growth softening in late 2006 and through 2007, an output gap would re-emerge. However, there is information in the MPR that this might not be the case.

Bank's estimate of potential growth is critical

This leads to the second issue raised at the start of the paper, which is how responsive the Bank's estimate of potential output growth is to actual economic developments. If potential output responds fairly quickly to changes in labour inputs and labour productivity, any economic weakening will not necessarily open up much of an output gap. Alternatively, the slack in the economy will not accumulate for long as the economy's potential pace of growth rapidly declines.

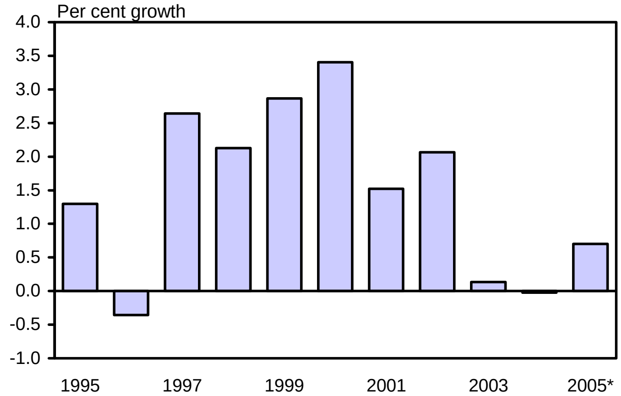
We don't want to overstate this point, as the Bank doesn't rely exclusively on the output gap to judge capacity pressures. Nonetheless, their communications do suggest that it is an important, if not their foremost, consideration. That means private sector economists must correctly predict both real GDP growth and changes to the rate of potential growth in order to anticipate how the Bank will conduct monetary policy. However, as the MPR highlighted, the Bank's estimate of potential growth is anything but stable.

Economists typically view potential output growth as being derived from a stable production function using long-term trends in labour, capital and productivity. The Bank of Canada uses a much more complicated methodology that makes allowances for medium and shorter-term developments that can affect how fast the economy can grow without creating inflationary pressures. The October MPR graphically demonstrated how dramatically potential can change over a short period of time. Potential reached 4 per cent in 1999 in response to increased business investment, but came down to 2.5 per cent in 2002 in reaction to slower productivity growth. In the MPR, the Bank revealed that it expects potential to be 2.8, 2.9 and 3.0 per cent respectively this year and each of the next two years.

We appreciate the additional information provided in the MPR, but the methodology is still pretty much a black box. The only explanation publicly available is a technical paper published by the Bank in 1998, and it isn't exactly a clear read. They use a complicated procedure to estimate potential, which cannot be replicated by the private sector because they make all kinds of adjustments to the results of their statistical models. For example, if core inflation is low for an extended period of time and the Bank's models suggest there is no output gap, implying that price pressures should be evident when they are not, then an adjustment is made to raise the path of potential output so an output gap created. The pure statistical modelling of potential also puts considerable weight on the most recent economic data, which the Bank feels is inappropriate. So, it again makes adjustments, which has the result of making the estimation more sensitive to the Bank's projections of potential. It also has the feature of making the recent data subject to revision.

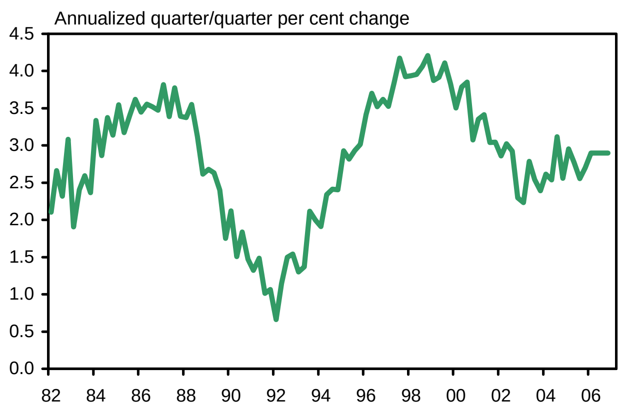
This raises two key points. First, there have been huge revisions in the Bank's potential growth series over time. So, it is volatile at any given moment and it changes radically over time. Second, it appears to us that the Bank's current estimate of potential is unusually vulnerable to being revised again in the near future.

CANADA'S LABOUR PRODUCTIVITY GROWTH



* 2005 is the year-over-year increase in first six months of the year
Source: Centre for the Study of Living Standards, Bank of Canada

BANK OF CANADA'S IMPLIED ESTIMATE OF POTENTIAL GDP



Source: Bank of Canada, TD Economics

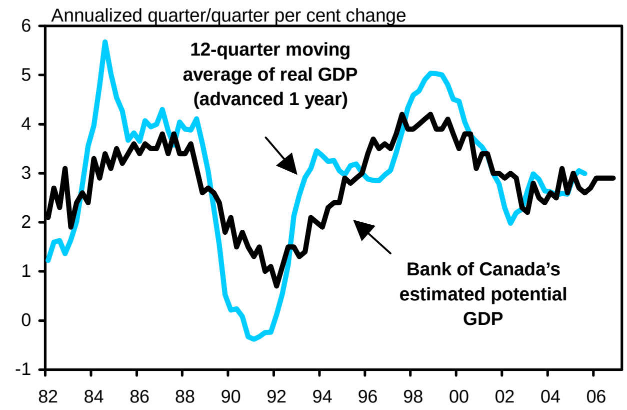
To expand on this latter point, consider the fact that actual labour force productivity has been running at slightly below 1 per cent so far this year and that this is actually up from the pitiful performance of the previous two years. Yet, the Bank assumes that Canadian labour productivity will soon return to its trend assumption of 1.75 per cent annual growth – at least, that is what we infer from their assumption that potential growth will be 2.8 this year and 2.9 per cent next year. It is possible that the Bank is assuming that weakness in labour productivity growth will be offset by a stronger contribution from labour force growth, but we don't think this is the case.

Productivity trends could shape monetary policy

Suppose labour productivity doesn't pick up very soon. How quickly would the Bank revise down potential output growth? If the estimate adjusts fairly quickly, it could result in an assessment that the economy is in a situation of excess demand even if actual output growth isn't very robust, suggesting that the Bank should raise rates further. On the other hand, if we are right about economic growth slowing significantly in the second half of 2006 and through 2007, then we can't necessarily conclude that much of an output gap will develop, implying that there might not be much scope for the Bank to ease monetary policy.

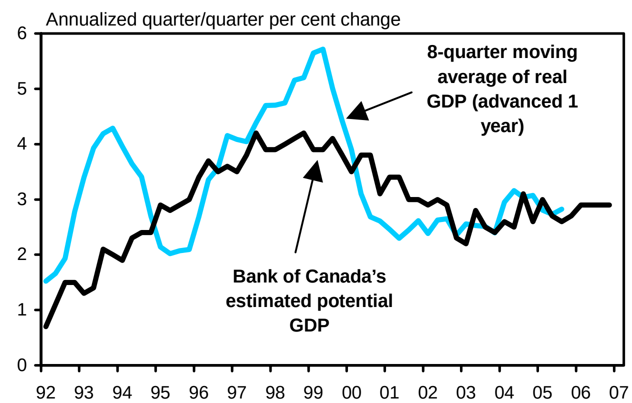
Past experience suggests that there is a real possibility of productivity disappointing, and that means the speed at which the estimate of potential is revised is key. While we can't duplicate the Bank's complicated modelling and various adjustments, it appears that historical trends in actual GDP growth and in the Bank's estimation of potential can provide a guide. As the accompanying charts show, potential growth appears to have tracked a 3-year moving average of actual output growth over the past two and a half decades quite closely. And, so far in the 2000s, a two-year moving average is an even better fit. To be sure, using a moving average is a gross simplification of the complex methodology used by the Bank, and clearly, it does occasionally substantially miss the Bank's series on potential. Nonetheless, in the absence of the information that would be required to replicate the Bank's approach, it does give a very rough sense of how the model works. And, what the comparison suggests is that the estimate of potential could adjust to actual developments fairly quickly and any failure of labour productivity to accelerate as anticipated could easily result in the Bank lowering its assessment of potential in 2007.

BANK OF CANADA POTENTIAL GDP & 3-YEAR MOVING AVERAGE OF REAL GDP



Source: Statistics Canada, Bank of Canada, TD Economics

BANK OF CANADA POTENTIAL GDP & 2-YEAR MOVING AVERAGE OF REAL GDP



Source: Statistics Canada, Bank of Canada, TD Economics

Key implications

There are three key conclusions from this discussion. First, there should be more of a debate over mode versus mean forecasts. TD Economics is not convinced that mode forecasts are the most appropriate. However, even if the Bank does not change its forecasting approach, it is important for the private sector to understand whether the Bank is forecasting the mode outcome, as it would send different signals about the likely path of monetary policy than if the Bank is forecasting the mean outcome.

Second, private sector economists need to understand the Bank's estimate of potential a lot better, and this cannot be accomplished without the aid of the monetary authority.

Third, the details of the MPR and the discussion of the issues above all seem to support TD Economics current interest rate forecast. The Bank has signaled its intention to raise rates, and we assume that the overnight rate will peak at 4.00 per cent in early 2006. Policy could be tightened by more, but the risks to the outlook suggest to us that rates will peak at a historically low level, as the Bank is likely to take a cautious approach once policy is at a significantly less stimulative position. Regardless, the peak in rates may not last long. In an environment where energy prices flatten (the Bank's assumption) or decline (our assumption) and economic growth slows (the Bank's risk scenario and our base case forecast) it appears likely that monetary policy will begin a renewed easing cycle in late 2006. So, the main message ends up being that the Bank could very well end up pursuing an extremely activist policy in the months ahead in response to economic developments.

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