

Impact of the current inflationary backdrop on long-term outcomes for institutional investors

Background

Due to an unprecedented confluence of events, driven in large part by the worldwide pandemic and the war in Ukraine, the global economy currently finds itself under extreme pressure from inflation. The price of everything, from fundamental staples such as gasoline and food to various discretionary goods and services, has dramatically increased in a very short period. In Canada, year-over-year inflation, as measured by the Consumer Price Index (CPI), was at 7.6% as at July 2022, down slightly from the previous month's reading of 8.1% – its highest recorded level since 1983.

Needless to say, the resulting short-term fallout has been extreme, as well as broad in its reach. Capital markets are in upheaval and central bankers as well as politicians around the world are grappling with difficult trade-offs in an attempt to maintain stability and confidence. And perhaps most difficult to ignore, nearly all individuals are feeling the pinch on household budgets. Under these circumstances, an institutional investor would be hard pressed to disregard (if not worry about) the implications of this backdrop on future investment outcomes for the assets under their care.

During moments of extreme market stress, it can be very challenging for investors to remain grounded with respect to investment policy decisions. However, as most institutional investors have very long-term horizons, it is important to consider current events from that longer-term perspective, especially before contemplating any sort of action. While current inflationary conditions could end up having an impact on long-term outcomes, how and to what extent can only be assessed if we consider the subject from that particular viewpoint.

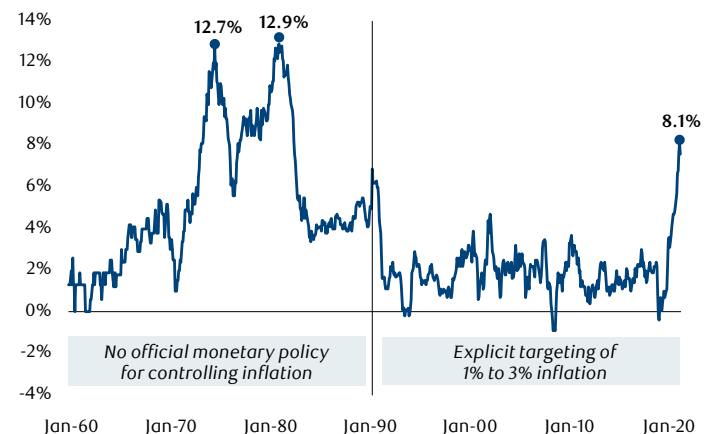
The purpose of this article is not to put forward any sort of prediction as to how inflation will ultimately play out, a challenging task to accomplish with a high degree of certainty in any circumstance, much less given the state of flux in which the world currently finds itself. Rather, our objective is to situate current conditions in relation to history for some important context, and then to consider what could happen over a longer-term horizon under different illustrative scenarios. We believe this will offer a helpful perspective for investors as they think about their investment policies in the face of this future uncertainty. Finally, we highlight how long-

term inflation might not affect all investors equally, meaning that the potential need to make changes to investment strategy will vary between different institutions.

A brief history of inflation

Figure 1 illustrates annual year-over-year inflation data for Canada since 1960. From this chart, we can observe that for the past three decades up until very recently, inflation has generally been quite stable with few unexpected surprises of any particular note or long-lasting implications. However, this was not always the case. The 1970s and early 1980s were characterized by persistently high inflation and significant volatility; so much so that this period is often referred to as the “Great Inflation.” In fact, between 1970 and 1982, prices rose by about 8% per year on average, with a peak annual level of almost 13% in 1981. Inflation ended up decreasing markedly after this peak because of extreme central bank intervention, and since 1992, has realized an average annual rate of around 2%. However, recent events have pushed annual inflation well beyond this level once more, causing many to wonder whether history might be repeating itself.

Figure 1: Annual year-over-year inflation rate



Source: Statistics Canada. Consumer Price Index, not seasonally adjusted.

When we consider the macroeconomic environment underlying the current inflationary situation, there are some notable similarities to the period of Great Inflation. First,

fiscal policies were highly accommodative prior to the spike in inflation in both cases, leading to spending that arguably exceeded what the economy could produce and thereby causing “demand-pull inflation.” Second, as in the 1970s, we are experiencing major supply chain disruptions, especially in energy and food markets, causing a similar type of “cost-push inflation.” However, there is a major difference between then and now, and that is **distinct monetary policy regimes**.

TARGETS FOR INFLATION CONTROL

Subsequent to the Great Inflation, the Bank of Canada (BoC) shifted its monetary policy gears with inflation containment as the primary short-term objective, and price stability as the eventual long-term objective. However, it was only in 1991 that the BoC formally adopted a **2% inflation target** for its monetary policy framework, subject to an acceptable band of variation of between 1–3%. Since that time, the BoC has successfully achieved its objectives and established its credibility with respect to controlling inflation. The inflation-targeting framework remains in effect today, with 2% inflation continuing to be the target level.

In the 1970s, the long-run objective of central bank monetary policy tended to be driven by stabilizing output and keeping the economy near full employment, as opposed to attaining and maintaining price stability. As a result of this prevailing approach during a period of significantly inflationary conditions, many individuals came to believe that inflation was going to remain elevated for the foreseeable future, fuelling what became a self-fulfilling prophesy. Under the assumption that the cost of goods would continue to rise rapidly, consumers pulled spending forward, workers demanded larger pay raises, and businesses increased their prices to compensate – all of which contributed to actual inflation. However, as price pressures continued to intensify, people eventually started to believe that inflation was going to increase indefinitely, and long-run inflation expectations became “unanchored.”¹ This persistent expectation of higher inflation created a self-sustaining feedback loop in which wage increases led to price increases, which in turn led to more wage increases and so on – a phenomenon known as a wage-price spiral.

Today, central bank policy is explicitly focused on controlling inflation, and we have seen swifter and more targeted action than we did during the Great Inflation.

The BoC is aggressively increasing its key interest rate to slow down consumer demand in an attempt to counter some of the main sources of inflationary pressure, to demonstrate that it can act credibly to address the problem, and to prevent inflation expectations from becoming unanchored, as they were in the 1970s. The question is whether or not they are succeeding. One way of assessing this is by looking at the bond market’s pricing of long-term inflation expectations. The rate of change of breakeven inflation (the difference between a nominal and real return Government of Canada bond) often acts as a good indicator of where the market’s inflation expectations are heading. Figure 2 reveals that after a steady rise from the March 2020 low (onset of the pandemic), breakeven inflation peaked back in November 2021. This suggests that for the moment, the bond market has a degree of confidence in the BoC’s ability to manage the current inflationary situation.

Figure 2: Long-term breakeven inflation



Source: Statistics Canada. Calculated from the Long-term Government of Canada benchmark bond yield (V122544) and the Long-term real return Government of Canada benchmark bond yield (V122553).

It should be noted that some of the inflationary pressures of today are beyond any central bank’s ability to control (e.g., supply chain disruptions), and higher short-term inflation is presently passing through the wage and price-setting processes. However, it is not clear that the economy is in the midst of a wage-price spiral that could lead to a long-lasting structural rise in prices. Furthermore, just because current inflation is not as short-lived as central bankers initially thought it would be does not mean that the necessary conditions for elevated persistence, as observed during the 1970s, are in place or in the process of forming.

¹When long-run inflation expectations become strongly influenced by short-term events (such as movements in actual inflation or other economic variables). If long-run inflation expectations are well anchored, then they should be relatively invariant to new developments occurring in the short-run.

The importance of time horizon

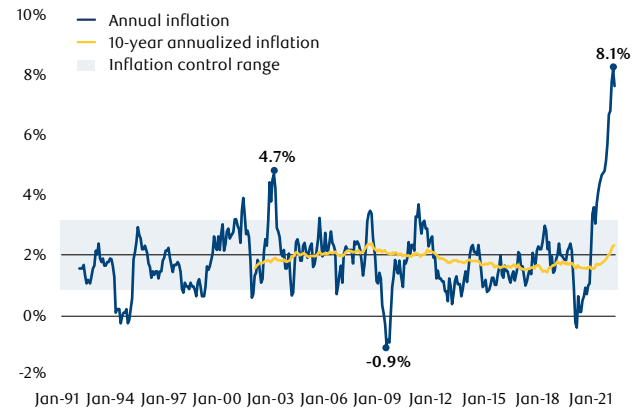
In looking at historical inflation, we have so far focused on annual measures, which are short-term in nature. However, institutional investment objectives are typically formulated from a longer-term perspective (i.e., ten years or more). It is therefore important to consider the impact of **time horizon**. While it can be easy to get caught up in shorter-term events and lose a longer-term perspective, what happens over a short period of time does not necessarily translate into the same outcome over a longer period. For example, in October 1987, the S&P 500 crashed by 20% in a single day and significantly upended investor portfolios. However, the 10-year compound return of the U.S. equity market over the period 1987–1996 was just shy of 15%. Consequently, the unprecedented crash that caused so much disruption at the time amounted to nothing more than a blip in the long-term performance of the index. This example hopefully serves to highlight why it's critical to align investment objectives with temporal perspective. With regards to our discussion on inflation, if we want to understand how current conditions might impact an institutional investor, then we need to consider short-term events within a longer-term horizon.

Historically observed inflation

Prices are subject to short-term shocks and can go up and down for many different reasons, even in a stable economy. For example, extreme weather events can lead to droughts or floods that result in temporarily higher food prices. To the extent that short-term movements in prices are expected, an inflation-targeting monetary policy typically aims to achieve the target level over a longer horizon, rather than at every measurable moment in time. Consequently, the BoC will tend to only adjust its monetary policy if it believes that adverse price changes are likely to be persistent and could push inflation well beyond the target for a protracted period of time.

Figure 3 depicts both the short-term (annual) and long-term (10-year annualized) inflation rate since 1991, when the current monetary policy framework was first adopted. In this chart, we can observe how inflation behaves very differently over the two time horizons. Not unsurprisingly, short-term inflation has historically exhibited some volatility, even occasionally venturing outside the 1–3% range due to both spikes and dips into deflationary territory. However, the long-term level has dependably oscillated around 2% without much variability. This is not only consistent with what we would expect from the successful execution of an inflation-targeting monetary policy but also a direct result of the difference in time horizon. The impact of short-term events tends to become more muted as time horizon increases, leading to less volatility in long-term outcomes.

Figure 3: 1-year versus 10-year rolling inflation rate



Source: Statistics Canada. Consumer Price Index, not seasonally adjusted.

However, even if short-term volatility is smoothed by time, there can be moments when an event is so extreme that it ends up materially influencing longer-term outcomes. Looking at Figure 3, it is clear that the latest readings of annual inflation are extreme outliers relative to what has been observed since 1991, prompting the BoC to move swiftly and aggressively to bring future inflation back to target. The operative question is therefore: how big of an impact, if any, will the current environment have on the long-term level of inflation?

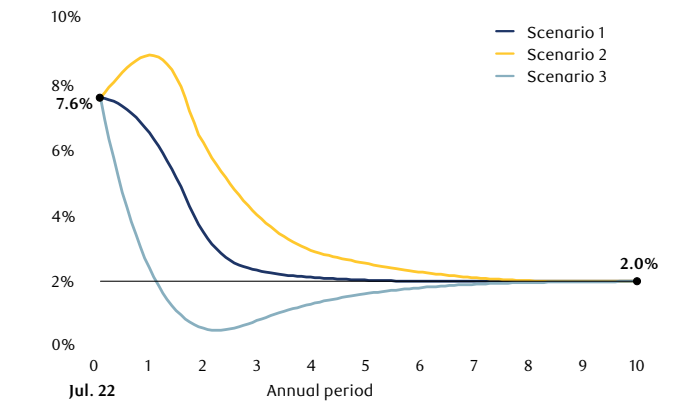
Forward-looking inflation scenarios

Since the adoption of inflation targeting in the early 1990s, institutional investors could have comfortably built their investment policies around a long-term inflation expectation of 2% despite experiencing years in which actual inflation deviated noticeably from this level. However, with the latest inflation reading far exceeding anything observed during the existing monetary policy regime, there is good cause to re-evaluate the appropriateness of this expectation.

In order to assess the potential impact of current short-term conditions on the long-term outcome, we consider three illustrative scenarios based on specific themes that are depicted in Figure 4:

1. **Annual inflation has peaked** and, while remaining above the BoC's 1–3% corridor for a few more years, will eventually make its way back to the 2% target.
2. **Annual inflation has not yet peaked** and will continue to rise for a few more years before reverting to the 2% target.
3. **Annual inflation will fall abruptly** due to the economy entering into a recession in the near future, and will subsequently normalize back to the 2% target.

Figure 4: Illustrative scenario analysis: Annual forward-looking inflation



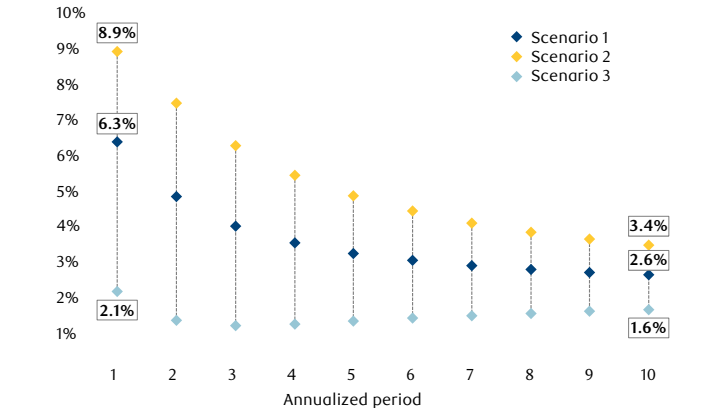
Source: PH&N Institutional.

We have built our illustrative scenarios starting with the latest reading (7.6% in July) and under the assumption that the BoC's current long-term policy target of 2% remains credible. We recognize that there are structural forces in the background (e.g., de-globalization or changing demographics) that could push the long-term level above or below this point. However, each of the aforementioned themes could still play out according to a similar path with slightly different end points. Therefore, without loss of generality, we have assumed that 2% serves as a natural end-state anchorage point for this exercise. Furthermore, the purpose of the scenarios is not to represent specific forecasts. In fact, there are many different views on where inflation is headed over the next ten years, and a theoretical infinity of potential paths it could take, as well as where it could end up. Rather, our objective is to use these scenarios for the sole purpose of analyzing how short-term conditions can influence longer-term outcomes.

For each of the three illustrative scenarios, Figure 5 depicts the level of annualized inflation over progressively longer horizons, culminating with the ten-year period. What we observe is that despite very different themes and associated paths, the range of outcomes narrows considerably as the time horizon lengthens. In this illustration, while the difference in the first year is substantial (2.1% to 8.9%), it becomes considerably smaller when taking into account the entire ten-year period (1.6% to 3.4%). However, despite this tighter range, the elevated starting point of inflation could push its long-term outcome to a level that is noticeably higher than a 2% baseline and not without some materiality (e.g., an additional 1.4% per year for 10 years). Therefore, an upwards revision to forward-looking expectations could be justified as a result of the prevailing inflationary conditions. That said, as long as inflation eventually stabilizes (a key

assumption in this exercise), a revision of this order would not represent what could be characterized as an extreme deviation from the original 2% target.

Figure 5: Illustrative scenario analysis: Annualized forward-looking inflation



Source: PH&N Institutional.

SUMMARY

Despite moments of short-term volatility, historical long-term levels of inflation have been very stable and well within the BoC's 1 to 3 percent target range. However, given the elevated headline CPI number of today, we have attempted to show if it could have an impact on the future long-term level of inflation by considering three illustrative forward-looking scenarios. The conclusion is that short-term extremes can affect long-term outcomes but unlikely translate into long-term extremes.

Investment policy implications

While current conditions of elevated CPI might lead an investor to believe that changes are required at the investment policy level – for example, meaningfully increasing exposure to assets that perform well during inflationary regimes – this might not actually be a sound course of action. The policy asset mix of an institutional fund is typically conceived for a ten+ year horizon, and articulates the strategic exposures that are expected to achieve its objectives over the long term. The purpose of this framework is to avoid getting caught up in the potential noise of current events, which can in turn lead to suboptimal long-term decision-making. As such, a policy asset mix is not something that should be revised impulsively, especially when short-term volatility tends to get smoothed over longer periods of

time. Rather, changes should only be contemplated when there is a fundamental shift in an investor's situation or objectives, or a structural change in market conditions. Changing strategic asset allocation based on short-term conditions that are not structurally persistent could end up leading to worse long-term investment outcomes.

Additionally, regardless of what actually ends up happening with inflation, its potential impact on investment outcomes could be less significant for certain types of institutions. This is because different institutions will inevitably have varying degrees of sensitivity to inflation based on their unique circumstances and objectives. Therefore, before tackling asset classes or asset mix considerations, fundamental objectives and beliefs need to be considered and evaluated for the possible impact of inflation. Figure 6 illustrates this point by contrasting two different types of institutional investors in different situations.

In the case of the **endowment fund**, the objective is to support the spending policy while preserving intergenerational equity. Since the spending commitments are effectively in real dollars, a higher level of inflation would decrease the fund's purchasing power unless assets keep pace, all else being equal. Therefore, in order to support future generations at the same level as present ones, the return of the fund's investment portfolio must at least match the spending policy rate plus the rate of inflation (plus administrative expenses, which could also be increasing). Hence, higher-than-expected inflation would have direct implications for the endowment fund's **hurdle rate**, and it might need to reconsider some of the exposures in its strategic asset mix in order to target a higher expected return. However, in so doing, the relationship between inflation and the different portfolio exposures would also

need to be considered because inflation will inevitably affect the future returns of those exposures. For example, if interest rates rise in response to higher inflation, it could positively impact the forward-looking return expectation of fixed income holdings because of higher future yields. However, higher input and borrowing costs could affect company earnings and negatively impact the forward-looking return expectation of equities. Therefore, the future return outlook of the existing asset mix could improve or deteriorate due to higher inflation, and this will influence how and to what extent the investment policy might have to change as a result of a higher hurdle rate.

In the case of the **pension plan**, the objective is to ensure that plan members receive their retirement benefits without fail and that the plan's funded status is maintained across time. Since the plan offers no cost-of-living adjustments, retirees' pension payments will be unaffected by any increases in CPI. However, for active members still accruing benefits, eventual payouts could increase if they are based on final average earnings and inflationary pressures drive salaries higher. That said, because the plan demographic is mostly retirees, the impact of inflation on plan **cash flows** would be minor. In terms of investment policy implications, because this plan is employing a full fixed income LDI strategy, inflation should affect both the valuation of assets and liabilities in a similar way, meaning that its impact on **funded status** should also be minor, and no changes to the strategic asset mix may be required at all.

The example of a mature, unindexed and de-risked pension plan is not necessarily typical; it was chosen for the purposes of maximum contrast to make the point that inflation will not affect all institutions' circumstances and investment policies equally. Many pension plans still have a healthy population

Figure 6: Comparison of institutional investor profiles

| | Endowment fund with real spending needs | Mature pension plan with nominal benefits |
|-------------------------------|--|---|
| Fundamental objectives | Meet spending commitments while maintaining intergenerational equity | Achieve security of member benefits while maintaining the plan's funded status |
| Cash flows | Disbursements that are a % of year-end market value (e.g. 5%) | Pension payments are nominal and fixed |
| Investment objectives | Real return aligned with spending policy Minimize downside risk to avoid capital impairment | Nominal return that covers the liability growth rate Minimize tracking error relative to liabilities |
| Asset mix | Blend of fixed income, equities and alternatives | Liability-driven investment (LDI) fixed income |

Source: PH&N Institutional.

of active members, continue to hold return-seeking assets, and have some sort of indexation provision for benefits. The impact of inflation on fundamental objectives and on investment policy will be even more nuanced in these situations, and will likely vary from plan to plan. This further reinforces the notion that in order to properly assess whether changes in investment policy may be required – and what those changes might be – an institution must consider its sensitivity to inflation based on both its unique objectives and also its specific asset mix.

SUMMARY

Unless inflation is expected to be persistently elevated, changing long-term strategy in response to short-term conditions is not consistent with the intent of an institutional investment policy. Furthermore, an investor's sensitivity to inflation as defined by their unique situation and objectives will ultimately determine whether any strategic asset mix changes are required, regardless of the future path of inflation.

Conclusion

For the past three decades, inflation has not been a problematic issue in Canada, as it has consistently remained in the vicinity of the BoC's 2% target. However, recent events have pushed the annual inflation rate significantly beyond the accepted range and analogies are being drawn to the period of Great Inflation when we last experienced such extremes. While there are some parallels between the two environments, we believe it is premature to directly extrapolate from that era for two main reasons:

- Some of the key conditions that led to long-term persistent inflation are not currently observable (though they could always be forming).
- The BoC has since adopted an inflation-targeting monetary policy and demonstrated its credibility with respect to maintaining long-term price stability.

There can be no doubt that a spike in inflation occurring during already tumultuous times is of great concern to investors. However, the current situation is a recent phenomenon, with the surge in annual inflation only having started in April of 2021, and because the BoC is taking forceful monetary policy action to rein it in, the likelihood of long-term persistence akin to what was experienced in the 1970s may well prove to be low.

During moments of volatility – which have occurred before and will occur again – it is important for institutional investors to assess the situation from the same long-term perspective under which investment policy decisions are made, and consider how short-term volatility gets smoothed over longer time frames. With respect to inflation, we have shown that since the BoC began targeting an inflation rate of 2%, the realized long-term rate has consistently fallen in line with the bank's objective. However, given that the latest CPI readings are extreme, the long-term level of inflation could end up substantially deviating from the target. In order to illustrate how prevailing conditions could feed into a long-term outcome, we considered three illustrative scenarios for the next ten years that depict three different themes: (1) inflation has peaked, (2) inflation has not yet peaked, and (3) inflation will fall off abruptly due to a recession. These scenarios show that if the BoC ultimately succeeds in achieving long-term price stability, then the long-term rate should be lower than the recent year-over-year readings. However, the current inflationary backdrop could lead to a higher long-term level of inflation than we have been accustomed to, but that outcome should not represent an extreme outlier relative to expectations.

Finally, regardless of how inflation plays out over the next ten years, its impact on various institutional investors and their long-term objectives can be very different. There is no one-size-fits-all solution and the optimal course of action, if any, will vary between institutions. Consequently, any contemplation of a change to investment policy should involve an assessment of both the institution's sensitivity to inflation given its specific circumstances and objectives, and how inflation affects the outlook of the asset classes that make up the investment opportunity set.

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