PERSPECTIVES

May 28, 2024

Pessimism could plunge us into a recession

KEVIN MORAN
Associate Professor, Department of Economics, Université Laval
CIRANO Researcher and Fellow

ADAM KADER TOURÉ
PhD candidate, Department of Economics, ESG UQAM

DALIBOR STEVANOVIC
Full Professor, Department of Economics, ESG UQAM
CIRANO Researcher and Fellow

For over a year, various studies have been reporting that Canadian businesses and consumers are fairly pessimistic about the economy. Evaluating the extent to which this wave of pessimism could cause an economic slowdown presents a methodological challenge, one the authors tackled in a recent CIRANO study. Drawing upon Vector Autoregression (VAR) methodology as well as Canadian and American historical data, the authors suggest that correlations between confidence and economic activity do indeed include a causal component. As a result, the recent declines observed in confidence indices could lead to an economic slowdown.

Changing economic conditions have proven challenging to interpret over the past two years, with observed signals often contradicting one another and making the task of economic forecasters particularly difficult. In such a context, the increasing availability of survey data relating to confidence could provide an important contribution, potentially helping to signal downturn before it occurs. Indeed, these emerging sources of data have fostered the emergence of a significant empirical literature highlighting the link between confidence and macroeconomic conditions, structured along two major themes: economic forecasting and causation analyses.

Data that measure confidence are key elements in forecasters' toolboxes

Various institutions, in Canada and elsewhere, regularly survey consumers, businesses or financial market players on their perceptions of current economic conditions, or about what they foresee for the future. In

Canada, the Conference Board of Canada's surveys on consumer and business confidence are the most widely recognized, and those for which data have been collected for the longest period of time.

Since 1977, the Conference Board has taken the pulse of the business community each quarter, asking questions to a representative sample of business leaders. This survey is comprised of 10 questions focusing on participants' perceptions of the current and future economic environment, with regards to their own business, the industry in which they operate, or the economy as a whole. Respondents are surveyed regarding investment intentions; they are asked to respond to questions like "Would you say the present is a good or a bad time to undertake expenditures to expand your plant or add to your stock of machinery and equipment?", "o you expect overall economic conditions in Canada six months from now to be better, the same or worse"?, "Over the next six months, do you expect your firm's financial position to improve, remain the same or worsen?" An Index of Business Confidence based on aggregated responses to three of the 10 questions is then constructed.

The Conference Board started its survey of consumer confidence in 1980. Initially carried out on a quarterly basis, it is now done monthly. It looks at consumer perceptions of their own situation or of economic activity in general. The survey is composed of four questions: "Do you feel that right now is a good time or a bad time for the average person to make a major outlay for things such as a home or a car or some other major item?", "Considering everything, would you say that your family is better off or worse off financially than six months ago?", "Again, considering everything, would you say that your family will be better off, the same or worse off financially six months from now?", "How do you feel the job situation and overall employment will be in this community six months from now?" Using the averages of the responses, the Conference Board builds an Index of Consumer Confidence.

In the U.S., the University of Michigan has since 1978 undertaken a monthly survey that is the basis for the confidence data most frequently utilized in the empirical literature. As is the case with the Canadian surveys, the focus is on consumers' perceptions of current and future economic conditions and their expectations about inflation. An index of consumer confidence summarizes the results. Finally, the Purchasing Managers Index produced by the Institute of Supply Management is generally used to give a measure of business confidence. It is calculated by aggregating the responses to monthly surveys conducted with purchasing managers working for major American manufacturers.

Other surveys on perceptions

The Bank of Canada administers two main surveys. Started in 1997, the Business Outlook Survey is a quarterly consultation of business leaders from about 100 firms. The makeup of the group, in terms of regions, sectors of activity and sizes of businesses, reflects Canada's economy. This survey allows the Bank of Canada to sound out the views of these firms regarding specific topics of interest and the future direction of economic activity. The Canadian Survey of Consumer Expectations was launched in 2014. It reaches about 2,000 Canadian households each quarter and queries their views on a variety of issues including their own financial situation and other current matters that are of interest to the Bank of Canada at the time of the survey.

The CIRANO Barometer on Risk Perception compiles and analyzes the results of surveys conducted with a representative sampling of Quebec's population. The Barometer asks respondents about their concerns and perceptions regarding several major societal issues. For the first time since the initial data gathering exercise conducted by the CIRANO Barometer in 2011, economic and financial issues came to the forefront of Quebecers' personal concerns in 2022, thus overtaking issues related to the health care system (de Marcellis-Warin et al., 2022).

The Canadian Federation of Independent Business (CFIB) has developed the Business Barometer®, an index that measures the confidence levels of small and medium-sized businesses, calculated based on data collected from a stratified random sample of CFIB members.

The empirical literature on the causal impact of confidence shocks is inconclusive

Defining certain key concepts is helpful to a proper understanding of the economic literature on this subject. In the context of economic modelling, the concept of "shock" refers to an event that causes an unforeseen change in one of the variables of a model, an event whose origin is posited as being *exogenous*, and which may have subsequent impacts on other variables in the model. In a time series analysis, a *news shock* is an exogenous variation in the anticipated future value of an economic variable. In other words, it is a signal received in advance by agents regarding what will happen in the future.

Until now, analyses of the macroeconomic causal impact of "confidence—or sentiment—shocks" have not yielded a consensus. Some authors suggest that confidence shocks are indeed a factor in triggering economic fluctuations. Leduc and Sill (2013) report that a decline in the unemployment rate anticipated by economic agents has an immediate impact on economic activity, leading to a reduction in the unemployment rate over the short term, an increase in the inflation rate and a tightening of monetary conditions. These results are consistent with the idea that monetary authorities gradually increase interest rates in order to stabilize an economy impacted by a wave of optimism. Khan *et al.* (2020) show that a sudden and unforeseen increase in confidence leads to an increase in residential investment and spending on durables and in an increase in GDP. Barsky and Sims (2012) reach the same conclusion.

Other studies suggest, however, that these conclusions are tenuous and that the effects of confidence shocks should be interpreted with caution. Fève and Guay (2018) use a methodology that enables them to make a distinction between news shocks, on the one hand, and fluctuations that are intrinsically linked to confidence, on the other. They report that confidence shocks, strictly speaking, have very modest macroeconomic impacts.

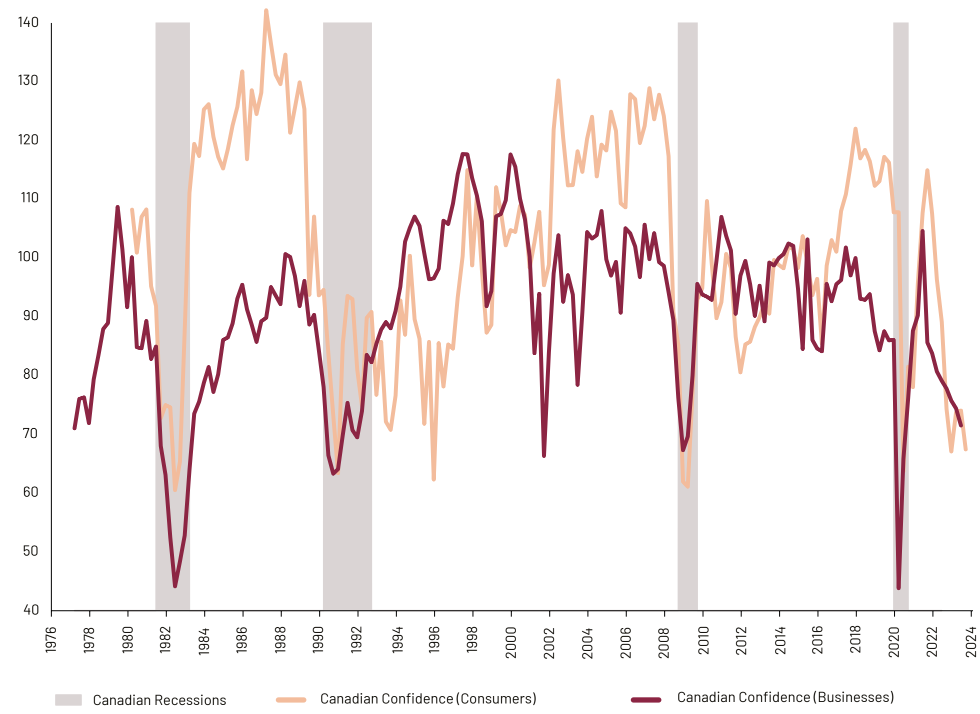
Few analyses have been carried out using Canadian data. The study done by Levchenko and Pandalai-Nayar (2020) is an exception. These authors demonstrate that confidence shocks originating from the United States have a substantial macroeconomic impact on the Canadian economy in a causal sense, but they do not examine the possibility that confidence shocks specific to Canada could also have major macroeconomic impact in Canada.

Fluctuations in confidence levels precede fluctuations in Canadian economic activity

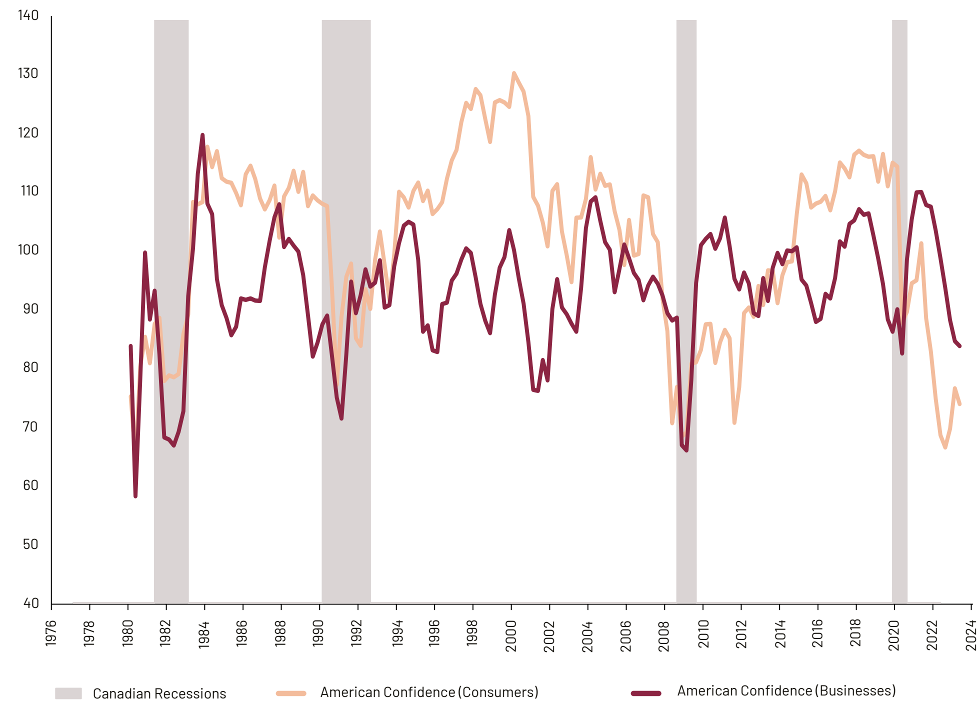
A simple descriptive analysis of consumer and business confidence indices suggest the presence of a link between confidence and the business cycle and the possibility that the former could indeed help predict the latter.

We can illustrate this through simple analyses of time series established over several decades. In the following two figures, confidence indices are set at 100 for the reference year 2014.

Between 1976 and 2022, we observe that declines in Canadian business and consumer confidence preceded the start of the 1991 and 2008 recessions in Canada. Drops in confidence among American businesses and consumers also seem to have coincided with the start of the 1991 and 2008 recessions in Canada. These observations are in large part corroborated by our econometric analyses, as discussed below.



Evolution of Canadian confidence indices and recessions in Canada



Evolution of American confidence indices and recessions in Canada

Evaluating the causal aspect of the correlation between confidence and economic activity is a challenge

The vector autoregression model (VAR) is a methodology commonly used to map the evolution of a set of time series and to identify, in the econometric sense of the term, dynamic impacts linking various series among themselves and the causes of their fluctuations. In our study, an estimate carried out using a VAR model enabled us to analyze the causal aspect of the link between confidence and economic activity, by estimating the effects of confidence shocks on the main Canadian economic aggregates, like Gross Domestic Product (GDP), investment, interest rates, inflation rate and exchange rate of the Canadian dollar.

More specifically, we carried out two VAR estimates: an American VAR and a Canadian VAR. The first is used to identify American confidence shocks and only includes U.S. variables. This shock is then added as an "input" to the Canadian VAR.

What makes the identification of confidence shocks in the VAR model difficult is the fact that statistical innovations in the VAR may be produced by a true shock to this variable, but may also be the variable's response to a shock that has affected another component of the model. For this reason, computing the dynamic impacts of a shock always depends on the identification strategy selected and the underlying hypotheses.

On the one hand, we could posit that fluctuations in confidence indices merely reflect the information available regarding the future. Even if this information can be considered to be complementary to that contained in other predictor variables, the confidence variables could nonetheless improve our capacity to anticipate future macroeconomic fluctuations. This interpretation of data on confidence levels attributes to these levels a role that is linked solely to expectations, an interpretation similar to those seen in the literature relative to news shocks.

On the other hand, fluctuations in confidence data may not originate from a specific piece of information about what will happen in the future, but result instead from "waves of optimism" or "waves of pessimism" that are not related to the economy's fundamental production capacities. These "waves of optimism" or "waves of pessimism" may in turn have significant macroeconomic effects and thus be the source of correlations between confidence and economic activity.

Fluctuations in confidence levels <u>cause</u> fluctuations in Canadian economic activity

Our findings show that correlations between confidence and economic activity do indeed have a causal component. A positive confidence shock has effects that are similar to those associated with an increase in economic activity: substantial and persistent increases in GDP and investment, an increase in the rate of inflation and in interest rates, and an appreciation of the Canadian dollar. Given the symmetry in the analytical framework, these findings can also be interpreted in relation to negative shocks: a sudden decline in economic agents' confidence levels is likely to cause an economic slowdown in Canada.

A variance decomposition analysis further enables us to quantify to what extent each of the confidence shocks examined in our analysis contributes to the volatility observed in each variable. This is what is shown in the following table. Several observations can be made here.

	Gross domestic product	Investment	Inflation	Interest rate	Exchange rate
4 quarters					
Canadian consumers' confidence	7.6	11.4	7.8	4.6	8.7
American consumers' confidence	3.1	0.5	2.3	3.2	0.3
Canadian business confidence	12.7	11.4	7.8	2.7	8.5
American business confidence	4.00	4.0	3.7	1.5	4.7
8 quarters					
Canadian consumers' confidence	12.4	14.8	7.8	14.2	10.4
American consumers' confidence	4.6	2.3	2.2	6.3	0.6
Canadian business confidence	16.1	16.2	8.0	9.6	7.0
American business confidence	5.2	4.5	3.6	0.5	5.0
12 quarters					
Canadian consumers' confidence	9.4	14.2	8.0	19.5	14.3
American consumers' confidence	3.3	1.9	2.1	5.9	0.7
Canadian business confidence	12.3	14.2	8.0	10.5	5.5
American business confidence	4.3	4.8	3.7	0.5	4.7

Decomposition of variance of key economic indicators (in %) in response to confidence shocks

Canadian business confidence shocks have more impact on GDP volatility than Canadian consumer confidence shocks. Shocks to Canadian consumers' confidence are responsible for 7.6% of GDP fluctuations over a horizon of four quarters, 12.44% over a horizon of eight quarters (i.e., two years), then 9.4% over a horizon of three years. Shocks to Canadian businesses' confidence have more impact: they are responsible for 12.7% of GDP fluctuations over a horizon of four quarters, 16.1% over a horizon of eight quarters, and 12.3% over a horizon of 12 quarters.

Conversely, shocks to consumer confidence explain a larger part of the variability of financial indicators such as the interest rate and the exchange rate. That is the case, especially when we examine impacts over a horizon of 12 quarters. Shocks to Canadian consumer confidence are responsible for 19.5% of fluctuations in the interest rate, compared to 10.5% for business confidence shocks. Canadian consumer confidence shocks are responsible for 14.3% of the fluctuations in the exchange rate, compared to 5.5% for business confidence shocks. We observe the same phenomena when it comes to U.S. confidence shocks.

Canadian confidence shocks have more impact than American confidence shocks. Canadian confidence shocks, both those that affect consumer confidence and those that affect business confidence, have more impact on the volatility of the set of variables analyzed than American confidence shocks, which underlines the importance of an analysis that emphasizes Canadian confidence indices. With regards to GDP for instance, the impacts go from single to triple in the case of consumer confidence, and even more in the case of business confidence. Over a horizon of eight quarters, for example, shocks to Canadian consumer confidence are responsible for 12.4% of fluctuations in GDP compared to 4.6% for American shocks. Shocks to the confidence of Canadian businesses are responsible for 16.1% of fluctuations in GDP compared to 5.2% for American shocks.

The gaps in the impact of shocks on the variability of investment levels are even wider. Shocks to Canadian consumer confidence are responsible for 14.8% of the fluctuations over a horizon of eight quarters, compared with only 2.3% for American shocks.

When it comes to the inflation rate, the impact of shocks to Canadian consumer confidence is on the order of 8% over a horizon of four, eight or 12 quarters, compared to 2% for American consumer confidence shocks. When it comes to the value of the Canadian dollar, Canadian consumer confidence shocks are responsible for 8.7% of fluctuations in the exchange rate over a horizon of four quarters, compared to only 0.3% for American shocks. Worth noting: the impacts of confidence shocks for Canadian businesses and American businesses on the exchange rate are comparable, specifically in the range of 6 to 8% in the first instance, and 5% in the second.

Current macroeconomic conditions are especially difficult to interpret

Certain signals seem to herald a coming slowdown, while others suggest that a degree of resilience is settling in for the long term. Survey data on confidence that involves measures of households' and businesses' perceptions about the future are, in this environment, a valuable source of additional information. These data have been trending downward for several months and in that sense reflect a growing pessimism about the future.

This study shows that, historically, waves of pessimism have been associated with economic slowdowns, and that being so, the current downturn in household and business confidence constitutes a factor that adds to the risk of a recession occurring over the coming months. This study also highlights the importance of leveraging the widest possible range of data, and not just limiting the research to standard macroeconomic variables.

References

Barsky, R. B. & Sims, E.R. (2012). Information, animal spirits, and the meaning of innovations in consumer confidence, American Economic Review, 102 (4): 1343-77.

Conference Board of Canada, Index of Consumer Confidence, available at: https://edata.conferenceboard.ca/e-data/data/business-confidence.aspx

Conference Board of Canada, Index of Business Confidence, available at: https://edata.conferenceboard.ca/e-data/browsedirectories.aspx?did=23

de Marcellis-Warin, N., Peignier, I., & Gleize, T. (2022). *BAROMÈTRE CIRANO 2022 : La perception des risques au Québec* (2022LI-02, CIRANO.) https://www.cirano.qc.ca/fr/sommaires/2022LI-02

Institute of Supply Management, Manufacturing Purchasing Managers Index (PMI), available at: https://www.ismworld.org/supply-management-news-and-reports/reports/ism-report-on-business/pmi/july/

Fève, P. & Guay, A. (2018). Sentiments in SVARs, The Economic Journal, 129: 877–896.

Khan, H., Rouillard, J.-F., & Upadhayaya, S. (2020). Consumer confidence and household investment, Cahier de recherche 20-15, Département d'économique de l'École de gestion à l'Université de Sherbrooke.

Moran, K., Stevanovic, D., & Touré, A. A. K. (2023). *Confiance et activité économique : analyse d'impact sur l'économie canadienne* (2023RP-10, Rapports de projets, CIRANO.) https://doi.org/10.54932/PAMP8753
Leduc, S., & Sill, K. (2013). Expectations and economic fluctuations: an analysis using survey data, Review of Economics and Statistics, 95(4): 1352–1367.

Levchenko, A. A., & Pandalai-Nayar, N. (2020). TFP, news and 'sentiments': The international transmission of business cycles, Journal of the European Economic Association, (18): 302–341.

University of Michigan, Survey of consumers, available at: https://data.sca.isr.umich.edu/ surveys

To cite this article

Moran, K., Stevanovic, D., & Touré, A. A. K. (2024). Pessimism could plunge us into a recession (2024PJ-04, Revue PERSPECTIVES, CIRANO.) https://doi.org/10.54932/ZBCM3806

PERSPECTIVES is CIRANO's journal for the dissemination and valorization of research. Written in a format that is accessible to a wider audience, the articles in PERSPECTIVES provide visibility to the work and expertise of CIRANO's research community .As with all CIRANO publications, the articles are based on a rigorously documented analysis by CIRANO researchers and Fellows.

The articles published in PERSPECTIVES are the sole responsibility of their authors.

ISSN 2563-7258 (online version)

www.cirano.qc.ca