NZIER INSIGHT

2019-82

Is the sky falling?

Business confidence has decreased significantly over the last year. What does this tell us about the likely path of economic growth? Can we use this data to predict the next recession?

Introduction

The NZIER has been collecting information about the confidence of New Zealand businesses since 1975. We publish the results in the NZIER *Quarterly Survey of Business Opinion* (QSBO).

When we reported that business confidence had fallen dramatically in late 2017, the Government, the Opposition, the press and all the other economists in New Zealand had a view on what this meant. Depending on who you talked to, the results were meaningless, a harbinger of doom, another example of the vast right-wing conspiracy or an interesting example of the views of businesses that provided some insights into how parts of the economy were tracking. Our own take is the QSBO is an important measure when interpreted carefully, but shouldn't be viewed in isolation of other data when making predictions.

Given the level of interest in this topic, we have undertaken some more detailed analysis of the QSBO.

Background

QSBO is used by economists, the media and policy makers for assessing the direction of the economy. The respondents are a sample of 2,200 firms in the manufacturing, services, construction and merchant sectors.

The survey asks the views of respondents regarding the overall economic outlook. The core question we ask is 'Do you expect the general business situation during the next six months to improve, stay the same or deteriorate?'.

We use the result to construct our index of general business confidence (BC).

Figure 1 Variations in business confidence 1975-2019
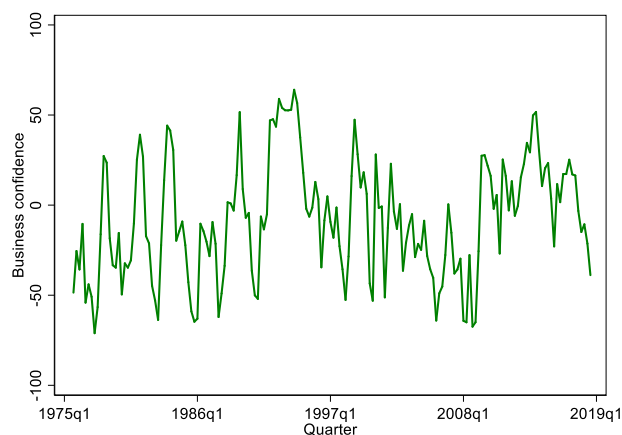
Source: NZIER (2019)

On 16 January 2018, we released our first QSBO results since the formation of the current Labour-led coalition government. We said:

> The NZIER Quarterly Survey of Business Opinion (QSBO) shows a **further drop in business confidence in the December 2017 quarter**, with businesses now feeling pessimistic about the economy over the coming months. Confidence had eased in the previous quarter heading into the General Election, but businesses have become even more downbeat in the wake of the formation of the new Government, with a **net 11 percent of businesses expecting economic conditions to worsen over the coming months**. There remains a great deal of uncertainty over the effects of new Government policies on the New Zealand economy.

Over the next three quarters, we continued to report a fall in BC.

In December 2018, Stuff reported:

> Depending on who you listen to, New Zealand is either gripped by pessimism normally felt during recessions, or witnessing a cynical political move by business groups, trying to second-guess the new coalition's economic and labour law reforms.

Our latest *Quarterly Predictions*, released on 28 May 2019, while noting that that the QSBO continued to show a deterioration in both business confidence and own activity, said:

Overall, we expect annual GDP growth to average around 2.6 percent over the next five years. While this is well below the average of 3.4 percent over the previous five years, it still represents a sustained period of growth. Capacity pressures have limited the pace at which activity in some sectors, such as construction, have picked up. With underlying demand robust, the economic cycle has become more protracted.

So, we do not see the QSBO has either signalling that the economic is in a recession or about to enter one. We also don't subscribe to conspiracy theories.

So, what is the QSBO telling us and should it be used as a stand-alone predictor of future economic trends?

To address this, we used data and econometric analysis[1] to ask three questions:

- Are QSBO respondents reporting their experience of economic conditions or their impression of what news reporting of the economy is saying?

- How well does the QSBO perform as a predictor of economic activity one quarter into the future?

- Can the QSBO be used to pick the bottom or the top of the business cycle?

The impact of news

To test the effect of the news, we use time-series regression analysis to understand the impact of news on changes in Business Confidence.

Figure 2 illustrates the variations in shares of different types of news over time. For example, as expected, during 2005-2009, the years before and after the Global Financial Crisis (GFC), the share of economic news increased significantly.
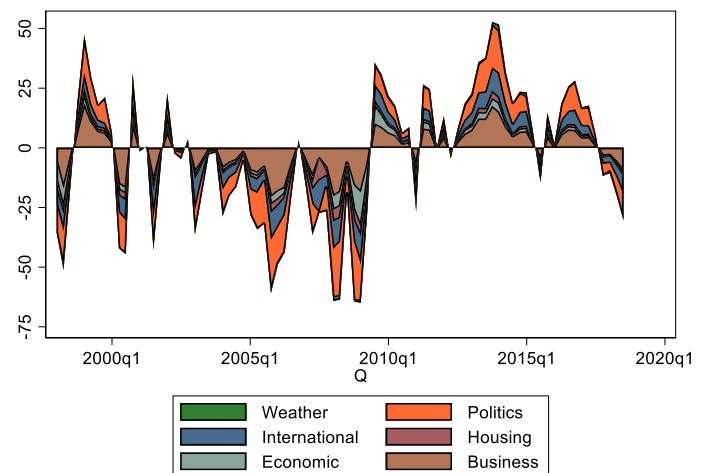
Figure 2 Variations in share of different types of news
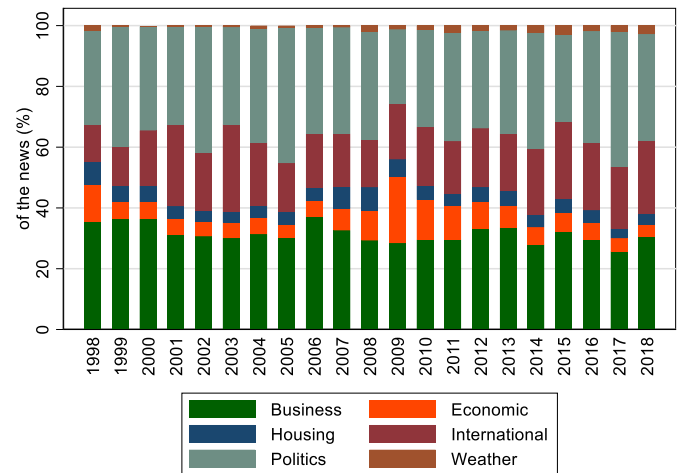
Source: NZIER (2019), Newztext

Figure 3 illustrates the variation in the economy-wide business confidence over time and the underlying composition of news for each quarter. [2]

Figure 3 Variations in business confidence and news types

Source: NZIER (2019)

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[1]   We used the Markov regime-switching method, using the model developed by Mark Homes and Brian Silverstone of the University of Waikato: Holmes, M. J., & Silverstone, B. (2010). Business confidence and cyclical turning points: a Markov-switching approach. *Applied Economics Letters*, 17(3), 229-233.

[2]   What we are most interested in is the change in the share of each type of news and not the number of appearances of each types of news – which is highly sensitive on the keywords that we use for extracting the news from news sources.

As illustrated in Table 1, **the best explanation for BC is gained from news from the preceding six to nine months.**[3] However, **the impact of the news lags varies over time**. Accordingly,

- The economic and housing news affect BC most significantly during the quarter that is taken (the last 3 months)

- Political news affect BC significantly over a longer round of 9 months

- There is not a significant correlation between BC and news in the next quarter.

Table 1 Significance of the effect of different types of news on BC

News type	Next 3m	Last 3m	Last 6m	Last 9m
Business	22%	36%	10%	**0%**
Economy	87%	**7%**	13%	22%
Housing	2%	**1%**	**0%**	**0%**
International	75%	93%	98%	63%
Politics	25%	50%	67%	**0%**
Weather	12%	19%	**7%**	**10%**
Adj-R2	16%	36%	48%	52%

Note: Green indicates best explanation and red is the worst explanation

Source: NZIER (2019)

How does the QSBO perform in terms of predicting the direction of the economy?

Our next question was about how well the QSBO predicts the economy.

Figure 4 shows the variations in the economy-wide business confidence and the variations in GDP between 1975 and 2017. The graph suggests close relationship between BC and the two quarters ahead GDP growth.

Figure 4 The QSBO and GDP move together
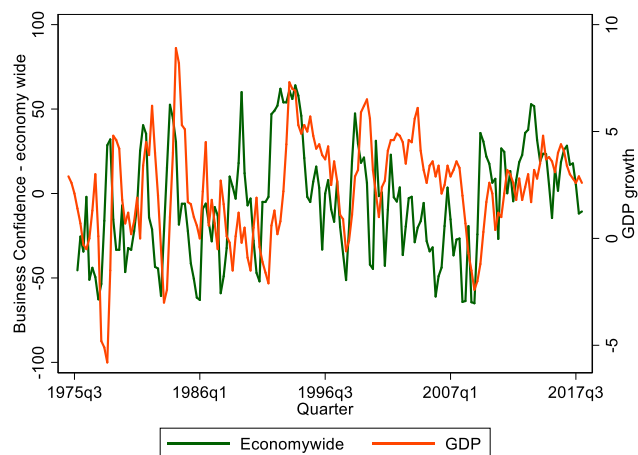
Source: NZIER (2019)

We first estimate the performance of QSBO in terms of predicting the current and the next four quarters' economic growth.[4]

Based on the literature, the businesses' expected and experienced economic activities are predictors for economic growth.[5] For the expected and experienced activity levels, we have detailed information on activity expectations and experienced activities for the services, manufacturing and building, and merchants sectors. We also have simple averages constructed based on the detailed expected and experienced activity measures – these also known as Domestic Trade Activity measures (DTA). We use both the average measures and the detailed responses for predicting changes in GDP.[6]

Our results suggest that **the average experience and expected activity indicators have good explanatory power for the likely changes in economic activities.**

We also tested the predictive power of QSBO using the economy-wide BC indicator versus industry specific BC indicators. While, in combination, the BC indicator performs better for predicting GDP for one quarter ahead, the industry-specific BC indicators perform better for the two quarters ahead GDP predictions. The best fit was derived from the models that contain both the industry specific and the economy-wide BC indicators – i.e. **the economy-wide BC and the industry specific BC indicators perform well when used alongside each other**.

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3   This is inferred from the goodness of fit of the models.

4   The outcome is changes in GDP.

5   See for example, NZIER. 2011. QSBO as a forecasting tool. NZIER working paper 2011/5.

6   As presented in Table 1, we run an autoregressive model, using four lags of GDP to predict the current levels of GDP. Then we include the QSBO variables in the second column. As illustrated the predictive power of the model improves significantly (adjusted R-squared increases from 0.77 to 0.82). In the next column, we include the BC variable. Including BC in the equation improves the predictive power of the model.

Adding information contained in different types of news over the last year (four quarters) improves the predictive power of the model significantly.

When we include the appropriate BC variables, the explanatory power of the news variables is no longer significant for the current and one quarter ahead. **The information provided by news do not perform as well as the information provided by the BC indicators for predicting changes in GDP.**

Our results indicate that:

- BC is a good indicator for the direction of economic growth as it captures the impact of a wide range of factors on economic growth

- The predictions of directions of GDP are improved if BC is read alongside other QSBO information.

Next, we estimated the impact of the variations driven by types of news on the current quarter and the next three quarters' GDP. The best predictive power is for two quarters ahead.

When read alongside the news over the last year, BC provides a good prediction of changes in GDP in six months' time.

Table 2 BC driven by news

BC- News	(1)	(2)	(3)	(4)
Driven	Q0	Q+1	Q+2	Q+3
Business	0.056	0.076*	**0.122***	0.139**
Economy	0.049**	0.034	**0.079***	0.086**
Housing	0.066*	0.071	**0.118***	0.126**
Int'l	0.063*	0.063	**0.113***	0.12**
Politics	0.061*	0.072*	**0.114***	0.126**
Weather	0.064*	0.067*	**0.113***	0.113**
R_adj	0.843	0.794	**0.88**	0.69

Source: NZIER (2019); *p<0.1, ** p<0.05, *** p<0.01

The predictive power for changes in the direction of the economy

The Holy Grail of all economic forecasts is to predict a turning point of the business cycle: when will the economy go from growing to shrinking, or vice versa. The ability of forecasters to find these turning points is reflected in the old joke "economists have predicted nine of the last three recessions".

So, how does the QSBO perform?

For both these events, the QSBO did not predict the turn in the economy.

Conclusion

Our analysis suggests that the QSBO continues to be a useful source of information about business confidence in New Zealand: the name is what's on the tin.

It is a good indicator of the direction of economic growth, largely because it captures in a single number the impact of a wide range of the factors that determine economic growth.

But it is not an economic forecast. People wanting access to NZIER's award-wining *Quarterly Predictions*, which are economic forecasts, should talk to our Head of Membership Services, Christina Leung on (021) 992 985 or email christinia.leung@nzier.org.nz.

Considering that the business confidence figures can be explained by news and other economic factors, our analysis found no evidence of the illumination of vast right-wing conspiracy corrupting our Survey.

For the more technically inclined NZIER has prepared a longer more technical paper to support this Insight. This paper will be discussed at the forthcoming NZ Economics Association conference before being published as a NZIER Public discussion paper.
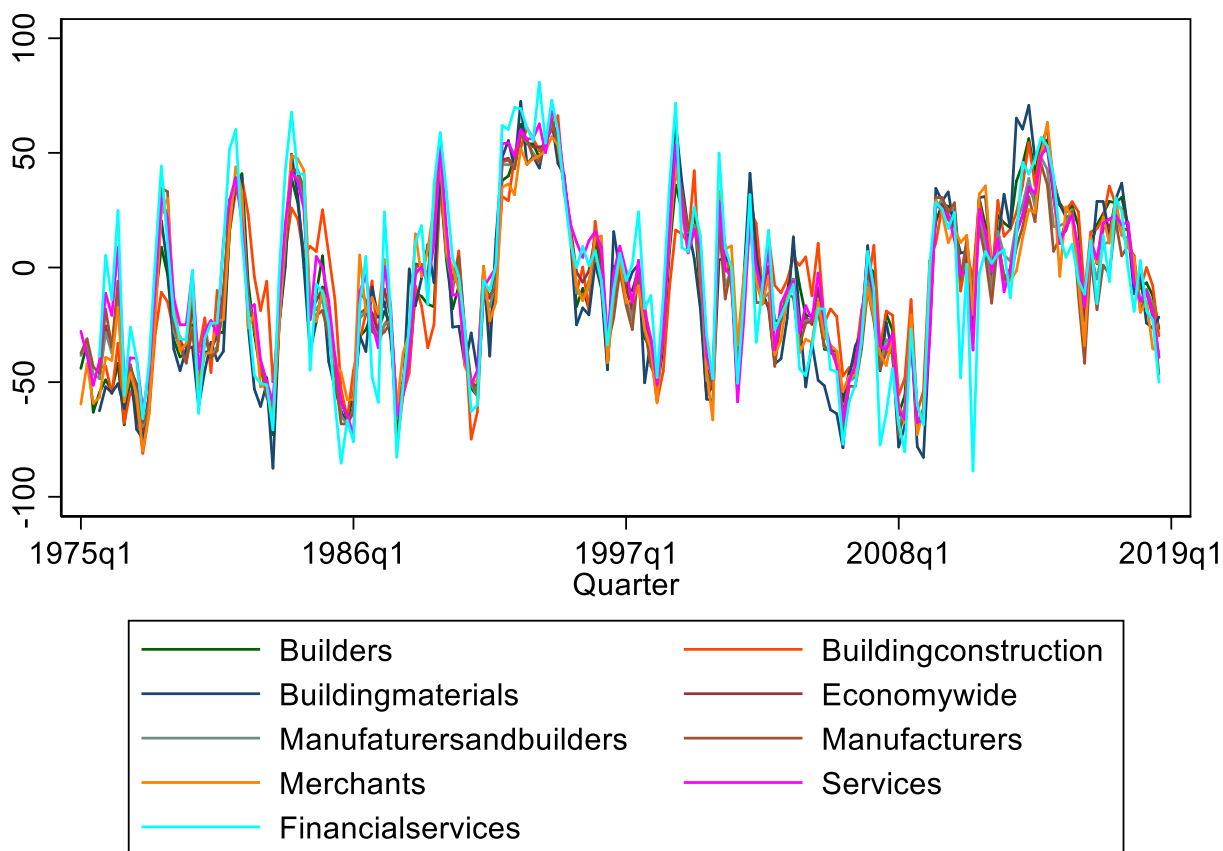
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Appendix A

Figure 5 Variations in business confidence of different economic sectors 1975-2019

Series are seasonally adjusted.

Source: NZIER (2019)