

Thunder Bay's Economic Activity Index

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Background

Economies are subject to ups and downs. Regional economies are no exception and may actually experience more volatile fluctuations as compared to national economies. Questions often arise in regards to the factors that contribute to the fluctuations. Several measures have been developed to explain the short and long-run changes in economic direction. Indices are among the most important of such measures.

Frequently, Gross Domestic Product (GDP) measures are 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 which may result 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 that contribute to the expansion or contraction of economic activities.

Along these lines, Thunder Bay Ventures (TBV) commissioned the study *Poised for Development, Ready for Growth*, which established 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 better reflect 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) employment benefit claims; and v) affordability of housing. These factors were selected based on empirical and theoretical economic rationale.

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



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 Conference Board of Canada's summary of the real GDP outlook for Thunder Bay:

Real GDP Growth

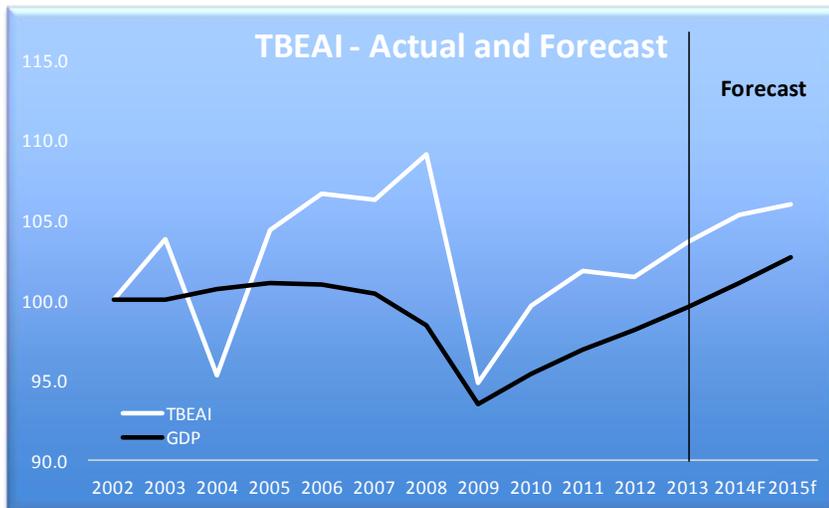
2009 to 2012	2013	2014	2015 to 2018
1.6%	1.5%	1.5%	1.4%

Thunder Bay's GDP outlook remains relatively stable, with real GDP growth forecasted.

However, Thunder Bay's forecasted GDP growth of 1.4% is below the forecasted growth of 2.3% for the Province as a whole.

Thunder Bay's forecasted GDP growth rate is similar to other Northern Ontario economies. For example, Greater Sudbury is forecasted to experience GDP growth of 1.6% in 2014.

Thunder Bay's Economic Activity Index



TBEAI signals tempered growth in Thunder Bay's economic activity

The TBEAI has a strong, positive correlation with Thunder Bay's real GDP (as shown in the figure above). From 2002 to 2013, Thunder Bay's real GDP experienced little to no growth. The TBEAI is consistent with the GDP movements but is more volatile. The TBEAI signals economic growth through growing retail sales, a surge in the resale real estate market and modest employment growth.

The TBEAI shows that Thunder Bay's economy contracted during the credit crisis, but, has since recovered. The sharp decline was associated with a reduction of employment, a spike in employment insurance claims, and a decline in the affordability of housing.

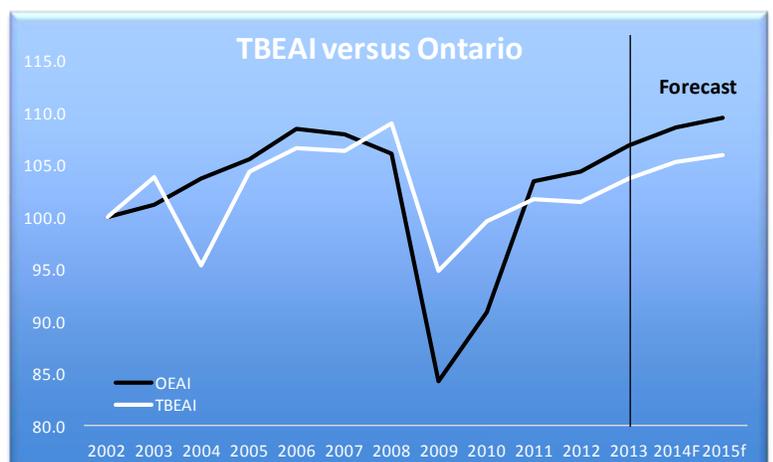
The TBEAI indicates that Thunder Bay's economy has shown signs of recovery since the credit crisis. During the recovery, strong retail sales and growth in the resale housing market have contributed the most to the upward direction of the TBEAI. The economy has also benefited by recouping lost employment, driven by the recovery of the manufacturing sector which experienced a 77% increase in employment from 2011 to 2013.

The Conference Board of Canada forecasts GDP growth by 1.5% and 1.4% per annum in 2014 and 2015, respectively. However, the TBEAI signals more tempered growth in the economy.

TBEAI suggests economic expansion trails behind Ontario, but forecasted to keep pace

TBEAI suggests that Thunder Bay's economy did not suffer a pullback as severe as the Province during the credit crisis

The TBEAI, as compared on the same basis to Ontario (Ontario Economic Activity Index - OEAI), suggests that Thunder Bay's economy did not suffer as severe a pullback during the credit crisis. However, Thunder Bay's economy has yet to recover to its pre-crisis high whereas the Ontario economy has just about fully recovered.



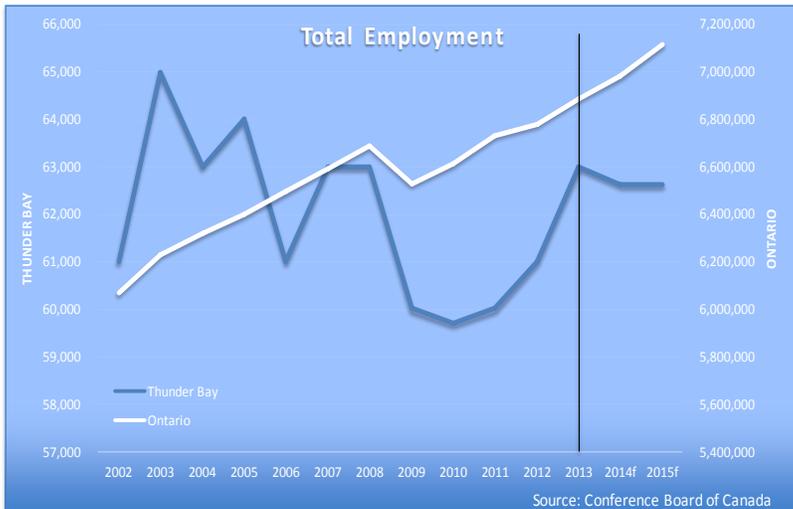
Additional Commentary ...

The following are some key economic highlights, based on commentary from the Conference Board of Canada.

- Forecast Risk** – The cancellation of Cliff's involvement in the Ring of Fire chromite project will weaken growth prospects for several economic sectors in Thunder Bay.
- Unemployment Rate on the Move** – The unemployment rate rose from 5.5% in 2012 to 6.3% in 2013, and currently sits at 5.1% (October, 2014). When evaluating changes in the unemployment rate, it is important to consider both total employment and labour force participation rate. For example, a decrease in the unemployment rate could be negative if the labour force participation rate declines as this may suggest poor job seeker confidence or job-seekers moving out of the region. Alternatively, an increase in the unemployment rate could signify a rising labour force participation rate as a result of improved job-seeker confidence. Therefore, changes in the unemployment rate must be assessed carefully to determine their economic significance.
- Thunder Bay Beginning to Attract Newcomers** – Over the past six years, Thunder Bay has attracted newcomers on a net basis. This follows fifteen consecutive years of losses.
- Manufacturing Sector Recovering but still has Steep Hill to Climb** – The manufacturing sector has been decimated by the forestry sector collapse. Since 2000, manufacturing output in Thunder Bay is down 40%. However, the manufacturing sector has recently shown signs of recovery by posting double-digit percentage gains over the past three years.

Employment growth stagnant, lagging behind Ontario (Component #1)

Total employment in Thunder Bay has grown by 3.3% from 2002 to 2013, or an annual growth rate of 0.29%. This lags behind the growth experienced by Ontario where total employment grew by 13.5% over the same period, or 1.16% per annum. Thunder Bay's total employment is forecasted to decline slightly (0.60%) over the next two years, while Ontario's total employment is expected to increase by 3.3%.



Employment Fast Facts:

- Thunder Bay's employment level is more volatile than Ontario's.
- Employment rose 3.2% in 2013, a strong showing after suffering losses in five of the past ten years.



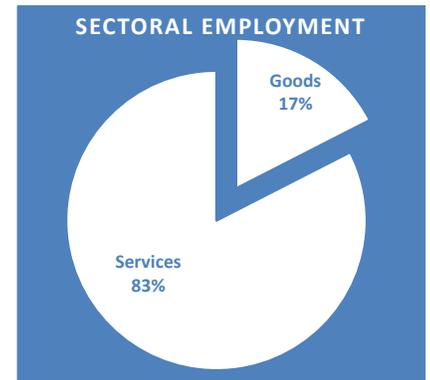
IN THE KNOW

Total Employment Break-down

Thunder Bay's total employment comes from the following top five dominant industries:

Industry	Employees
Retail Sales	7,200
Construction	4,000
Food & Beverage Services	3,800
Hospitals	3,700
Primary & secondary schools	3,500

Sectoral employment across the goods and service sectors:



The service sector represents 83% of Thunder Bay's total employment. The service sector is broken-down as follows (total employment in parentheses):

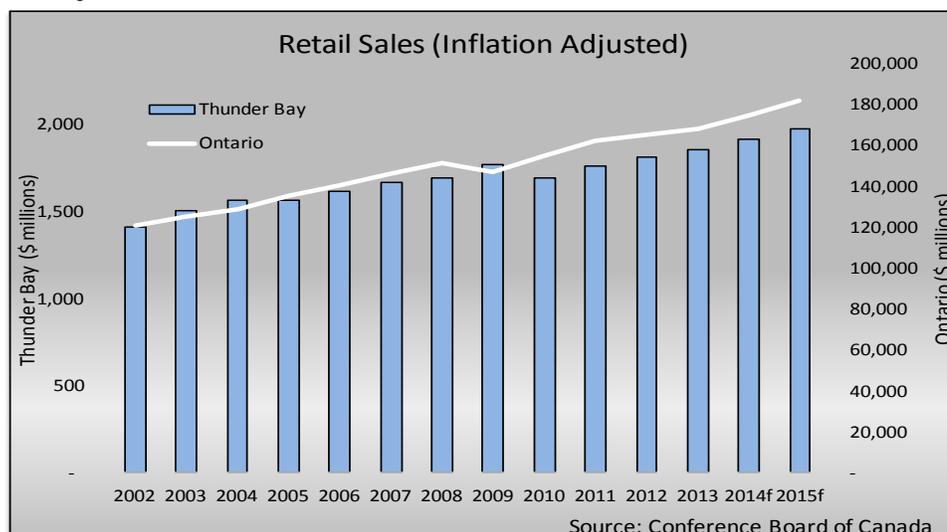
1. Non-commercial services (16,700)
2. Wholesale & retail trade (10,100)
3. Personal services (7,700)
4. Business services (5,700)
5. Public administration (4,800)
6. Transportation & warehousing (3,400)
7. Finance, insurance, & real estate (2,000)
8. Information & culture (1,700)

The good sector is broken-down as follows:

1. Manufacturing (4,800)
2. Construction (3,700)
3. Primary and utilities (2,400)

Retail sales robust, expected to keep pace with Ontario (Component #2)

Thunder Bay's retail sales have been robust, growing at an annual rate of 2.51% from 2002 to 2013, for a total increase of 31.3%. Retail sales experienced a minimal impact from the credit crisis, and recovered quickly even after a modest decline in 2010. Thunder Bay's robust retail sales are consistent with Ontario as a whole which experienced annual growth of 3.04% over the same period, resulting in a total increase of 39.0%.

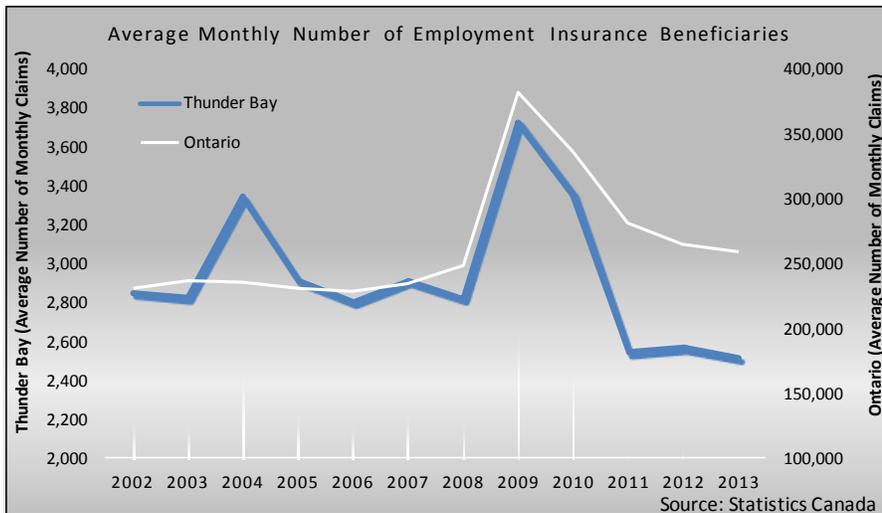


Home rental becoming moderately more affordable, increases in rent offset by income growth (Component #3)

The housing affordability measure is calculated as the average annual rent (two bedroom) divided by the average annual income in a community. Average annual rent in 2013 is estimated to be \$10,296, an increase of 30.5% from \$7,872 in 2002; however, the affordability ratio declined from 28.5% to 25.7% over the same time period because the growth rate in income exceeded the growth in annual rent costs. Since 2005, Thunder Bay's housing market has been more affordable than the Provincial average. For example, the average Ontarian renter allocates 28.3% of their income to rental costs, compared to 25.7% for a renter in Thunder Bay.

EI beneficiaries declines, below provincial average (Component #4)

The number of employment insurance beneficiaries in Thunder Bay has declined by 11.8% from 2002 to 2013, where the total number of beneficiaries increased by 12.2% for Ontario as a whole. The main reason for the difference was due to a spike in claims during the credit crisis whereby the number of Ontario beneficiaries increased by 53% compared to a 32% increase in Thunder Bay.



Bankruptcies on the DECLINE

BANKRUPTCIES DECLINING

Although bankruptcies are not included as a variable in the TBEAI, they can provide some insights into the overall health of the economy.

CONSUMER BANKRUPTCIES

According to the Conference Board of Canada, consumer bankruptcies have experienced a 28% decline from 2003 to 2012. The number of bankruptcies spiked in 2009 to 493, a 10-year high, then dropped to 256 in 2012.

BUSINESS BANKRUPTCIES

Business bankruptcies have declined by 76% from 2003 to 2012. Business bankruptcies jumped during the credit crisis; however, the 10-year high occurred in 2005 when 53 business bankruptcies were reported. The fewest bankruptcies occurred in 2010 and 2012 when 8 bankruptcies were reported.

Real Estate Notes...

A few additional notes from the CMHC Housing Market Outlook (Spring 2014) for Thunder Bay...

... Average price of a new single detached home forecasted to decline (CMHC)

CMHC forecasts the price of new single detached homes to decline in 2014, and recover some of the losses in 2015. Overall, the selling price of a new single detached home is forecasted to decline from \$432,000 in 2013 to \$410,000 in 2015.

... New housing starts to decline in 2014, and edge higher in 2015

CMHC forecasts that new housing starts will decline to 255 in 2014 from 324 in 2013, a 21.3% decline. New house starts should edge higher in 2015 by 13.7%, with 290 new homes expected to be built. Short term mortgage rates are expected to remain at historical lows which will continue to support the housing market.



... Vacancy rates forecasted to decline in an already tight rental market.

CMHC forecasts that the vacancy rate will decline from 2.6% in 2013 to 2.2% by 2015. Consistent with tight vacancy rates, average rent (two-bedroom) is forecasted to rise from \$858 in 2013 to \$890 by 2015.



Resale home prices surge, growth forecasted to continue (Component #5)

According to the CMHC, the average price of a resale home in Thunder Bay increased from approximately \$110,000 in 2002 to \$210,000 in 2013, an increase of almost 90%, or 6% compounded annually. Strong growth in the resale real estate market was seen across the Province – for example, the average growth in Ontario from 2002 to 2013 was approximately 108%. However, breaking down the overall price increase reveals that Thunder Bay's real estate market growth lagged behind Ontario from 2002 to 2007, but, surged beyond the provincial average from 2007 to 2013:

	Thunder Bay	Ontario
2002 – 2007	17.1%	54.9%
2007 – 2013	62.1%	34.4%
2013 – 2015f	11.8%	7.6%