



Economic Research



Understanding US Economic Statistics

Fifth Edition

Revised

Important disclosures appear on the back cover of this publication.

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Section I. Introduction to the Fifth Edition

The importance of economic data to financial market participants has steadily increased in recent years. This reflects both improvements in technology that have helped to facilitate the dissemination of economic information instantly throughout the financial markets and the increasing sophistication of financial market participants in evaluating the significance of this new information for financial asset prices. To keep abreast of these developments, we have revised our booklet, *Understanding US Economic Statistics*.

In this edition, we have added a new section that explains the purpose, construction, and use of the Goldman Sachs Financial Conditions Index (GSFCI). We believe the GSFCI has considerable value in assessing how changes in monetary policy are transmitted to the real economy via changes in financial variables. Additionally, this index has gained acceptance by many analysts and policy officials, who find it to be a useful tool for assessing financial conditions.

We also have expanded and retitled the section on “Federal Reserve Policy Disclosures and Tools,” beginning on page 68. This section now describes the methods used by the Federal Open Market Committee to reveal its monetary policy decisions on official meeting dates and other occasions, as well as the practices for releasing summary minutes and verbatim transcripts from those meetings. Finally, in this Fifth Edition we have included the World-Wide-Web addresses for the great bulk of the many statistical releases. This should enable readers to access promptly the latest information available for most time series¹.

As in earlier editions of this handbook, we have tried to be comprehensive in our presentations without being pedantic or exhaustive. The fact is that some economic statistics are simply not very important for practitioners. We have also tried to be thorough without providing useless information—not all the data contained in any particular release are of equal value. In our discussion, we have tried to provide guidance on the reliability and worthiness of various economic data series. Often, this is based on judgment developed through several decades of experience working with these data.

Above all, we have tried to keep this booklet as user-friendly as possible. As always, we welcome your comments, suggestions, and questions.

The US Economic Research Group
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¹ The web addresses shown for the indicators in this volume were those we understood to be in use at the time of its initial publication. Readers should be aware that these addresses are subject to change at any time.

Section II. A Primer on Seasonal Adjustments

The seasonal adjustment process strives to eliminate those changes in the data that are due to differences in the time of the year (*e.g.*, the fall in retail sales in January following Christmas) or due to calendar effects (*e.g.*, shifts in the number of business days in a month). The idea is that seasonally adjusted data allow one to examine sequential changes from week to week or from month to month. If all investors had to rely on were not-seasonally adjusted data, then they would be stuck with only making year-over-year comparisons, which would make it more difficult to assess short-term changes in momentum.

The actual process of seasonal adjustment is complicated, but it boils down to this: For any given month, ratios of its observations to those for the adjacent months are computed for a period of several years—at least three but often five or seven. This process is repeated for each month, and the results are calibrated so that the resulting seasonal factors average to one. Thus, a seasonal factor of 0.90 for a given month means that the raw, unadjusted figure tends to be 10% below average.² If data are available for a longer stretch of time, the whole process is rolled forward one year and repeated until the latest period has been covered.

Only the last several years of data are typically used in computing seasonal factors because the idea is to allow the seasonal factors to move over time. Such changes can occur for various reasons—demographic change, the shifting impact of major holidays, etc.

Housing provides a good example of why seasonal factors might shift over time. Because the climate is milder in the South and West, seasonal patterns are more moderate for starts in those regions. Thus, as the population migrates toward these parts of the country, the seasonal pattern in housing starts should moderate. This is one reason why the January seasonal factor has moved up (signifying less weakness) since the late 1970s, although changes in the severity of winter weather have also played a role. As another example, in recent years retailers have reported a higher propensity on the part of value-conscious consumers to put off holiday purchases until the January sales. In time, this should soften the seasonal sales patterns, although so far the evidence of this is weak.

Apart from seasonal, cyclical, and secular forces, economic activity is sometimes affected by random or nonrecurring events, such as unusual weather, natural

² The use of ratios assumes that the forces giving rise to the seasonal variation cause the variable in question (*e.g.*, housing starts) to rise or fall by some percentage of its base level. Seasonal factors computed in this fashion are called multiplicative. The process can also be cast in terms of differences, in which case the seasonal factors are additive and sum to zero, with negative factors indicating a lower-than-normal level of activity.

disasters, or regulatory changes. Such events muddy the calculation of seasonal factors. For example, from November 1999 through March 2000, the weather was unusually mild and dry in the United States. The seasonal decline in construction activity that normally occurs from October through January was therefore smaller than normal, resulting in a large seasonally adjusted increase in this sector. When the time came to recalculate seasonal factors for 2001, government statisticians then faced the following dilemma: To what extent should the strength observed in the winter of 2000 be treated as a one-off aberration in the weather, and therefore discounted in future seasonal adjustments, as opposed to an ongoing change toward milder winters due, say, to global warming?

The hard truth is that no one will know for sure until several more winters have passed. But in the estimation of seasonal factors some decision has to be made. The traditional approach has been to set a limit on how far the result for any month can deviate from its norm. Outcomes that exceed this limit would then be thrown out of the calculation. More recently, seasonal adjustment programs have incorporated sophisticated time-series analysis to estimate how much of any given observation is due to random versus other factors.

The impact of such distortions is especially large in periods, like the winter, when activity is typically low for seasonal reasons. This is because the seasonally adjusted figure is derived by dividing the raw figure by the seasonal factor. If the seasonal factor is well below one, this will tend to magnify the distortion.

Although financial market participants often scoff at seasonal adjustment because it seems so arbitrary and subject to fault, many of them implicitly recognize its importance by focusing on year-to-year changes rather than sequential month-to-month or quarter-to-quarter changes. In the context of the foregoing discussion, the limitations of this approach should be transparent: Whereas conventional seasonal adjustment combines the experience of several years in order to rule out or dampen the effect of extreme outcomes, reliance on year-to-year changes implicitly sets up the preceding year as the only relevant experience. Analysts often recognize this problem by noting that the year-earlier period stands as an “easy” or “difficult” comparison. Such a characterization implies that the year-earlier results should be discounted in some fashion, but goes no further. In contrast, seasonal adjustment programs provide a method for doing so on a systematic and statistically defensible basis.

Like any procedure, seasonal adjustment is not well-suited to handle every problem of a seasonal nature, and it sometimes breaks down on those it is designed to handle. Easter stands out as a clear example of the former. Many families boost spending on apparel and other items as Easter approaches (though this merely returns the level of spending to about its norm after the

January/February slump). However, because the timing of Easter varies from one year to the next, its impact on spending in March versus April is hard to pin down.

Breakdowns in the seasonal adjustment process also occur from time to time. One such occurrence emerged in the US international trade accounts several years ago. During the late 1990s, the seasonally adjusted figures now on record for export growth showed a systematic tendency to surge in the fourth quarter and to weaken in the first. This pattern should not show up with such regularity in data that have been properly adjusted for seasonal variation. The reason for it was not entirely clear, although the fact that it is now much less pronounced suggests that the seasonal adjustment process simply took awhile to adapt to changing patterns.

The easiest way to spot such a problem is to compare the growth rate or net change in a variable suspected of inadequate adjustment (exports, in the foregoing example) with a centered moving average computed over a period of about one year (*e.g.*, 5 quarters or 13 months). If the growth rate is systematically higher or lower than the centered moving average, that suggests a seasonal adjustment problem exists.

In summary, seasonal adjustment is an indispensable tool in economic analysis, but one that is far from infallible. When atypical events have occurred, such as unusual weather, the seasonally adjusted data should generally not be taken literally because the seasonal factors will not have been able to anticipate such a development. Under more normal circumstances, however, seasonal adjustment is very useful as it allows one to determine how the economy is behaving currently, rather than forcing the observer to base his or her judgment solely on the performance over the past year.

Ed McKelvey

Section III. Which Economic Data Have the Biggest Impact on Financial Asset Prices?

There are three primary criteria for determining which economic releases will tend to have the greatest market-moving significance over time:

1. Relevance to the overall economy

Statistical releases that provide information about large segments of the economy, or that relate to the more volatile, cyclical components of business activity, will generally receive more weight from market participants. For example, figures on retail sales are bound to be of great interest because consumption spending comprises approximately two-thirds of total US economic activity, and within overall personal outlays it is the demand for retail goods that usually displays the greatest cyclical variation.

2. Timeliness of the information

Financial market participants are always seeking the latest news, and therefore they normally will assign more importance to information culled from the recent past, rather than belated reports or updates covering earlier months. Some releases are clearly superior on this point. For example, the national purchasing managers' survey is issued on the first business day of each month and provides results from the month just past. Other reports, however, fall down in the area of timeliness. The final report on quarterly GDP comes out nearly three full months after the period has passed, which typically makes it very stale by market standards.

3. The reliability of the data

There is a broad range of quality evident in the numerous economic series described in this handbook. In some cases, the figures may be subject to large subsequent revisions (*e.g.*, new, single-family home sales), and the knowledge of that risk may substantially reduce the attention paid by market participants. In addition, some series display a high degree of short-term volatility, which makes it necessary to either exclude portions that can be identified as especially variable (such as civilian aircraft bookings in the durable goods orders report) or to smooth the data via moving averages in order to discern their underlying behavior.

Beyond these general considerations, when attempting to assess which statistical reports should or will possess the greatest degree of market-moving power, it is crucial to take account of the broad economic and policy environment in which they are placed. In particular, there are two key contextual issues:

1. The stage of the business cycle

At early stages of a business expansion, the economy has plenty of slack with which to grow without causing potentially inflationary imbalances, and the Fed is typically in a neutral-to-accommodative policy mode. Under those circumstances, as well as in business recession periods, market anxieties with respect to inflation figures should be at cyclical low points, and the focus tends to be more on data which provide leading signals of demand and production. By contrast, when a business expansion is relatively advanced and capacity is scarce, anxieties about the risks of a pickup in wage and price pressures will be higher, and these reports tend to move up in the ranks of market movers.

2. Structural change and the policy reaction function

The Federal Reserve and other key policy makers will always have an implicit or explicit ranking of matters of concern, and these will appreciably shape the sensitivities of the markets to specific data. Additionally, over time there are structural changes in the economy which make certain indicators more or less reliable as signals of broad business conditions or prospects. An example that encompasses both of these is the dramatic decline in the attention paid by the markets to the weekly money supply statistics. In the early 1980s, the Fed was directly targeting nonborrowed bank reserves, which meant that developments in the money stock and the related demands among banks for those dollar reserves were the primary determinant of current and prospective short-term interest rates. Thus, for a few years the money supply figures were by far the dominant statistical reports for generating market price action. Those days are long gone, though, for two reasons: (1) The Fed stopped targeting bank reserves in late 1982, so the direct link between monetary growth and interest rate changes was broken, and (2) the relationship between changes in money and economic growth broke down, which meant that the money aggregates became much less useful for predicting the future course of spending and production. Thus, both the structural change in the economy and the change in the Fed's policy reaction function have reduced the significance of the money supply as an economic indicator in recent years.

To illustrate the points made in the previous section, we present in the tables which follow a review of the main market-moving economic reports during 2000. Each table presents, in rank order, the largest moves in bond yields, stock prices, and the dollar's exchange value in response to specific economic statistical reports.

The year saw a progression in the economic environment from considerable strength to abrupt weakness. As a result, some economic releases such as

inflation reports were closely followed in the first half, as fears of economic overheating were widespread, but were largely ignored in the second half, as business conditions began to deteriorate. Furthermore, fixed income and currency markets toward the beginning of the year tended to respond to the equity market's reaction to a given economic report more than to the information itself. More conventional patterns of market reactions to data reemerged later in the year.

Daily basis-point changes in the 2-year note yield were used as a proxy in our examination of fixed income market movements. We replaced the 30-year bond with the 2-year note as our benchmark because a dwindling supply of long-term Treasury debt has made the 30-year bond yield increasingly unrepresentative of the entire market.

As noted earlier, fixed income investors began the year eyeing equity market moves and inflation data (see Exhibit 1). Four of the five inflation releases in the top ten occurred before the end of May as the bond market braced for further Fed tightening. However, as the equity market began to weaken and economic growth declined the bond market began to focus almost exclusively on activity data. The employment release, retail sales, NAPM survey, and speeches by Federal Reserve Chairman Greenspan were the top market movers in the second half of 2000, as the bond market looked for signs of a switch to an easing stance by the Fed.

Exhibit 1: Bonds (2-year bond yield, basis points)

Rank	Date	Move (units)	Motivating event/ Data point	Remarks
1.	Jan 3	+14	First trading day	Y2K fears unfounded, stocks soar, bonds suffer
1.	Jul 20	-14	Greenspan Testimony	Greenspan acknowledges reasons for slowdown
3.	Apr. 14	-13	CPI, Industrial Production	Strong inflation and industrial production numbers (stocks falter, bonds rally)
3.	Apr 27	+13	GDP, ECI	Very strong Q1 ECI, GDP
5.	Dec 5	-10	Greenspan speech to America's Community Bankers	Greenspan voices concern about economic weakness
6.	Jan 13	-9	PPI, Retail Sales, Greenspan Testimony	Greenspan praises productivity gains
6.	May 12	+9	PPI, Business Inventories	Benign PPI (stocks soar, bonds suffer)
6.	Jun 2	-9	Employment	Weaker than expected employment data
6.	Sep 1	-9	Employment, NAPM	Weaker than expected employment and NAPM data
10.	Aug 11	+9	Retail sales, PPI	Strong retail sales, tame inflation data
10.	Dec 13	-9	Retail sales, Gore concession	Weak retail sales and end of presidential election

Source: Federal Reserve Board. Standard & Poor's. Our calculations.

Exhibit 2: Equities (S&P 500, percent change)

Rank	Date	Move (units)	Motivating event/ Data point	Remarks
1.	Apr 14	-5.83	CPI, Industrial Production	Strong inflation and industrial production numbers (stocks falter, bonds rally)
2.	Dec 5	+3.89	Greenspan speech to America's Community Bankers	Greenspan voices concern about economic weakness
3.	Jan 28	-2.75	GDP	Blockbuster GDP report
4.	Jan 7	+2.71	Employment	Weak employment data
5.	Mar 21	+2.56	FOMC	Fed raises rates, equity market hopes this is it
6.	Dec 15	-2.15	Industrial production, CPI	Weak industrial production data coupled with in-line inflation figures
7.	Feb 11	-2.10	Retail Sales	Upward revisions raise interest rate fears
8.	Jul 28	-2.05	GDP	Strong GDP report heightens Fed fears
9.	Nov 30	-2.01	Chicago PMI, Personal Income, Claims	Very low Chicago PMI reading, initial unemployment claims rise further
10.	Jun 1	+1.99	NAPM	Weak NAPM numbers

Source: Federal Reserve Board. Standard & Poor's. Our calculations.

Meanwhile the equity market, as measured by daily percent changes in the S&P 500 index, was less interested in economic releases on the whole as the year progressed (see Exhibit 2). In fact, there were only ten notable equity market moves in the second half of the year traceable to economic reports, four of which made the top ten for the full year. Instead the equity market in late 2000 seemed preoccupied with earnings releases and the overall tone of the economy rather than any single economic release. Furthermore, stock investors largely ignored inflation data throughout the year, with only the very strong CPI release of April 14 making the top ten market movers in 2000.

The currency market in 2000—as measured by average percent changes in the dollar/yen and dollar/euro exchange rates—focused on a wide variety of economic releases (see Exhibit 3). Unlike the stock and bond markets, no release succeeded more than twice in producing a sharp swing of the currency market. Earlier in the year, the currency market tended to react to stock market moves and to pay less attention to interest rate differentials. However, as the year progressed, the currency market reverted back to more conventional patterns, and this trend disappeared.

Another way to look at the impact of economic releases on market behavior is by ranking the median absolute value of the price change on the specific dates of these releases (see Exhibit 4). In the fixed income market, broad macroeconomic

Exhibit 3: Dollar (average of percent changes versus euro and yen)

Rank	Date	Move (units)	Motivating event/ Data point	Remarks
1.	Jan 28	+1.58	GDP	Strong 99Q4 GDP heightens interest rate fears
2.	May 26	-1.21	Durable Goods Orders	Weak durable goods orders
3.	Sep 6	+1.24	Productivity	Very strong nonfarm productivity report
4.	Sep 1	-0.97	Employment, NAPM	Weaker-than-expected employment and NAPM data
5.	Jan 14	+0.88	CPI	Tame CPI numbers boost stocks
6.	Apr 14	-0.82	CPI, Industrial Production	Strong inflation and industrial production numbers (stocks falter, bonds rally)
7.	Jun 2	-0.80	Employment	Weak employment data
8.	Jul 28	+0.76	GDP	Strong GDP report heightens Fed fears
9.	Nov 30	-0.73	Chicago PMI, Personal Income, Claims	Very low Chicago PMI reading, initial unemployment claims rise further
10.	Jan 3	-0.72	First trading day	Y2K fears unfounded, stocks soar, bonds suffer

Source: Federal Reserve Board. Standard & Poor's. Our calculations.

statistics such as GDP, the employment cost index, and the employment situation topped the list. For stocks, activity data secured the top three spaces, with the employment situation prompting significantly larger price changes than any other report. Meanwhile, the currency market was most sensitive to data that could indicate the direction of inflation-growth tradeoffs between the US and other countries. GDP, labor productivity, and the employment cost index were the most prominent market movers for currencies.

John Youngdahl/Richard Crump

Exhibit 4: Economic Data Ranked by Their Impact on Financial Asset Prices 2000

Bonds (2-year bond yield, basis points)	Equities (S&P 500, percent change)	Dollar (avg of % changes vs euro and yen)
GDP	Employment	GDP
ECI	GDP	ECI
Employment	Retail Sales	Productivity
CPI	CPI	CPI
NAPM	Productivity	Retail Sales
Durable Goods	Industrial Production	Employment
Retail Sales	NAPM	NAPM
Productivity	PPI	Durable Goods
Industrial Production	Durable Goods	PPI
PPI	ECI	Industrial Production

Source: Federal Reserve Board. Standard & Poor's. Our calculations.

Section IV. The Goldman Sachs Financial Conditions Index

The Goldman Sachs Financial Conditions Index (GSFCI) is our preferred gauge of the status of the overall financial climate in the US, incorporating the effects of monetary policy and also market conditions. It is a weighted average of real 3-month LIBOR, the real A-rated corporate bond yield, the ratio of equity market capitalization to GDP, and the real Goldman Sachs trade-weighted dollar index (GSTWI). The GSFCI is designed to measure the likely impact of those four financial variables on real GDP growth four quarters later.

The GSFCI differs from other popular measures of the monetary policy stance. Unlike the real federal funds rate, for example, it measures monetary policy by looking at variables that directly affect the spending on US-produced goods and services. In contrast, the federal funds rate only has an indirect impact on the real economy, through its impact on financial variables such as the components of the GSFCI. The GSFCI thus measures not only the Fed's actions *per se*, but also how the financial markets transmit these actions to the real economy.

Unlike quantitative measures of money and credit, such as the growth rates of the monetary aggregates, the GSFCI is based on asset prices rather than asset quantities. We believe this is an advantage because the financial innovation of the past 20 years has loosened the link between money and nominal GDP. Also, the banking system has become a less important channel of financial intermediation relative to the financial markets. Conversely, asset prices have become more important for household and corporate spending decisions, as household equity holdings have become more widespread and the corporate bond market has grown in importance.

Despite these advantages, the GSFCI should not be used mechanically for forecasting real GDP growth. After all, a shift in financial conditions is only one possible reason for changes in the growth pace. Fiscal policy, technological innovation, changing commodity prices, and political developments can also have important effects. Another factor arguing against a mechanical usage is that it is not always clear whether the level of the GSFCI or its rate of change is more important for real GDP growth. In our view, both the level and the change are important to watch, but the change probably has a greater impact on near-term economic activity.

The weights of the four variables in the GSFCI were set using the Federal Reserve Board's macroeconomic model of the US economy, FRB/US, along with our own empirical work. This resulted in weights of 35% for real LIBOR, 55% for the real bond yield, and 5% each for the dollar and the equity market cap/GDP ratio.

The weights of the components of the index should not be interpreted as indicating the relative importance of the different variables. That is because the importance of each variable also depends on its volatility. A high-volatility variable with a low weight can be more influential in pushing the GSFCI up or down than a low-volatility variable with a high weight. For example, a 100-basis-point change in 3-month LIBOR is a large change. In contrast, the equity market cap/GDP ratio might move several percentage points in a single day. This means that the weight on 3-month LIBOR must be high relative to the weight for the stock market variable. Thus, the weights do not necessarily have a close relationship to the actual importance of the variables in the index.

More technically, the equation used for calculating the GSFCI is as follows:

$$\text{GSFCI} = 100 + 0.35*(r3m - r3m_{8795}) + 0.55*(rcorp - rcorp_{8795}) + 0.05*100*\ln(\$/\$_{8795}) - 0.05*100*\ln(eq/eq_{8795}),$$

where $r3m$ is the real 3-month LIBOR, $rcorp$ is the real Moody's A-rated corporate bond yield, $\$$ is the real GSTWI, and eq is the equity market capitalization/GDP ratio. Furthermore, the subscript 8795 stands for the average over the 1987 to 1995 period, and 'ln' refers to the natural logarithm of a variable. To convert nominal interest rates into real interest rates, we subtract a six-month moving average of the five-year median expected inflation rate from the University of Michigan's consumer sentiment survey.

The GSFCI is scaled to an index value of 100 (the average level of the index over the 1987-1995 period). A 100-basis-point rise (tightening) in the GSFCI is equivalent to the sum of a 100-basis-point rise in the real 3-month LIBOR and the real Moody's A-rated corporate bond yield, a 1% rise in the real GSTWI, and a 1% fall in the equity market cap/GDP ratio. Assuming only one variable moves, a 100-basis-point rise in the GSFCI could occur if real 3-month LIBOR rose by 286 basis points, the real A-rated corporate bond yield rose by 182 basis points, the market cap/GDP ratio fell by 20%, or the real GSTWI rose by 20%. In practice, the respective contributions of the four components during episodes of GSFCI tightening or easing have varied widely, as shown in the bottom part of Exhibit 1 following.

Jan Hatzius

Exhibit 1: GSFCI: Component Levels for 100 bp Rise in Easing/Tightening Cycles

	Real 3-Month LIBOR (bp)	Real A-Rated Corporate Bond Yield (bp)	Real GSTWI (%)	Stock Market Cap/GDP Ratio (%)
Assuming only one variable moves	+286	0	0	0
	0	+182	0	0
	0	0	+20	0
	0	0	0	-20
Examples from past				
FCI easing cycles:				
Sep 1984 – Apr 1986	-388	-315	-6.5	+30.6
Oct 1987 – Feb 1988	-153	-103	-5.2	-10.5
Jul 1990 – Dec 1991	-331	-59	-0.3	+12.9
Sep 1998 – Nov 1998	-19	+11	-4.6	+8.1
Examples from past				
FCI tightening cycles:				
Mar 1984 – Aug 1984	+133	+52	+6.8	-2.3
Mar 1988 – Feb 1989	+279	+16	+2.3	+1.8
Feb 1994 – Feb 1995	+289	+120	-5.3	-3.9
Jun 1999 – May 2000	+147	+70	+3.6	+4.9

Source: Federal Reserve Board. Department of Commerce. Goldman Sachs.

Section V. Employment, National Output, and Income

The Employment Situation

Source: Department of Labor, Bureau of Labor Statistics (BLS)

Frequency: Monthly

Timing: Usually the first Friday of the following month;
second Friday when the first Friday falls on the 1st
and the prior month had fewer than 31 days

Hour: 8:30 AM³

Address: <http://stats.bls.gov:80/news.release/empsit.nr0.htm>

- National employment statistics are derived from two separate surveys:
 1. A “*household*” survey based on personal interviews covering about 115,000 to 120,000 people in 50,000 households is taken to compute the size of the labor force and the unemployment rate, as well as to compile figures on a broad range of employment conditions based on region, ethnicity, age, gender, and other demographic characteristics.
 2. An “*establishment*” (or “*payroll*”) survey compiles statistics on employment, hours worked, overtime, and wage earnings based on payroll data from about 350,000 business establishments.
- For the purposes of the household survey, a person is considered to be unemployed if he/she does not have a job and is actively seeking employment.
- For the most part, a person is considered “employed” for the purposes of the payroll survey if he/she is on a firm’s payroll for any part of the pay period that includes the survey week. In an exception to this rule, federal government employment is measured at the end of each month.
- The household and payroll employment surveys tend to move in tandem over long periods, but they often diverge over shorter periods due to measurement differences. For example, an individual holding two jobs will appear twice in the payroll survey, but only once in the household report. On the other hand, the household survey generally will reflect changes in self-employment patterns and new business formations more quickly and accurately than the payroll data, which are based on surveys of established firms.

³ All times mentioned are Eastern Time (typically GMT minus 5 hours).

- Because the payroll survey covers a broader sample of employees and uses industrial classifications, it is generally thought to be the more reliable monthly gauge of employment, output, and income trends, with less month-to-month volatility than the household survey. However, due to the inability to measure new and small business hiring in this sample, it is necessary for government statisticians to incorporate in the payroll statistics an assumption about the net monthly impact of these establishments on employment levels (the so-called “bias adjustment”).
- Strikes do not affect the unemployment rate, since striking workers are counted as employed. Strikers are dropped from their employers’ payrolls, however, so they affect the payroll data if the strike was in progress during all or much of the pay period that included the survey week. The Department of Labor issues monthly figures on the number of persons out on strike.
- Key statistics in the employment report are important guides to understanding, monitoring, and forecasting economic conditions monthly and over longer periods:
 1. *Civilian unemployment rate*—the percentage of the civilian labor force (defined to include those who are either working or actively seeking work) that is unemployed. The unemployment rate lags behind changes in other labor-market data, since most businesses will alter workers’ hours or pay before they begin to add or drop employees. It is used as a measure of the balance between demand and supply in the labor market.
 2. *Change in total nonfarm payroll employment*—the number of payroll jobs added or lost between monthly surveys in the nonagricultural economy. Used by many in the financial markets as a shorthand approximation of the employment report’s overall tone, the change in total payroll jobs directly influences the calculation of personal income earned during the month.
 3. *Change in manufacturing payroll employment*—the number of payroll jobs added/lost in factory businesses. This figure can be broken down further, to reflect employment changes among production workers and in a variety of industries. These can be used to infer the path of industrial production.
 4. *Average nonfarm workweek*—the average number of hours worked per week in nonagricultural businesses. This indicator directly affects the aggregate number of hours worked per week, which in turn can be used to gauge changes in real GDP.

5. *Average workweek in manufacturing*—the average number of hours worked per week by people on factory payrolls. Changes in the factory workweek often lead changes in manufacturing employment, as employers typically will adjust employees' hours before adding or cutting jobs. Shifts in the factory workweek include changes in overtime hours, which are also reported separately. The factory workweek is one of the ten components in the index of leading economic indicators (see pages 32-33).
 6. *Average hourly earnings*—the average earnings of nonfarm payroll employees per hour worked. This monthly wage measure can be a useful indicator of wage inflation, and it is helpful in estimating changes in personal income and the Employment Cost Index, another wage indicator (see page 55).
 7. *Index of aggregate weekly hours*—total hours worked per week by non-supervisory employees in the private nonfarm economy, seasonally adjusted and indexed to a base year of 1982. Changes in growth of aggregate hours worked, adjusted for changes in labor productivity, can be used as a very rough proxy for changes in real GDP growth on a monthly or quarterly basis.
 8. *Payroll employment diffusion*—the percentage of industries reporting an increase in payroll employment. Calculated over one-, three-, and six-month spans for both total private and manufacturing industries, this information indicates the breadth of payroll employment changes and can foreshadow shifts in overall employment.
- The “pool of available workers” is a relatively new statistic in the monthly household survey that is meant to provide a broader measure of under-employment than the standard unemployment rate. In addition to unemployed persons, this measure includes: (1) persons who are not currently in the labor force but would like a job, and (2) persons working part-time for economic reasons. Our analysis suggests that it moves in very close sympathy with the unemployed tally, and therefore provides relatively little marginal information about the degree of slack in the labor supply.
 - Each fall, the Department of Labor compiles data on employed persons from unemployment insurance tax returns in the individual states, which reflect filings by six million business establishments. These “universe count” statistics are used to make annual benchmark revisions to the payroll employment series the following spring. Usually the state numbers do not imply large errors in the national employment estimates, but there have been significant exceptions, especially when the economy is shifting gears. For

example, the data from the states in 1991 prompted a 650,000 (0.6%) downward revision to the level of nonfarm payrolls.

- Beginning with data for January 1994, the BLS introduced a redesigned monthly survey of households that produced: (1) a somewhat higher measurement of unemployment for females, (2) longer durations of unemployment, and (3) a larger number of voluntary part-time workers, as more marginal work for pay or profit was uncovered by the new survey techniques. At the same time, the number of “discouraged workers”—those who wish to be employed but have given up looking for a job—was reduced as the definition was changed to require a recent effort to find employment as well as an expression of discouragement.

Unemployment Insurance Claims

Source: Department of Labor
Frequency: Weekly, for previous week ending Saturday
Timing: Thursday, five days after survey interval
Hour: 8:30 AM
Address: <http://www.dol.gov/cgi-bin/consolid.pl?media+press>

- Reports on weekly unemployment claims include both the initial filings for state unemployment insurance benefits and the total number of persons receiving those payments. The latter series is reported with a one-week lag versus initial claims data.
- The national initial claims statistics are seasonally adjusted, but the state-by-state results (which are released with a one-week lag relative to the national figures) are presented in unadjusted form.
- Both initial and continuing unemployment insurance claims can fluctuate widely from week to week, and therefore, it makes sense to use smoothed averages (*e.g.*, a four-week moving average is popular) when evaluating their behavior. Seasonal adjustment factors for weekly initial claims have been greatly improved, however, so that distortions around holidays tend not to be as dramatic as in past years.
- Changes in the average level of initial unemployment claims are a valuable indicator of the layoff pace, which can be a useful early signal of developments in the labor market. For this reason, The Conference Board uses this series as one of its ten leading economic indicators (see pages 32-33).

Challenger, Gray and Christmas Layoff Announcements

Source: Challenger, Gray and Christmas, Inc.
Frequency: Monthly
Timing: The first week of the following month
Hour: 10:00 AM
Address: <http://www.challengergray.com>

- The outplacement firm Challenger, Gray and Christmas publishes monthly data on gross layoff announcements by US firms.
- These reports serve as an interesting supplement to the initial and continuing unemployment claims reports for assessments of the labor market's health.
- The monthly layoff volume data are presented in unadjusted terms, yet there have been clear seasonal patterns in these announcements over recent years. Therefore, it has been most instructive to focus on year-to-year changes to interpret the patterns of business employment decisions.
- Given that layoff announcements can be clustered, particularly during times in the quarter when companies tend to make negative announcements about revenues and earnings, it makes sense also to examine this information using a smoothing technique such as a three-month moving average.

Help-Wanted Advertising Index

Source: The Conference Board
Frequency: Monthly
Timing: Last Thursday of month for previous month
Hour: 10:00 AM
Address: <http://www.conference-board.org/economics/indicators/index.htm>

- The Conference Board tracks help-wanted advertising volume in the classified sections of 51 leading newspapers in major employment areas across the country.
- Raw advertising volume data are adjusted for each city, based on standard day factors (number of weekdays and Sundays in each month) and seasonal factors for the specific areas. City index levels are then computed using 1987 as a base year. Regional and national index readings are based on a weighted average of the city index results.
- Over the past 40 years, the national help-wanted index has generally been a reliable leading indicator of peaks in total nonfarm payroll employment, but a roughly coincident and sometimes lagging indicator of business cycle and labor market troughs.

- The help-wanted index release does not currently have a notable impact on financial markets, in part because it is released several weeks later than the Labor Department's household and establishment employment surveys. Moreover, it seems probable that over recent years newspaper advertising for job openings has declined as a proportion of overall solicitations for workers, particularly given the growth in Internet job-placement activity and the secular falloff in newspaper circulation.

Gross Domestic Product (GDP)

Source: Department of Commerce, Bureau of Economic Analysis

Frequency: Quarterly data, revised monthly

Timing: About four weeks after month-end

Hour: 8:30 AM

Address: <http://www.bea.doc.gov/bea/rels.htm>

- GDP measures the total value of goods and services produced by people, businesses, governments, and property located in the United States. Data are computed both in nominal (current-dollar) and real (inflation-adjusted) terms, the latter by reference to a 1996 base year. It is typically reported as an annualized quarter-to-quarter percentage change.
- GDP is the broadest available measure of US economic activity. It encompasses the following main categories: (1) personal consumption, (2) business investment in structures, equipment, and software, (3) residential investment, (4) inventory investment, (5) net exports, and (6) government consumption and investment expenditures, both at the federal and the state and local levels. The report estimates the level of activity in these sectors in billions of dollars at annual rates.
- GDP differs from GNP (gross national product) in that it excludes "net factor income," which is the difference between income earned by US residents on property located outside the country and that earned by foreigners on US-based property.
- GDP data for each quarter are reported three times:
 1. *Advance* GDP estimates are released late in the first month following the end of a given quarter (*e.g.*, in late April for the first quarter).
 2. *Preliminary* GDP is released one month later, and contains partial data revisions as well as more complete information on inventories and foreign trade.

3. *Revised* GDP is reported late in the third month after conclusion of the quarter in question. This remains the official GDP estimate until comprehensive annual revisions are made, usually in late July.

- By far the largest component of GDP is personal consumption, which makes up approximately 68% of the total. Other sectors, however, tend to be more volatile, and hence often have a greater influence on quarterly GDP growth patterns.
- Final sales—GDP excluding the change in business inventories—is a widely followed broad measure of demand in the economy. At times, however, final sales can be a misleading gauge of spending activity, particularly when there are large swings in government purchases of farm commodities or net exports. Domestic final sales—defined as final sales minus the net exports balance—measures demand from US-domiciled buyers.
- It is the change in the rate of inventory growth, rather than the absolute pace of stockpile expansion or decline, that influences changes in GDP. Thus, if inventory growth is high but stable from quarter to quarter, it has a neutral impact on GDP growth in that period.
- In 1995, the government began to calculate real GDP using “chain-weighted” indices, rather than the old “fixed-weight” measures. The advantage of the chain-weight methodology is that it automatically rebalances the weights for individual GDP components in the price base each year rather than allowing the base year for this calculation to drift further into the past, which tended to make the deflation from nominal to real data less statistically reliable. One complication of the new system, however, is that individual components of real GDP are no longer additive, as they were before.
- The GDP report also provides information about a number of GDP-based price indexes (see page 51).

Personal Income

Source: Department of Commerce, Bureau of Economic Analysis

Frequency: Monthly

Timing: About four weeks after month-end,
next business day following GDP report

Hour: 8:30 AM

Address: <http://www.bea.doc.gov/bea/rels.htm>

- Personal income measures total pretax income earned by individuals, non-profit organizations, and private trust funds, expressed at an annual rate.

- Wages and salaries are by far the largest component of personal income, comprising about 58% of the total. Other income categories include personal interest income, transfer payments (*e.g.*, Social Security, state unemployment insurance benefits), proprietors' income (both farm and nonfarm), dividend income, and rental income. From the total of these income categories, the value of personal contributions for social insurance is subtracted to arrive at personal income.
- Disposable personal income (DPI) measures personal income less personal tax and nontax payments, and is reported in both nominal and real terms. Changes in real (inflation-adjusted) DPI trends often foreshadow changes in the pattern of real consumer spending behavior.
- Personal saving is calculated by subtracting personal outlays (personal consumption expenditures plus interest payments and net transfers to foreigners) from personal income. The saving figure is reported along with the income statistics, both as an absolute current-dollar level and as a percentage of disposable personal income (which is called the "personal saving rate").

Corporate Profits

Source: Department of Commerce, Bureau of Economic Analysis

Frequency: Quarterly data, revised monthly along with GDP data

Timing: Eight to nine weeks following quarter-end

Hour: 8:30 AM

Address: <http://www.bea.doc.gov/bea/rels.htm> (see GDP releases)

- Corporate profits are reported two ways by the government: "*tax-based*" profits, which are derived from corporate tax returns, and "*adjusted*" profits, which are designed to reflect earnings from current production. Although the tax-based figures are initially the most widely publicized, adjusted profits are generally the more economically meaningful measure.
- Tax-based and adjusted profits are both calculated on pretax and after-tax bases.
- In estimating profits from current production, the Commerce Department makes two main adjustments to the tax-based figures:
 1. The *inventory valuation adjustment* (IVA) removes the inflation-induced capital gains earned by some firms from selling inventories at higher prices than originally purchased.

2. The *capital consumption adjustment* removes the preferential tax treatment of depreciation, standardizing charges to an economic (geometric) basis, and also converts depreciation from a historical to a current-cost basis.

- Strength or weakness in corporate profits often foreshadows increases or decreases in the contribution of capital spending to real GDP growth.
- Profit changes reported by the government can differ from those published by Standard and Poor's Corporation because of several measurement differences. In particular, S&P corporate profits measure the earnings of a selected group of large, publicly traded firms, while the Commerce Department measure covers all firms meeting the official description of a "corporation" (including the Federal Reserve). In addition, while changes in S&P profits are affected by such things as share buybacks and changes in inventory profits due to inflation, the adjusted profit figures reported by the Commerce Department eliminate these influences.

Section VI. Orders, Sectoral Production, and Inventories

National Purchasing Managers' Survey of Manufacturing

Source: National Association of Purchasing Management
Frequency: Monthly
Timing: First business day of following month
Hour: 10:00 AM
Address: <http://www.napm.org/NAPMReport>

- Each month, the National Association of Purchasing Management (NAPM) surveys more than 350 purchasing agents on recent trends in their orders, production, employment, delivery speeds (vendor performance), and inventories, as well as in prices for products they buy. Respondents to the survey are asked whether activity in the various categories has been higher, lower, or unchanged within their firm over the last month.
- The NAPM component indices measure the percentage of purchasing agents reporting higher activity in each area. This is calculated by taking the percent reporting higher activity plus half of those reporting unchanged conditions, then applying a seasonal adjustment factor.
- From the individual components, the NAPM calculates an adjusted composite index by applying the following weights: new orders 30%, production 25%, employment 20%, delivery speeds (vendor performance) 15%, and inventories 10%. The price measure and indices for export and import orders and unfilled order backlogs are not used in compiling the overall NAPM index.
- According to the NAPM, an overall index reading above 50% typically implies that the manufacturing sector of the economy expanded during the month; a reading below that level suggests industrial contraction. Readings below 43%-44% are normally associated with a recession. This is because growth in service sector output and construction can sustain gains for the overall economy when manufacturing weakness is only moderate.
- Vendor performance measures the percentage of purchasing agents who are experiencing slower deliveries from their suppliers. It is a component of the index of leading indicators (see pages 32-33) because it reflects changes in the degree of industrial slack in the economy, which normally lead the business cycle. Vendor performance is also a useful gauge of inflationary pressures. Delivery times typically only lengthen when production bottlenecks or shortages arise and when capacity is being strained, conditions that normally precede an acceleration in price increases.

- This survey is one of the first available reports on business activity for the prior month. Therefore, it can provide an early reading on the performance of the economy's industrial sector, which displays a relatively high degree of cyclical variability.

NAPM Nonmanufacturing Survey

Source: National Association of Purchasing Management
Frequency: Monthly
Timing: Third business day of the month
Hour: 10:00 AM
Address: <http://www.napm.org/NAPMReport>

- In July 1997, the NAPM began to conduct a survey of nonmanufacturing firms that serves as a companion to their long-running and highly useful poll of manufacturing companies. The results were reported to the public beginning with the data covering May 1998, along with the historical data stretching back to the previous summer.
- The nonmanufacturing survey covers 370 purchasing and supply management professionals from more than 62 different sectors of the economy, representing areas such as: agriculture, forestry and fisheries, mining, construction, transportation, communications, wholesale and retail trade, finance, real estate, general services, and public administration.
- Respondents are asked to provide information concerning business activity, new orders, the backlog of orders, new export orders, inventory change, inventory sentiment, imports, prices, employment, and supplier deliveries.
- As in the case of the traditional NAPM survey, the NAPM nonmanufacturing questionnaire requests that each area be described as either higher, lower, or stable for the month. These responses are compiled into diffusion indices, which reflect the percentage of those saying activity was higher in a given area plus one-half of the percent stating that things are stable. Index readings above 50% indicate growth, while those below 50% denote contraction.
- The NAPM began to provide seasonally adjusted results for its composite nonmanufacturing index in 2000, as well as for a few of the survey components (new orders, employment, and import orders). Historical information on this adjusted basis is available back to 1997.
- It is still a bit premature to evaluate the reliability of this indicator, in light of the very short time series that is available. In theory, however, this report could prove to be a valuable, real-time guide to large elements of the

economy for which there is generally a paucity of contemporaneous information.

Chicago Purchasing Managers' Survey

Source: Purchasing Management Association of Chicago
Frequency: Monthly
Timing: Last business day of the month
Hour: 10:00 AM
Address: <http://www.napm-chicago.org/>

- One business day before the NAPM releases results from its monthly manufacturing survey, the Purchasing Management Association of Chicago issues a similar report on factory activity in its region, which covers parts of three states (Illinois, Indiana, and Michigan).
- Like the NAPM data, the Chicago purchasing survey results are presented in the form of diffusion indices, with seasonally adjusted readings above and below 50% implying expansion and contraction, respectively. The overall “Business Barometer Index” represents a weighted average of activity in several areas: production, new orders, order backlogs, inventories, employment, supplier deliveries, and prices. Individual diffusion indices for these areas are also reported.
- It is risky to presume that a move in the Chicago survey necessarily presages similar developments on a national scale. Over the past several years, the Chicago purchasing managers’ index and the NAPM measure have moved in the same direction during a given month only about half the time, and their levels have shown substantial divergences for as long as a few months.

Philadelphia Federal Reserve Bank Business Outlook Survey

Source: Federal Reserve Bank of Philadelphia
Frequency: Monthly
Timing: Third Thursday of each month
Hour: 10:00 AM
Address: <http://www.phil.frb.org/econ/index.html>

- Manufacturing firms in the Philadelphia Federal Reserve district—eastern Pennsylvania, New Jersey, and Delaware—are polled by mail each month on recent developments and expectations with respect to “general conditions” as well as specific sectoral activities.
- Philadelphia Fed bank officials seasonally adjust raw data from this survey, and the results are presented as diffusion indices measuring the difference

between the percentage of respondents seeing improvement and those perceiving deterioration. Thus, a reading above zero implies net growth and a subzero result suggests contraction in the given area.

- The survey provides statistics on the latest month's activities and also respondents' six-month outlook.
- Although the Philadelphia Fed labels its survey based on the month in which it is released, the data are actually drawn from a period that bridges the month in question and the prior month.
- Findings from the Philadelphia Fed business outlook survey usually comprise a portion of that district's contribution to the next edition of the "beige book" (see pages 26-27).
- Since the Philadelphia Fed index on "general conditions" is based on responses to a separate question, instead of a weighted average of other findings, its reading is not strictly comparable to the NAPM and Chicago Purchasing Managers' overall indices.

Kansas City Federal Reserve Bank Manufacturing Survey

Source: Federal Reserve Bank of Kansas City
Frequency: Monthly
Timing: Two weeks after month-end
Hour: 11:00 AM
Address: <http://www.kc.frb.org/mfgsurv/mfgmain.htm>

- The Kansas City Fed bank each month compiles reports from manufacturers about their businesses and computes seasonally adjusted diffusion indices, which are released midway through the following month.
- Items covered are: production, new orders, new export orders, shipments, unfilled orders, supplier deliveries, prices paid, prices received, materials inventories, finished goods inventories, employment, and workweek. An index of national manufacturing activity is also reported.
- This report was changed from a quarterly to a monthly frequency in mid-2001.
- The Kansas City Fed manufacturing survey is relatively new, having been initiated in early 1995. Consequently, there is not much of a track record on which to base an evaluation of its usefulness as a measure of regional activity changes.

Richmond Federal Reserve Bank Survey

Source: Federal Reserve Bank of Richmond
Frequency: Monthly
Timing: Second Tuesday of the month
Hour: 10:00 AM
Address: <http://www.rich.frb.org/research/regional.html>

- Each month, researchers at the Richmond Federal Reserve Bank poll businesses in their district about conditions in the manufacturing, service, and retail sectors.
- Responses for each component are used to calculate diffusion indices, which reflect the difference between those saying conditions have improved versus those experiencing deterioration. On this standard, zero represents a neutral reading.
- The Survey of Service-Producing Firms—which began in November 1993—polls anywhere from 105 to 174 businesses each month. The survey asks about general business activity, revenues or sales, employment, and average employee wages or compensation. Companies in retail and wholesale trade are asked about durable goods sales results, buyer traffic, and inventories.
- Another portion of the services survey requests estimates for recent changes in prices charged as well as expectations for price movements in the next six months. These are reported as a simple arithmetic average.
- The Survey of Manufacturers (also beginning November 1993) includes questions about shipments, new orders, backlogs, inventories of finished goods, employment, the average workweek, and vendor lead times. Another portion requests information about inventories relative to desired levels, and a third covers price trends and expectations for finished goods and raw materials.

Current Economic Conditions (“Beige Book”)

Source: Federal Reserve Board
Frequency: Eight times per year, every six to eight weeks
Timing: Second Wednesday before
Federal Open Market Committee meetings
Hour: 2:00 PM
Address: <http://www.federalreserve.gov/fomc/beigebook/2001/default.htm>

- Prior to scheduled meetings of the policy-setting Federal Open Market Committee (FOMC), each of the 12 Federal Reserve district banks prepares

a report on regional economic and financial conditions. These typically discuss recent developments in retailing, manufacturing, construction, real estate, agriculture, and banking. One of the banks, chosen on a rotating basis, is charged with compiling these surveys and writing a summary of the findings. The resulting document, *Current Economic Conditions*, is one of three books provided to Fed officials as part of their briefing materials for the FOMC meeting.

- The report is popularly known as the “beige book” or “tan book,” owing to the color of the cover that was traditionally used for the briefing book. The other two regular committee briefing documents—a “green book” describing the business climate and outlook and a “blue book” outlining different policy options—are not released to the public.
- Because the “beige book” is based mostly on anecdotal reports from businesses, it can convey a somewhat different impression about the economy than might be gleaned from the latest government figures alone.
- Fed officials historically have not assigned much importance to the “beige book,” due to its anecdotal nature, the balanced, bureaucratic language in which it is normally written, and the backward-looking character of the information. Nevertheless, perhaps because it emanates directly from the central bank, financial markets have occasionally moved substantially in response to a change in the book’s tone.

Durable Goods Orders (Advance Report)

Source: Department of Commerce, Bureau of the Census
Frequency: Monthly
Timing: Three to four weeks after month-end
Hour: 8:30 AM
Address: <http://www.census.gov/indicator/www/m3/adv/index.htm>

- This report measures the value of orders placed with US manufacturers for goods with a life expectancy of at least three years. These goods include primary metals, electrical and nonelectrical machinery, consumer hard goods, transportation equipment (including aircraft and automobiles), and military hardware. Estimates of shipments, inventories and unfilled orders among durable goods producers are also released at this time.
- In the spring of 2001, the Department of Commerce shifted to North American Industry Classifications (NAICS) for its manufacturers’ orders, inventories, shipments, and unfilled orders data, in conjunction with a similar shift in its reports on retail sales and business inventories. The goal of this change was to facilitate analytical comparisons by placing all the

series on a uniform standard of classification. At the time of this writing, the new NAICS figures are available only back to 1992.

- Durable goods orders are very volatile from month to month; the average absolute monthly change during 1999 and 2000, for example, was 3.7%. In addition, the figures can be revised substantially in succeeding reports as more data become available. The first such revision occurs a week to ten days following the advance figures, as part of the more comprehensive factory orders report.
- Analysts normally focus on the nondefense (civilian) component of orders, because bookings for military hardware are especially volatile from month to month and are focused on only a small part of the economy.
- Within the nondefense orders group, bookings for capital goods are watched particularly closely as a leading indicator of business spending on durable equipment. Other nondefense orders are for partly processed materials and consumer-related items, and they can be heavily influenced in the short-term by changes in motor vehicle production.
- The Conference Board's index of leading economic indicators (see pages 32-33) includes two components that are related to durable-goods bookings: (1) manufacturers' new orders for consumer goods and materials, in 1996 dollars, and (2) manufacturers' new orders for nondefense capital goods, also adjusted to 1996 prices.
- Unfilled orders measure the degree to which output is keeping pace with incoming requests. A rising backlog of unfilled orders suggests that firms are not able to keep up with demand and therefore industrial production will need to be increased in the future.
- Civilian aircraft bookings are an extremely volatile, large component of durable goods bookings that often dominate changes in the overall data. But these orders take many months to fill, and therefore contribute to production and employment over a long period. Because they are choppy and have relatively little immediate impact on economic activity, aircraft orders are often removed from the figures by analysts to gain a more reliable reading of the underlying direction of new bookings.
- Changes to the durable goods inventory-to-shipments ratio can provide some guidance as to whether these firms are facing pressure to alter production schedules due to excesses or shortages in their stockpiles.

Manufacturers' Shipments, Inventories, and Orders

Source: Department of Commerce, Bureau of the Census
Frequency: Monthly
Timing: Four to five weeks after month-end
Hour: 10:00 AM
Address: <http://www.census.gov/indicator/www/m3/>

- This report offers data on new orders, unfilled order backlogs, shipments, and inventories for both durable and nondurable goods at US factories.
- At present, durable goods account for somewhat more than 50% of new factory orders. Thus, much of the information in the factory orders report is available a week earlier, in the advance report on durable goods industry conditions (see page 27).
- Figures released in the advance report on durable goods are routinely revised and made more detailed in the factory orders report, although the revisions tend to be modest.
- The ratio of factories' inventories to shipments, particularly when averaged over two or three months, can be helpful in discerning whether inventory imbalances are either present or developing at the factory level. Manufacturing inventory statistics also are broken down by stage of processing (raw materials, work-in-process, and finished goods), which provides further insight into whether changes are the result of fluctuations in customer demand or decisions by the goods-producing firms themselves.

Industrial Production

Source: Federal Reserve Board
Frequency: Monthly
Timing: Two weeks after month-end
Hour: 9:15 AM
Address: <http://www.federalreserve.gov/releases/g17/current/>

- This report measures domestic production by manufacturing, mining, and utility companies. Among these three components, manufacturing comprises the vast majority (87.4% in 2000) of total industrial output. Industrial production accounts for roughly 25%-30% of total GDP.
- Seasonally adjusted production indices are calculated for various industries and market groups, indexed to a base year of 1992=100.

- Principal subsectors of manufacturing and their respective weights in the overall index as of 2000 are: food and tobacco products (10.5%), chemicals and products (10.3%), industrial machinery and equipment (9.1%), electrical machinery (9.0%), printing and publishing (6.6%), motor vehicles and parts (5.7%), and fabricated metals (5.5%).
- Within the transportation group, motor vehicle production can be especially volatile. For purposes of trying to forecast the overall production changes, monthly data on unit auto and truck output are available at the beginning of the following month and can be seasonally adjusted using factors provided by the Commerce Department and the Federal Reserve.
- In compiling this report, the Fed initially relies heavily on data from the Department of Labor's monthly employment survey, such as hours worked and employment in manufacturing and mining industries, as well as on data from private firms or groups, such as those regarding electricity and vehicle output. In subsequent months, reestimates of production are increasingly based on information about actual physical output. The average absolute revision to the monthly percent change in industrial production from 1996 through 2000 was 0.3%.
- Unseasonable weather, natural disasters, strike activity, or an unusually placed holiday can distort monthly production changes.

Capacity Utilization

Source: Federal Reserve Board
Frequency: Monthly
Timing: Two weeks after month-end,
coincident with industrial production data
Hour: 9:15 AM
Address: <http://www.federalreserve.gov/releases/g17/current/>

- Capacity utilization measures the percentage of estimated productive capacity in manufacturing, mining, and utilities in operation each month.
- Factory utilization rates are followed as a measure of slack in the economy's goods-producing sector, and thus serve as an indicator of potential inflationary pressure. High operating rates over a sustained period or a rapid rise in utilization rates in a short period can push up inflation by creating production bottlenecks and limiting the supply of products. Most analysts view utilization rates approaching or exceeding 85% as heightening inflation risks.

- Since the growth rate in US productive capacity is presumed to be relatively stable in the short run, month-to-month changes in capacity utilization rates are almost entirely a function of changes in production levels.

Manufacturing and Trade Inventories

Source: Department of Commerce, Bureau of the Census
Frequency: Monthly
Timing: Six weeks after month-end
Hour: 8:30 AM
Address: <http://www.census.gov/mtis/www/current.html>

- This report indicates the level of business stocks at the retail, wholesale, and manufacturing levels, measured in book value terms. During the second half of 2000, manufacturing inventories comprised 40% of the total, while retail and wholesale stocks made up 33% and 27%, respectively.
- The inventory-to-sales ratio, also included in this report, can be helpful in attempting to infer whether recent changes in the speed of stockbuilding are sustainable or appropriate in the context of demand trends.
- In the spring of 2001, the Department of Commerce shifted to North American Industry Classifications (NAICS) for its business inventories data, in conjunction with a similar shift in its reports on retail sales as well as factory orders and shipments. The goal of this change was to facilitate analytical comparisons by placing all the series on a uniform standard of classification. At the time of this writing, the new NAICS figures are available only back to 1992.
- Automobile and truck inventories are quite variable, and they carry a particularly high per-unit book value. Hence, they can greatly influence monthly changes in total business inventory statistics.
- Shifts in the accumulation rate of business inventories can have a significant impact on official GDP growth estimates, and these monthly book-value figures serve as the basis for the inventory component of GDP. However, they cannot be directly translated into the GDP accounts without other significant adjustments. Consequently, unless they deviate materially from prevailing patterns, these reports are often discounted by most market participants.
- Inventory data are also generally regarded as possessing notably lower quality than most other statistics. They are revised frequently and substantially, and therefore should be treated with caution.

Composite Index of Leading Economic Indicators

Source: The Conference Board
Frequency: Monthly
Timing: Approximately three weeks after month-end
Hour: 10:00 AM
Address: <http://www.conference-board.org/products/lei1.cfm>

- The leading index is a composite of ten financial and nonfinancial indicators that have historically tended to anticipate business cycle peaks and troughs. It is reported as a month-to-month percent change in the total index value.
- Two other cyclical indices—coincident and lagging—are also computed.
- Compilation of the three cyclical indices was taken over in late 1995 by The Conference Board, a private business research group based in New York. Previously, these series had been structured and published by the Department of Commerce.
- The composition of the leading index has been periodically altered in an effort to improve its performance and adapt to changes in the structure and behavior of the US economy. The latest such update was introduced in December 1996, after a thorough review by The Conference Board's staff. Beginning that month, two components were deleted (change in sensitive materials prices and change in manufacturers' real unfilled orders), while one was added (change in the differential between 10-year Treasury note yields and the federal funds rate). Historical index values were revised to reflect the updated basket.
- The ten equally-weighted leading indicators are as follows:

Nonfinancial	Financial/Expectations
Average factory workweek	Stock prices
Initial claims for unemployment insurance	Real money supply (M2)
Vendor performance (delivery lead times)	Change in yield curve (10-year note yield minus Federal funds rate)
Building permits	Consumer expectations
Real new orders for consumer goods and materials	
Real manufacturer's new orders, nondefense capital goods	

- The financial and expectations indicators give indirect signals about upcoming changes in business activity, whereas the nonfinancial group provides more direct evidence about economic trends.
- The great majority of these components is already known or can be estimated with some degree of precision in advance of the leading index report. The release itself, therefore, rarely provides valuable new insights concerning the status of the economy.

- In 2001, the Conference Board began releasing the leading indicators figures ahead of reports on the two orders components, in an effort to improve the timeliness of the information. However, this change in procedure has made the index subject to substantially greater revisions.
- At the time of the last known business cycle peak, in 1990, the leading index provided no clear early warning of the impending slump. It did, however, display a solid upturn just before the following cyclical trough.
- The ratio of the coincident to the lagging index is sometimes followed as an alternative leading indicator series. The coincident-to-lagging index ratio is generally a less-reliable measure for presaging business cycle peaks than the leading index, and it has been no better than the leading measure at foreshadowing economic upswings.

Section VII. Consumer Spending

Retail Sales

Source: Department of Commerce, Bureau of the Census
Frequency: Monthly
Timing: About two weeks after month-end
Hour: 8:30 AM
Address: <http://www.census.gov/svsd/www/fullpub.html>

- This series measures sales of retail establishments not annualized, adjusted for normal seasonal variation, holidays, and trading-day differences.
- “Advance” estimates of retail sales are notoriously unreliable, as the report is based on a small sample of retailers (roughly 4,100) reporting actual results from only a portion of the month. “Revised” and “final” retail data (reported one and two months later, respectively) are based on the full-month sales recorded by a much larger number of firms (13,300). Both the revised and final sales reports can yield substantial revisions to the levels reported initially. For this reason, considerable caution should be exercised in drawing conclusions from one or even two recent months’ retail sales reports.
- In the spring of 2001, the Department of Commerce shifted to North American Industry Classifications (NAICS) for its retail sales data, in conjunction with a similar shift in its reports on business inventories as well as factory orders and shipments. The goal of this change was to facilitate analytical comparisons by placing all the series on a uniform standard of classification. At the time of this writing, the new NAICS figures are available only back to 1992.
- Automobile dealer sales represent a large portion (close to 25%) of total retail sales. Unit auto and truck sales reports, issued monthly by the individual vehicle manufacturers, give an early indication of the monthly sales results for this sector (see page 36). However, these unit sales figures and the dollar value of retail auto sales do not always closely correspond, in part because the retail figures include sales of used vehicles and parts.
- The “control” component of retail sales—the portion excluding motor vehicle and building materials dealers—is a proxy for the direct influence of the report on Department of Commerce estimates of consumer spending for goods. Motor vehicles are excluded because better statistical information on this sector is already available from manufacturers’ unit sales reports. Building materials sales are not counted as consumption in the GDP accounts, but are classified as intermediate residential investment outlays.

- Monthly chain-store sales reports also provide some hint of overall sales behavior, but they can be misleading. Chain-store data are reported on a year-to-year percentage change basis, and therefore are judged in relation to the prior year's sales performance. Moreover, general merchandise sales comprise only about one-eighth of total retail sales, so changes in that group usually have only a minor effect on the overall figures. That said, we have found that the Goldman Sachs Retail Index (see page 38) is a useful input for anticipating monthly total retail sales results.
- Unusual weather, changes in the timing of holidays (such as Easter or the time gap between Thanksgiving and Christmas), tax law changes, and other special factors can influence monthly retail sales figures.
- Monthly retail sales estimates include e-commerce sales. E-commerce sales are estimated based on the monthly activity of over 12,000 retail firms. All firms that receive the retail survey report form each month are asked to provide their e-commerce sales. Any nonretail operations such as travel agencies, financial services, manufacturing, and wholesaling activity are excluded.

Personal Consumption Expenditures (PCE)

Source: Department of Commerce, Bureau of Economic Analysis

Frequency: Monthly

Timing: About four weeks after month-end

Hour: 8:30 AM

Address: <http://www.bea.doc.gov/bea/rels.htm>

- PCE measures consumer spending for all goods and services, which comprise roughly two-thirds of total real GDP. Monthly PCE data are reported at the same time as personal income figures, and are the monthly analog to the consumer spending component of the quarterly GDP data.
- PCE figures are reported both in nominal (current-dollar) and real (inflation-adjusted) terms. They are broken down into the broad categories of durable goods, nondurable goods, and services, with detail available for numerous components of each element.
- Retail sales comprise roughly 40% of personal consumption expenditures. Since the retail report predates the PCE report by about two weeks, it can be very helpful in gauging prospective changes in total consumer spending.
- However, PCE figures for motor vehicle expenditures are based on the adjusted unit vehicle deliveries data (see following) rather than the automotive dealers statistics in the retail sales figures. For this reason, the

motor vehicle component of retail sales is usually excluded (along with building materials) when assessing consumer spending trends.

- Changes in the personal consumption expenditures price deflator are sometimes followed as an alternative measure of retail price inflation to the consumer price index (see pages 53-54).
- This report includes information on saving as a percentage of disposable income, or the “personal saving rate.” This figure and its relationship to historical saving patterns can be helpful in assessing consumer spending prospects, as well as various other important economic relationships (see page 20).

Unit Auto and Truck Sales

Source: Individual company reports, adjusted using seasonal factors provided by the Department of Commerce, Bureau of Economic Analysis
Frequency: Monthly
Timing: One or two business days after month-end
Hour: Variable

- Monthly figures supplied by the major vehicle manufacturers, in conjunction with official seasonal adjustment factors, provide useful information about demand trends in this sector and, by inference, for other big-ticket consumer items.
- These data are expressed in terms of a seasonally adjusted annual sales rate (SAAR), in millions.
- Depending on their main area of focus, analysts may choose to follow the SAAR unit sales data for just domestic light vehicles, total light vehicles, or all vehicles including heavy trucks.
- Unit vehicle sales can be volatile from period to period, but they often provide early signals of changes in consumer behavior, given that vehicle sales can be discretionary and are responsive to changes in financing rates, sentiment, and other economic conditions.
- Light-weight truck sales steadily increased as a percentage of total vehicle demand during the 1990s, and surpassed car sales among domestically made models in early 1999.

BTM-UBSW Chain-Store Sales Index

Source: Bank of Tokyo-Mitsubishi, Ltd./UBS Warburg
Frequency: Weekly, for week ending Saturday
Timing: Tuesday
Hour: 9:00 AM

- Using private survey information about nominal sales volumes at large retail chain stores, the BTM-UBSW analysts each week calculate seasonally adjusted sales index values covering the week ending the prior Saturday.
- Monthly data on the index are available back to 1969. The weekly series begins in 1989.
- In addition to department stores, other establishments that fit under the Department of Commerce's heading of "general merchandise, apparel, and furniture" retailers are included in the survey. The monthly index is based on a poll of 70-80 large companies.
- Calculations are performed on a "same-store" basis, which tends to systematically understate sales growth relative to aggregate nominal spending measures.
- Month-to-month changes in this index have been a moderately helpful coincident indicator of nominal US retail department store sales, as measured by the Department of Commerce's Bureau of the Census. A study published by the Federal Reserve Bank of New York (*Economic Policy Review*, October 1996) found that percent changes in the monthly BTM-UBSW index have some predictive value for nonauto retail sales.
- That said, seasonal adjustment problems, the narrow focus of the survey sample within the merchandise retailer universe, and the small proportion of total consumption represented by this retailer group make it advisable to use these data very cautiously when attempting to draw inferences about broad trends in personal outlays.

LJR Redbook Report

Source: Lynch, Jones and Ryan
Frequency: Weekly, for week ending Saturday
Timing: Tuesday
Hour: 9:00 AM

- Based on information gleaned from sources at 21 large department store firms, the Redbook Research service early each week compiles and publishes

a report designed to measure sales trends within that industry. The data begin in 1983.

- Using as much information as exists from a given month, the Redbook group calculates an estimated seasonally adjusted change in department store sales for that month as a whole. Over succeeding weeks, the estimate is recalculated as more complete survey data become available.
- Survey results reflect both aggregate dollar sales volumes and same-store comparisons, though the former figures receive the most attention in financial market circles.
- Estimated year-to-year sales gains for the current month are applied to year-earlier seasonally adjusted figures for retail department store sales reported by the Department of Commerce, so as to compute a percent change versus the prior month. Thus, the Redbook report implicitly employs official seasonal factors in its estimates.
- Redbook results over recent years have shown only a modest correlation with monthly changes in nonauto retail sales as reported by the Department of Commerce. This is not surprising, given that department stores comprise only a small portion—roughly 10%—of total nominal US retail outlays.

Goldman Sachs Retail Index (GSRI) for Same-Store Sales

Source: Goldman, Sachs & Co.

Frequency: Monthly

Timing: First or second Thursday of following month

Hour: 11:00 AM

- Based on monthly same-store comparison sales reports from large merchandise retailer firms, the Goldman Sachs retail industry analysts compute a sales index value and year-to-year percent change for the overall industry and for various subgroups (*e.g.*, department stores, specialty retailers, discount merchandise, etc.).
- Changes in the pattern of year-to-year sales growth in the GSRI can be helpful in discerning shifts in the tone of broad consumer demand for goods.
- Unusual weather conditions, natural disasters, or movement in the timing of holidays obviously can influence year-to-year sales comparisons in any given month. For this reason, it is usually advisable to average three or more months' index results to gain a sense of underlying consumer activities.

- In addition, because it uses a same-store basis of comparison, the GSRI tends to systematically understate the rate of growth in current-dollar nonauto retail purchases.

Consumer Confidence

Source: The Conference Board
Frequency: Monthly
Timing: Last Tuesday of the month to which the data apply
Hour: 10:00 AM
Address: <http://www.conference-board.org/products/c-consumer.cfm>

- These data are compiled from a monthly survey of approximately 5,000 households conducted by National Family Opinion Inc. for The Conference Board, a private research group based in New York. The poll has been conducted since early 1969.
- Respondents are first asked about their perceptions of national economic conditions. Subsequently, they are queried about their personal circumstances and buying plans for new homes and various durable items.
- A national consumer confidence index and subindices on present conditions and expectations are calculated using a base of 1985=100. In addition, regional figures are reported for each of these three measures.
- The poll includes a question about whether the respondent views jobs as plentiful, not so plentiful, or hard to get. The differential between those seeing jobs as plentiful versus hard to get serves as a useful indicator of labor market tightness or laxity. Historically it has shown a relatively close relationship to the unemployment rate.
- The Conference Board's confidence index tends to be more volatile from month to month than the University of Michigan consumer sentiment index. Over the 1992-2000 period, for example, the average absolute monthly percent change in The Conference Board index was 4.5%, compared to 2.7% for the University of Michigan measure. During that period, moreover, The Conference Board index changed by 5% or more in 35 months, while the Michigan index did so only 14 times. This extra volatility undermines The Conference Board survey's reliability as a barometer of consumer attitudes.
- Our analysis of the relationship between this index and consumer spending suggests that it is fairly loose. However, the consumer confidence index does seem to have a strong negative correlation with unemployment.

Consumer Sentiment

Source: University of Michigan Survey Research Center
Frequency: Semimonthly
Timing: Preliminary data released on Friday following the second full weekend of the month to which the data apply; final data published on Friday following the last full weekend of month
Hour: 10:00 AM
Address: <http://athena.sca.isr.umich.edu/scripts/contents.asp>

- Since the early 1950s, researchers at the University of Michigan have polled consumers regularly regarding their views of personal finances and national economic conditions. The results of these surveys are provided to subscribers via conference call and telefax twice per month.
- The surveys are taken each weekend, with a total of 500 adult men and women from across the country currently being interviewed in the course of a month.
- Respondents are asked to provide assessments of their current and expected personal finances and buying conditions for durable items. Subsequently, they are asked for their views on the likely course of national economic conditions over the next year and for the next five years.
- Using these raw data, the surveyors compute seasonally adjusted indices for overall consumer sentiment, current conditions (comprising current finances and buying conditions), and expectations (comprising expected finances and projected business conditions over the next one and five years). The first quarter of 1966 is equal to 100 for purposes of computing these index values.
- Respondents also are queried about their expectations for price changes over the next year and five years. These measures of inflation expectations tend to be negatively correlated with the overall sentiment index.
- Over its long history, the University of Michigan sentiment survey has been a valuable guide to changes in consumer attitudes that might influence spending behavior. In addition, the group's index has tended to display less volatility than some other surveys designed to convey similar information.
- The consumer expectations component of the University of Michigan survey is one of the components of the leading economic indicators index (see page 32).

ABC/Money Magazine Consumer Comfort Index

Sources: ABC Inc./AOL Time Warner Inc.
Frequency: Weekly
Timing: Wednesday
Hour: 6:30 PM
Address: <http://www.abcnews.go.com/sections/business/>

- Since December 1985, these two newsgathering organizations have jointly surveyed consumers each week about their attitudes concerning personal finances, national economic conditions, and the buying climate. ICR Survey Research performs the actual polling.
- The results are based on a rolling average of about 1,000 adults surveyed nationwide each month. Questions are asked concerning the status of the national economy, personal finances, and the buying climate. Indices for each component are determined by subtracting the percentage of negative responses from the percent of positive responses, so that a zero level is neutral. Then the overall Consumer Comfort Index is calculated as the arithmetic average of the components. All four index values are rounded to the nearest ordinal number.
- Since its inception, the composite *ABC/Money Magazine* index has been in negative territory the great majority of the time, registering positive readings only in 1986 and 1997-2001.
- While it does not have nearly as long a history as the University of Michigan or Conference Board consumer surveys, the *ABC/Money Magazine* poll is useful as a collateral measure of attitudes, especially since it is published weekly.

Consumer Installment Credit

Source: Federal Reserve Board
Frequency: Monthly
Timing: Five weeks after month-end
Hour: 3:00 PM
Address: <http://www.federalreserve.gov/releases/g19/>

- This report indicates the change in the dollar amount of consumer installment credit outstanding during the month, including loans to individuals by banks and finance companies, as well as by other institutions.

- Consumer credit is broken down into two categories: revolving credit (unpaid credit card balances) and nonrevolving credit, which includes home improvement loans, automobile credit, and other categories.
- Consumer credit does not include home equity loans, which are classified by the Federal Reserve as mortgage debt, nor does it incorporate motor vehicle leases.
- The Tax Reform Act of 1986 phased out the tax deductibility of nonmortgage personal interest expense. This has tended to depress the use of consumer installment credit relative to home equity loans and vehicle leasing, making changes in consumer credit less useful as an indicator of household spending propensities.

Section VIII. Housing and Construction

Housing Starts and Building Permits

Source: Department of Commerce, Bureau of the Census
Frequency: Monthly
Timing: Two to three weeks after month-end
Hour: 8:30 AM
Address: <http://www.census.gov/ftp/pub/const/www/newresconstindex.html>

- This report shows the total number of private housing units on which construction has started and permits issued by 19,000 localities during the month, expressed at an annual rate. Data cover residential housing activity only.
- Both starts and permits are broken down into three categories: single-family dwellings, two- to four-unit buildings, and structures with five or more units. Taken together, the latter two groups constitute the multifamily housing sector.
- Starts and permits are also broken down by region: Northeast, South, Midwest, and West. This classification can aid in detecting special influences on the report, particularly deviations from normal weather patterns that might temporarily influence home building in a particular region.
- Although building permits are seen by some analysts as a helpful leading indicator for housing starts, empirical work suggests that they are more accurately viewed as a coincident indicator for starts, except perhaps in the multifamily area. However, because the housing sector does tend to lead the rest of the economy, the series on permits is one of the ten components of the Conference Board's leading indicators index (see pages 32-33).

New Single-Family Home Sales

Source: Department of Commerce, Bureau of the Census
Frequency: Monthly
Timing: Four to five weeks after month-end
Hour: 10:00 AM
Address: <http://www.census.gov/const/newressales.pdf>

- This report covers the annualized unit sales level and monthly percentage change for new single-family homes, seasonally adjusted.

- New housing units are included in this report only when both the land and the dwelling are sold simultaneously. Historically, only about 60% of new housing starts met this test. Lately, the percentage has risen to about 75%.
- Sales are measured based on when contracts for sale are executed. This is in contrast to the existing home sales data (see directly below), which are based on transaction closing dates that often lag contract signing dates by one to three months.
- New home sales figures are also broken down on a regional basis. This information can help determine when unusual weather conditions or natural disasters may have had an important effect on one month's seasonally adjusted sales.
- Home sales figures are frequently revised by large amounts, and they can be quite volatile from month to month. In addition, as with all housing figures, home sales display great seasonal variability, so seasonal adjustments can have a large impact on the results.
- Along with home sales, the Department of Commerce reports the supply of completed new single-family homes being offered for sale. Changes in the inventory of unsold new homes relative to home sales activity often presage an opposite directional shift in single-family housing starts.

Existing Home Sales

Source: National Association of Realtors (NAR)
Frequency: Monthly
Timing: The 25th of the following month (or next business day)
Hour: 10:00 AM
Address: <http://nar.realtor.com/research/home.htm>

- Based on reports from its membership, the NAR compiles seasonally adjusted data on sales of existing dwellings. Figures for the average and median home price are also reported on national and regional bases.
- The NAR statistics measure sales at the time of closing, which typically occurs one to three months after a contract of sale is signed. Thus, changes in the tenor of existing home sales can lag several months behind a material shift in demand or affordability conditions.
- Although turnover of the existing housing stock has only a small direct effect on GDP, it can be a valuable leading indicator of demand for household durables. Home purchases typically stimulate spending on

furnishings, and the transactions frequently liquefy capital gains on real estate investments.

Construction Spending

Source: Department of Commerce, Bureau of the Census
Frequency: Monthly
Timing: Four to five weeks after month-end
Hour: 10:00 AM
Address: http://www.census.gov/pub/const/c30_curr.txt

- Total new public and private construction outlays are reported, seasonally adjusted, in both nominal and real terms.
- Construction expenditures are broken down into three main groups: residential (housing), private nonresidential (*e.g.*, offices, industrial, commercial), and public (*e.g.*, highways, hospitals).
- Monthly construction figures are subject to large and frequent revisions, and are therefore greatly overshadowed by housing starts, building permits, and home sales in terms of their influence on financial markets.
- The construction spending data, however, figure directly into the computation of several components of the quarterly GDP report.
- In a separate monthly report, the F. W. Dodge Company tabulates the dollar amount of contracts for new construction. Changes in the volume of new contracts can foreshadow similar shifts in the level of construction outlays.

National Association of Home Builders Survey

Source: National Association of Home Builders (NAHB)
Frequency: Monthly
Timing: Mid-month
Hour: 1:00 PM
Address: <http://www.nahb.com/facts/hmi.htm>

- Each month the NAHB surveys its members regarding current sales conditions and buyer traffic as well as their sales expectations for the next six months. Respondents are asked to classify current and expected sales volumes as falling into one of three categories: better, same, or worse. Traffic at developments can be characterized as very high, high, average, low, or very low.

- With respect to sales, separate assessments of current and prospective conditions are reported for single-family dwellings, apartments, and condominiums. The buyer traffic readings are reported to cover all types of units.
- Seasonally adjusted diffusion indices—with 50% as a neutral reading—are calculated for all major categories of the survey results. In addition, a composite NAHB Housing Market Index is calculated as a weighted average of three components: (1) present sales conditions for single-family homes (60% weight), (2) expected sales conditions for single-family homes in six months (15%), and (3) buyer traffic (25%).
- Buyer traffic and sales expectations are typically coincident to slightly leading indicators for housing starts, while survey results on current sales have some modest positive correlation with actual new home sales as reported by the Department of Commerce.

Mortgage Bankers Association (MBA) Weekly Survey

Source: Mortgage Bankers Association
Frequency: Weekly
Timing: Wednesday morning
Hour: Early AM
Address: <http://www.mbaa.org/marketdata/>

- The MBA compiles weekly statistics on the volume of mortgage loan applications received by its members.
- The group classifies the loans under the heading of new purchase or refinancing transactions. Whereas purchase loan applications can be a leading indicator changes in new and existing home sales, swings in refinancing activity may be a harbinger of shifts in consumer cash flows and finances that could have an impact on household spending propensities.
- The MBA total market index reflects the total of all loan applications, for whatever purpose, new purchase or refinancing.
- Separate indices are calculated for fixed-rate and adjustable-rate mortgage applications. These are not broken down further, by whether the application was for a purchase or a loan refinancing.
- The MBA figures provide an early signal of changes in housing transactions and mortgage refinancing activities. These can be leading indicators of total consumer expenditures, since home purchases typically stimulate other

outlays, and loan refinancing can be used to lower monthly fixed expenses and/or inflate liquid resources via higher aggregate indebtedness.

- It is advisable to use smoothing techniques, such as four-week averages, to evaluate the MBA figures, as they can be volatile from week to week and special factors can create biases in the short term.

Section IX. Foreign Trade

International Trade Balance

Source: Department of Commerce, Bureau of the Census
Frequency: Monthly
Timing: About six weeks after month-end
Hour: 8:30 AM
Address: <http://www.census.gov/indicator/www/ustrade.html>

- This report measures the difference between exports and imports in billions of dollars. The statistics include information on trade in both goods and services.
- Data for merchandise (goods) exports and imports are broken down into six broad commodity classifications: foods, feeds, and beverages; industrial supplies and materials; capital goods excluding autos; automotive vehicles, parts, and engines; nonfood consumer goods except autos; and other merchandise.
- Figures on bilateral trade with various countries and regions are also reported, but without seasonal adjustments. Year-to-year comparisons should be used to judge any changes, because there can be significant seasonal patterns in these data.
- Merchandise exports and imports are reported on two different bases: (1) balance of payments, and (2) “customs,” which excludes the costs of duties, insurance, and freight.
- The goods trade figures are reported both in nominal terms and after adjustment for inflation. The real or inflation-adjusted figures are computed using monthly import and export price indices (see page 59). Because of their longer history and relevance for exchange-rate analysis, nominal trade figures normally receive the most attention. The real magnitudes, however, are typically the most important for judging this sector’s impact on economic activity.
- Monthly export and import figures can be highly volatile, and therefore they should be evaluated using moving averages. In particular, exports of aircraft and imports of petroleum products display a significant degree of month-to-month variability.
- Customs receipts data—which are available from the Treasury Department several weeks in advance of the international trade report as part of the

monthly budget statement—can provide an advance indication of import activity during a given month.

- With the foreign sector growing in its importance to the US economy's performance, deviations in the trade figures from expectations or official assumptions can prompt significant changes to GDP growth estimates, especially for the current quarter.

Current Account Balance

Source: Department of Commerce, Bureau of Economic Analysis

Frequency: Quarterly

Timing: Ten to eleven weeks after quarter-end

Hour: 10:00 AM

Address: <http://www.bea.doc.gov/bea/rels.htm>

- The current account balance measures net US trade in merchandise, services, and certain financial transactions. The data are all adjusted for normal seasonal variations. It is released as part of a quarterly report called *Summary of International Transactions* and represents the most comprehensive measure of international trade and financial flows.
- The current account balance is the sum of trade balances in the following areas:
 1. *Merchandise*, adjusted to exclude military shipments;
 2. *Services*, including net receipts of direct investment income and other income on assets;
 3. *Unilateral transfers of funds*, excluding military grants.
- Capital gains and losses on US assets held abroad from changes in the value of the dollar can influence the quarterly current account figures. Such effects appear under the “investment income” component of service transactions. Interest and dividend payments to foreigners holding US bonds and stocks (imports) are also included, as are interest and dividend receipts on US holdings of foreign stocks and bonds (exports).
- The summary of international transactions report also includes information on international capital flows during the period, as well as data on US assets held abroad (which include official reserve assets) and foreign assets held in the United States.
- Changes in the current account balance imply a corresponding shift in the flows of capital between the United States and the rest of the world. If the

current account deficit goes up, then capital inflows into the United States also go up.

Financial Account Balance

Source: Department of Commerce, Treasury Department
Frequency: Monthly or quarterly, depending on series
Address: <http://www.bea.doc.gov/bea/rels.htm>

- In its *Summary of International Transactions* report, the Commerce Department provides information regarding changes in the US capital account. Figures for US assets abroad and foreign assets in the United States are tabulated, for both financial investments and direct investments in physical property.
- Changes in US official reserve assets and foreign official assets in the United States are also reported. US official reserves include gold, special drawing rights, the reserve position at the International Monetary Fund, and foreign currency holdings.
- A statistical discrepancy reflects errors and omissions in recorded transactions. This is the difference between capital flows shown in the various individual accounts and the overall measured inflow or outflow of funds, which can partly be attributable to seasonal adjustment difficulties and short-term capital flows that go unrecorded.
- Since 1935, the Treasury Department has also collected figures on the size and types of financial transfers and other portfolio capital movements between the United States and foreigners, which are published in the quarterly *Treasury Bulletin*. Treasury data cover the following subject areas: transactions in long-term domestic and foreign securities, claims on foreigners by US banks, and liabilities to and claims on foreigners reported by nonbanking business enterprise. Capital transactions of the US government are not included.
- Geographical breakdowns may not always accurately reflect the ultimate ownership of the assets in question, as reporting institutions may not know the country of domicile of the beneficial owner of property or claims.
- As of November 30, 2000, foreign investors owned a little more than 41% of all privately held US Treasury marketable securities outstanding. This is up from about 20% in 1993. In addition, as of the fourth quarter of 2000, overseas investors owned about 20% of US corporate bonds and 10% of US equity issues outstanding at that time.

Section X. Prices, Wages, and Productivity

GDP-Based Price Indices

Source: Department of Commerce, Bureau of Economic Analysis
Frequency: Quarterly data, revised monthly
Timing: About four weeks after month-end
Hour: 8:30 AM
Address: <http://www.bea.doc.gov/bea/rels.htm>

- The GDP report (see page 18) includes information about GDP-based price indices. There are three main series:
 1. The *chain-weight price index for GDP* is calculated by applying weights that are updated annually (based on the composition of national output) to individual price indices for the various components of GDP.
 2. The *chain-weight price index for gross domestic purchases* employs the same methodology as the chain-weight GDP price index described above, but excludes the net exports sector to focus on prices paid by individuals domiciled in the United States.
 3. The *implicit GDP price deflator* measures changes in the ratio of current-dollar (nominal) GDP to constant-dollar (real) GDP, adjusted to a 1996 price base.
- GDP-based price measures are reported as quarter-to-quarter percent changes, expressed at annual rates. Price statistics are available for individual components of GDP as well as for the aggregates noted above.
- The GDP-based indices are the broadest measures of domestic pricing behavior, because they cover all goods and services produced or purchased in the United States. Thus, they are not limited to items purchased by consumers (as in the case of the consumer price index), nor are they even more severely limited to prices on domestic goods to the exclusion of imports and services (as with the producer price index).
- Because of their broader coverage, the aggregate GDP-based price indices tend to be less volatile than the PPI or CPI over time. Moreover, with prices for computers and other capital equipment proving to be relatively weak in recent years, the GDP-based indices have tended to rise more slowly than the CPI.
- The main practical difference between the implicit and chain-weight GDP price measures is that the deflator blends information about shifts in the mix

of demand and output between sectors as well as price developments, whereas the latter focuses purely on price changes. Consequently, the deflator data tend to be more volatile as they can be affected by transitory swings in the composition of GDP.

Producer Price Index (PPI)

Source: Department of Labor, Bureau of Labor Statistics
Frequency: Monthly
Timing: About two weeks after month-end
Hour: 8:30 AM
Address: <http://stats.bls.gov/news.release/ppi.nr0.htm>

- The PPI is an index of prices received by US producers of goods and commodities, based on a survey taken in the week ending Saturday that includes the 12th of the month. The survey covers more than 3,200 different commodity groups and includes prices for 100,000 separate items.
- Three different broad indices of producer prices are reported monthly:
 1. *The PPI for finished goods* reflects price changes for products that are ready to be shipped to wholesalers and retailers. This index generally receives the most attention from financial markets and the news media.
 2. *The PPI for intermediate goods* measures changes in prices for a broad array of products that have received some processing, but are not yet in finished form. Changes in the behavior of this index can provide leading signals about finished goods prices.
 3. *The PPI for crude goods and materials* depicts price changes among raw, unprocessed commodities.
- Product areas and their current (December 2000) weighting in computing the PPI for finished goods are indicated below and can also be found at <ftp://ftp.bls.gov/pub/special.requests/ppi/soprel01.txt>:

Food and beverages	22.5%
Consumer nondurable goods less food	38.2
Apparel	4.0
Gasoline	3.6
Natural gas (residential)	2.7
Tobacco products	3.3
Other	24.6
Consumer durable goods	15.4
Light Motor Vehicles	6.0
Other	9.4
Capital equipment	23.9

Manufacturing industries	6.3
Nonmanufacturing industries	17.6
Civilian aircraft	3.0
Light motor vehicles	5.4
Telephone/telegraph	1.0

- Food and energy prices display a great deal of month-to-month volatility, and are heavily weighted in the finished PPI (totaling 38.1%) and the intermediate index (totaling 20.3%). Consequently, their erratic behavior can sometimes mask underlying price patterns. For this reason, analysts often remove the food and energy components to get a reading of so-called “core” producer price pressures.
- Unlike the consumer price index, the PPI excludes the prices of services. This exclusive focus on goods prices is another reason why the PPI tends to be more volatile than other major measures of US price inflation.

Consumer Price Index (CPI)

Source: Department of Labor, Bureau of Labor Statistics
Frequency: Monthly
Timing: Two to three weeks after month-end
Hour: 8:30 AM
Address: <http://stats.bls.gov:80/news.release/cpi.toc.htm>

- The CPI measures prices for a fixed basket of goods and services that consumers regularly buy in the United States, based on approximately 80,000 quotes. Consumer prices are sampled throughout the month, in contrast to producer prices, which are sampled once around mid-month (see pages 52-53).
- CPI reports are published for two population groups:
 1. *CPI for Urban Wage Earners and Clerical Workers* (CPI-W) covers only 32% of the population. This index is used as the basis for making annual cost-of-living adjustments to social security benefit payments. It is also frequently used to make similar adjustments to wage rates under collective bargaining agreements.
 2. *CPI for All-Urban Consumers* (CPI-U), in addition to urban wage earners and clerical workers, covers groups such as professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force. Because it covers a much broader base—about 87% of the population—the CPI-U generally receives the most public attention.

- Changes in the CPI measure inflation at the retail level, and thus, they tend to reflect changes in prices for nonenergy imported goods more than the PPI.
- Product areas and their current weightings (December 2000) in computing the CPI-U are indicated as follows:

Housing	39.9%
Shelter	30.3
Fuel and utilities	5.1
Household furnishings and operations	4.6
Food and beverages	16.2
Transportation	17.6
New vehicles	4.7
Other private transportation	11.5
Motor fuel	3.5
Maintenance and repairs	1.6
Used cars and trucks	1.9
Public transportation	1.4
Medical care	5.8
Apparel	4.5
Recreation	5.9
Education and communication	5.3
Other goods and services	4.8
Tobacco and smoking products	1.3

- Unlike the PPI, the CPI includes prices for services that comprise more than half of the total index (58.2%). Normally, the prices of services respond more slowly than the prices of goods to changes in economic conditions.
- Within the housing component, the cost of shelter for owner-occupied homes is calculated on a “rental equivalency” basis, reflecting the estimated rent that would be charged on such dwellings. Before 1983, the owner-occupied shelter component was calculated using estimated monthly mortgage carrying costs, but this sometimes caused the overall CPI to deviate substantially from other price measures when mortgage interest rates were changing rapidly.
- As in the case of the PPI, volatility in monthly food and energy consumer prices can distort the broad retail inflation picture. Taken together, these two components receive a weight of 23.9% in the overall CPI, appreciably less than in the PPI for finished goods. Analyzing the CPI excluding food and energy can make it easier to discern short-term changes in the underlying, or “core,” consumer price inflation rate.
- Because it covers a narrower range of goods and services than the two GDP-based price indices, the rate of change in the CPI tends to be more volatile from year to year than changes in those measures.

- Due to their frequent usage by government and private entities for indexation, federal law requires that monthly percent changes in the overall not seasonally adjusted CPI-U not be revised. This requirement means that observations in the CPI that straddle shifts in methodology are not strictly comparable.
- In 1996, a panel of experts appointed by the Senate Finance Committee and chaired by economist Michael Boskin (the “Boskin Commission”) determined that the CPI as then constructed materially overstated the actual rate of retail price inflation. Analysts at the Bureau of Labor Statistics took issue with portions of this assessment, but they responded to others by changing several aspects of the CPI calculation methodology, in an effort to enhance its accuracy.
- Because these technical adjustments almost always acted to suppress the rate of increase in the index, and prior data were not revised, the updates made the pattern of sequential change in reported CPI inflation appear more favorable than it really was, particularly after 1996 as Boskin Commission recommendations were gradually implemented. In an effort to address this problem of historical data incompatibility, the Bureau of Labor Statistics has created a series (CPI-U-RS) that endeavors to apply the current CPI calculation methods back to 1978.
- A “median CPI” is calculated and reported monthly by the Federal Reserve Bank of Cleveland; it can be used as an alternative measure of core retail price trends. The index change is calculated by determining the weighted median price change for all the components of the overall CPI. The median CPI possesses the advantage of not systematically excluding any specific segment of prices (in contrast to the CPI excluding food and energy). Changes in the year/year median CPI trend can foreshadow similar shifts in the pattern of nonfood, nonenergy CPI behavior.

Employment Cost Index (ECI)

Source: Department of Labor, Bureau of Labor Statistics
Frequency: Quarterly
Timing: About four weeks after quarter-end
Hour: 8:30 AM
Address: <http://stats.bls.gov:80/news.release/eci.toc.htm>

- The ECI is designed to measure changes in wage and benefit payments for specific types of work. For this purpose, it is superior to the monthly hourly earnings figures as a comprehensive labor-cost inflation indicator because: (1) hourly earnings are merely an arithmetically derived average that is not adjusted for shifts by workers between jobs or industries with different pay

scales; (2) the hourly earnings statistics do not reflect benefits compensation; and (3) coverage of the work force is broader—the hourly earnings data cover only production and nonsupervisory workers (see page 15).

- Employment cost changes are reported for the overall work force and for the private sector, and are further broken down into changes in wages and changes in benefit costs. Index levels are reported both with and without seasonal adjustments.
- ECI data are based on conditions during the last month of the reported quarter.
- Changes in sales compensation via commissions can skew quarterly private wage and salary statistics in the ECI. Figures on nonsales wage compensation are reported, and these can be useful in assessing underlying pay trends.
- The value of stock options granted as a form of compensation is not included in the ECI for total compensation.
- Because benefit costs include employer-paid payroll taxes, changes in these levies can influence the ECI for total compensation.

Goldman Sachs Commodity Index (GSCI)

Source: Goldman, Sachs and Co.

Frequency: Daily

Address: <http://www.gs.com>

- The GSCI serves as a performance benchmark for commodity investment. In addition to information about commodity price behavior on a production-weighted basis, it provides a measure of the total return achievable through an unleveraged investment in commodities over a period of time. Index levels are not adjusted for seasonal variation.
- Unlike other commodity indices, individual commodities in the GSCI are weighted according to the physical quantity of their world production. The index is comprised solely of commodities with active futures markets worldwide. As of July 3, 2001, the weightings of commodities in the GSCI were as follows:

Energy—63.5%	Livestock—10.3%
Crude Oil (27.7%)	Live Cattle (6.7%)
Brent Crude Oil (12.3%)	Lean Hogs (3.5%)
Unleaded Gas (5.0%)	
Heating Oil (6.9%)	Industrial Metals—7.0%
Gas Oil (3.4%)	Aluminum (3.7%)
Natural Gas (8.2%)	Copper (1.8%)
	Zinc (0.6%)
Agriculturals—17.0%	Nickel (0.5%)
Wheat (3.9%)	Lead (0.2%)
Red Wheat (1.4%)	Tin (0.1%)
Corn (4.2%)	
Soybeans (2.2%)	Precious Metals—2.3%
Cotton (1.6%)	Gold (1.9%)
Sugar (2.1%)	Platinum (0.2%)
Coffee (0.7%)	Silver (0.2%)
Cocoa (0.3%)	
Orange Juice (0.7%)	

- A separate “spot” GSCI measures a weighted average of current prices on the same basket of commodities. A futures contract on the spot GSCI has been traded on the Chicago Mercantile Exchange since June 1992.

Bridge/Commodity Research Bureau (CRB) Indices

Source: Bridge/CRB
Frequency: Daily
Address: <http://www.crbindex.com>

- Bridge/CRB publishes daily indices for different commodity price measures. These are not adjusted for seasonal changes.
- The Bridge/CRB “spot” price index reflects prices for 23 commodities, which receive equal weights in computing the index value. Within this group, 10 are foodstuffs and 13 are raw industrial materials. Following is a list of the commodities in the Bridge/CRB spot index:

Foodstuffs	Raw Materials
Butter AA, 0.92, Chicago	Burlap, 10 oz. 40", NY
Cocoa Beans, NY	Copper scrap, #2, NY
Corn, #2 Yellow, Central Illinois	Cotton, 1-1/16", 7-market avg.
Hogs, S. Minn	Hides, cow, lt. native, Chicago
Lard, Chicago	Lead scrap, NY
Steers, choice, Texas/Oklahoma	Print cloth, 48" 78 x 78, NY
Soybean oil, crude, Central Illinois	Rosin, windowglass, NY
Sugar, raw, NY	Rubber, #1 ribbed smoked sheets, NY
Wheat, #1 Hard Winter, KC	Steel scrap, #1 heavy melt, Chicago
Wheat, #1 Spring, Mpls.	Tallow, Packer's prime, Chicago
	Tin, Grade A, NY
	Wool tops (nominal), Boston
	Zinc, Prime Western, NY (delivered)

- The Bridge/CRB spot “raw materials” index is a subset of the overall CRB spot index. It is a leading indicator of industrial activity, since material prices are greatly influenced by changes in factory demand conditions.
- The Bridge/CRB “futures” index reflects prices for 17 commodities in the futures markets that receive equal weights in computing the index value. Its composition is somewhat different from the Bridge/CRB spot index because it includes precious metals (gold, silver, and platinum) as well as energy products (crude oil, #2 fuel). Following is a list of the commodities in the Bridge/CRB futures index:

Cattle “Live” (CME)	Lean Hogs (CME)
Cocoa (Coffee Sugar Cocoa Exch)	Natural Gas (NYME)
Coffee (Coffee Sugar Cocoa Exch)	Orange Juice (NY Cotton)
Copper (NYME[Comex])	Platinum (NYME)
Corn (CBOT)	Silver (NYME)
Cotton (NY Cotton Exch)	Soybeans (CBOT)
Crude Oil (NYME)	Sugar “11” (Coffee Sugar Cocoa Exch)
Gold (NYME)	Wheat (CBOT)
Heating Oil 2 (NYME)	

- Both the Bridge/CRB spot and futures indices contain a large number of agricultural prices, so they can be heavily influenced by changes in weather conditions that might affect crop prices.
- Other commodity price indices exist, such as those compiled by the *Journal of Commerce*, Dow Jones, and *The Economist* magazine.
- Commodity-based inflation measures can be quite volatile because they reflect prices of goods at the earliest stage of production that are highly sensitive to small shifts in supply and demand. Sustained changes in commodity prices are usually required before they have a meaningful effect on inflation at the consumer level.

Productivity and Costs

Source: Department of Labor, Bureau of Labor Statistics
Frequency: Quarterly data, revised monthly
Timing: Five to six weeks after quarter-end
Hour: 10:00 AM
Address: <http://stats.bls.gov:80/news.release/prod2.toc.htm>

- Productivity measures the change in output per hour of work, seasonally adjusted.
- In computing productivity, output is measured as real GDP adjusted to exclude the output generated by governments, nonprofit institutions,

employees of private households, rental value of owner-occupied dwellings, and the farm sector. Separate output data are compiled for manufacturing (both durable and nondurable) and nonmanufacturing businesses.

- Hours worked data from the Labor Department's establishment survey are the primary source for determination of the volume of labor input, supplemented by estimates of nonproduction and supervisory workers. Further adjustments are made to reflect changes in hours of self-employed workers, and to convert hours paid to hours worked.
- This report also provides quarterly statistics on total labor compensation, which incorporate information about wages and salaries, employee benefits expenses, and other types of pay such as stocks and options. This series is the most inclusive with regard to the different forms of compensation.
- Data on nonlabor costs also are included in the quarterly productivity and costs information.
- Productivity and nominal compensation data taken together determine changes in employer unit labor costs. Unlike the ECI, the index of hourly compensation is influenced by changes in the mix of employment between high- and low-paid jobs, as well as variations in equity-based pay schemes. The compensation-per-hour figures indicate the degree to which firms are under pressure to increase prices in response to changes in their labor expenses.
- Data on nonfinancial corporate output, costs and productivity are reported with a one-quarter lag. Some analysts regard these figures as a more reliable indicator of the core trend in business output per hour and unit costs, because productivity in the financial sector can display appreciable short-term volatility. Nonfinancial corporations accounted for a little over half of total GDP in 1996.

Import and Export Prices

Source: Department of Labor, Bureau of Labor Statistics
Frequency: Monthly
Timing: About 10 days after month-end
Hour: 10:00 AM
Address: <http://stats.bls.gov/news.release/ximpim.toc.htm>

- Detailed monthly international price indices have been compiled and published by the Labor Department since 1989. These are used to deflate the monthly merchandise trade balance figures for conversion into real (volume) terms. Data are not seasonally adjusted.

- The indices currently are based on the market basket of goods traded in 1995. Items in the basket include raw materials, agricultural products, semi-finished manufactured goods, and finished capital and consumer goods.
- In addition to the all-import and all-export indices, the Bureau publishes indices for a variety of product categories.
- Export price trends, in conjunction with exchange rate changes, are useful in assessing the relative competitiveness of US-produced goods in foreign markets.
- Movements in the price index for imports excluding the petroleum component provide a good indication of how underlying pricing for foreign-produced goods is influencing overall US inflation among goods.

Section XI. Federal Government Finances

Federal Budget Balance

Source: Department of the Treasury, Financial Management Service
Frequency: Monthly
Timing: Fifteenth business day of the month
Hour: 2:00 PM
Address: <http://www.fms.treas.gov/mts/>

- The monthly deficit or surplus in the federal budget is reported without seasonal adjustments.
- As there is considerable seasonal variability in government receipts and outlays (*e.g.*, April is an unusually high receipts month, and interest outlays are especially large in midquarter months), these reports typically are best evaluated by comparing the monthly figure with year-earlier data.
- Special factors—such as shifts in the timing of Social Security payments and Defense Department pay dates—affect the allocation of federal outlays between months and, therefore, can distort the monthly budget balance.
- Fluctuations in government deposit insurance costs can also cause volatility in year-to-year budget comparisons. This was particularly true between 1989 and 1996, when the federal workout from large losses in the savings and loan industry was in full swing. Therefore, when attempting to discern changes to underlying budget trends, it is generally advisable to interpret the data exclusive of these programs.

US Treasury Borrowing Schedule

Source: Department of Treasury,
via Federal Reserve Bank of New York (as fiscal agent)
Frequency: Depending on issue maturity
Timing: Variable
Hour: Announcements made at 2:30 PM; auctions held at 1:00 PM
Address: <http://www.treas.gov/domfin/auction.htm#anchor724507>

- The market borrowing activities of the US Treasury have undergone substantial restructuring in recent years, as the pattern of government fiscal balances swung sharply from large deficits in the 1982-1996 period to substantial surpluses beginning in the late 1990s.

■ Adjustments to Treasury auction timing, frequency, and size are always possible. The latest example at the time of this writing was the introduction of a weekly 4-week bill auction cycle in the summer of 2001.

■ As follows, we summarize the timing and frequency of regular US Treasury bill, note, and bond auctions as of the third quarter of 2001:

Issue	Frequency	Announced	Auctioned	Settlement (a)
4-Week Bills	Weekly	Mon	Tue/Wed	Thur
13-/26-Week Bills	Weekly	Thur	Mon/Tue	Thur
2-Year Notes	Monthly	Late Month	Wed	Month-end
Quarterly Refunding:				
5-Year Note*	Quarterly	Early Month (Feb, May, Aug, Nov)	Tues	15 th of Month
10-Year Note*	Quarterly	Early Month (Feb, May, Aug, Nov)	Wed	15 th of Month
30-Year Bond*	2/Year	Early Month (Feb, Aug)	Thur	15 th of Month
Inflation-Protection Securities:				
10-Year Note	2/Year	Early Month (Jan, Jul)	Wed	15 th of Month
30-Year Bond	1/Year	Early Month (Oct)	Wed	15 th of Month

(a) If it falls on a weekend or a holiday, then settlement occurs on the next business day.

* Regular schedules for reopening nominal debt issues with 5-year and longer initial maturities have been established. For 5-year notes, new issues occur in May and November, and these are reopened in the following quarter. For 10-year notes, new issues take place in February and August, and reopenings in the other quarters. The 30-year bond cycle involves a new issue each February and a reopening in August.

■ In addition to the regularly scheduled auctions, the Treasury sometimes sells special bill issues known as cash-management bills to meet temporary funding needs. These are announced, auctioned, and settled on an as-needed basis and carry variable maturities under one year. Normally, cash-management bills mature within days or weeks from the time of their distribution. Their maturity dates usually coincide with large seasonal tax receipts.

■ The Treasury began to repurchase its coupon debt securities in the market in early 2000, so as to (a) reduce interest expense, (b) suppress extension of the average maturity of debt outstanding, and (c) mitigate the squeeze on new-issue debt supplies being generated by large budget surpluses. Buyback operations take place twice each month—on Thursdays, just after the third and fourth Wednesdays in the month—for next-day settlement. They have been skewed toward the longer-duration maturity range.

Federal Debt Limit

- The federal debt limit is the legal ceiling on the aggregate amount of public debt that the US government can have outstanding. This limitation was begun in 1917, when the heavy financing burden of World War I convinced Congress to grant the Treasury responsibility for the amounts, terms, and types of US securities to be sold. In order to retain some control over government finances, however, Congress set a dollar limit on the amount of debt outstanding.
- The debt subject to limit includes all marketable Treasury bills, notes, and bonds as well as nonmarketable debt (*e.g.*, savings bonds, government account securities, and special state and local government issues), but it excludes debt of the Federal Financing Bank and the unamortized discount on original-issue discount securities. About 99% of the total public debt outstanding is subject to this ceiling.
- Many lawmakers in Congress do not like to vote in favor of increasing the government's indebtedness. They therefore often delay hiking the debt ceiling until the Treasury nearly or completely exhausts its borrowing authority and faces a funding crisis. In addition, since bills to increase the debt limit must eventually pass to avoid default, they often act as magnets for controversial amendments that can delay the bill's enactment. For these reasons, the Treasury in the past occasionally has found it necessary to deviate from its normal financing patterns in order to avoid breaching this legal limitation (see page 61).
- The debt limit has not posed any threat to regular US funding activities in recent years, amid large annual fiscal surpluses. Yet, it remains in force and could spring back to importance at some future point.

Auction Techniques

- The US Treasury raises funds in the market by means of public securities auctions, at which competitive bids are submitted in yield terms. Several different auction techniques have been employed for Treasury sales, including those described below.
- Since late 1998, all Treasury debt distributions have been conducted through *single-price auctions* (also known in market circles as "*Dutch auctions*"). Under this system, securities allotments are determined beginning with the lowest yields, and moving up in yield until such time as enough bids to completely cover the auction size have been found. At that point, all securities are awarded to those who bid below that highest market-clearing

yield, and those who bid at precisely that yield receive a fractional allocation relative to their bids.

- Prior to late 1992, all Treasury securities sales were conducted as *multiple-price auctions*. The Treasury awarded securities at the yields actually bid, beginning with those at the lowest levels and moving upward until the total auction amount had been allocated. An “average” yield was computed based on the percentages of the issue awarded at each separate yield; the “stop-out” yield was the highest at which securities were awarded; the auction “tail” was the difference between the average and stop-out yields.
- At a multiple-price auction, bidders risk what is known as a “winner’s curse,” namely, that they might pay more than someone else for the same securities. Auction theory suggests that participants in this type of auction will adjust their bid yields upward to protect themselves against the danger of overpayment.
- Between 1992 and 1998, the Treasury employed both systems for selling securities, depending on the issue maturities.
- There are two expected benefits from using single- rather than multi-price auctions:
 1. **“Winner’s curse” eliminated.** The single-price methodology should encourage participants to bid based on what they believe the securities are worth, because all auction winners will get the securities at the identical price. Existence of a “winner’s curse” might encourage more cautious bidding, or efforts to learn more about other bids so as to avoid paying more than someone else for the same securities.
 2. **Broader participation.** It is hoped that by guaranteeing all auction awards will be at the same yield, there will be an enhanced perception of fairness, which in turn could broaden and increase the total volume of bids over time.
- *Subscription sales* were used in the distant past when the Treasury needed to raise an unusually large sum in a short space of time. In a subscription offering, the coupon rate is set prior to sale, and potential investors are asked to state how many securities they would be willing to purchase at that yield. The issue is then allotted based on the relationship of the issue size to the volume of bids. Typically, the coupon rate on subscription issues must be set at some increment above market rates on outstanding issues with comparable maturities, due to the large size of the offering. This is a relatively expensive method for raising funds, and hence it has been used very infrequently—the last Treasury subscription sale was in 1976.

Section XII. Money Supply Measures

Monetary Aggregates

Source: Federal Reserve Board
Frequency: Weekly, for week ending Monday
Timing: Every Thursday, ten days after reporting period
Hour: 4:30 PM
Address: <http://www.federalreserve.gov/releases/H6/>

- In its efforts to measure and track the supply of money circulating in the economy, the Federal Reserve defines and reports a number of monetary and credit aggregates. The three main monetary aggregates are described below:

- M1 Currency in circulation
 - Travelers checks (nonbank issuers)
 - Demand deposits
 - NOW (negotiated order of withdrawal) accounts
 - Credit union share draft accounts
- M2 All of the above, plus:
 - Overnight and continuing contract repurchase agreements
 - Money market deposit accounts (MMDA's)
 - Small denomination time deposits (less than \$100,000)
 - Savings deposits
 - Overnight Eurodollar deposits
 - Money market mutual fund balances (general purpose and broker-dealer)
- M3 All of the above, plus:
 - Large denomination time deposits (\$100,000 or more)
 - Term repurchase agreements
 - Term Eurodollar deposits
 - Money market mutual fund balances (institution-only)

- The other officially-reported aggregates are:

- L All of the above, plus:
 - Nonbank public holdings of US savings bonds
 - Short-term Treasury securities (under 12 months to maturity)
 - Commercial paper
 - Bankers acceptances (net of money market mutual fund holdings of these assets)

Debt Outstanding credit market debt of:
US government
State and local governments
Private nonfinancial sectors
(corporate bonds, mortgages, consumer credit, other bank loans,
commercial paper, bankers acceptances, other debt instruments)

- Figures are reported weekly for each monetary aggregate and monthly at the same time that weekly data covering the full month become available. Figures for “L” and total nonfinancial debt are released monthly with a one-month lag.
- The Fed occasionally modifies its monetary aggregate definitions to take account of financial innovations or in an attempt to find a measure that more closely correlates with broad economic activity.
- Another analytically popular monetary aggregate (not reported by the Fed, but calculated from their data) is “MZM,” which stands for “money-zero-maturity.” It equals M2 minus small denomination time deposits, plus institutional money market mutual funds.
- Monetarist economic theory holds that changes in the money supply over time should yield fairly predictable changes in nominal economic output. Accelerations or decelerations in money stock growth would be expected to influence real economic activity in the short-term; but, for the long-term, it is argued that monetary growth affects only the inflation rate in the economy.
- Over the past two decades, it has become increasingly clear that central banks and other analysts must exercise considerable caution and discretion when interpreting money supply data. Deregulation of financial activities and increased globalization of business have caused many of the traditional relationships between the aggregates and economic conditions to weaken or even break down completely. Therefore, before conclusions about a nation’s economic growth or inflation prospects are drawn from monetary aggregate behavior, it is appropriate to examine whether those figures might be distorted by shifting asset preferences, temporary transactions, international developments, or other factors.

Monetary Base

Source: Federal Reserve Bank of St. Louis; Federal Reserve Board

Frequency: Weekly

Address: <http://www.stls.frb.org/research/newbase.html>

- The monetary base is meant to measure the supply of “high-powered money” in the economy that can be leveraged by the banking system for future lending activities. Changes in growth of the monetary base are believed by monetarists to presage similar changes in monetary aggregate growth rates.
- The monetary base consists of: (1) total bank reserves, (2) the currency portion of the money stock, and (3) vault cash held by banks in excess of that used to satisfy reserve requirements. All three elements are seasonally adjusted, while total reserves and excess vault cash are also adjusted for any breaks in the series associated with changes in official reserve requirements.
- The Federal Reserve Board and the Federal Reserve Bank of St. Louis employ different seasonal adjustment factors and use different treatments for definitional changes in their separate monetary base series.
- A major problem with the monetary base as a measure of the stance of monetary policy is that it is mostly comprised of currency, whose fluctuations can sometimes be related to changing domestic or international liquidity preferences rather than developments regarding final demand or lending. For example, the collapse of Communist governments in Eastern Europe in mid-1989 triggered a surge in demand for dollars in that region, which in turn prompted a sharp acceleration in monetary base growth. Since these extra dollars were being sought primarily as a store of value abroad, the monetary base expansion had little or no influence on US spending or borrowing patterns.

Section XIII. Federal Reserve Policy Disclosures and Tools

FOMC Policy Announcements

Source: Federal Reserve Board/Federal Open Market Committee
Timing: FOMC meeting dates or whenever policy changes are made
Hour: Around 2:15 PM on FOMC meeting dates
Address: <http://www.federalreserve.gov/boarddocs/press/general/>

- Since February 1994, all monetary policy changes by the Fed have been announced on the day they were approved. Prior to February 1994, the Fed only made official announcements when the Federal Reserve Board had voted to change the discount rate. Other policy steps designed to influence money-market interest rates were signaled only through changes in open-market operations designed to alter the balance of supply and demand for bank reserves.
- Additionally, since 1999 the Federal Open Market Committee—the main policy-setting panel—has made official statements after every regular meeting, even when no rate changes were undertaken. This means that the panel’s assessment of the balance of probabilities for future rate changes (the so called “policy bias”) are immediately known as well.
- In general, the FOMC in recent years has shown a strong preference to change official interest rate policies only at regular meetings, except in unusual circumstances. There were 27 individual monetary policy changes between early 1994 and mid-2001, and only four of these moves occurred during the inter-meeting periods. Consequently, when the FOMC does undertake a policy change outside of a meeting date it implies a higher-than-normal degree of anxiety among officials.
- The language of the official statements made by the FOMC and the Federal Reserve Board always are scrutinized carefully by financial market participants, to gain a sense of the key factors weighing on policy determination. These can provide clues as to policy makers’ sense of urgency, and thus to the probable timing and magnitude of any further rate adjustments.
- The nature of the policy “bias” statement has changed over the years, and as a result it probably has lost a good deal of its power to move markets. The statement now reflects the FOMC’s opinion as to the “balance of risks” surrounding future economic developments—that is, whether they are skewed toward growth weakness or inflationary pressures or neutral. Prior to 1999, the FOMC “bias” referred to the panel’s stated view about the most likely direction of any inter-meeting change in monetary policy. The old

“bias” formula was focused on the potential for an early change in rates, while the new metric is designed to convey a broader sense of where the Committee’s concerns lie for the medium term. Consequently, the official “balance of risks” is unlikely to change nearly as often as the old “bias.”

- The FOMC is comprised of all members of the Board of Governors (up to seven), plus the New York District bank president, and the presidents of four of the 11 remaining District banks, who rotate on and off each January. The Chairman of the Federal Reserve Board is also the chairman of the FOMC, while the New York Fed bank president serves as the vice-chairman. All of the District bank presidents are invited to attend the FOMC meetings, though only five of their number possess a policy vote at any point.

FOMC Minutes and Transcripts

Source: Federal Open Market Committee
Timing: Thursday following the next FOMC meeting date
Hour: 2:00 PM
Address: <http://www.federalreserve.gov/fomc/>

- On the Thursday following each Federal Open Market Committee meeting, the group releases official minutes from its previous meeting, which typically occurred six to eight weeks earlier. This is a summary of the panel discussions and votes that occurred, as well as a description of the economic and financial conditions that were present at the time.
- If there is an inter-meeting conference among the FOMC members, minutes are compiled and are released as an addendum to the official minutes from the prior scheduled meeting.
- Votes of the individual FOMC members on policy steps are revealed in the minutes. When there is a dissenting vote registered, typically there is a summary explanation given for that action.
- The FOMC minutes are carefully edited and do not attach the names of policy makers to the opinions expressed in the discussion portion. Thus, market participants must weigh words such as “a few members” or “a majority of members” to get a sense of the degree of support or opposition that existed for a particular position at the time.
- Five years after the FOMC meetings, the group releases complete official transcripts of the meetings, which are transcribed from tape recordings. The transcripts can help to flesh out analysts’ understanding of the views of individual policy makers and the factors that led to specific decisions in the past.

Discount Rate

- With the majority approval of Federal Reserve Board members in Washington, DC, individual Fed district banks set discount rates at which member commercial banks in the district can borrow funds for short-term liquidity needs. While these discount rates theoretically can diverge across regions, it is rare in practice for different discount rates to persist within the Fed system for more than a few days.
- The Fed's discount rate serves as an effective floor for overnight lending rates, because if money-market rates declined below the discount rate for any period, then banks would not have any incentive to borrow from the Fed, and hence, the central bank's leverage over bank lending activities might be diminished.
- Discount rate changes once were extremely powerful occurrences in financial markets, but they have lost their potency independent of changes in the federal funds rate. For many years, through 1993, changes in the discount rate were the only occasions when the Fed made immediate public statements about its policy changes and intentions. Those press releases often provided important information regarding what factors were having the greatest influence on Fed policy makers.

Reserve Requirements

- The Federal Reserve Board establishes the percentage of deposits in various categories that domestic depository institutions must set aside as reserves. These reserve requirements can be met either through deposits at Federal Reserve district banks or through cash held in bank vaults.
- Reserve requirements are intended to provide a liquidity cushion for the banking system, so that funds withdrawals can be met without difficulty. They also provide the Fed with a blunt tool for discouraging or encouraging bank lending activity, as raising or lowering the requirements effectively boosts or reduces marginal costs for taking fresh deposits.
- In addition, a hike/cut in reserve requirements decreases/increases depositories' earnings by reducing/raising the volume of funds they can invest at market rates of return.
- Reserve requirement changes have been infrequent in recent years. The last reductions in these requirements took place in late 1990 and early 1992. Prior to then, the ratios had been left unchanged since 1983.

- Since early 1992, reserve requirements have applied only to transaction accounts; savings and time deposits are currently exempt.

Open-Market Operations

- The Federal Reserve uses open-market operations—its purchases and sales of Treasury and federal agency securities—to directly affect the supply of nonborrowed bank reserves in the marketplace.
- Prior to February 1994, open-market operations were used to implement and signal monetary policy changes (*dynamic* operations), as well as to counteract seasonal fluctuations in the demand and supply for bank reserves (*defensive* operations). Because the Fed in those years did not disclose whether a given open-market operation was for dynamic or defensive purposes, there was a cottage industry of analysts who predicted and interpreted the Fed's daily interventions or noninterventions in the markets, and their views could strongly influence sensibilities about the Fed's policy course.
- Since February 1994, however, all monetary policy changes (*i.e.*, adjustments to the federal funds rate target) have been publicly announced by the FOMC. Thus, open-market activities by the Fed today are performed exclusively for technical, defensive purposes rather than to signal dynamic policy steps.
- The effect of a particular open-market operation on bank reserve supplies depends on three considerations:
 1. *Resulting flow of funds to or from the banking system:* When the Fed purchases securities, it pays for them with dollars that increase total bank reserve supplies. Conversely, when selling securities the Fed takes in dollars, and thus reduces overall bank liquidity.
 2. *Term of the transaction:* Open-market operations can have either temporary or permanent consequences for reserve supplies.

Temporary Operations: Repos and Matched Sales

- When the Fed wants to add reserves to the banking system for a short period, it can do so through repurchase agreements (“repos”). These are short-term contracts in which the Fed purchases securities for a fixed period, receiving a negotiated interest rate on the funds thus invested. At the end of the period, the transaction is automatically reversed and the funds cease to be available for the banks.

- When the Fed needs to temporarily decrease liquidity, it negotiates matched sale-repurchase agreements (“matched sales”) with securities dealers. These reserve-draining measures are comprised of two transactions, under which the Fed sells securities and receives dollars at a negotiated rate of interest, and simultaneously contracts to buy back the securities on some specific future date.

Permanent Operations: Outright Purchases and Sales of Securities

- The Fed periodically faces a situation that warrants taking action to permanently increase or reduce bank reserve supplies. An outright purchase of Treasury securities (or “pass,” in market parlance) adds reserves on a permanent basis, while outright sales have the opposite effect. Since reserve needs generally expand over time, securities purchases by the Fed are far more common than outright securities sales. In fact, no outright sale has occurred since 1990.
 - The New York Fed has adopted a strategy of making numerous, small outright purchase transactions in the market, rather than the infrequent large passes employed in earlier years. This change was made so that securities dealers could narrow the focus of their offerings and thereby shorten the time that passes between initiation and completion of the transaction.
3. *Size of the transaction:* The size of a Fed open-market transaction is determined by the volume of reserves that must be added or drained for defensive reserve management purposes. Since the beginning of 1997, the Fed has announced the exact size of all its open-market operations immediately following their completion. However, in outright purchases the amounts of each issue purchased are not promptly disclosed.

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