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MLI

True North In Canadian Public Policy

Commentary

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The Macdonald-Laurier Institute Composite Leading Index for Canada

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Executive Summary

The Macdonald-Laurier Institute is launching its composite leading index of the Canadian economy, which sums up the performance of nine components that track the short-term course of the economy. A leading indicator signals changes in the business cycle, notably the approach of turning points into recessions and recovery, and periods of faster and slower economic growth.

The past year highlighted the usefulness of leading indicators. Starting with the stalemate over the US budget, then Europe's slide into recession and a slowdown in Asia, there have been constant concerns and reports that Canada's economy would relapse into recession. The leading indicator showed a trend to slower growth, but no recession, something borne out by the data on output and employment.

Leading indicators are necessary for governments and businesses whose fortunes are tied to the course of the overall economy. Furthermore, they are useful for individuals confronted with questions about what to do in everyday life. Is the recent change in the stock market a temporary fluctuation or does it signal a cyclical turn? The leading indicators can help answer that by looking at other cyclical indicators. Is it a good time to leave my job, to look for another, or go back to school? The leading indicators provide guidance on whether the labour market is likely to slump over the next few months.

The new MLI leading index extends Statistics Canada's recently discontinued work in this area, increasing the lead times while maintaining a low error rate. The MLI composite leading index retains six of the ten components from the Statistics Canada index: the housing index, the US leading indicator, the money supply, the stock market, the average workweek in manufacturing, and new orders for durable goods. We dropped four other components that no longer displayed significant lead times: retail sales of furniture and appliances, retail sales of other durable goods, services employment, and the ratio of sales to inventory in manufacturing.

The three new components added to the composite index are commodity prices, claims received for Employment Insurance, and the spread between the interest rate for private versus government short-term borrowing. Altogether, these nine components cover all the major cyclical parts of the economy, including financial markets, the labour market, exports, housing, and the manufacturing sector.

As a result of these changes to the components, since 1952 the average lead time in signalling recessions increased from 4.9 months in the old Statistics Canada index to 7.4 months in the new MLI index. More importantly, the average lead time since 1980 increased from 0.7 months to 6.3 months. This improvement reflects how the new index is more attuned to changes in the business cycle since 1980.

On average, the index signals recessions with lead time of 7.4 months.

To minimize the risk of error requires combining the components into a composite index. Analysts who say that they can reliably predict the economy by studying only one key variable are inevitably going to make a mistake. The virtue of the composite index is it markedly reduces the risk of false signals when a leading indicator erroneously signals a recession or a recovery. On average, the individual components have an error rate of 21.2 percent. However, the error rate for the overall composite index is only 5.1 percent in signalling recessions.

The reason leading indicators signal changes in the business cycle is that they reflect the behaviours of economic agents acting in the market place that anticipate the future direction of the economy. All of the components are sensitive to the revealed choices made by investors and companies most attuned to upcoming changes in the economy. This is evident for investors in the stock market, manufacturers who adjust their workweek in response to the incoming flow of new orders, banks who gauge the relative risk of lending to businesses and households versus buying government debt, investors and companies that buy commodities, central banks that monitor and adjust the money supply, and finally builders and households who decide whether to make the long-term commitment to enter the housing market.

Besides signalling turning points in the business cycle, the leading indicator also signals periods of faster and slower growth in the economy.

Sommaire exécutif

L'institut Macdonald-Laurier lance son indicateur avancé composite de l'économie canadienne, lequel résume la performance de neuf composantes qui retracent l'évolution à court terme de l'économie.

L'année écoulée a mis en lumière l'utilité des indicateurs avancés. À commencer par l'imbroglio au sujet du budget américain, puis de la descente de l'Europe dans une récession et enfin, du ralentissement en Asie, dans la crainte constante, appuyée par la couverture de presse, que l'économie canadienne ne retombe en récession. L'indicateur a signalé un ralentissement de la croissance, mais jamais de récession, une tendance confirmée par les données sur la production et l'emploi.

Les indicateurs avancés sont sans contredit utiles aux gouvernements et aux entreprises dont la fortune est liée aux tendances de l'économie. De plus, ils sont utiles aux particuliers dans la gestion quotidienne de leur vie courante. Par exemple, les récentes fluctuations sur le marché des actions sont-elles temporaires ou signalent-elles un retournement cyclique ? Les indicateurs avancés peuvent aider à répondre à ces questions en se tournant vers d'autres indicateurs cycliques. Le moment est-il venu de quitter son emploi, d'en chercher un autre ou de retourner sur les bancs d'école? Les indicateurs avancés peuvent nous guider sur la performance du marché du travail au cours des mois à venir.

Le nouvel indicateur avancé MLI prend le relais du programme récemment aboli de Statistique Canada dans ce domaine, en augmentant les temps d'avance tout en maintenant un taux d'erreur très bas. L'indicateur avancé composite MLI retient six des 10 composantes de l'indice de Statistique Canada : l'indice du logement, l'indice avancé américain, l'offre de monnaie, le marché boursier, la durée hebdomadaire de travail dans la fabrication et les nouvelles commandes de biens durables. Il laisse tomber quatre composants qui n'avaient plus d'avances notables. Il s'agit des ventes de meubles et d'articles ménagers, des ventes de biens durables, de l'emploi dans les services et du ratio des livraisons aux stocks dans la fabrication.

Les trois nouvelles composantes ajoutées à l'indicateur composite sont les prix des marchandises de base, les demandes d'assurance-emploi, l'écart entre les taux d'intérêt privés et le taux d'emprunt à court terme du gouvernement. Ensemble, ces neuf composantes saisissent tous les secteurs cycliques principaux de l'économie, ce qui comprend les marchés financiers, le marché du travail, les exportations, le logement et le secteur manufacturier.

Il résulte de ces changements que l'avance moyenne depuis 1952 à signaler l'arrivée des récessions s'est accrue pour passer de 4,9 mois dans l'ancien indicateur de Statistique Canada à 7,4 mois en dans le nouvel indice MLI. Ce qui est encore plus estimable, cependant c'est que l'avance moyenne depuis 1980 s'est accrue de 0,7 mois pour atteindre 6,3 mois. Cette amélioration traduit la manière dont le nouvel indice a été modifié pour tenir compote de l'évolution du cycle depuis 1980.

En moyenne, l'indice prévoit les récessions avec une avance moyenne de 7,4 mois.

C'est afin de réduire au minimum les erreurs que les composantes sont combinées dans un indice composite. Les analystes qui prétendent anticiper de façon fiable les retournements de l'économie en étudiant seulement une variable clé commettent inévitablement des erreurs. La vertu d'un indice composite est qu'il réduit de façon substantielle le risque de faux signaux qui se produisent quand un indicateur signale une récession ou une reprise qui ne se produit pas. En moyenne, les composantes ont un taux d'erreur de 21,2 %. Cependant, le taux d'erreur de l'indicateur dans son ensemble à signaler les récessions ou les périodes de quasi-récession est de seulement 5,1 %.

La raison pour laquelle les indicateurs avancés signalent les retournements du cycle d'affaires est qu'ils reflètent les comportements des agents économiques dans le marché associés à la direction future des affaires. Toutes les composantes sont sensibles au choix révélé des investisseurs et des entreprises les plus liées à l'évolution de l'économie. Ceci est vrai des investisseurs à la bourse; des manufacturiers qui ajustent la semaine du travail en conformité au flux des nouvelles commandes reçues; des banques qui doivent établir le risque relatif de leurs prêts aux entreprises et aux ménages par rapport à ceux des gouvernements; des investisseurs et des sociétés qui achètent des marchandises de base; des banques centrales qui règlent l'offre de monnaie; et finalement des constructeurs et des ménages qui décident de leurs engagements à long terme sur le marché du logement.

En plus de signaler les points tournants de l'économie, l'indicateur avancé anticipe également les périodes de croissance plus lentes et plus rapides de l'économie.

Introduction

Starting in 2012, the Macdonald-Laurier Institute will publish a composite leading index in the last week of every month. This paper describes the history of the leading index, how it works, and how this index was developed. The composite index sums up the performance of nine components:

1. The money supply (M1)
2. The stock market
3. Interest rate differential
4. Commodity prices
5. Claims for Employment Insurance
6. The housing index
7. New orders for durable manufactured goods
8. The average workweek in manufacturing
9. The US leading indicator

These components track developments in key sectors of the economy, such as financial markets, labour demand, housing, and manufacturing. They are a useful guide since the short-term course of the economy is often hard to track, given the inevitable contradictory signals coming from the wide range of data now available.

The past year highlighted the usefulness of leading indicators. Starting with the stalemate over the US budget, then Europe's slide into recession and a slowdown in Asia, there have been constant concerns and reports that Canada's economy would relapse into recession. The leading indicator showed a trend to slower growth, but no recession, something borne out by the data on output and employment.

Leading indicators are obviously necessary for governments and businesses whose fortunes are tied to the course of the overall economy. Furthermore, they are useful for individuals confronted with questions about what to do in everyday life. Is the recent change in the stock market a temporary fluctuation or does it signal a cyclical turn? The leading indicators can help answer that by looking at other cyclical indicators. Is it a good time to leave my job, to look for another, or go back to school? The leading indicators provide guidance on whether the labour market is likely to slump over the next few months.

Origins

The concept of leading indicators dates back to the Great Depression.

The concept of leading indicators dates back to the onset of the Great Depression. Starting in 1981, Statistics Canada published a composite leading index, emphasizing accuracy over lead times. It is well-known in the economics community that there is a trade-off between the error rate and the timeliness of a variable. To maintain as low an error rate as possible, the Statistics Canada index sacrificed the lead times in its index.

After 1980, the lead time of the composite index had virtually disappeared at peaks; in other words, the leading index was performing like a coincident index, with no lead time in signalling an approaching turning point. In May 2012, Statistics Canada decided to stop publishing its leading indicator.

The MLI index: reflecting recent changes in the business cycle

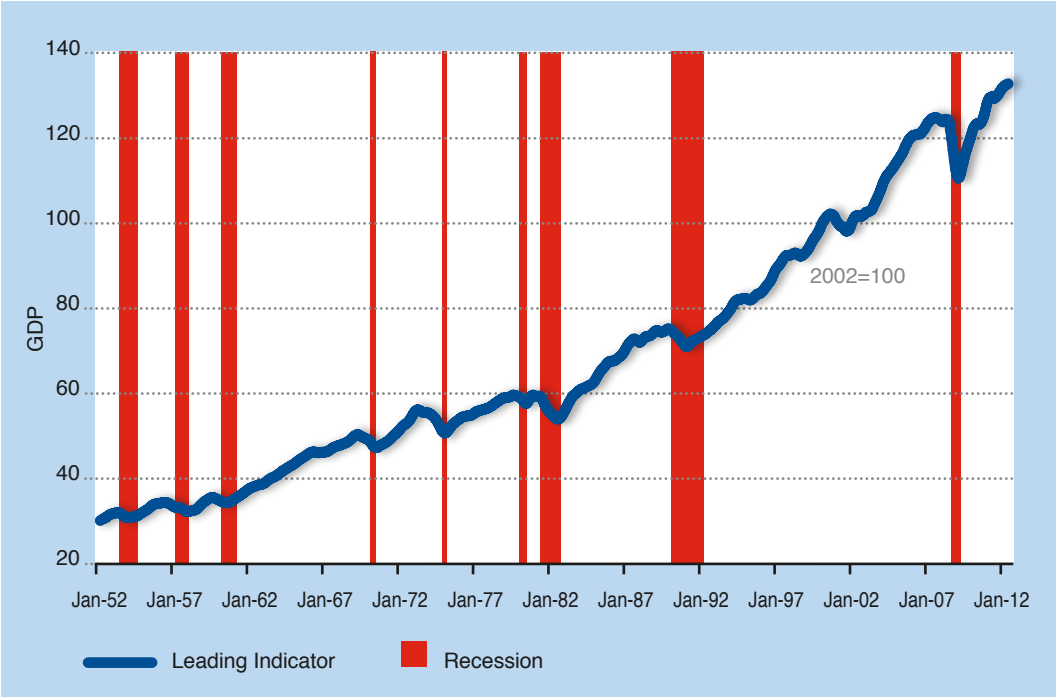
The new MLI leading index extends this work, by increasing the lead times of the leading index while maintaining a low error rate.[1] The new MLI composite leading index has nine components. It retains six of the ten components from the Statistics Canada index: the housing index, the US leading indicator, the money supply, the stock market, the average workweek in manufacturing, and new orders for durable goods. We dropped four other components that no longer displayed significant lead times: retail sales of furniture and appliances, retail sales of other durable goods, services employment, and the ratio of sales to inventory in manufacturing.

The three new components added to the composite index are commodity prices, claims received for Employment Insurance, and the spread between the interest rate for private versus government short-term borrowing. Altogether, these nine components cover all the major cyclical parts of the economy, including financial markets, the labour market, exports, housing, and the manufacturing sector. Each of the nine components will be discussed in more detail later in this paper.

The MLI leading index increases lead times and keeps the error rate low.

The Canadian leading indicator and recessions from the last sixty years are shown in figure 1.

FIGURE 1 Canadian leading indicator and recessions, 1952-2012



As a result of these changes, since 1952 the average lead time in signalling recessions rose from 4.9 months in the old Statistics Canada index to 7.4 months in the new MLI index. More importantly, the average lead time since 1980 increased from 0.7 months to 6.3 months. This improvement reflects how the new index is more attuned to changes in the business cycle since 1980.

For example, the inventory cycle that was the driving force of many recessions in the 1950s and 1960s no longer has a determinant role in the business cycle. Another example of a structural change that has altered recent cycles is the integration of Asia into the global economy, which has boosted the importance of natural resources in the Canadian economy and dampened our dependence on the United States (US) for growth. A fundamental change in the business cycle after 1980 is that employment moves much more closely with output during recessions.

The components of the leading index have been changed to reflect how the business cycle has evolved. More emphasis was put on labour market and financial variables as well as commodity prices, while dropping components related to inventories, retail sales, and services employment since they reacted passively to, rather than leading, changes in recent business cycles.

Dozens of possible indicators were reviewed to come up with the handful that comprise the composite index. The range included all the candidates touted in recent decades by analysts and the media for which there is data. These include everything from transport and courier services to packaging to used car sales to the yield curve.

Most of these indicators were found wanting because they did not consistently move in advance of the overall business cycle. Often, they had some leading indicator properties in one or two recessions, and an analyst would then champion them as a reliable leading indicator. Sometimes, these indicators did move with the overall economy, but had no leading indicator properties. Transportation is a good example of a sector that is quite responsive to changes in the business cycle but does not foreshadow turns in the economy. Other indicators were found to be overly sensitive to changes in the economy; that is, while they did turn in advance of recessions, they also often turn negative when the economy did not slide into recession, a false signal.

Why a composite index?

After sifting through all the possible components of the leading index, it becomes apparent that no single component is an infallible guide to the business cycle. All the components either failed to signal an upcoming turn in the economy or, and this is the greater problem, falsely signalled a turn that did not materialize. Analysts who say that they can reliably predict the economy by studying only one key variable are inevitably going to make a mistake. To minimize the risk of error requires combining several components into a composite index.

No single component is an infallible guide to the business cycle.

The virtue of a composite index is it markedly reduces the risk of false signals (or errors). Errors happen when a leading indicator falsely signals a recession or a recovery; for example, when it dips even as the economy is expanding steadily, or increases when a recession is looming. To calculate the error rate, all these false signals are summed up and then divided by the number of months in the whole time series. On average, the individual components have an error rate of 21.2 percent. However, the error rate for the overall composite index is only 5.1 percent.

The theory behind leading indicators

As noted by the authors of *Beating the Business Cycle*,[2] the fundamental rationale for leading indicators is the free market. In his pioneering research, Geoffrey Moore found that the leading indicator approach did not work only

in countries like the Soviet Union or Jordan, where central planning or war had suffocated the signals from the free market economy. While not a mathematical model derived from theory, it is nevertheless a rigorous and well-founded theory that analysts in key sectors of the economy are best positioned to sift through the often confusing blizzard of information about the economy and extract the essence of the underlying cyclical trend. As Achuthan and Banerji write, "work on cyclical indicators has been perhaps the longest-standing experiment in economics."

The theoretical underpinning of why the overall composite index leads changes in the business cycle is that the behaviour of economic agents acting in the market place anticipates the future direction of the economy. All of the components are sensitive to the revealed choices made by investors and companies most tuned to upcoming changes in the economy. This is evident for investors in the stock market, manufacturers who adjust their workweek in response to the incoming flow of new orders, banks who gauge the relative risk of lending to businesses and households versus buying government debt, investors and companies that buy commodities, central banks that monitor and adjust the money supply, and finally builders and households who decide whether to make the long-term commitment to enter the housing market.

Leading indicators are based on free market signals.

The statistical performance of the composite index and its components

The methodology behind the selection of specific leading indicators is driven by practical results and not just theory. The question that all users immediately ask is, what is the lead time and the error rate? That is, does it work in practice? If not, even the most elegant theory is irrelevant.

Table 1 below summarizes the average lead time and the error rate for the composite index and each of its nine components.

TABLE 1 Average lead time and error rate for the MLI composite index and individual components

	Mean lead (in months)			Error rate (percentage of false signals)
	Peaks	Troughs	Peaks and troughs	
Composite Leading Index	7.4	2.3	4.9	5.1
Housing index	9.3	5.7	7.5	28.2
US leading indicator	12.6	0.6	6.6	4.4
Money supply	9.5	4.8	7.1	14.1
Toronto stock market	6.9	3.8	5.3	21.6
Interest rate gap	10.8	(1.8)	4.5	15.1
New orders	9.1	1.8	5.4	27.3
Weekly hours	14.7	0.1	7.4	13.5
Commodity prices	3.0	0.5	1.8	28.3
Claims for EI	13.0	(2.4)	5.3	27.7

( ) denotes a lag at turning points

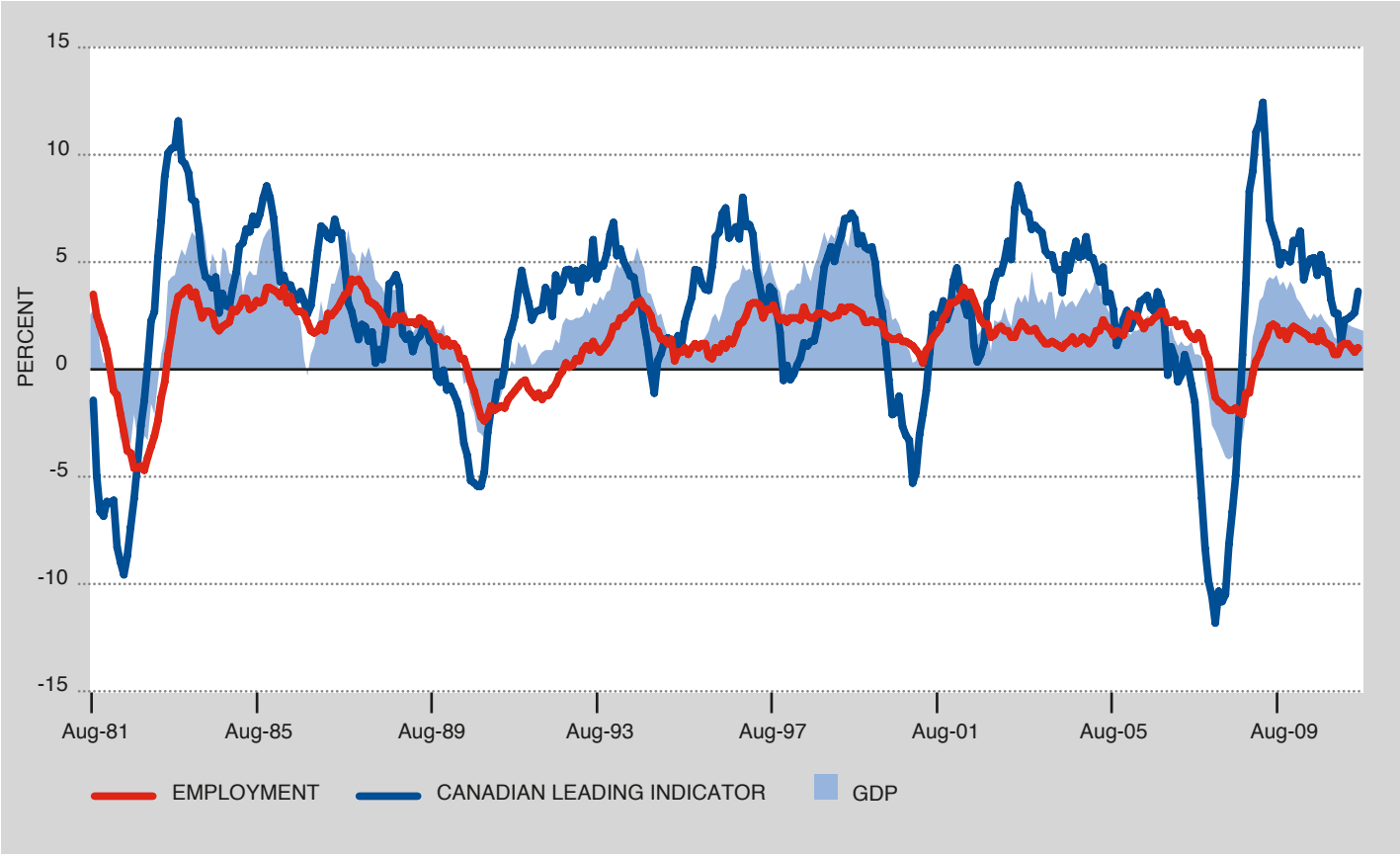
We present the lead time in months separately for peaks and troughs as well as its overall average. This is because it is more important to have good lead times at peaks, since it gives a warning to analysts, investors, and policymakers that troubled waters lie ahead, and they may want to change their actions accordingly. At troughs, when growth is about to resume, a short lead time is not as great a threat to survival or minimizing financial losses. On a practical level, long lead times for short recessions, some of which only last a few months, by definition are impossible. It is not plausible that a leading indicator could signal the end of an event that has not already begun, which is what is being asked if you want a 10-month lead time for when a 5-month recession will end.

Good lead times are most important at peaks.

The error rate understates the accuracy of the leading indicator. The error rate counts as false signals those instances when the leading indicator turned negative, but the economy stalls without slipping into recession. These near recessions occurred in 1986, 1995, and 2001, when growth slowed to a crawl over the year, usually with at least one quarter of negative GDP growth. The line between differentiating a recession (when growth in output and jobs sometimes is only marginally negative) from a slowdown (little or no growth) is necessarily arbitrary.[3] It is not possible to build a leading indicator that distinguishes between two states of the economy that are so similar. Leading indicators are expressly designed to be sensitive to changes in the underlying trend of the business cycle. So while their declines in 1986, 1995, and 2001 count as false signals, excluding these episodes reduces the error rate from 5.1 percent to 3.2 percent, a better measure of its underlying accuracy.

Besides signalling turning points in the business cycle, the leading indicator also signals periods of faster and slower growth in the economy. Figure 2 shows the changes in the leading indicator as well as changes in employment and GDP.

FIGURE 2 Changes in the Canadian leading indicator, employment, and GDP, 1981-2009



As figure 2 shows, accelerations in the leading indicator preceded a pick-up in GDP growth. However, these leads are variable, and the leading indicator should never be regarded as a pre-release of GDP.

The nine components of the composite leading index

THE MONEY SUPPLY (M1)

This component is the real money supply, or gross M1 deflated by the all-items consumer price index (CPI). There are many possible definitions of money, so we have kept the simplest version with good leading indicator properties. Changes in the money supply are impacted by the Bank of Canada's monetary policy, and lead future changes in production. It has an above-average lead time and below-average error rate.

Changes in M1 have an above-average lead time and a below-average error rate.

Despite the sterling track record of the money supply, its recent history shows why no indicator by itself is a perfect predictor of economic trends. The money supply did not signal the onset of the 2008 recession. This reflects the coordinated moves starting in August 2007 by central banks around the world to lean against the corrosive effect of growing stress in the financial system. The 2008 downturn was the exception to Rudi Dornbusch's observation that "None of the post-war expansions died of natural causes, they were all murdered by the Fed."[4] Central banks did their utmost to prevent the financial crisis from triggering a recession, so it is not surprising that monetary policy did not tighten in advance of the recession, as it often does.

THE STOCK MARKET

The stock market is one of the best-known leading indicators, and probably the one the public associates most with the future of the economy. Its reputation with economists is less pristine: Nobel Laureate Paul Samuelson famously quipped[5] that the stock market had predicted nine of the last five recessions.

The stock market is the best-known leading indicator.

These judgements seem overly harsh. The error rate of the stock market in signalling changes in the business cycle is 21.6 percent, about average for the nine components. Many of its false signals occurred during slowdowns, like 1994 and 2001, when the economy almost went into recession. Other false signals for the overall economy were still good forecasts of profits, notably the downturn related to the Asian crises of 1998 and the accounting scandals in 2002.

The largest drawback recently of the Toronto Stock Exchange (TSX) as a leading indicator is a marked drop in its lead times, not its error rate. Much of its average lead time of 5.3 months was built up during the decades before 1980. It missed the 1980 recession because high commodity prices boosted the earnings of resource companies in Canada, and had an average lead time of less than two months in signalling the next three recessions. Nevertheless, it is one of the four components that retains a significant lead time of more than a month in signalling recoveries.

INTEREST RATE DIFFERENTIAL

The differential is the difference between the prime lending rate charged by chartered banks and the yield on 3-month treasury bills of the Government of Canada. As such, it is one measure of the risk financial markets perceive of lending to the private sector relative to the public sector. We take the inverse of the gap between the lending rate to the private and public sectors, since an increase in this gap means that markets are increasingly concerned about the ability of firms and households to repay their debt, a harbinger of impending trouble for the economy.

Its lead time averaged 4.5 months, with most of this built up during recent cycles, when some other components struggled to maintain good lead times. The lead time of the interest rate differential was over a year in signalling each of the last four recessions.

COMMODITY PRICES

This is the Bank of Canada commodity price index, measured in US dollars. They are measured in US dollars so that they reflect only the ebb and flow of global demand and supply, and not gyrations in the Canadian dollar exchange rate. This index has the shortest track record, with data going back only to January 1972.

Until 1990, its lead times probably did not justify its inclusion in the leading index. However, since 1990 it has demonstrated improved lead times, and along with the rising importance of resources in Canada's economy, this justified its inclusion in the composite leading index. Still, commodity prices should be interpreted cautiously, as they are very volatile in the short-term, reflected in the highest error rate of any component.

CLAIMS FOR EMPLOYMENT INSURANCE (EI)

This is one of the new components we have added, with seasonally adjusted data on claims received (both new and renewals) back to 1952. Claims for Employment Insurance are a sensitive index of changes in labour market conditions, rising when demand slows and falling as the economy improves, so the inverse is used in the leading index. Not only does labour demand reflect changes in the business cycle, it reinforces the cycle since consumers will adjust their spending as employment conditions change.

EI claims have a good record in signalling the onset of recessions.

Claims have a consistently good record in signalling the onset of recessions, with an average lead time of 13 months, including lead times of nearly a year in the last two recessions. However, claims perform less well in signalling recoveries, with a significant lead only in 1992. This is why its overall lead time of 5.3 months is the second-shortest of all the components. EI claims also have a relatively high error rate, which has remained near 30 percent over the last two decades.

THE HOUSING INDEX

This component is itself a composite of two housing variables: the number of existing home sales, from the Canadian Real Estate Association, and housing starts, from the Canadian Mortgage and Housing Corporation. Housing demand is one of the most sensitive indicators of the confidence of consumers to commit to buying a big-ticket item. The decision to buy a home inevitably leads to a stream of other purchases, notably of furniture and appliances.[6] On the supply side, the start of new construction leads to several months of spending and employment by the builder. This is especially true for the construction of multiple units (like apartments and condos), which now accounts for over half of housing starts.

The housing index has the longest lead time in signalling turning points.

The housing index has the longest lead time in signalling turning points, an average of 7.5 months at peaks and troughs, including the longest lead times in signalling the end of a recession. However, remembering the trade-off between timeliness and reliability, it is not surprising that this component also has the second-highest error rate of the nine components.

NEW ORDERS FOR DURABLE MANUFACTURED GOODS

New orders for durable goods are measured in constant 1992 dollars. They are a leading indicator because producers alter production schedules based on the inflow of new orders from customers. They have one of the highest error rates of the nine components, but their lead time has increased over the last two recessions, after lagging slightly in the 1981 downturn.

New orders signalled the recessions starting in 1990 and 2008 over a year before the downturns occurred. This is one reason we decided to retain this component despite its proclivity for false signals. These long lead times partially reflect how the US markets for housing and autos turned down well in advance of the rest of the economy. However, the counterpoint for both the workweek and new orders was a high frequency of false signals from 2002 to 2007.

THE AVERAGE WORKWEEK IN MANUFACTURING

To maintain timeliness, we retain the methodology of using the Labour Force Survey estimate of the workweek for the most recent two months, and then benchmark the series to the more rigorous estimates from the Survey of Employment, Payrolls and Hours. This occasionally results in large revisions. The workweek has one of the best combinations of lead times and reliability, ranking as the second-best component on both accounts.

The workweek has one of the best combinations of lead times and reliability.

It has long been established that as demand changes, employers will adjust the workweek of their existing workforce before committing to the costs of hiring or firing employees. These costs include training new employees and severance pay for laid-off workers. The factory workweek sports both a good lead time, with an average of 7.4 months mostly built up at peaks, and a below average error rate of 13.5 percent. Its superior performance has not faltered in recent decades.

THE US LEADING INDICATOR

The US leading indicator has the lowest error rate.

The US leading indicator, now produced by the Conference Board, is one of the more reliable indicators of the business cycle in Canada, a reflection of how intertwined our economy is with the US. It has the fourth longest lead time of the nine components, and the lowest error rate of all. The low error rate partially reflects the dominant role of the US economy in the fortunes of Canada after the Second World War. However, it is worth noting that the number of false signals has increased to a rate of over 10 percent since 1982. This reflects the unique problems the US has had in recent years with its financial system, as well as the increased importance of overseas demand for Canadian exports.

STANDARDIZATION FACTORS

Some of the components measure what seem to be small changes in variables such as the average workweek or the interest rate gap between private and public borrowers. Other variables are notoriously noisy on a monthly basis, with monthly double-digit percent changes occurring regularly in the stock market, new orders, or housing. So how do we prevent the latter components from dominating short-term movements in the overall composite index? This is done through a well-known statistical technique called standardization.

Essentially, standardization factors compare the percent change in a component with the typical monthly change in that component. This corrects for the average variability of each component over time, and prevents noisy series such as the stock market or new orders from dominating changes in the index.[7]

Publication

MLI will release its monthly update to the leading indicators in the last week of every month. We also continue the Statistics Canada practice of taking the latest data point for any component: for the August 2012 leading index, which was calculated late in September, data for August was available for seven of the nine components, with July data for new orders and claims for employment insurance.

About the Author

Mr. Cross spent 36 years at Statistics Canada specializing in macroeconomics. He was appointed Chief Economic Analyst in 2008 and was responsible for ensuring quality and coherency of all major economic statistics. During his career, he also wrote the "Current Economic Conditions" section of the Canadian Economic Observer, which provides Statistics Canada's view of the economy. He is a frequent commentator on the economy and interpreter of Statistics Canada reports for the media and general public. He is research and editorial co-ordinator at the Macdonald-Laurier Institute.

Endnotes

1 In fact, we lowered the error rate from 6.6 percent in the Statistics Canada version to 5.1 percent in the MLI version.

2 Lakshman Achuthan and Anirvan Banerji. 2004. Beating the Business Cycle. Toronto: Currency Doubleday.

3 CD Howe, forthcoming.

4 Quoted on page 24 of Greg Ip's 2010 The Little Book of Economics: How the Economy Works in the Real World. Hoboken, NJ: John Wiley and Sons.

5 Quoted in the September 19, 1966 Newsweek article "Science and Stocks".

6 One reason we dropped furniture and appliance sales is that they mimicked housing demand so closely, it was redundant to keep both.

7 The exact calculation of standardization factors is proprietary information, and will not be shared with the public. This also applies to how the components are combined into the overall composite index. This policy of non-disclosure is the same as applied by the Economic Cycles Research Institute to its weekly ECRI leading index.

MACDONALD-LAURIER INSTITUTE

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Former Speaker of the House of Commons Peter Milliken, former Prime Minister Joe Clark, former Prime Minister Jean Chrétien, and MLI Managing Director Brian Lee Crowley.

Ideas Change the World

Independent and non-partisan, the Macdonald-Laurier Institute is increasingly recognized as the thought leader on national issues in Canada, prodding governments, opinion leaders and the general public to accept nothing but the very best public policy solutions for the challenges Canada faces.

Where You've Seen Us

CTV
SUN NEWS NETWORK
corus ENTERTAINMENT
cpac
tvo
CBC news
WALL STREET JOURNAL
FP Foreign Policy
The Economist
THE HILL TIMES
THE GLOBE AND MAIL
CANADA'S NATIONAL NEWSPAPER • FOUNDED 1844
NATIONAL POST

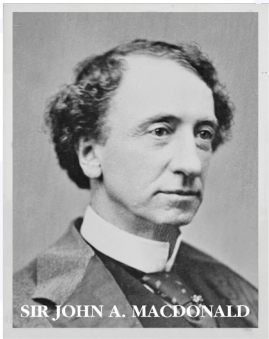
About the Macdonald-Laurier Institute

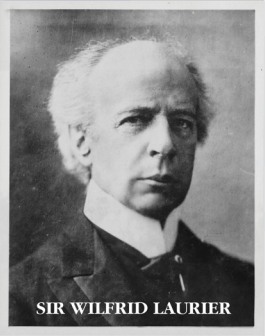
What Do We Do?

When you change how people think, you change what they want and how they act. That is why thought leadership is essential in every field. At MLI, we strip away the complexity that makes policy issues unintelligible and present them in a way that leads to action, to better quality policy decisions, to more effective government, and to a more focused pursuit of the national interest of all Canadians. MLI is the only non-partisan, independent national public policy think tank based in Ottawa that focuses on the full range of issues that fall under the jurisdiction of the federal government.

What Is in a Name?

The Macdonald-Laurier Institute exists not merely to burnish the splendid legacy of two towering figures in Canadian history – Sir John A. Macdonald and Sir Wilfrid Laurier – but to renew that legacy. A Tory and a Grit, an English speaker and a French speaker – these two men represent the very best of Canada's fine political tradition. As prime minister, each championed the values that led to Canada assuming her place as one of the world's leading democracies. We will continue to vigorously uphold these values, the cornerstones of our nation.


SIR JOHN A. MACDONALD


SIR WILFRID LAURIER

Working for a Better Canada

Good policy doesn't just happen; it requires good ideas, hard work, and being in the right place at the right time. In other words, it requires MLI. We pride ourselves on independence, and accept no funding from the government for our research. If you value our work and if you believe in the possibility of a better Canada, consider making a tax-deductible donation. The Macdonald-Laurier Institute is a registered charity.

Our Issues

The Institute undertakes an impressive programme of thought leadership on public policy. Some of the issues we have tackled recently include:

- **The impact of banning oil tankers on the West Coast;**
- **Making Canada a food superpower in a hungry world;**
- **Aboriginal people and the management of our natural resources;**
- **Population ageing and public finances;**
- **The vulnerability of Canada's critical infrastructure;**
- **Ottawa's regulation of foreign investment; and**
- **How to fix Canadian health care.**

MACDONALD-LAURIER INSTITUTE

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