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Choosing the Right Target: Real Options for the Bank of Canada's Mandate Renewal

A conference organized by Christopher Ragan and Stephen Gordon

With the Bank of Canada's mandate up for renewal in 2021, McGill University's Max Bell School of Public Policy held a four-day online conference from September 22-25, 2020. The conference was attended by over one hundred policy professionals, students, academics, and monetary policy experts who had the chance to think about, exchange, and question what monetary policy in the post-pandemic era should look like. Recordings of the conference sessions can be accessed at:

https://www.mcgill.ca/maxbellschool/choosingtherighttarget

Authors and discussants

- THE CASE FOR RAISING THE BANK OF CANADA'S INFLATION TARGET: LUBA PETERSEN (Department of Economics, Simon Fraser University)
 - with Michael Devereux (Vancouver School of Economics)
- WHY NOT TWO PERCENT OR BELOW?
 AN EVALUATION OF A LOWER INFLATION TARGET FOR CANADA: THOR KOEPPL (Queen's University)
 - with William B.P. Robson (President and Chief Executive Officer, C.D. Howe Institute)
- 3. NOMINAL GDP LEVEL TARGETING: STEVE AMBLER (Professor of Economics, Université du Québec à Montréal, David Dodge Chair in Monetary Policy at the C.D. Howe Institute)

with Nicholas Rowe (Formerly of Carleton University)

4. ADOPTING A DUAL MANDATE: DOUG LAXTON (NOVA School of Business and Economics, Portugal)

with Franciso Ruge-Murcia (Department of Economics, McGill University)

5. CLOUDED IN UNCERTAINTY: PURSUING FINANCIAL STABILITY WITH MONETARY POLICY: SYLVAIN LEDUC (Executive Vice President and Director of Research, Federal Reserve Bank of San Francisco)

with Jean-François Rouillard (Université de Sherbrooke)

6. THE HISTORY OF INFLATION TARGETING IN CANADA AND THE CASE FOR MAINTAINING THE STATUS-QUO: MICHELLE ALEXOPOULOS (University of Toronto)

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MARC LAVOIE & MARIO SECCARECCIA

Going Beyond the Inflation-Targeting Mantra: *A Dual Mandate*

Introduction

Every five years over the last three decades, the Government of Canada goes through a ritual of renewing the mandate of its central bank. To most Canadians, this renewal process must be somewhat puzzling: why would the government want to mandate an arm's length public agency of the Canadian federal state to do already what, to some extent, its central bank is broadly mandated to do in the preamble to the 85-year old Bank of Canada Act? Is this five-year government mandate an add-on, a clarification, an actual legal amendment or a revision of the Bank of Canada Act? And, why is it every five years with the same dreary two per cent inflation commitment now repeated for a quarter century regardless of whether the economy is booming or going through its worst recession, as during the current "mother of all recessions" since the 1930s?

Although we are hardly legal scholars, unequivocally the Bank's mandate is not a replacement or an amendment to the Bank of Canada Act. The government's mandate is not a piece of government legislation that is debated and adopted every five years by the Canadian parliament as is the case with the federal budget annually, where government budgeting priorities and accompanying budgetary implementation bills are officially authorised by parliament. For the same reason, neither can the mandate be interpreted as an add-on because of some special 'missing' goal from the original Bank of Canada Act, since price stabilisation, as a broad official objective, was already in the original preamble: such an addon would also require special legislative approval. At best, the mandate can be regarded as an attempt to prioritise and render more precise one of a number of goals to be found already listed in the preamble to the Bank of Canada Act. The mandate makes the goal of price stability foremost among 'equals', thereby suggesting that the achievement of a two per cent inflation target is technically superior to the goal already entrenched in the Act of mitigating price fluctuations. As we shall see, this asymmetry, or perhaps more correctly, this hierarchy, resulting from the formal ranking and submerging of those official goals into a single one, is problematic. We believe that a dual (or even a multi-goal) mandate would eliminate the policy bias and ambiguities that have resulted from the exclusive focus on combating inflation, especially in our modern economies now

plagued by a growing tendency towards recurrent crises sometimes referred to as the "new normal" of secular stagnation (Storm, 2017).

An overview of monetary policy at the Bank of Canada

The facts

Going through a Great Depression, a World War and peacetime from 1935 to 1991, governors and various members of the governing council of the Bank of Canada were guided by the multi-goal commitment in the preamble to the *Bank of Canada Act*, 1934, (c. B-2, Preamble): "... to mitigate by its influence fluctuations in the general level of production, trade, prices and employment ..." For over 50 years, until 1991, one can say that this institutional arrangement had worked relatively well since the Bank was given a high degree of flexibility that offered pragmatism in the setting of policy priorities given the trade-off among some competing objectives, as long as the decision of the governor did not overtly conflict with the desires of the government in power, as it had occurred once historically at the beginning of the 1960s with the Coyne affair, which led to the understanding arrived at under Governor Louis Rasminsky.

While not officially abandoning the other objectives of stabilising output and employment—the Bank of Canada Act has remained intact since its adoption in 1934)—The Bank of Canada followed the lead of the Reserve Bank of New Zealand in February 1991 and began to implement its first official five-year mandate from the then Mulroney government, narrowing the scope of monetary policy to that of achieving price stability. At the time, this entailed targeting an inflation band and then, under the Chrétien government, it eventually was reduced to that of achieving a single numerical inflation rate target of two per cent (i.e., the mid-point of its target range). Canada thus went from broad and flexible objectives reflected in its 1934 central bank legislation to a special mandate uniquely focused on inflation.

Moreover, while the actual inflation rate could fluctuate within a two per cent band, the inflation goal was now reduced to a single digit.

This tendency towards narrowing its priorities to that of combating inflation began already in the mid-1970s because of the double-digit inflation that resulted from the OPEC oil price shocks. However, during that era, there was no special official mandate from the government since, presumably, the preamble to the Bank of Canada Act offered all the flexibility for the monetary authorities to reweigh their priorities in light of the macroeconomic challenges resulting from those price shocks. Notwithstanding the broad objectives in the preamble, by the mid-1970s, it can be affirmed that price stability had become a pre-eminent objective for purely pragmatic or conjunctural reasons and not for theory-driven/ideological reasons until more doctrinaire "inflation hawkers", such as Governor John Crow, began to hypothesise about the overwhelming benefits of price stability over all other possible goals in the late 1980s as the world economy went through disinflation.

At the time of the high double-digit inflation rate, however, the Bank's anti-inflation policy was seen as just one of a battery of federal policy measures, including the pursuit of compulsory incomes policy of wage and price controls under the Anti-Inflation Act of 1975, adopted to combat the cost-side inflation triggered by the oil price shocks. In its contribution to the anti-inflation effort, also in 1975, the central bank was influenced by what was becoming fashionable in mainstream macroeconomics in adopting a hybrid monetarist policy dubbed "monetary gradualism" via the targeting of a monetary aggregate (M1) within what many would now consider as a misguided quantity theory framework. The Bank was focusing on what in its essence is an endogenous demand-driven variable where the causal influence on inflation was not from the money supply growth, as stipulated in the textbook quantity theory analytics. As is well known, this resulted in a serious policy debacle in the early 1980s, as was reflected famously in the stark admission from Governor Gerald Bouey in 1983 that "We did not abandon M1, M1 abandoned us." (Quoted in Thiessen 2000, 13).

Many of the key underlying precepts of the inflation-targeting regime of the 1990s were the culmination of a transformation in mainstream macroeconomics that started with the lessons drawn from the monetarist debacle of the early 1980s. The money supply was no longer seen as a control variable. Instead, it was the central bank administered interest rate, the overnight rate, that became officially the essential policy tool to achieve an inflation target within what can be described as a

neo-Wicksellian analytical framework (Clinton 2004; Seccareccia 1998; Lavoie and Seccareccia, 2006, 2013).

Despite the significant difference in the specified transmission mechanism of monetary policy, this new framework of inflation targeting still harboured the key theoretical beliefs of the earlier monetarist credo: central banks can stabilise and control nominal variables, such as the inflation rate, but real variables such as output and employment, which are goals also enshrined in the preamble to the Bank of Canada Act, could not be objectives of central bank policy because, if tinkered with, the latter policy actions would be destabilising. Ergo, real variables must be left to rest at their so-called natural levels, as understood in the context of the traditional vertical Phillips curve analysis. Even if concepts such as Friedman's notion of the natural rate of unemployment and Wicksell's natural rate of interest, were not necessarily compatible as competing theoretical constructs and were distinctly different "real" variables since they originated from technically different theoretical models of the macroeconomy, they all were submerged into the technical potpourri of monetary policy discourse of central banking in Canada over the last three decades, all to justify a single policy objective of price stability. Through this intellectual sleight-of-hand justified by mainstream theory, all other concerns expressed in the preamble, such as employment stabilisation were put aside in the official quinquennial renewal of the Bank of Canada's mandate that focuses on a single goal since 1991.

Real variables, such as output and unemployment, were officially neglected as meaningful goals of monetary policy and were left to find their own way towards their supposed "natural" levels unassisted by other discretionary government policy measures. However, already during the era before the global financial crisis, a relatively steady rate of inflation was observed to be associated with significant fluctuations in the rate of unemployment together with relatively flat real wage growth. The empirical evidence was seemingly more compatible with a horizontal relation between inflation and unemployment (at least within a wide range) than a vertical Phillips curve upon which much of the theoretical edifice of inflation targeting was built.

Perhaps even more significant, two major global crises, starting with the global financial crisis of 2007-2009 and now the current COVID-19 crisis, deeply shocked policy makers and shattered the conventional wisdom among central bankers that the economy tends necessarily towards some unique equilibrium or natural level.

Consistent with the notion of a relatively "flat" Phillips curve, with extremely few exceptions such as in 2009 and in 2020 (during which annual averages fell just slightly below the range), the average annual inflation rate in Canada remained relatively stable within the one-to-three per cent target range (see Figure 1 below). At the same time, when contrasted with the era of the Great Moderation, real variables have shown much more extreme volatility since the financial crisis. Indeed, already during the 2007-2009 and, even more so during the current COVID-19 world crisis, this has justified activist fiscal and monetary policies that would have been unthinkable in Canada over a decade ago.

While still committed to inflation targeting, in response to these shocks the Bank of Canada actually showed a high degree of pragmatism. Under Governor Mark Carney, for instance, the Bank quickly brought the nominal overnight rate close to (or at) its lower bound and kept its real rate within negative territory for over a decade, despite an inflation rate that, remarkably, had remained within the Bank's target range. In observing Figure 1 below, prima facie one would conclude that the central bank was indeed implementing a dual (or multi-goal) mandate. For instance, consistent with inflation targeting, Canada's monetary authorities sharply reduced the overnight rate during the financial crisis because the inflation rate fell below the target range in 2009; but the real overnight rate never bounced back up to the level that had existed before the crisis (see the shaded area in Figure 1). This was so even though the inflation rate kept relatively steady within the target range and the output gap (as interpreted within a standard Taylor rule reaction function) had been falling for most of the period between 2009 and 2019, thereby presaging higher future inflation in the context of the traditional Phillips curve reasoning. Any outside observer would probably conclude that, over the last decade, there were other important variables that were of concern to the monetary authorities besides achieving its two per cent inflation target that were certainly not explicit in both the 2011 and 2016 federal government mandates for the Bank.

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Figure 1: Evolution of the Rate of Inflation (Consumer Price Index) and the Real Overnight Rate, Annual Averages, Canada 1991-2020

Source: Statistics Canada, CANSIM Series: V122514 and V41690971

Inflation Rate

Real Overnight Rate

The denial

Throughout the last decade, the Bank has burned much intellectual fuel both to deny and disguise what to us is the very obvious fact that it has *de facto* pursued a multi-goal mandate because of *force majeure*. Let us first briefly discuss what may be described as the "denial" from the Bank that its reaction function had changed. One line of defence as to why the Bank remains wedded to the policy of inflation targeting, which the central bank still maintains, rests on the now widely-held belief among central bankers in the existence of a theoretical construct called the "neutral" or the "natural" rate of interest, which would supposedly exist when the inflation gap and the output gap in a standard Taylor rule reaction function would be zero. Resting on what is essentially a pre-Keynesian/Wicksellian "loanable funds" theory, according to this view, on account of factors relating to "productivity and thrift" expressed in the determinants of the investment/saving relations, there exists

some real rate of return on capital that collapsed at the time of the financial crisis and has not returned to its previous level. In 2020, for example, the neutral rate, which was supposedly needed to keep output at its potential level and inflation at target, was calculated between 2.25 and 3.0 per cent in nominal terms (or 0.25 and 1.0 per cent in real terms when the inflation rate is at its two per cent target level) (Matveev, McDonald-Guimond, and Sekkel 2020). Hence because of the threat of excessively low inflation or even deflation resulting from the negative demand shock, this would justify central bank-controlled nominal rates at their lower bound and real rates in negative territory.

Some well-known economists, such as Summers (2014), have been promoting this low natural rate argument over the last decade as an explanation of secular stagnation. Hence, to prevent a Wicksellian cumulative deflationary spiral, the negative real overnight rate (associated with a very low but positive real lending rates in the economy) is merely a central bank policy response to align the latter administered rate with the now very low or negative natural real rate. While this may well be a convenient way to deny a shift in its policy mandate, many have argued, especially among heterodox economists, even going as far back as Keynes in the 1930s, that such a notion of the Wicksellian natural rate rests upon highly questionable theoretical and empirical foundations (Rogers 1989; Seccareccia 1998; Levrero 2019). Outside of obvious problems on the aggregate demand side to explain the secular stagnation since the financial crisis, associated with rising long-term Keynesian uncertainty mitigating expectations of return, we question the belief that there are such underlying long-term supply-side factors affecting the "productivity of capital" and the long-term supply of private saving in the market for "loanable funds", thereby necessitating negative central bank-controlled real rates to preserve a two per cent inflation target, because of the crises that have plagued the Canadian economy over the last decade.

The second line of defence against the view that the Bank is implementing more than its narrow two per cent target is the official dressing or 'disguising' of the Bank's pursuit of what we believe are, in its practice, dual/multi-goal objectives since the financial crisis. Even befor the crisis, inflation-targeting central banks began to conduct "flexible" inflation targeting rather than narrowly-focused inflation targeting. To quote Svensson (2009, 1):

"Flexible inflation targeting means that monetary policy aims at stabilizing both inflation around the inflation target and the real economy, whereas strict inflation targeting aims at stabilizing inflation only, without regard to the stability of the real economy By stabilizing the real economy, I mean stabilizing resource utilization around a normal level, keeping in mind that monetary policy cannot affect the long-term level of resource utilization."

Hence, we have here a change of vocabulary that still somehow leaves intact the underlying precepts that, in the long run, real variables remain unaffected by monetary policy. In the short run, on the other hand, central banks can justify important discretionary interventions in slashing central bank-administered interest rates, as for example since the GFC, despite an inertial inflation that has remained relatively steady and largely within the target range.

As previously mentioned, in a 'strict' inflation targeting regime, the focus would be on the gap between actual inflation and its target level, as in a standard Taylor rule reaction function. The gap between actual and potential output is viewed only for its predictive information about future inflation in the context of some traditional Phillips curve. The value of the output gap is not a separate objective of policy that needs to be stabilised *per se*, since in the long run it will tend towards its natural or normal level with the output gap tending to zero.

If, instead, the economy's capacity utilisation rate is given a separate/independent focus for central bank stabilisation, we would argue that one would fall into a dual mandate policy framework in which central banks must prioritise their focus of monetary policy depending on the specific macroeconomic context in which an economy is in. The above quote from Svenson would suggest that perhaps what is termed flexible inflation targeting comes quite close to what the U.S. Fed also actually does with its dual mandate of full employment and price stability *cum* two per cent inflation target since 2012. If this is so, why disguise central bank actions via changes in vocabulary? Isn't it simpler to adopt explicitly a dual mandate?

In reviewing how Canadian central bankers view flexible inflation targeting, we understand that the principal concern is over "the horizon for returning inflation to target" (Macklem 2014, 4), which would justify short-run intervention also on the real side and which, as Amano, Carter and Schembri (2020) pointed out, started

even before the financial crisis. However, regardless of the flexibility of the policy horizon, and even though the Canadian economy seems to have achieved relatively low volatility of inflation consistent with the Bank's desire for a "low, stable and predictable" inflation rate for most of the post-2008 period, the Bank has persisted in maintaining strong expansionary monetary policy by keeping the nominal overnight rate at or close to its lower bound for over a decade. We would surmise that it is because the Bank cannot turn a blind eye to the output and employment consequences of the two worst recessions since the Great Depression and to the serious financial fragility, especially of the highly-indebted Canadian household sector (Seccareccia and Pringle, 2020). Surely these other concerns in addition to combating inflation deserve recognition not only via its concrete policy actions, which have proven to be compatible with a dual mandate, but also, for the sake of transparency and coherence, these concerns should appear in the Bank's discourse and in the government's 2021 five-year mandate.

The only meaningful explanation for this strong resistance is that, if the central bank accepts the abandonment of inflation targeting (with price stability as its preeminent goal), the whole defence of the theoretical/ideological edifice, that has prioritised combating inflation over all other possible goals and which has been built so carefully for over four decades would simply collapse.

What does the Bank think it is doing?

The claimed benefits of inflation targeting

It is well known that Governor John Crow, in 1988, was the first to advocate a price stability mandate for the Bank of Canada, a mandate that was later interpreted as a low inflation target of around 2 per cent. Governor Crow (1988, 4) justified such a restricted mandate based on price stability by arguing that it would be beneficial to Canadian real GDP, as he claimed that "because inflation creates distortions,

output will be higher over time in conditions of price stability than in those of inflation". Indeed, governors and deputy governors at the Bank of Canada have argued for over 25 years that inflation targeting is the best thing that the Bank can do to help the Canadian economy. It has become the Bank's mantra, a sentence that Bank of Canada officials feel obliged to utter in nearly every one of their speeches (in what follows all italics are ours). It can be found in the first speech of Tiff Macklem as Governor of the Bank:

"Our monetary policy framework is designed to deliver low, stable and predictable inflation. This is the best contribution we can make to Canada's economic welfare. That's because low, stable and predictable inflation lays the foundation for sustainable economic growth. And keeping inflation near to its target means the economy is running close to capacity with full employment". (Governor Macklem 2020a, 1).

The mantra can also be found on the website of the Bank:

"Low, stable and predictable inflation is the best contribution that monetary policy can make to a productive, well-functioning economy. It allows Canadians to make spending and investment decisions with more confidence. This encourages longer-term investment in Canada's economy, and contributes to sustained job creation and greater productivity. This in turn leads to real improvements in our standard of living". (Bank of Canada's website, https://www.bankofcanada.ca/core-functions/monetary-policy/what-is-monetary-policy/)

Focussing on these two statements, the Bank's mantra seems to be justified by two assertions. First, according to Governor Macklem, if inflation is kept near its two per cent target, the economy will run at full employment. This is often referred to as the *divine coincidence*. Why would that be? The divine coincidence arises in New Keynesian theoretical models with wage and price rigidities, but where there is usually no money, no banks, no household debt, no corporate debt, no credit default, and no problems of aggregate demand. These models have little resemblance to the real world in which central bankers must take decisions.

However, even if one accepts that these highly-idealized New Keynesian models do have something to contribute to our understanding of the real world, the removal of some of their restrictive assumptions, as argued by researchers at the Reserve Bank of New Zealand, "suggest that monetary policymakers will encounter circumstances under which there will be trade-offs between inflation and employment. Thus the 'divine coincidence' cannot always be relied on to jointly deliver both price and employment stability through optimal monetary policy. Equivalently, outcomes under a single price or employment mandate cannot be expected to always deliver the same outcomes as a dual inflation/employment mandate." (Shaar 2018, 1)

The second assertion, as found on the website of the Bank, is that inflation targeting will lead to "greater productivity", thereby benefiting all Canadians in terms of higher living standard. This specific beneficial effect of inflation targeting has often been underlined in the background information papers released before the renewal of the Bank's mandate is being decided. We provide two examples found in the *Renewal of the inflation-control target background information* documents.¹

- "A framework in which inflation-control targets assure Canadians that inflation will remain low, stable and predictable leads to less-pronounced cycles and to higher growth of production capacity ... Low and predictable inflation supports growth in capacity output through various channels." (2001, 3)
- "This price stability has reduced uncertainty, helping households and firms spending and investment decisions with more confidence; encouraging investment in Canada's economy; contributing to sustained growth in output, employment and productivity; and improving the standard of living of Canadians." (2016, 2)

While other central bankers have also endorsed claims to the effect that low inflation rates have highly favourable effects on the economy, what is peculiar to the Bank of Canada is that some of their researchers have long insisted that low

¹ Before the 2008 crisi, it was also claimed that inflation targeting generated financial stability: "An important reasons for having a monetary policy directed towards achieving low, stable, and predictable inflation is the contribution that it makes to overall economic and *financial stability*." (Bank of Canada 2006, 5) Obviously the claim turned out to be wrong.

inflation generates higher productivity growth and that such claims, as we have seen above, can be found on the website of the Bank and in communications when renewing the inflation target.

It all began with the startling claim of two researchers at the Bank of Canada, Jarret and Selody (1982, 367), who published in the reputed *Review of Economics and Statistics*, that "the increased inflation rates of the 1970s are sufficient to explain virtually the entire recent slowdown in productivity growth." This was followed by a string of studies conducted at the Bank (Stuber, 1986; Selody 1990; Novin, 1991; Cozier and Selody, 1992), all concluding that the negative relationship between inflation rates and productivity growth rates still held. In his response to the doubts expressed by MacLean and Setterfield (1993), Selody (1993, 54) reaffirmed that "many of the studies produce estimates not too different in magnitude from those reported by Jarret and Selody (1982)", concluding that "the bottom line is that there is a large body of evidence to support the conclusion that inflation has a negative effect on growth" and that "there is also evidence that the interaction between inflation and productivity growth plays a key role in the relationship" (Selody 1993, 55).

Doubts about the negative relationship between inflation and productivity

Despite the fact that the Bank of Canada is still attached to the belief that low inflation enhances economic growth and productivity, at least in its communications to the public, this belief does not seem to be based on a supposedly hard statistical fact any more. Indeed, there has been no follow-up study of the Jarret and Selody (1982) claims since 1998. On the contrary, surveys of the possible negative relationship between inflation rates and productivity growth have turned out to be highly sceptical of the previous empirical literature generated by researchers at the Bank of Canada. The turning point seems to have been the study done by

Christopher Ragan (1998) when he was visiting the Bank of Canada.² Ragan (1998, 17) concluded that "the empirical evidence about the inflation-growth relationship is quite tenuous The mild sceptic is much more likely to claim that the existing evidence is unable to support the existence of any relationship between inflation and growth, except perhaps in high-inflation countries."

Seven years later, Ragan (2005, 21) was still expressing the same doubts, writing that "there is little or no compelling evidence that a reduction in the long-run rate of inflation would lead to an increase in the long-run rate of aggregate or per capita output growth, especially a reduction from an already low rate of inflation". What had happened in the meantime is that some empirical studies (Barro, 1995; Cameron et al., 1996; Pollin and Zhu, 2006) had found no relationship between inflation and growth or inflation and productivity growth, or else the measured effect was 10 times smaller. In Canada, besides the MacLean and Setterfield (1993) paper already mentioned, Fortin (1993) had also shown that the empirical results achieved by Cozier and Selody (1992) could be turned upside down.

Why would inflation seem to be linked to productivity growth? The negative bivariate relation is only apparent visually between 1973 and 1982. Strong energy price shocks simultaneously pushed inflation rates up and productivity growth rates down. Even David Laidler (2015, 10), who has been a long-time supporter of monetarism and the anti-inflation policies pursued by the Bank of Canada, has admitted that the negative relationships established by earlier empirical studies for the 1970s were a fluke, arguing that "In hindsight it seems likely that these results, which did not prove robust, were heavily affected by the fact that a significant secular slowdown in productivity growth in the mid-1970s coincided with the arrival of double digit inflation."

As a last-ditch effort to justify inflation targeting, Coletti and O'Reilly (1998) have claimed that "the strongest empirical evidence on the benefits of low inflation is usually found in studies that take account of the key interactions in the economy such as those between inflation and the tax system." The claim can also be found

² At the 2015 meeting of the Canadian Economics Association, Ragan told one of us that he got the idea of working on this topic when one of us, at a conference in 1997, asked David Longworth—a former Deputy Governor at the Bank of Canada—what empirical evidence, if any, the Bank could provide about the costs of price inflation. According to Ragan, Longworth's answer was muddled and unconvincing. This led Ragan to investigate the issue.

in Ragan (1998) and it is based in part on the study of Black, Macklem and Poloz (1994), which found large distortions in the tax system on account of inflation.³ Thus the Bank is now reduced to justifying inflation targeting on the basis of allocative inefficiencies. According to this view, the essential form of inefficiency is allocative inefficiency, based on some Harberger triangles arising from some price distortion à la Hayek (1945), under the assumption of full employment or actual output being at potential output. Everything is about price signals; quantity signals are left aside.

This approach to modelling has led the Bank to consider seriously a reduction in the target inflation rate, both in the 2011 and 2016 *Renewal of the inflation-control target background information*, since this kind of research at the Bank "found that the prospective benefits associated with a lower inflation target were greater than previously estimated" (2016, 9). In the estimated New Keynesian model, the optimal inflation rate is a rate equal to the negative of the growth rate of productivity, because in such a situation the growth rate of nominal wages will be zero thus sparing the economy from the distortions arising from the inability of wages to adjust freely.⁴ Only the fear of the dangers of deflation, associated with the zero-lower bound or effective lower bound area, have so far convinced Bank officials to stick to the existing inflation target, since the conventional tools of the monetary authorities become helpless as the nominal interest rate cannot be brought down to a level which is low enough to get the economy back to potential output.⁵

- 3 This argument on the high costs of the distortion effects of inflation on the tax system is still invoked lately (Bank of Canada 2016, 17). Ironically, two of the three authors of this claim turn out to be the present and the previous Governors of the Bank.
- 4 The argument is reminiscent of that of Howitt (1990). Howitt (2012, 15), however, like Laidler, seems to have changed his mind after the subprime financial crisis, as he has more recently said that neoclassical theory has not been able to provide any good reason to claim why a high inflation trend "should entail a quantitatively significant cost to society".
- 5 Before the financial crisis, researchers at the Bank thought that encountering the zero-lower bound was unlikely: "Various approaches, ranging from analyses of historical data to stochastic simulations of models, suggest that the probability of encountering the zero bound is relatively low. Most researchers would see this probability as essentially zero for an inflation target of two per cent" (Amirault and O'Reilly 2001, 31).

What does the central bank actually do and for whom?

Let us consider the classic questions that a policymaker should be posing regarding any policy decision, namely about "what" the policy mandate actually is, "how" it can be achieved, and "for whom" a specific policy can benefit. Firstly, we have tried to show that there is a high degree of ambiguity as to "what" the Bank of Canada is supposed to pursue in terms of possible objectives stated in the original Bank of Canada Act, despite its narrow official governmental five-year mandate of achieving a single inflation target. Secondly, as we have also argued, it is extremely questionable "how" the primacy of combating inflation over all other desirable macroeconomic goals enhances ultimately the standard of living of all Canadians when it comes to the overriding concern about economic efficiency and increased productivity. What we now wish to analyse is: "for whom" does this narrow mandate really serve? Are there winners and losers? Who are the real beneficiaries of inflation targeting, when looked at from the angle of how the Bank can take sides through its actions in the conflicting claims over national output among competing socioeconomic classes in 21st Century Canadian society? As a corollary, how can a better framed mandate promote a sense of fairness so that the Bank is conceived as a "neutral" arm's length institution of the Canadian government rather than a biased player through its policy implementation?

A revenge of the rentiers

As is well known, the overwhelming distributional justification for preserving price stability over all other goals arises from the significance attributed to the penalty inflicted by high inflation on those that live on fixed incomes, the creditors vis-à-vis debtors. However, at the policy level, very little is said about the actual adjustment process (or the traverse) of going from a higher inflation to a lower inflation environment when conducting an anti-inflation policy of raising interest rates. Indeed, in any economy confronted with high inflation and, say, followed by

disinflation, as from the 1970s through to the 1990s, with a central bank having as principal commitment price stability, initially real interest rates would be rising significantly to slow down the inflation rate so as to minimise wealth transfer from creditors to debtors. This process of adjustment, however, takes place at the expense of a perverse interest rate effect on income distribution. In other words, the outcome of this policy during the traverse towards the desired low inflation rate is to trigger an income-distribution effect in terms of growing income disparity between what an economist like Keynes (1936) had described as rentier versus non-rentier income earners.

Let us get an understanding of the magnitude of the bloating of rentier income during that whole era starting in the late 1970s until the early 2000s when central banks both in Canada and internationally first became absorbed with combating inflation and then began slowly to move away by engaging in more "flexible" inflation targeting already before the GFC. In our previous writings, we have looked at a few useful indicators of these income transfers (for details of other measures, see Lavoie and Seccareccia 2019). However, the data series in Figure 2 below, indicating OECD measures of short-term and long-term rates of interest when adjusted for CPI inflation in Canada, suffices to highlight the significance of this income-distribution effect in favour of rentier income. The massive income transfer that occurred primarily during the 1980s and 1990s was all done in the name of protecting Canadians with fixed incomes. Because of the pro-rentier outcome arising from the quasi-exclusive focus on fighting inflation over all other goals, the policy of raising real interest rates had devastating consequences on income distribution as well as on the real economy in terms of growth in output and productivity, with high unemployment rates persistently above the very low rates of the earlier post-World War II decades.

Percent -2

Figure 2: Evolution of Real Short-Term and Long-Term Interest Rates, Canada, Annual Averages, 1970-2020

Source: OECD.Stat

Real Long-Term Rates

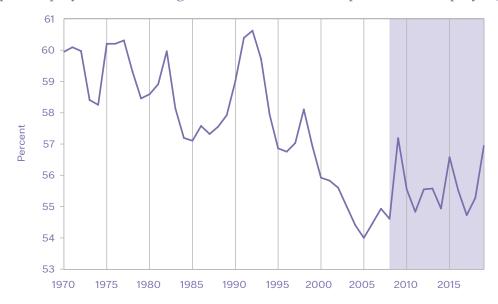
Real Short-Term Rates

The nearest that we have seen a governor of the Bank of Canada come to recognising the policy consequences on income inequality and the effect that central banks can have on income distribution is in a recent report where the present governor alludes to new research done on quantitative easing (QE) internationally. Because of QE's effect in reducing long-term interest rates, in a section devoted to "Inequality, growth and monetary policy" in his September 2020 *Economic progress report*, Governor Macklem defends QE by arguing that "lower borrowing costs stimulate economic activity, which in turn boosts jobs and incomes, particularly for people with lower incomes." (Macklem 2020b, 9-10) One would think that this also implies that raising borrowing costs, as was done during the traverse to lower inflation rates in the 1980s and 1990s, depressed economic activity, which in turn knocked jobs and incomes, particularly for people with lower income.

The Bank was indeed successful, first in bringing down inflation, and later in achieving its inflation target. However, this was done in ways that have negatively affected income distribution. One indicator of this changing income distribution is to be found in Figure 3 below that shows the evolution of the wage share between

1970 and 2019. Since the wage share is simply the ratio of the average real labour compensation and average output per employed person, this calculation is graphed below. What is astonishing is that not only has there been a trend decline in labour's share that began in the late 1970s when policy makers began to focus their attention on combating inflation but, after a temporary reversal of the fall in the share in the late 1980s, the period of inflation targeting policy in Canada is characterised by an even steeper decline until the GFC when it reached bottom and saw a slight turnaround (see the shaded area after the 2008 GFC).

Figure 3: Evolution of the Wage Share in Canada, 1970-2019: Adjusted Wage Share Calculated as a Percentage of GDP at Current Factor Cost (Compensation per Employee as Percentage of GDP at Factor Cost per Person Employed)



Source: Ameco Database; Data accessed from the website: https://ec.europa.eu, data series ALCD2

While there have been other factors which may have contributed to a declining wage share, we wish to argue that monetary policy whose principal, if not exclusive, mandate has become to combat inflation, was an important factor contributing to this declining share of labour income. This is because monetary policy is in its very essence an incomes policy, which was recognised as far back as in Keynes's (1923) *Tract on Monetary Reform*.

Inflation targeting as a biased incomes policy

A restrictive monetary policy of raising interest rates to fight inflation ultimately has an eye to restraining wage growth, which is a key to controlling inflation. One would readily infer that such is a rather perverse form of incomes policy that would hardly be justifiable on norms of equity, since the Bank must raise the income of one group, the interest income earners, in order to constrain the growth of another, the wage earners. Hence, by its very nature, a monetary policy instituted by central banks that is concerned uniquely about inflation cannot but be biased in its incidence. Inflation targeting is an unequitable form of incomes policy because, fundamentally, it is biased against wage earners. It also helps to explain why inflation targeting policy appeals to the financial sector, which grew inordinately during that whole period preceding the financial crisis. However, one would hardly find a similar support for inflation targeting, for instance, coming from trade union organisations.

Furthermore, there is another aspect to this narrowly focused monetary policy on combating inflation, which would help to explain why perhaps the sharpest decline of the wage share actually took place under inflation targeting after 1991 and until the financial crisis. Over the last few decades, much has been said about anchoring expectations, especially under inflation targeting. Former Governor David Dodge (2005, 8), for instance, had argued that: "With inflation targeting, our policy is more focused, our communications are clearer, and Canada's inflation expectations are more solidly anchored." More recently, among others, former Deputy-Governor Agathe Côté (2015, 1) put forth a similar argument: "It is widely accepted that a key benefit of an inflation-targeting system, such as the one we have had in Canada since 1991, is that it provides a good anchor for expectations." Similarly, current Deputy-Governor Lawrence Schembri (2018, 2) has affirmed: "Monetary policy needs a nominal anchor or a fixed point of reference to help tie down the expectations people have about inflation." The inflation anchor of two per cent for inflation targeting, which is hammered out so frequently in the Bank's communication strategy in order to make it a credible target, has assumed the role of a "guidepost" in the Canadian labour market when formulating wage demands.

Anyone familiar with the early post-World War II literature on incomes policy from the 1960s to the early 1970s would find a great deal of similarity between the current practice of anchoring inflation expectations and the former voluntary guidelines or guideposts. These early brands of incomes policies were all quite similar: they communicated a target for prices and incomes growth, with the guideposts being justified primarily on income-distributional grounds and equity considerations, whereby the target for wage growth was usually tied to the evolution of long-term labour productivity growth to preserve factor shares. The emphasis on an "anchor" by inflation-targeting central banks is almost identical to these early voluntary forms of incomes policies where the policy maker would seek to shape inflation expectations that would be incorporated in the wage bargain. However, unlike the guideposts, there is no justification for this policy in terms of its income-distribution effects. Indeed, as Benjamin Friedman said recently, there is "arbitrariness" surrounding the defence for the current numerical value of a two per cent target. In fact, it may be a catchy number for central bank communication purposes, but this two per cent inflation anchor is largely anchorless of analysis, which Friedman considers to be a "professional embarrassment." (Friedman 2018, 187).

The similarity notwithstanding, there is, however, a fundamental difference between guideposts and inflation targeting. Unlike these voluntary incomes policies of the 1960s/1970s, under inflation targeting the central bank can always use the stick by means of what is sometimes described as an incomes policy of "fear" because the central bank can always slow down the economy by generating unemployment, through appropriate doses of higher interest rates, with all the resulting perverse effects on income distribution previously discussed and even partly recognised by Governor Macklem. The central bank is very effective in enforcing its inflation target and acting as a guard against worker militancy by promising to conduct pre-emptive strikes any time it perceives green shoots of rising inflation above the target rate, by threatening to raise interest rates and unemployment.

There have been many historical examples of incomes policies: (1) in the U.S., the Kennedy-Johnson Guideposts from 1962 to 1966, (2) in the U.K., the British Prices and Incomes Commission from 1965 to 1970; and (3) in Canada, the Prices and Incomes Commission from 1968 to 1972. These voluntary guideposts were then followed by compulsory incomes policies under the Nixon administration in the early 1970s and the Anti-Inflation Board (AIB) in Canada from 1975 to 1978, which we mentioned in the first section.

Moreover, through the announcement effect of the inflation target, the central bank promotes a labour-market behaviour that anchors expectations and establishes a reference point for wage bargaining. As previously noted, the Bank of Canada has been very successful over the last three decades in conditioning wage behaviour in the Canadian labour market to align with its inflation target. However, not unlike the position of Nick Rowe (2013) who has argued that the Bank is the victim of its own success because of inflation stickiness, we would rather say that Canadian labour's share of national income has been the victim of the Bank's success in anchoring expectations. This is because nominal wage growth seems to have become so sticky and attached to the two per cent inflation target. This ensures relatively stable real wages in Canada, but it also guarantees that real wage increases can never catch up with productivity growth, thereby entailing a long-term decline in the share of labour, which, in the present context of negative real interest rates would imply rising long-term corporate mark-ups.

This is why a dual mandate that includes the full employment goal is important. In the current inflation targeting regime, there exists no mechanism to get wages to catch up with long-term productivity growth. Indeed, it may be said that current monetary policy stalls technological change because of insufficient pressure on business enterprises to enhance productivity growth in the face of weak real wage pressure. For instance, in the present system, to achieve the current two per cent target of the Bank of Canada and make it distributional-neutral, wages would have to rise by three per cent if we were to assume a one per cent long-term growth in average labour productivity. But how can that be achieved? This highlights the need to have sufficiently tight labour markets. This would ensure that wages rise more quickly than prices by the amount of long-term productivity growth, which can only arise in the context of a dual mandate.

What the Bank should be doing in light of hysteresis effects

Missing from the Bank's meta-view is the fact that the greatest inefficiency is involuntary unemployment and an underutilisation of the economy's existing physical capacity. This inefficiency is essentially tied to a lack of aggregate demand, not to some grandiose allocative distortion. With the possible exception of the GFC and the current COVID-19 crisis, most post-war recessions in the U.S. and, hence, in Canada have been generated by restrictive monetary policies associated with rising interest rates. The greatest uncertainty with regards to the future purchasing power of households is not inflation, as usually claimed by the Bank, it is unemployment or the fear of unemployment and under-employment (forced part-time work). With regards to firms, it would seem that inflation stability means little to business enterprises compared to the uncertainty attached to whether they can sell their output, as the COVID-19 crisis has shown in a striking way.

Hysteresis effects

The financial crisis clearly illustrated that quantity effects generated by demand-side factors have had a much greater role to play than price distortion effects coming out from supply-side factors. This has been pointed out even by some authors, such as Lawrence Summers (2014), who in the past had succumbed to the sirens of supply-led models. Summers, as reported by Laurence Ball (2014, 149), went so far as to argue in a conference on full employment that "this financial crisis has confirmed the doctrine of hysteresis more strongly than anyone might have supposed". Ball has studied the impact on potential output of the financial crisis for

As an example of this, Vítor Constâncio (2015), from the European Central Bank, pointed out that: "At the aggregate level, the euro area output is now 20 percent below the level it would have achieved had the trend growth in the previous 15 years continued after 2007.... The crisis left a permanent economic loss with broad scars in our societies".

a sample of 23 countries. His conclusion is that "most countries have experienced strong hysteresis effects: shortfalls of actual output from pre-recession trends have reduced potential output almost one-for one" (Ball 2014, 149). This, he says, has occurred through a reduction in capital accumulation, a lower labour force participation rate, and a slowdown in the growth rate of productivity. We shall briefly come back on this third cause in the text below.

These hysteresis effects, however, have not only arisen as a consequence of the financial crisis. They arise in a majority of recessions. Blanchard et al. (2015), in a study of over 120 recessions, assess that more than two-thirds of them have led to a permanent gap between the previously estimated potential output and the after-recession estimate. In one third of the recessions, this gap was actually increasing through time, meaning that the growth rate of potential output had actually declined—a result which is consistent with the earlier work of León-Ledesma and Thirlwall (2002). Summers (2015, 8) has summarized this by saying that "reversion back to trend is actually less common than evidence that the recession not only reduced the level of GDP, but reduces the trend rate of growth of GDP, what Larry Ball has referred to as super hysteresis."

All of this is true as well when recessions are intended and induced by restrictive anti-inflation monetary policy—a clear case of recessions caused by reductions in aggregate demand. In other words, while an observer (for instance, a New Classical economist associated with the real business-cycle theory) could possibly argue that both the initial recession and the fall in future potential output had the same cause—a slowdown in productivity growth—the fact that recessions induced by restrictive monetary policy also led to reductions in middle-run or long-run potential output shows that demand shocks also have a long-run negative impact (Blanchard et al. 2015, 14). In other words, the demand side does have a feedback effect on the long-run supply side. As Stiglitz (2014, 16) forcefully argues, "the problem is lack of aggregate demand", or as Yellen (2016, 1) affirms: "This post-crisis experience suggests that changes in aggregate demand may have an appreciable, persistent effect on aggregate supply—that is, on potential output."

The possibility of hysteresis effects—long denied by officials at the Bank of Canada, for instance Poloz and Wilkinson (1992)—now seems to be prudently entertained. As the former senior deputy-governor at the Bank of Canada says: "The decline in the participation rate of young and prime age workers reflects the cyclical effects of a weak job market. But these cyclical effects could become structural.

After a long search, if you don't think you are going to find a job, at some point, you become discouraged and you stop looking. The longer you stay out of the labour force, the more likely it is that your skills have deteriorated and your attachment to the job market has weakened. This is what economists mean when we talk about hysteresis." (Wilkins 2014, 3)

Hysteresis effects, however, are not limited to the downward impact on the employability of workers, as Blanchard (2018) also seems to think. Low aggregate demand also has a detrimental effect on productive capacity associated with previously low levels of investment. And in contrast to the views that seem to be entertained among mainstream economists, hysteresis effects also imply that high aggregate demand or higher rates of growth of aggregate demand are likely to have positive effects on potential output and even the growth rate of potential output—the case of super hysteresis associated with the Kaldor-Verdoorn productivity effects. This was already shown in the empirical work of León-Ledesma and Thirlwall (2002), and it has been confirmed more recently by Girardi et al. (2020). Estimating the impact of aggregate demand expansions in OECD countries between 1960 and 2015, their results undermine "the notion of potential output and the NAIRU as long-run attractors independent of aggregate demand" and show that "demand expansions appear to have an impact on the main determinants of 'potential output' as it is usually defined and measured: capital formation, labour force and productivity". Their work suggests that "the conventional trade-off in macroeconomic policy may have to be reversed: aggregate demand expansions are found to bring about persistent effects on GDP, capital stock, participation and employment, while the costs in terms of inflation are found to be uncertain (nonstatistically significant) and, on average, small and short-lived" (Girardi et al. 2020, 864). Hysteresis effects thus also arise in the case of upward demand shocks, mainly through capital formation.

The horizontal segment of the Phillips curve

All of this is consistent with the empirical recognition that there is no vertical long-run Phillips curve, and that the short-run Phillips curve now seems to

be much flatter than in the past. This may be due to the fact that inflation expectations are now clearly secured at the two per cent mark targeted by the Bank of Canada and several other central banks, or it may be due to institutional changes in the labour market, arising, for instance, from the fears generated by automation, free trade, liberalised capital movements or globalisation. It may also be because central banks have now become so efficient in controlling inflation rates. Leaving the last explanation aside, there is a general recognition that the Phillips curve is now quite flat. This behaviour gave rise to the missing deflation puzzle during the financial crisis and thereafter to the missing inflation puzzle when rates of unemployment plummeted.

There have always been economists who have denied the relevance of the conventional Phillips curve, treating it as a historically-specific relationship, as argued for instance by Wynne Godley⁸, thinking that there is a large range of rates of employment, wage shares and rates of capacity utilisation for which the Phillips curve is horizontal (Hein 2002, Kriesler and Lavoie 2007, Herr 2009). Indeed, Richard Lipsey, who first interpreted the original Phillips curve as a curvilinear short-run macroeconomic relationship some sixty years ago, has recently argued that: "Instead of the Phillips curve there is a band. If the central bank has a credible inflation target that it sticks to, the expected rate will be that target rate. ... The actual rate will vary around the expected rate, depending on a number of influences, such as changes in productivity, or the price of oil and food, but not systematically on short-term variations in U or Y." (Lipsey 2016, 425-6) He calls this flat portion of the Phillips curve the non-accelerating inflation band of unemployment (the NAIBU), where all unemployment rates within the band may be considered as NAIRUs. Inflation will start to rise or decrease only at the two extremities of the band, as illustrated with the help of Figure 4.

^{8 &}quot;But I do not accept that it is a foregone conclusion that inflation rates will be higher if unemployment is lower" (Godley 1983, 170).

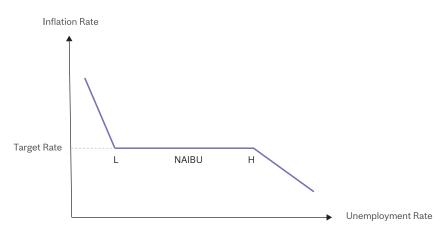


Figure 4: The Phillips curve with its horizontal segment

The implication of such a horizontal segment of the Phillips curve is thus clear. The monetary authorities should "try to minimize unemployment consistent with staying within the NAIBU. They would do this by expanding the economy until inflation threatened to accelerate." (Lipsey 2016, 427) This, it seems to us, is precisely what Alan Greenspan and Janet Yellen did at the U.S. Fed, driving unemployment rates to historically low rates. One reason, possibly, that they did so is that the U.S. Fed has a dual mandate, namely price stability and full employment. Having such a dual mandate in Canada would induce the Bank of Canada to test the waters in a more resolute way than it did in the past, instead of putting the brakes whenever their estimates of the output gap are going overboard, thus holding the economy next to the high unemployment end of the NAIBU range.⁹ A dual mandate would encourage the Bank of Canada to pursue monetary policies that would prolong the boom, thus providing more confidence to the business sector. In terms of Figure 4, this implies that the Bank ought to act in attempting to bring the economy up around point *L* (for low unemployment rate) instead of slowing down the economy towards point H.

Within this framework, inflation targeting, as one of the two goals of a dual mandate, would not be there because low inflation provides more allocative efficiency or higher productivity. Rather, it would be there primarily because it offers

⁹ As Lael Brainard (2021, 4), a member of the Board of Governors of the Fed, says: "the conventional practice of reducing policy accommodation preemptively when unemployment nears its estimated longer-run normal rate is likely to lead to an unwarranted loss of opportunity for many workers."

an anchor around which a range of rates of unemployment or rates of capacity utilisation can fluctuate, while the monetary and fiscal authorities would be jointly attempting to pursue the highest level of economic activity and employment through policy coordination as we have seen during the current COVID-19 crisis. With a dual mandate, the bias against the wage share that is inherent to an inflation targeting policy regime would be counteracted by the guarantee that the Bank is also required to target low rates of unemployment or full employment.

Concluding remarks on the operationality of a dual mandate

We must abandon the view that inflation is the only concern of central banks, which developed as a vision of the *modus operandi* of central banking that goes back almost five decades. Modern central banks should be concerned not only about the distortions caused by high inflation, but also by the economic and social damages caused by a long-term rate of unemployment stuck at less than its Keynesian full employment rate, as the latter concept was once understood before the Bank of Canada first moved away from Keynesian policy ideas after the stewardship of Governor Louis Rasminsky.

We are sometimes asked how a dual mandate would look like and how it would work in practice. There is no need to reinvent the wheel here. The policy target agreement struck in 2018 by the New Zealand government and the Reserve Bank of New Zealand, and put into effect in 2019, says that the Bank should keep "future inflation near the 2 percent mid-point" as a medium-term goal while its other operational objective should be to "support maximum"

sustainable employment" (Reserve Bank of New Zealand 2019).¹⁰ Moreover, we have argued in the past that the history of the Bank of Canada and the U.S. Federal Reserve System is intertwined through the reciprocal influence they had on their respective structures to conduct monetary policy over the last century (Lavoie and Seccareccia 2013). Ever since the Humphrey-Hawkins Act of 1978, the U.S. Federal Reserve has been instructed to pursue the dual goals of price stability and full employment.¹¹ The Government of Canada, through its Minister of Finance, together with the Bank of Canada, can certainly find some inspiration from the enactment of the U.S. Fed dual mandate.

In their first statement on "longer-run goals and monetary policy strategy", U.S. Fed officials reasserted this mandate. Critics of a dual mandate often ask its proponents what their definition of full or maximum employment would be. The U.S. Federal Open Market Committee does recognise that "the maximum level of employment is a broad-based and inclusive goal that is not directly measurable and changes over time owing largely to nonmonetary factors that affect the structure and dynamics of the labor market. Consequently, it would not be appropriate to specify a fixed goal for employment." (Federal Reserve 2020) As clarified by Brainard (2021, 3), "the new monetary policy framework also eliminates the previous reference to a numerical estimate of the longer-run normal unemployment rate and instead defines the maximum level of employment as a broad-based and inclusive goal for which a wide range of indicators are relevant". These include ratios of employment to working-age population, and the proportion of part-time workers willing but unable to find full-time jobs.

Things seem simpler when dealing with the targeting of the inflation rate, as both Canadian and American central banks set a two per cent target. The 2016 renewal report of the Bank of Canada, however, showed that that there was also a degree of uncertainty regarding the measure of core inflation that ought to be used

¹⁰ Here, "sustainable" is understood in the ecological sense in support of a low-carbon economy, which is also a concern of the New Zealand government and which may explain why in their remit to its Monetary Policy Committee signed by the Minister of Finance of the Government of New Zealand and the central bank Governor they have adopted as qualifying adjectives "maximum sustainable" rather than the term "full" employment found in the U.S.

¹¹ James Galbraith (2019, 288), the son of Canadian-born John Kenneth Galbraith, considers that this dual mandate is "the most Keynesian and most successful charter of any central bank."

to guide the conduct of the Bank, with three different definitions of core inflation being proposed while the previous measure (CPIX) had been dismissed (Bank of Canada 2016, 19-21). Surely the measure of the maximum or optimal level of employment, as perhaps represented by point L in Figure 4, is not any more difficult to assess than the mysterious output gap of the Taylor rule. What is sadly obvious to us is that, in a world in which the horizontal band has revealed itself to be quite wide in Figure 4, the Bank of Canada is left like the image of Don Quixote in not knowing whether its policy compass should point to L or H (since they are both NAIRUs), because there is nothing in its official mandate to steer the economy closer to point L. In the U.S. since 1978 and now in New Zealand since 2019, their central banks are being told that they should be striving to bring the economy towards point L, and we believe that this should be the same in Canada.

We have also been asked on occasion whether a dual mandate would defy the famous Tinbergen rule about having to pair sufficient instruments with the number of policy objectives, since the only actual instrument of a central bank is the control of interest rates via the overnight rate. 12 For one, we believe that the principle of macroeconomic policy coordination between the fiscal and monetary authorities must be upheld so as to offer the effective tools to achieve jointly those objectives. There should not be an artificial "division of labour" as is presently the case where officially the central bank is solely concerned about combating inflation. Full employment and price stability should be the broad macroeconomic policy concerns of both the monetary and the fiscal authorities and they would have sufficient instruments to achieve those goals. Moreover, if pragmatism would prevail, as we have seen under flexible inflation targeting over the last decade, the central bank should be able to shift priorities so as to focus on the principal threat to both price and employment stability. As well, there is no necessary simple trade-off between low inflation and high employment. As pointed out by the U.S. Federal Reserve (2020), "employment and inflation objectives are generally complementary". As is the case presently in the context of the COVID-19 crisis, we shall need every means available to achieve higher

¹² Actually, this is not quite true, since the Bank of Canada also disposes of unconventional tools and can slow down or speed up the economy by making use of macro-prudential tools, as was done with regulations pertaining to new mortgages (along with the Office of the Superintendent of Financial Institutions).

employment and the higher utilisation of existing capacity to prevent inflation from accelerating and to avert supply shortages characteristic of a potential stagflationary environment. In 2021, it is time for the federal government to go beyond its inflation targeting mantra and direct the Bank of Canada to pursue an official rather than an implicit dual mandate.

References

Amano, R., T.J. Carter and L.L. Schembri. 2020. "Strengthening inflation targeting: Review and renewal processes in Canada and other advanced jurisdictions." Staff Discussion Paper — 2020-7, August 6.

Amirault, D., and B. O'Reilly. 2001. "The zero bound on nominal interest rates: How important is it?", Working Paper 2001-6, Ottawa: Bank of Canada.

Ball L. 2014. "Long-term damage from the Great Recession in OECD countries." *European Journal of Economics and Economic Policies: Intervention*, 11 (2): 149-160.

Bank of Canada. 2001. Renewal of the Inflation-Control Target: Background Information —May 2001.

Bank of Canada. 2006. Renewal of the Inflation-Control Target: Background Information —November 2006.

Bank of Canada. 2011. Renewal of the Inflation-Control Target: Background Information—November 2011.

Bank of Canada. 2016. Renewal of the Inflation-Control Target: Background Information —October 2016.

Barro, R. 1995. "Inflation and economic growth." NBER working paper No. 5326; http://www.nber.org/papers/w5326

Black, R., T. Macklem and S. Poloz. 1994. "Non-superneutralities and some benefits of disinflation: a quantitative general-equilibrium analysis." *Economic Behaviour and Policy Choice under Price Stability*, Ottawa: Bank of Canada: 477-516.

Blanchard, O. 2018. "Should we reject the natural rate hypothesis." *Journal of Economic Perspectives* 32 (1): 97-120.

Blanchard, O., E. Cerutti and L. Summers. 2015. "Inflation and activity: two explorations and their monetary policy implications." Working Paper No. 15-19, Peterson Institute for International Economics, http://www.piie.com/publications/wp/wp15-19.pdf

Brainard, L. 2021. "Full employment in the new monetary policy framework." Presentation at the Inaugural Mike McCracken Lecture on Full Employment of the Canadian Association for Business Economics (webcast) (January 13); https://www.federalreserve.gov/newsevents/speech/files/brainard20210113a.pdf.

Cameron, N., D. Hum and W. Simpson. 1996. "Stylized facts and stylized illusions: inflation and productivity revisited." *Canadian Journal of Economics* 29 (1): 152-162.

Clinton, K. 2004. "Wicksell at the Bank of Canada." Paper presented at the ROBINSON workshop, University of Ottawa, February.

Coletti, D., and B. O'Reilly. 1998. "Lower inflation: benefits and costs." *Bank of Canada Review*, Autumn: 3-20.

Constâncio, V. 2015. "Monetary policy and the euro area problem." Speech in Frankfurt (November 16), https://www.ecb.europa.eu/press/key/date/2015/html/sp151116.en.html

Côté, A. 2014. "Inflation targeting in the post-crisis era." Remarks at Calgary CFA Society, Bank of Canada (November 18); http://www.bankofcanada.ca/2014/11/inflation-targeting-post-crisis-era/

Côté, A. 2015. "Inflation expectations and monetary policy." Remarks to the Association Québécoise des technologies, Mont-Tremblant, (February 19); http://www.bis.org/review/r150220a.pdf

Cozier, B., and J. Selody. 1992. "Inflation and macroeconomic performance: Some cross-country evidence." Working Paper No. 92-6. Ottawa: Bank of Canada.

Crow, J. 1988. "The work of Canadian monetary policy." *Bank of Canada Review* (February): 3-17.

Dodge, D. 2005. "Inflation targeting: a Canadian perspective." Remarks to the National Association of Business Economists, Washington (DC), (March 21); http://www.bankofcanada.ca/wp-content/uploads/2010/02/sp05-2.pdf

Federal Reserve. 2020. "Statement on longerrun goals and monetary policy strategy." https://www.federalreserve.gov/monetarypolicy/files/fome_longerrungoals.pdf

Fortin, P. 1993. "The unbearable lightness of zero-inflation optimism." *Canadian Business Economics* 1, Spring: 3-18.

Friedman, B. 2018. "The future of central banking." In *The Future of Central Banking, Festschrift in Honour of Vítor Constâncio*, European Central Bank, Colloquium held on May 16-17: 187; https://www.ecb.europa.eu/pub/pdf/other/ecb.futurecentralbankingcolloquiumconstancio201812.en.pdf

Galbraith, J.K. 2020. "Backwater economics: a life story." *Journal of Economic Issues* 54 (2): 287-293.

Girardi, D., W. Paternesi Meloni and A. Stirati. 2020. "Reverse hysteresis? Persistent effects of autonomous demand expansions.", *Cambridge Journal of Economics* 44 (4): 835-849.

Godley, W. 1983. "Keynes and the management of real national income and expenditure." In *Keynes and the Modern World*, edited by D. Worswick and J. Trevithick. Cambridge: Cambridge University Press.

Government of Canada. 1985. *Bank of Canada Act*, http://laws-lois.justice.gc.ca/eng/acts/b-2/page-1.html

Hayek, F. A. 1945. "The use of knowledge in society." *American Economic Review* 35 (4), September: 519-530.

Hein, E. 2002. "Monetary policy and wage bargaining in the EMU: restrictive ECB policies, high unemployment, nominal wage restraint and inflation above the target." *Banca Nazionale del Lavoro Quarterly Review* 55: 299–337

Herr, H. 2009. "The labour market in a Keynesian economic regime: theoretical debate and empirical findings.", *Cambridge Journal of Economics* 33 (6): 949-965.

Howitt, P. 1990. "Zero inflation as a long-term target for monetary policy." In *Zero Inflation: The Goal of Price Stability*, edited by R. G. Lipsey. Toronto: C.D. Howe Institute.

Howitt, P. 2012. "What have central bankers learned from modern macroeconomic theory." *Journal of Macroeconomics* 34 (1), March: 11-22.

Jarrett, P., and J.G. Selody 1982. "The productivity-inflation nexus in Canada, 1963-1979." *Review of Economics and Statistics* 64 (August): 361-67.

Keynes, J. M. 1923. *A Tract on Monetary Reform.* London: Macmillan.

Keynes, J. M. 1936. *The General Theory of Employment, Interest and Money*. London: Macmillan.

Kriesler, P., and M. Lavoie. 2007. "The New Consensus on monetary policy and its post-Keynesian critique." *Review of Political Economy* 19 (3): 387–404.

Laidler, D. 2015. "The interactive evolution of economic ideas and experience—the case of Canadian inflation targeting." EPRI Working paper No. 2015-1. University of Western Ontario, http://ir.lib.uwo.ca/cgi/viewcontent.cgi?article=1074&context=economicsepri_wp

Lavoie, M., and M. Seccareccia. 1988. "Money, interest and rentiers: the twilight of rentier capitalism in Keynes's *General Theory."* In *Keynes and Public Policy after Fifty Years*, edited by O. Hamouda and J.N. Smithin, 145-58. Aldershot, UK: Edward Elgar Publishing.

Lavoie, M., and M. Seccareccia. 2006. "The Bank of Canada and the modern view of central banking." *International Journal of Political Economy* 35 (1), Spring: 58-82.

Lavoie, M., and M. Seccareccia. 2013. "Reciprocal influences: a tale of two central banks on the North American continent." *International Journal of Political Economy* 42 (3), Fall: 63-84.

Lavoie, M., and M. Seccareccia. 2019. "Macroeconomics and Natural Rates: Some Reflections on Pasinetti's Fair Rate of Interest." Bulletin of Political Economy 13 (2): 139-165.

León-Ledesma, M.A., and A.P. Thirwall. 2002. "The endogeneity of the natural rate of growth." *Cambridge Journal of Economics* 26 (4), July: 441-459.

Levrero, E.S. 2019. "Estimates of the natural rate of interest and the stance of monetary policy: a critical assessment." Working Papers Series No. 88, Institute for New Economic Thinking, January; https://www.ineteconomics.org/uploads/papers/WP_88-Levrero-Natural-Interest-Rates.pdf

Lipsey, R.G. 2016. "The Phillips curve and an assumed unique macroeconomic equilibrium in historical context." *Journal of the History of Economic Thought* 38 (4): 415-429.

Macklem, T. 2014. "Flexible inflation targeting and "good" and "bad" disinflation." Bank of Canada, (February 7). https://www.bankofcanada.ca/wp-content/uploads/2014/02/remarks-070214.pdf

Macklem, T. 2020a. "Monetary policy in the context of COVID-19.", Canadian clubs and cercles canadiens, (June 22), Ottawa; https://www.bankofcanada.ca/2020/06/monetary-policy-context-covid-19/

Macklem, T. 2020b. "Economic progress report: a very uneven recovery", Remarks at the Canadian Chamber of Commerce Ottawa, Ontario, (September 10); https://www.bankofcanada.ca/wp-content/uploads/2020/09/remarks-2020-09-10.pdf

MacLean, B., and M. Setterfield. 1993. "Nexus or not: productivity and inflation in Canada." *Canadian Business Economics*, 1, Winter: 44-52.

Matveev, D., J. McDonald-Guimond and R. Sekkel. 2020. "The neutral rate in Canada: 2020 update." Bank of Canada Staff Discussion Paper — 2020-24, (October 28).

Novin, F. 1991. "The productivity-inflation nexus revisited: Canada. 1969-1988." Working Paper No. 91-1. Ottawa: Bank of Canada.

Pollin, R., and A. Zhu. 2006. "Inflation and economic growth: a cross-country nonlinear analysis." *Journal of Post Keynesian Economics* 28 (4), Summer: 593-614.

Poloz, S.S., and G. Wilkinson. 1992. "Is hysteresis a characteristic of the Canadian labour market? A tale of two studies." Working Paper No. 92-3, Ottawa: Bank of Canada.

Ragan, C. 1998. "On the believable benefits of low inflation." Working Paper No. 98-15, Ottawa: Bank of Canada.

Ragan, C. 2005. "The road ahead for Canadian inflation targeting." http://www.banqueducanada.ca/wp-content/uploads/2010/08/ragan.pdf

Reserve Bank of New Zealand. 2019. "The remit for the Monetary Policy Committee." (February 14); https://www.rbnz.govt.nz/-/media/reservebank/files/monetary%20policy/about%20monetary%20policy/remit-for-themonetary-policy-committee-april-2019.pdf

Rogers, C. 1989. *Money, Interest and Capital: A Study in the Foundations of Monetary Theory.*Cambridge: Cambridge University Press.

Rowe, N. 2013. "Did inflation targeting make inflation stickier?", Worthwhile Canadian Initiative Blog, https://worthwhile.typepad.com/worthwhile_canadian_initi/2013/01/did-inflation-targeting-make-inflation-stickier.html?source=content_type%3Areact%7Cfirst_level_url%3Aarticle%7Csection%3Amain_content%7Cbutton%3Abody_link

Schembri, L. 2018. "Anchoring expectations: Canada's approach to price stability." Remarks at the Manitoba Association for Business Economists, Winnipeg, Manitoba, (February 15); https://www.bankofcanada.ca/2018/02/anchoring-expectations-canadas-approach-to-pricestability/

Seccareccia, M. 1998. "Wicksellian norm, central bank real interest rate targeting and macroeconomic performance." In *The Political Economy of Central Banking*, edited by P. Arestis and M.C. Sawyer, 180-98. Cheltenham, UK: Edward Elgar Publishing.

Seccareccia, M., and M. Lavoie. 1989. "Les idées révolutionnaires de Keynes en politique économique et le déclin du capitalisme rentier." Économie appliquée 42 (1): 47-70.

Seccareccia, M., and M. Lavoie. 1996. "Central bank austerity policy, zero-inflation targets, and productivity growth in Canada." *Journal of Economic Issues* 30 (2), June: 533-514.

Seccareccia, M., and M. Lavoie. 2016. "Income distribution, rentiers and their role in a capitalist economy: a Keynes-Pasinetti perspective." *International Journal of Political Economy* 45 (3), Fall: 200-223.

Seccareccia, M., and D. Pringle. 2020. "Money and finance." In *Canadian Political Economy*, edited by H. Whiteside, 320-48. Toronto: University of Toronto Press.

Selody, J. 1990. "The goal of price stability: a review of the issues." Technical Report No. 54, Ottawa: Bank of Canada.

Selody, J. 1993. "Comment on 'Nexus or not? Productivity and inflation in Canada'." *Canadian Business Economics* 1, Winter: 53-60.

Shaar, K. 2018. "The Divine Coincidence in New Keynesian Theory: Is Targeting Inflation and the Output Gap Essentially the Same?" In *A Supplement to the Monetary Policy Report*, https://www.treasury.govt.nz/sites/default/files/2018-04/rbnz-rev-divinde-coincidence.pdf

Stiglitz, J.E. 2014. "Reconstructing macroeconomic theory to manage economic policy." NBER Working Paper No. 20517; http://www.nber.org/papers/w20517

Storm, S. 2017. "The new normal: demand, secular stagnation, and the vanishing middle class." *International Journal of Political economy* 46 (4), Winter: 169-210.

Stuber, G. 1986. "The slowdown in productivity growth in the 1975-83 period." Technical Report No. 43, Ottawa: Bank of Canada.

Summers, L.H. 2014. "U.S. economic prospects: secular stagnation, hysteresis, and the zero lower bound." *Business Economics* 49 (2): 65-74.

Summers, L. 2015. "Reflections on the productivity slowdown." Keynote address at the conference *Making Sense of the Productivity Slowdown*, Peterson Institute for International Economics, http://www.piie.com/publications/papers/transcript-20151116keynote.pdf

Svensson, L.E.O. 2009. "Flexible inflation targeting—lessons from the financial crisis." *BIS Review* 112/2009: 1-9. https://www.bis.org/review/r090923d.pdf

Thiessen, G. 2000. "Can a Bank Change? The Evolution of Monetary Policy at the Bank of Canada 1935-2000." Lecture to the Faculty of Social Science, University of Western Ontario, (October 17). https://www.bankofcanada.ca/wp-content/uploads/2010/01/sp00-6.pdf

Wilkins, C. 2014. "Monetary policy and the underwhelming recovery." Remarks at the CFA Society, Toronto. http://www.bankofcanada.ca/2014/09/monetary-policy-underwhelming-recovery/

Yellen, J.W. 2016. "Macroeconomic research after the crisis." Speech at *The Elusive 'Great' Recovery: Causes and Implications for Future Business Cycle Dynamics*, 60th Annual Economic Conference of the Federal Reserve Bank of Boston, Boston, Massachusetts (October 14); https://www.federalreserve.gov/newsevents/speech/yellen20161014a.pdf

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Discussion

I thank Professors Lavoie and Seccareccia for undertaking the usually thankless task of presenting a heterodox approach to the conduct of Canadian monetary policy. Few monetary policy insiders pay much attention to the sort of arguments presented here and frustration may account for the sometimes-combative tone of their article. While I disagree with many of the points made here, I do not dismiss them, and neither should anyone else. These views are not without support outside the inner circle and deserve to be part of the broader debate about what Canada's monetary policy goal—or goals—should be.

Lavoie and Seccareccia argue that the Bank of Canada's focus on inflation is needlessly restrictive and misguided. There are other policy goals that are at least as desirable as controlling inflation, and the Bank should not ignore them. At the risk of over-simplifying their position, their case for a dual mandate has four main components.

The mandate and the preamble

The Preamble to the *Bank of Canada Act*—which has remained intact since its adoption in 1934—provides some very broad goals, and controlling prices is only one of them. The current inflation-targeting mandate, on the other hand, was never adopted by Parliament and it is not clear to the authors why it should take precedence over the legislation or why it was even needed, saying that the preamble gave the Bank a "high degree of flexibility" that had worked "relatively well" during the pre-mandate years.

There is a saying attributed to the business consultant James Collins: "If you have more than three priorities, then you don't have any." The *Bank of Canada Act* preamble lists four: "production, trade, prices and employment." The Bank of Canada went in several different directions between 1945 and 1991: fixing the exchange rate in 1945, floating the exchange rate in 1950, fixing it again in 1962, floating it again in 1971, targeting the growth of M1 in 1975 and finally abandoning monetary base targeting in 1982. One would be hard-pressed to determine

whether any of these major policy shifts or if any of the day-to-day operational decisions supported or contradicted the goals listed in the preamble.

This lack of direction had implications for governance as well. Confusion about what the Bank should or should not be doing were no doubt a contributing factor to the Coyne Affair: the criteria in the preamble supported the position of everyone and no one. The resulting Rasminsky Letter did not really make it easier to know if the Bank was off-course, but at least it clarified whose decision that would be.

Setting aside inflation targeting for the moment, the introduction of mandates has been a positive development. They are a useful guide for forming expectations, and they make it easier to evaluate the Bank's performance. Of course, the question of what the mandate should be remains an open question.

Controlling inflation and real wage stagnation

Real wages grew rapidly in Canada during the thirty years following the Second World War before stagnating in the mid-1970s. Since the Bank of Canada's attention over the following twenty years focused mainly on reducing inflation, its policy stance was largely contractionary during that time. The authors argue that the Bank's continued focus on controlling inflation has prevented real wages from recovering from the downward pressure exerted by monetary policy on labour markets during the 1970s and the 1980s. In their view, an expanded monetary policy mandate would allow growth in real wages to catch up to that of productivity. While the fight to reduce inflation may have led to collateral damage in real wages, the available data do not convincingly support the claim that real wage growth has lagged that of productivity during the inflation-targeting era.

The usual practice for calculating real wages is to use the Consumer Price Index to convert wages into purchasing power, and this is of course the correct approach if the objective is to examine trends in workers' welfare. However, when making the link between real wages and productivity, the standard theory of the firm would recommend using the output price to calculate the real wage. When

the correct price index is used, there is no apparent disconnect between real wages and productivity. When the output price deflator is used to calculate real compensation in the Canadian business sector, one obtains a real wage series that tracks labour productivity fairly closely since 1981: see Figure 1. The issue here does not seem to be a problem of workers not being able to capture productivity gains. Rather, the problem is that the prices of consumer goods have increased faster than the prices of the goods and services that workers are producing. It is not clear what role monetary policy has played in the evolution of the relative prices of consumer and producer goods. In any case, all three series have tracked each other closely since 1996.

There seems to be little point in tasking the Bank of Canada with the additional responsibility of ensuring that workers capture the benefits of technical progress: real wages are already increasing in line with productivity, and have been for at least twenty-five years.

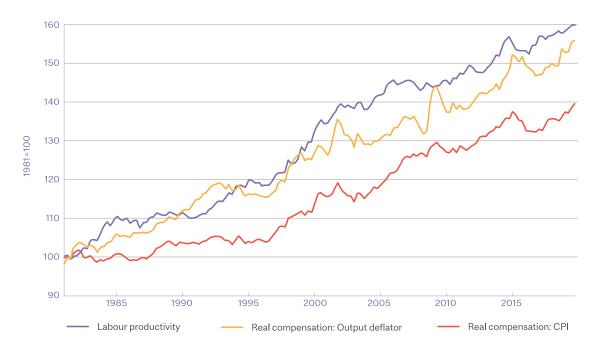


Figure 1: Productivity and wages in the Canadian business sector

Source: Statistics Canada vectors v1409153, v1409158, v20805660 and v41690914

The authors also note that the labour share of income has declined during the inflation-targeting era, but again, I am not sure how the Bank of Canada could reverse this trend, or even if it should try. Canadians aged 65 and older accounted for just under twelve per cent of the population in 1991; they now account for eighteen per cent. If the labour share had remained constant, the retirees who form an increasingly larger segment of the population would have been forced to share a fixed proportion of total income. One would expect—and indeed wish—to see a declining labour share of income in an economy with an aging population.

Making explicit what is already implicit

One argument for adopting a dual mandate is that the Bank of Canada is already acting as if one is in place. The authors point out that the Bank's practice of 'flexible' inflation targeting that has guided its conduct of decisions since the global financial crisis is consistent with a mandate that considers unemployment along with inflation. The adoption of a dual mandate would simply be a formal acknowledgement of what is already widely understood to be going on.

This is a good point. The Bank of course has always monitored many economic indicators, but only to the extent that they provided useful information for carrying out its inflation-targeting mandate. Flexible inflation targeting may be a good idea, but what does it mean to be 'flexible'? Letting it be known that the Bank takes into account other factors and without explicitly specifying how they affect decisions makes the conduct of monetary policy less transparent. If the Bank is already in the business of trading off inflation and unemployment, then it would be a good idea to specify what those tradeoffs are.

One instrument, multiple targets?

Professors Lavoie and Seccareccia make note of the Tinbergen Rule—policy-makers should have at least as many policy instruments as policy goals—but do not appear to be convinced of its relevance in the choice of a mandate for the Bank of Canada. The government has many policy goals (including price stability) and many policy instruments (including monetary policy), and while the Tinbergen Rule applies for the Government of Canada as a whole, there is no reason for it to apply for the Bank of Canada.

This claim raises several issues. Firstly, there are issues of transparency and accountability: if the Bank's objectives are to be subsumed into the broader array of government priorities, then it is not clear how an outside observer could evaluate its performance. How would we evaluate a monetary policy decision that advances one policy goal at the expense of another?

A related problem is one of credibility and guidance. We have come to learn that monetary policy is forward-looking: what a central bank does now often matters less than what it is expected to do in the future. A Bank that may be called upon to advance different priorities at different times by different governments will be hard-pressed to build the sort of credibility that can be used to guide expectations.

As Fischer (2010) notes, having one target does not necessarily imply only looking at one variable: a single target could be constructed from a combination of indicators with an explicit specification for the tradeoffs to be made between them; Professor Laxton's model is an example (Kostanyan and Laxton, 2020). And as Professor Ambler notes, a mandate to target nominal GDP could also be interpreted in this way, to the extent that the target is a product of two conceptually distinct variables, namely real GDP and the price level (Ambler, 2020). But these are examples of well-defined tradeoffs in the pursuit of a single goal, not mandates to pursue several objectives at once.

A mandate for failure

If a mandate is to be of any use for central bank accountability, it has to be feasible and easily verifiable. The Bank of Canada has only one instrument—monetary policy—so it can feasibly attain only one target. A Government that tasks the Bank to reach several goals simultaneously is setting it up to fail. Since failure is guaranteed in advance, a multidirectional mandate is virtually useless as a mechanism for holding the Bank to account: a Bank of Canada that can never succeed is one that always has a good excuse for failure.

References

Ambler, Steve (2020), "Nominal GDP level targeting", presented at the conference *Choosing the Right Target: Real Options for the Bank of Canada's Mandate Renewal.* Max Bell School of Public Policy

Fischer, Stanley (2010), "Myths of monetary policy", *Israel Economic Review* 8 (2), pp 1-5.

Kostanyan, Asya and Douglas Laxton (2020). "Time to change the Bank of Canada's Mandate", presented at the conference *Choosing the Right Target: Real Options for the Bank of Canada's Mandate Renewal*. Max Bell School of Public Policy

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