



Economic Report *of* **Canada**

Antonino Del Rossa
Kenneth Foster
Aaron Simmons
Changhe Xie

Table of Contents

1.	Introduction	1
2.	Data Analysis	3
2.1	Tourism	4
2.2	Crude Oil Prices.....	5
2.3	Inflation and CPI	7
2.4	Unemployment..	8
3.	Current Policy Framework	9
3.1	Fiscal Policy	10
3.2	Monetary Policy	11
4.	Academic Research	12
5.	Forecasted Variables	16
5.1	Inflation	16
5.2	Crude Oil Prices.....	17
5.3	GDP	19
5.4	Unemployment.....	20
6.	Conclusion	21
7.	References	23

1 Introduction

When the French and British first began colonizing North America in the beginning of the 17th century, the part now known as Canada was extremely alluring because of its vast natural resources and ample wildlife. Fur was seen as a symbol of wealth and status in Europe, so the early Canadian economy began to thrive on the fur trade (Canada Guide). As time progressed and more people settled, Canada's abundant natural resources created a booming economy, ushering in Canada's industrial revolution during the 20th century (Britannica).

Today, Canada's natural resources continue to be a driver of economic growth, especially oil and natural gas, the third largest contributor to GDP. Canada is the fourth largest oil producer in the world and is the sixth largest producer of natural gas in the world (Canada Oil). Canada currently produces 4.6 million barrels of crude oil per day, 96% of which are exported to the United States (Crude Oil). In 2021, revenues from oil and gas extraction were \$174 billion, or roughly 9% of Canada's GDP (Canada Oil). Canada's economy also relies on other types of mining, specifically precious metals including gold, silver, copper, and nickel. In 2021, Canada's exports of minerals and metals accounted for 22% of their total merchandise exports, or \$127 billion (Mineral Trade), which is roughly 6% of GDP.

The second largest contributor to GDP is Canada's manufacturing sector, contributing roughly 10% to overall GDP and employing about 1.7 million people (Manufacturing in Canada). Canada's food and beverage processing industry is the largest manufacturing sector, accounting for roughly 17% of total manufacturing in 2019, with meat and dairy being the biggest products. Canada's motor vehicles and parts sector accounts for the second largest portion of their manufacturing, accounting for roughly 12% of manufacturing in 2020 (Important Facts). Automobile companies such as Chevrolet, Chrysler, Dodge, Ford, Honda, and other car manufacturers produce some of their most popular automobiles in Canada (KBB Editors). Other important manufacturing industries include coal and petroleum products and chemical products (Manufacturing in Canada).

Like most developed nations, Canada's largest industry is its services, accounting for 70.5% of GDP in 2017 and 79% of Canada's employment (Canada's Services). Within the service industry, real estate is the largest industry, followed by public administration, education, and health care. Other service industries in Canada include financial and information services, retail and wholesale, and transportation. Among the fastest growing service industries in Canada

is its tourism industry (Britannica), attracting people from all over the world to an escape to the “Great White North.” Canada’s closest trading partner is undeniably the United States, who accounted for roughly 64% of Canada’s imports and 75% of Canada’s exports in 2019 (Britannica).

This report will give a detailed analysis on the current state of Canada’s economy, including a discussion of leading economic indicators and trends, the current macroeconomic policy framework and Canada’s COVID-19 response, a survey of current empirical and theoretical research papers, a forecast of key economic variables, and a discussion of risks and challenges in the near future.

2 Data Analysis

Like other economies, Canada is also continuing the transition from pandemic level which is characterized by recovery-driven growth to a comparatively normal level of growth in 2022. Despite seeing substantial improvement, this road to the pre-pandemic world’s normality would not be smooth.

In spite of that, the households are at a position that supports economic growth, yielding an expected GDP growth rate around 3.5% in 2022. Figure 1 shows how real GDP has grown over time. After a major drop in the nominal GDP per capita took place in 2015 and 2016, the Canadian Central Bank managed to achieve a 3- year recovery period which brought the level back from 42.3k to 46.3k. During the pandemic, the GDP level fell again to 43.3k. Therefore, it may yield some insights by examining the Canadian economic response to Covid-19 and what efforts it put in to bring the economy back up by evaluating some of the most important economic indicators in the economy.

Around March 2022, most COVID-19 restrictions have been lifted and economic activities have returned to the pre-pandemic baseline level. The CERT level sits at 5% below the baseline level as of November 18th, 2022.

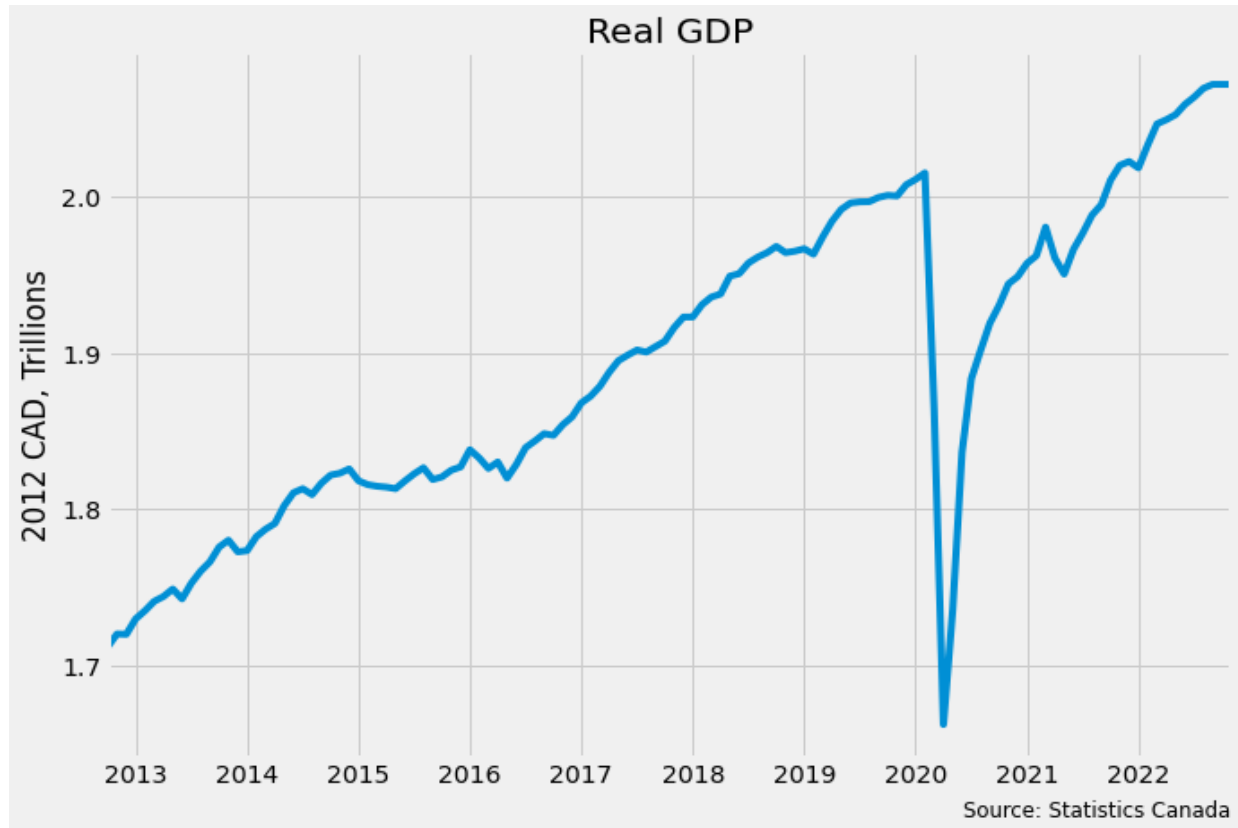


Figure 1: Canada's Real GDP (2013-Present)

2.1 Tourism

Starting off with the change in the tourism sector which is one of the most important parts in the formation of the Canadian economy and a source of jobs and growth in every region of the country, due to the pandemic, in the second quarter of 2020, there was a tremendous drop in tourism spending in Canada from 20.499 to 6.965 billion dollars. It is also noticeable that tourism spending by non-residents almost hit 0 lower-bound which is largely attributed to the global travel restrictions.

After the implementation of pandemic-targeting recovery policies, the travel spending in Canada has achieved 5 consecutive quarterly increases since the second quarter of 2021, as well as the tourism GDP level and the jobs attributable to tourism rise index. From a number of these indicators, we can see that in spite of the downturn during the pandemic, the tourism sector is slowly warming up again, despite still having a gap to fill compared to pre-pandemic level.

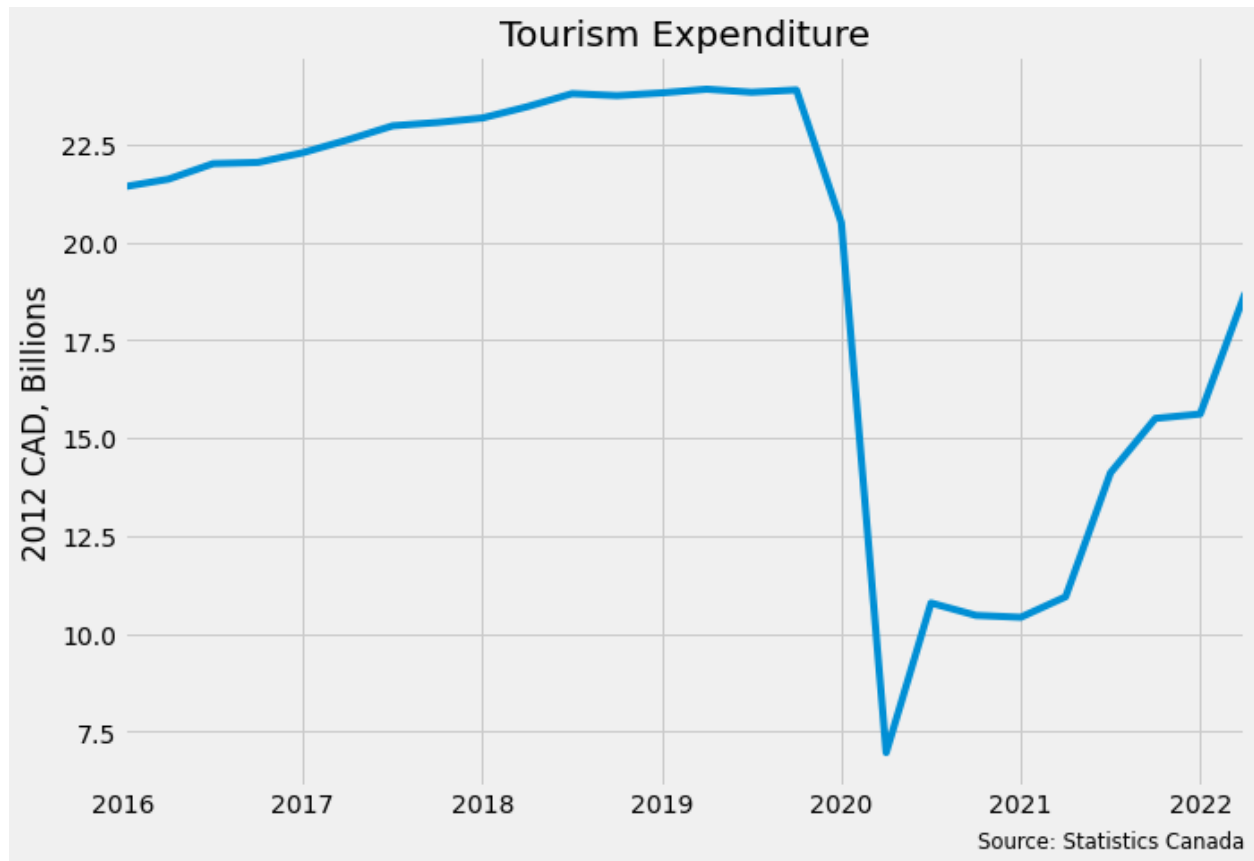


Figure 2: Tourism Expenditure (2016-2022)

2.2 Crude Oil Prices

Being one of the most important and essential commodities in the world, oil and petroleum products impact our lives so deeply they consist of almost everything ranging from simple clothing and plastic products to national security necessities like fuel and solar panels. Due to the characteristics of oil price being highly volatile and strongly influenced by the economic performance, it often serves as an important indicator of the economy.

As indicated in Figure 3, there are two major oil price drops in the near decade. The first one was a global oil price collapse in 2014-2016 which was driven by a supply glut and excess storage which failed to transition into economic growth globally. This worldwide oil price drop of approximately 70% is one of the largest in history. The second drop we see is when demand for oil plunged during covid due to lockdowns and restrictions, leading to a massive downturn of

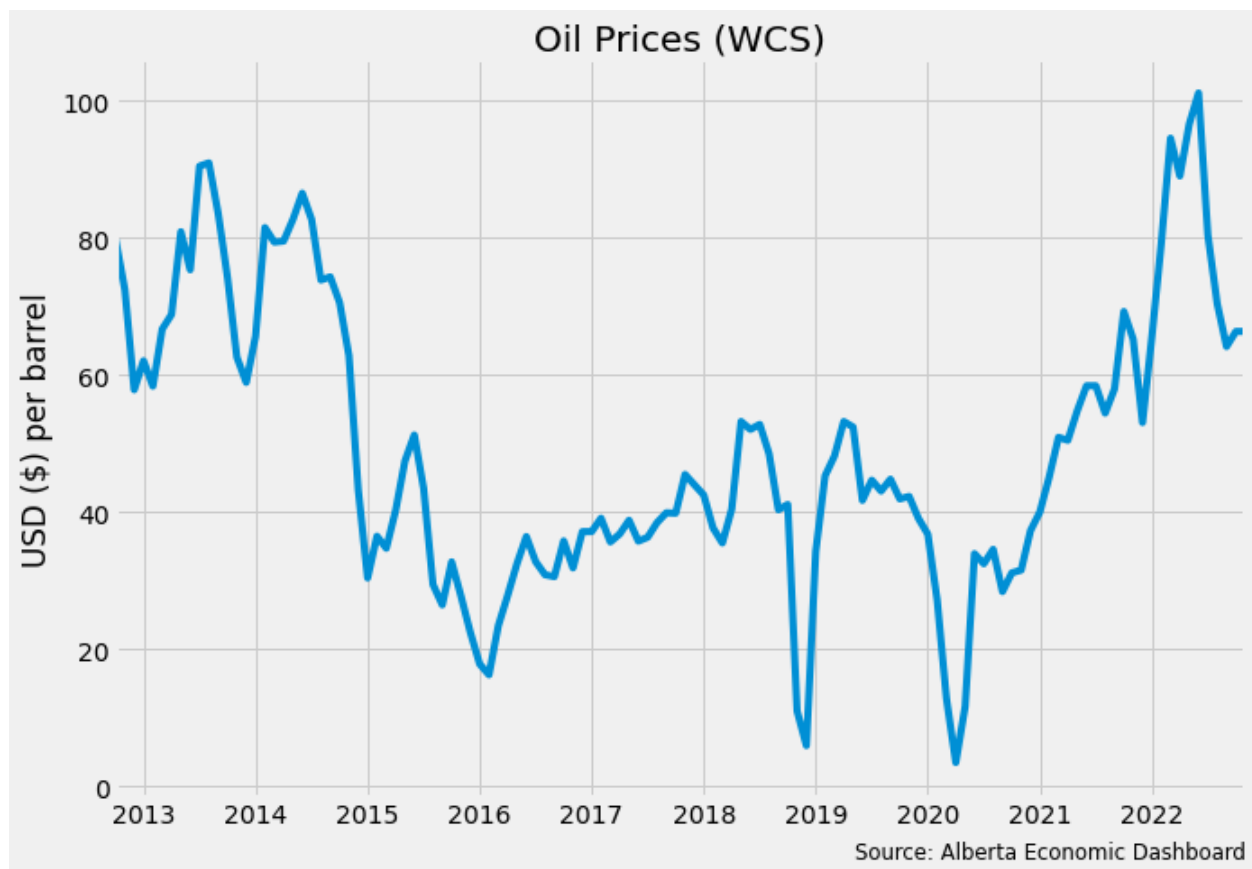


Figure 3: Canada's Oil Prices (2013-2022)

the economy featuring an extremely low oil price of 7.52 dollars per barrel, which is another record low in the CCI (Canadian Crude Index) history.

Oil prices have been rising quickly following economic recovery policies post-lockdown, which causes a rise in the demand of oil as economic activities resume. In addition, the obvious sharp rise in February, 2022 was an outcome of supply fears that were stoked when the geopolitical tensions led to the outburst of the Ukraine War. Along with the reactions of strong western forces, the oil price was sent soaring high, up to 104.82 dollars per barrel in March, 2022.

2.3 Inflation and CPI

Canada's annual inflation rate is at 6.9% as of October, 2022, matching the level in September. The speedy price increase for gas and mortgage interest costs were, to some extent, compensated and moderated by a comparatively slower pace of the price increase of the food market sector. Figure 4 below shows this rapid increase.



Figure 4: Canada's Inflation Rate (2018-Present)

Like other economic indicators, inflation was also impacted by Covid-19 and the War in Ukraine. Stemming from public lockdown restrictions and consumers' growing anxiety when Covid initially hit, consumers' demand fell tremendously and the CPI lowered into the negative territory for two months in April (-0.2) and May (-0.4), 2020, for the first time in decades. The deflation was followed by a sharp spike of price in mid-covid when supply chain was largely disrupted while demand surged. Moreover, along with the effect of the Ukraine War, the conflict

and tensions led to the collapse of export and supply chains of products like metal, food, and gas from the areas, driving up the inflation rate to 8.2% in June 2022, a level not seen in decades.

More recently, around October 2022, consumers are seeing, on average, higher prices at gas stations. Combined with a renewed higher level of mortgage interest rate which drives up mortgage interest cost over 11.4% annually and shelter cost from 6.8% in September to 6.9%, these changes put an upward pressure on the all-items CPI. This scale of mortgage cost increase has not been spotted since February, 1921. However, this increasing force was balanced out by the slower growing rate of price of natural gas and groceries, on a year-to-year basis. Compared to September, transportation costs rose from 8.7% to 9.5%. Overall, the inflation rate in Canada is still at a relatively high level compared to the rest of history.

2.4 Unemployment Rate

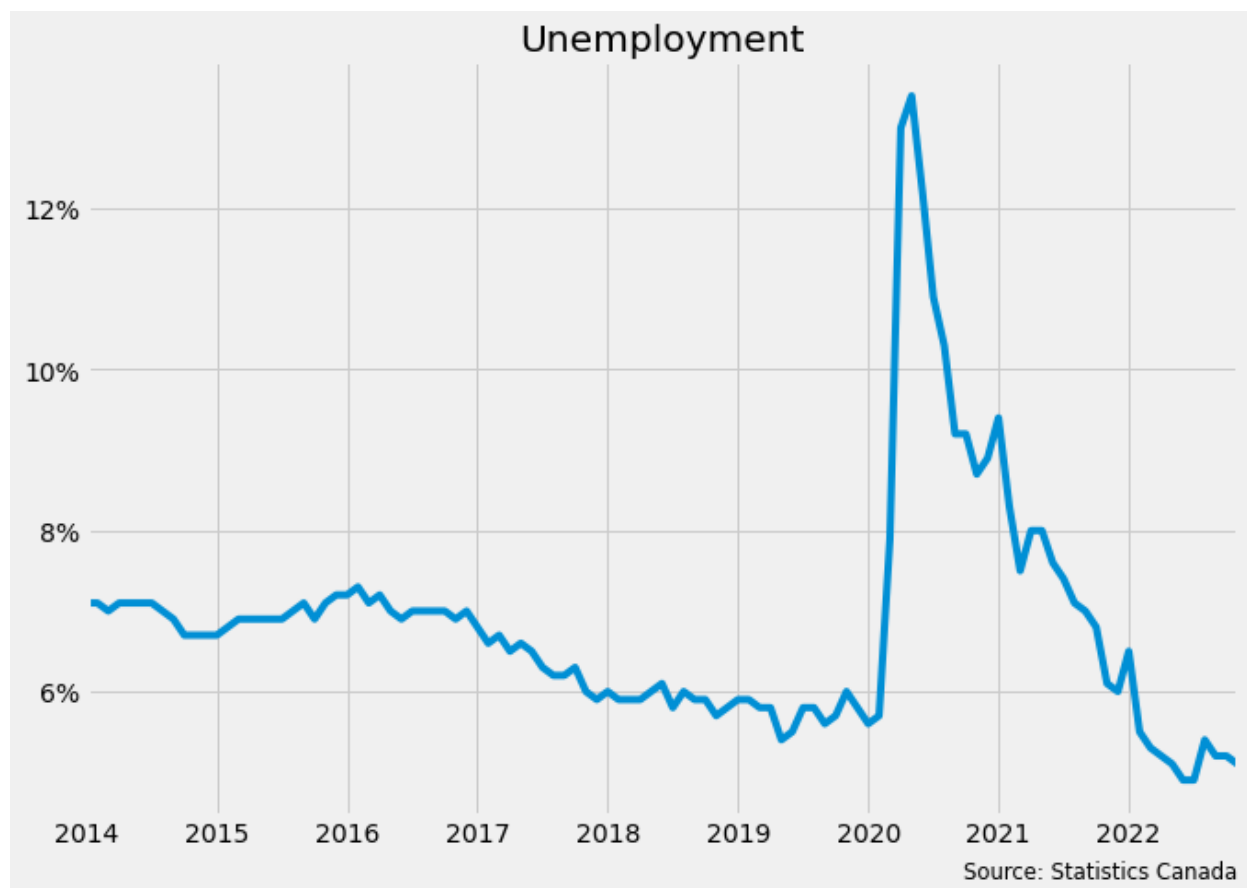


Figure 5: Canada's Unemployment Rate (2014-Present)

Having the ability to support fundamental economic activities and growth through consumer basis or wrecking havoc and causing disruption and instability, unemployment indicator serves as a measure for the health of the labor market. On the scale, one thing that stands out is the spiking unemployment rate during the period of Covid-19. When the whole globe basically shut down, firms and factories had to lay off most of their workers, if not having to go bankrupt. Even the employees from companies that managed to survive were seeing reduced merits and gains from job conditions and wages, which is expected. The highest point was at 13.4% in May 2020. After that, with the government intervention and policies to help put workers back to the workplace, along with the effect of immense amount of stimulation being launched, there was a sharp recovery in the economy since then.

As of November 2022, the unemployment rate is at 5.1%, showing a slight decrease from prior month's 5.2%. Canada saw a fall of 23.8 thousand for the number of unemployed individuals in November. The major contribution of the reduction is the higher job ownership of women from the age group younger than 24 and men over 50. There is also a minor rise of employment level of 10.1 thousand in the core working age group.

In general, despite the individual numerical difference and specific uniqueness there might exist, all of these measurements show the same trend when it comes to global events like the pandemic and the Ukraine War, proving their validity and capability to be used as important indicators.

3 Current Policy Framework

Canada's macroeconomic policy is divided into two main components: fiscal policy and monetary policy. Fiscal policy refers to the decisions that the Canadian government makes regarding taxes, spending, and borrowing whereas monetary policy refers to the Bank of Canada's decisions about the money supply (Economic Response Plan). As with most other developed countries in the world, Canada's current macroeconomic framework has been largely influenced by the COVID-19 pandemic.

3.1 Fiscal Policy

Canada has always been fiscally prudent, and their balance sheet had the lowest net debt-to-GDP ratio among countries in the G7 entering 2020. Therefore, when the COVID-19 pandemic struck the globe in 2020, Canada was poised to answer strongly and immediately. The result was the Economic Response Plan. Through this plan, the federal government pledged over \$400 billion in total relief, with an additional \$65 billion in support from Canada's provincial and territorial governments. A large portion of this support went directly to citizens and businesses. For households, the Canadian government gave unemployment benefits, wage subsidies for furloughed workers, and extra support for seniors, post-secondary students, and others. For businesses, the Canadian government provided commercial rent support, sectoral support, and forgivable credits and loan guarantees for small and medium businesses (Economic Response Plan). This strong response to the pandemic was rival only to the United States and Canada saw a faster recovery with an earlier-than-expected return to real GDP.

Moving forward from the pandemic, the Canadian government plans to “firmly pivot” from COVID-19 expenditures and focus its investments on things that will drive long term economic growth (Budget 2022). These investments are mainly in Canada's workforce and in clean, renewable energy. To invest in the future of Canada is to first invest in the future of workers. Therefore, in the 2022 Budget, the Canadian government calls for investments in housing, immigration and skills (Budget 2022). For example, the government's investment in Child Care was designed to increase labor force participation and increase quality of life for working adults. Given how large crude oil and natural gas production is, Canada has some of the highest greenhouse gas emissions of any country in the world (Budget 2022). Therefore, the Canadian government's investments in clean, renewable energy to make Canada greener will have to be significant and will prove to be a sizable portion of the budget for the coming years.

However, government spending during the pandemic led to an increase in federal deficit-to-GDP ratio, which went up to 13.2% in 2021, compared to 1.7% just a year before (The Economy and Economic Policy). This was all financed by an issuance of long term government bonds because of historically low interest rates. Like all governments, Canada also raises revenues through various taxes, with a large portion coming from personal income taxes and corporate income taxes, which combined made up for 42% of government revenues (Government). Other sources of tax revenue include taxes on production and imports, taxes on

products, and more. This portion of fiscal policy sources allow the Canadian government, like all governments, to fund government programs and purchases.

3.2 Monetary Policy

The monetary policy is controlled by the Bank of Canada and consists of two key components: the inflation-control target and the flexible exchange rate (Poloz).

The inflation-control target is really the key of Canada's monetary policy. Inflation is the main focus because of how costly to firms and individuals it can be and because central banks are unable to really influence anything else for a sustained period of time (Di Matteo). Since 1991, the inflation target has been set between 1 and 3% and is jointly reviewed every five years by the Bank of Canada and the Canadian federal government (Poloz).

To keep the inflation rate within the target, the Bank of Canada has one tool: setting the overnight interest rate. The overnight interest rate is the rate in which commercial banks lend to each other in very short periods of time. By raising the overnight rate, banks are discouraged from borrowing and spending, which eases prices in times of high inflation (Poloz). If inflation is low, the Bank of Canada can lower the overnight rate, encouraging banks to spend and borrow more to stimulate the economy and raise prices.

As a result of the Canadian government's Economic Response Plan spending, high inflation has been seen in Canada and around the globe. In the renewed agreement for 2022-2026, the Bank of Canada pledges to still target inflation at 2% while still maintaining maximum sustainable employment (Joint Statement). In order to do these things simultaneously, the overnight rate cannot be raised too much for fears that over-tightening would lead to high unemployment. As of October 26, 2022, the Bank of Canada increased the overnight interest rate 50 basis points to 3.75%, which is the sixth rate hike of 2022. Despite this 50 basis-point increase, the Bank of Canada believes that it will be forced to continue to raise rates in order to combat inflation.

The other component to Canada's monetary policy is the flexible exchange rate, which deems the value of the currency based on the foreign exchange market.. The flexible exchange rate has four main advantages according to the Bank of Canada. First, the flexible exchange rate allows Canada to have monetary policy independence, meaning that they have the freedom to choose the course of their monetary policy. Alternatively, if the exchange rate was pegged, the

Bank of Canada would have no freedom to choose their monetary policy. Second, the flexible exchange rate allows for adjustment to external shocks, such as commodity prices. Third, the flexible exchange rate promotes policy clarity and effectiveness in keeping prices low, and fourth, supports free flow of capital and trade in the financial sector (Schembri).

4 Academic Research

The next section is going to focus on a review of academic literature both related to the Canadian economy and papers studying topics relevant to the Canadian economy but not explicitly in Canada. A specific theme is going to be oil; as previously mentioned in the Introduction and Fiscal policy section, Canada is a large oil exporting country with around 9% of Canada's GDP coming from oil and natural gas. In the coming few years it seems very likely that the price of oil will be volatile. The Russian invasion of Ukraine spiked oil prices globally (Macrotrend) and COVID-19 continues to affect the global supply chain. There is significant academic research showing that oil price volatility has a negative effect on output and aggregate demand in oil exporting countries.

This paper, Oil Uncertainty in Canada by Elder and Serletis, examines the effect that uncertainty surrounding energy prices has on an economy. It builds off the work of Bernanke who postulated that uncertain energy prices will lead firms to postpone investments that are permanent, and reduce aggregate output. The paper challenges the basic assumption that an increase in oil prices will decrease consumption while a decrease in oil prices will lead to an increase in output. The primary result from their paper is that "oil price uncertainty has a negative and significant effect on Canadian industrial production, output of goods producing industries, and mining and oil and gas extraction." (Elder and Serletis, 2009). Further confounding this effect is the fact that Canada is an oil producing country. It would be reasonable to assume that the oil production industry would respond positively to an increase in oil prices while the other industries would respond negatively, and vice versa. This could have some sort of dampening effect on the volatility of oil prices as the oil industry responds either way. This study showed that oil producers were equally susceptible to the Bernanke theory surrounding volatility affecting investment decisions. In fact there is an asymmetry to the oil price shocks in the presence of uncertainty; decreases in the price of oil do not stimulate output as much as increases in the price of oil depress it. The supposed positive relationship with oil

prices and oil output for Canada does not show up empirically. A paper that performed a similar study in Brazil and Mexico showed similarly that oil price volatility plays a significant role in the determination of industrial production volatility (Alao, R. O., & Payaslioglu, C. (2021)). Though the oil countries studied in this are Mexico and Brazil, the study shows a clear link between volatility in industrial production and oil price uncertainty and recommends diversification of the economy; Canada may want to consider this as well. It is relevant to point out that as mentioned above in the Fiscal Policy section, Canada may want to considerably invest in renewable energy to reduce its dependence on oil.

This relationship between oil price volatility and output presents a dilemma for the Canadian central bank. The monetary policy section focused on the role that the Canadian Central Bank plays in controlling inflation, and only briefly mentioned the flexible exchange rate. This is appropriate as the central bank rarely intervenes in the functioning of the exchange rate (Bank of Canada). The goal of the floating exchange rate is to let it absorb external shocks, rather than allow it to reach price levels. Several academic papers study the efficacy of the floating exchange rate; is it actually responding to external shocks? Shocks to the price of oil have an outsized effect in particular on the Canadian dollar. This study by Jung et al on the relationship between oil price and the Canadian dollar to US dollar exchange goes so far as to describe it as a petrodollar (Jung, Y. C., Das, A., & McFarlane, A. (2020)). Their study showed that the floating exchange rate did an effective job of absorbing shocks to the price of oil. The chart from their paper below shows that the CA/US exchange rate has a bidirectional long-run cointegrating relationship, after controlling for macroeconomic differences across the two countries.

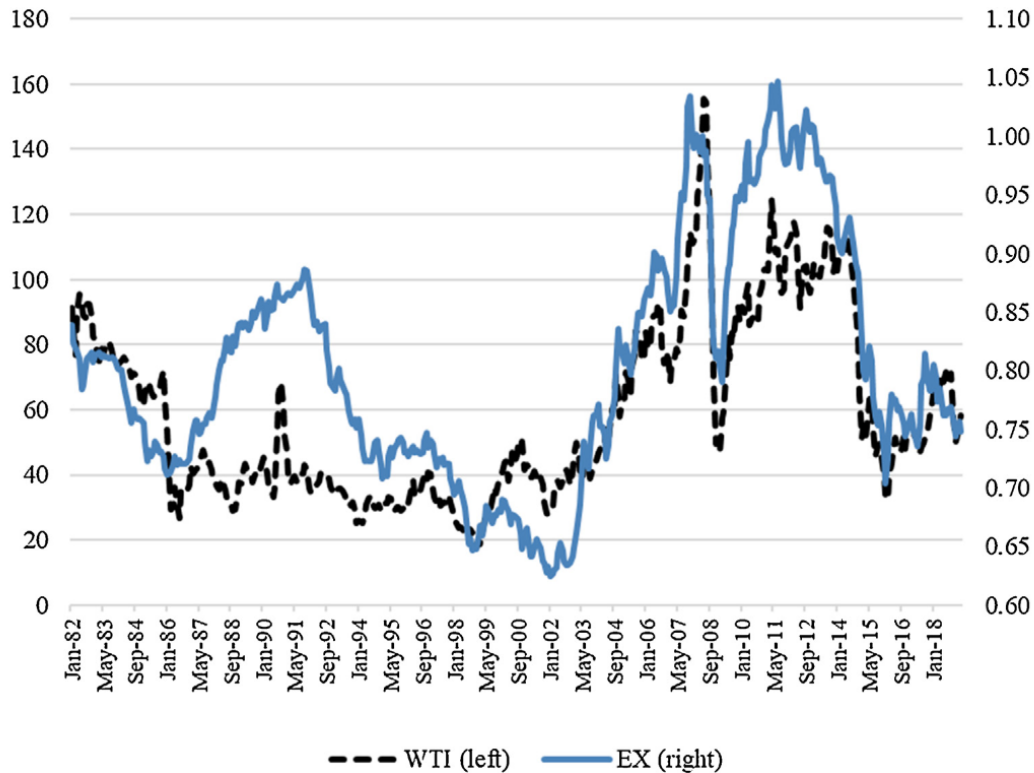


Figure 6: Real WTI Spot Price (WTI) vs. the Exchange Rate of USD/CAN (EX)

In general this is the relationship that bears out: an increase in the price of oil leads to an appreciation of an oil exporting country's currency exchange rate compared to an oil importing country, while a decrease in the price of oil leads to a depreciation of an oil exporting country's currency exchange rate compared to an oil importing country. As mentioned in the Introduction, given that the US accounted for roughly 64% of Canada's imports and 75% of Canada's exports in 2019, oil price volatility in the coming years will result in large fluctuations in the CA/US exchange rate. The Central Bank of Canada seems to be ok with this, and takes the perspective that "movements in the value of the dollar help investment and jobs shift from sectors that are declining to those that are growing" (Bank of Canada, Understanding Exchange Rates).

In the context of Canada we have seen that the CA/US exchange rate moves with the price of oil (Jung, Y. C., Das, A., & McFarlane, A. (2020)). Basic exchange rate theory would say that appreciating a currency relative to others would result in imports becoming relatively cheaper and exports becoming relatively more expensive, increasing the people's buying power

but also increasing the trade deficit. The reverse would be that a depreciation decreases people buying power but makes exports relatively cheaper, which would decrease the trade deficit and stimulate the economy. It is important to validate whether fluctuations in the exchange rate are actually effective in both promoting growth in some industries while contracting others (Bank of Canada, Understanding Exchange Rates). This paper from Durgo et al examines the relationship between the balance of trade and exchange rates and its effect on tourism. We would expect an increase in oil prices to appreciate the Canadian dollar and increase the profitability of the oil industry, but does the tourism industry increase in profitability when the exchange rate decreases

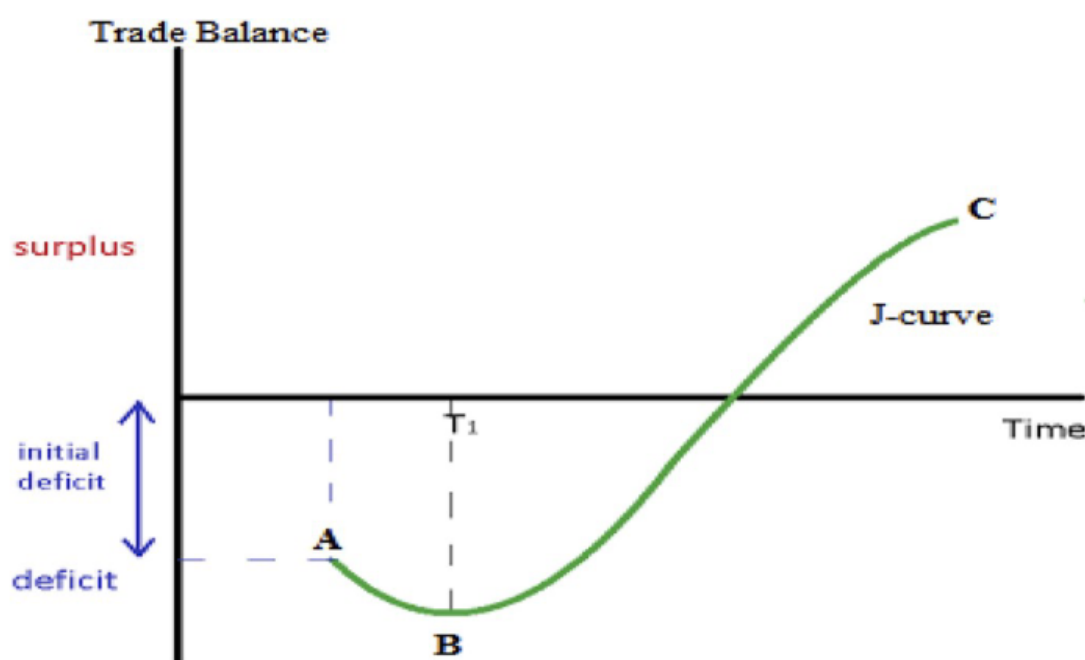


Figure 7: J-Curve

and American dollars can purchase relatively more in Canada? The previous accepted theory on trade balance changes from exchange rate depreciation was the J-Curve which essentially says there is a lag as the outbound tourism demand from a country in which the local currency has depreciated will decline, while inbound tourism to the country will increase, ultimately improving the balance of trade (Dogru, T., Isik, C., & Sirakaya-Turk, E. (2019)).

This study, however, rejects the J-curve; there is no initial decrease and long term increase, as the study finds that there is an initial increase and long term increase. Currency depreciation is a good thing for a local economy immediately, showing the efficacy of the floating exchange rate strategy employed by the Canadian central bank.

5 Forecasted Variables

In this section, we will look at forecasts of key economic variables for Canada, including the inflation rate, oil prices, real GDP, and the unemployment rate.

5.1 Inflation

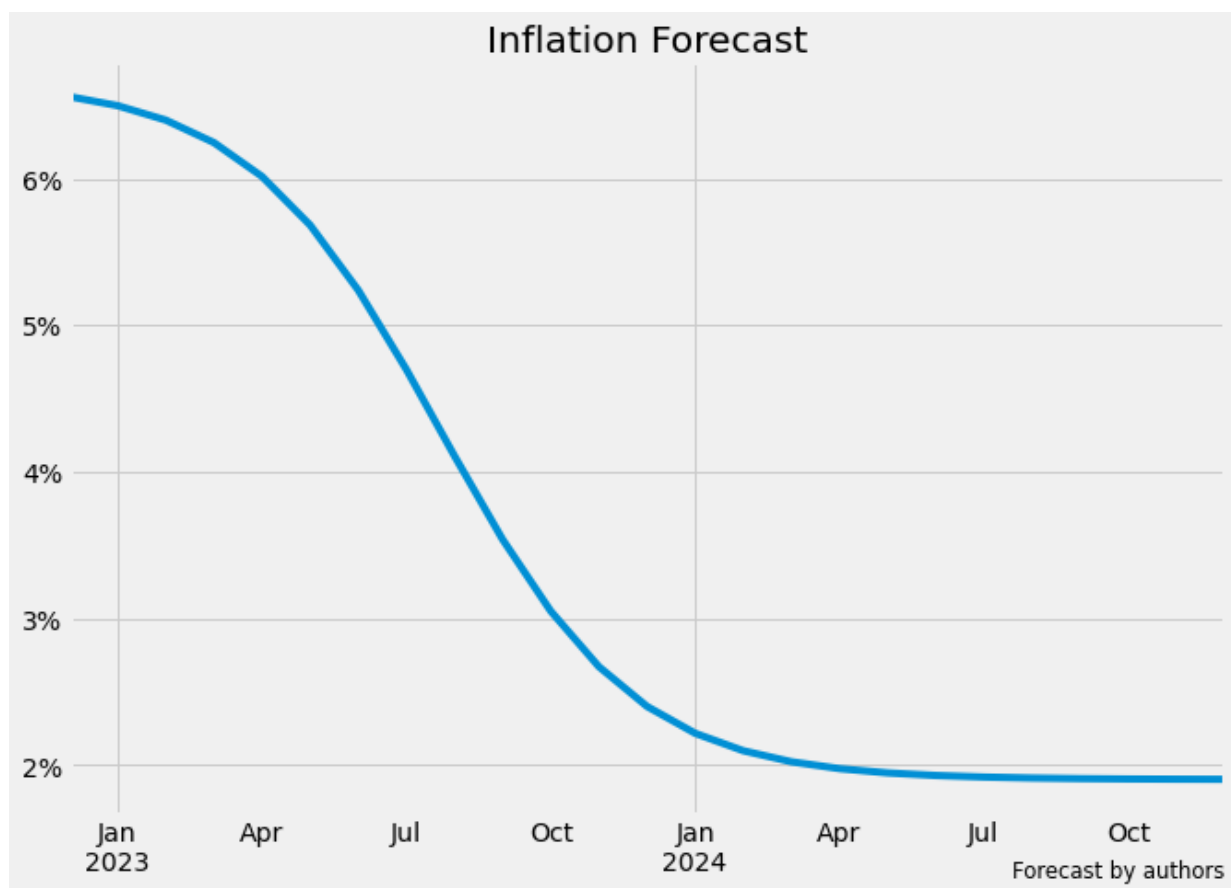


Figure 8: Forecast of Canada's Inflation Rate

As previously mentioned in sections 2 and 3, inflation is at record levels, and managing it is key to Canada's monetary policy. Progress on this goal has been slow. In June 2022, after over

a year of both rising inflation and subsequent rate hikes, inflation hit its peak at 8.1%. As of November 2022 it had decreased to 6.7%, an average decline of 0.3% per month (Statistics Canada, Consumer Price Index). Assuming this rate of decline continues, target inflation of 2% won't be reached until Q2 2024, at least 16 months from the time of this report, as shown above in Figure 8.

Interest rates have already been increased substantially, from 0.25% at the beginning of the 2022 up to 3.75% in October 2022, to curb this inflation (Bank of Canada, Policy Interest Rate). Tiff Macklem, governor of the Bank of Canada has expressed that further hikes are approaching (Reuters).

Given the slow current decline of inflation and the Bank's resolve to raise rates until the decline speeds up, we expect that inflation will not decline in a linear fashion. We model the decline as a reverse "S" shape, or sigmoid. Slow decline in the next few months will be followed by a relatively rapid drop once interest rates are high enough to trigger sustained decline. As inflation approaches the Bank's target, they will respond by lowering rates again, prompting the decline of inflation to slow down. If the average decline since peak holds in the long run, the most rapid decrease (and the highest interest rates) will take place through Q2 and Q3 of 2023 and the target will be reached near Q2 of 2024.

5.2 Crude Oil Prices

As reported in section 1, oil production makes up 9% of GDP alone (Canada Oil). Canada's position as a major exporter of oil makes the market price an important factor in predicting its economic health in the next few years. As described in section 4, while high prices stifle consumption, it is stability of prices that is particularly important to levels of investment. Recent volatility has prompted a slowdown in investment, and abrupt changes to the price over the next year will make that trend continue.

Extrapolating from historical data and incorporating previous predictions on inflation and interest rates, we forecast oil prices over the next two years as shown in Figure 9 below. While prices are generally declining as demand normalizes and supply is cushioned by the U.S. Strategic Petroleum Reserve, it is likely that upcoming high interest will prompt another spike in prices over the first few months of 2023, which could be high enough to rival the peak from mid-2022, but more likely closer to the midpoint between current prices and the previous peak,

or around 70-80 USD per barrel. After this secondary peak, we will likely see prices continue to fluctuate strongly over 2023, even if this trend is downward overall. Prices are likely to stabilize by Q3 2024. The stable price arrived at may be close to what it was pre-pandemic, but will likely be higher. Even if supply chain issues, war, and other large headwinds subside, an anchoring effect from earlier high prices can shift consumer price expectations, enabling producers to keep prices higher than the pre-pandemic average as long as they are below the peak from mid-2022.

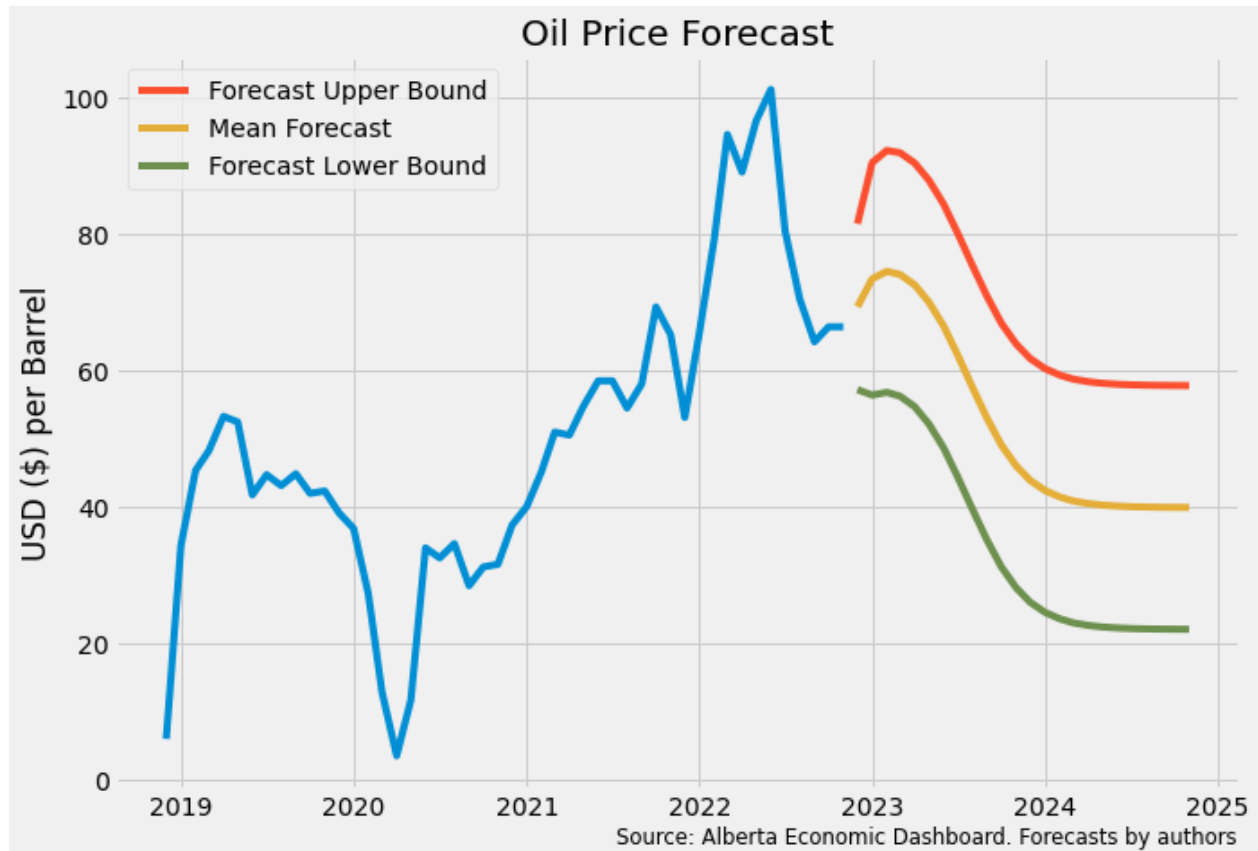


Figure 9: Forecast of Canada's Oil Prices

5.3 GDP

GDP growth will be strongly affected by inflation, interest rates, and market prices for key commodities like oil. GDP is likely to have at least one period of decline in the immediate future for two main reasons: First, consumption is dampened by high inflation, and will continue to be for the near future. Second, high interest rates and volatile oil prices are slowing down investment. Using historical GDP data, historical oil prices, and predicted oil prices, we create a

24 month forecast. Despite a general trend of consistent GDP growth after 2021, we predict current headwinds will stymie growth over the first half of 2023. This downturn could be short-lived, but if a recession materializes, due to generally strong headwinds and high interest rates in particular, it could last 3-4 consecutive quarters. Calling back to forecasts on inflation,

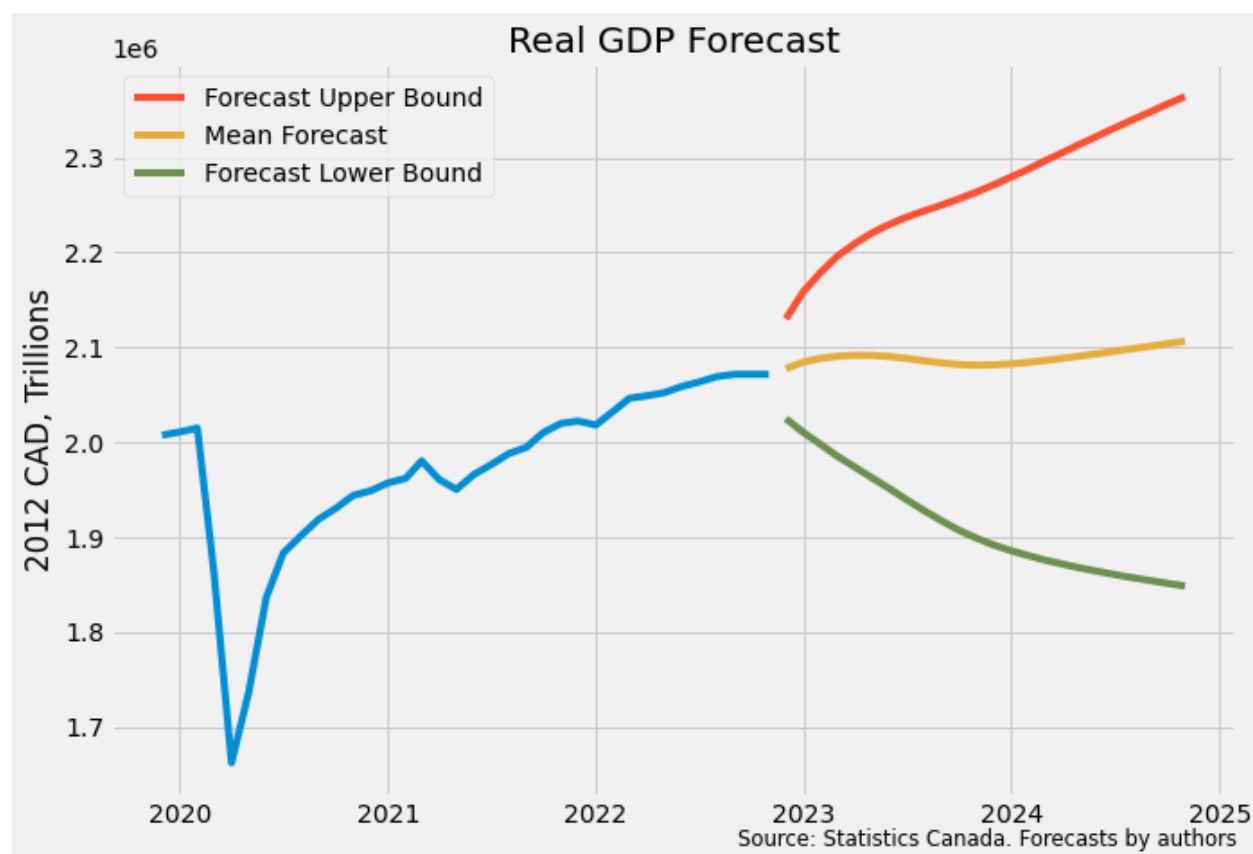


Figure 10: Forecast of Canada's Real GDP

the Bank of Canada has raised rates in a slow, stepwise fashion and should continue to do so due to concerns that high rates can trigger a recession. In either scenario, we forecast a return to 2022's average growth rates of 3.5% by the end of 2024.

5.4 Unemployment

Forecasting with historical unemployment data, and taking GDP predictions into account, near term outlook for unemployment is as follows: Unemployment can see an increase in the

latter half of 2023 as a response to stagnating investment and general GDP decline earlier in the year.

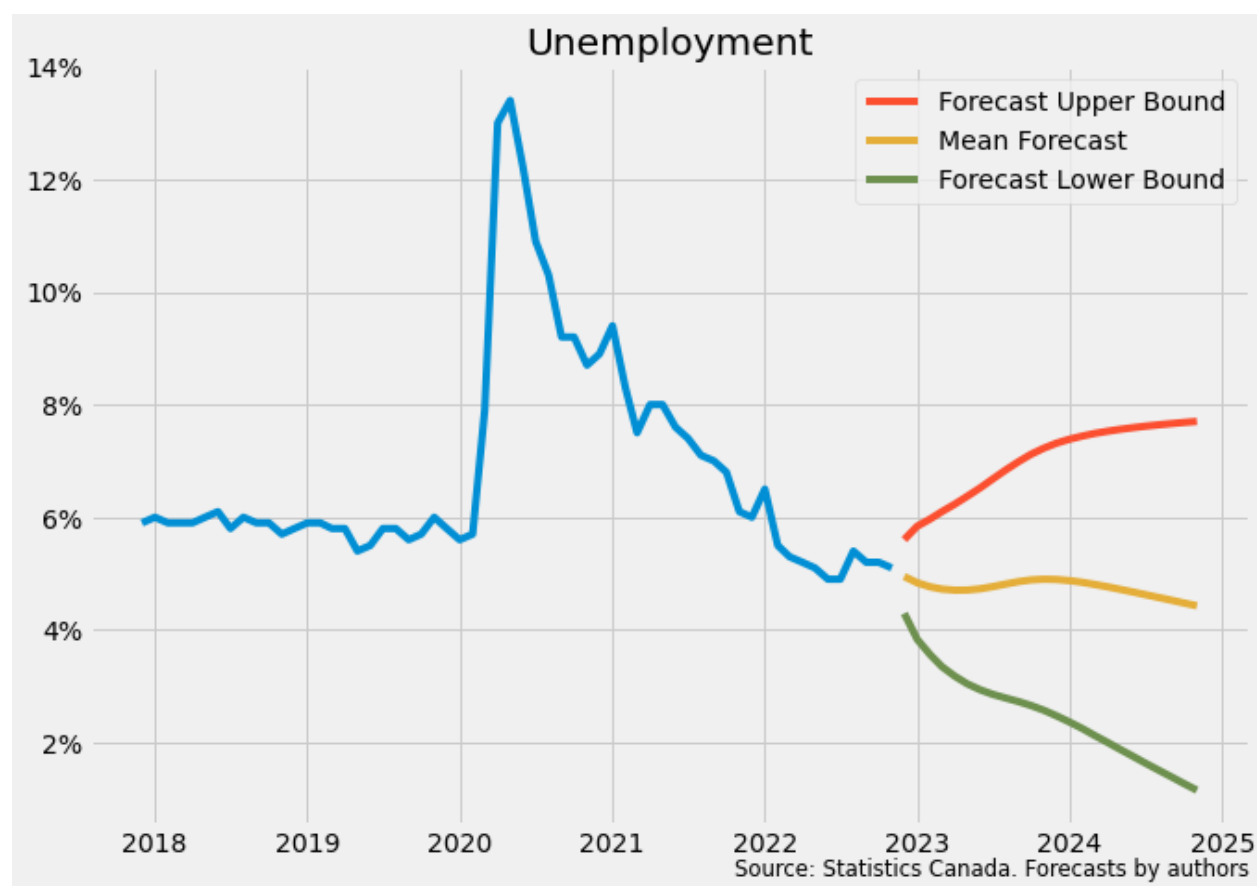


Figure 11: Forecast of Canada's Unemployment Rate

Similar to GDP, if the overall economic decline is temporary, the bump in unemployment can also be short-lived, but if a recession takes place, we can expect a sustained increase over 2023 and 2024. In either case, once unemployment stabilizes, it is uncertain if it will replicate the pre-pandemic average. Early in 2022 as the rate approached the recent historical norm of 6%, it continued declining through November 2022, the horizon of our available data. It is possible a labor shock took place during the pandemic that established a new level of full employment below the previous average. If the new average is lower, it is unlikely to fall below 3%, given Canada's historical unemployment rate over the past 10 years rarely falling below 6% (Statistics Canada, Labour Force).

6 Conclusion

As Canada continues to recover from the COVID 19 crisis and deals with the conditions of the current global economy, its central bank and fiscal policy makers will need to be prepared to make several important decisions. Inflation is the key issue at the moment; in the forecasting section we showed several possible scenarios for the path inflation can take in the coming 2-3 years, and posited that the most likely outcome would be reaching the Central Bank of Canada's 2% target in Q4 2024. One key policy recommendation we will make is that the central bank be very sensitive to over-correcting; there is a strong possibility of plunging the economy into a deep recession. The forecasted oil price fluctuations are still fairly severe, which will negatively impact investing. Continuing aggressive rate hikes under these conditions could be too heavy handed and we recommend that the CBC slow down the pace of interest rate adjustments. Additionally we recommend that the CBC stay committed to its flexible exchange rate policy but be prepared to intervene if necessary. Although the central bank rarely interferes with the exchange rate given the price uncertainty, inflationary pressures, and uncertain global currency atmosphere the CBC needs to be prepared to stabilize exchange rates if they wildly fluctuate out of control. They may want to consider starting a strategic oil reserve, in the same vein of providing price stability. Oil price uncertainty is bad for investment and having a strategic reserve empowers the government to exert some control over the price.

Our primary policy recommendation concerns Canada's Debt to GDP ratio. Canada had an excellent debt to gdp ratio compared to other OECD countries going into the pandemic, but spending during the pandemic brought it from 86.8 to 112.8 (Canada Debt to GDP). There are several methods of immediately reducing the debt to gdp ratio; increasing taxes, cutting spending, paying back the debt, or in a worse case scenario defaulting. Canada should consider the impact that increased global interest rates will have on the percentage of the government spending going to interest payments on that debt, and the fact that if a new recession were to occur they would be restricted in their ability to incur more debt. We recommend that the government not increase spending at the moment. This policy would fit with the current goal of slowing inflation. Our last recommendation is for Canada to invest further in renewable energy to decrease its dependency on the oil and natural gas industries. This would help insulate them from fluctuations in oil prices and the effect it has on economic activity. If all of these policy

recommendations were to be met Canada would be in an excellent position moving into the mid 2020's to retain its status as a global economic force and continue to create an effective domestic climate for economic growth.

7 References

- Alao, R. O., & Payaslioglu, C. (2021). Oil price uncertainty and industrial production in oil-exporting countries. *Resources Policy*, 70, 101957.
<https://doi.org/10.1016/j.resourpol.2020.101957>
- “Bank of Canada Increases Policy Interest Rate by 50 Basis Points, Continues Quantitative Tightening.” *Bank of Canada*, 26 Oct. 2022, <https://www.bankofcanada.ca/2022/10/fad-press-release-2022-10-26/#:~:text=Press-,Bank%20of%20Canada%20increases%20policy%20interest%20rate,basis%20points%2C%20continues%20quantitative%20tightening&text=The%20Bank%20of%20Canada%20today,its%20policy%20of%20quantitative%20tightening>.
- “Budget 2022.” *Department of Finance*, Government of Canada, 7 Apr. 2022, <https://www.budget.canada.ca/2022/report-rapport/overview-apercu-en.html#2022-0>.
- “Canada Oil and Natural Gas Production.” *CAPP*, <https://www.capp.ca/economy/canadas-oil-and-natural-gas-production/>.
- “Canada's Services Trade Performance (2018).” *Global Affairs Canada*, Government of Canada, 13 Sept. 2022, https://www.international.gc.ca/trade-commerce/economist-economiste/state_of_trade-commerce_international/special_feature-2018-article_special.aspx?lang=eg.
- Canada government gross debt to GDP 2022 data - 2023 forecast - 1980-2021 historical*. Canada Government Gross Debt to GDP - 2022 Data - 2023 Forecast - 1980-2021 Historical. (n.d.). Retrieved December 7, 2022, from <https://tradingeconomics.com/canada/government-debt-to-gdp>
- “Crude oil prices - 70 year historical chart.” MacroTrends. (n.d.). Retrieved December 2, 2022, from <https://www.macrotrends.net/1369/crude-oil-price-history-chart>
- “Crude Oil Industry Overview.” *Natural Resources Canada*, Government of Canada, 31 Mar. 2020, <https://www.nrcan.gc.ca/our-natural-resources/energy-sources-distribution/fossil-fu>

els/crude-oil/crude-oil-industry-overview/18078.

Di Matteo, Livio. “Storm without End: The Economic and Fiscal Impact of Covid in Canada.”

Fraser Institute, 12 Oct. 2022, <https://www.fraserinstitute.org/studies/storm-without-end-the-economic-and-fiscal-impact-of-covid-in-canada>.

Dogru, T., Isik, C., & Sirakaya-Turk, E. (2019). The balance of Trade and exchange rates:

Theory and contemporary evidence from tourism. *Tourism Management*, 74, 12–23.

<https://doi.org/10.1016/j.tourman.2019.01.014>

“The Economy and Economic Policy.” *Bank of Canada*,

<https://www.bankofcanada.ca/publications/books-and-monographs/why-monetary-policy-matters/1-economy/#:~:text=Monetary%20policy%20is%20conducted%20by%20the%20Bank%20of%20Canada%2C%20a,1>.

“Economy of Canada.” *Encyclopædia Britannica*, Encyclopædia Britannica, Inc.,

<https://www.britannica.com/place/Canada/Economy>.

“The Economy of Canada.” *The Canada Guide*, 17 Nov. 2020,

<https://thecanadaguide.com/basics/the-economy/>.

Elder, J., & Serletis, A. (2009). Oil price uncertainty in Canada. *Energy Economics*, 31(6),

852–856. <https://doi.org/10.1016/j.eneco.2009.05.014>

Export Development Canada. (2022, November 23). *Tracking Canada's economic recovery from*

covid-19. EDC. Retrieved December 8, 2022, from

<https://www.edc.ca/en/guide/edc-canadian-economic-recovery-tracker.html>

Government of Canada, Statistics Canada. “Revenue, Expenditure and Budgetary Balance -

General Governments, Provincial and Territorial Economic Accounts (x 1,000,000).”

Statistics Canada, Government of Canada, 8 Nov. 2022,

<https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610045001>.

- Government of Canada, S. C. (2022, November 16). *Consumer price index, October 2022*. The Daily - . Retrieved December 8, 2022, from <https://www150.statcan.gc.ca/n1/daily-quotidien/221116/dq221116a-eng.htm>
- Government of Canada, S. C. (2022, December 2). *Labour Force Survey, November 2022*. The Daily - . Retrieved December 7, 2022, from <https://www150.statcan.gc.ca/n1/daily-quotidien/221202/dq221202a-eng.htm>
- “Joint Statement of the Government of Canada and the Bank of Canada on the Renewal of the Monetary Policy Framework.” *Bank of Canada*, 13 Dec. 2021, <https://www.bankofcanada.ca/2021/12/joint-statement-of-the-government-of-canada-and-the-bank-of-canada-on-the-renewal-of-the-monetary-policy-framework/>.
- Jung, Y. C., Das, A., & McFarlane, A. (2020). The asymmetric relationship between the oil price and the US-canada exchange rate. *The Quarterly Review of Economics and Finance*, 76, 198–206. <https://doi.org/10.1016/j.qref.2019.06.003>
- KBB Editors. “Made in Canada New Vehicles for 2022.” *Kelley Blue Book*, 29 June 2022, <https://www.kbb.ca/news-details/made-in-canada-new-vehicles-for-2022/?ID=215>.
- Kolaczowski, M., & White, A. (n.d.). *Why do oil prices matter to the global economy? an expert explains*. World Economic Forum. Retrieved December 8, 2022, from <https://www.weforum.org/agenda/2022/02/why-oil-prices-matter-to-global-economy-expert-explains/>
- Ljunggren, D. & Gordon, J. (2022). Bank of Canada not ruling out another oversized hike to fight inflation. *Reuters*. <https://www.reuters.com/markets/bank-canada-rates-need-rise-fight-inflation-2022-11-01>
- “Manufacturing in Canada.” *Manufacturing Our Future*, Canadian Manufacturing Coalition, <http://www.manufacturingourfuture.ca/english/manufacturing-in-canada/manufacturing-in-canada.html>.
- “Mineral Trade.” *Natural Resources Canada*, Government of Canada, 26 Sept. 2022,

<https://www.nrcan.gc.ca/maps-tools-and-publications/publications/minerals-mining-publications/mineral-trade/19310>.

"Oil Prices, Price per Barrel of WCS oil in US dollars". Alberta Economic Dashboard. (n.d.). Retrieved December 6, 2022, from <https://economicdashboard.alberta.ca/oilprice>

"Overview of Canada's COVID-19 Economic Response Plan." *Department of Finance Canada*, Government of Canada, 16 Mar. 2022, <https://www.canada.ca/en/department-finance/services/publications/economic-fiscal-snapshot/overview-economic-response-plan.html>.

Pierre Cl  roux Vice President, & Cl  roux, P. (2022, October 3). *2022 Economic Outlook for Canada*. BDC.ca. Retrieved December 8, 2022, from <https://www.bdc.ca/en/articles-tools/blog/2022-economic-outlook-return-normal>

"Policy interest rate" *Bank of Canada*. Retrieved December 5, 2022, from <https://www.bankofcanada.ca/core-functions/monetary-policy/key-interest-rate/>

Poloz, Stephen S. "Monetary Policy." *Bank of Canada*, 13 Aug. 2020, <https://www.bankofcanada.ca/core-functions/monetary-policy/#:~:text=Canada's%20monetary%20policy%20framework%20consists,demonstrate%20its%20accountability%20to%20Canadians>.

Schembri, Lawrence L. "The Merits of a Floating Exchange Rate." *Bank of Canada*, 19 June 2019, <https://www.bankofcanada.ca/2019/06/merits-of-a-floating-exchange-rate/>.

"Table 14-10-0287-01 Labour force characteristics, monthly, seasonally adjusted and trend-cycle, last 5 months" Statistics Canada. (2022). Retrieved December 6, 2022, from <https://doi.org/10.25318/1410028701-eng>

"Table 18-10-0004-01 Consumer Price Index, monthly, not seasonally adjusted" Statistics Canada. (2022). Retrieved December 6, 2022, from <https://doi.org/10.25318/1810000401-eng>

"Table 36-10-0230-01 Tourism demand in Canada, constant prices (x 1,000,000)" Statistics Canada. (2022). Retrieved December 6, 2022, from <https://doi.org/10.25318/3610023001-eng>

"Table 36-10-0434-01 Gross domestic product (GDP) at basic prices, by industry, monthly (x 1,000,000)" Statistics Canada (2022). Retrieved December 6, 2022, from <https://doi.org/10.25318/3610043401-eng>

Trading Economics. (n.d.). *Canada unemployment ratenovember 2022 data - 1966-2021 historical*. Canada Unemployment Rate - November 2022 Data - 1966-2021 Historical. Retrieved December 7, 2022, from <https://tradingeconomics.com/canada/unemployment-rate>

"Understanding Exchange rates." Bank of Canada. (n.d.). Retrieved December 2, 2022, from <https://www.bankofcanada.ca/2020/08/understanding-exchange-rates/>