



WORKING PAPER
2017:52

Swedish Schumpeter Lecture:

Go Beyond Gdp: Why Business, Not the Consumer, Drives the Economy

Mark Skousen

Working Papers Series from Swedish Entrepreneurship Forum

In 2009 Swedish Entrepreneurship Forum started publishing a new series of Working Papers. These are available for download on www.entreprenorskapsforum.se, and are part of our ambition to make quality research available to a wider audience, not only within the academic world.

Scholars from different disciplines are invited to publish academic work with the common denominator that the work has policy relevance within the field of entrepreneurship, innovation and SMEs.

The working papers published in this series have all been discussed at academic seminars at the research institution of the author.

ABOUT SWEDISH ENTREPRENEURSHIP FORUM

Swedish Entrepreneurship Forum is the leading Swedish network organization for generating and transferring policy relevant research in the field of entrepreneurship and small enterprise development.

Swedish Entrepreneurship Forum is a network organization with the aim

- to serve as a bridge between the small business research community and all agents active in development of new and small enterprises.
- to initiate and disseminate research relevant to policy in the fields of entrepreneurship, innovation and SME.
- to offer entrepreneurship researchers a forum for idea sharing, to build national and international networks in the field and to bridge the gap between research and practical application.

Find out more on www.entreprenorskapsforum.se

SCHUMPETER LECTURE

GO BEYOND GDP: WHY BUSINESS, NOT THE CONSUMER, DRIVES THE ECONOMY

**By Mark Skousen
Chapman University**

“It is, however, the producer who as a rule initiates economic change and consumers are educated by him if necessary; they are, as it were, taught to want new things...”

--Joseph A. Schumpeter (1934, p. 65)

“The next economics will have to be centered on supply and the factors of production rather than being functions of demand.” --Peter F. Drucker (1981)

“Gross output [GO] is the natural measure of the production sector, while net output [GDP] is appropriate as a measure of welfare. Both are required in a complete system of accounts.”

--Dale W. Jorgenson, J. Stephen Landefeld, and
William D. Nordhaus (2006, p. 6).

In 1954, Milton Friedman delivered an important paper in Stockholm, Sweden, on “Why the American Economy is Depression-Proof.” He wrote it in response to several high-profile economists and financial advisors who were predicting another 1930s-style great depression around the corner. But Friedman was an optimist who argued that institutional changes such as federal deposit insurance, the welfare system, and the Federal Reserve “lender of last resort” policies would keep a recession from getting worse (Friedman 1954). He proved to be prescient, at least until the 2008 financial crisis, when the United States once again came dangerously close to collapse.

Today I would like to follow in Milton Friedman’s footsteps by making the bold claim that business investment, broadly defined, is far more important in the dynamics of US economic growth than either consumer spending or government stimulus, and will use the new gross output (GO) data to make the case.

What Drives the Economy?

My thesis flies in the face of the conventional wisdom that the US economy is a “consumer society” and that consumer spending and government stimulus drive the economy. It is not surprising that the financial press frequently focuses on monthly reports of retail sales and consumer sentiment to determine the outlook for jobs and the economy. It is not uncommon to see the following statements in the media following the release of economic growth data:

“With personal consumption accounting for nearly 70 percent of all economic activity, however, the administration will be hard pressed to lift growth substantially if consumers remain cautious about opening their wallets.” – Nelson D. Schwartz, “Economy Grows at Slowest Rate in 3 Years,” *New York Times*, April 28, 2017, page 1.

“Consumer spending is the lifeblood of the U. S. economy...” *Barron's*, August 15, 2016, p. M1.

"Household spending generates more than two-thirds of total economic output, so sturdy [consumer] spending gains should translate into economic growth." – “Spending Rises, Inflation Stays Low,” *Wall Street Journal*, September 30, 2014, p. A2.

“Consumer spending makes up more than 70% of the economy, and it usually drives growth during economic recoveries.” -- “Consumers Give Boost to Economy,” *New York Times*, May 1, 2010, p. B1.

Or as the *Wall Street Journal* stated a few years ago,

“Consumers are the engine of the U. S. economy, accounting for about 70% of economic demand...” -- “Consumers Stepped Up Spending in March,” *Wall Street Journal*, April 17, 2012, p. A7.

And in a broader context, here’s a report from the *New York Times* discussing the role of government, investment, and consumer spending in the economy:

“Friday’s estimates of second-quarter gross domestic product [1.3%, well below consensus forecasts] provided a sobering look at how a decline in public spending and investment can restrain growth...The astonishingly slow growth rate from April through June was due in large part to sluggish

consumer spending and an increase in imports, which subtract from growth numbers. But dwindling government spending also held back growth.” -- “The Role of Government Spending,” *New York Times*, July 29, 2011

GDP and the Consumer Society

These monthly and quarterly reports are in direct response to the quarterly release of GDP. The latest GDP statistics (2017) are broken down into these major categories of spending:

Personal Consumption Expenditures (C)	= \$13,120.4 bil.
Gross Private Domestic Investment (I)	= 3,139.4
Government expenditures (G)	= 3,330.2
Net exports (XM)	= -562.8
<hr/>	
Gross Domestic Product (GDP)	= \$19,027.2 bil.

Figure 1. Breakdown in GDP, Q1 2017.

Source: Bureau of Economic Analysis, www.bea.gov. Q1 2017

Thus, consumer spending represents 69.0% of GDP in the United States in 2016, followed by government spending, 17.5%; and last, private investment, 16.5%. Net exports are negative at -3.0%.¹

Based on a superficial reading of GDP data, the financial media is quick to focus on, first, consumer spending, and second, government spending as the key drivers of economic growth. Business investment rates a poor third. Trade doesn't even matter.

Pro-Consumption Thesis Contradicts Leading Economic Indicators

And yet numerous studies have shown that economic growth is ultimately determined by savings, capital investment, technology and entrepreneurship,

¹ In addition to overplaying the influence of consumer spending, GDP underplays the role of trade. Trade, measured by the value of exports *plus* imports, amounted to 27.3% of GDP in the United States in 2Q1 2017. It's substantially higher in most other countries, over 58% of world GDP in 2015. It's 84% in Sweden. See <http://data.worldbank.org/indicator/NE.TRD.GNFS.ZS>

all supply-side statistics. According to Robert Solow (1957) and Robert Barro (2011), growth is more a function of technological advances, productive investment, and entrepreneurship than consumer spending. Consumer spending is largely the effect, not the cause, of prosperity (Hanke 2014).

The vast majority of Conference Board's Index of Leading Economic Indicators focus on manufacturing, capital goods, and the stock market – all intermediate stages of production – not consumer spending. Among the US leading economic indicators published monthly by the Conference Board, most are linked to the earlier stages of production and business activity: Average weekly hours, manufacturing; Average weekly initial claims for unemployment insurance; Manufacturers' new orders, consumer goods and materials; ISM® Index of New Orders; Manufacturers' new orders, nondefense capital goods excluding aircraft orders; Building permits, new private housing units; Stock prices, 500 common stocks; *Leading Credit Index*™; Interest rate spread, 10-year Treasury bonds less federal funds; and Average consumer expectations for business conditions. Note that the highly touted “consumer confidence index” that is highlighted in the media has been changed to the “average consumer expectations for *business conditions*” (Conference Board 2017).

Similar conclusions can be found looking at the leading economic indicators in other nations. For example, the Conference Board has several indicators to predict economic growth in the Euro zone: Capital goods new orders, Markit manufacturing new orders, and economic sentiment. In fact, of the 13 economies in the world covered by the Conference Board, none identify consumer spending and retail sales as leading indicators. As a *Forbes* economist John Papola recently concluded, “Economic growth (booms) and declines (bust) have always been led by changes in business and durable goods investment, while final consumer goods spending has been relatively stable through the business cycle.” (Papola 2013).

The source of this conflict centers the misuse of GDP as “the” measure of the economy: Since personal consumption expenditures represents over two-thirds of GDP in the United States, the media naturally concludes that consumption is the most important factor in the direction of the economy, followed by government spending and lastly business activity.

What's Missing in GDP?

GDP is entirely appropriate as a measure of final use in the economy, but fails to encompass the total production process. GDP does a good job of determining spending by consumers and government, but does not tell the whole story of commercial activity. Critics have pointed out many of the defects of GDP, including the lack of reporting black-market activities and household production. But GDP fails in another way: It only accounts for fixed capital expenditures, and omits a vital component of business investment--spending by business to move the production process along the supply chain, what economists call goods-in-process or circulating capital. Business cannot survive without financing the entire supply chain and should therefore be counted.² This omission of business's contribution to the supply chain in the United States amounted to \$22.1 trillion in 2017, substantially larger than GDP itself.

To resolve this paradox, in my book, *The Structure of Production* (1990), I made the case that we needed a new macro statistic that measured spending at all stages of production, including the value of the supply chain. I called this figure gross output (Skousen 1990, pp. 178-184). In this work, I developed a universal 4-stage model of the economy, a modified form of what is known as Hayek's triangle to measure GO. See figure 2 below.

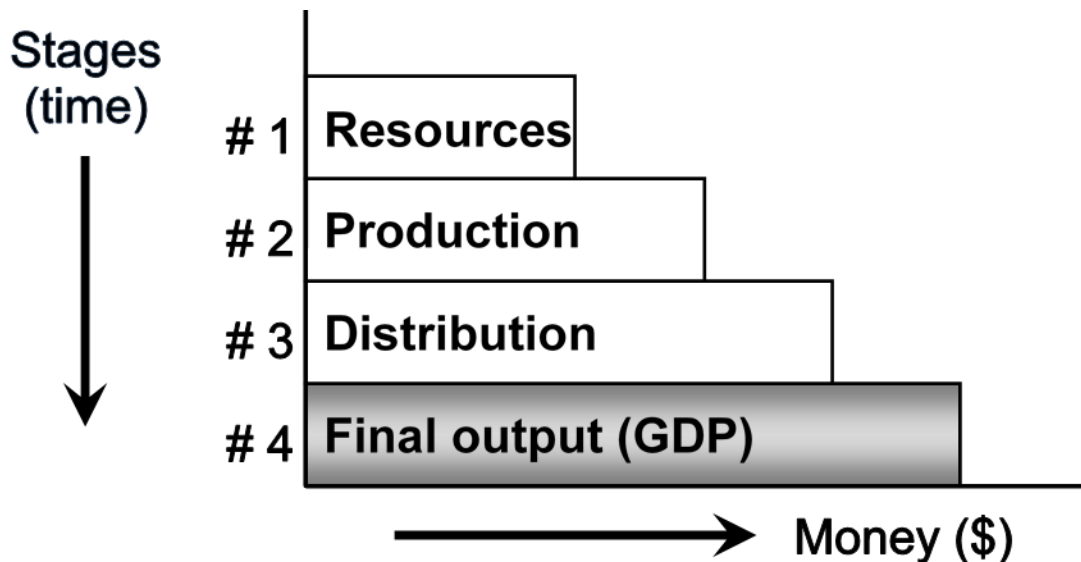


Figure 2. Universal 4-Stage Model of the Economy

² The exclusion of circulating capital from economic growth statistics can be traced back to two contrasting views of capital theory—the Austrian view of circulating capital moving through stages versus the neoclassical view of fixed capital yielding a return. See Skousen 1990, pp. 21-22, 27-30, and 64-67.

Source: Mark Skousen, *The Structure of Production* (New York University Press, 3rd ed., 2015), p. xviii, and *Economic Logic*, 5th ed. (Capital Press, 2017), p. 58.

I defined spending at all four stages of production gross output (GO), and stage 4 as GDP, and made some initial estimates. In *Structure*, I contend that GO is a more comprehensive measure of the economy, serves as a valuable tool in analyzing the business cycle, restores the business sector as the major driver of the economy, and deserves to be updated on a quarterly basis along with GDP. More recently, I contend that GO should be reported as the “top line” in national income accounting, and GDP as the “bottom line.”

In writing *Structure*, I drew upon several prominent schools of economics, including the Austrian, supply-side, and Keynesian schools, and in particular three Nobel Prize economists, Friedrich Hayek, Sir John Hicks, and Wassily Leontief. Austrian economist Friedrich Hayek developed the intertemporal model of macroeconomics in a small volume based on four lectures he delivered at the London School of Economics, *Prices and Production* (1931). He introduced what are known as Hayek’s triangles, a theoretical measure of spending at all stages of production. His work was resurrected by the later “neo-Austrian” work of Sir John Hicks. According to Hicks, a nation’s complete measure of capital in the economy must include durable goods as well as “goods that are *in the pipeline*, goods in process of production” (Hicks 1973: 191).³ I was also influenced significantly by the Russian-American economist Wassily Leontief and his development of input-output tables, which focuses on “intervening steps” involving “complex series of

³ Intrigued by their efforts, I traveled to Europe to meet Hayek and Hicks. In 1985, I met with Friedrich Hayek at his summer home in the Austrian Alps, and we discussed his macroeconomic theories of capital and the business cycle, and he expressed hope that someday economists would carry on his Austrian macro model. Three years later, in the summer of 1988, I met 84-year-old Sir John Hicks, the famed Nobel laureate who transformed Keynesian economics into the grand neoclassical synthesis with his 1937 article in *Econometrica*, “Mr. Keynes and the ‘Classics’.” Despite his age and physical ailments, his mind was alert and, during our meeting, he recounted how he had gradually become disenchanted with modern economic theory he helped to develop. In particular, he seemed displeased by the failure of orthodox economists to teach the importance of time and the stages-of-production concept in macroeconomics, a subject he emphasized in his own textbook, *The Social Framework* (1971), and later in his treatise, *Capital and Time* (1973b).

transactions...among real people” (Leontief 1966, pp. 14-15).

Surprise Announcement by the BEA

A giant step forward occurred in national income accounting when in early 2014, the Bureau of Economic Analysis (BEA) of the U. S. Department of Commerce (under the creative leadership of then director Steve Landefeld) announced it would begin publishing Gross Output, along with Gross Output by Industry, on a quarterly basis. It is the first new measure of the economy to be published quarterly since GDP was invented in the 1940s.⁴

This new macro statistic includes intermediate inputs for the first time, defined by the BEA as “the value of both foreign and domestically produced goods and services which are used as energy, materials, and purchased services as part of an industry's production process.” As a result, we now have a more complete picture of the economic structure. The BEA now tracks 402 industries and 69 commodities in its Gross Output by Industry.

In the first quarter of 2017, Adjusted GO amounted to \$41.2 trillion, more than double GDP of \$19.0 trillion.⁵ GO is a much better measure of total economic activity, and demonstrates that business spending is far more important than consumer spending.

To see the latest data on GO, go to

⁴ GO is not an entirely new concept. Wassily Leontief originally estimated gross output (GO) in his input-output tables that came out every five years, and in the early 1990s, the BEA began publishing GO every year, but the data was always several years behind. However, Leontief never viewed GO as an important aggregate statistic, focusing instead on the inner-workings of the input-output tables. Publishing GO on a quarterly basis as a stand-alone statistic is a significant advance in macroeconomics.

⁵ Unfortunately, the BEA measure of GO does not include all wholesale and retail trade figures. As a BEA explains, “The output for industries that buy and sell merchandise but do not provide any additional fabrication is measured as margin. By I-O convention, this margin is measured as sales receipts less the cost of goods” (Bureau of Economic Analysis, *Concepts and Methods of the U. S. Input-Output Accounts: Measuring the Nation's Economy*. 2nd ed. U. S. Department of Commerce, 2009, pp. 4-5). By the BEA's measure, GO reached \$33.2 trillion in Q1 2017. When you include total wholesale and retail trade, it adds an additional \$7.9 trillion to what I now term “adjusted GO” -- \$41.2 trillion, more than double GDP (\$19.0 trillion).

<https://www.bea.gov/iTable/iTable.cfm?ReqID=51&step=1#reqid=51&step=51&isuri=1&5114=q&5102=15>

GO does not replace GDP by any means. Both need to be reported. As Dale W. Jorgenson, J. Stephen Landefeld, and William D. Nordhaus state, “Gross output [GO] is the natural measure of the production sector, while net output [GDP] is appropriate as a measure of welfare. Both are required in a complete system of accounts” (Jorgenson et al 2006: 6).

GDP estimates the value of final use in the economy. It does a consistent job of measuring spending by consumers and government, but does not tell the whole story of commercial activity. GDP includes fixed capital expenditures but omits a critical component--spending by business to move the production process along the supply chain, what economists call goods-in-process or what businesses call B2B spending. As Hicks says, both circulating and fixed investment should be treated as capital.

Top Line and Bottom Line National Income Accounting

I do not wish to suggest that GO replace GDP, but rather that they are complementary and measuring different things. I like to think of GO as the top line in national income accounting and GDP as the bottom line. Just as a public-traded company declares a “top line” (revenues/sales) and a “bottom line” (earnings, net income) in its quarterly financial statement, so should the BEA announce a “top line” (GO) and a “bottom line” (GDP) in its national income accounting statement. Now it has become a reality. In a recent meeting with BEA officials, director Brian Moyer indicated that they intend to release GO and GDP at the same by within the next couple of years, just as publicly-traded companies release a financial statement every quarter with both the top and bottom line reporting.

The benefit of GO is that the supply chain is included, so GO is truly the full measure of economic activity. Using the GO model, we discover that consumer spending represents less than a third of economic activity, not two thirds as is normally reported. Business spending, broadly defined to include fixed capital investment (I) and intermediate inputs (II), represents over 60% of the total economy activity. (See figure 3 below to compare GO and the GDP models.) Thus we come to the opposite conclusion of what drives the economy. In 2017, B2B spending amounted to \$23.75 trillion, compared to \$13.12 trillion of consumer spending.

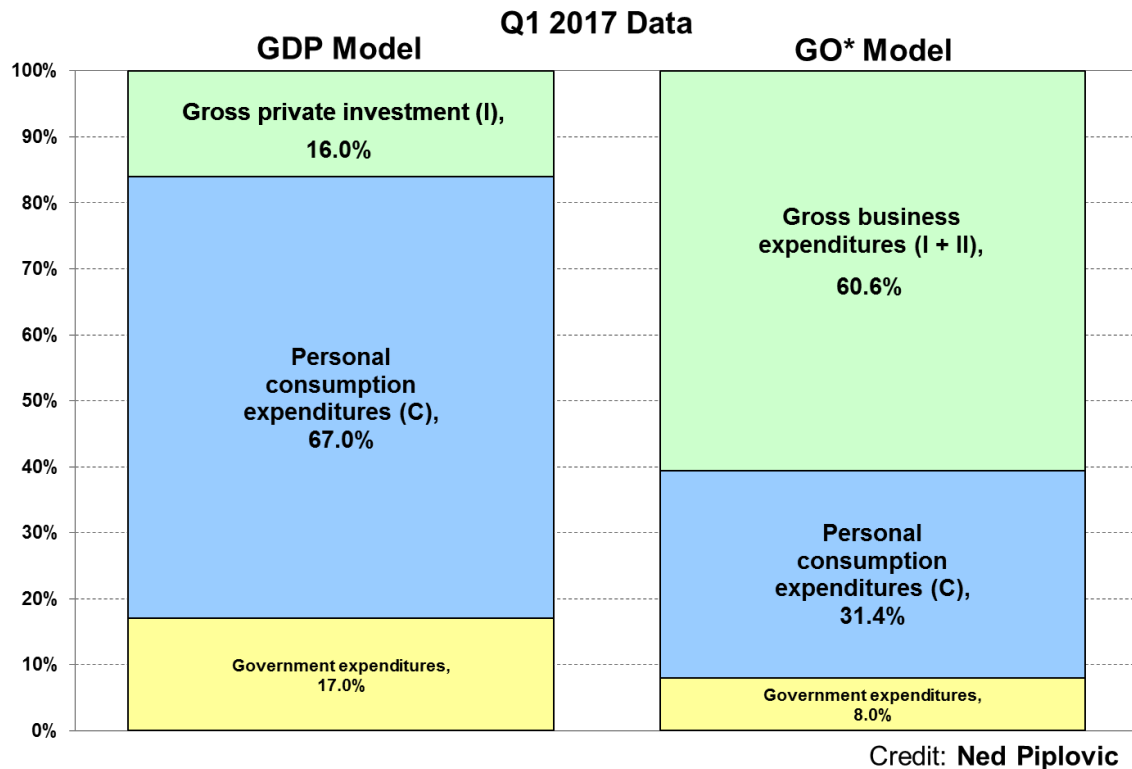


Figure 3. GDP Model vs GO Model in 2017 (calculations by author).
 II stands for Intermediate Inputs. [Data excludes Net Export (XM)]
 Source: Bureau of Economic Analysis, www.bea.gov. 2017

From the GO data, I have created the Skousen B2B Index, which measures all business spending throughout the production process. As you can see from figure 4 below, it is almost double the level of consumer spending in the United States and more volatile.

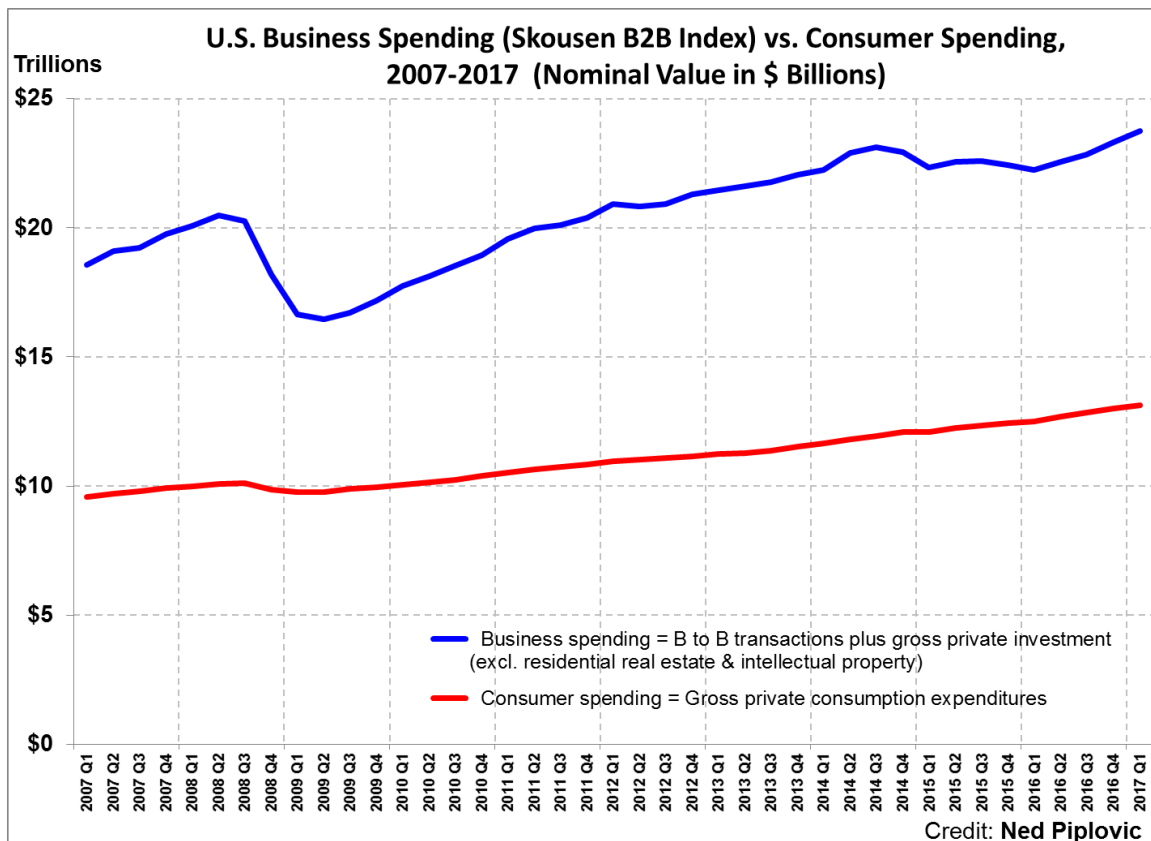


Figure 4. US Business spending vs Consumer Spending, 2007-2017

Seattle As a Case Study in Say's Law

I use the example of Seattle with students to determine what drives the economy, consumers or business. What is the cause of Seattle's prosperity? Did the Seattle community become rich because consumers suddenly decided to stop saving and spend more with their credit cards, and stimulate business spending and employment? Did government contracts suddenly increase in the Seattle area? In reality, it was because of creative entrepreneurs and innovators who developed new products and services, raised capital and employed more workers and suppliers. In Seattle's case, it was Boeing...then Microsoft....followed by Starbucks and Amazon. Granted, they needed customers including government agencies willing to demand and buy their airplanes, software, coffee, books and consumer goods, but which came first, consumer demand or entrepreneurial innovation? Clearly the creative business sector was the catalyst, and increased consumer and government spending followed the success of these business entrepreneurs. As Steve

Hanke notes, GO confirms Say's law, supply creates demand (Hanke 2014).

Schumpeter on the Critical Role of Business

The great economist and sociologist Joseph Schumpeter well understood the true meaning of Say's law, this nexus between production and consumption. As he stated profoundly in his breakthrough work, *The Theory of Economic Growth*:

“To be sure we must always start from the satisfaction of wants, since they are the end of all final production, and the given economic situation at any time must be understood from this aspect. Yet innovations in the economic system do not as a rule take place in such a way that first new wants arise spontaneously in consumers and then the productive apparatus swings around through their pressure. We do not deny the presence of this nexus. It is, however, the producer who as a rule initiates economic change, and consumers educated by him if necessary; they are, as if were, taught to want new things, or things which differ in some respect or other from those which they have been in the habit of using. Therefore, while it is permissible and even necessary to consider consumers' wants as an independent and indeed the fundamental force in a theory of the circular flow, we must take a different attitude as soon as we analyze change” (Schumpeter 1934, p. 65).

CNBC's chief economist Larry Kudlow said it best when he wrote, “Though not one in a thousand recognizes it, it is business, not consumers, that is the heart of the economy. When business produces profitably, they create income-paying jobs and thus consumers spend. Profitable firms also purchase new equipment because they need to modernize and update all their tools, structures, and software. Capital formation is the key to worker productivity and consumer prosperity” (Kudlow 2006).

With GO, we can at last have a national statistic that is compatible with economic growth theory.

GO as a Better Measure of the Business Cycle

But there are many other advantages to GO. For example, it does a better job of demonstrating the magnitude of the business cycle. Figure 5 compares GO and GDP from 2007 through 2017-I.

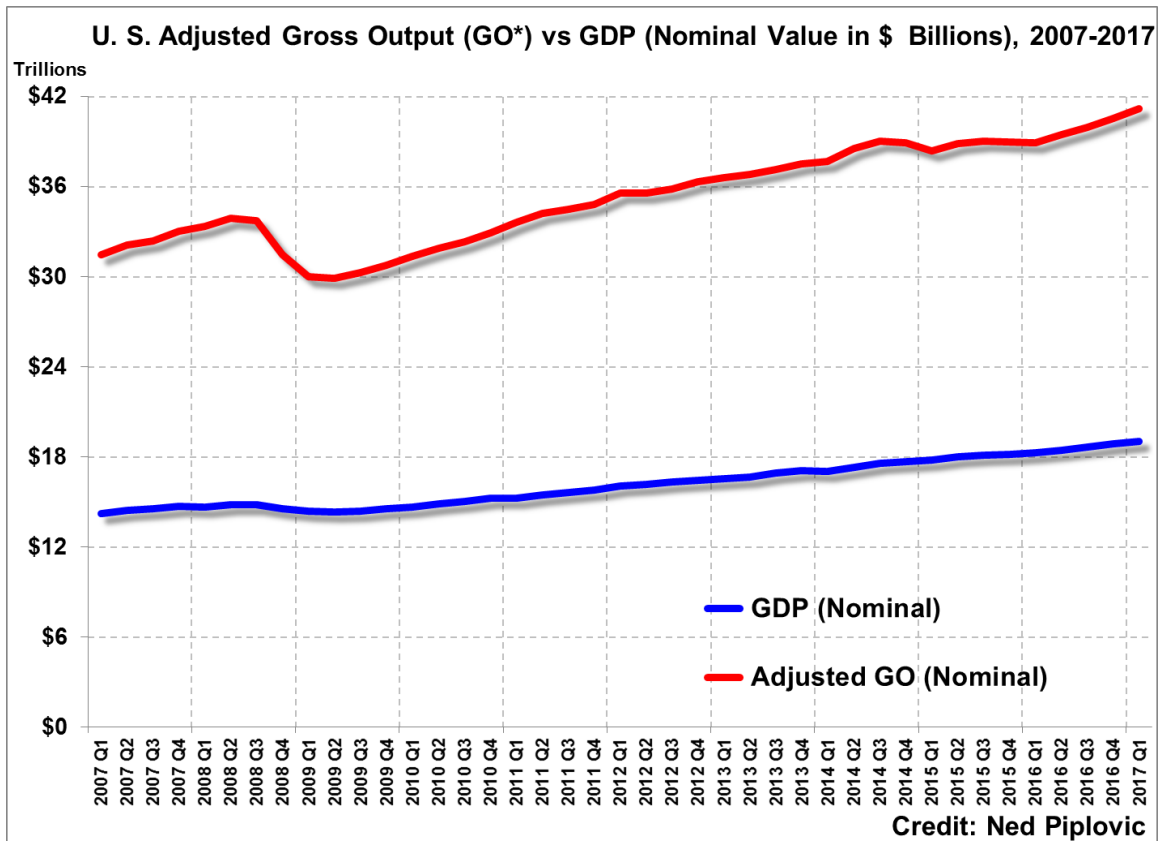


Figure 5. Adjusted GO vs GDP, 2007-17. Source: BEA and author's adjustments

Using a graph showing the changes in GO and GDP in figure 6, you can see even better how GO reveals the true magnitude of the 2008-09 Great Recession than GDP. While nominal GDP declined only 7% during the depths of the recession, GO fell over 25%.

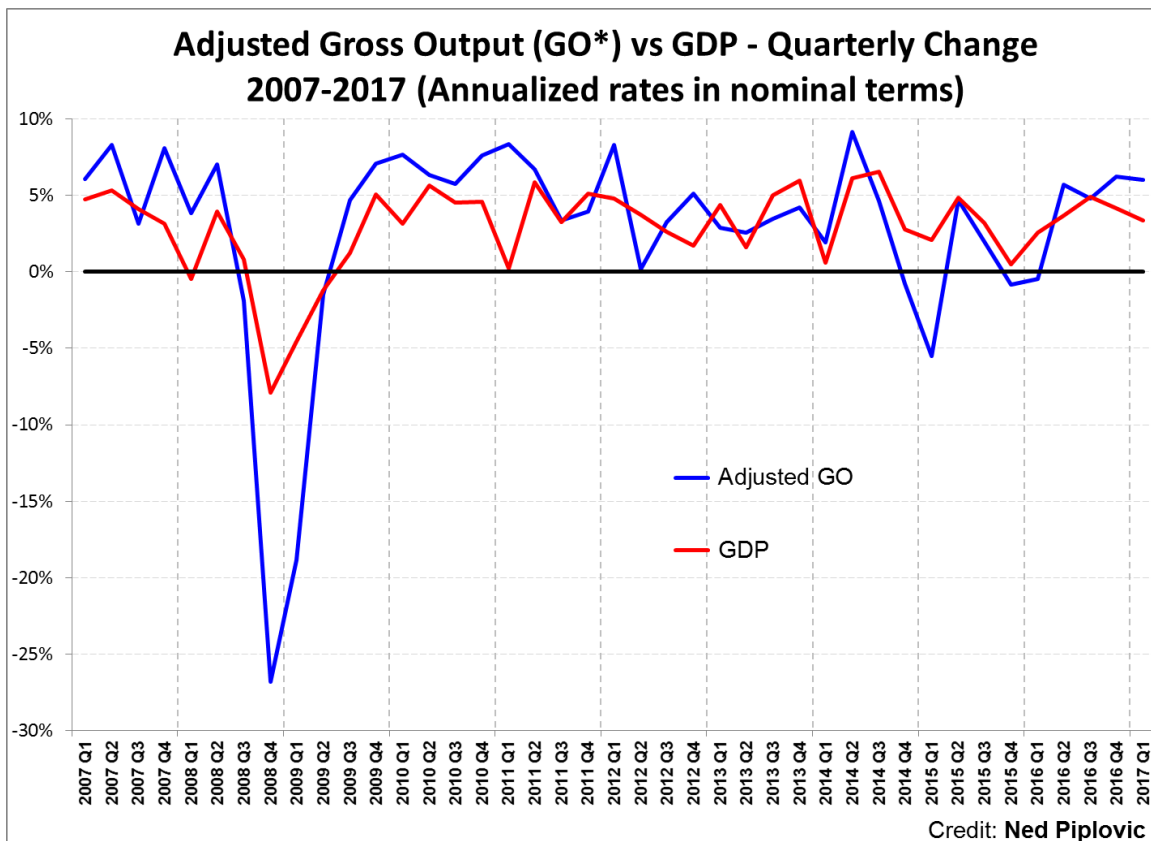


Figure 6. Quarterly changes in Adj. Gross Output (GO*) and GDP, 2007-2017.

GO as a Leading Economic Indicator

GO may also be a powerful leading indicator. David Colander (Middlebury) states: “For forecasting, the new measure [gross output] may be more helpful than the GDP measure, because it provides information of goods in process.” (2014: 451) Note in the graph in figure 6 above, that when GO is falling faster than GDP, a recession is imminent. When GO is moving back up faster than GDP, it suggests a recovery.

Economic analyst David Ranson, chief economist at HCWE, Inc., adds: “GO is better correlated with financial-price movements than most of the other indicators. It tends to portray the economy as more cyclical than real GDP does, the recession of 2008-09 as deeper, and the recovery as slower. The universal use of real GDP as a measure of the economy’s vitality is subject to misunderstandings, pitfalls, and criticism — especially in the short run. GDP includes only ‘final’ goods and services, leaving out the huge economy that consists of businesses buying and selling intermediate goods to

one another.” (2015: 4).⁶ Moreover, according to a recent study by David Ranson, chief economist at HCWE & Co., GO anticipates changes in GDP by as much as 12 weeks in advance and thus serves as a reliable leading indicator: <http://www.hcwe.com/guest/EW-0717.pdf>

GO by Industry disaggregates the economy into 402 industries and 69 commodities, allowing economists to see more clearly how the structure of the economy is shifting over time. Economists who are critical of aggregate statistics will find this approach appealing and fertile ground for research on potential imbalances and asset bubbles in the economy.

GO Provides a Powerful Link between Micro and Macro

In economics, the development of GO also provides a vital link between microeconomics, the theory of the firm, to macroeconomics, the theory of the economy as a whole. In microeconomics, profits and losses are derived from a firm’s revenues minus expenses. The final price of the retail good or service is equivalent to the combined profit margins or value added of all the previous stages of production.

In macro, we witness the same phenomenon: GO adds up all the revenues of all firms throughout the stages of production, while GDP determines the value of the final/finished goods and services, or value added.

Here below in figure 8, I reproduce Stanford Professor John Taylor’s 4-stage micro model in the production of a cup of espresso.

⁶ I send out a press release every quarter analyzing the latest quarter GO data. See www.mskousen.com.

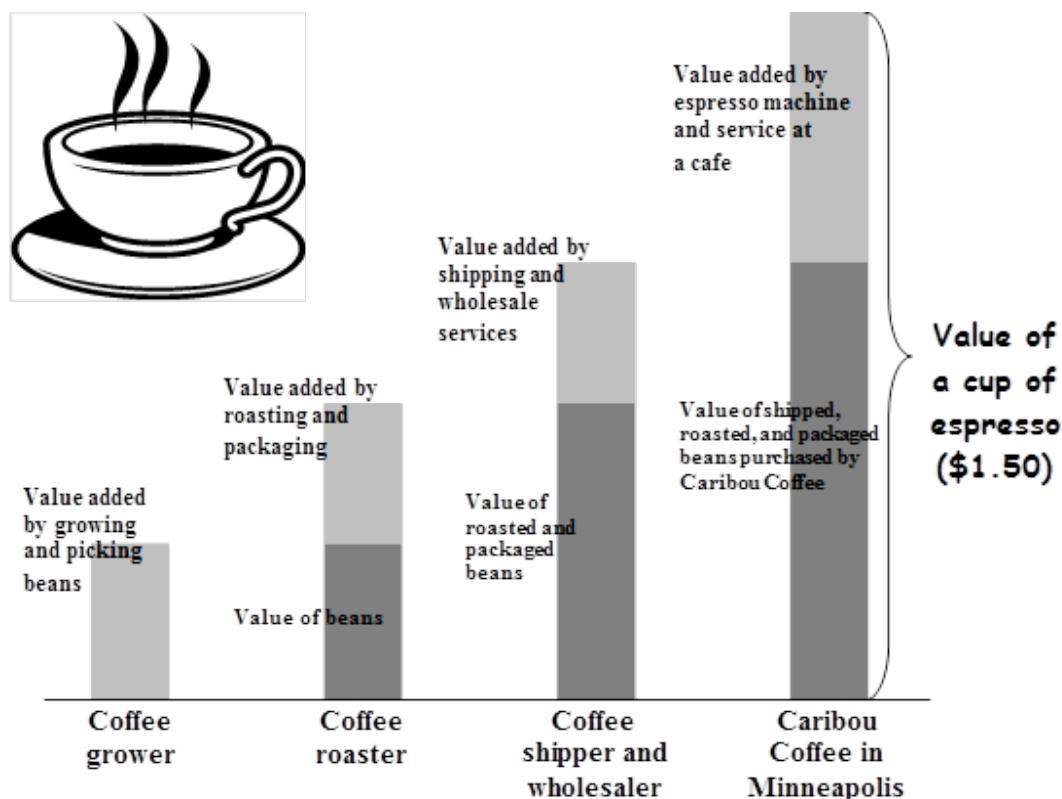


Figure 8. Four Stages of Production of Espresso Coffee.

Source: John B. Taylor, *Economics*, 5th ed. (Boston: Houghton Mifflin, 2006)

This is similar to the 4-stage macro model in figure 1. Thus, we see a link between micro and macro.

In microeconomics, profits and losses are derived from a firm's revenues minus expenses at each stage of production. The final price of the retail good or service is equivalent to the combined profit margins or value added of all the previous stages of production. In macro, we witness a similar phenomenon: GO adds up all the revenues of all firms throughout the stages of production, while GDP determines the value of the final/finished goods and services, or value added (gross profit).⁷

⁷ Because GDP includes returns of the factors of production (incomes, rents, interest, and profits), GDP is actually equivalent to the accounting term gross profit, not net income or earnings, in a financial statement. I thank David Colander (Middlebury College) for pointing this out.

An Austrian “Supply Side” Triumph?

In many ways, GO is a triumph for Hayek, Hicks and other neo-Austrian supply-side economists, including Schumpeter. Schumpeter focused on the disruptive and creative nature of the economy and undoubtedly would, if he were alive today, endorse the use of gross output (GO). Rather than focusing on GDP, the last link in long chain of the production processes, GO and GO by Industry fully incorporate the dynamics of investment capital, innovation, technology, and entrepreneurship, themes Professor Schumpeter advanced so eloquently in his classic works, *The Theory of Economic Development* (1911, 1934), *Business Cycles* (1939), and *Capitalism, Socialism and Democracy* (1942).

Schumpeter had pursued a lifelong rivalry with British economist John Maynard Keynes for the heart and soul of economics. They were born just months apart in 1883 – the year Karl Marx died -- and both economists commanded the attention of the profession throughout the first half of the 20th century. In his essay, “Modern Prophets: Schumpeter or Keynes?” management guru Peter Drucker contended that Keynes and Schumpeter represent the two greatest economists of the 20th century (Schumpeter 1986, pp. 104-118).

At the end of his life, Schumpeter realized that Keynes had gotten the best of him with the adoption of Keynes’s theories of aggregate demand dominating the profession and the public. Critics have often suggested in that GDP can be viewed as a Keynesian triumph, with its focus on measuring “final effective demand” and the “use” economy (Keynes 1936). But now with the addition of GO as a supply-side “Austrian” style statistic of the “make” economy, which includes the full value of the dynamic supply chain, Schumpeter is making a comeback.

Drucker was prophetic when he said at the time he wrote his essay in 1986, “it is Schumpeter who will shape the thinking and inform the questions on economic policy for the rest of this century, if not for the next thirty or fifty years” (Drucker 1986, p. 104). Drucker thought the “next economics” should focus on the supply-side of capital investment, broadly defined, a Schumpeterian theme (Drucker 1981).

A Paradigm Shift in Macroeconomics

It is the contention of this lecture that gross output (GO) is the center of a revolution in macroeconomics by forming the foundation of a “new architecture” in national income accounting with major policy implications. The quarterly GO statistic not only offers a better, more comprehensive picture of the economy, but it is a powerful unifying force between the accounting, finance and economics disciplines; it links micro with macroeconomics; and it appeals to all the major schools of economics. In many ways, GO is the long sought-after missing piece of the macroeconomic puzzle, and thus serves as a paradigm shift in economics. I consider it the most important addition to macroeconomic theory since aggregate supply and demand (AS-AD model) was introduced in the 1970s.

Like any other macro statistic, GO has its weaknesses and limitations. It may be affected by mergers & acquisitions, outsourcing, trade and accounting irregularities, and double-counting. But on net balance, it advances our understanding of the economic process and should take its place in standard economic analysis.

GO as a Interdisciplinary Force in Business and Economics

In discussing GO with other economists and business professionals, I’ve found that GO can be a unifying force among a variety of disciplines and economists.

First, finance and accounting professionals can easily relate to GO, especially the idea that GO measures the “top line” and GDP the “bottom line” in national income accounting.

Moreover, GO appeals to all the major schools of economics in the following way (listed alphabetically):

--For Austrians: GO calculates the size of Hayek’s triangle, the value of all commodities produced in a year at all stages of production. Friedrich Hayek, the Austrian economist, introduced the diagrams known as Hayek’s triangles in his work on the business cycle called *Prices and Production* (1931).

--For Keynesians and Post-Keynesians: GO expands J. M. Keynes’s Aggregate Demand function (*The General Theory*, 1936) to include the

demand for all goods and services (finished and unfinished) along the entire supply chain, not just final demand (final use, or GDP).

--For Monetarists: GO is an attempt to quantify PT, the “volume of trade,” in Irving Fisher’s famous Equation of Exchange, $MV = PT$, in *The Purchasing Power of Money* (1911). Fisher is the father of monetarism and the Quantity Theory of Money, which argues that price inflation (P) is determined largely by increasing in the money supply (M). (I thank both Vernon Smith and Jay Carlson for pointing out how GO is an updated version of Fisher’s equation of exchange and a measure of his “volume of trade” PT.)

--For Supply-Siders: GO can be viewed as a supply-side measure of the economy. As Prof. Steve Hanke (JHU) states, “With GO, GDP’s monopoly will be broken as the U.S. government will provide official data on the supply side of the economy and its structure.” According to Hanke, GO confirms Say’s law, that the business sector and the entrepreneur-capitalist of the most important forces in the economy. Using GO, business spending (B2B transactions) is by far the biggest sector of the economy, representing over 60% of economic activity. Thus, entrepreneurship, technology, saving and investment, and capital formation form the foundation of economic growth. Accordingly, business activity drives the economy much more so than consumer spending or government stimulus.

Conclusion: GO is a Paradigm Shift in Macroeconomics

In sum, gross output is a paradigm shift in economics. Thomas Kuhn suggested that “To be accepted as a paradigm, a theory must seem better than its competitors...” (Kuhn 1982, p. 18). As noted above, that appears to be the case. He added, “Novelty emerges only with difficulty, manifested by resistance, against a background provided by expectations” (1982, p. 64). In many ways, GO is the missing piece that completes the macroeconomic puzzle. It links macro with microeconomics. And it is a powerful unifying force – bringing together the disciplines of accounting, finance and economics; and finding common ground in all the major schools of economics.

GO is now being integrated into most of the major economics textbooks. The OECD publishes GO annually for 18 countries. The UK calls it “Total Output.” Several countries are considering imitating the BEA by releasing it quarterly. FRED (St. Louis Fed) publishes a chart of GO. In short, it is

beginning to bear fruit in theory and policy.

What Others are Saying about Gross Output and “The Structure of Production”

Financial Media

“This is a great leap forward in national accounting. Gross Output, long advocated by Mark Skousen, will have a profound and manifestly positive impact on economic policy.” –Steve Forbes, Forbes magazine (2014)

“Economist Mark Skousen can be credited with pioneering the concept of gross output in his 1990 book, The Structure of Production. Among other things, Skousen notes that GO acts as a more sensitive seismograph in registering the shock of business cycles.” – Gene Epstein, Economics Editor, Barron’s

“The next economics will have to be centered on supply and the factors of production rather than being functions of demand. I’ve read Mark Skousen’s monumental book twice, and it comes the closest to achieving this goal.” --Peter F. Drucker, Claremont Graduate University

“National income accounting has long been unfathomably flawed and worse by the decade but Mark Skousen’s introduction of gross output (GO) has been a big step forward in portraying a more total picture of the economy and where and when it’s vulnerable. Kudos to Mark for it being adopted.” — Ken Fisher, CEO, Fisher Investments, Forbes columnist

“GO is better correlated with financial-price movements than most of the other indicators. It tends to portray the economy as more cyclical than real GDP does, the recession of 2008-09 as deeper, and the recovery as slower. The universal use of real GDP as a measure of the economy’s vitality is subject to misunderstandings, pitfalls, and criticism — especially in the short run. GDP includes only ‘final’ goods and services, leaving out the huge economy that consists of businesses buying and selling intermediate goods to one another.” -- David Ranson, chief economist, H. C. Wainwright Economics.

Government Officials

“Gross Output provides an important new perspective on the economy and a powerful new set of tools of analysis, one that is closer to the way many businesses see themselves.” – Steve Landefeld, director, Bureau of Economic Analysis (2014)

Academic Economists

“Now, it’s official. With Gross Output (GO), the U.S. government will provide official data on the supply side of the economy and its structure. How did this counter revolution come about? There have been many counter revolutionaries, but one stands out: Mark Skousen of Chapman University. Skousen’s book The Structure of Production, which was first published in 1990, backed his advocacy with heavy artillery. Indeed, it is Skousen who is, in part, responsible for the government’s move to provide a clearer, more comprehensive picture of the economy, with GO.” — Steve H. Hanke, Johns Hopkins University (2014)

“Congratulations on your work. It has been a long slog to get the national accounts to introduce innovative measures, and Steve Landefeld [long-time director of the BEA] has been a superstar in this respect... This will open up the potential for new insights into the behavior of the economy.” – William D. Nordhaus, Yale University

“The more data the better, and your GO gives us valuable extra information. I wish you all the best with your new top-line measure of the economy.” -- Jeremy Siegel, Wharton School of Finance, University of Pennsylvania

“The development of Gross Output is a good idea and a better measure [of economic activity] than GDP.” — David Colander, Eastern Economic Journal (2014)

“I am enormously impressed with the care and integrity which Skousen has accomplished his work.” — Israel Kirzner, New York University

“The two most important works on ‘Austrian’ capital theory since Hayek’s winning of the Nobel Prize are Roger Garrison’s Time and Money and Mark Skousen’s Structure of Production. All members of the Austrian School

should take his book seriously.” -- Richard Ebeling, Northwood University

“I’m a big fan of GO.” – Garrett Jones, George Mason University

“A good idea!” – Alan Blinder (Princeton University)

“Skousen’s Structure of Production should be a required text at our leading universities.” –John O. Whitney, Emeritus Professor in Management Practice, Columbia University

“The government’s announcement puts Mark Skousen’s triumphant foundational GO work and Irving Fisher’s ‘total transactions’ model on the same pedestal of economic achievement.”– Jay Carlson, Utah Valley University

“At first glance GO seemed peculiar to me and the issue of double counting appeared problematic. But once I realize what the micro economic counterparts are, and what information is contained in GO I began asking why GO has not been included in national income statistics much sooner” -- Johan Eklund, Swedish Entrepreneurship Forum

For More Information on Gross Output

“Gross Output” Wikipedia entry:

https://en.wikipedia.org/wiki/Gross_output

The GO data released by the BEA can be found at www.bea.gov under “Quarterly GDP by Industry.” Click on interactive tables “GDP by Industry” and go to “Gross Output by Industry.” Or go to this link directly:

<http://www.bea.gov/iTable/iTable.cfm?ReqID=51&step=1#reqid=51&step=3&isuri=1&5102=15>

For the latest analysis of quarterly gross output statistics, see my press releases at www.mskousen.com. I am also developing a new website devoted to GO: www.grossoutput.com.

Mark Skousen, *The Structure of Production* (New York University Press,

1990), with new introductions in 2007 and 2015.

Mark Skousen, “At Last, a Better Way to Economic Measure” lead op ed, *Wall Street Journal*, April 23, 2014:

<http://www.wsj.com/articles/SB10001424052702303532704579483870616640230>

Steve Forbes, *Forbes Magazine* (April 14, 2014): “New, Revolutionary Way To Measure The Economy Is Coming — Believe Me, This Is A Big Deal”:<http://www.forbes.com/sites/steveforbes/2014/03/26/this-may-save-the-economy-from-keynesians-and-spend-happy-pols/>

Mark Skousen, *Forbes Magazine* (December 16, 2013): “Beyond GDP: Get Ready For A New Way To Measure The Economy”:

<http://www.forbes.com/sites/realspin/2013/11/29/beyond-gdp-get-ready-for-a-new-way-to-measure-the-economy/>

Gene Epstein, “A New Way to Gauge the Economy,” *Barron's*, April 26, 2014:

<http://www.barrons.com/articles/SB50001424053111903409104579515671290511580>

Steve Hanke, *Globe Asia* (July 2014): “GO: J. M. Keynes Versus J.-B. Say,”

<http://www.cato.org/publications/commentary/go-jm-keynes-versus-j-b-say>

David Colander, “Gross Output,” *Eastern Economic Journal* 40:451-455 (2014):

<http://www.palgrave-journals.com/eej/journal/v40/n4/full/eej201439a.html>

Mark Skousen, rejoinder, “On the GO: De-Mystifying Gross Output,” *Eastern Economic Journal* 41:284-288 (2015):

<http://www.palgrave-journals.com/eej/journal/v41/n2/full/eej201465a.html>

New: Mark Skousen, “Linking Austrian Economics to Keynesian Economics,” *Journal of Private Enterprise*, Winter, 2015:

http://journal.apee.org/index.php?title=Parte7_Journal_of_Private_Enterpris

REFERENCES

- Barro, Robert J. 2011. "How to Really Save the Economy." *New York Times* (September 10).
- Drucker, Peter F. 1981. *Toward the Next Economics and Other Essays*. New York: Harper & Row.
- Drucker, Peter F. 1986. *The Frontiers of Management*. New York: Harper & Row.
- Forbes, Steve. 2014. "New, Revolutionary Way to Measure the Economy is Coming." *Forbes* (April 14).
- Friedman, Milton. 1954. "Why the American Economy is Depression-Proof," in Friedman, *Dollars and Deficits*. Englewood Cliffs, N.J.: Prentice-Hall, 1968.
- Hanke, Steve. 2014. "GO: J. M. Keynes Versus J.-B. Say," *Globe Asia* (July) <http://www.cato.org/publications/commentary/go-jm-keynes-versus-j-b-say>
- Hicks, John R. 1973. *Capital and Time*. Oxford: Oxford University Press.
- Kudlow, Larry. 2006. "On Jobs, Tax Cuts, and the Democrats." National Review Online (September 5).
- Kuhn, Thomas. 1982. *The Structure of Scientific Revolutions*, 2nd ed. Chicago: University of Chicago Press.
- Jorgenson, Dale W., J. Stephen Landefeld, and William D. Nordhaus. 2006. *A New Architecture for the US National Accounts*. Chicago: University of Chicago Press and National Bureau of Economic Research.
- Leontief, Wassily. 1966. *Input-Output Economics*. New York: Oxford University Press.

Papola, John. 2013. "Think Consumption is the 'Engine' of our Economy? Think Again," *Forbes*, January 2, 2013.
<https://www.forbes.com/sites/beltway/2013/01/30/think-consumption-is-the-engine-of-our-economy-think-again/#54b6956f6497>

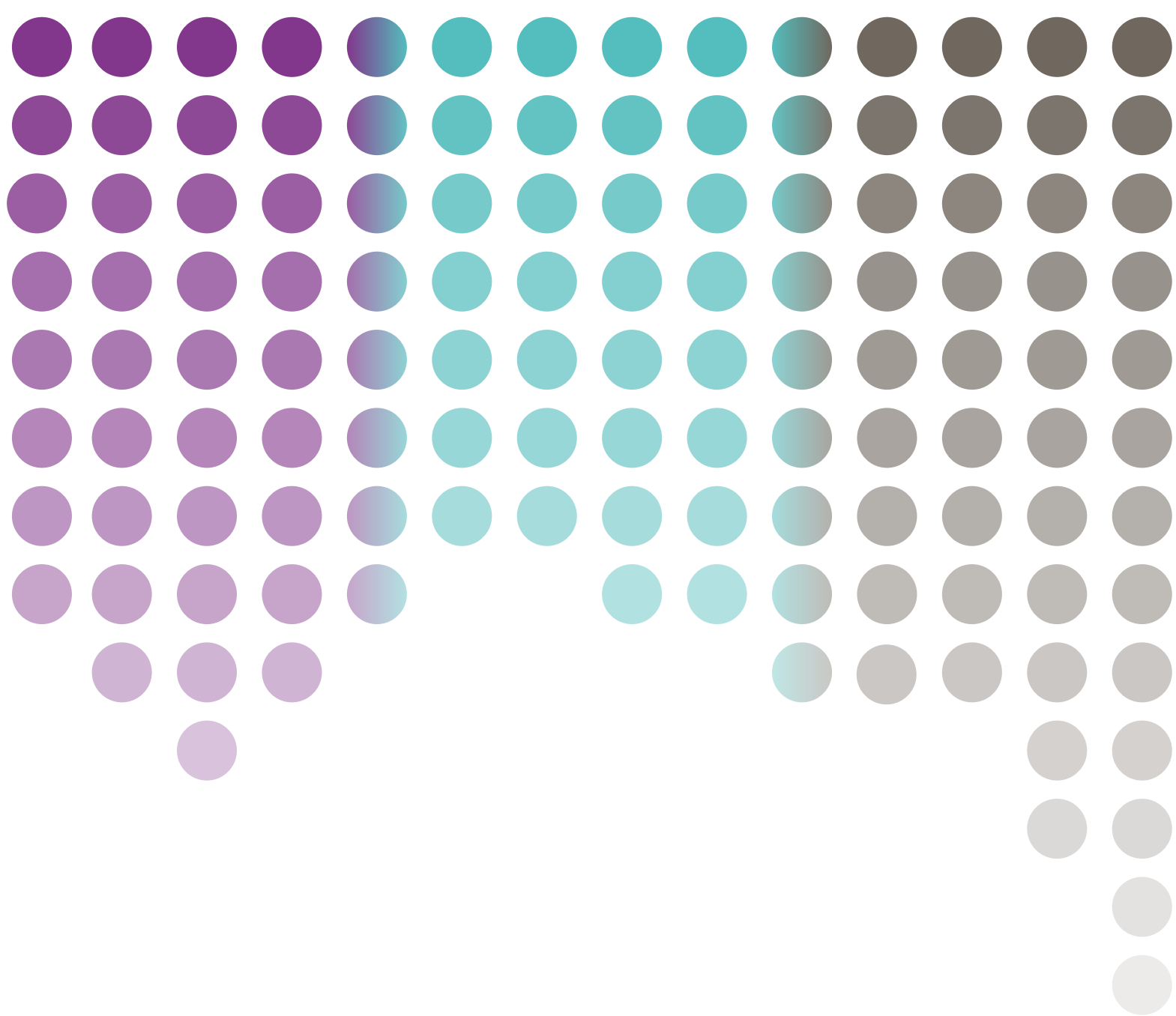
Ranson, R. David. 2015. "Alternative data to track the economy and better explain capital-market prices," *Economy Watch*, HCWE & Co., November 3. <http://www.hcwe.com/trials/EW-1015.pdf>.

Ranson, R. David. 2017. "Output growth data that the economy generates months earlier than GDP." *Economic Watch*. HCWE & Co. July 24.
<http://www.hcwe.com/guest/EW-0717.pdf>

Schumpeter, Joseph A. 1934. *The Theory of Economic Development*. Cambridge, Mass: Harvard University Press.

Skousen, Mark. 1990 [2015]. *The Structure of Production*. New York: New York University Press.

Solow, Robert. 1957. "Technical Change and the Aggregate Production Function." *Review of Economics and Statistics* 39 (August): 312–320.



RESEARCH NETWORK DEBATE

SWEDISH ENTREPRENEURSHIP
FORUM

WWW.ENTREPRENORSKAPSFORUM.SE