



Is the United States in a recession? What are the signs? A graphical analysis

Highlights

- The data used by the National Bureau of Economic Research to officially declare a recession has yet to show one.
- The survey of 20 indicators shows that 11 out of them are now consistent with a recession.
- There is a strong chance that real GDP will drop in the first half of 2008.
- The extent and length of the potential downturn and whether it meets the official definition of a recession will depend on the response of economic agents to the recently implemented monetary and fiscal measures.

Fuelled by poor economic and financial statistics, rumours of a U.S. recession just won't go away. Some figures or events are pretty striking: a 10-point drop in the ISM non-manufacturing index in January, a volatile stock market, and a quarter-point cut in interest rates in just a few days.

Is a recession in the United States inevitable? The statistics are still not clear on this topic. This *Economic Viewpoint* uses graphs to show what the economic and financial indicators signal.

Technically, the definition of a recession is two consecutive quarters of decline in real GDP. In the United States, a committee of the National Bureau of Economic Research (NBER) determines when a recession has officially begun and ended. The dating is based on four monthly variables: total employment based on the results of the business survey, personal income less transfer payments, in real terms, industrial production, and the volume of business sales. A recession is usually characterized by a drop of approximately 1% in these variables over six months. At this time, the change in these variables is such that the NBER cannot categorically state that the country is in a recession. However, it does not preclude such a possibility in the very near term.

Other indicators that measure the vitality of the U.S. economy show anaemic growth and in many cases, a definite downturn in economic activity. In fact, 11 of the 20 statistics in this *Economic Viewpoint* are consistent with the onset of a recession. However, these figures point to a short period of negative growth rather than a protracted, severe and painful recession such as the one in 1981-82.

What is clear is that the first three months of 2008 will be tough and that the weakness will continue into a part of the second quarter. That said, the measures already taken by the government and monetary authorities, i.e., rate cuts and tax rebates, could nip this downturn in the bud. However, consumers, businesses and investors will have to respond positively and quickly to these stimuli.

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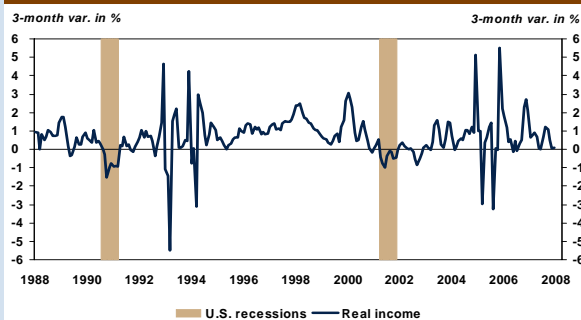
NBER indicators – Employment



Sources: Datastream and Desjardins, Economic Studies

The main characteristic of a recession is a marked decrease in employment, usually around 1%, which today would translate into 1,400,000 layoffs. Although the labour market definitely began slowing in early 2007, there have been few net job losses. And although January's statistics show 17,000 layoffs, it is still not enough to declare a recession.

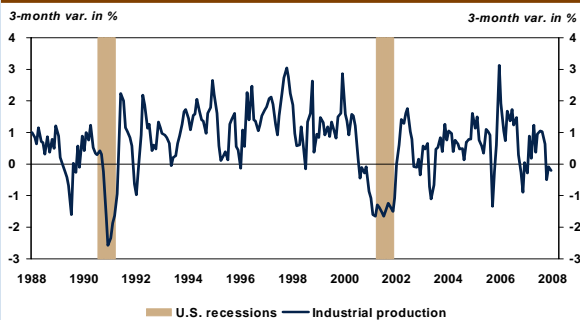
NBER indicators – Real income



Sources: Datastream and Desjardins, Economic Studies

Just like employment, real income growth has been slowing for some time. This weak growth is largely explained by the increase in gas prices. However, net income has not dropped for more than one month in a row and nominal wages are still rising quickly. Therefore, this statistic does not yet signal the beginning of a recession.

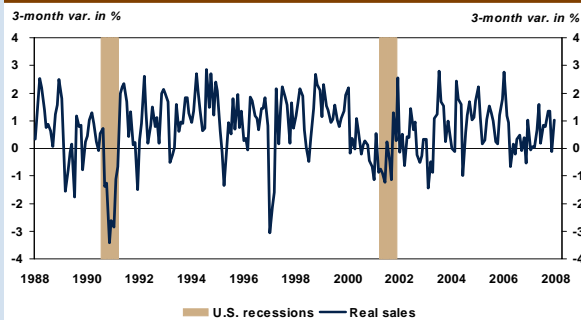
NBER indicators – Industrial production



Sources: Datastream and Desjardins, Economic Studies

Industrial production growth has been anaemic for a while and is down just over 0.2% from its peak in the summer of 2007. Before the 2001 recession, production fell more than 1% over three months. Among the statistics used by the NBER, this variable is the one that makes the strongest case for a recession, although it is weaker than in 2001.

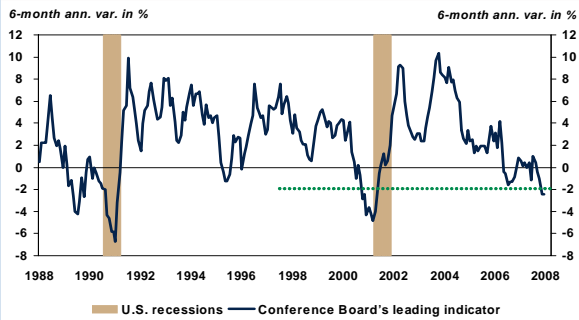
NBER indicators – Real sales



Sources: Datastream and Desjardins, Economic Studies

Mirroring real income, sales expressed in constant dollars are feeling the pinch of fluctuating gas prices. Since early 2007, they have dropped for three months, but not consecutively. Up 1% for the last three months, real sales are therefore also not pointing to a recession.

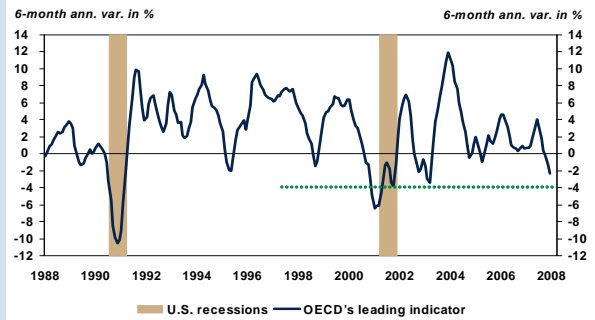
Conference Board's leading indicator



Sources: Datastream and Desjardins, Economic Studies

The U.S. Leading Index has barely advanced since mid-2006. A composite of 10 statistics that help project economic cycles, the index is not predicting very strong economic growth. In fact, its three consecutive drops since October are reminiscent of the fluctuations frequently noted a few months before the onset of a recession. Its annualized 6-month change is already consistent with an upcoming downturn. However, the recent decreases are weaker than those recorded in previous recessions (except 1990-91).

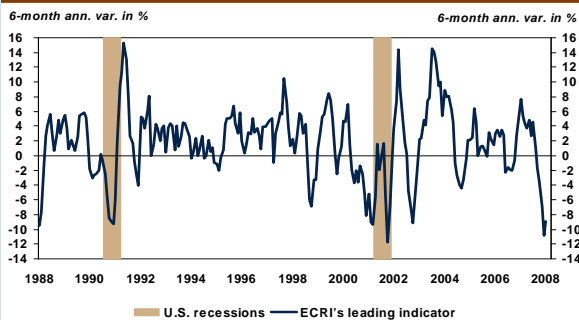
OECD's leading indicator



Sources: Datastream and Desjardins, Economic Studies

The OECD's (Organisation for Economic Co-operation and Development) leading indicator has been plummeting for a few months and its annualized decline of 2.3% in the last six months signals the arrival of a recession. However, a similar drop in 2003 was not accompanied by a contraction.

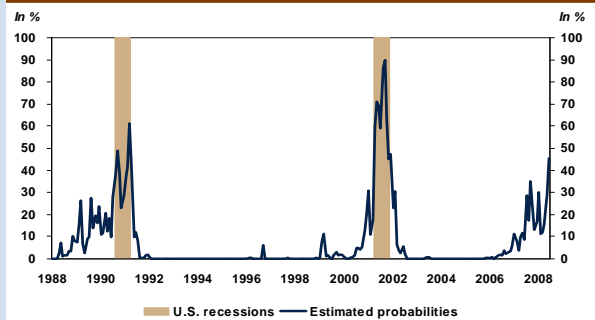
ECRI's leading indicator



Sources: Datastream and Desjardins, Economic Studies

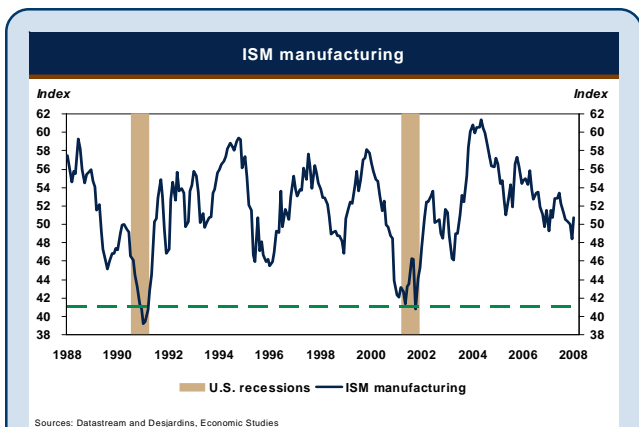
Among the leading indicators, this one makes the strongest case for a sharp downturn in the U.S. economy. The Economic Cycle Research Institute (ECRI) index is based on weekly data and focuses heavily on financial statistics. Its recent sharp drop is perfectly in line with the onset of a recession.

Desjardins' probabilities of recession index



Sources: Datastream and Desjardins, Economic Studies

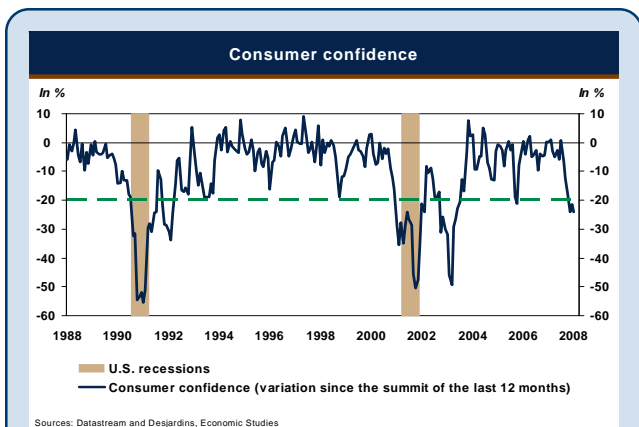
We have included the results of the model we use to estimate the probability of a recession. Based on the average of the last six months, this model does not provide conclusive proof that the United States is poised to enter a recession. However, at nearly 45%, the latest datum shows a growing risk in the months ahead.



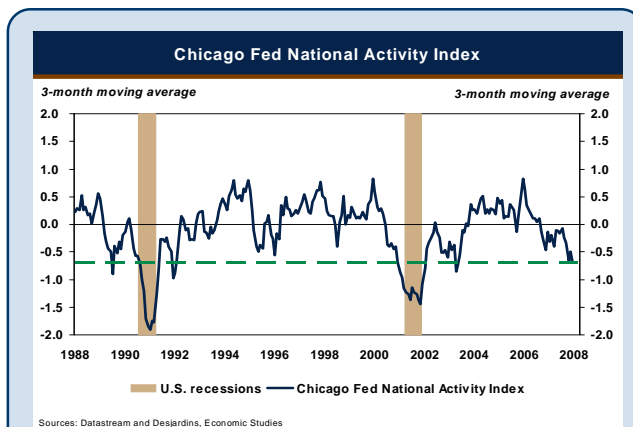
After briefly dropping below 50 in December, the manufacturing ISM rebounded in January to 50.7. It is now therefore far from below 48.5, which would signal the beginning of a recession. According to the Institute for Supply Management, a recession is considered to have begun at 41.1, the level observed near the trough of the recession. This means that the ISM manufacturing index would have to fall and remain at a much lower level before we could declare a recession.



The non-manufacturing ISM has only been around since July 1997 and there has been just one official recession in the United States since then (2001). It is therefore hard to determine what level it would have to reach to call a recession. That said, the index did take a beating in January, dropping 8.6 points to 44.6, its lowest level since it was created. If this weakness persists, it would be a powerful signal a contraction.

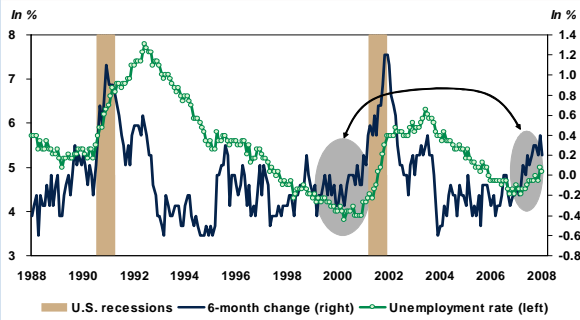


Higher gas prices, a slumping housing market, and more recently, layoffs and a bear stock market have driven down the consumer confidence indices. Down 24 points since its peak last summer, the University of Michigan's Consumer Sentiment Index is now low enough to be consistent with the onset of a recession.



A composite of 85 indicators, this index has been at a fairly low level for some time. A 0 value indicates that the national economy is expanding at its potential. When the 3-month moving average moves below -0.7, there is an increasing likelihood that a recession has begun. The latest value is approaching but has not yet reached this threshold. However, an even slight deterioration will send this indicator to a level consistent with an economic slump.

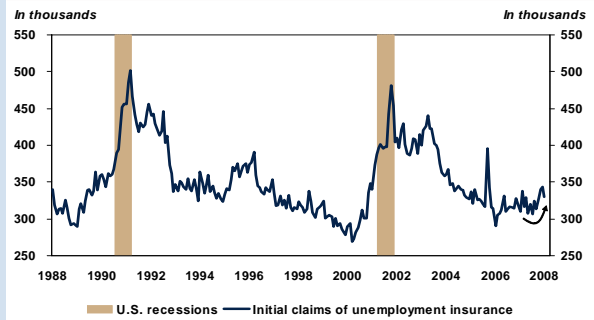
Unemployment rate



Sources: Datastream and Desjardins, Economic Studies

The recent uptick in the unemployment rate (despite January's decrease) is similar to the increase recorded during the last two recessions. However, similar increases have already been observed without the economy falling into a recession (1995 and 2003). Unemployment will have to rise more before it can be considered a true sign of a contraction.

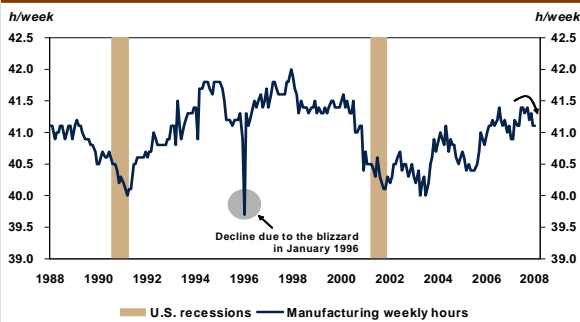
Initial claims of unemployment insurance



Sources: Datastream and Desjardins, Economic Studies

Part of the Conference Board's leading index, initial unemployment claims were until just recently barely up, meaning no impending major downturn in the labour market. However, after tame results in early January, they have jumped in the last weeks. Overall, claims are up of 16,000 since levels recorded three months ago. However, this figure is below the 25,000 increase that indicates the onset of a recession. Claims would have to remain high for several weeks yet before they could be considered a clear sign of a slump.

Manufacturing weekly hours



Sources: Datastream and Desjardins, Economic Studies

The average weekly hours worked in the manufacturing sector are also part of the Conference Board leading indicator. These were stable in the last month but are trending downward from last September's peak. Overall they dropped in the last 6-month, which is consistent with the beginning of an economic contraction. That said, the number of hours worked is still greater than it was before the last two recessions.

Workers on involuntary part-time



Sources: Datastream and Desjardins, Economic Studies

Another interesting labour statistic is the number of people forced to accept part-time work because no full-time positions are available. This number has climbed 10.1% in the last year, a figure consistent with the onset of a recession.

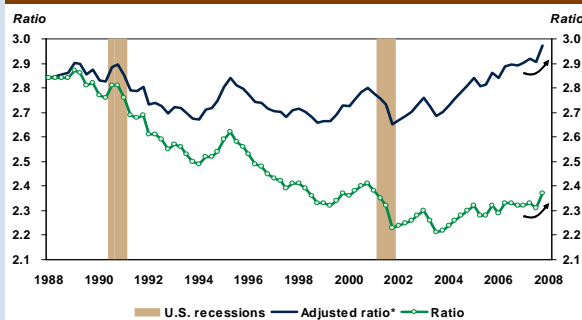
Housing starts



Sources: Datastream and Desjardins, Economic Studies

There is no question that the residential real estate sector has been in a recession for more than a year now. Housing starts have tumbled 56% since their peak in January 2006 and are approaching the 1991 trough of 798,000 units. This sector is by far the most indicative of a looming recession.

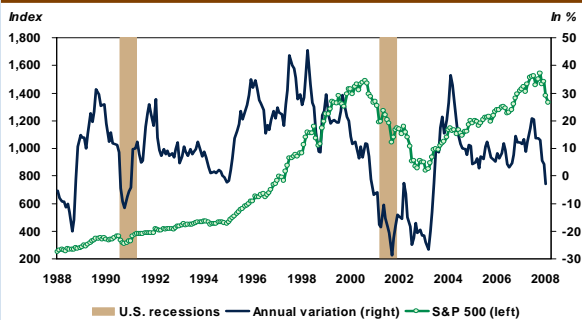
Inventories to sale ratio



* Down trend in the data was removed.
Sources: Datastream and Desjardins, Economic Studies

As a result of improved inventory management, the ratio of inventory to shipments has been trending downward for a number of years. However, an unexpected build-up due to weaker than expected demand from business could signal an impending drop-off in production and therefore a recession. The increase in inventory recorded in the last few quarters is not enough to send the economy into a tailspin.

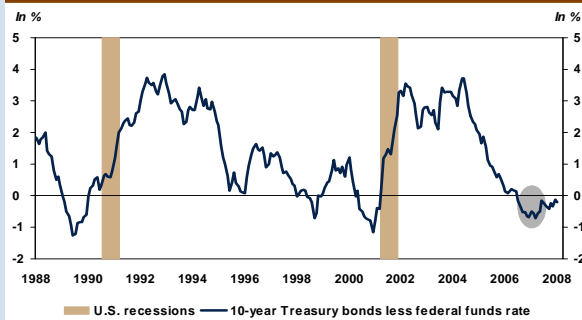
S&P 500



Sources: Datastream and Desjardins, Economic Studies

The stock markets have been extremely volatile since last summer and downright bearish since early 2008. In the last 12 months, the S&P 500 has only fallen 3.1%, which is less than the corrections observed before the last two recessions. We would have to see a drop of at least 10%, if not 15% to 20% over 12 months to conclude that a recession has taken hold.

**Interest rate spread:
10-year Treasury bonds less federal funds rate**



Sources: Datastream and Desjardins, Economic Studies

The yield curve slope been inverted for some time. The spread between the federal funds rate and the yield on 10-year Treasury bonds recently shrank following the U.S. Federal Reserve's interest rate cuts. Still, the signal sent in the previous months clearly points to an impending recession.

SUMMARY BY TYPE OF INDICATORS (SEE THE ANNEX FOR THE SUMMARY TABLE)**INDICATORS USED BY THE NBER**

(Score: 25%)

At this time, the statistics used by a committee of the NBER to determine the economic cycles are not sufficient to conclude that the U.S. economy is already in a recession. In the last three months, only industrial output has fallen and the extent of this decrease (or January's decrease in employment) is far from enough to indicate the end of the current economic cycle.

LEADING INDICATORS

(Score: 75%)

The leading indicators point to strong probability of a recession. The 6-month variation of the 3 indicators has dropped sufficiently to allow us to conclude that a recession is imminent. Although the 6-month average of our recession probability index is less than 50%, the most recent levels nevertheless show some resurgence of risk.

ECONOMIC ACTIVITY INDICATORS

(Score: 50%)

The ISM indices are sending conflicting signals. The manufacturing ISM is still well below the levels that usually indicate a recession but the drop in January's non-manufacturing ISM is a clear warning. Consumer confidence, affected by several aggravating factors, is also very weak. Finally, the Chicago Fed National Activity Index is not yet showing unambiguous signs of a contraction.

LABOUR MARKET INDICATORS

(Score: 75%)

The increase in the number of unemployed people and involuntary part-time workers shows beyond a doubt that the job situation is becoming more difficult. The decrease in the number of hours worked is also consistent with the onset of a recession. Still, the number of claims for unemployment insurance has not gone up sufficiently to conclude that the economy is on the brink of shutting down.

OTHER INDICATORS

(Score: 50%)

Slumping housing starts and a weak housing market have been holding back economic growth for more than a year now. Such a downturn is usually a strong indication of an economic contraction. For its part, the increase in the inventory to sales ratio is close to signalling a slowdown in production.

FINANCIAL MARKET

(Score: 50%)

The drop in the stock market is still not dramatic enough to indicate a recession beyond all doubt. However, this is not the case with the fixed-income securities market where the yield curve slope is giving a more definite sign.

Conclusion

Of the 20 indicators surveyed, 11 show that the economy is beginning or approaching a recession. Obviously, this data does not tell us how long or how severe the downturn would be. It also does not factor in the response of economic agents to monetary and fiscal stimuli. However, the signs are fairly clear: the odds of U.S. economic activity contracting, in other words, a drop in real GDP, in the first two quarters, are quite high.

What remains to be seen is whether the decline in goods and services production will be sharp enough for the National Bureau of Economic Research (NBER) to officially declare a recession. It will be recalled that the beginning of the 2001 recession (in March) was only officially announced on November 26 of that same year while the end was decreed only in July 2003. Because economic indicators tend to fluctuate and are subject to many revisions, the NBER is exercising both caution and patience.

Because a number of indicators have given ambiguous signs, even those consistent with a recession, it is possible that the U.S. economy will experience a short-lived and modest downturn similar to the one in 2001, where had it not been for 9/11, the contraction would perhaps have been shorter or less pronounced and as such not been qualified as a recession (the situation improved in the summer thanks to the fiscal stimulus plan and interest rate cuts). Ultimately, if a recession does in fact materialize in 2008, it is likely to be much less severe than the one in the 1980s and in the early '90s.

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Summary table of U.S. recessions indicators

| Recessions | Indicators used by NBER | | | | Leading indicators | | | | Economic activity indicators | | | | Labour market indicators | | | | Other indicators | | Financial market | | Number of positive criteria |
|--------------------------------|-------------------------|-------------------|-----------------------|-------------------|-------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|----------------|------------------------|------------------------|--------------------------|--------------------------------------|---------------------|----------------------------------|------------------------|---------------------------|------------------------|-------------------------------|-----------------------------|
| | Employment | Real income | Industrial production | Real sales | Conf. Board leading indicator | OECD leading indicator | ECRI leading indicator | Desjardins probability index | Manuf. ISM | Non manuf. ISM | Consum. confidence | Chicago Fed index | Jobless rate | Initial claims for jobless insurance | Manuf. weekly hours | Workers on involuntary part time | Housing starts | Inventories to sale ratio | Stock market (S&P 500) | Spread 10-year less fed funds | |
| | 3-month variation | 3-month variation | 3-month variation | 3-month variation | 6-month annualized variation | 6-month annualized variation | 6-month annualized variation | 6-month average | Index | Index | Var. since 1-year peak | 3-month moving average | 6-month variation | 3-month var. of 3-month mov. av. | 6-month variation | Annual variation | Var. since 2-year peak | Var. since 2-year trough | Annual variation | In % | |
| | < 0 | < 0 | < 0 | < 0 | < -2 | < -2 | < -2 | > 50 | < 48.5 | < 50 | < -20 | < -0.7 | > 0 | > 25 | < 0 | > 8 | < -30 | > 0.1 | < -10 | < 0 | |
| December 1969 to November 1970 | 0.08 | -0.05 | -3.04 | -2.81 | -7.06 | -4.32 | -2.74 | 94.3 | 48.7 | n.a. | -12.2 | -1.29 | 0.40 | 28.4 | -0.2 | 8.9 | -38.7 | 0.07 | -11.5 | -1.19 | 15/19 |
| November 1973 to March 1975 | 0.98 | 1.03 | 0.92 | 2.83 | -5.72 | -3.93 | -5.13 | 52.9 | 63.6 | n.a. | -45.5 | 0.70 | 0.00 | 14.6 | -0.1 | 3.7 | -38.8 | 0.21 | -19.3 | -3.21 | 10/19 |
| January 1980 to July 1980 | 0.34 | 0.07 | 0.59 | -0.39 | -5.71 | -2.35 | -3.53 | 32.8 | 50.2 | n.a. | -16.2 | -0.41 | 0.30 | 20.7 | 0.0 | 3.8 | -38.6 | 0.33 | 17.4 | -1.72 | 8/19 |
| July 1981 to November 1982 | 0.30 | 2.30 | 1.20 | -0.43 | -5.70 | -1.83 | 1.43 | 92.4 | 48.3 | n.a. | -1.5 | -0.51 | 0.00 | 25.9 | 0.2 | 4.9 | -48.7 | 0.2 | 5.0 | -2.88 | 8/19 |
| July 1990 to March 1991 | -0.21 | -0.01 | 0.41 | 0.72 | -1.93 | -3.16 | -0.63 | 35.7 | 46.1 | n.a. | -32.3 | -0.71 | 0.40 | 17.8 | -0.1 | 11.6 | -31.2 | 0.05 | -4.6 | 0.62 | 10/19 |
| March 2001 to November 2001 | -0.19 | -0.41 | -1.29 | -0.74 | -4.81 | -6.09 | -9.34 | 71.6 | 42.7 | 48.3 | -34.8 | -1.23 | 0.50 | 44.6 | -0.6 | 3.5 | -5.1 | 0.03 | -18.6 | 0.34 | 16/20 |
| Actual data | 0.09 | 0.08 | -0.21 | 1.02 | -2.46 | -2.28 | -8.95 | 24.7 | 50.7 | 44.6 | -24.0 | -0.67 | 0.4 | 16.1 | -0.3 | 10.1 | -56.1 | 0.08 | -3.1 | -0.20 | 11/20 |

*A colored box means that the data indicates an early recession.

Sources : Datastream and Desjardins, Economic Studies