

Thunder Bay's Economic Activity Index

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Previous Issues:
2018, 2016 & 2014

Dr. Bahram Dadgostar
Dr. Camillo Lento



Thunder Bay
Ventures
Community Futures Development Corporation



Federal Economic Development
Agency for Northern Ontario

Agence fédérale de développement
économique pour le Nord de l'Ontario

Canada

TBEAI Background & Revision

Gross Domestic Product (GDP) measures are often used to determine the health of an economy. However, a different methodology is applied to calculate the GDP of a national versus regional economy. As a result, regional GDP estimates are subject to various assumptions, resulting in reduced reliability. Moreover, GDP measures are general and have complex compositions. Often, a regional index is used to complement GDP measures by highlighting the major factors contributing to economic activities' expansion or contraction.

In 2013, Thunder Bay Ventures (TBV) commissioned a study establishing the Thunder Bay Economic Activity Index (TBEAI). The TBEAI is a unique, customized regional index that considers the nature of Thunder Bay's economy. The objective of the TBEAI is to reflect better the reality and dynamic of Thunder Bay's economy and to help the community stay informed about changes in economic activity.

The TBEAI uses five major factors that signal changes in Thunder Bay's economic activity. The five factors are: i) total employment; ii) retail sales; iii) average resale home price; iv) unemployment rate; and v) affordability of housing. In the past, employment insurance (EI) benefit claims were used as part of the index; however, changes to the EI program during the pandemic (e.g., data collection suspension, the transition of Canada Emergency Response Benefit (CERB) recipients to EI, and the increase in EI eligibility) resulted in a lack of reliability and comparability. As a result, the unemployment rate was substituted into the index based on empirical and theoretical economic rationale.

The following chart displays each component's weight after applying the methodology outlined to the right.



Summary Highlights

- Thunder Bay's economy rebounded in 2021 from the 2020 pandemic lows but has yet to recover to pre-pandemic levels.
- The economic recovery should continue in 2022 and 2023. Still, many risks are on the horizon as the Bank of Canada tightens financial conditions and raises interest rates to combat high inflation.
- Thunder Bay continues to lag behind the Province as the Provincial economy has already recovered to pre-pandemic levels.

TBEAI Methodology

The methodology utilized to calculate the TBEAI is based on the Conference Board of Canada's model for calculating a composite index. Six steps are undertaken to calculate the TBEAI:

1. Period-to-period changes are computed for each component.
2. The period contributions of the components are adjusted to equalize the volatility of each component.
3. The adjusted period contribution across the components for each period is summed to obtain the growth rate of the index.
4. The sum of the adjusted contributions of the composite index is adjusted to equate their trend to that of the coincident index.
5. The level of the index is computed using the symmetric percentage change formula.
6. The index is rebased to average 100 in the base year.

GDP Outlook

The following is the real GDP outlook for Thunder Bay

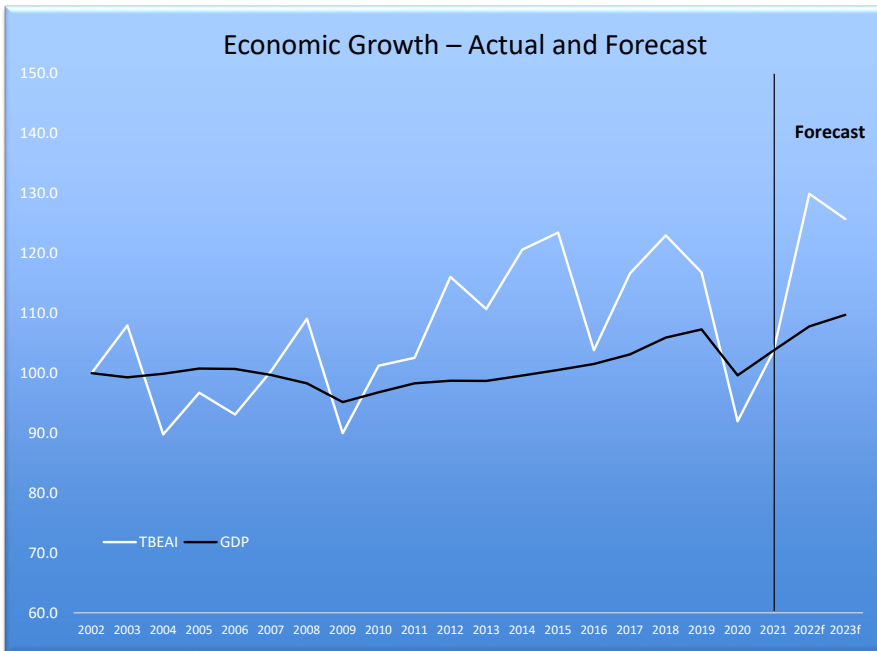
Real GDP Growth			
2015 to 2019	2020	2021	2022 to 2023
1.5%	-7.1%	4.1%	4.0%

Source: Conference Board of Canada

As expected, Thunder Bay's GDP declined significantly in 2020 due to the responses to the COVID-19 pandemic, with real GDP declining by 7.1%.

However, Thunder Bay's real GDP rebounded in 2021 by 4.1%, and further growth is expected from 2022 to 2023 to recoup the pandemic declines.

Thunder Bay's Economic Activity Index



Forecast with caution ...

The data underlying the TBEAI forecast may not fully reflect the tightening economic conditions.

The TBEAI and the Conference Board's GDP predict that Thunder Bay's economic activity will not return to pre-pandemic highs until 2022 and 2023.

However, we caution readers that the forecasts may not fully reflect the increasingly tightening financial conditions expected to continue into 2023 as the Bank of Canada fights high inflation levels.

The following factors present economic headwinds that may lead to less growth than forecasted:

- 1. Persistent inflation and increasing interest rates**
Consistent with other G7 central banks, the Bank of Canada no longer considers inflation to be transitory. Decade-high levels of broad and persistent inflation have resulted in the Bank of Canada tightening financial conditions and aggressively raising interest rates. On September 7, 2022, the Bank of Canada raised its policy rate to 3.25%, the highest rate since early 2008 and among the G7 countries.
- 2. Economic recession now expected in 2023**
Tightening financial conditions have already impacted the Canadian economy, and economic activity has slowed. Many economists are now predicting a recession in 2023.
- 3. Thunder Bay's economy to cool as well**
Thunder Bay's economy will not be immune to the tightening economic conditions experienced across the Country. Recessions generally lead to job losses, lower retail sales, and a cooling housing market. All of these factors would negatively impact the TBEAI's forecast.

TBEAI signals a continued rebound from the pandemic lows, with some headwinds in the future.

The TBEAI suggests Thunder Bay's economic growth was trending above average before the pandemic; however, the pandemic had a significant, negative impact on the local economy exceeding the Conference Board's reported contraction. The pandemic contraction was signaled by total employment declining to multi-decade lows, a corresponding increase in the unemployment rate to multi-decade highs, and retail sales retracting toward 2016 levels. The average resale home price continued its growth during the pandemic while housing affordability remained stable.

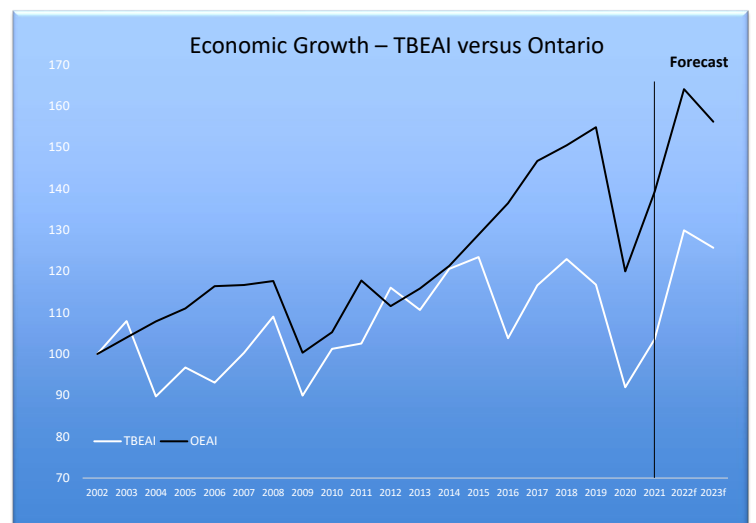
The TBEAI rebounded in 2021 to a level consistent with the Conference Board's GDP estimate. Both measures of economic activity suggest that the Thunder Bay economy has not fully recovered to pre-pandemic levels. This is signaled by total employment and retail sales still not regaining pre-pandemic levels, with unemployment rates still elevated.

TBEAI continues to suggest that Thunder Bay's economic growth lags behind the Province.

Comparing the TBEAI to the OEAI (Ontario Economic Activity Index - OEAI) reveals that Thunder Bay's economic activity continues its historical lag behind the Province's.

Before the pandemic, Thunder Bay experienced significantly less growth than the Province from 2016 to 2019, as signaled by four of the five measures. Thunder Bay's increase in total employment, retail sales, and resale home prices lagged behind the Province while housing became less affordable.

The TBEAI does forecast a more robust rebound from the pandemic lows relative to the Province.

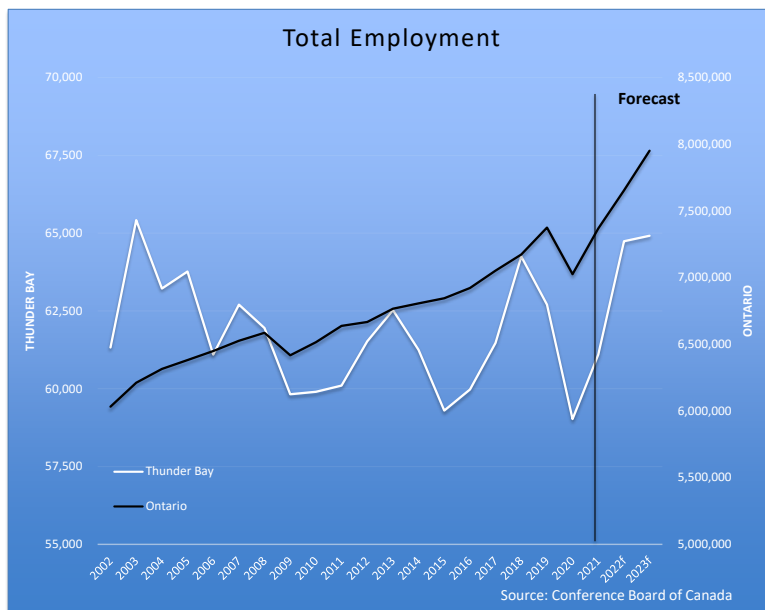


Thunder Bay's employment growth stagnant, not back to pre-pandemic levels (Component #1)

Thunder Bay's total employment level started declining in 2019, a year before the more drastic pandemic-induced contraction. Conversely, the Province only experienced a decline during the pandemic.

By 2021, the Province fully recovered total employment losses during the pandemic, while Thunder Bay has yet to reach pre-pandemic highs.

Longer-run, Thunder Bay continues to show stagnant growth in total employment (i.e., -0.02% average annual contraction from 2002 to 2021), whereas the Province continually adds new jobs (i.e., 1.06% growth from 2002 to 2021).



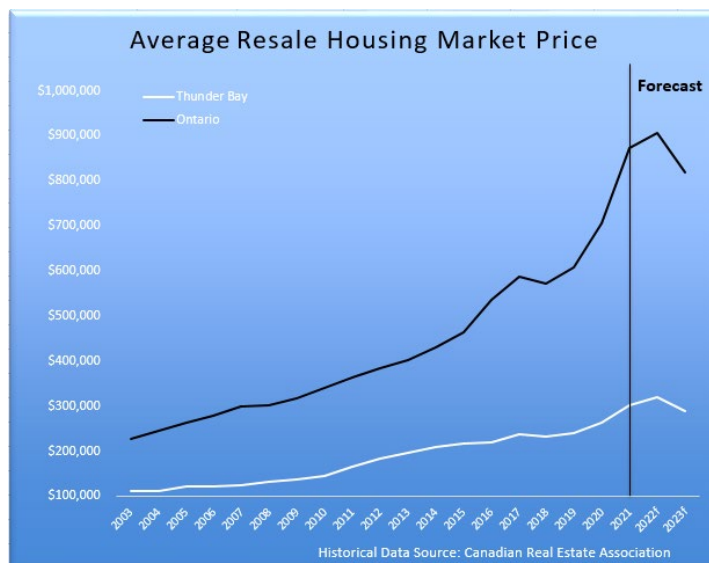
Retail sales almost back to pre-pandemic highs, but lag Provincial trends (Component #2)

Retail sales in Thunder Bay declined by 7.19% in 2020, a decline almost twice that of the Province (i.e., a 3.95% decline in Ontario). In addition, the 2021 recovery in retail sales in Thunder Bay also lagged behind the Province (i.e., 6.80% growth in Thunder Bay relative to 9.05% growth for the Province). Going forward, The Conference Board of Canada has forecast similar growth trends (approximately 7% per annum) for Thunder Bay and Ontario over the next two years.

Average resale prices continue to exhibit consistent growth (Component #5)

Resale housing prices continued to climb throughout the pandemic in both Thunder Bay and the Province. More specifically, resale home prices increased by 26.1% from 2019 to 2021 in Thunder Bay, while the Province experienced growth of 43.4% during the same period.

Increasing interest rates are expected to slow down the price increases, with declines in housing prices predicted for 2023.



Housing affordability improved slightly during the pandemic (Component #3)

Housing affordability improved slightly in Thunder Bay during the pandemic as increases in per capita income exceeded rent increases. Specifically, per capita income increased by 7.7% in Thunder Bay from 2019 to 2021, while rents increased by 4%.

In Ontario, per capita income increased by just under 10% while rents increased by 9%. This resulted in much less muted improvement in housing affordability.

Over the long run, housing affordability has remained relatively stable in Thunder Bay.

Unemployment rate reaches multi-decade high during pandemic (Component #4)

Thunder Bay experienced a significant increase in the unemployment rate during the pandemic, reaching a high of over 12% in the early stages of 2020. This was consistent with the general trend in the Province, as the lockdown measures in early 2020 resulted in massive business and employment disruptions.

The employment rate declined in 2021 and 2022 as a tight labour market emerged with the pandemic recovery, as new jobs continued their recovery in 2021 and 2022.



Consumer price index (CPI) spikes post-pandemic, Thunder Bay's prices not rising as fast

Background

- ✓ *CPI tries to capture price changes experienced by consumers of a given geographic area (e.g., country, province, or city). The CPI measures price changes by comparing, through time, the cost of a fixed basket of goods and services across eight major components: 1) Food; 2) Shelter; 3) Household operations, furnishings, and equipment; 4) Clothing and footwear; 5) Transportation; 6) Health and personal care; 7) Recreation, education, and reading; and 8) Alcoholic beverages, tobacco products, and recreational cannabis.*
- ✓ *Data on CPI for Canada, Ontario, and Thunder Bay was obtained from The Conference Board of Canada.*

General price levels not rising as fast in Thunder Bay...

- ✓ *General price levels across the globe, including Thunder Bay, have been significantly impacted by the COVID-19 pandemic and the war in Ukraine.*
- ✓ *Figure 1 reveals that Canada and Ontario's price level changes have closely tracked each other over the long run, whereas Thunder Bay experiences lower general price increases.*
- ✓ *Figure 2 focuses on the most recent five years and the forecast and shows that Thunder Bay has not experienced as significant an increase in price levels post-pandemic and is forecasted to have lower price level increases into 2022 and 2023.*
- ✓ *Although price levels have not accelerated as quickly relative to the Province, Thunder Bay is not immune to the spike in CPI. Purchasing power can quickly erode as the Bank of Canada raises interest rates to combat high inflation, and the historical growth experienced by the housing market may cool off. These negative impacts may be partially offset by industries that experience increased profitability from higher commodity and resource prices.*

Figure 1 - CPI across Canada, Ontario and Thunder Bay (2002 = 1.0)

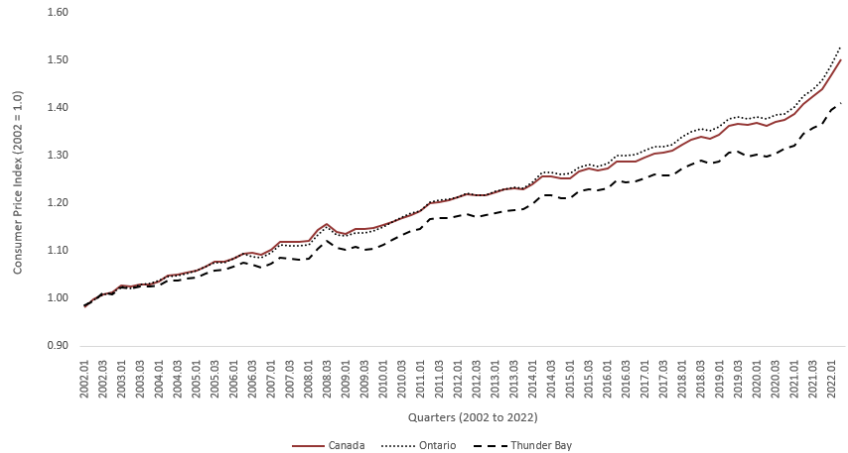
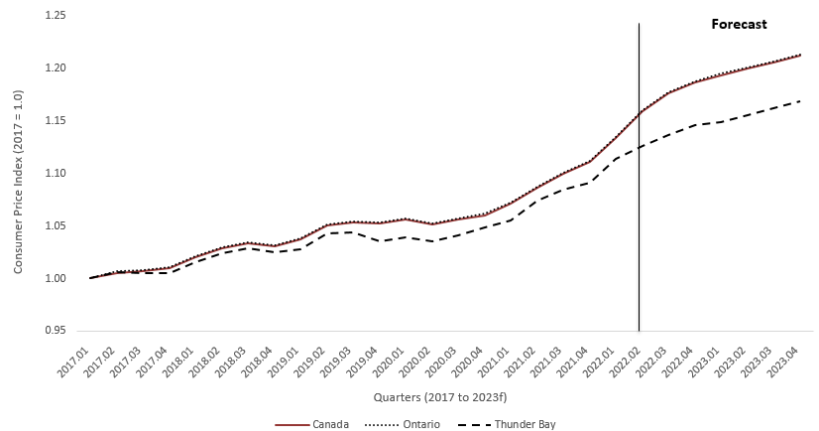


Figure 2 - CPI across Canada, Ontario and Thunder Bay (2017 = 1.0)



Thunder Bay's tight labour market

The economic recovery from the 2020 pandemic lows has resulted in a tight labour market in Thunder Bay. Strong job growth in 2022 has resulted in employment reaching historical highs, with broad-based gains in most industries aside from accommodations and food services and other services (see Figure 3).

Unemployment rates in 2022 are also well below historical averages. This may result in labour shortages and upward pressure on wage rates, barring a recession due to tightening financial conditions.

Figure 3 - Thunder Bay's change (%) in employment by industry from 2021 to 2022

