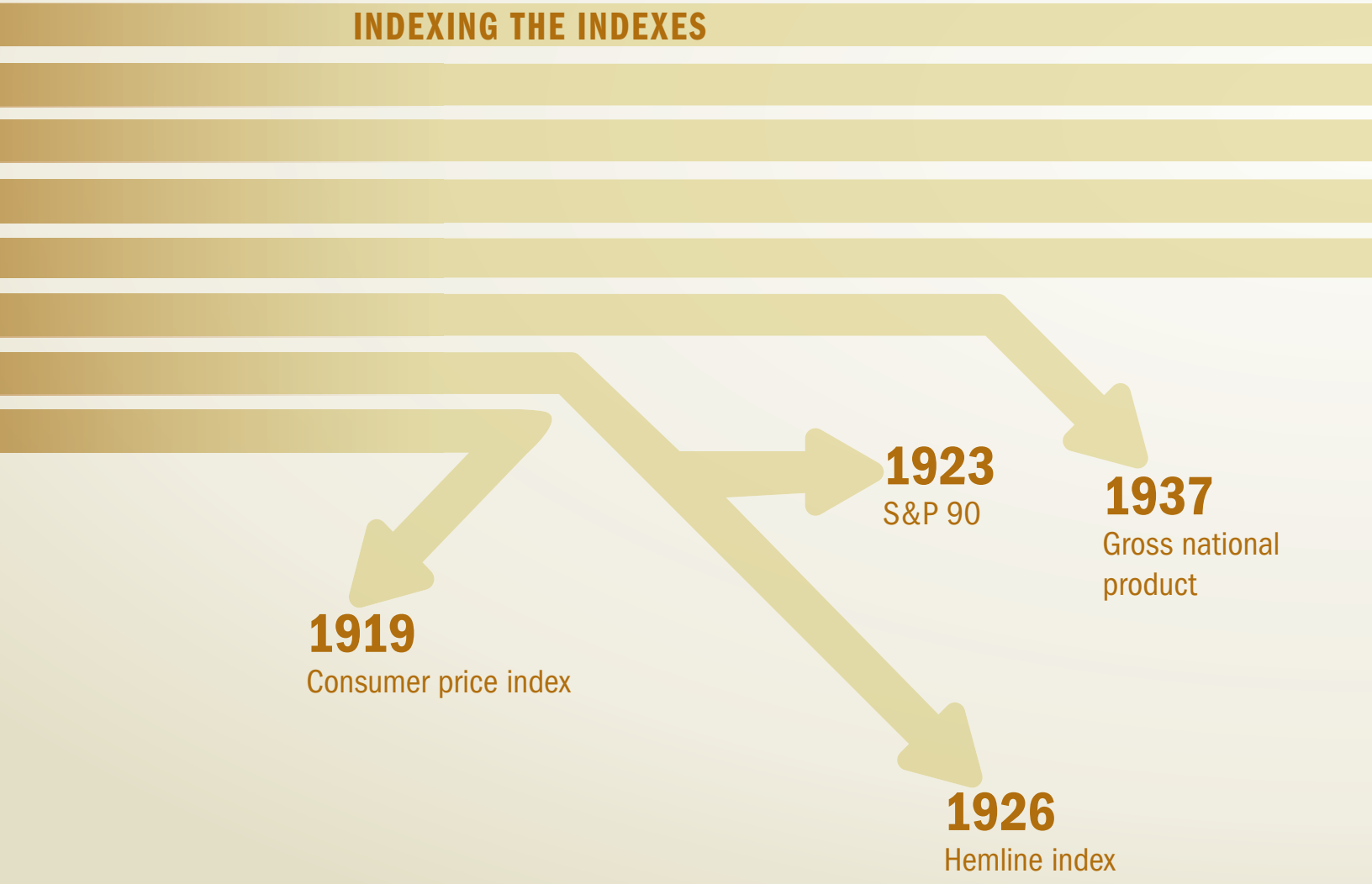
Part Chart, Part Science:

The Evolution of Economic Indicators

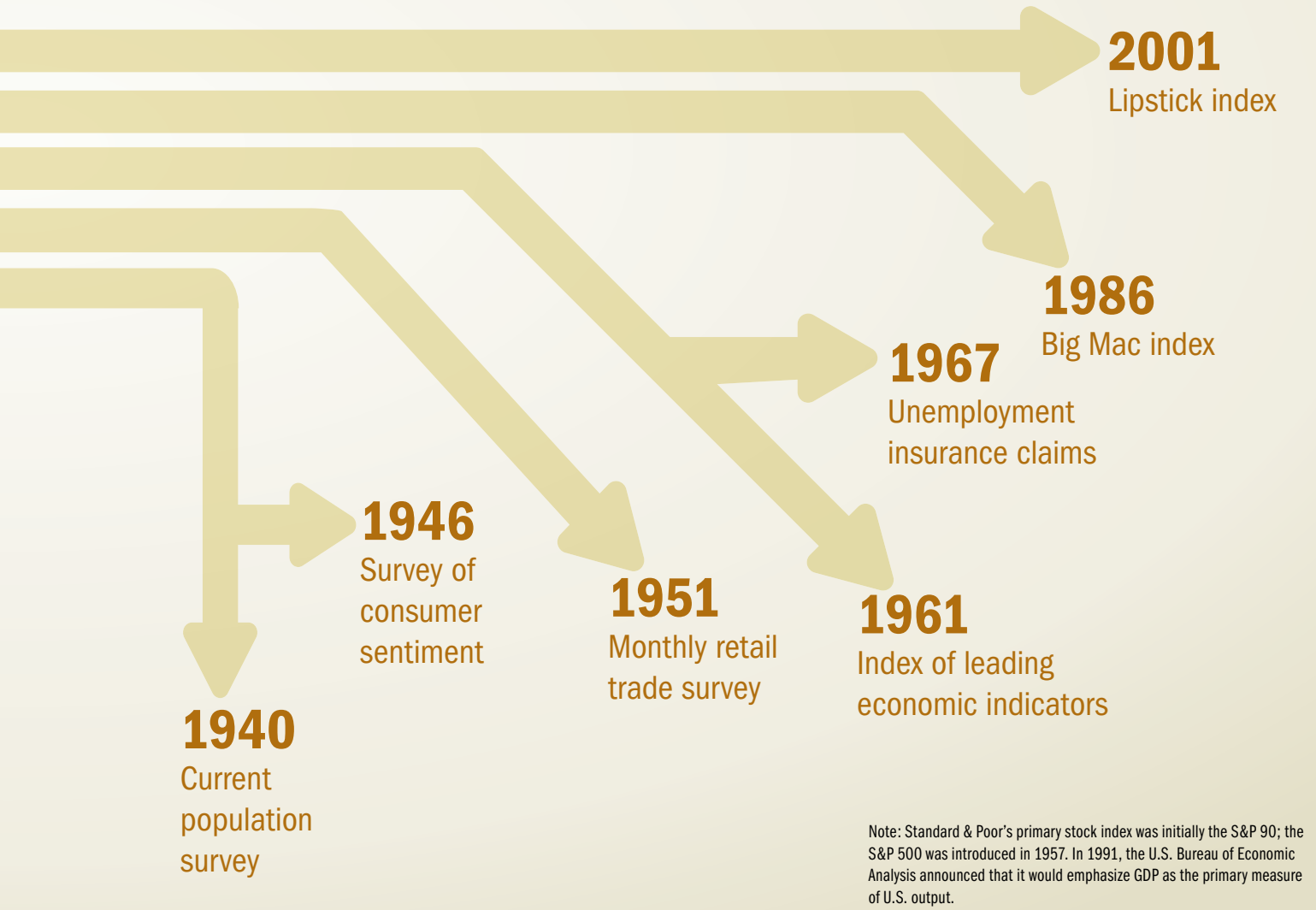
INDEXING THE INDEXES



Economists today have access to amounts of data that their forebears could only dream of. As the economy changes over time, the metrics that economists use change as well. The effort to understand the large, complex U.S. economy has led to the development and introduction of a wide array of useful indicators.

Imagine a doctor preparing for surgery with nothing but a scalpel and a stethoscope—no high-tech, beeping monitors displaying the patient's heartbeat, blood pressure, and other vital signs. A dramatic scenario, yes, but it's not unlike the situation economic policymakers faced during the Great Depression. The economy was in intensive care, but the government lacked adequate tools to gauge its progress. Armed only with stock price indices, freight car loadings, and incomplete industrial production figures, policymakers struggled to monitor the economy's pulse during the worst economic contraction in modern history.

Today, the situation is dramatically different. Each week brings a stream of data that gives economists, policymakers,



Note: Standard & Poor's primary stock index was initially the S&P 90; the S&P 500 was introduced in 1957. In 1991, the U.S. Bureau of Economic Analysis announced that it would emphasize GDP as the primary measure of U.S. output.

Off the Charts

Almost anything—from sales of lipstick to Big Macs—can be an economic indicator. While most economists rely on the official (that is, government) numbers, such as GDP and monthly payroll figures, some lesser-known (and sometimes quirky) indicators can give them a more nuanced perspective on consumer and business behavior. Indeed, even former Federal Reserve Chairman Alan Greenspan was known for following such time-honored indicators as electrical power hookups and boxcar loadings, noted Atlanta Fed Vice President Mike Bryan. (Greenspan—or rather, his briefcase—was also a closely watched indicator during his tenure as Fed chairman. According to the so-called briefcase index, if the chairman arrived to a meeting of the Federal Open Market Committee with a thick briefcase—stuffed full of data to prove his case—then some Fed observers thought a rate change was imminent. A thin briefcase, alternatively, meant rates would stay the same.) As an added benefit, many "unofficial" indicators are timelier than the official, headline-grabbing figures. The following is just a sampling of the offbeat indicators that lend a unique perspective on the economy.

- The **hemline index** is attributed to economist George Taylor, who in the 1920s noticed that women's hemlines seemed to rise and fall with the economy (or the stock market, according to some reports). He theorized that when the economy was booming, women wore shorter skirts to show off their silk stockings. The opposite was true during economic slumps, when women would wear longer skirts to hide their bare legs. Since stockings are no longer as ubiquitous as they once were, today's movements in the index are more psychological, indicating a riskier or more conservative outlook. While a look back at fashion history seems to validate Taylor's theory—think flapper skirts in the roaring 1920s and peasant skirts in the recession-plagued 1970s—the hemline index has been hotly debated since its conception. So, is it a reliable indicator or an urban myth? According to a 2010 paper by economists Marjolein van Baardwijk and Philip Hans Franses, the theory holds, but with a lag time of roughly three years.

- The **lipstick index** was introduced by Leonard Lauder, chairman emeritus of the cosmetics company Estee Lauder. According to and others insight into the economy's performance. Indeed, given the sheer volume of economic data available, it's hard to believe that most of the metrics are a relatively recent invention.

"Few people realize that in the 1920s, the government was collecting very little data."

Mike Bryan, Atlanta Fed vice president

The Depression spurs official measurements

"Few people realize that in the 1920s, the government was collecting very little data," explained Mike Bryan, a vice president in the Atlanta Fed's research department. To remedy the gaps exposed by the Great Depression, the U.S. Commerce Department recruited economist Simon Kuznets to create an estimate of the nation's income. Gross national product estimates followed a decade later. Together they formed the national income and product accounts (NIPAs), which for the first time gave policymakers a comprehensive look at the U.S. economy and served as a benchmark from which to judge whether it was growing or shrinking.

Perhaps the most important measure included in the NIPAs is gross domestic product (GDP), a tally of the total value of goods and services produced within U.S. borders. Countless economic decisions hinge on this one figure. But even the so-called granddaddy of economic indicators has in some ways failed to keep pace with the rapidly changing U.S. economy. Concerns about the national accounts date back to their creation. Kuznets was frank about their shortcomings—one being that the accounts did not capture activities that, while not traded in the marketplace, have value nonetheless. More recent concerns center on the NIPAs' inability to capture the economic realities facing individual households, as well as their failure to expose the imbalances that persisted prior to the financial crisis and recession, including those in the housing and financial markets.

The economy and its measures keep changing

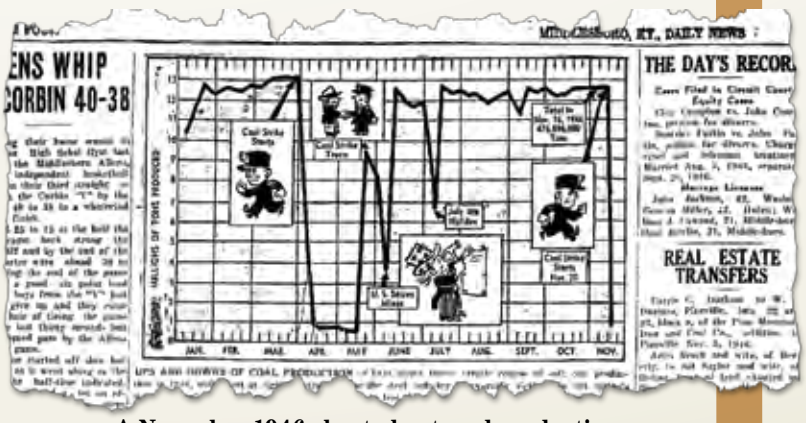
Keeping up with structural changes in the U.S. economy has also been a challenge. For instance, services now account for more than two-thirds of GDP, compared to about one-fifth for manufacturing. However, there are vastly more data on the latter. The U.S. Bureau of Economic Analysis (BEA), which publishes the NIPAs each quarter, has worked to change this imbalance—for example, by creating satellite accounts for several industries that are not fully reflected in the national accounts. They include transportation services, tourism and travel, and health care. The

estimates parallel the standard accounts but include greater detail and analysis of certain aspects of the economy. For example, the research and development (R&D) satellite account measures the impact of R&D on the economy and estimates how the national accounts would be affected if R&D spending were counted as an investment (it's currently treated as an expense). The BEA plans to incorporate this methodology into its core accounts in 2013, with a potentially significant impact on GDP and other measures. Indeed, if R&D spending had been counted as an investment, GDP in 2007 (not adjusted for inflation) would have increased 2.8 percent, or $396.3 billion.

While structural changes in the economy have affected the compilation and reporting of data, these shifts have also caused some indicators to wax and wane in popularity. "The economy has changed over time, so why would we expect the indicators we use to stay the same?" asks the Atlanta Fed's Bryan. For instance, some indicators that were once vital and closely monitored in the early 20th century, such as pig iron or coal prices, are no longer as important, he explained.

Monetary aggregates, or measures of the nation's money supply, are a more recent example. The M2 aggregate, which includes many of the financial assets held by households, used to be correlated with economic growth and served as a leading indicator of turns in the business cycle. Monetary aggregates were also integral to the Federal Reserve's monetary policy—the central bank published the figures in weekly and monthly reports and was required by Congress to set targets for growth in the money supply.

However, starting in the 1980s, changes such as deregulation in the banking sector and financial innovation weakened the relationship between money supply growth and economic activity. This shift led former Federal Reserve Chairman Alan Greenspan to tell Congress



A November 1946 chart about coal production

his theory, women splurge on little luxuries—lipstick, for example—when the economy is weak. Like the hemline index, the validity of the lipstick index is hotly disputed, in part because reliable historical data on lipstick sales are hard to come by. According to a 2009 article in *The Economist*, there isn't a clear correlation between lipstick sales and the economy. However, some market-watchers have latched onto a broader category—cosmetics sales, which have a more reliable track record of booming during recessions.

- The **Big Mac** index, created by *The Economist* in 1986, signals whether a country's currency is under- or overvalued. The index relies on the theory of purchasing power parity, which says that currency exchange rates should adjust over the long term so that an identical product—say, a Big Mac—costs the same in each country. According to the magazine's July 26 index, a Big Mac costs $4.33 in the United States, $2.29 in Russia, and $4.68 in Australia, indicating that the Russian ruble is undervalued and the Australian dollar is slightly overvalued. According to *The Economist*, so-called burgernomics "has been surprisingly accurate in predicting long-run movements in exchange rates."
- Google.com is the go-to spot for **Internet searches**, allowing the company to collect massive amounts of data. As a result, some central banks, including the Federal Reserve and the Bank of England, are exploring how to use Internet search data as an economic indicator. The research so far indicates data can be helpful in "nowcasting"—keeping tabs on current economic activity. In a 2009 paper, Google Chief Economist Hal Varian and Hyunyoung Choi, senior economist at Google, wrote that "even predicting the present is useful, since it may help identify 'turning points' in economic time series." For example, "if people start doing significantly more searches for 'Real Estate Agents' in a certain location, it is tempting to think that house sales might increase in that area in the near future." However, although products such as Google Trends could provide a wealth of current data on consumer behavior, labor markets, and more, they have pitfalls, too. For one, the data only go back to 2004, and some key populations—namely low-income and elderly people—are underrepresented.

in 1993 that "at least for the time being, M2 has been downgraded as a reliable indicator of financial conditions in the economy."

A series of events over the next decade further highlights the aggregates' changing role as indicators. In 2000, the Fed stopped setting targets for money supply growth, followed by the decision in 2006 to halt the publication of the M3 monetary aggregate (the broadest measure of the money supply). Finally, earlier this year, the Conference Board, a private research group, announced its plans to remove the M2 measure from its Leading Economic Index (LEI), one of several changes aimed at making the LEI more reliable.

"Surveys help bridge the gap between data and anecdotal evidence."

Mike Chriszt, Atlanta Fed vice president

This deemphasis is not to say that monetary aggregates are irrelevant, however. The Federal Reserve continues to publish weekly and monthly data on the money supply, and as Fed Chairman Ben Bernanke noted in a 2006 speech, they "may still contain important information about future economic developments."

New indicators grab the spotlight

Just as some indicators have become less reliable, others have gained new importance. In addition to broad data on output, prices, and payrolls, economists are paying close attention to other indicators that might signal a turning point in the economic recovery. Mike Chriszt, a vice president and senior economist in the Atlanta Fed's research department, said he monitors first-time jobless claims, a statistic published by the U.S. Labor Department. The report is valued for its timeliness (it's produced weekly) and is viewed as a leading indicator. A sustained decline in the number of people filing for unemployment insurance benefits could signal that the labor market and economy are improving. Conversely, a persistent increase in the number of first-time filers could indicate weakening economic conditions. At press time, the four-week moving average for new jobless claims in the week ending September 8 had risen 3,250 to 375,000. The most recent figures—the highest since mid-July—could indicate a stalling of the labor market recovery, although it also reflects the increase in initial claims as a result of Tropical Storm Isaac, which buffeted parts of the Gulf Coast in late August.

The steep job losses during the recession and the slow recovery have John Robertson, Atlanta Fed vice president and senior economist, paying close attention to data on new business formation. Two separate reports, published by the U.S. Census Bureau and the U.S. Bureau of Labor Statistics, track this key engine of job creation—one that has broken down in recent years. This source of data is important because new firms collectively create three million jobs nationally, on average, in their first year, according to research by the Kauffman Foundation. However, the foundation also reported that the business start-up rate dropped below 8 percent in 2010—the most current data and the lowest level ever recorded. Tracking this rate may help Robertson and others anticipate improvements in the labor market.

Chriszt also noted the importance of surveys as economists try to make sense of the mountains of data released each week. "Surveys help bridge the gap between data and anecdotal evidence," he explained. The Atlanta Fed's business inflation expectations (BIE) survey is a fitting example. Introduced in January of this year, the survey fills a critical gap in inflation data—the price expectations of businesses. Prior to the survey, information on businesses' inflation expectations was largely anecdotal. Today, the monthly survey of southeastern businesses gives economists key insights into their business conditions, pricing pressures, and inflation expectations.

Although more and better data help paint an accurate picture of the economy, simply having the data does not mean economists have it all figured out. "The real challenge is digging into as many data points as possible to build a narrative that makes sense," said Chriszt. Robertson agreed. He monitors a wider range of economic and financial data than he did prior to the 2007 crisis, largely because the crisis highlighted just how interconnected the financial sector and the real economy can be. And while each economist has a favorite metric, they almost uniformly warn that "there is no perfect indicator." Data are essential for monitoring the economy's vital signs, but "no indicator on its own tells a complete story," said Robertson. Chairman Bernanke echoed those sentiments in an August speech, noting that "exclusive attention to aggregate numbers is likely to paint an incomplete economic picture." ▮

This article was written by Lela Somoza, a staff writer for EconSouth.