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TOWARD 2021: REVIEWING THE MONETARY POLICY FRAMEWORK

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**Economics Society of Northern Alberta**
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# Flexible Exchange Rates, Commodity Prices and Price Stability

## Introduction

It is a pleasure to be in Alberta for my speech today, given the importance of commodities, including oil, and their prices to the Albertan and Canadian economies.

While it may seem that many of us think about the value of the Canadian dollar only when we are about to travel, at the Bank of Canada, we view it as the most important price facing our economy because it directly affects much of what we produce, consume and trade.

That's why this is the right place to explore the critical role our flexible exchange rate plays in Canada's economy. And the time is right as well. Canada has just entered its 50th consecutive year with a floating currency, the longest of any country, dating from when it was last unpegged from the greenback in May 1970.

This is my second speech in our public engagement campaign called "Toward 2021." We call it that because 2021 is the next renewal date for our five-year inflation-control agreement with the Government of Canada, first adopted in 1991. For the renewal, we've committed to a wide-ranging review of our monetary policy framework to ensure it best achieves our mandated goal of price stability and thereby promotes strong and sustainable output and employment growth for the benefit of all Canadians. The framework has two components: our 2 per cent inflation target and our flexible exchange rate.

The inflation target normally gets most of the attention, so the value of our floating dollar risks being overlooked at a time when the performance of flexible exchange rates is coming under greater scrutiny in international policy circles.

I would like to thank Minnie Cui, Hélène Desgagnés, Edouard Djeutem, Jacob Dolinar, Wei Dong, Geoffrey Dunbar, Natasha Laponce, Amy Li, Eric Santor and Jing Yang for their help in preparing this speech.

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My purpose today is to review the evidence and make the case that Canada and many other open economies have been well-served by a market-determined flexible exchange rate. In particular, Canada's experience with inflation targeting underpinned by a floating currency is an instructive example of the most durable monetary policy framework in the post-war period.[1] The flexible exchange rate has helped our economy adjust to external shocks, primarily changes in commodity prices. Although our floating currency does not completely offset the impact of all of these shocks, it has complemented the Bank's inflation target to help achieve low and stable inflation and keep our economy functioning well.

While we're not going to alter the flexible exchange rate component of our monetary policy framework, it is incumbent on policy-makers to review even successful regimes regularly to ensure that they are serving the best interests of Canadians. To this end, it's worthwhile to explore the four main benefits of our floating dollar:

- It allows monetary policy independence to achieve domestic price stability.
- It facilitates adjustment to external shocks, thereby buffering their impact on economic activity.
- It contributes to policy clarity and effectiveness.
- It promotes financial sector development.

We also examine recent criticisms of flexible exchange rates. Because exchange rates are market prices that trade daily, they are intrinsically volatile. This volatility increases the cost of making international transactions and poses risks that have to be managed, especially by exporters and importers. Nonetheless, we come down squarely on the side that the benefits of a flexible exchange rate for Canada far exceed any such costs.

## The Canadian case

Canada exports a wide range of commodities, representing about 45 per cent of our exports (**Chart 1** and **Chart 2**). Consequently, their prices, whether it is for oil, gold or wheat, are critically important, both to the success of Canadian exporters and to the Canadian economy more broadly. Their prices, however, are largely determined by the global market forces of demand and supply. Most of Canada's key commodity exports are also priced in US dollars—a point I will come back to later.

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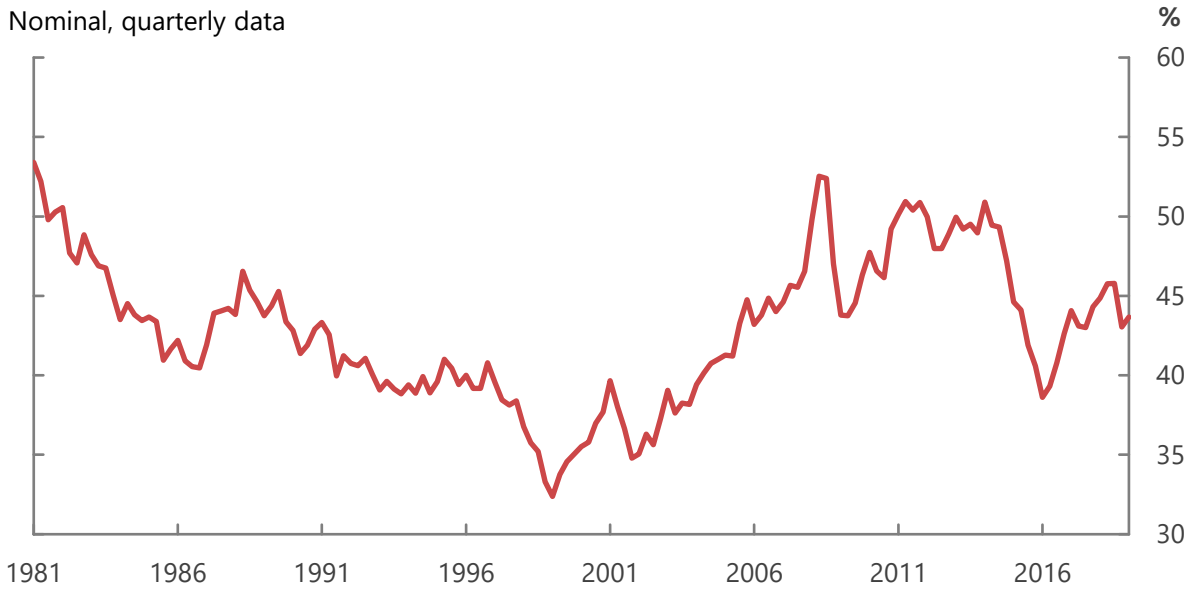
[1] Rose (2014) finds that the monetary policy frameworks consisting of an inflation target and a flexible exchange rate have been the most stable since the global financial crisis. He also finds this combination has proven to be a very durable framework overall because no country has yet to abandon it under duress.

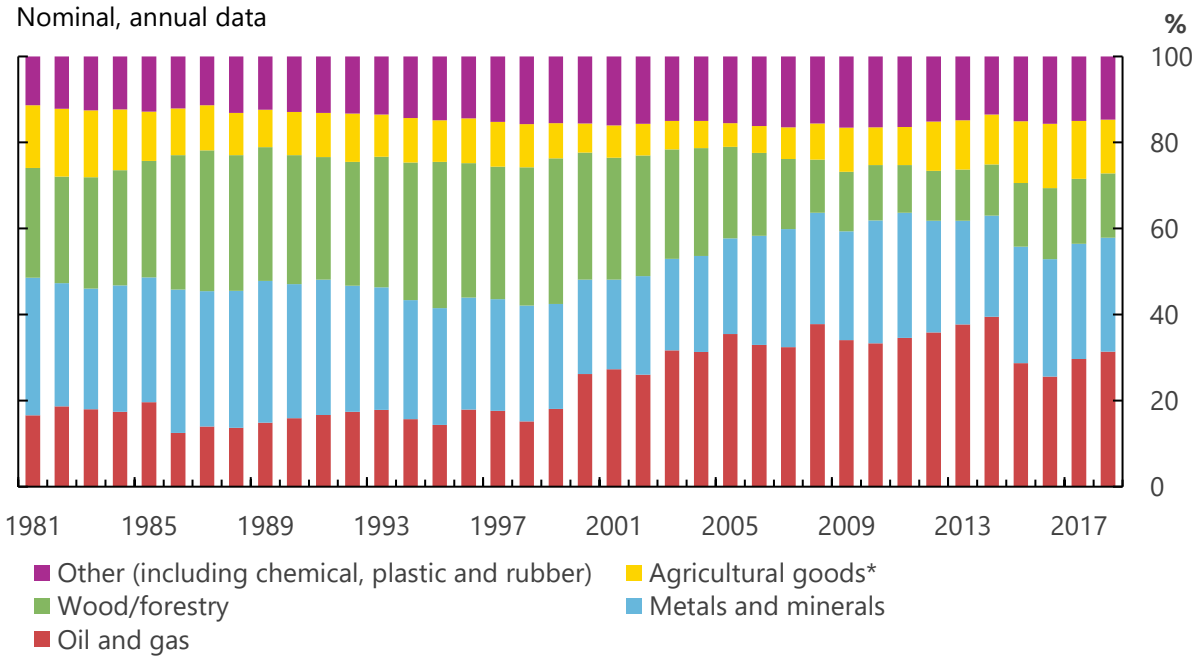
**Chart 1: Commodity exports are an important share of total exports**




Source: Statistics Canada

Last observation: 2019Q1

**Chart 2: Canada produces a range of commodities whose export shares have shifted over time**




* Agricultural goods includes the subcomponents farm and fishing products and intermediate food products. More detailed subaggregates are unavailable.

Sources: Statistics Canada and Bank of Canada calculations

Last observation: 2018

Canada's flexible exchange rate is also determined by market forces, though the Bank of Canada clearly has some influence on it through our policy interest rate. When we raise interest rates, or raise expectations for higher interest rates, the

loonie tends to appreciate against other currencies—and vice versa. In this way, the dollar is an important channel for the transmission of monetary policy.

We typically measure the value of the Canadian dollar relative to the US dollar, since the US dollar is widely used in the valuation of both commodities and other currencies. That's because of its dominant place in the global economy and its widespread use as a global reserve currency.

But, as important as the currency's value is to exports, imports and the overall economy, the Bank of Canada does not have a specific target for the dollar. The flexible exchange rate works best when it is determined by market conditions within a credible policy framework. Consequently, we haven't intervened in currency markets on our own behalf in more than 20 years.

Our analysis of exchange rate fluctuations indicates that major movements in the dollar are largely driven by the market forces theory would predict, namely movements in commodity prices and in interest rate differentials.[2] Fortunately, deep and liquid financial markets have developed to help Canadian trading firms manage at low cost the risk associated with such volatility.

Price stability, not a fixed exchange rate, is our main monetary policy objective. Maintaining low and stable inflation around 2 per cent provides a credible nominal anchor. Well-anchored inflation expectations allow monetary policy and our flexible exchange rate to respond to external shocks and help shelter the Canadian economy and its workforce from excess fluctuations.

To illustrate how the flexible exchange rate fits with the inflation target within our monetary policy framework, consider **Figure 1**. Our monetary policy framework has two pillars: the inflation target and the flexible exchange rate.[3]

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[2] The Bank of Canada has undertaken extensive work to model the Canadian dollar, including Amano and Van Norden (1995); Issa, Lafrance and Murray (2008); and Djeutem and Dunbar (2018). All find an important role for commodity prices in the determination of the Canadian exchange rate.

[3] Our inflation target is flexible. While price stability is the primary goal, the path for the policy rate and the horizon for returning inflation to target are chosen to limit undue volatility in output and employment as well as an excessive buildup in financial vulnerabilities. For more information, see Bank of Canada (2016).

**Figure 1: Canada's monetary policy framework has two key components**

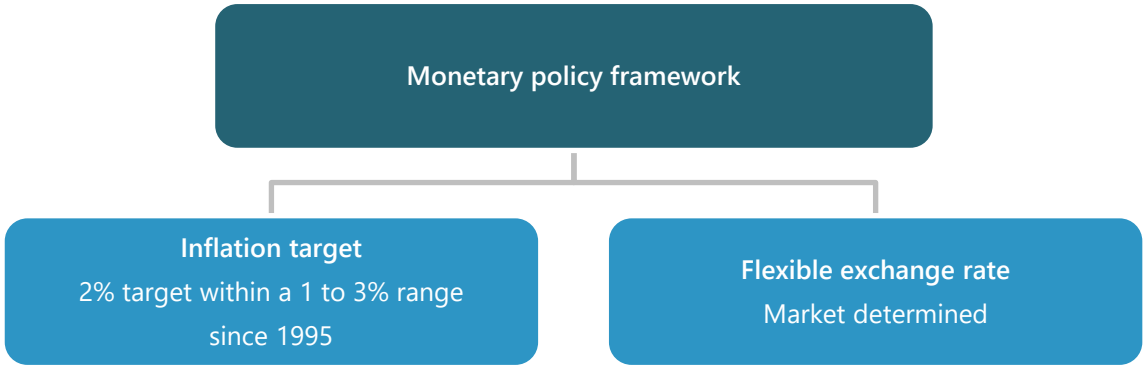
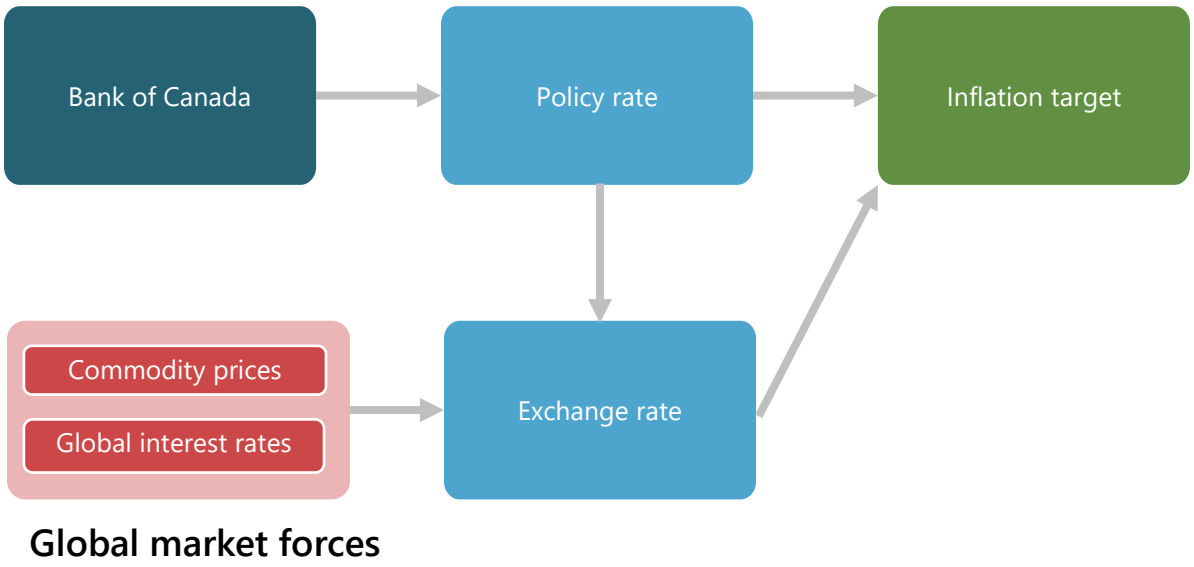



**Figure 2** illustrates the framework in action. The policy interest rate is controlled by the Bank of Canada and is primarily influenced by our outlook for economic activity and inflation. In contrast, the exchange rate is determined by global market forces, both real and financial, that encompass the global demand and supply for Canadian goods and services as well as assets.[4] Because our flexible exchange rate responds to and helps absorb those external forces, it allows us to target inflation with the policy rate.

**Figure 2: The flexible exchange rate helps the Bank achieve the inflation target**




[4] The exchange rate is, by definition, the relative price of the Canadian dollar compared with another currency, most often the US dollar. Therefore, global forces that influence the value of the US dollar would also affect the exchange rate.

Our success, and that of similar countries that also target inflation, speaks for itself. Our inflation target of 2 per cent within a 1 to 3 per cent range has been jointly reviewed and renewed by the Bank and the government five times since 1995.

While the value of the loonie has ranged from a value in the low 60 cents US to above parity with the US dollar during that quarter century, inflation has remained within the 1 to 3 per cent range roughly 80 to 85 per cent of the time,[5] with an overall average of just below 1.9 per cent. That price stability came despite the financial crises of the 1990s in emerging-market economies, the strong expansion at the turn of the millennium, the global financial crisis, the Great Recession and the subsequent slow recovery—all of which have generated large fluctuations in commodity prices.

Our monetary policy framework is supported by several critical advantages we have as a nation that enhance its credibility and effectiveness. They include sustainable fiscal policy, which the Canadian government has followed since the mid-1990s.[6] Such a policy leaves space to stimulate the economy in the event of an economic downturn, through countercyclical fiscal measures, such as regional transfers. It also includes a flexible labour market and a high degree of internal economic integration and capital mobility as well as a resilient financial system, which I'll circle back to later.[7]

Given this context, let's turn to the four benefits of our flexible exchange rate.

## Steering our own course

Through its history, Canada has relied on foreign trade and investment for its economic prosperity. But this economic openness leaves Canadians vulnerable to events in the rest of the world. Like a freighter ship, which benefits from trade, Canada is exposed to the winds of global economic storms. The best strategy to minimize this vulnerability is to keep our own ship in good order, including a monetary policy aimed at achieving price stability.

How does a flexible exchange rate give us the leeway to set our own course for monetary policy and inflation? To illustrate, it's worth going back to September 1950, when Canada first abandoned the post-war Bretton Woods

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[5] This figure is obtained using monthly data on annual consumer price index inflation for all items. Data are from Statistics Canada.

[6] The joint inflation-control agreement between the Bank of Canada and the federal government commits both parties to the inflation target and provides political legitimacy. The federal fiscal consolidation, which began in earnest in the aftermath of the Mexican peso crisis of December 1994, when the Canadian dollar was also severely affected, enhanced the credibility of the inflation target.

[7] These advantages strengthen the traditional argument (Mundell 1961) for Canada being an optimal currency area. See Carney (2013) for a broader discussion of these advantages, especially those related to the high degree of interprovincial trade and the strength of the financial system. In practice, the optimal currency area should be the nation state (Laidler 1999) because its citizens should decide its monetary policy goal and framework.

pegged exchange rate. The decision was widely criticized—it was seen as a radical move because Canada had been one of the original signatories to the post-war system. The passage of time has proven it was a trail-blazing policy shift. It demonstrated the value of a flexible exchange rate, likely sparing Canadians several years of double-digit inflation.

At the time, the US economy was growing strongly, fuelled by military spending for the Korean War. Because of the increased US demand, inflationary pressure was building and commodity prices were rising. In Canada, foreign exchange rate reserves were accumulating under the pegged exchange rate. Rather than continue to allow US inflationary pressure to spill over to Canada, authorities allowed the exchange rate to float—in other words, to be determined by market forces. The Canadian dollar rapidly appreciated, helping stem the inflationary pressure.[8]

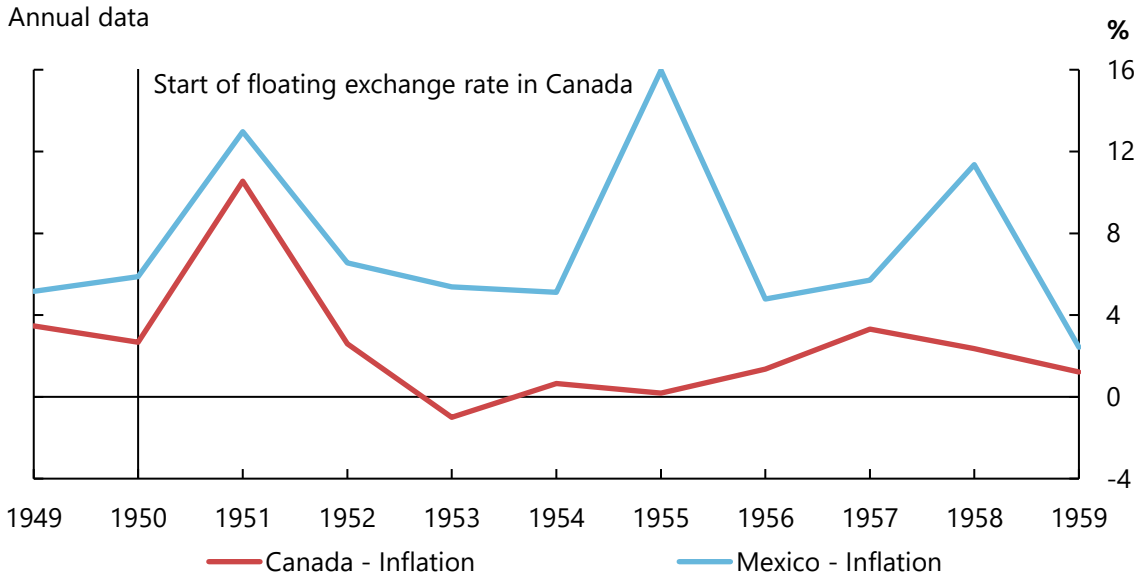
It's insightful to compare our experience with Mexico's over the same period. In contrast to Canada, Mexico maintained the peg of the peso to the US dollar. We can see what happened by looking at **Chart 3a**. Canada's flexible exchange rate absorbed the inflationary spillover, and we had much lower rates of inflation.

Canada returned to a pegged rate for the period from 1962 to 1970 but left the Bretton Woods system for good in 1970. The circumstances were similar to those in 1950. Replace the Korean War with the Vietnam War, and the same story can be told for Canada and Mexico, so I won't repeat it, except to draw your attention to **Chart 3b.**

[8] See Powell (2005) for further information about the circumstances leading to these changes in exchange rate regimes in Canada. The Canadian experience had important implications not only for the International Monetary Fund and the Bretton Woods system, but also for macroeconomic theory and policy in open economies (Bordo, Gomes and Schembri 2010).

**Chart 3: Canada's inflation rate was below that of Mexico after adopting a floating exchange rate in 1950 and 1970**

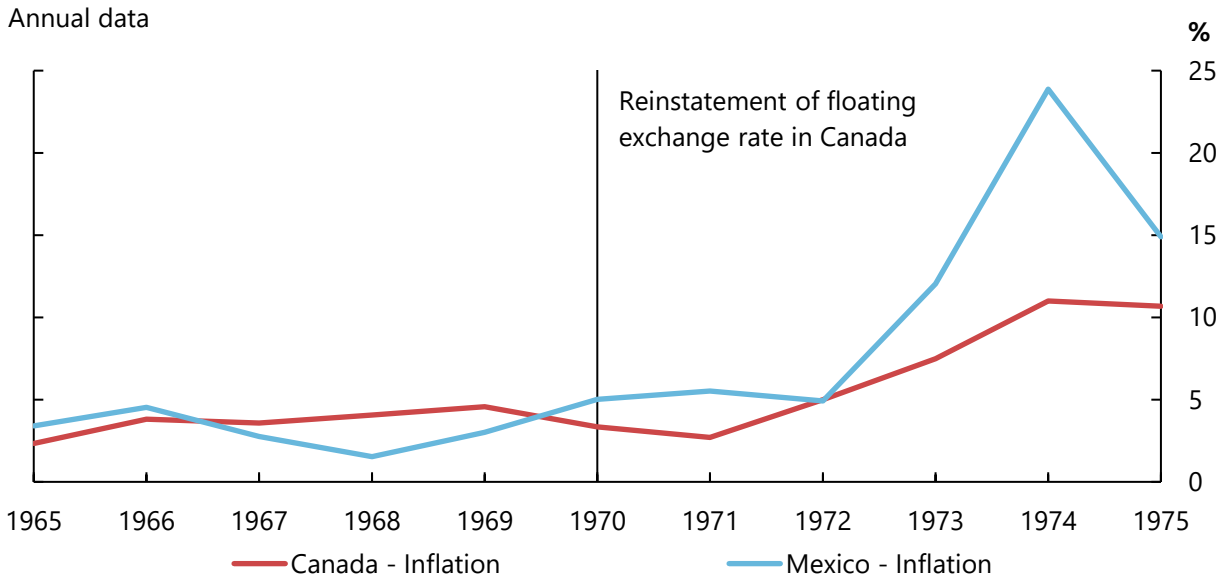
a. 1949–59




Sources: Statistics Canada, Bank of Canada, and the Bank for International Settlements via Haver Analytics

Last observation: 1959

b. 1965–75




Sources: Statistics Canada, Bank of Canada, and the Bank for International Settlements via Haver Analytics

Last observation: 1975

Similar lessons can be drawn when we compare Canada with Latin American countries from 1970 to the mid-1990s. It was a relatively unstable period, both economically and politically, yet many Latin American countries tried to maintain pegged exchange rates to the US dollar. Consequently, they experienced frequent exchange rate crises as their pegs became untenable and collapsed.

With pegged rates, their monetary policy was being largely driven by US monetary policy, which often proved inappropriate for domestic circumstances. In contrast, Canada's floating currency allowed our policy to deviate from US monetary policy as needed, and this contributed to our better economic performance.

As mentioned, Canada adopted its current monetary policy framework with an inflation target and flexible exchange rate in 1991. Right from the outset, it was successful in lowering inflation and making it more stable. This experience was shared by the other early adopters of inflation targeting, including New Zealand (1990) and Sweden (1995). With the success evident, other countries with close ties to the United States followed suit: Brazil (1999), Chile (1999), Colombia (1999), Mexico (2001) and Peru (2002), and their adoption—along with broader reforms—also led to much lower and stable rates of inflation.

In summary, Canada and many other countries, almost 40 in total, have been able to successfully chart an independent course for monetary policy and exert domestic control over inflation because of the leeway provided by a flexible exchange rate.

And yet the events leading up to the global financial crisis and its aftermath have led some observers to question the value of the flexible exchange rate in insulating the domestic economy against external financial forces and providing sufficient monetary independence.[9] According to these observers, domestic financial conditions were largely determined by global forces, irrespective of the exchange rate regime, thereby rendering domestic monetary policy ineffective. Consequently, to increase monetary policy control, they recommend using capital controls, particularly in emerging-market economies. Imposing capital controls, however, would distort incentives and likely hinder financial sector development, which is necessary for the effective transmission of domestic monetary policy.

The theoretical backdrop for this thinking is known as the impossible trinity, or Mundell's trilemma. Simply put, it means that a country that wants monetary policy independence and free capital movement cannot also have a fixed exchange rate. It can have only two of those three things. In other words, a flexible exchange rate is necessary for achieving monetary independence and influence over domestic monetary conditions.

Rey (2013) has recently argued that the trilemma is no longer appropriate because a global financial cycle drives capital flows, and these flows primarily determine domestic financial conditions, not domestic monetary policy. Therefore, policy-makers face only a dilemma (between free capital movement and independent monetary policy), and countries would need capital controls to conduct independent monetary policy.

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[9] This argument that a flexible exchange rate is less effective in insulating the domestic economy from external financial shocks rather than real ones makes the case for developing and consistently implementing global minimum standards for financial regulation and supervision. This process is being led by the G20 and coordinated by the Financial Stability Board. See Schembri (2016) for further details.

However, Shambaugh (2004) and Obstfeld, Ostry and Qureshi (2019) show that exchange rate regimes do matter, even for emerging-market economies, when it comes to the transmission of global financial shocks. Both studies find that flexible exchange rates provide greater monetary independence and are consistent with the trilemma.[10]

More fundamentally, in a world of open capital markets, the Mundell framework would imply that, while the impact on interest rates from monetary policy actions may be more muted, more of the transmission of monetary policy will take place through the exchange rate. Simply put, flexible exchange rates still preserve some degree of monetary policy independence.

In summary, for commodity exporters like Canada, the need to chart a course for domestic monetary policy independent of that in the United States typically arises when there are large swings in commodity prices. Because the United States is a net commodity importer, such movements have a large differential impact on the two countries, necessitating a different monetary policy, made possible by a flexible exchange rate, to maintain price stability.[11]

## Facilitating adjustment

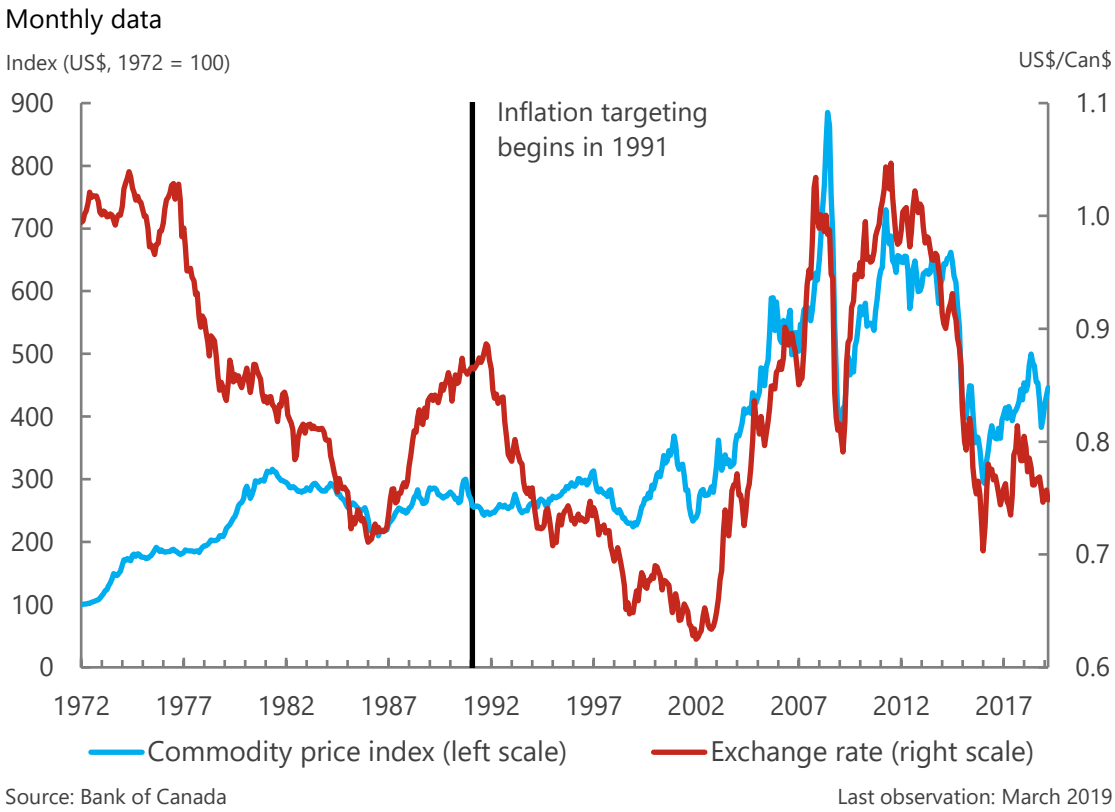
A flexible exchange rate helps attain price stability not only by allowing domestic monetary policy to focus on this goal but also by facilitating the domestic economy's adjustment to external shocks. Whether that shock is a global trade war or a recession in a key trading partner, commodity prices are typically hit first. They are the bellwether for global economic conditions because they are actively traded in global markets where new information is rapidly processed and embedded in their prices.

**Chart 4** shows how commodity prices respond to global forces. For example, the entry of China into the World Trade Organization and into the global economy sparked a run-up in the demand for commodities and their prices from 2002 to 2007, while the opposite occurred during the Great Recession of 2008–09. In both cases, the exchange rate moved largely in tandem with the index of commodity prices.

[10] In addition, Cerutti, Claessens and Rose (2019) uncover little evidence of a global financial cycle that drives capital flows.

[11] Poloz (2014) offers useful supporting evidence. Also see Murray (2000) who compares terms of trade movements in Canada and the United States in response to commodity price changes.

**Chart 4: The Canadian dollar adjusts to commodity price movements**




But how does our flexible exchange rate actually smooth economic adjustment to a commodity price shock? Let's analyze a recent example in more depth.

During the oil price shock of 2014–15, the price of West Texas Intermediate declined by about 67 per cent, from US$103 per barrel in the second quarter of 2014 to US$34 in the first quarter of 2016. Over the same period, the Canadian dollar depreciated by about 20 per cent from 92 cents US to 73 cents US.

But what if we had attempted to hold the Canadian dollar steady, even as our key export commodity was dropping in value? It wouldn't have been easy. The obvious way to limit the fall of the dollar would have been for the Bank to raise interest rates. We estimate that propping up the loonie—avoiding that 20 per cent depreciation—would have required us to increase the policy rate to 6.75 per cent in 2015 and by an additional 25 basis points in early 2016.[12] You will recall that in 2015 we actually cut our policy rate twice, by 25 basis points each time, from 1.0 to 0.5 per cent.

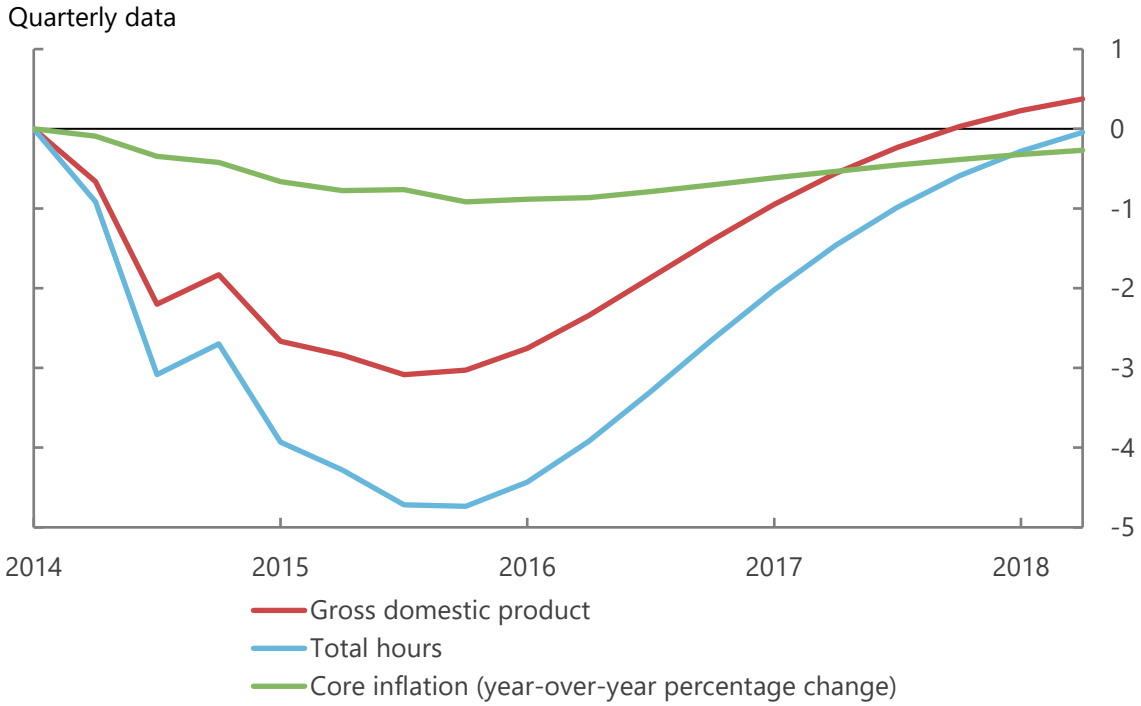
Those hypothetical rate increases to hold the dollar fixed would have had tremendous adverse effects on the real economy. Instead of stimulating growth with our rate cuts, our rate increases would have lowered the level of gross

[12] This counterfactual exercise was conducted using the Bank's ToTEM model. See Murchison and Rennison (2006), Dorich et al. (2013), and Bank of Canada (2017) for a description of ToTEM.

domestic product (GDP) by $60 billion by early 2016—3.1 per cent below what was actually achieved.

In addition, total hours worked would have been 4.7 per cent lower in early 2016. That translates into about 900,000 fewer jobs—increasing the unemployment rate by up to 4 percentage points in 2016. In addition, nominal wages would have been 2.5 per cent lower. Finally, inflation would have been 0.8 percentage points lower in 2016.[13]

**Chart 5: Counterfactual exercise: With a fixed exchange rate, GDP, hours worked and inflation would have fallen during the oil price shock of 2014–15**




Source: Bank of Canada

But how did the 20 per cent depreciation of the dollar facilitate economic adjustment? Because the dollar declined less than the price of oil, the relative price of other goods and services rose compared with oil. This relative price change provided a strong signal to firms to allocate people and capital away from the oil sector and toward other sectors of the economy. The depreciation also made foreign goods and services more expensive, causing Canadian firms and households to switch their spending away from foreign goods and services toward those that are domestically produced. Therefore, the flexible exchange

[13] The results from this counterfactual exercise are illustrative and are likely larger than what would have been the case if Canada had had a pegged exchange rate with the US dollar at the time of the oil price decline because expectations about the conduct of monetary policy would have been different.

rate doesn't absorb the commodity price shock as much as it helps the economy adjust more easily to the shock by smoothing the adjustment in relative prices.[14]

This relatively smooth adjustment is in stark contrast to the counterfactual exercise where the relative price adjustment occurred from a sharp fall in output, a pronounced rise in unemployment and lower wages and prices.

In Alberta, you've seen both sides of this adjustment. When oil prices rose between 2002 and 2008, the Canadian dollar soared alongside to reach parity with the US dollar. Ontario's manufacturing sector lost competitiveness as its goods became more expensive overseas, and investment and workers flowed into the energy sector in Alberta and Saskatchewan.

Of course, the flow reversed in 2014–15 as oil prices fell and the dollar depreciated. Alberta's economy ebbed while other regions expanded, and the Canadian economy was forced to adjust.[15]

Recently, some economists have argued that this adjustment benefit of a flexible exchange rate is less than advertised, in part because the US dollar has become the dominant currency in pricing many goods that are traded between countries. Consequently, exchange rate movements may not affect the relative price of imports and exports (also known as the terms of trade). This, in turn, would reduce the role of exchange rate movements in facilitating adjustment.[16] For example, because commodity exports are typically priced in US dollars, an exchange rate depreciation would not have a large impact on their US-dollar price and thus not lead to more export sales.

However, the evidence for Canada does not support this argument. Even though more than 80 per cent of our imports and more than 90 per cent of our exports are priced in US dollars, exchange rate movements have played a critical role in helping the Canadian economy adjust to large commodity price movements.[17]

Recent work by Gopinath (2017), for example, maintains that the prevalence of US-dollar pricing implies that export prices in US dollars do not fall when a country's currency depreciates, so the traditional stimulative effect on exports does not occur. But her evidence is based on exports of non-commodities. Such differentiated goods normally carry profit margins that can be used to absorb exchange rate movements. Consequently, her argument is less relevant for Canada and other major commodity exporters because their exporters will see

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[14] The actual monetary and exchange rate response to the oil price shock provides an example of the "divine coincidence" (Blanchard and Galí 2007). By attempting to maintain stable inflation, monetary policy helped stabilize output and employment.

[15] See Patterson (2016) for more details on the adjustment of the Canadian economy to the 2014–15 oil price shock.

[16] This dominant currency argument applies primarily to exports because the domestic price of imports would be affected by exchange rate movements and the volume of imports would adjust.

[17] Devereux, Dong and Tomlin (2017) find that, by value, 88 per cent of Canadian imports were invoiced in US dollars over the period from September 2002 to June 2008. Gopinath, Itskhoki and Rigobon (2010) find 96 per cent of Canada's exports to the United States over the 1994–2005 period were priced in US dollars.

their profits rise with a depreciation and will tend to expand production and exports. Moreover, US-dollar pricing does not necessarily entail fixed US-dollar prices in all cases; large and persistent exchange rate depreciations may encourage exporters to reduce their US-dollar prices to expand sales.

## Clarifying and enhancing roles

Before the adoption of our current inflation-targeting framework, the goals of monetary policy were unclear.[18] Market participants often perceived that the Bank of Canada placed some weight on stabilizing the exchange rate as an objective for monetary policy, clouding its role and diminishing its ability to respond to external shocks.

However, the primary goal of monetary policy became much clearer once inflation targeting was adopted, especially as the 2 per cent target gained credibility. With monetary policy now more clearly and credibly focused on price stability, the role of the exchange rate also became sharper—specifically responding to external shocks, and, in particular, commodity price movements.[19]

The most compelling evidence of this clarification of roles comes from recent research conducted at the Bank. This research finds that, before 1991, the Bank's policy rate responded to movements in both the exchange rate and the US Federal Reserve funds rate in addition to economic conditions.[20] Since 1992, however, the reaction of the policy rate to the exchange rate essentially disappeared. Simply, inflation targeting allowed the Bank to focus its monetary policy on price stability.

This finding is corroborated by evidence that suggests that the exchange rate became more sensitive to commodity price movements after inflation targeting was adopted. In **Chart 4** and **Chart 6**, the correlation between the exchange rate and country-specific commodity price indexes increased in Canada, in Australia and in Chile, for example, after inflation targeting was introduced.[21]

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[18] In other words, the Bank of Canada's reaction function to various shocks was not well understood.

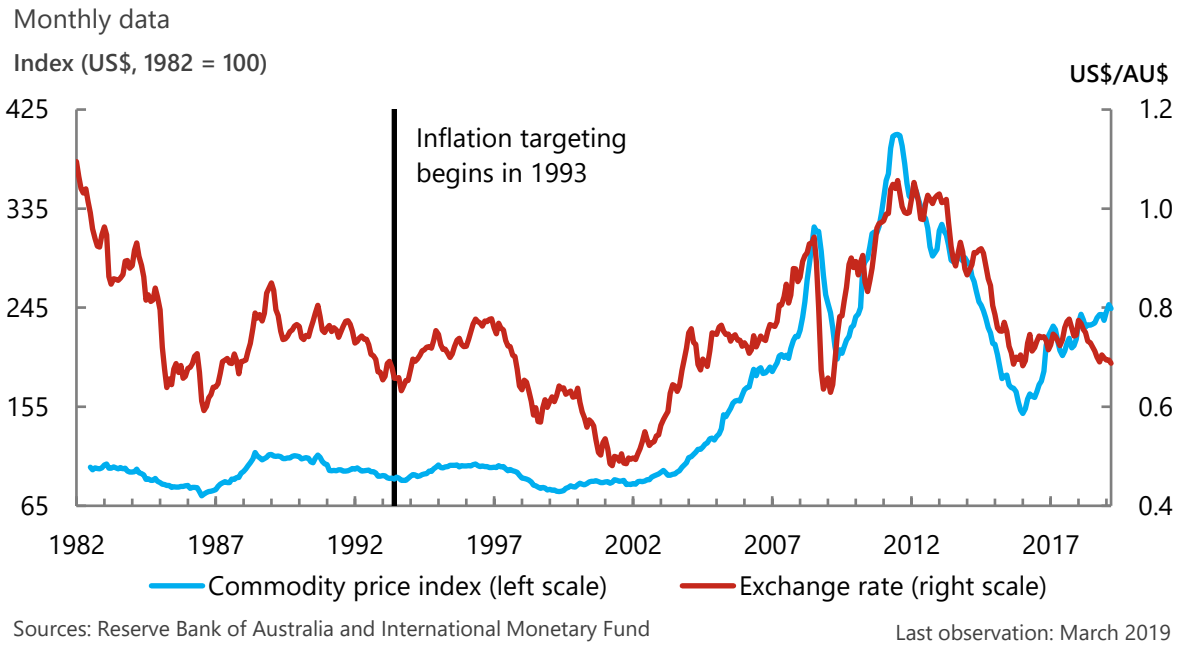
[19] The delineation of roles between monetary policy and the exchange rate corresponds to the concept of policy assignment of Mundell (1961).

[20] See Champagne and Sekkel (2018) for more details.

[21] In both Canada and Australia, the correlation coefficients between the exchange rate and the commodity price index increased significantly after inflation targeting was put in place: from -0.73 to 0.84 in Canada, from 0.51 to 0.84 in Australia and from 0.35 to 0.49 in Chile. All of these correlation changes are statistically significant at the 1 per cent level. See Cui (forthcoming) for further details. Note part of the increased correlation in the Canadian case reflects the increasing importance of oil exports over the sample. See Issa, Lafrance and Murray (2008) for more details.

**Chart 6: Exchange rates become more correlated to commodity price index movements following inflation targeting in Australia and Chile**

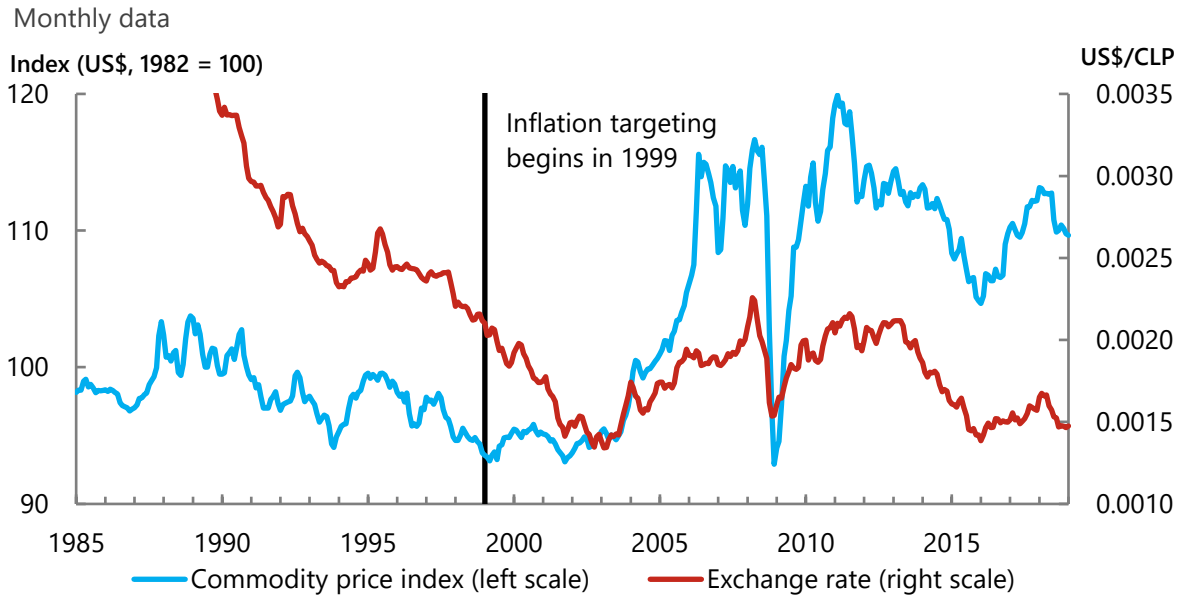
a. Australia




Sources: Reserve Bank of Australia and International Monetary Fund

Last observation: March 2019

b. Chile



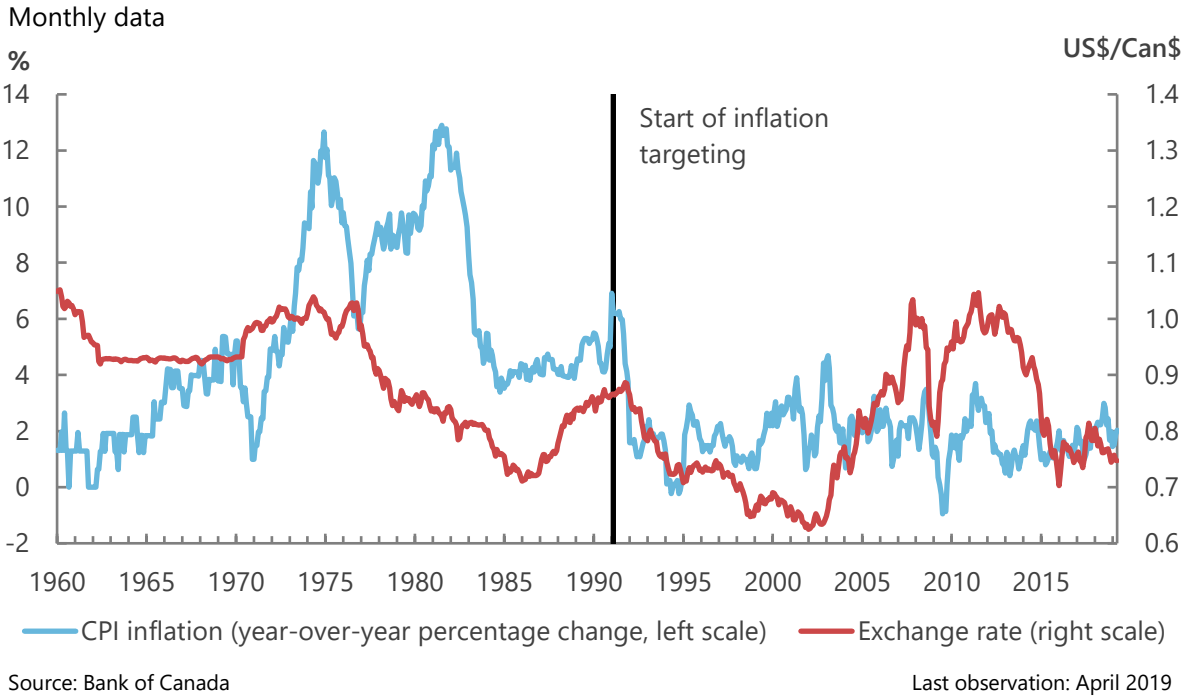

Source: International Monetary Fund

Last observation: January 2019

**Chart 7** illustrates the success of our framework. When inflation targeting was adopted in 1991, inflation became low and stable. At the same time, the flexible

exchange rate helped facilitate adjustment to commodity price movements and other global shocks.

**Chart 7: Inflation targeting has helped stabilize consumer prices**




Source: Bank of Canada

Last observation: April 2019

Hence, monetary policy became more effective with the adoption of inflation targeting because the roles of monetary policy and the exchange rate became clearer and more credible.

## Promoting financial development

But even with independent monetary policy and a flexible exchange rate buffering the worst of the economic storms, sustaining strong economic growth in Canada requires a well-developed financial sector. Over our history, our financial markets and institutions have developed to support the free flow of capital and trade. A strong macrofinancial policy framework and our flexible exchange rate have contributed importantly to this financial deepening. Moreover, this financial deepening has, in turn, enhanced the transmission of monetary policy and improved the functioning of the flexible exchange rate.

Our financial system has evolved to provide the safe and efficient intermediation of foreign capital flows. In addition, the stability of the Canadian financial system and the credibility of Canadian economic and political institutions has allowed domestic firms and governments to issue debt abroad in Canadian dollars.

With the adoption of a flexible exchange rate in 1950 and again in 1970, financial markets in Canada came into being not only to trade currencies, but also to help manage the risk associated with the floating currency. These markets remained relatively thin in the 1970s and 1980s, and the Bank of Canada had to intervene

on an ongoing basis to provide liquidity and reduce volatility. However, by the 1990s, this intervention ended as the foreign exchange market and forward FX and FX swap and interest rate swap markets all became much deeper and more liquid.[22] These markets allow Canadian firms to manage exchange rate risk and other risks associated with international transactions at relatively low cost.

Canada's experience indicates that having a market-determined exchange rate, especially with an inflation target—in conjunction with a robust financial regulatory and supervisory framework and sustainable fiscal policy—fosters financial development. In other words, markets become more complete. The intermediation of foreign capital flows becomes safer and more efficient and a country's ability to issue debt in its own currency increases, thereby reducing the likelihood of currency mismatches on its balance sheet. [23]

The lesson is not unique to Canada. There is much evidence of such financial deepening as countries adopted monetary policy frameworks that target inflation. Recent Bank research finds that adopting a monetary policy framework consisting of an inflation target and a more flexible exchange rate has led to an increase of about 10 to 20 per cent in measures of financial development.[24] This finding is illustrated in **Chart 8**.

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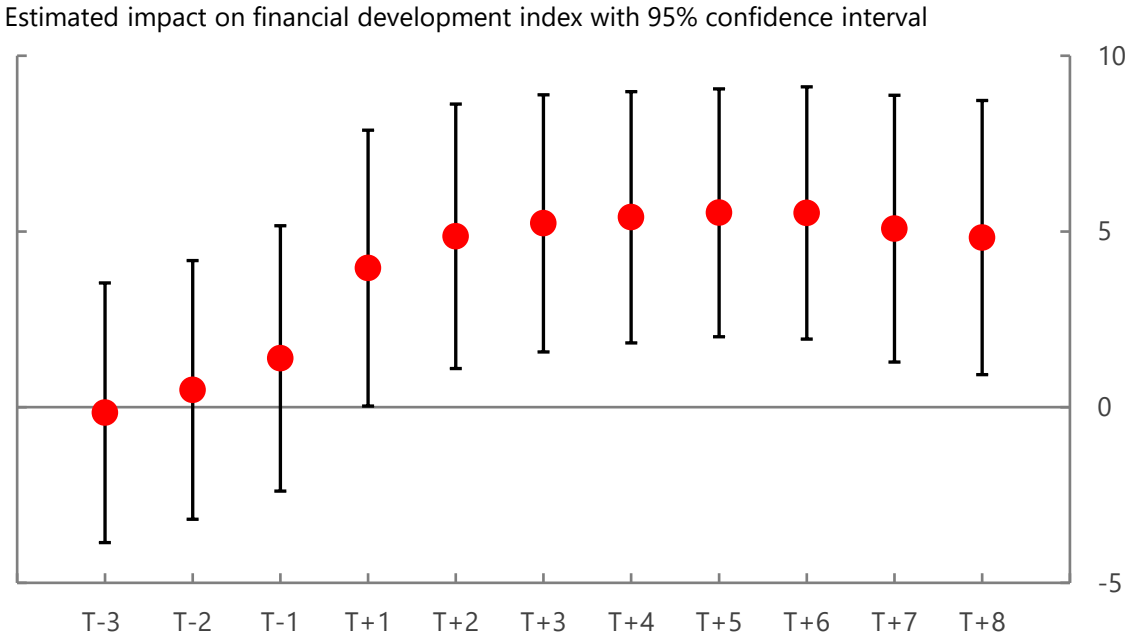
[22] Canadian government policy now restricts such interventions to the most exceptional circumstances.

[23] Dodge (2007) explains that maintaining a fixed exchange rate may require controls on both the financial and real sides of the economy. Thus, a flexible exchange rate would preclude the need for such intervention.

[24] See Dunbar and Li (forthcoming) for more details. They find that the benefits in terms of financial development are largest for early adopters of inflation targeting—for example, Canada, Australia and New Zealand. The sample was of 30 countries that adopted inflation targeting between 1980 and 2016.

**Chart 8: A monetary policy framework consisting of an inflation target and a flexible exchange rate promotes financial development**




Sources: Hammond (2012), Transparency International, IMF via Haver Analytics and authors' calculations

Last observation: 2016

Some observers have expressed concerns about the impact of a flexible exchange rate on financial stability, especially in emerging-market economies. They argue these countries should more actively manage their exchange rates or impose capital controls because of their underdeveloped financial sectors, their lack of credibility in monetary and fiscal policy and their widespread use of the US dollar in debt issuance and trade. Consequently, they are exposed to balance sheet currency mismatches and broader currency risk and are thus vulnerable to wide swings in their exchange rates. In these circumstances, exchange rates should be managed judiciously to limit extreme volatility in thin markets. Active use of exchange rate intervention or capital controls, however, risks reinforcing this second-best argument for such market intervention by distorting market incentives and inhibiting the development of financial markets and institutions that are best suited to mitigate these risks. Clearly, the best solution would be to work toward addressing these shortcomings as Canada and other similar countries have done.

## Concluding remarks

Let me conclude. Canada's long-standing commitment to a flexible exchange rate has served us well. It has contributed importantly to low and stable inflation and strong and sustainable output and employment growth. It has done this by supporting and enhancing the effectiveness of independent monetary policy and by helping the economy adjust to external shocks, primarily significant fluctuations in commodity prices.

As you know, we are conducting a formal review of our monetary policy framework leading up to the 2021 renewal of our inflation-control agreement with the federal government. As part of this review, we are engaging with academics and other central banks as well as a wide range of private sector stakeholders and interested Canadians.

While the inflation target gets most of the attention, our flexible exchange rate is a critical component of the framework and is necessary for its success. We have operated with a largely market-determined flexible exchange rate for 61 of the past 69 years—by far the longest of any country.[25]

At the same time, we know that the ingredients that have contributed to the success of Canada's system are not in place everywhere. Emerging-market economies may need more time to develop well-functioning financial markets and institutions and to achieve sufficient policy credibility to realize the benefits of a floating exchange rate.[26]

But Canada's experience is not unique. Many other countries have learned from our experience and have realized many of the same benefits I have described today by adopting a framework anchored on a flexible exchange rate and an inflation target. Just as the gold standard was once accepted as orthodoxy, this monetary policy framework has proven to be the most durable monetary policy standard in the post-war period. None of the 40 or so countries that have credibly adopted it has subsequently abandoned it. It has truly withstood the test of time.

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[25] Canada is perhaps the best example of the outcomes predicted by Milton Friedman (1953) in his well-known article, "The Case for Flexible Exchange Rates."

[26] Dodge (2007) cogently argues that many countries should strive to achieve a well-functioning flexible exchange rate because it is a key component of a market-based liberalized trade and financial order that will promote global economic growth and prosperity.

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