

Economic Indicators: Where to Look

A Guide to North American Economic Releases

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Fourth Edition



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Introduction

There are a myriad of technical and fundamental factors that affect financial markets, and their impact can be felt both swiftly and severely. Economic information, in particular, plays a central role in determining the direction that any given market will go. As a result, market analysts (including investors, traders, and marketers) look for a quick buy or sell verdict based on some “rule-of-thumb” analysis. Yet, economic data is complex and can be initially at odds with more in-depth analysis, leading to the wrong interpretation of economic news. That, in turn, can lead to a quick reversal in markets once it becomes evident that initial interpretations were incorrect.

The reasons for initially misinterpreting data vary: there may be a large unexpected change in one of the subcomponents that affected the overall figure, a “technical factor” could have had an effect, there was a change in definition or a benchmark revision, previous data were revised, or there were problems with seasonal adjustment procedures.

While there are many published books explaining economic indicators, this guide will focus only on the key economic indicators in the United States and Canada. By looking at real sector developments and inflationary trends, it will explain the impact that economic news has on financial markets. The releases are arranged chronologically by the date of their release in a typical month. Descriptions used to explain economic concepts in the U.S. section will not be repeated under Canada, but the principles apply equally.

Published August 2016

This material has been prepared for use by CIBC World Markets employees and clients. Any and all errors within belong to the author. Information for this guide has been obtained from the following sources:

1. Rogers, R. Mark. *Handbook of Key Economic Indicators*. 2nd edition. McGraw-Hill. 1998.
2. Grant, John. *Handbook of Economic Indicators*. University of Toronto Press. 1992.
3. Institute for Supply Management, Bureau of Economic Analysis, Bureau of Labor Statistics, U.S. Census Bureau, The Conference Board, University of Michigan, Federal Reserve Board, U.S. Department of the Treasury, Statistics Canada, Canada Mortgage & Housing, Richard Ivey School of Business, the Bank of Canada, U.S. Energy Information Administration, and the American Petroleum Institute



UNITED STATES

Institute for Supply Management (ISM) Indices

www.instituteforsupplymanagement.org

Released: Manufacturing ISM Report on Business – First business day following the reference month. Non – Manufacturing ISM Report on Business – Third business day following the reference month.
Institute for Supply Management

Key Numbers

Where to Look

Composite Index (PMI) – Manufacturing	Is index over 50, Trend
Prices Index	PPI prices index, Crude oil prices
Employment Index	Manufacturing payrolls growth, Trend
Supplier Deliveries Index	Future production to increase if deliveries is low
Business Activity Index – Non-Manufacturing	Is index over 50, Trend

Formerly known as the National Association of Purchasing Managers (NAPM), the Institute for Supply Management (ISM) PMI index is a composite index that provides broad coverage in gauging the strength of activity in the manufacturing sector. The renaming to ISM in January 2002 reflected the desire to broaden the scope of the NAPM beyond purchasing managers to include the growing importance of supply management. The Manufacturing ISM Report on Business and PMI is used in conjunction with other government economic statistics, focusing on the strength in manufacturing and, particularly, industrial production.

Manufacturing Index

The index is created from surveys mailed to ISM members. The surveys cover five key categories, which combine to produce a composite index: manufacturing production (20%), new orders (20%), inventories (20%), employment (20%), and supplier deliveries (20%). Answers are limited to only three possibilities: *Better*, *Same*, or *Worse*. Results are tallied and expressed as a percentage of total responses per category. Finally, the resulting index is seasonally adjusted to minimize the impact of repetitive yearly influences ranging from weather conditions to non-moveable holidays. Data are not revised on an on-going basis, although annual revisions to seasonal factors by the US Department of Commerce are released each January.

Key Points:

1. By definition, a composite index over 50 indicates an expanding manufacturing sector, while below 50 suggests a contraction. The index is constructed by adding the percentage of “increases” plus one-half the percentage of those responding “same”. Thus, the index does *not* report precise levels of activity, but rather indicates performance relative to the previous month. **The ISM is a diffusion index showing changes in conditions, rather than measuring the actual level of production. As a result, these indexes are highly correlated with growth rates, but are not accurate measures of actual production levels.**
2. The prices paid index reports whether organizations are paying more or less for products / services and is used as an indicator of price pressures, but is susceptible to volatility from the crude and intermediate materials components. The supplier deliveries index specifies how quickly suppliers deliver factory inputs – slower deliveries can reflect heavy demand, and is therefore a positive figure.
3. There are two main shortcomings of the ISM data. First, as diffusion indexes, the series are not as precise as published government data. Second, due to the delay in receiving and accumulating survey data, ISM data in a given month are as closely related to industrial production in the current month as the previous month.

Non-Manufacturing Index

In June 1998, the NAPM expanded their economic coverage beyond the manufacturing sector and began publishing the Non-Manufacturing Index. Generated from surveys to over 370 ISM members in more than 62 different industries, the report details the percentage of respondents citing positive or negative direction in each of the indicators (Business Activity, New Orders, Backlog of Orders, New Export Orders, Inventory Change, Inventory Sentiment, Imports, Prices, Employment, and Supplier Deliveries). Much like its counterpart, the Non-Manufacturing ISM *Report on Business* has a weighted composite index equivalent to the PMI, covering business activity (25%), new orders (25%), employment (25%), and supplier deliveries (25%).

Other Manufacturing Indicators:

There are various other surveys that provide regional looks at manufacturing activity. The largest is the **ISM-Chicago Business Survey (Chicago PMI)**, released ahead of the ISM report. In addition, five regional Federal Reserve banks, **Philadelphia, Richmond, Atlanta, Kansas City, and New York (Empire State)** conduct manufacturing surveys that differ in periodicity and content.

A more recent entrant is the **Markit U.S. Manufacturing PMI** from analytics firm IHS Markit. Markit produces a PMI index for most major economies and in the US surveys over 600 companies. It tracks closely with the ISM Manufacturing Index and is released both at the start of the month (for the previous month) and mid-month (*Flash PMI*, covers the first half of the current month based on 85-90% of total PMI survey responses).



Implications for Markets:

The ISM index is used to provide a snapshot on the state of the manufacturing sector. Although a level of 50 is used as a break-even point between expansion and contraction, it is strictly a definitional point. Studies suggest that, due to sample biases and tendencies among respondents, the break-even point is below 50 for all components, except for prices.

While the ISM data is one of the main sources used to provide an insight into **industrial production**, aggregate production hours from the BLS can provide superior forecasts. At the same time, the ISM employment index is used to project **manufacturing payroll employment** for the same month's employment report.

The ISM data can provide false signals over the business cycle. During periods of slow activity, the ISM data tend to cross break-even points several times before an official turning point occurs. **Thus, the data are best used to confirm cyclical movements, rather than to anticipate them.** The production and employment components are used as coincident indicators, while vendor deliveries and new orders are leading indicators.

Key Questions:

1. Is the composite index above or below 50? Is growth accelerating or decelerating?
2. Is one component causing most of the index's movement?
3. How is the production trend relative to the employment trend?
4. Are the Manufacturing and Non-Manufacturing indexes providing a consistent signal on conditions?

Personal Income and Outlays

<http://www.bea.gov/newsreleases/national/pi/pinewsrelease.htm>

Released: Next business day after the GDP report – two months following the reference month.

Bureau of Economic Analysis (BEA), U.S. Department of Commerce

Key Numbers

Where to Look

Personal Income	Wages and salaries growth, Trend
Personal Disposable Income	Level, Growth, Trend
Personal Outlays	Growth, Retail Sales, Trend
Personal Consumption Expenditures	Durables vs. Non-Durables or Services
Personal Savings Rate	Level, 3-month trend
Personal Consumption Expenditure Price Index	Yr / Yr change is less or greater than 2%

The personal income report is a broad measure of household income and expenditures, and gauges the health of a key sector of the economy. Originating as one component of the quarterly **GDP national accounts**, the report is released as a separate set of monthly indicators. Revisions occur successively until the month containing the final GDP release.

Personal income includes wages and salaries (from the employment report), other labour income (private pensions, health insurance), farm and non-farm proprietors' income (adjusted for inventory valuation and capital consumption), rental income, dividends, personal interest income, and transfer payments to persons from business and government. Added together, and subtracting personal social insurance contributions, gives total personal income. **Note that capital gains on assets, a major source of income for households upon disposition of those assets, are not included in the personal income report. This leads to a downward bias in the estimate of income, and can produce an underestimate in the savings rate.**

The most common measure of consumer spending capacity is *personal disposable income (PDI)*, which subtracts personal tax and non-tax payments. This is the discretionary amount of income that consumers can either spend or save, and it serves as the basis for the calculation of the *personal savings rate*.

Personal outlays is comprised of personal consumption expenditures (durables, non-durables, services), interest paid by consumers to businesses, and transfer payments to foreigners.

Personal savings is a residual series calculated as disposable personal income less personal outlays. Thus, the *personal savings rate* is expressed as personal savings as a percentage of personal disposable income. Due to this accounting identity, small changes in personal income, taxes, and outlays can lead to large movements in personal savings, and hence, the savings rate. As a result, a three-month average is used for the savings rate to smooth the volatility associated with this measure. Other factors, such as national disasters, can dramatically affect personal income through the effect of accelerated depreciation and loss of proprietors' and rental income.

Real personal consumption expenditure (PCE) price index (in chained 2009 dollars) provides a monthly estimate of price changes faced by consumers. This is a more frequent release than



the quarterly GDP deflator and has become the preferred price index of the U.S. Federal Reserve. It contains a broader array of expenditures than the fixed CPI basket and is weighted by data provided in business savings rather than (less reliable) consumer saving data (used in the CPI). The Fed views the PCE as a more comprehensive gauge of inflation and targets a rate of 2% when deciding on monetary policy.

Key Points:

1. Personal income is an indicator that troughs and peaks, providing the fuel for consumer spending. The impact from the often large changes to farm subsidies can be negated by focusing on non-farm personal income.
2. Consumption of non-durables and services is largely stable over the business cycle, but durables, particularly housing and motor vehicles, are sensitive to changes in interest rates. These big-ticket items are a sign of the quality of consumer purchases.

Implications for Markets:

Personal consumption can vary on a regular basis due to a variety of factors. Sales at retailers (particularly on expensive items like autos), layoffs, and movements in interest rates can all affect sales in a given month. When a trend begins to develop over several months, the overall impact on GDP can be significant, exerting a positive or negative influence over stocks, bonds, and the currency.

Key Questions:

1. How large is the change in the wages and salaries component? Non-farm personal income?
2. How does the PCE Index compare to the latest CPI data? Where is the growth rate relative to the Fed's 2% target?
3. Is the weakness in PDI due to soft personal income growth or a rise in tax payments?
4. Did the changes in personal consumption occur mainly in durables, non-durables, or services? Were changes due to price incentives?
5. Did weather play a factor in affecting income or outlays?



The Employment Situation

www.bls.gov/news.release/empstat.toc.htm

Released: Generally first Friday of month following the reference month.
Bureau of Labor Statistics (BLS), U.S. Department of Labor

Key Numbers

Non-Farm Payrolls
Unemployment Rate
Average Weekly Hours
Average Hourly Earnings

Where to Look

Size of change, Trend, Revisions, Sector Employment
Trend, Full employment level
Trend, Size of excess capacity in labour force
Mth / Mth, Yr / Yr, Wage pressures, Labour cost

Next to the consumer price index release, the employment report is probably the most important economic data released each month. Due to its early release and its broad coverage of many sectors of the economy, the report often sets the tone for subsequent economic news later in the month and provides a view as to the health of the overall economy. The data are particularly important when analyzing the health of the consumer sector, given the key linkage between job creation and growth in personal income.

The employment report is comprised of two separate, independent surveys: the *Household Survey* measures job statistics from the workers' perspective and provides work data on the individuals in interviewed households; the *Establishment Survey* is largely a job count based on employers' records and also includes questions on earnings and hours worked. Key differences between the two reports are:

The Household Survey

- sample 60,000 households, age 16+
- survey for week incl. the 12th of the month
- includes farm sector & some unpaid workers
- includes self-employed
- counts civilian and non-civilian employed
- used to calculate unemployment rate
- differentiates full and part-time jobs
- not affected by work stoppages
- revised annually only

The Establishment Survey

- sample 623,000 businesses, all ages
- survey for pay period incl. 12th of the month
- non-farm, paid workers only
- excludes self-employed
- civilian employed only
- no unemployment measure
- no differentiation
- strikes considered job losses
- revised in two preceding releases, annual in June
- needs to estimate net new number of employers

For both samples, assuming a 6% unemployment rate, the average sampling error at the 90% confidence level is: employment \pm 375,000, unemployment \pm 300,000, and the unemployment rate \pm 0.2 pct

Information on *average weekly hours*, *average hourly earnings*, and *average weekly earnings* come from the Establishment survey, and are based on gross payrolls and paid hours specifically for production workers, construction workers, and non-supervisory workers. Average weekly hours include premium pay periods not converted to straight-time equivalent.



Average hourly earnings include premium pay and pay for holidays & vacations, but exclude irregular bonuses and fringe benefits.

Key Points:

1. The employment report is used to gauge the current strength of the economy. In particular, the *civilian* unemployment rate is a good measure of the strength of the real sector, as well as a signal as to how labour cost pressures could affect inflation. That is, low unemployment is associated with a strong economy and as output rises beyond its full-employment level (also known as the Non-Accelerating Inflationary Rate of Unemployment (NAIRU)), it can lead to inflationary pressures.
2. The change in non-farm payrolls is often used as a superior indicator to the unemployment rate due to the greater reliability of the establishment survey. This increased dependability comes from the larger size of that survey versus the household survey. It is also not affected by the labour force participation rate, which can vary each month and cloud the interpretation of the unemployment rate.
3. Special factors can have an impact on the employment figures. For example, strike activity can mask the true gains in employment, especially if a strike begins after the reporting period. However, household data remains unaffected. In addition, seasonal adjustment problems can cause temporary distortions in the data spawned by cyclical changes in the series. The largest impact occurs with retail trade and construction employment, along with summer jobs among the student population.

Implications for Other Indicators:

1. The Federal Reserve uses aggregate weekly hours of production workers in its initial estimates of the manufacturing portion of **industrial production**.
2. The Bureau of Economic Analysis (BEA) uses average weekly earnings data as the main input into the private wages and salaries component of **personal income**.
3. The BEA uses some industry earnings data for early estimates of certain consumption measures used in the **GDP report**.
4. **Initial jobless claims** are released each Thursday and provide a timely and “real” snapshot of the labour market. The release provides both a level and a four-week moving average of initial claims for employment insurance. While single weekly data can be volatile due to holidays, deviations from the four-week average can be used to signal changes in the overall labour market. Rising claims may indicate more layoffs are occurring or that finding a job is becoming more difficult.

Implications for Markets:

Employment is the driving force behind the consumer sector, and the level of employment and job stability plays an important role in the consumer's willingness to spend. If the trend in employment is weak and unemployment and average hourly earnings are falling, it may lead the Federal Reserve to consider loosening monetary policy to lower interest rates in hopes of spurring economic growth. **A high level of employment, low unemployment, and solid average hourly earnings can cause concerns over an over-heated economy and potential inflationary pressures, leading to a tightening in policy and higher interest rates to cool the economy.** Some general implications for the employment data are:

- Over the business cycle, the unemployment rate leads the economy into recession but often lags during a recovery. Non-farm payrolls are more a coincident indicator.
- Manufacturing employment is watched closely as it is a high wage, high quality sector.
- While employment is affected by overall demand, drastic changes to employment are tempered by cutting hours prior to laying off employees. Hours rise more rapidly than jobs during recoveries due to the fact that a work schedule is easier and quicker to change than the size of the workforce.
- If labour costs are rising, an employer can substitute capital for labour, depending on the cost of capital equipment (i.e. interest rates).
- With employers hiring an increasing number of temporary workers on contract, there has been a shift in the allocation of workers in the economy. All temporary workers hired through agencies are classified as service sector workers, regardless of whether they work in the service or goods-producing sector. This has resulted in a boost to service sector employment at the expense of the goods sector, and it distorts using those categories as a measure of job quality.

Key Questions:

Household Survey

1. Did the unemployment rate fall (rise) due to a rise (fall) in employment or a drop (increase) in the labour force, or a decrease (increase) in the participation rates?
2. Is the change in part-time workers within a normal range of volatility or is there an ongoing uptrend / downtrend?
3. Are there changes to the number of job leavers as a percentage of total unemployment, indicating greater / less optimism about job prospects?

Establishment Survey

1. Were there significant revisions to the previous month's data?
2. Was job growth in the higher-paying, goods-producing sector or the lower-wage, services sector?
3. How large are gains in manufacturing employment and the average workweek? Implications for industrial production numbers?
4. How strong were establishment employment, average workweek, and average hourly earnings for the private sector? Implications for personal income?
5. Was data affected by adverse weather, holidays, or strikes?
6. Did the end of Christmas have an effect on retail employment?
7. How do changes in manufacturing employment compare to the employment component of the ISM reports?



Advance Monthly Retail Sales

www.census.gov/retail/index.html

Released: Mid-month following the reference month.
U.S. Census Bureau, U.S. Department of Commerce

Key Numbers

Where to Look

Total Retail & Food Services Sales	Growth, Trend, Revisions
Total Sales Excluding Motor Vehicles and Parts	Growth, Trend, Revisions
Motor Vehicle and Parts Dealers (\$ value)	Unit auto sales (number), Price incentives
Gasoline Stations	Crude oil prices
General Merchandise Stores	Department store sales, Chain store sales
Food & Beverage Stores	Weather conditions

Retail sales is the most important monthly measure of the strength of the consumer sector. While the report is not a direct component of the GDP series, it plays a role in the calculation of personal consumption expenditures. The monthly advance retail figure is based on a modest sample of 4,700 establishments, which often leads to large sample errors due to the small sample size. Subsequent data, published in the *Monthly Retail Trade: Sales and Inventories*, expands the sample to 12,000 units and improves on previous estimates.

There are thirteen main components to the retail sales release, with the greatest attention paid to motor vehicles & parts dealers (20%), food & beverage (13%), general merchandise stores (12.5%), food services & drinking places (11%), and gasoline stations (9%).

Automobile dealers sell new motor vehicles, as well as used cars, recreational vehicles, parts, and accessories. Due to its overwhelming weight in overall sales, the auto component can single-handedly influence total sales. Thus, total retail sales are also presented excluding motor vehicles, to offer a more balanced view of the growth in retail sales.

While much media attention is paid to department store sales as a broad measure of consumer spending, it is only one component of the general merchandise stores group, which also includes variety stores and miscellaneous general stores.

Gasoline service stations sales include gasoline sales along with repairs, auto parts, and food items.

The retail control group, which the BEA uses to calculate GDP, comprises all sales excluding motor vehicles, building materials and garden equipment and supplies, gasoline, office supply and stationary, manufactured (mobile) home dealers, and tobacco.

Retail Automobile Sales vs Unit Automobile Sales:

Retail motor vehicle sales (which measure the value of vehicles sold in dollars), released by the Commerce Department and unit new auto sales (measuring the number of vehicles sold), compiled by the BEA, move together on a monthly basis. However, due to the different sources and coverage of each series, divergence can be significant.

Where unit sales cover the full universe of all vehicles sold, leaving no sampling error, motor vehicle retail sales are derived from survey data that is vulnerable to sampling errors.



Moreover, retail sales at auto dealers also include sales of parts and repairs, as well as recreational vehicles.

Key Points:

1. Unit new auto sales are used in the GDP estimate of **personal consumption of durables**. Thus, when the unit auto data are stronger (weaker) than the retail sales series, then the durables consumption (in constant dollars) will be stronger (weaker) than implied by the retail data.
2. Despite the common tendency to equate department store and retail sales, department store sales comprise only 10% of total retail trade. However, there is a similarity between department stores and the general merchandise category. It can be difficult to make inferences from the chain store data as it is reported on a year-over-year basis, rather than month-over-month.
3. There are three main sources of volatility in the retail data: auto dealer sales, price factors, and seasonal factors. The auto component is problematic due to its small sample size and the potential for sampling errors. Price factors, including rebates and discounts, have a large impact on auto sales and cause volatility. Apparel stores are also sensitive to seasonal price swings and discounting, while service station receipts are affected by changes in gasoline prices (note: since the demand for gasoline is largely inelastic, the supply and prices can be affected by OPEC decisions and refinery shutdowns). Despite the seasonal adjustment process that is used to smooth the raw data, abnormal weather conditions (i.e. early snowstorms, irregular seasons changing) can have a large impact on various components of retail sales.

Key Questions:

1. How were sales excluding autos? Did special incentives affect auto sales?
2. How do unit auto sales and chain store sales compare to the retail release?
3. Were previous revisions significant?
4. Did atypical weather conditions affect sales?

The Producer Price Index

www.bls.gov/news.release/ppi.toc.htm

Released: Second week following the reference month.
BLS, U.S. Department of Labor

Key Numbers

Where to Look

Final Demand	Mth / Mth (SA), Yr / Yr (NSA), Trend, Revisions
Core PPI (final demand excluding food & energy)	Mth / Mth (SA), Yr / Yr (NSA), Trend, Revisions
Final Demand Goods	Used to forecast CPI
Final Demand Goods ex-food & energy	Used to forecast core CPI
Unprocessed Goods for Intermediate Demand	Used to forecast future Final Demand Goods PPI

The Producer Price Index (PPI) is second in importance to the CPI as a broad measure of prices. It measures the average change in selling prices received by domestic producers for their output. The index is employed in price escalation clauses and it is used to calculate constant-dollar (1982) values for selected goods. The PPI serves as an early warning for price pressures building or subsiding in the consumer sector and, due to its early release, is considered a preview of the proceeding CPI release.

Specifically, the PPI measures changes in net unit revenues received by U.S. producers for the first commercial transaction within the U.S., taxes not included. Prices are based on data for the Tuesday of the week containing the 13th of the month, with some exceptions. More than 10,000 PPIs for individual products and groups of products are released each month for industries in the mining, manufacturing, services and construction sectors. The PPI data are organized by three classifications: final demand-intermediate demand (FD-ID) indexes, commodity indexes, and indexes for the net output of industries and their products. *FD-ID* PPI measures an industry's net output cost (i.e. the change in prices received for the industry's output sold outside the industry). *Commodity* indexes are organized by end user or material composition, regardless of the industry of origin. The FD-ID indexes are the most prominent classifications of the BLS, and are based on the class of the buyer and the amount of physical processing that has been done. There are three main subcategories:

Final Demand – goods for sale to the final-demand user, either business or consumers. Two primary components are finished consumer goods and capital equipment.

Intermediate Demand – partially processed commodities (i.e. lumber, steel), plus nondurables that are physically complete but are used as inputs for business operations (i.e. diesel fuel, boxes).

Unprocessed Goods for Intermediate Demand – unprocessed commodities not sold to consumers directly.

Key Points:

1. The PPI release is more volatile than the CPI, particularly the food and energy components. The main focus is therefore placed on the PPI less food and energy.
2. Forecasting the CPI release from the PPI requires focusing on the consumer component only, as capital equipment is not relevant. Furthermore, half of the CPI services components do not have PPI equivalents.
3. Producer prices are closely tied to manufacturing and hence manufacturing-related indicators can be used to predict changes in PPI inflation trends. These include **capacity utilization rates, vendor performance (ISM)**, and spot / futures commodity prices. Note that although the **Commodity Research Bureau (CRB)** index is not directly related to the PPI, it contains many of the components found in the PPI crude materials component. However, CRB prices are much more volatile than the PPI series.

Implications for Markets:

For markets, the primary use of the PPI release is as a preview of the forthcoming CPI release. As a broad economic indicator, it provides one more piece of information that is used to assess the outlook for interest rates and possible changes in monetary policy by the Federal Reserve. A strong PPI release can quickly lead to a sell-off in equity and bond markets, and provide a boost to the currency in anticipation of higher rates.

Key Questions:

1. How was PPI growth excluding food and energy?
2. What implications do PPI for final demand goods and final demand goods ex-food & energy provide for CPI?
3. Did crude oil prices have a large (sustainable) impact on PPI?
4. Did atypical weather affect food prices?

Consumer Confidence

The willingness of consumers to undertake large expenditures and debt commitments in the purchase of homes, vehicles, and other durables depends on both their outlook for the economy and their own personal financial situation. The choice between spending and saving is based on a plan, rather than impulse, and reflects not only one's current financial situation, but expectations of future earnings, prices, and interest rates. In aggregate, the timing of these decisions influences the course of the entire economy.

There are two primary surveys of consumer confidence conducted on a national basis, the Conference Board's **Consumer Confidence Index** and the University of Michigan's **Index of Consumer Sentiment**.

Consumer Confidence Index

www.conference-board.org/data/consumerconfidence.cfm

Released: Last Tuesday of the reference month.
The Conference Board

Key Numbers

Where to Look

Consumer Confidence Index	Trend, Stock markets, Employment growth, Personal consumption
Present Situation Index	Trend, Stock markets, Employment growth, Personal consumption
Expectations Index	Trend, Forecast for future Personal Consumption, Leading Indicator

The Conference Board's Consumer Confidence survey is conducted by The Nielsen Company. Each month, questionnaires are mailed to a nationwide sample of 5,000 different households, with around 3,500 typically responding. The five questions have remained constant since inception and include:

1. Appraisal of current business conditions
2. Expectations for business conditions in six months
3. Appraisal of current employment conditions
4. Expectations for employment conditions in six months
5. Expectations for total family income in six months.

The responses to these questions are either: *Positive*, *Neutral*, or *Negative*. The results are then seasonally adjusted. The Positive responses for each question are calculated as a share of the total and then indexed using the annual average for 1985 as the benchmark. Finally, the composite indexes are determined by averaging the following questions: Consumer Confidence Index (all five questions), Present Situation Index (1 & 3) and Expectations Index (2, 4, & 5).

Index of Consumer Sentiment

www.sca.isr.umich.edu/

Released: *Preliminary* – Second Friday of reference month.
 Final – Last Friday of reference month.
 Surveys of Consumers, University of Michigan

Key Numbers

Where to Look

Index of Consumer Sentiment (ICS)	Trend, Stock markets, Employment growth, Personal consumption
Index of Current Economic Conditions (ICC)	Trend, Stock markets, Employment growth, Personal consumption
Index of Consumer Expectations (ICE)	Trend, Forecast for future Personal Consumption, Leading Indicator

The Survey of Consumers is broader in scope than the Conference Board's survey, leading to its inclusion in the Department of Commerce's Index of Leading Indicators. The surveys differ in both the sampling methods used and the number and depth of questions being asked.

Each month, a survey of 50 core questions is prepared to gauge consumer attitudes and expectations. A minimum of 500 interviews are conducted by telephone to households across the country. The core questions cover three major areas: personal finances, business conditions, and buying conditions. There are also open-ended follow-up questions where participants can provide the justification for their answers.

There are five questions that are used to calculate the three primary indexes:

1. Is your family *better off* or *worse off* financially than a year ago?
2. Do you think a year from now your family will be *better off*, *worse off*, or about the *same* financially?
3. In the next 12 months, will business conditions be *good* or *bad* or *otherwise*?
4. In the next 5 years, will the country have continuous *good times* or widespread *unemployment* or *otherwise*?
5. For the purchase of big ticket items, is now a *good* or *bad time* to buy major household items?

For each question, the relative scores are calculated and indexed to the base year of 1966. The ICS is computed using all five questions, while the ICC uses questions 1 and 5 and the ICE uses questions 2 to 4.

Implications for Markets:

Historically, consumer confidence measures were viewed as low priority economic indicators and did not receive a lot of attention by financial markets. However, in the early 2000s when personal consumption became the primary engine of growth for the US economy, and its one bright spot during the 2001 downturn, consumer confidence and attitudes became a much more widely watched beacon of future consumer spending. In particular, the expectations indexes are often seen as carrying more predictive power than many of the other coincident consumption indicators.

Industrial Production and Capacity Utilization

www.federalreserve.gov/Releases/g17/current/default.htm

Released: Around the 15th of the month following the reference month.
Federal Reserve Board of Governors

Key Numbers

Where to Look

Total Industrial Production	Growth, Trend, Revisions, Weather impact
Manufacturing Production	Growth, Trend, Revisions, Weather impact
Total Capacity Utilization	Level, Relative to Full Capacity
Manufacturing Utilization	Level, Relative to Full Capacity

Industrial Production (IP) and Capacity Utilization (CU) rates are key indicators of the health of the economy and the stage of the business cycle. In particular, IP reflects industrial output levels for mining, manufacturing, and utilities, and acts as a leading indicator for (high-wage) manufacturing employment. Thus, it plays a large role in changes to **personal income** growth. Capacity utilization rates compare the level of output relative to potential production (capacity). They provide a measure of inflationary pressures and lead investment spending in the manufacturing sector.

Industrial Production

The IP index is comprised of 264 components and is sorted using two systems of classification. Supply-side grouping sorts data by *industry* categories, which allows for the easy comparison of statistics between different federal agencies. Alternatively, grouping done by *market* category are demand-oriented to permit stage-of-processing analysis. Both sets of data are revised each month for the previous three months, due to the different times of availability for various data. But because of the demand for early IP estimates, there is a sacrifice in terms of accuracy in return for timeliness.

Key Points:

1. *Manufacturing* is the key component in the IP release, covering 85% of the total index. Changes in manufacturing reflect movements in **manufacturing payrolls employment**, **average hourly earnings**, and the **ISM** release.
2. The driving force behind the manufacturing component is the auto industry, with auto output movements reflecting the need to bring production in line with sales. However, auto output does not adjust quickly to sales trends, leading to large oscillations in production. The *manufacturing excluding motor vehicles* index takes account of this factor.
3. The *mining* component (6.4%) is dominated by oil and gas extraction. *Utilities* (8.6%) output is affected largely by unseasonable weather and is a key source of volatility that feeds through to the **personal consumption of services** component of GDP.



Implications for Markets:

The IP index provides a window to the industrial sector. Specifically, manufacturing is a key sector of the economy, and it has linkages to the consumer sector via high-wage jobs, as well as the service sector and construction activity. Industrial production is demand driven, with imbalances between production and demand connected through inventory movement and changes to factory orders. As production begins to diverge from domestic and foreign consumption of output, imbalances should be linked to changes in business inventories and factory new orders.

Key Questions:

1. How strong is manufacturing output?
2. Did strikes or weather have an impact on production or utilities output?
3. How was manufacturing excluding motor vehicles?

Capacity Utilization

Utilization rates measure the level of production relative to the capacity, and are used to track inflationary pressures caused by supply pressures.

Capacity is calculated based on a projection from previous years' industry survey data and focuses on sustainable, practical capacity. It is defined as the greatest level of output that can be maintained with a normal plant work schedule and sufficient inputs and equipment. Thus, disruptions like plant closings or openings do not have a measurable impact until the next annual survey.

Key Points:

Capacity utilization rates are used to gauge whether the economy has room to grow at a faster rate. If utilization can be boosted using stimulus that does not raise production beyond its full-potential level, an output gap exists between current and potential production that is non-inflationary. Previously, 80% was considered to be a threshold level for inflation, but increasing global integration has masked the true trigger point, which is likely higher.

Key Questions:

1. How does capacity utilization compare with previous periods of rising inflation?
2. Is there an output gap, and is it closing or widening?



Manufacturers' Shipments, Inventories, and Orders

www.census.gov/manufacturing/m3/index.html

Released: *Advanced* (Durable Goods Orders) - Three weeks after the end of the reference month.

Final – Month-end following the reference month.

U.S. Census Bureau, U.S. Department of Commerce

Key Numbers

Where to Look

Shipments (All Manufacturing Industries)	Growth, 3-month trend, Revisions, Exports
Total New Orders (All Manufacturing Industries)	Growth, Trend, Revisions, Future Shipments
Nondefense Capital Goods Shipments, excl. aircraft	Growth, Trend, Core Manufacturing Activity

Where industrial production figures indicate the *current* strength of the manufacturing sector, factory orders are used to measure *future* production activity. The combination of orders, shipments, and inventories data together provide a complete picture of the state of production, and are inputs into GDP figures for **producers' durable equipment and inventory investment**.

Key Points:

1. The data are organized in two ways: by industry and by topical series. *Industry data* categories are similar to those for industrial production for manufacturing. The *topical series* are arranged into common market groups and specially aggregated series. These special series are of particular interest as they aggregate the data into groups that are easier to analyze. For instance, durable goods data is re-categorized into *nondefence capital goods*, *defence capital goods*, and *durables excluding capital goods*. Nondefence capital goods are broken down further to exclude aircraft and parts. This is beneficial since new orders for durables are very volatile; contracts for military goods or aircraft are very large and do not recur every month, which can lead to a large increase in one month followed by a sharp decline in the next. Similarly, the entire transportation component (including motor vehicles (50%) as well as aircraft) is often excluded to eliminate monthly swings.
2. New orders can be filled out of inventory rather than future production; orders met with inventory reflect current demand while unfilled orders better indicate future production.

Key Questions:

1. Due to volatility for new orders, what is the trend over the past three months?
2. How are new orders excluding the volatile aircraft and defence capital goods series?
3. Are unfilled orders rising or falling? Where are the implications for future orders?



The Consumer Price Index

www.bls.gov/cpi/

Released: Second or third week following the reference month.
BLS, U.S. Department of Labor

Key Numbers

Where to Look

All Items	Mth / Mth (SA), Yr / Yr (NSA), Trend, Revisions
Core CPI (excluding food & energy)	Mth / Mth (SA), Yr / Yr (NSA), Trend, Revisions
Energy	Crude oil price changes
Goods	Apparel, Impact from weather issues
Services	Ex-energy services

The Consumer Price Index (CPI) is likely the most closely watched economic release as it contains the foremost measure of inflation. **(The GDP deflator is the broadest inflation measure, but both have recently fallen in importance to the Personal Consumption Expenditure price index, which is closely followed by the Fed)**. This series is particularly important because it is used in setting both fiscal and monetary policy, by businesses and labour unions for contract escalation clauses, and for government social security payments. Federal income tax brackets and deductions are also affected by CPI changes.

The CPI is a measure of price changes for purchases made by urban consumers only, and covers about 89% of the total U.S. population. This is the CPI-U or price index for “urban” workers; a second index, the CPI-W is also published exclusively for the spending habits of “wage earners and clerical staff”. The CPI-U is comprised of a fixed market basket of goods and services including over 360 items. Prices include both sales and indirect taxes, and are collected on a monthly basis (except for housing rents, which are accumulated on a rotating basis of six months). The index has a base period that sets the average level of prices between 1982 and 1984 equal to 100. Annual revisions for seasonally adjusted data are released in February and cover the previous five years. *Unadjusted data (NSA) are not revised after the initial month’s release.*

Key Points:

1. **The CPI is not a cost-of-living index**, as it measures the cost of maintaining the same purchases over time for each geographic area. Conversely, the cost-of-living index defines the minimum expenditures necessary over a period of time to maintain a certain level of satisfaction or utility, allowing quantities to vary.
2. Each CPI components’ index weight varies from its relative importance. The index weight represents its share of expenditures in the Consumer Expenditure Survey for the base year, and remains unchanged even after the levels have been rebased. However, since all components grow at different rates, so too do their values. The relative importance measures the component’s share of the CPI in any given year, and thus captures the growth in the component since the base period.
3. There are a small number of special factors that can affect the CPI, including seasonal adjustment, unseasonable weather affecting demand, supply problems, and sampling problems. Some items to watch are:



- Vegetables and fruits are affected by temporary supply issues caused by crop damage due to freezing or drought, and can lead to a run-up in prices.
- In the energy component, motor fuel and heating oil are affected by changes in crude oil prices, while electricity prices depend on weather conditions and the price of coal, which is used as fuel.
- Outside of food and energy, apparel goods is the largest component, and demand affects the need and degree of discounting in prices over clothing seasons. In addition, both apparel and autos face large competition from imports, and are affected by the level of the exchange rate.
- Seasonal factors, which raise or lower raw data, can exaggerate price changes when sharp changes in supply or demand occur. Distortions are most prominent with motor fuel, heating oil, and fresh fruits & vegetables, caused by the factors mentioned above. Thus, the CPI is also reported as a “Core” rate, excluding the volatile food and energy components. Seasonally-adjusted data provides a superior measure of monthly price changes, but the raw data (NSA) is used to calculate annual inflation rates.

Implications for Markets:

There are two approaches used to explain the cause and transmission of inflation through the economy. *Monetarism* points to the growth in the money supply relative to the output of goods and services — excessive money growth causes too much money to chase too few goods, leading to a bid up in prices and rising inflation. The problem with this approach is that money growth is hard to define and track, and the linkages to inflation are not very tight.

The *Keynesian* approach uses changes in aggregate demand relative to aggregate supply to explain price movements. Shortages of goods caused by heavy demand bids up prices and causes inflation. Indicators of supply bottlenecks that are used are the **unemployment rate** for labour markets (i.e. wage inflation), **capacity utilization** rates for manufacturing, and **raw material prices** for both manufacturing and construction.

Changes in import tariffs or export subsidies in foreign countries can affect U.S. prices for goods and services. An appreciation in the U.S. dollar makes imports cheaper, lowering the cost of imported goods and constraining similar domestic goods prices.

Over the business cycle, demand rises following a recession, but resources are not strained due to excess capacity and unemployed labour. Later, resource prices and wages rise due to diminishing supply and strong demand, leading to a pick-up in inflation. Overall, goods price inflation accelerates prior to service inflation.

In financial markets, expected inflation affects the prices of financial sector securities. In particular, bond prices are bid lower if the expected inflation rate rises as investors demand higher rates of return on their assets. However, for policy-makers, inflation is seen as eroding the value of consumers wages and savings. Central banks will take steps to stop inflation growth, largely by raising short-term interest rates. While this raises borrowing costs in hopes of slowing economic growth, it has the effect of drawing in international capital flows which seek the higher rate of return. This, in turn, leads to the purchase of U.S. dollars and an appreciation in the currency relative to other countries.



Key Questions:

1. What was CPI growth excluding food & energy?
2. How does CPI growth compare to the latest PCE data?
3. How did crude oil prices affect the CPI, and what are future prospects for the energy component?
4. Did weather have an unusual impact on food or apparel prices?
5. Did manufacturers rebates affect motor vehicle sales?



Manufacturing and Trade Inventories and Sales

www.census.gov/mtis/index.html

Released: Mid-month, two months following the reference month.
U.S. Census Bureau, U.S. Department of Commerce

Key Numbers

Where to Look

Total Business Sales	Growth, Trend, Implications for Retail Trade
Total Business Inventories	Planned vs Unplanned Inventory changes
Total Business Inventory-to-Sales Ratio	Stable, Direction, Cause for change

Wholesale business inventories and sales link the large manufacturing sector to the retail sector. Over the business cycle, inventories keep sales and production in line with each other. Unplanned inventory run-downs lead to higher production while unexpected accumulations lead to cutbacks in output.

Key Points:

1. Unplanned changes in inventories affect production and, ultimately, employment, income, and aggregate demand. However, desired inventory levels may move with actual inventories – an expanding economy will require higher (desired) inventory levels to maintain a constant inventory-to-sales ratio.
2. If imports fill a significant share of inventory needs, then any inventory adjustments made in the overall economy may have a smaller effect on domestic production.
3. **Quarterly GDP** estimates are released initially using only two months of business inventories, leaving the final month to be forecast. Combined with difficulties in deflating nominal inventory figures for real GDP estimates, initial GDP data can be revised sharply in subsequent releases.

Key Questions:

1. Are inventories rising / falling faster than demand / sales?
2. Is the inventories-to-sales ratio changing?
3. Are inventory run-downs / accumulations planned?

International Trade in Goods and Services

www.bea.gov/newsreleases/international/trade/tradnewsrelease.htm
www.census.gov/econ/indicators/index.html

Released: First week of second month following the reference month.
 U.S. Census Bureau, U.S. Department of Commerce

Preliminary release in the Monthly Advance Economic Indicators Report
 Last week of month following the reference month
 Bureau of Economic Analysis (BEA), U.S. Department of Commerce

Key Numbers

Where to Look

Trade Balance	Causes of Δ balance, Trend, Current Account effect
Goods Balance	Exports vs Imports (Net Change)
Services Balance	Exports vs Imports (Net Change)
Goods Exports	Growth, Trend
Goods Imports	Growth, Trend

The international trade release provides a timely look at the U.S. foreign trade sector, including both goods and services. It represents an important piece of the economic picture as it reflects the strength of domestic demand for foreign imports relative to foreign demand for U.S. exports. Because of the interaction between different countries, changes in trade flows also affect the value of the U.S. dollar and other currencies in foreign exchange markets.

As global trade flows have grown over the past few decades, the trade sector has become an increasingly important way for countries to expand. For example, U.S. merchandise exports and imports have grown from 3.9% and 2.9% of economic growth respectively in 1960 to 12.5% and 15.5% in 2015. That is, domestic demand has been met increasingly by imports, while external markets have played a major role in the growth of domestic manufacturing output.

The trade data are derived using a diverse set of methodologies and definitions. These include a wide assortment of data received from other countries. While other Census Bureau data are derived from surveys, trade data are based on physical shipments. Data on exports from the U.S. to countries other than Canada come from shippers' export declarations, and are collected by the U.S. Customs Service. Exports to Canada are measured using Statistics Canada figures for imports from the U.S. (Similarly, Canada measures exports using U.S. import data).

The **Advance Economic Indicator Report** (Census Bureau) is a more recent publication that was created to provide advance statistics for U.S. International Trade in Goods, domestic retail inventories, and domestic wholesale inventories. The goal was to deliver more timely estimates and improve the quality of the inputs to the Advance GDP estimate, which has historically been calculated with only partially updated data (see page 38).



Key Points:

1. The analysis of trade flows is used to help explain changes in other demand sectors. Unexpected increases in inventories can imply a downturn in domestic production if the run-up in inventories is not offset by rising imports – foreign production falls instead.
2. Trade patterns change slowly due to the long lags caused by the time period between contracts being signed and shipments being made. The main factors affecting trade flows are large exchange rate movements, changes in tariffs or subsidies, changes in income, and the availability of foreign substitutes. These factors have a small impact on a month-to-month basis.

Implications for Other Indicators:

The trade data play a role in two other monthly releases that are part of the **Balance of Payments Accounts**:

1. The Census Bureau's goods and services data are used as direct inputs into figures for monthly exports and imports on a balance-of-payments basis for the **Current Account Report**. The merchandise trade data are combined with similar balances for investment income, and transfers (foreign aid) data for the complete account picture.
2. The data are also used in the international trade component of exports and imports in **GDP**. Aside from inventories, they provide the final piece of the quarterly GDP figure, and act as an important indicator for growth. A widening or narrowing trade balance can affect the strength of the current quarter. Monthly constant-dollar export, import, and balance data are used to project the current quarter net exports component of real GDP -- monthly data must be summed and annualized for estimates of the GDP trade components.

Implications for Markets:

The financial effects from trade data are complex. As foreign exchange markets react to international trade flows, money and credit markets move as well. A surge in U.S. imports can cause a depreciation in the U.S. dollar as imports, paid with U.S. dollars, lead to an increase in foreign holdings of dollars and a decline in the exchange value of the currency. This increases import prices and decreases income growth in the U.S. as dollars used for imports go abroad. Eventually, imports are decreased due to weak income growth and higher import prices. At the same time, foreign growth increases due to U.S. imports and now cheaper U.S. exports.

In the late 1990s, strong U.S. growth and relatively tight monetary policy caused a large appreciation of the U.S. dollar, leading U.S. goods to be expensive to foreigners and foreign goods cheap to U.S. residents. The effects of this were two-fold: first, inflationary pressures eased due to the cheaper import prices. That allowed interest rates to decline relative to foreign rates, and it had a stimulative effect on domestic production and employment in industries requiring foreign inputs. The second result was a huge worsening in the trade deficit that continues to require heavy foreign borrowing each year. This necessitated raising interest rates to attract foreign investors and led to large net inflows of investment income from foreigners, further boosting the value of the currency. These flows are described in more detail under the **Treasury International Capital (TIC) Data**.

Note that while most of the attention on the trade figures tends to focus on the impact on the value of the currency, solely focusing on bilateral exchange rates ignores the impact of changes in trade patterns on the overall level of exports and imports. A sharp depreciation in the U.S. dollar against its major partners can still lead to increasing imports from less industrialized countries that experience little or no appreciation against the dollar.

Key Questions:

1. How is net real export growth, and what are the implications for real GDP?
2. Is the increase in imports caused by a sustainable rise in domestic demand or only special timing factors?
3. Are higher imports in late summer due to early Christmas shipments?
4. Is import growth due to pending import restrictions (i.e. temporary front-loading)?

Treasury International Capital (TIC) Data

www.treasury.gov/resource-center/data-chart-center/tic/Pages/index.aspx

Released: Mid-month of second month following the reference month.

U.S. Department of the Treasury

Key Numbers

Where to Look

Net Long-Term Flows (net foreign purchases of long-term securities)	Domestic vs Foreign purchases, International Trade Deficit, Capital Account impact
Domestic Securities Purchased, net	Purchases vs Sales, Trend
Official, net (net foreign purchases of long-term securities by central banks)	Foreign official institutions vs private investors
Foreign Securities Purchased, net (by U.S. residents.)	Purchases vs Sales, Trend

The Treasury International Capital (TIC) system reports international investment flows and positions between the United States and other countries. These data are modified and then included in the Bureau of Economic Analysis **Financial Account and Balance of Payments** release. In recent years, record deficits on the International Trade and Current Account Balances have increased attention on the TIC release. The BEA uses the data to determine how the Balance of Payments shortfall has been financed and the Federal Reserve considers the data in setting monetary and credit policies.

Key Points:

The data represent transactions between U.S. residents (individuals, corporations, foreign subsidiaries) and counterparties located outside the U.S. Included are six classes of securities: U.S. Treasury bonds and notes, government corporate bonds, corporate bonds, equities, foreign bonds, and foreign equities. In the data release, purchases and sales of securities are netted, such that a positive difference indicates a net foreign purchase from U.S. residents (*U.S. capital inflow*) and a negative difference represents net foreign sales to U.S. residents (*U.S. capital outflow*).

Implications for Other Indicators:

The TIC data produced by the Treasury Department are adjusted by the BEA to align it with its **Balance of Payments** paradigm and are recorded as financial account flows in the *International Transactions Account*. Alterations are done to fix differences that exist in the accounting for commissions and underwriting fees and to close gaps in coverage due to the under-reporting of stock swaps in M&A transactions.

Implications for Markets:

Currency values are increasingly driven by capital flows. International trade and current account deficits (U.S. dollar selling) need to be financed to keep the U.S. dollar stable. The TIC data act as a gauge of how willing foreigners are to finance the deficit (U.S. dollar buying). The currency can suffer if, in the face of mounting current account deficits, the TIC report shows smaller than expected net foreign purchases. Favourable interest rate



differentials in the U.S. can make fixed income assets attractive to foreign central banks and investors and help to support the U.S dollar.

Key Questions:

1. How do the net foreign purchases of U.S. securities compare to the U.S. trade balance? Do the capital inflows "cover" the trade deficit?
2. Who were the primary buyers of U.S. securities, central banks (official) or foreign residents (private)?



Construction Indicators

The construction industry is very cyclical and can have a large impact on the overall economy. Permits and starts reflect plans for construction activity, sales echo housing demand, and outlays are a real measure of actual production in the sector.

The following data are compiled by the Census Bureau of the U.S. Department of Commerce.

Housing Starts and Building Permits

www.census.gov/construction/nrc/pdf/newresconst.pdf

Released: Mid-month following the reference month. Revised for the prior two months.

Key Numbers

Where to Look

Total Housing Starts (Units, 000s, SAAR)	Trend, Single vs Multiple units, Interest Rates, Weather, Demographics
Total Housing Permits (Units, 000s, SAAR)	Use as forecast for starts, Overhang of existing permits, Personal Income

These are the main construction indicators since starts and permits reflect the health of the housing industry and tend to be leading indicators for the national economy. Where starts reflect current activity, permits are usually exercised in the following one to two months after issuance, although some can remain unexercised or be exercised at a later date. In multi-family apartment buildings, each separate unit is counted as one housing start.

Value of New Construction Put in Place

www.census.gov/construction/c30/c30index.html

Released: First business day of second month following the reference month.
Two months revised.

Key Numbers

Where to Look

Total Construction Spending (\$Bn, 2005\$Bn)	Trend, GDP implications, Residential Investment vs Housing Starts
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The construction spending data is the most comprehensive indicator of national construction and it reports on newly completed structures. As a result, it is a lagging indicator. The release is used to estimate the **investment in structures component** of expenditures in GDP.

New Home Sales

www.census.gov/construction/nrs/pdf/newressales.pdf

Released: End of month following the reference month. Revised for the previous month.

Key Numbers

Where to Look

Volume of Sales (Units, 000s, SAAR)	Trend, Impact from Interest rates, Inventories, Prices
Median Price (\$)	Trend, Growth



The volume of new sales is a good indicator of housing demand, and the trend in median house prices provides a good indication of price appreciation. Data is timely and is used in conjunction with the existing home sales release.

Existing Home Sales

www.realtor.org/topics/existing-home-sales

Released: End of month following the reference month. Revisions to the prior month.
National Association of Realtors

Key Numbers

Where to Look

Volume of Sales (Units, Mns, SAAR)

Trend, Impact from Interest rates, Inventories, Prices

Median Price (\$)

Trend, Growth

The value of sales of existing homes leads activity in the new home construction market and is a leading indicator for housing demand. Rising sales can deplete inventories and increase prices, leading buyers to build a new home. Changes in the median house price also indicate a change in the type of houses sold (high-end versus low-end). According to the National Association of Realtors, the majority of transactions are reported when the sales contract is closed, which may take 30 – 60 business days. For this reason, unlike New Home Sales, Existing Home Sales most likely involves a sales contract that was signed a month or two prior to the reference month.



Gross Domestic Product

www.bea.gov/newsreleases/national/gdp/gdpnewsrelease.htm

Released: Quarterly, *Advanced* estimate — Fourth week following the reference month.
Preliminary and *Final* estimates — Subsequent two month ends.
BEA, U.S. Department of Commerce

Key Numbers

Where to Look

Gross Domestic Product (SAAR)	Growth, Trend
Final Domestic Demand (GDP ex. Net Exports)	Domestic Growth vs Trade Growth
Personal Consumption Expenditure	Durables vs Nondurables vs Services
Private (Business) Investment	Nondefence Capital Goods Orders, Future GDP growth
Inventory	Output demand, Future GDP growth or Inventory run-down
Net Exports	Exports (foreign demand) vs Imports (domestic demand)
Implicit Price Deflator	CPI growth
Chain-Price Index	CPI growth
Final Sales (GDP ex. inventories)	Boost or drag from inventories
Corporate Profits (Preliminary GDP Release)	Company health, Stock and Bond market implications

The most comprehensive measure of economic activity in a country is Gross Domestic Product (GDP). In particular, real GDP provides a broad sectoral breakdown of the output of goods and services provided by the labour and property located within the borders of the country. The GDP report provides in-depth information on supply and demand conditions over the business cycle. Although the GDP measure is a quarterly figure, it is released on a monthly basis, beginning with an advanced estimate and two subsequent revisions over the following two months. Annual revisions are released in July with the advanced Q2 release; benchmark revisions occur every five years.

In January 1996, the BEA completed a major re-benchmarking of real GDP data and changed the definition from constant-dollar to chain-weighted GDP. Chain-weighted GDP differs from constant-dollar in terms of the price index methodology used to deflate the individual nominal GDP components which are summed to get real GDP. The change came about due to problems with the fixed price (Lespeyres) weights used in the constant-dollar calculation. The chain-weighted (Fisher) price index has expenditure weights that are updated annually and allow consumers to substitute lower priced goods for higher priced goods when relative prices change to keep utility constant. Conversely, fixed price indexes hold the basket of goods and services constant (not updating for changes in expenditure patterns), causing a substitution bias that in the long run leads to an overstatement of real growth following the base period and an understatement prior to the base period.

Real (deflated) GDP using chain-weighted price indexes does not have a strict base year like constant-dollar series, although chained 2009 dollars are used to facilitate comparisons. The BEA "chains" together deflated GDP data in index form with annually updated weights. While this method improves historical comparisons of real GDP and its components, the weighting scheme causes the dollar value of the components to not sum exactly to the aggregate GDP



figure. This complication means that there is a “**residual**” value between the sum of the chain components and the aggregate chain-dollar value.

In October 1999, the Comprehensive Revision led the GDP series to be revised back to 1959, updating the base year for chained-dollar estimates from 1992 to 1996. Further changes included business and government purchases of software being recognized as investment, rather than an intermediate good (this caused a slight boost in GDP growth rates), and government employee retirement plan savings to be shifted from government savings to personal savings (raising the personal savings rate from 0.5% to 3.7% in 1998).

Key Points:

The GDP series can be derived using three alternative methods: *i*) sum of expenditures, *ii*) sum of incomes, or *iii*) sum of value added. While all three methods should produce the same result, imperfect data and differing timeliness make the *expenditure series* the most readily available and followed series. Broken down into its major components, GDP is derived as:

GDP = Personal Consumption Expenditure (PCE) + Gross Private Domestic Investment (PDI) + Government Consumption Expenditure (GE) + Net Exports (NE) + Residual

Personal consumption expenditures (69% of GDP) – monthly personal income and consumption figures are averaged to produce quarterly GDP numbers

Gross private investment (17%) – data is split between fixed private investment and business inventory investment, with the former subdivided between non-residential (structures and producers durable equipment) and residential investment.

Government expenditures and investment (17%) – the data is split between federal and state & local sub-components and covers consumption (84%) and gross investment (16%).

Net exports (exports +13%, imports -16%) – the difference between exports and imports of goods and services.

Inventory investment is an important component for analyzing the strength of the economy. It is the **change** in business inventories from the previous period, **it is not the level of inventories**. Where the level of GDP is affected by the change in inventory levels, GDP growth uses the second difference in inventories. Investment increases when inventories rise, although if sales outpace inventory building, inventories decline and investment turns negative. For inventory contribution to be positive, inventories must be rising at a faster rate each period (or falling at a slower pace).

Real vs Nominal: What’s the Difference?

The vast majority of economic news that is reported by the media and analysts is done on a current-dollar or “nominal” basis. This is because in the world around us, goods and services are exclusively quoted in current money terms. However, when making comparisons between assets over time, the impact of inflation can lead to an erosion of the yardstick (dollar value) being used, lessening the worth of the analysis being performed. To combat this, much of the data released by statistical agencies is compiled and analyzed in both current-dollar terms and constant-dollar “real” terms. Analysts are interested in how volumes are moving through the economy, and by deflating nominal figures by their corresponding price deflators, one can



produce real values. This is particularly key with GDP and its expenditure-side components, which measure the growth in volumes using 2009 dollars.

GDP Price Deflators and Indexes

GDP deflators measure inflation across all sectors of the economy. The most commonly used deflators are chain-type, implicit, and fixed-weighted. The implicit deflator is the ratio of nominal to real (chain-weighted) GDP. The weights for the real components change each year as a result of changes in weights for component price indexes. The implicit deflator growth rates are generally the same as the chain-type index. The recognition of the substitution bias has led the fixed-weighted GDP deflator to be given less attention than the other two indexes.

Price data come from a variety of sources and are used as deflators for specific real GDP components. For example, the CPI is used for deflating nominal personal consumption components.

Import prices do have an impact on the GDP deflators. Both nominal and real imports are used in the calculation of deflators, and imports account for a significant portion of goods and services in GDP. Moreover, imports add competitive price pressures to domestically produced goods, thus affecting domestic goods prices.

Implications for Markets:

The analysis of GDP is done most effectively on a component-by-component basis. The prospects for sustainable long-term economic growth and signals of imbalances can be gained by looking at components. The trends in current growth should also be consistent with other data:

Component

Other Factors

Personal Consumption Expenditure	Income growth, low interest rates, low prices, pent-up demand
Business Fixed Investment	Interest rates, profits outlook, high capacity utilization
Residential Investment	Low interest rates, demographics, pent-up demand
Government Expenditure	Budget revenue projections, planned expenditures, interest rates
Inventories	Level vs expected inventories, change in supply vs demand
New Exports	Strength of currency, income growth

The advance GDP release each quarter does not have complete data available for all months in the quarter. In its place, the BEA makes assumptions based on existing information. The availability of source data is as follows:

GDP Component and Monthly Series	Months Available
Personal Consumption Expenditures	
Retail sales	3
Unit auto and truck sales	3
Consumer shares of auto and truck sales	2
Motor vehicle fuels data	2
Electricity and gas usage and unit-value data	2
Non-residential fixed investment	
Unit auto and truck sales	3
Value of new construction put in place	2
Manufacturers' shipments of machinery & equipment	3
Exports and imports of machinery & equipment	2
Residential investment	
Value of new construction put in place	2
Housing starts	3
Sales of new homes	3
Sales of existing houses	3
Change in business inventories	
Manufacturing and trade inventories	2
Unit auto inventories	3
Net exports of goods and services	
International exports and imports	2
Values of quantities of petroleum imports	2
Government purchases	
Federal government outlays	3
Value of new construction put in place	2
State and local government employment	3
GDP prices	
Consumer price index	3
Producer price index	3
Values and quantities of petroleum imports	2

To meet the market's craving for up to date financial information, some "real time" GDP indicators have been created. **GDPNow** (using real-time data since 2011) is produced by the Atlanta Federal Reserve Bank and provides a forecast for real GDP in the current quarter. It is updated 6-7 times per month as other government and private sector data is released. Separately, the NY Fed publishes the **FRBNY Nowcast** model of real GDP (created April 2016 and updated Fridays) to complement its traditional forecasting methods. The models use different methodologies and as a result can generate different forecasts.



Key Questions:

1. How did personal consumption affect overall GDP growth? Were there incentives affecting sales?
2. How was business fixed investment growth split between producers' durable equipment and non-residential structures?
3. Did inventories rise and was it planned for? How was final sales (GDP less inventories)?
4. How did the availability of new data impact revisions to GDP?
5. Were net exports affected by changes in export or import prices?



Productivity and Labour Costs

www.bls.gov/lpc/

Two of the economic releases followed closely by the Federal Reserve Board in setting monetary policy are quarterly **Productivity** and **Employment Cost Indexes**. Since they provide a more precise and broader measure of inflationary pressures than other indicators, they are used as signals for the Federal Reserve to tighten or ease monetary conditions to achieve long-term, non-inflationary economic growth.

Productivity and Costs

Released: Quarterly, mid-month following the reference quarter.
BLS, U.S. Department of Labor,

Key Numbers

Where to Look

Non-farm Business Productivity	Growth, Trend
Non-farm Business Unit Labour Costs	Growth, ECI, Average Hourly Earnings
Manufacturing Unit Labour Costs	Growth, ECI, Manufacturing AHE

Productivity, or specifically, **labour productivity** is the ratio of a unit of output (GDP) to a unit of labour input (hours worked). It is considered to be an indicator of inflation due to its inverse relationship to unit labour costs – higher productivity leads to lower unit labour costs. Similarly, productivity is a long-term determinant of wages since rising productivity increases labour's earnings growth. Long-term trends in productivity reflect various underlying trends: *i*) technological improvements in production process, *ii*) increases in capital per worker, *iii*) improvements in worker skills, *iv*) improvements in efficiency of production, and *v*) increases in the share of output in "high-productivity" industries. As a result of these factors, growth in productivity leads to increases in consumer purchasing power and ultimately a higher average standard of living.

In the short run, productivity growth generally follows the business cycle since both output and labour inputs are sensitive to the stage of growth in the economy. Productivity will lead the economy during recoveries as output picks up faster than the workweek and level of employment.

Over the cycle, output surges and declines in response to stronger or weaker demand, while hiring often varies with business expectations. Both of these factors can lead to volatility in the quarterly productivity numbers, although there is little impact on longer-term trends in productivity. While quarterly changes are unaffected by transformations in the quality of the workforce, over long expansions, cyclical changes can reflect alterations in the quality of the average worker if labour supplies become scarce and less productive workers are in demand.

Also contained in the productivity report is **unit labour costs**, which is a broad measure of labour costs. It gauges the cost of labour input (current-dollar compensation) required to produce one unit of output (chain-GDP). The compensation measure used in the calculation includes income sources beyond wages and salaries including tips and bonuses (unlike the **employment cost index** which specifically excludes these items).



Employment Cost Index

www.bls.gov/news.release/pdf/eci.pdf

Released: Quarterly, last week of month following the reference quarter.
BLS, U.S. Department of Labour,

Key Numbers

Where to Look

Total Cost – Civilian Workers	Growth, Trend, Average Hourly Earnings
Wage Component	Growth, Trend
Benefits Component	Growth, Trend
Total Cost – Manufacturing civilian workers	Growth, Trend, Manufacturing AHE

The Employment Cost Index (ECI) is increasingly the most widely followed measure of wage pressures in the economy. It gauges the change in the price of labour, calculated as total compensation per employee hour worked. The sample is broad, including 28,900 occupations in 8,800 establishments, and represents the entire civilian non-farm population excluding the self-employed and unpaid family workers. The value of the ECI is not only its use as a measure of underlying inflation, but also in its use in labour negotiations and a cost-of-living adjustment.

The ECI is the employer's cost for a fixed labour pool and is composed of two compensation components: *wages and salaries* (75%) cover earnings, including bonuses, commissions, and cost-of-living allowance, and employer costs for employee *benefits* (25%), consisting of paid leave, overtime, insurance benefits, and pension & savings plans

Key Points:

1. While the average hourly earnings number is closely watched on a monthly basis for signs of wage inflation, the ECI is the primary measure of labour costs used by the Federal Reserve Board in formulating monetary policy. The ECI also gives the same weight to each category of workers each quarter, thus removing the impact of changes in the composition of the labour force over time. The disaggregation done by the BLS allows for an extremely sensitive and accurate indication of compensation trends.
2. The ECI index is subject to certain downward biases. First, the index does not account for change in wages that accompany promotions or from switching positions for higher paid compensation. Secondly, there is an underestimation that occurs in true labour costs due to the prevalence of stock options as a form of employee compensation. Stock options and ownership programs have grown in use as compensation, with 36% of companies offering such benefits in 1998. However, such options are not included in the ECI measure, and as a result, **the fastest growing component of compensation growth has taken place outside the ECI index.**

Key Questions:

1. How was total compensation growth relative to average hourly earnings growth?
2. Was the increase in labour costs centred in wages and salaries or benefits?



Oil Inventory Releases

The importance of oil prices on the global economy has led to a growing attention on U.S. oil inventory data. Changes in the level of oil inventories influence the price of petroleum products, which further affects producer and ultimately consumer inflation. It can also have an acute impact on “commodity” currencies like the Canadian dollar where it is the most important natural resource export.

There are public and private institutions that measure and publish data on the weekly change in the number of barrels of crude oil (excluding the Strategic Petroleum Reserve) held by U.S. firms. Other key information includes total stockpile levels and oil stocks (at Cushing, Oklahoma), the latter indicating the rate that supplies are moved to end refining markets.

While crude inventories are the headline release, levels of distillates are increasingly important. Distillate is a light petroleum that can be converted into several types of fuels (ie. diesel fuel, heating oil, kerosene, and jet fuel). Distillates has grown in importance as government legislation to raise fuel economy standards and increase the use of renewable fuels has caused a drop in gasoline demand relative to diesel. Diesel fuel is used in diesel engines, such as those in trucks, automobiles, railroad locomotives and agricultural machinery and has been less affected by legislation. Heating oils are used primarily for space heating and electric power generation.

Weekly Petroleum Status Report

www.eia.gov/petroleum/supply/weekly/

Released: Weekly on Wednesdays with the exception of holidays.
U.S. Energy Information Administration

Key Numbers

Where to Look

Crude Output and Stockpiles	Level Change and Trend
Distillate Inventories Level	Level Change and Trend
Diesel Output Level	Level Change and Trend
Kerosene Supply	Level Change and Trend
Gasoline Output	Level Change and Trend

EIA releases weekly U.S. inventory data report that is used as an indicator of direction of oil prices. It conducts seven weekly petroleum supply surveys and combines the data with two weekly petroleum price surveys and data released by Reuters. Petroleum supply estimates are often interpreted as an approximation of petroleum demand. Weekly supply surveys are administered at seven key points along the petroleum production and supply chain:

1. Refineries, fractionators, and gas processing plants
2. Bulk terminals
3. Product pipelines



4. Crude oil stock holders
5. Importers
6. Blenders
7. Fuel ethanol production facilities

Implications for Markets:

An unexpectedly large draw or build in inventories can have an immediate impact on oil-producing countries. Higher inventories imply less production is needed to meet demand and crude prices will fall. A currency depreciation is likely in countries that rely on oil-related revenues.

Key Points:

1. Weekly surveys do not capture petroleum movements.
2. The sampling procedure includes companies based on their size and ensures that approximately 90% of the total volumes are represented in the survey. Companies are required to report and the response rate for the weekly surveys ranges from 95% to 100%.

Key Questions:

1. What is the weekly change of crude oil inventory and production?
2. Is a potential shortage or oversupply of crude oil in the market likely and how will this impact oil prices?

American Petroleum Institute (API) Weekly Statistical Bulletin

www.api.org/products-and-services/statistics/api-weekly-statistical-bulletin

Released: Weekly on Tuesdays with the exception of holidays.
The American Petroleum Institute

Key Numbers

Where to Look

Crude Inventory	Level Change and Trend
Distillate Fuel Oil	Level Change and Trend
Residual Fuel Oil	Level Change and Trend
Kerosene Supply	Level Change and Trend

API publishes a similar report to EIA on a weekly basis. It reports total U.S. and regional crude inventories, data related to refinery operations and production, imports and inventories of four major petroleum products: motor gasoline, kerosene jet fuel, distillate fuel oil, and residual fuel oil. API is a private company and its data and reports are available largely via a subscription.



Key Points:

1. API collects data using the same weekly survey as EIA and although the reporting is voluntary, it covers roughly 90% of the petroleum industry.
2. Both API and EIA publish very similar estimates each week, with the results being within 1% of each other about 70% of the time.

Key Questions:

1. What is the weekly change of crude oil inventory and production?
2. Is a potential shortage or oversupply of crude oil in the market likely and how will this impact oil prices?



C A N A D A

Labour Force Survey

www.statcan.gc.ca

Released: Generally first Friday of the month following the reference month.
Statistics Canada

Key Numbers

Where to Look

Employment	Level Change, Growth, 3-month trend
Unemployment Rate	Trend, Level vs Full Employment
Full-Time employment	Level Change, Growth, Trend
Part-Time employment	Level Change, Growth, Trend
Private-Paid Employment	Compared to Self-Employment

As in the U.S., the employment report is used as an indicator of the health of the domestic economy. Employment trends and break-downs by industry groups highlight the strength in job creation and the implications for future sectoral activity. The unemployment rate is used as an indicator of tightness in labour markets and can foreshadow a future increase in wages.

The Labour Force Survey (LFS) is a survey of 54,000 households conducted during the week of the 15th of each month. The data are not revised on a monthly basis, but are updated annually in February, covering the previous three years. Unlike in the U.S., little data from the LFS is used in the quarterly GDP release.

As with all sample surveys, the LFS data are subject to both sampling and non-sampling errors. While non-sampling errors can be minimized through proper survey design and data collection, sampling errors will always be present as long as the sample size differs from the universe it represents. Statistics Canada estimates that the employment figure has a margin of error of $\pm 66,000$ with 95% confidence and $\pm 33,000$ with 68% confidence. Similarly, unemployment numbers are 95% accurate with a margin of $\pm 47,000$, or 68% confident with $\pm 24,000$.

Key Points:

While the focus on employment in the U.S. is split between the Household and Establishment surveys, analysis of the Canadian labour market tends solely to the LFS and its household figures. The establishment survey is released on a different date and is discussed in greater detail in a subsequent section.

1. There are several differences between the Canadian and U.S. employment data, which have direct impacts on the calculation of the unemployment rate. First, the Canadian labour force is defined to include all persons fifteen years and over, while the U.S. measure begins at sixteen years of age. Second, Canadian unemployment uses a broader measure of active job search than the U.S., raising the number of unemployed. Third, people on layoffs in Canada remain in the labour force as unemployed, while the U.S. drops such workers from the labour force after 30 days.



Taken together, these three measures tend to bias up the Canadian unemployment rate relative to that of the United States.

2. The breakdown of employment between full-time and part-time provide a signal as to whether the jobs that are being created are high quality, long-term positions, or low wage, temporary jobs.
3. Similarly, private paid employment provides a further quality measure for employment. In times of economic growth, most individuals will pursue higher quality paid employment, while economic slumps (when jobs are hard to find) can lead to self-employment, or “jobs of last resort”.

Key Questions:

1. How is the trend in employment growth? Is the growth in full-time or part-time positions? Goods-sector or Service-sector?
2. Is job growth in higher wage, private-paid positions or in lower pay, self-employment?
3. Is the participation rate increasing, or are workers discouraged and falling out of the labour force?



Housing Starts and Building Permits

Housing Starts

www.cmhc-schl.gc.ca

Released: Second week following the reference month.
Canada Mortgage and Housing Corporation (CMHC)

Key Numbers

Where to Look

Total Starts (SAAR)	Trend, Level, Interest rates, Existing Home Sales, Construction Employment, Weather, Demographics
Multiple Units Dwellings	Urban vs Rural growth
Single Unit Dwellings	Individuals vs Developers

Building Permits

www.statcan.gc.ca

Released: First week of month, two months following the reference month.
Statistics Canada

Key Numbers

Where to Look

Total Permits (\$ value)	Growth, Trend, Starts, Overhang of existing permits
Residential Permits (\$ value)	Growth, Trend, Starts, Forecast for starts
Residential Permits (# of permits)	Not published

Unlike in the U.S., housing starts and permits are not release at the same time, nor by the same agency. Since the permit data is released prior to housing starts, it can be used to forecast the level of new construction. While the *dollar value* of permits is most commonly used, the *number* of permits is a superior indicator of starts as it is not biased by large dollar values of multiple dwellings.

Implications for Markets:

Housing starts are used as an indicator for the health of the consumer sector. As a key interest-sensitive sector, starts are affected by changes in mortgage rates, as the cost of financing impacts on consumers' desire to stay put, move between existing homes, or build their own house. Other factors affecting residential construction include demographics and the point in the business cycle. Housing starts feed through into the GDP accounts through **business gross fixed capital formation (investment) in residential structures**. Weak starts figures can prompt the Bank of Canada to look at easing monetary policy to stimulate consumer spending, and they are seen as a negative for currency, bond, and equity markets.



Key Questions:

1. Were starts concentrated in certain geographic regions or urban centres, or broadly-based?
2. Did unseasonable weather affect starts?
3. Is the level of starts consistent with the rate of growth in the overall economy?
4. Is there a back-log of unexercised permits that will soon turn into starts?



Ivey Purchasing Managers Index

iveypmi.uwo.ca

Released: Fourth business day of each month following the reference month.
Richard Ivey School of Business & Purchasing Management Association of Canada

Key Numbers

Where to Look

Purchasing Index	Is index over 50, Trend
Prices Index	Industrial prices, energy prices
Employment Index	Manufacturing employment growth, Trend
Supplier Deliveries Index	Direction, Manufacturing shipments effect
Inventories Index	Implications for GDP growth

The Ivey PMI is a relatively new index compared to its US counterpart, designed to report on developments amongst Canadian purchasing managers. Commencing in December 2000, the monthly survey reports on activity in five discrete categories across a broad spectrum of the Canadian economy, but focuses on purchases rather than orders.

Purchasing Index

Unlike the U.S., which has national and regional surveys, the Ivey Index is the sole purchasing managers index in Canada. There are 175 participants across the country, including the public and private sectors, who are asked a single question for each category – whether their activities are higher, the same or lower than the previous month. The raw results go directly into the Purchasing Index, which is not a composite index like in the US ISM PMI.

Key Points:

1. The Ivey PMI index is constructed differently from the ISM PMI. In addition to being a discrete series centered on purchases, they index is based on month-end data, rather than mid-month, and is not seasonally-adjusted. The lack of seasonal adjustment can add greater volatility to the Ivey PMI; using a three-month trend can smooth away some of the instability.
2. The indexes are calculated off a base of 50. Surveys are grouped into the percentage showing responses “higher”, “same”, and “lower” than the previous month, the difference between the “higher” and “lower” is divided by two and added (subtracted) from 50 to give the index number. As with the ISM PMI, a reading of 50 indicates no change from the previous month, and index above 50 shows an increase in purchasing activity, and an index below 50 points to a contraction. The same method is used for the other four categories.

Implications for Markets:

The Ivey index has a relatively shorter history than other data, which makes it difficult to assess their effectiveness as economic indicators. In time, this series will carry the weight of other indicators. However, due to the popularity of the ISM PMI in the United States, the Ivey PMI will continue to get attention from financial markets.



Key Questions:

1. Is the PMI index above or below 50? What is the three-month trend?
2. What is the trend on the prices and employment indexes?



Survey of Manufacturing

www.statcan.gc.ca

Released: Third week of month, two months following the reference month.
Statistics Canada

Key Numbers

Where to Look

Shipments	Growth, Trend, Forecast for Exports
Shipments (Manufacturing excluding motor vehicles)	Core shipments growth, Trend
Inventories	Accumulation vs Run-down, Impact on future GDP
Unfilled Orders	Trend, Future Shipments
New Orders	Growth, Trend, Future manufacturing activity
Inventories to Shipments Ratio	Stable, Direction, Cause for change

The monthly survey of manufacturing provides a broad look at the level of activity in the Canadian manufacturing sector. It covers all stages of the manufacturing process, from the placement of new orders to inventory building, and shipments to final customers.

Key Points:

1. New orders are calculated as the sum of shipments and changes in unfilled orders. New orders are often used as a leading indicator of the strength of the economy and future shipments. However, this item can be deceptive as a forecast for production: first, it includes orders shipped during the same month the order was placed and, second, orders can be filled through imports from foreign manufacturers rather than domestic factories.
2. Unfilled orders are reserve orders that have not been shipped but remain active until shipped in the future. These are used as a forecast for future shipments numbers. However, some orders, particularly aircraft, can remain unfilled on the order books for several months, and due to their large value, can have a distorting effect on the manufacturing numbers.

Implications for Markets:

The manufacturing release provides the market with a measure of activity in the factory sector. Weak (or strong) growth in production can be affected by the level of interest rates which slows (stimulates) the demand for goods and production. Shipments are also affected by external factors such as strong foreign economic growth and changes in exchange rates. In Canada, a large portion of these shipments are destined for the U.S. via exports, and include a wide variety of durable goods, including motor vehicles. As a result, Canadian shipments are largely affected by the level of activity in the U.S. manufacturing sector as well as the level of the exchange rate. Thus, monthly shipments are used to forecasts **merchandise exports** for the same month.

Key Questions:

1. What do the shipments numbers imply for merchandise exports?
2. How will changes in inventories affect GDP growth?
3. Are there large unfilled orders to be shipped in the coming months? Aircraft?



Canadian International Merchandise Trade

www.statcan.gc.ca

Released: Mid-month, two months following the reference month.
Statistics Canada

Key Numbers

Where to Look

Merchandise Balance (Current-dollar)	Trend, Level, Implications for Current Account
Merchandise Exports	Growth, Level, Impact from Manufacturing Shipments
Merchandise Imports	Growth, Level

The monthly trade release in Canada focuses solely on trade in goods and leaves the trade in services for the quarterly **National Accounts** and **Balance of Payments** releases (unlike the U.S. which tracks services on a monthly basis).

Both the nominal export and import values are split into volume (real) and price components, which allows the trade numbers to be scrutinized for signs of shifting trade flows separate from changing import and export prices. In particular, prices can be affected by volatility in world energy prices, thus causing a biased view of the strength in merchandise shipments.

Moreover, the monthly figures can be used to forecast the quarterly **GDP** and **Current Account goods** trade numbers. Quarterly real estimates are simply the sum of the monthly *volume* numbers, with the averages of export and import prices used to derive *values*. Incomplete reporting and imperfect measures can cause data to be subject to large revisions each month, covering the current calendar year and affecting quarterly forecasts. Thus, it can be misleading to use one month's data to form opinions on the state of the trade sector.

Key Questions:

1. What was the cause for the change in the trade balance – exports or imports?
2. How do real exports and imports compare to the nominal figures? How are changes in the terms of trade affecting trade flow patterns?
3. What implications do the trade numbers have for GDP?



The Consumer Price Index

www.statcan.gc.ca

Released: Second or third week following the reference month.
Statistics Canada

Key Numbers

Where to Look

All-items CPI	Month / Month, Year / Year, Trend
Core CPI (excluding food & energy)	Month / Month, Year / Year, Trend
CPI excl. 8 volatile components (Bank of Canada)	Month / Month, Year / Year, Trend
Food	Growth, Weather impact
Energy	Crude Oil prices
Goods	Growth, Trend
Services	Growth, Trend

The Canadian CPI measures the cost of consumer prices in urban centres for a basket of goods and services. The indexes have a base year of 2002 and are broken-down between eight major categories. Data is only revised on an annual basis to adjust for seasonal factors. The two primary indexes are the **All-items** and All-items excluding food and energy, known as **Core CPI**. Because the CPI is intended to be a practical measure of inflation for policy purposes, the exclusion of food and energy is meant to allow policy-makers to track price changes caused by persistent and not temporary factors (i.e. supply shocks, weather). Although changes in food and energy prices are relevant for consumers and businesses, these movements are often beyond the control of monetary policy.

In June 2001, Statistics Canada began publishing one of the Bank of Canada's special aggregate series, **All-items excluding the eight most volatile components**. These include fruit, vegetables, gasoline, oil, natural gas, mortgage interest costs, inter-city transportation, and tobacco products. These excluded components account for 16% of the total CPI basket, compared to 26% when all food and energy goods are removed in the traditional core measure. The intention was to recapture some of the useful and less volatile information that was being excluded in the latter measure. The Bank of Canada further adjusts this series to exclude changes in indirect taxes (i.e. introduction of the GST in 1991, cut in tobacco taxes in 1994) to obtain its own **core measure, CPIX**. (Prior to May 2001, the Bank employed the broader measure of CPI excluding food, energy and indirect taxes as its core.)

Key Points:

While Canadian and U.S. CPI measures are very similar, there are several important differences:

1. The U.S. has a much greater weighting for medical care costs due to the larger share borne by U.S. consumers.
2. The measure of housing costs in the U.S. uses a rental equivalence for homeowners' costs which captures changes in house prices and mortgage interest rates less quickly than the Canadian replacement cost-based measure.

3. Due to the U.S. dollar-denomination of many of the energy components of the CPI, as well as the high import concentration of many consumer goods, there can be upward pressure on Canadian prices in times of a depreciating Canadian dollar.

Implications for Markets:

The CPI is the primary measure of consumer prices in Canada. The importance of the release comes not only in its use for setting cost-of-living adjustments in wage contracts, but as an indicator for the Bank of Canada in setting monetary policy. Sustained increases in prices threaten to erode the value of Canadian dollar assets and increase the cost of living, ultimately slowing economic growth. As a result, the Bank of Canada set out in February 1991 the goal of targeting inflation for a five year period. Initially, an inflationary target band of 2% to 4% was set and the goal was to reduce the **All-items (Total) CPI** to target the 3% midpoint. Over the next few years, as inflation retreated, the target band was reduced to 1% to 3% with a 2% target, and its review period extended. In May 2011, the 1% to 3% target range was renewed until the end of 2016. The Bank continues to conduct monetary policy with the goal of maintaining inflation at the 2% midpoint.

While the formal inflation target relates to total CPI, in reality, the Bank uses its core CPIX measure as an operational guide to policy. Monetary policy can be expected to ease if inflation falls below the 1% bottom band **on a sustained basis**. Similarly, interest rates will increase as monetary policy tightens to slow a prolonged increase in prices above 3%.

Key Questions:

1. How is growth in all-items CPI and core CPI/CPI ex. volatile components compared to trend growth? Is the all-items rate within the 1 to 3% target bands?
2. Is the change in CPI the result of a large move in energy prices and is the change sustainable?
3. Did one-time special factors (i.e. tax changes on tobacco, weather conditions) have an impact on prices? What did the CPIX (ex. indirect taxes) indicate?

Retail Trade

www.statcan.gc.ca

Released: Third week of month, two months following the reference month.
Statistics Canada

Key Numbers

Where to Look

Total Sales	Level, Growth, Trend, Revisions
Sales excluding motor vehicles	Growth, Trend, Revisions
Auto Sales	Retail vs Unit Motor Vehicle Sales
Total Sales (2007\$)	Not published – Implications for Real PCE in GDP

The retail trade release provides a measure of consumer spending broken-down amongst sixteen categories of stores. The sector is dominated by auto sales, which account for over 25% of total retail sales and can have a pronounced impact on overall sales during periods of volatile motor vehicle sales. As a result, retail sales are presented excluding sales at motor and recreational vehicle dealers. Retail data are revised each month for the previous three months.

Key Points:

1. Retail sales are used to estimate the goods portion of **personal consumer expenditures** in the quarterly GDP, and it accounts for about 50% of total PCE. Although real retail sales data is not reported in the release, it is the best indicator of the health of the consumer sector as it excludes the impact from changes in consumer prices, and it feeds through directly into the real GDP estimates.
2. **Department store sales** are released at the same time as the total retail trade figures and are used in calculation of the latter. However, department store merchandise only accounts for about 10% of total retail sales.
3. Nominal retail sales figures are vulnerable to wide swings caused by special factors. Despite seasonal adjustment factors, weather conditions, including snowstorms and abnormal seasonal changes, can have detrimental impacts on sales not accounted for by seasonal adjustment. In addition, sharp changes in goods prices, largely measured by the CPI goods component, can lead to changes in the *value* of sales even when *volumes* are flat. Amongst the largest price movements, rising crude oil prices can translate into higher sales at services stations since the demand for gasoline is largely inelastic to price changes.

Key Questions:

1. How was sales growth, and sales excluding automobiles?
2. Were retail sales affected by extreme changes in prices?
3. What are the implications of real retail sales growth for PCE in the quarterly GDP release?



Payroll, Employment, Earnings, and Hours

www.statcan.gc.ca

Released: Last week of month, two months following the reference month.
Statistics Canada

Key Numbers

Where to Look

Average Hourly Earnings- Floating-weight level	Year / Year growth, 3-month trend
Average Hourly Earnings- Fixed-weight index	Year / Year growth, 3-month trend
Non-farm Average Hourly Earnings	Year / Year growth
Average Weekly Earnings	Growth, Trend

The employment establishment survey in Canada is released with a one month lag to the Labour Force Survey. As a result, little attention is paid to the employment figures in this release. However, the survey provides the only earnings data, which are used as inputs into **labour income** estimates in the GDP release.

The Survey of Employment, Earnings, Payrolls, and Hours (SEPH) is a survey of a broad array of employers, and collects data on the number of employees, average weekly hours (AWH), average hourly earnings (AHE), and average weekly earnings (AWE). AHE measures gross earnings of workers in all industries excluding agriculture, private housekeeping, and the military. Data are revised for the previous month each month.

Key Points:

1. The headline AHE figure is a “floating-weighted” average of workers in different industries. One problem with this measure is that the figure can be biased upwards by large increases in employee hours in high-wage industries (which receive higher weights) relative to low-wage industries. As a result, Statistics Canada publishes a “fixed-weight” AHE index that uses 2002 employee hour weights. This measure also includes salaries as well as hourly wages, and provides a better indicator of the underlying trend in wage rates.
2. **Average weekly earnings** is calculated as total weekly gross taxable payroll income divided by the total number of employees. It measures the change in overall labour income without the impact from changes in total hours. **Average hourly earnings** divides total weekly payrolls by the total weekly hours per paid employee.

Key Questions:

1. How does earnings growth (AHE) compare with goods price inflation (CPI)?
2. Do the fixed and floating weight AHE measures show a consistent trend?



Gross Domestic Product By Industry

www.statcan.gc.ca

Released: Last business day, two months following the reference month.
Statistics Canada

Key Numbers

Where to Look

All industries	Growth, Trend, Revisions, Implications for quarterly GDP
Business Sector	Growth, Trend, Revisions
Non-business Sector	Growth, Trend, Revisions
Industrial Production	Survey of Manufacturing

Instead of producing an advanced quarterly GDP figure and revising it the following two months, Statistics Canada releases monthly estimates of real GDP by Industry. This release breaks down real output by seven goods-producing industries and twelve service-producing industries, and includes special aggregations such as *business sector*, *non-business sector*, and *industrial production (IP)*.

The non-business sector includes service-producing industries including government and community services; the remaining industries are captured under the business sector. Industrial production aggregates output in the manufacturing, mining, and utilities industries.

In May 2001, Statistics Canada changed its monthly GDP by industry measure from Factor Cost to Basic Prices. The move put Canadian estimates of economic activity more in line with those produced by other OECD countries. This change takes the factor cost measure and adds some taxes on production (i.e. property and payroll) and subtracts some (labour-related) subsidies. The result is a GDP measure that is larger than factor cost in value but less than market prices (see discussion below).

In November 2012, the monthly gross domestic product (GDP) by industry data started using 2007 as the reference year for the chained dollar series. The estimates for each industry and aggregate are obtained from a chained volume index multiplied by the industry's value added in 2007. For computation of volume series, Stats Can used Fisher method between 2007 to 2012, and starting January 2013 Laspeyres method is used. This means that to compute the 2013 value for the volume series, 2013 prices are used and compared to the reference year of 2012. This makes the monthly GDP by industry estimates more comparable with the expenditure-based GDP data, which is chained quarterly.

Key Points:

1. There are two main differences between the monthly GDP by industry release and the quarterly GDP, income and expenditure: *i*) the monthly GDP figure measures output based on the costs of the factors of production including net taxes on products and costs associated with the depreciation of capital assets, while quarterly measures are done at market prices which include the impact of all taxes and subsidies that get passed on to the final consumer, *ii*) monthly estimates are generated by aggregating output per industry, whereas quarterly figures aggregate by the type of expenditure (i.e. PCE, GS, Business inventories).



2. The sources of data used for monthly and quarterly estimates often differ and use different weighting schemes. This leads to very different estimates for certain items, such as price deflators. As a result, **the monthly figures are not perfectly correlated with the quarterly numbers.**
3. Where industrial production is a closely watched release in the U.S., it is not widely followed in Canada. The Canadian economy has become increasingly dominated in recent years by services, rather than goods, lessening the importance of the IP measure. However, the goods sector is more vulnerable to wide swings in output compared to services, and exports remain dominated by industrial output. Thus, the report still justifies some attention.

Key Questions:

1. What do the monthly GDP figures imply for the quarterly National Accounts release?
2. Is growth concentrated in any particular sectors? Trade-related or domestic?
3. Did special factors in any sector affect monthly output?

GDP, Income and Expenditure and Balance of Payments

www.statcan.gc.ca

Released: Quarterly, during second month following the reference quarter.
Statistics Canada

GDP, Income and Expenditure

Key Numbers

Where to Look

Expenditure Side

Gross Domestic Product (SAAR)	Qtr / Qtr, Yr. / Yr. growth, Trend, Revisions
Personal Consumption Expenditure	Growth, Trend, Revisions
Net Exports	Exports (foreign demand) vs Imports (domestic demand)
GDP Deflator	Growth, Trend, vs CPI
Final Sales (GDP excluding inventories)	Inventories- boost or drag on growth
Domestic Demand (GDP ex. Net Exports)	Domestic demand vs Trade Growth

Income Side

Wages, Salaries, & Supplementary Income	Growth, Trend, vs AHE
Personal Income	Level, Growth, Trend
Personal Disposable Income	Level, Growth, Real PDI
Personal Savings Rate	Rate, 3-month trend
Corporation Profits before Taxes	Company health, Stock & Bond market implications

In Canada, GDP is released on a quarterly basis as a part of the National Accounts, and each quarter is revised for the current year. Annual revisions occur with the second quarter release, and usually cover the previous four years. Unlike the U.S., only one estimate is produced per quarter, once full data is available for all of the components. As a result, market reactions to preliminary Canadian GDP estimates are based on more reliable information than the advanced U.S. GDP data.

Key Differences With U.S. GDP:

The National Accounts are comprised of both an income and expenditure side, an equal and opposite two-way flow of goods and services. In the U.S., the income side is presented on a monthly basis, and hence the expenditure side receives most of the focus of the quarterly GDP release. In Canada, both sides of the "sheet" are presented in a single Statistics Canada release. Due to the presence of nominal and real estimates, and the broad break-down of components, the expenditure side is the focal point. However, the income side in Canada also includes corporate profits; U.S. profits are first released with the *preliminary* GDP release and revised in the final estimate.

Recent Changes:

In May 2001, Statistics Canada adopted the US method of calculating GDP, using chain-weighted price indexes rather than constant dollar measures. In doing so, it moved away from



the Laspeyres price index, which used prices fixed at 1992 levels, replacing it with the Chain Fisher price index, which updates prices each year. To assist in making comparisons between periods, chained 2007 dollars are used as the new base year.

One of the reasons for making the change was the overstatement in economic growth that occurred when production of a good increased rapidly while its price declined, as was the case in the technology sector in recent years. The chain-weighted method keeps the individual weightings on goods and services as current as possible, removing the need for future re-benchmarking due to updated price weightings. The net impact of this change resulted in a small downward revision to real GDP growth in previous years.

Another change that was made to bring the National Accounts inline with other countries was to treat business and government expenditures on purchasing and developing software as a capital expenditure rather than current expenditure. As a result, in years where software expenditures grow faster than other parts of final expenditures, the result will be a net boost to GDP growth.

Key Questions:

1. Is GDP growth near its Potential level?
2. Is trade or domestic demand driving growth? How does net exports compare to personal consumption?
3. Is the GDP deflator showing signs of inflation?
4. Has inventory changes affected current growth? What are future growth prospects?

Canada's Balance of International Payments

Key Points

Current Account Balance
 Merchandise Balance
 Services Balance
 Investment Balance

Where to Look

SAAR, Level, Trend
 Surplus / Deficit, Trend
 Surplus / Deficit, Trend
 Surplus / Deficit, Trend

The Balance of Payments (BOP) accounts for transactions between Canada and other countries. The **Current Account** records the flows of goods and services, investment income, and unilateral transfers. On the other side of the ledger, the **Capital Account** records changes in foreign holdings of Canadian assets netted from Canadian holdings of foreign assets.



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