Gary E. Clayton

Martin Gerhard Giesbrecht

A Guide to

EVERYDAY ECONOMIC STATISTICS

Fifth Edition

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Both of Northern Kentucky University



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Dr. Clayton has a long-standing interest in economic education. He has participated in and/or directed numerous economic education workshops, received an Outstanding Citizen Certificate of Recognition from the state of Arkansas for his work in economic education, and was a national award winner in the college division of the International Paper Company competition which is sponsored by EconomicsAmerica, the National Council on Economic Education. He also writes for the high school market and currently authors the best-selling principles of economics textbook in the country. In March 2000, Dr. Clayton received the prestigious Leavey Award for Excellence in Private Enterprise Education from the Freedoms Foundation in Valley Forge.

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Because he writes and speaks in a way that people can understand, the Society of Professional Journalism bestowed the Award for Excellence on him in 1993. He has also won awards from the German-American Chamber of Commerce, the National Aeronautics and Space Administration (NASA), the American Society for Engineering Education, the National Science Foundation, The General Electric Foundation, the Ford Foundation, the U.S. Small Business Administration, and the National Endowment for the Humanities, among others. He is especially gratified that the $\Phi B \Lambda$ (Future Business Leaders) Fraternity voted him their favorite professor on the NKU campus.

Preface

Economic statistics, like so many other lists of numbers, might seem as dry as an old bus schedule. The closer we look at them, however, the more they reveal themselves to be quite fascinating. There are two reasons for this. One, economic statistics hit us where we can feel them: in our breadbaskets, in our wallets, in our standards of living, and in our careers. And, two, they are themselves the products of some of the more extraordinary endeavors of our modern age.

Our everyday economic statistics are important in that they tell us where we have been and show us where we would like to go. Many of these statistics even help us make important personal, family, and business decisions—and so to do without them would be like flying blind or driving cross country without a road map. In short, it's possible, but not advisable. Statistics tell us too much about ourselves and our economy to be left behind unconsidered.

Four years have now passed since the fourth edition of this little guide was published in 1997. It turns out that much has changed, and many of the changes are worthy of note. Specifically, one noteworthy event was the recent "benchmark" overhaul of the National Income and Product Accounts by the U.S. Department of Commerce at the end of 1999. Many of the changes—such as the treatment of computer software purchases as fixed investment expenditures rather than as business expenses—reflect the evolving nature of our increasingly high-tech economy. Another change was to update the base year for constant dollar measures from 1992 to 1996. Other revisions were more technical, methodological, or definitional, but collectively they gave us a much more accurate picture of the overall state of our economy. Furthermore, these revisions are extended back in time, with some affecting series as far back as 1929, to give us a more accurate representation of events that occurred in the past.

Second, accessibility to the data has changed dramatically. Ten years ago, many of the individual series that economists use to keep track of the economy were available on the ECONOMIC BULLETIN BOARD at the U.S. Department of Commerce for a relatively modest cost. In 1995, and as part of a cost-saving measure, many of the most important business cycle series were transferred from the Bureau of Economic Analysis to The Conference Board, a private, non-profit business organization. Since then, however, most federal datagenerating agencies have placed their data on the Internet, thereby increasing accessibility and lowering the cost to users.

Third, it is only natural that some statistics take on more importance—and others less so—as time goes on. One such example, the Federal Reserve Bank's Beige Book, isn't even statistical in the usual sense of the word. However, the report has become relatively more important as fiscal policy-making in Washington has become increasingly subject to gridlock, thereby making monetary policy—and therefore Fed-watching—all the more important. Finally, yet another interesting series might include the "new jobs created" report that we occasionally hear about, despite the fact that it is only inferred from other data.

That's where this little book comes in, because it is neither a statistics lecture nor an economics textbook. Instead, it is a handy little guide that can be consulted for clarification whenever any of the statistical series dealt with herein are encountered. It examines how the series are constructed and how we may use them effectively. Above all, it tries to put things in context, so the reader can see how an individual statistic relates to the larger picture. Because of this, you won't have to read the book consecutively from beginning to end, although that is OK too.

In these millennial times, many economies and the people living in them are doing better and have better prospects for the future than they have ever had. Countries around the world that were once mired in communism's dogmas or caught in the grip of poverty and underdevelopment are climbing out of these entrapments. We in America seem to have reached an entirely new level of economic performance that is the envy of the rest of the world. Most of the economic news was good during this period as the stock market

posted record gains, the unemployment rate reached record lows, the rate of inflation was agreeably low, and productivity surged to new heights. More importantly, in March 2000 the economy set the all-time record for continuous real GDP growth, besting the previous 106 months of continuous expansion during the 1960s. There were some problem areas, of course, as the trade balance and consumer debt levels reached record highs, but all in all, the last four years have been good to us.

At times like this, it might seem less urgent to keep an eye on economic statistics. After all, we may put off watching our diets or keeping tabs on our blood pressures when we are in robust health. But, as more than a few of us have learned, this is precisely the time when concern about our personal well-being is critical. And the same goes for our economic well-being.

That is what this book is all about. Use it well, and use it often.

Gary E. Clayton Martin Gerhard Giesbrecht

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Chapter 1

INTRODUCTION

How the Statistics in This Book Were Chosen

We need economic statistics to know how we are doing, and we need to know how we are doing in order to figure out how to get where we want to go. Decision making requires knowledge, and knowledge is the only logical basis of action. That is why we need economic statistics.

There are literally millions of statistical series! At the personal level, each of us could probably generate a dozen series from our grocery receipts, odometer readings, telephone bills, and electricity bills. Every business, town, city, county, and industry could do and often does the same in its own field of operation.

Even the broad-based measures of economic statistics, those that deal with whole states, regions, and nations, number into the thousands. A glance at any statistical yearbook or almanac or at the annual Statistical Abstract of the United States¹ will make this point.

Yet, only a handful of economic statistical series are dealt with in this book. Why?

First and most obvious, there is such a thing as too much information. It can prevent us from seeing the forest for all the trees.

Second, many statistical series, like one detailing our own personal electric consumption, are not interesting to everyone.

¹ Available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. The entire *Statistical Abstract* is also available on the web and can be accessed through the "U.S. Government Publications" section of the http://www.EconSources.com web site.

Third, many statistical series are compiled and published too late to be of much more than historical interest.

Finally, many statistical series are not reported regularly in the press and broadcast media. The small number of series dealt with in this book are those with extremely high profiles. Some, like the Dow Jones Industrial Average, are reported daily—on television, radio, and in national and local newspapers. Others, like the prime rate, are mentioned less frequently, but still receive prominent attention

If we want to know how we are doing or where we are headed, even a handful of series are usually more than enough. They include most of the major economic indicators that are important all of the time. Gross domestic product (GDP), the consumer price index, and the unemployment rate would certainly be in the top half-dozen of anyone's list of key economic statistics. Many others are important most of the time, and the rest are important at least some of the time.

We may not have selected everyone's favorite statistical series—and for that we apologize—but we are driven by a positive philosophy of wanting to describe "what is" rather than a normative one of "what should be." Some statistics are neglected when they should not be, while others are widely reported when there is less reason to do so. However, the objective here is to provide a guide to those series that do receive attention rather than to the ones that should

A Frame of Reference

The main measure of overall economic and business activity is gross domestic product, whose fluctuations are the most important gauge of good times or bad times that we have. In this context, as in virtually all others, GDP is to be understood as a final, bottom-line accounting measure, an economic result, rather than as an indicator of things to come.

Many of the statistics reviewed in this book measure either the whole or parts of GDP. Other statistics, the index of leading indicators preeminent among them, serve better as signals of things to come. There are also the more specialized series, such as new housing

starts and Standard & Poor's 500 (S&P 500), that serve both as general indicators of future economic activity and as first-order indicators for their own industries. Finally, we have other series such as domestic auto sales that provide important information for their own industries, but have little value as indicators of future economic activity.

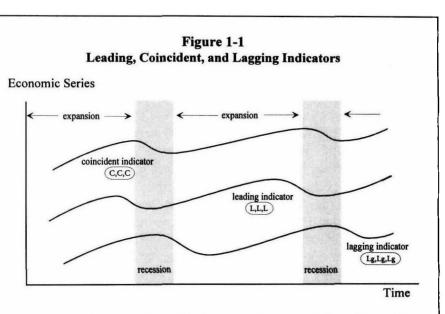
As we peruse the formal world of economic statistics, bear in mind that they cannot be evaluated in a vacuum. Statistical series need a background, or a frame of reference, so that they can be put in proper perspective. This the book attempts to do. Sometimes the frame of reference is discussed in terms of the historical development and evolution of the series. Or, the perspective may take the form of a detailed discussion of the way the statistic is measured and compiled. The frame of reference may also be the way the particular indicator or statistic relates to other developments in the economy. In the end, our goal is to provide a perspective that allows for proper interpretation and application of the particular series.

Of particular interest are the three types of indicators—leading lagging, and coincident—shown in Figure 1-1. The name given to each refers to the way the series moves in relation to changes in overall economic activity. For example, the series marked "leading indicator" turns down before the economy enters a recession (the shaded area in the figure) and turns up before the expansion begins.

The "lagging indicator" series behaves just the opposite—it turns down after the economy enters a recession, and up sometime after the recovery is underway. A coincident indicator neither leads nor lags. Instead, its timing is such that it turns down when the economy turns down, and up when the economy turns up.

The three codes in the oval key for each indicator show how the changes in the individual series compare to changes in the overall economy. The coding, also shown in Figure 1-2, is the same as that formerly used by the Bureau of Economic Analysis (BEA) in the Department of Commerce to classify the economic indicators when they were reported in the monthly *Survey of Current Business*.²

² These codes are the closest things we have to being "official" classifications of time series behavior. Unfortunately, they have not been published for some time, so there is no authority on leading, lagging, coincident classification. Instead, we will show the codes where they appear to be relevant, and then encourage the reader to make his or her own judgment as to whether the classification is appropriate.



Economists use the convention of shading recessionary periods to distinguish them from periods of expansion. Economic series are classified as leading, coincident, or lagging indicators depending on how their turning points compare to changes in the overall economy.

Sometimes a series leads both peaks and troughs in the economy to make it an overall leading indicator. At other times, it may lead peaks and lag troughs to earn an overall rating of "unclassified." Other series play no role as indicators of overall economic activity, and so no classifications are shown.

Whenever possible, the economic series examined in this book are plotted against the historical background of recessions and expansions. As will be seen, many series behave like those in Figure 1-1, although the timing of the turning points will vary considerably. Others will appear to have little, if any, relationship to changes in the overall economy. Even so, we feel that the presentation is important if you are to make your own judgments about the behavior of the series.

We have also listed convenient sources for data at the end of every section. Sometimes the source is in the form of easily accessible publications, sometimes it is in the form of a web address,

Figure 1-2 Leading, Coincident, and Lagging Indicator Codes

(L,Lg,U) The series leads the peaks in the economy; it turns down before the economy turns down (L = leads).

The series lags the economic recovery; it turns up after the economy turns up (Lg = lags).

Overall, the series is unclassified; it is neither a leading nor a lagging indicator on a consistent basis (U = unclassified).

The series turns down after the economy peaks (Lg = lags).

The series recovers just as the economy recovers (C = coincident).

Overall, the series lags (Lg = lags) as an economic indicator.

C,L,L The series turns down *just as* the economy turns down (C = coincident).

The series turns up before the economy turns up (L = leads). Overall, the series is classified as a leading indicator (L = leads) even though the timing of the series is coincident for peaks.

The first code in the oval stands for the timing of the series with respect to peaks in the economy, or when the expansion ends and the recession begins. The second stands for the timing of the series with respect to troughs in the economy, or when the recession ends and the recovery begins. The last code indicates the overall classification of the indicator.

and at other times it is in the form of a telephone hotline. In addition, updates to these series, along with many related background articles, can be found in the *Everyday Economic Statistics* section of the http://www.EconSources.com web site.

The Many Faces of Economic Statistics

The task of interpreting economic statistics might seem to be a simple one: just take the numbers and describe how they changed from one period to the next. Unfortunately, it's not always that easy because most statistical series can be reported in a number of ways.

To illustrate, consider a hypothetical report stating that total sales increased by 5 percent from \$800 billion to \$840 billion over a

recent 12-month period. If the report is in terms of current prices, and many initial reports are released this way, then it stands to reason that some of the \$40 billion increase is due to inflation.

To compensate for inflation, sales can be measured in terms of "real," "constant," or "chain-linked" dollars using prices that prevailed in an earlier year.³ If 1996 is used as the base year, and assuming that prices are approximately 10 percent higher now than they were in that base year, the same report could be worded like this: "In terms of chained (1996) prices, total sales increased from \$720 billion to \$738 billion for the most recent year." This time the increase of \$18 billion is only a 2.5 percent gain, so half of the increase current dollar increase was due to inflation, the other half was real growth.

Most series that are susceptible to the distortions of inflation are reported in both current (nominal) and real (constant or chained) dollar amounts, with 1996 being the most recent base year adopted by the U.S. Department of Commerce. Both kinds of information are valuable—if used correctly—although the availability of both means that sales statistics can be reported in a number of different ways:

- the final current or nominal dollar value of total sales (\$840 billion)
- the change in the *current* or *nominal* dollar value of total sales (\$40 billion)
- the final chained, or real dollar value, of total sales (\$738 billion)
- the change in *chained*, or *real* dollar value, total sales (\$18 billion)
- the percentage change in the *current* or *nominal* dollar sales (5.0 percent, or \$40 billion/\$800 billion)
- the percentage change in *constant*, *chain-weighted* or *real dollar sales* (2.5 percent, or \$18 billion/\$720 billion)

We have the same type of problem when numbers are converted to an index, such as the consumer price index, the producer price index, or any other index. For example, suppose that the index under consideration has a base year of 1977 = 100 and currently stands at

³ In January of 1996, the U.S. Department of Commerce switched from a system of base-year fixed prices to a system using chain-weighted geometric averages with 1992 as the reference year. In 1999, the base year was updated to 1996. This technique is described more fully in the Appendix on page 141.

145. If the index goes to 146 in the next month, there is an increase of 1 over the base period activity, or a 0.69 percent increase in the index over the previous month (1/145 = 0.0069). If the index were to grow at the same rate for each of the next 11 months, the annualized rate would be 8.6 percent.⁴

Using the numbers in the paragraph above, we can see that the change in any index can be reported in several different ways:

- the absolute level of the index (145)
- the absolute change in the level or the index from period to period (1)
- the relative percentage change from the previous period (0.69 percent)
- an annualized projection of the current period percentage change (8.6 percent)

In general, the relative percentage change is the most useful, with the annualized version coming in next. However, the reader should be advised that even these lists are not exclusive. For example, sometimes the change in the level of the index is compared to a period 12 months earlier. If the new level of 146 is 10 points higher than it was 12 months ago, then we could also say that the annual increase was closer to 7.35 percent.

Abusing Economic Statistics

The governments of the modern, industrialized nations of the free world—the United States among the best of them—enjoy a remarkable reputation for producing honest statistics. Surprisingly (since they bear less responsibility to the citizenry), so do many nongovernmental agencies in these countries that produce statistical series, some of which are included in this book. In some nations however, statistics are exaggerated, underreported, or simply faked for

Annualized growth =
$$(1 + \text{monthly percentage change})^{12} - 1$$

= $(1 + 0.0069)^{12} - 1 = 0.086$

Because of compounding, you cannot multiply the monthly percentage change of 0.0069 by 12 to get an annualized rate, although this mistake is often made!

⁴ The series is compounding monthly, and so the correct computation is to use the following formula:

political or ideological reasons. When this happens, the usefulness of the statistics is radically reduced. Whether they know it or not, it is also a tragic loss to those nations that support this type of activity.

In the United States, our statistics tend to be brutally honest. Agencies that report their statistics normally publish release schedules months in advance of the actual release, and the methodology used to compile the series is remarkable open. As a result, there is not even the slightest hint that the release of new statistical figures is delayed in order to prevent some political or commercial embarrassment.

Perhaps the most common abuse of economic statistics is to apply them to situations for which they were never intended. For example, some series with little, if any, relationship to movements of the overall economy are often treated as if they are significant predictors of future changes in GDP. Personal income in current dollars, discussed in detail in Chapter 4, is one such example. The historical record shows that personal income almost always goes up, even when the economy is in recession.⁵ Even so, increases in personal income are dutifully reported and widely heralded by the press each time they are released.

Other series are treated as indicators of future economic activity when, in fact, they are actually coincident or lagging indicators. Interest rates can be cited in this context, especially the prime rate which consistently lags changes in real GDP. Changing interest rates certainly affect selected sectors of the economy, especially housing, automobiles, and to some extent stock prices, but changing interest rates are of little use in predicting future changes in the overall economy.

Yet a third abuse is to focus on nominal dollar values when the real, or inflation-adjusted, figures give a better picture of the underlying changes. Unfortunately, the various government agencies contribute to this problem because the nominal dollar data and the price deflators needed to adjust the data are not available at the same time. When the U.S. Department of Commerce releases its Advance

⁵ The most recent recession in the U.S. economy began in July 1990. During the nine recessionary months that followed, personal income in current dollars increased seven times and declined only twice! In terms of real (chain-weighted) dollars, there were three monthly decreases and six increases.