

Amendment 1:
Report for Nova Scotia Government & General
Employees Union on the Proposed Economic
Increases and Government Estimates of Inflation

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1 Introduction

In “Article 38.01 - Rates of Pay”, the government is proposing a three-year term with the following economic increases:

- Year 1: 1.5% (April 1, 2021)
- Year 2: 1.5% (April 1, 2022)
- Year 3: 2.5%
 - ➔ 1.5% (first day – April 1, 2023)
 - ➔ 1.0% (last day – March 31, 2024)

These suggested economic increases will result in a loss of purchasing power.

1. The government’s own predictions of inflation are much higher than the offered economic increases. In the Employer Exhibit Book, in Chart 7.6, the forecasts of inflation for Nova Scotia are:

- 2021: 4.1% (forecast was 3.8%)
- 2022: 4.2%
- 2023: 2.3%

2. Inflation is already outpacing the government predictions.

- As of March 2022, prices have already grown over 4.1% since December 2021.
- If prices follow the current pattern, the Annual inflation for 2022 will be 5.8%.
- Bank of Canada’s more recent expectations are much higher than the Nova Scotia government’s predictions.

2 Offered Economic Increases vrs. Nova Scotia Government Predictions of Inflation

In this section, the Economic increases proposed by the Nova Scotia government are compared to the government's own predictions of inflation. First, in Section 2.1, the end of fiscal year values are calculated. This will help determine how much of an additional increase would be required at the end of the term to obtain purchasing power under the government's own inflation projections. Then in Section 2.2, the monthly losses are determined, and aggregated to estimate how much an employee loses over the contract period.

2.1 End of period Economic Increases vrs. Government Inflation Forecasts

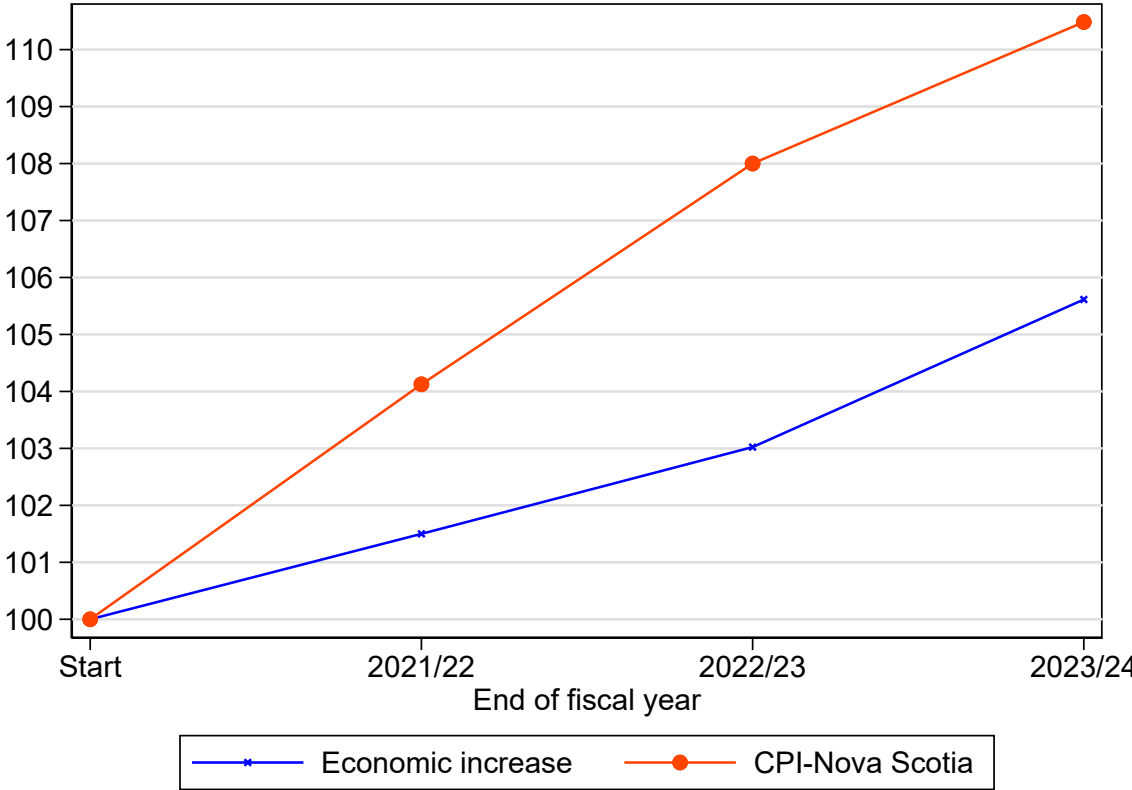
Figure 1 compares the proposed Economic increases versus the inflation forecasts from the Employer Exhibit Book.^{1,2} In this analysis, the starting value is reset to 100, and therefore the loss of purchasing power that occurred over the previous (2015-2021) contract is ignored. This comparison can be thought of either in terms of the base period CPI being April 2021, or starting with \$100. The government's inflation estimates are converted to fiscal years using a constant monthly inflation rate for the given calendar year.

Figure 1 demonstrates that, even by the end of the first year, prices have increased more than the Economic increases (4.1% versus 1.5%). This gap grows over the three-year period. By the end of the 2023-24 fiscal year, the prices are approximately 110.5 relative to the April 1st, 2021 start period, while earnings are 105.6. There would need to be an approximately 4.61% increase on top of the proposed increases, or a 5.66% March 31st 2024 adjustment instead of the proposed 1%.

¹The actual CPI growth of 4.1% is used for 2021.

²The 2023 forecast is used for January to March 2024 inflation rates.

Figure 1: Consumer Price Index for Nova Scotia versus Economic increases for NSGEU contract: Government's Price Forecasts outpace Economic increases



Notes: Author's calculations using Provincial estimates of CPI data for Nova Scotia from Chart 7.6 from the "Employer Exhibit Book - NSGEU Interest Arbitration" and Economic increases from "Province of NS Brief and Authorities - April 4, 2022".

2.2 Losses in Monthly and Total Earnings

Next, the loss in earnings over the proposed contract is examined. Figure 2 shows what happens to real earnings over the three-year contract if the Employer proposed three-year term deal is implemented under the inflation scenarios outlined in Chart 7.6 in the Employer Exhibit Book. While Figure 1 can help illustrate what end of period adjustment is required to reattain purchasing power, it does not show the total loss in earnings over the proposed three-year term. Given the different timing in terms of Economic increases (mainly at the start of fiscal period) and inflation (happening throughout a given fiscal year), using the end of period values from Figure 1 will overestimate the losses. Therefore, monthly calculations are undertaken. When calculating monthly increases, inflation is again assumed to grow at a steady rate over a given year. For January to March 2024, the 2023 forecast from the Employer Exhibit Book are used.

Figure 2 is set up as follows:

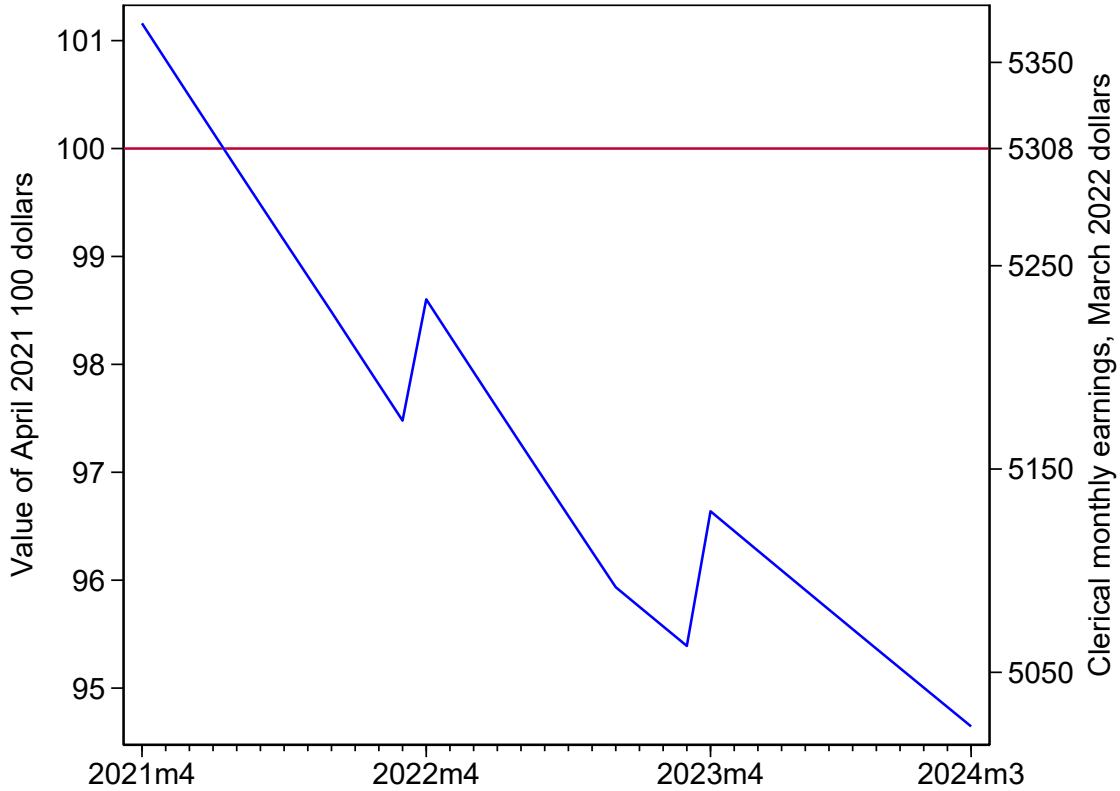
- The y-axis on the left shows what happens to \$100 in April 1st, 2021 over the period covered by agreement in real terms.
- The horizontal red line shows the value required to stay on par with initial period earnings.
- To not overestimate the impact of inflation, the difference in timing of the Economic increases and inflation are taken into account. Average monthly inflation is used.
- The y-axis on the right gives an example: the real monthly earnings of a Clerical employee (with the pay grade of CL 25-V) are presented.
 - The \$100 is scaled up to the equivalent of monthly earnings.
 - Values are adjusted to represent March 2022 prices.

Some key points that can be learned from Figure 2 are:

1. The initial value of \$100 in earnings declines during the contract.
2. The annual Economic increases are not enough to counteract inflation each fiscal year.
3. By the end of the contract period, the example Clerical employees were earning approximately \$300 less in the final month.

- The \$300 is equivalent to around 5% less than start period earnings.

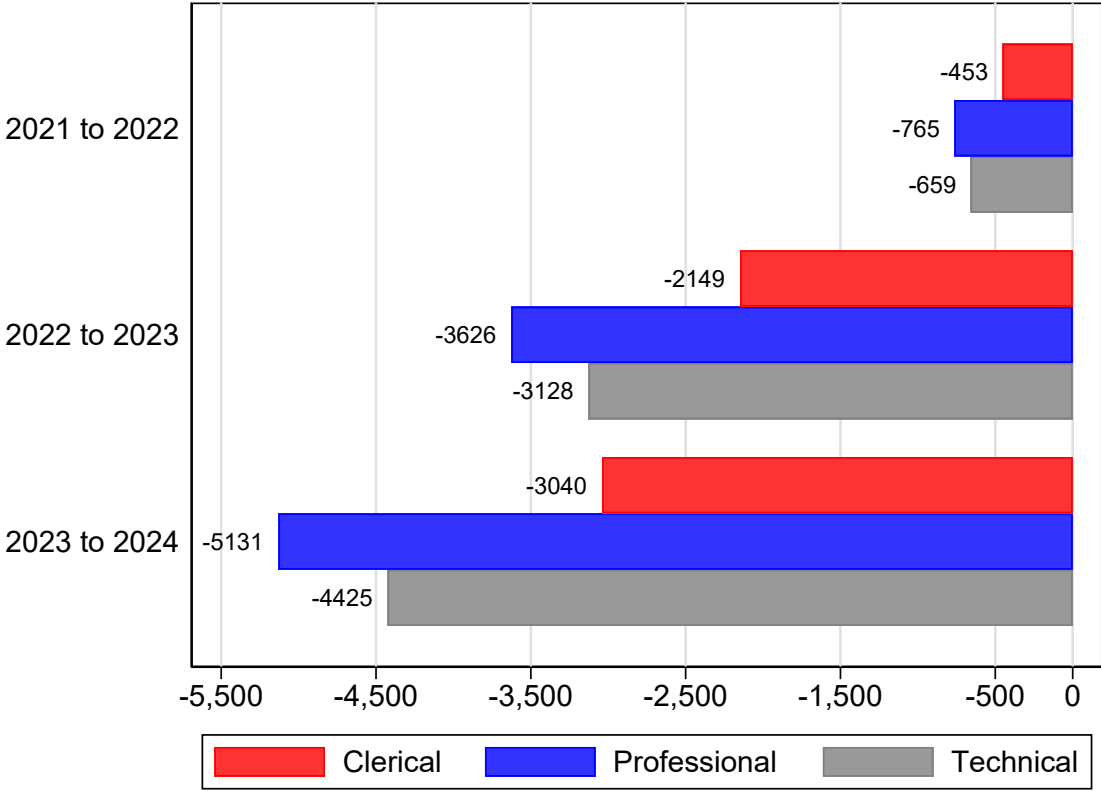
Figure 2: Real value of \$100s and Real Monthly earnings for Clerical, CL25-V



Notes: Author’s calculations using Provincial estimates of CPI data for Nova Scotia from Chart 7.6 from the “Employer Exhibit Book - NSGEU Interest Arbitration” and Economic increases from “Province of NS Brief and Authorities - April 4, 2022”. Right y-axis adjusted to March 2022 Dollars using All items Nova Scotia CPI from Cansim Table: 18-10-0004-01 for Clerical employees with pay grade of CL 25-V.

In Figure 3, real earnings relative to the start period earnings are annualized for each fiscal period. Values for this exercise are shown in March 2022 dollars. This would be equivalent to adding all the values above the horizontal red line in Figure 2 and subtracting the values below this line for each fiscal period. In addition to the values for Clerical employees (with pay grade of CL 25-V), which are presented in Figure 2, the values for Professional employees (with pay grade of PR 20-V) and Technical employees (with pay grade of TR 30-V) are also presented. While the losses in the first fiscal year are relatively small, the losses in earnings grows substantial as inflation eats away at purchasing power.

Figure 3: Losses for Example Classifications by Fiscal Year, April 2021 to March 31, 2024



Notes: Author’s calculations using Provincial estimates of CPI data for Nova Scotia from Chart 7.6 from the “Employer Exhibit Book - NSGEU Interest Arbitration”. Adjusted to March 2022 Dollars using All items Nova Scotia CPI from Cansim Table: 18-10-0004-01. Clerical employees with pay grade of CL 25-V; Professional employees with pay grade of PR 20-V; and Technical employees with pay grade of TR 30-V.

Over the three-year period of the contract, using the Nova Scotia Budget 2022-23 inflation numbers, the before income tax total loss in earnings would be equivalent to:

- Clerical: **\$5,642**
- Professional: **\$9,522**
- Technical: **\$8,212**

This is in addition to the losses over the previous six-year period of the contract:

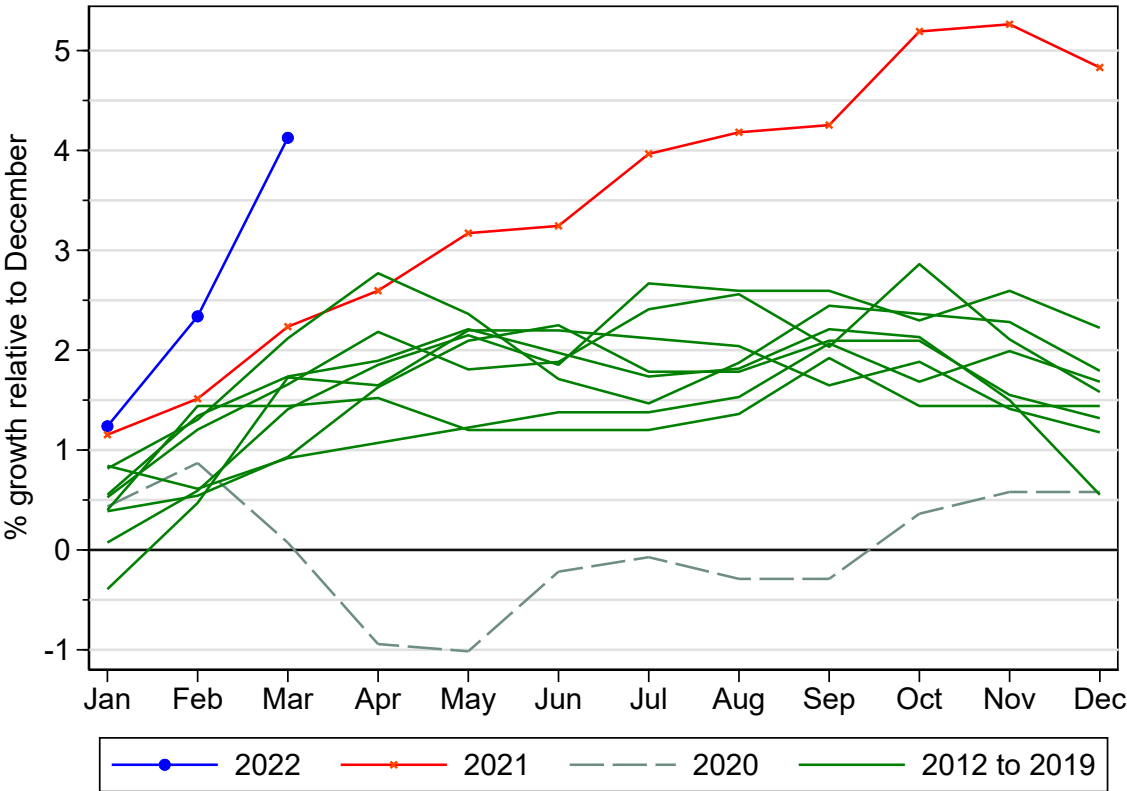
- Clerical: **\$4,994**
- Professional: **\$8,428**
- Technical: **\$7,269**

3 Government Forecasts of Inflation Potentially Low

3.1 Inflation as of March 2022

Figure 4 illustrates how much higher inflation has been in 2022 compared to recent years. The values in the figure are calculated as the growth rate in CPI for the given month relative to the previous December CPI. Prior to the Covid-19, prices followed a similar pattern (green lines). During much of 2020, prices declined or stayed pretty level. While 2021 started off slightly above the pre-Covid-19 pattern, prices grew greatly during the year (red line). From early indications, 2022 will see much higher inflation than was witnessed in 2021, and well above recent inflation rates. This highlights that the predictions of inflation used in the Employer Exhibit Book depicted in Chart 7.6 will likely underestimate inflation.

Figure 4: Consumer Price Index for Nova Scotia, CPI growth relative to December



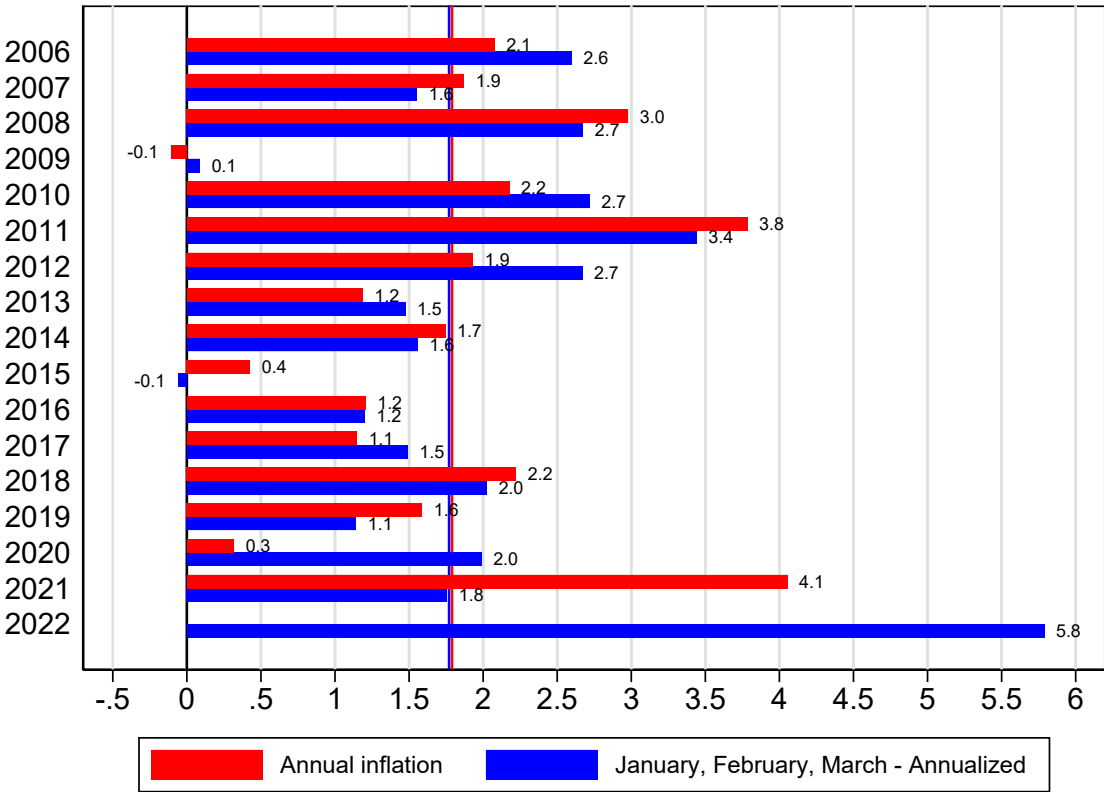
Notes: Author's calculations from CPI data for Nova Scotia from Cansim Table: 18-10-0004-01.

Chart 7.6 forecasts inflation in 2022 at 4.2%. Figure 4 shows that prices have already

increased by approximately 4.1% since December 2021. If the average inflation rate over the next 9 months is the same as the first 3 months of 2022, then the annual inflation rate will be approximately 5.8%. Given that inflation is growing steadily over the first 3 months, even this might be an underestimate.

To examine how useful an indication the January to March inflation rates are in terms of estimating the annual rates when all 12 months have been realized, in Figure 5, the annual inflation rates are compared to the first quarter rates.

Figure 5: Average inflation for full year versus January to March



Notes: Author’s calculations from CPI data for Nova Scotia from Cansim Table: 18-10-0004-01. The vertical red line shows the mean for Annual inflation from 2006 to 2021. The vertical blue line shows mean of Inflation using the first 3 months from 2006 to 2021.

Figure 5 shows:

1. Annual inflation for 2006 to 2021 (red bars)
2. The inflation based on the first quarter (January to March) for 2006 to 2022. (blue bars)
3. 2006 to 2021 mean annual inflation (vertical red line) and 2006 to 2021 mean first quarter inflation (vertical blue line).

A few key takeaways from Figure 5:

1. With a couple of exceptions, the annual and 1st quarter rates are generally pretty similar.
2. The 2006 to 2021 means for the 12 month and 1st quarter inflation are almost identical (1.79 and 1.77 respectively).³
3. The first quarter of 2021 is well below the full year inflation rate.
4. The first quarter of 2022 is much higher than any other period.

3.2 Bank of Canada's Latest Predictions

The Bank of Canada's latest projections suggest:

1. Inflation will average 6% average for the 1st half of 2022.
2. Not reach 2.5% until 2nd half of 2023 and will not return to the 2% target until 2024.

These inflation rates are well above the offered Economic increases being proposed by the government and also above the predictions in the Nova Scotia Employer Exhibit Book.⁴

4 Ability to Pay

Inflation should have a net positive impact on the government's ability to pay.

- The unexpected inflation will reduce real debt and real interest payments.
- Nominal revenues increase with inflation. For example:
 - Income taxes increase with increasing nominal incomes.
 - Sales tax revenues rise with the increase in prices of goods and services.

The Nova Scotia Employer Exhibit Book shows greater growth in several components of revenue, and revenues will continue to grow with inflation.

³Restricting to the pre-Covid period, the means are 1.73 and 1.76.

⁴These are national inflation rates but the inflation rate in Nova Scotia is usually close to the national rate and is currently above it.

5 Conclusions

The proposed Economic increases put forward by the government will result in a loss of real purchasing power and a loss in earnings over the three-year term.

- The proposed Economic increases are well below the government's own projected inflation rates.
- The Nova Scotia government's forecast of inflation are below the more recent Bank of Canada's current forecasts and below the inflation rates that have been realized as of March 2022.

Without amendments to the proposed Economic increases, members of the NSGEU will experience significant earning losses over the proposed contract term, and will see end of period earnings well below the start of period earnings. This is in addition to the losses that occurred over the previous contract that covered the 2015 to 2021 term.