Artículos

GROSS (DOMESTIC) OUTPUT – ANOTHER GOVERNMENT CON

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Resumen: El nuevo sheriff de la ciudad es la renta (doméstica) bruta. Se trata de una variable que intenta medir no sólo la inversión, los bienes finales, y el consumo, sino la cantidad y el valor de los bienes intermedios. Desde el punto de vista de sus defensores,se debería haber incluido esta estadística en la contabilidad nacional desde hace mucho tiempo. Desde la perspectiva de sus críticos, como los autores del presente trabajo, es una estadística inválida, que creará más errores y malentendidos conforme se incorpore en las cuentas oficiales.

Palabras clave: Producción (doméstica) bruta, Producto interior bruto, estructura de la producción.

Clasificación JEL: E2

Abstract: The new sheriff in town is Gross (Domestic) Output, or GO. This is a measure that attempts to measure not merely investment, nor final goods, nor consumption, but the quantity and value of intermediate goods. From the vantage point of its proponents, inclusion of this statistic in national income accounts is long overdue. From the perspective of its critics, such as the present authors, it is an invalid statistic, which will create more error and misunderstanding as it is incorporated into official accounts.

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I
INTRODUCTION

Recently a concept termed Gross Output (GO) has been receiving attention.[1] And, as with any new term, and even some old ones, there seems to be a bit of confusion as to its meaning. At least according to some of its adherents this measure of the value of intermediate goods, in addition to final goods, is crucially important, and should be incorporated into government statistics forthwith. They see it as a sort of supply side counterbalance to the Keynesian focus on aggregate demand based on consumption. If included in government statistics, in their view they will be able to shed light on the causes and timing of business cycles. Were this true, it would be greatly welcomed by scholars representing all shades of opinion on monetary and macro-economics. However, we find their claim to be problematic.

One may well ask why some Austrian economists (Skousen, 1990, 1991, 2013, 2016) who usually would be very leery of government bureaucrats interjecting themselves into a serious discussion of a macroeconomic issue, have instead not only sought but also celebrated their assistance in developing a new measure of aggregate economic activity; to wit: GO. This is quite surprising because, on the one hand, GO is an attempt to measure aggregate economic

[1] This is a bit of an understatement. GO has taken the economics profession like a storm might be more accurate. In any case, see the following: Aruoba, et, al., 2013; Braun, 2011; Business Cycle Dating Committee, 2010; Colander, 2014; Council of Economic Advisers, 2015; Croushore and Stark, 2001; Dynan and Elmendorf, 2001; Daly, et, al., 2014; Fixler, et, al., 2014 ; Fleischman and Roberts, 2011; Hanke, 2014 ; Holdren, 2014; Hulten, 1992; Moulton, 2015; Landefeld, et, al, 2008; Landefeld, 2010; McCulla and Smith, 2015; Nalewaik, 2010, 2011, 2012; Skousen, 1990, 1991, 2013, 2014, 2016; Wolfers, 2015A, 2015B.

activity and, on the other, methodological individualism is one of the core elements that differentiates Austrian economics from other schools of economic thought. That is, because Austrian economics consists in causal-realist theory and analysis of human action in the real world —a world of incalculable heterogeneity and complexity— Austrian economists are almost always suspicious of, and reject, all aggregate concepts in economics.[2]

We consider two, not entirely unrelated, possible, nay highly probable, explanations, in no particular order. First, consider the standard governmental statistic that attempts to measure the output of an economy, gross domestic product (GDP). It is the sum of four sub aggregates: expenditures on consumers' goods, gross private domestic investment expenditures, government purchases, and net exports.[3] In recent years C has been about four times the size of I; i.e., very roughly C/Y ≈ 68% and I/Y ≈ 15.8%.[4] This has not infrequently been taken to mean that C is relatively four times as important as I, and is therefore the driving force of the economy. That is absurd, it is analogous to saying that because an automobile body sans powertrain weighs multiples of the powertrain, the former is the driving force or that because the human body ex brain and internal organs weighs several multiples of the latter, the former is the driving force of human life. Regardless that investment, including that embodied in human capital, is but a relatively small fraction of consumption expenditures, investment is the èlan *vital* of an economy. The whole purpose of production is consumption, and production consists in using resources to make consumer goods. There are two ways to increase production: use more re-

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[2] There are exceptions, but these only prove the rule; i.e., are of extremely limited value, at best. For example, there *some* value in Gross Domestic Product (GDP) statistics, but only comparing one year in the same country with an adjacent annual time period. The same errors apply to both observations; they are thus held constant, in effect.

[3] This is usually written as C + I + G + NX = Y. previously, it was written in this way C+I+G+X-M = Y.

[4] Over the last 10 years, C/Y ≈ 68%, I/Y ≈15.8%, G/Y ≈ 19.6% and NX/Y ≈ -3.8%. Sources, respectively: https://research.stlouisfed.org/fred2/graph/?g=hh3# https://research.stlouisfed.org/fred2/data/A006RE1Q156NBEA.txt https://research.stlouisfed.org/fred2/data/A822RE1A156NBEA.txt https://research.stlouisfed.org/fred2/data/A019RE1A156NBEA.txt

sources or increase their productivity.[5] Investment is a (the?) major means of increasing the productivity of resources, and also their amount. Thus, regardless of the fact that expenditures on newly produced consumers' goods far outstrip those on newly produced capital goods, it is the capital stock; i.e., the accumulated stock of capital goods, net of depreciation, that is the dynamic force in an economy.

Second, Skousen (2014A) states: «GO is an attempt to measure spending at all stages of production, the first statistic to be adopted since GDP was invented in the 1940s. It is a way of measuring Hayek's triangle, and I've found that the quarterly GO statistic a better, broader measure of the economy and a good predictor of final output (GDP).»[6] Perhaps the most important problem with modern mainstream economics is the abuse and misuse of mathematics. Austrian economists are often ignored, if not ridiculed, because they eschew the use of mathematics re economic theory.[7] Unfortunately, many Austrian economists do not avoid mathematics when they should.[8] In the case at hand, Skousen (2014B) refers to the Hayekian triangle (HT). Garrison, perhaps the foremost Austrian macroeconomist,[9] discusses the HT in *Time and Money*, his *magnum opus*. He states: «The horizontal leg of the triangle represents production time. The vertical leg measures the value of the consumable output of the production process. Vertical distances

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[5] Casual empiricism (and common sense) indicate that increases in productivity are by far the more important of the two.

[6] Of course, «Hayek's triangle» (Hayek, 1935, 39) is no such thing, despite the fact that he referred to his Figure 1 as a «right-angled triangle.» The sides of Hayek's so-called triangles are not measured in lengths; rather, one is measured in time, another in value, and the measure of the third, the would-be hypotenuse, is not given at all. (Hayek, 1935, 39) However, the sides of a triangle *must* be lengths. http://mathworld.wolfram.com/Triangle.html

[7] Not infrequently, the implication is that the eschewal is a consequence of their inadequate mathematical skill. And, yet, it is the mainstream economists whose misuse and abuse of mathematics leads one to think they are idiot-savants in that they display quite good mathematical skills at the level of a first-rate undergraduate mathematics major, or perhaps a graduate student, but apparently know nothing of applied mathematics.

[8] This criticism applies even to the undeniably great F. A. Hayek.

[9] Many (most?) Austrian economists consider economics holistically, and thus think that the terms micro- and macro-economics are misleading.

from the time axis to the hypotenuse represent the values of goods-in process….. Alternatively stated, the slope of the hypotenuse represents value added (by time and factor input) on a continuous basis. The choice of a linear construction here over an exponential one maintains a simplicity of exposition without significant loss in any other relevant regard.»[10] (Garrison, 2001, 46).

In section II of this paper we address some technical weaknesses of GO. Section III is devoted to a discussion of the double counting aspects of GO. In section IV we offer an illustration of the weaknesses of this statistic. Section V is our conclusion.

II
TECHNICAL ANALYSIS

Now drawing a triangle is a very different exercise then drawing a picture of something. A triangle, Hayekian or otherwise, is a three-sided polygon.[11] The HT is a right triangle; i.e., one of its angles is 90 degrees or $\varpi/2$ radians. Consider then the implicit mathematics in the HT. GO, as Skousen (2014B) maintains, is an attempt to measure the total output in an economy by way of the HT. But this theory comes apart if for no other reason than that it fails to account for the passage of time in production processes. As the HT measures production time along the horizontal axis, this might seem to be, prima facie, a fatal error to our objection. But to understand GO and the HT it must be realized that GO is not an attempt to measure elapsed time from start to finish of the production process. That is measured quite simply as a distance along the time (horizontal)

[10] Consider the last point that Garrison makes, in the quote that appears in the text: «The choice of a linear construction here over an exponential one maintains a simplicity of exposition without significant loss in any other relevant regard.» This is correct, as far as it goes. But it implies that the choice is limited to a linear or exponential construction. However, that implication is incorrect. There are other and much more realistic possibilities. For more on this, refer to: Barnett and Block (2006A), especially figures 3, p. 43 and 17 p. 54, in Appendix 5. Note page numbers refer to the SSRN document as per the reference section.

[11] http://mathworld.wolfram.com/Triangle.html Accessed 4/29/2016.

axis;[12] to wit: the distance along the time (horizontal) axis from the start of the process; i.e., the point on the time axis where the hypotenuse originates, to the end of the process, i.e., the point on the time axis where the value-leg (vertical axis) of the HT begins. Nor is it to be understood as the value of consumers' goods produced during the process. That, also, is measured quite simply as a distance along the value (vertical) axis;[13] to wit: the distance along the time (horizontal) axis from the start of the process; i.e., the point on the time axis where the hypotenuse originates, to the end of the process, i.e., the point on the time axis where the value-leg (vertical axis) of the HT begins.

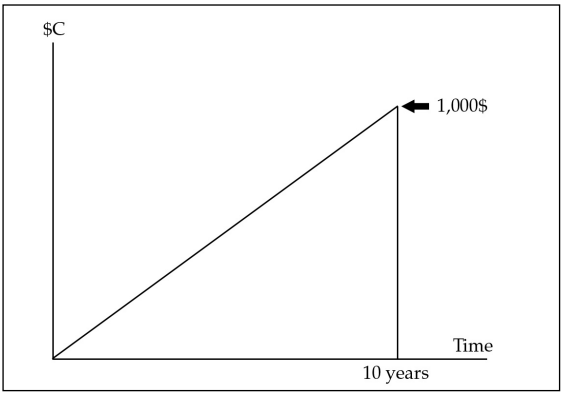
Therefore, to understand GO as an attempt to measure the HT, GO must refer either to measurement of the hypotenuse, again a simple matter of measuring the hypotenuse from start to finish — from the point where it begins on the time axis to the point where it ends (at the value of consumers' goods created during the production process) on the value axis, or it must refer to the area of the HT. And, that is where the mathematical issues arise.

Consider an HT, figure 1, that describes a production process that takes time equal to 10 years, and that results in consumers goods of value $1,000.

[12] To say that the elapsed time is «measured quite simply,» does not refer to actual measurements of real production processes; rather it refers to «as if» measurements using the HT.

[13] To say that the value of consumers' goods produced is «measured quite simply,» does not refer to actual measurements of real production processes, rather it refers to «as if» measurements using the HT. In fact, the BEA (2014) attempts to make such measurements and that operation is not simple in any sense of the term. And, BEA's measurements of expenditures on consumers' goods should in no way taken to be accurate, whereas measurements of a leg of a triangle can be precise.

FIGURE 1



In such a case, the $1,000 would be the C component of the GDP of year 10.[14] The area of a triangle is ½·height·base, in this case,

[14] In order to understand how else such a process affects GDP calculations, assume GDP to be calculated on an annual basis only. Then at the end of each of the first nine years of the process, the investment component of GDP of that year would include an inventory adjustment of $1,000/10 = $100. That is, for each of the first nine years of the process, I would be greater by $100 than it would have been sans that production process. And, in year 10, I would be less by $900 than it otherwise would have been. To wit: if the entire production of the economy consisted of that one process, and with no foreign or governmental sectors such that GDP + C + I, then the GDP numbers for the 10 year production process would be as follows:

Year	C	I	GDP	GO
0	0	0	0	0
1	0	100	100	100
2	0	100	100	200
3	0	100	100	300
4	0	100	100	400
5	0	100	100	500
6	0	100	100	600
7	0	100	100	700
8	0	100	100	800
9	0	100	100	900
10	1,000	-900	100	1,000

½·$1,000·10 yr or $5,000·yr.[15] Then, GO = $5,000·yr. But how, then, are we to interpret GO of $5,000·yr? The point is, lest this not be noted, that such a term is meaningless.[16] Note, this *most emphatically is not* $5,000/yr. (This latter may make sense in the right context.) This illustrates a fundamental problem that arises when economists attempt to use mathematics —they very nearly always ignore the relevant units involved, and when they do attempt to include them, they nearly always do so incorrectly.[17] Thus, the ratio

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Note, I in each period would consist solely of an inventory adjustment which would be the ending inventory of the period less the beginning inventory of the period. Note, also that in this example GDP would $100 in each year, but GO would increase from $100 in year one by an increment of $100 per year to $1,000 in year 10.

[15] Alternatively one could integrate the function of the hypotenuse and evaluate it over the relevant domain – 0 to 10·yr. In this case, the function of the hypotenuse is $C = $100/yr· T. The integral is ½·$100/yr·$T^2$ = $50/yr·$T^2$ evaluated between T = 0 and T = 10·yr ; i.e., the area (or GO) = $5,000·yr. These calculations follow the proprieties of mathematics. But in terms of economics, they are, again, veritably meaningless. One could draw a similar triangle in a Cartesian space with time, s, on the horizontal axis and distance, m, on the vertical axis. Assuming a constant speed, say 10m/s , the hypotenuse would be an equation for the relationship between distance and time; i.e., speed (m/s); to wit: distance in meters = speed in meters/second · elapsed time in seconds. If the time were 10s, the distance would be 100m. The area under the triangle formed by the axes and hypotenuse would be 100m·10s = 1,000 ms. This would not violate the laws of mathematics, but the term ms (meters·seconds) is meaningless in that it has no correlative in the real world. This is to be sharply distinguished from meters/second; i.e., meters per second, which most certainly is meaningful and realistic.

[16] On Austrian critiques of the misuse of mathematics in economics, see Anderson, 2001, 2002; Barnett, 2003, 2004, 2008; Barnett and Block, 2006B, 2010; Bratland, 2000; Bylund, 2011; Callahan, 2001; Cachanosky, 1985, 1986; Herbener, 1996; Ischboldin, 1960; Jablecki, 2007; Leoni and Frola, 1977; Menger, 1973; Mises, 1977, 1998; Murphy, 2008; Murphy, Wutscher and Block, 2010; Rizzo, 1979; Rothbard, 1988, 1993, 2011A, 2011B; Shostak, 2002; Wutscher, unpublished.

[17] «Dimensional analysis is used to check mathematical relations for the consistency of their dimensions**…[i]f the dimensions are not the same, the relation is incorrect**» (Cutnell and Johnson, 2001, 6, emphasis added by present authors). Also, consider this caveat: «An equation must **always** be dimensionally consistent; this means that two terms may be added or equated only if they have the same units…When a problem requires calculations using numbers with units, the numbers should **always** be written with the correct units, and the units should be carried through the calculation as in the example above. This provides a useful check for calculations. **If at some stage in the calculation you find that an equation or expression has inconsistent units, you know you have made an error somewhere**» (Sears, Zemansky, and Young, 1987, 7; emphasis added by present authors).

of GO to C would be \$5,000·yr/\$1,000 = 5·yr. And, how are we to interpret the ratio of GO to C, 5·yr? What, pray tell, does that even mean?[18]

III
DOUBLE COUNTING

Moreover, as both Skousen and others, not to mention the BEA, recognize,[19] GO does in fact double-count that which is important, the value of consumers' goods produced. The entire purpose of production is consumption, specifically the production of consumers' goods that individuals can use directly to satisfy their wants or to remove felt unease. The promoters of GO seem to ignore that fact, apparently valuing production for its own sake. Consider the following example of two different production processes A and B, each of which yield \$1,000 of consumers' goods at the same point in time, but the former of which takes five years and the latter which takes 10 years. Then, GO for the former is \$2,500·yr and for the latter it is \$5,000·yr. GO is twice as great in the latter case; according to GO theory this implies a bigger economy. However, the former process is obviously better, yielding the same value of consumers' goods in one-half the time.

In fact, the optimal production process is one for which the production time is practically zero; i.e., instantaneous conversion of resources into consumers' goods. That is, the less time the value of resources is tied up in the production process, ceteris paribus, the better.[20] The purpose of investment in the broadest sense is to enable

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[18] **N.B.** There is no way to avoid using the appropriate units without violating fundamental canons of mathematics. (See footnote 6, supra.) The standard unit of length used in science is the meter (m). Assuming we measure the base and height in meters (m), a triangle of base 20 m and height 10 m contains an area of 100·m². But regardless of the unit of distance chosen it *must* be measured in terms of the square of that unit. By ignoring the time dimension of production, i.e., by failing to include it in any meaningful way, GO becomes as much faux mathematics as is ubiquitous in modern mainstream, and most heterodox, economics. See fn. 16, supra.

[19] BEA: http://www.bea.gov/faq/index.cfm?faq_id=1034 Skousen: http://atlasone.org/2014/04/29/go-beyond-gdp-finally-a-better-way-to-measure-the-economy/

[20] Barnett and Block (2006A, 36-38) provide a hypothetical example of this.

entrepreneurs to better allocate scarce resources with the goal of increasing the want satisfactions of individual human beings. This can take a number of forms; to wit, the production of more capital goods of the types already in use; the production of capital goods of new types; the production of human capital; and, very important, the economizing of the use of resources, including especially time. Because of that, contrary to GO being a superior measure of the economy, with the implication that the bigger GO is the better is the economy, in fact, the optimal economy would be one where GO = GDP, always assuming these things could be measured accurately.

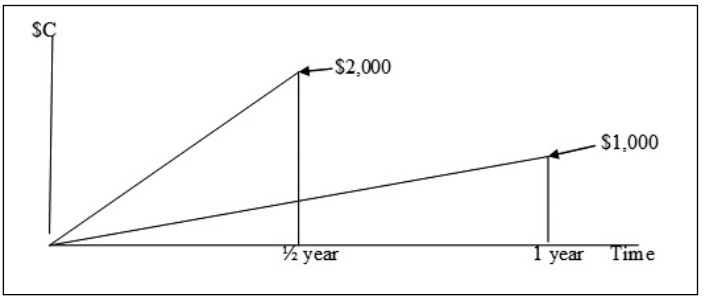
Furthermore, given the way GO is calculated, in contradistinction to mathematical calculations of areas of triangles as per the examples herein, there would be no difference between GO and GDP were each and every final good produced by a totally (100%) vertically integrated firm. Much seems to be made of business to business (B-to-B) transactions in which firms further upstream in production processes sell their output to the next firms further downstream from them. The thinking behind that seems to be that such B-to-B transactions require financing and thus involve the financial sector with consequences for interest rates and other terms and conditions of credit.[21] But, regardless of the number of

[21] Skousen states: «There are several reasons why double counting should not be ignored and is actually a necessary feature to understanding the overall economy. As accountants and financiers know, double counting is essential in business. No company can operate or expand on the basis of value added or profits only. They must raise the capital necessary to cover the gross expenses of the company —wages and salaries, rents, interest, capital tools and equipment, supplies and goods-in-process. GO and GDE reflect this vital business decision making at each stage of production. Can publicly-traded firms ignore B-to-B sales/revenues and only focus on earnings when they release their quarterly reports? Wall Street would object. Aggregate sales/revenues are important to measure on an individual firm and national basis.» (Source: http://atlasone.org/2014/04/29/go-beyond-gdp-finally-a-better-way-to-measure-the-economy/). Skousen is correct that firms must raise the capital to cover their gross expenses; of course on the other hand they receive revenues from selling their goods. Of course, apart from wages and salaries, their expenses are revenues to other businesses and, apart from sales to consumers, their revenues are the expenses of other firms. Therefore, to suggest that firms operate, expand, or account only on the basis of value added or profits is a strawman. More important, aggregate output statistics, whether GDP or GO, are meant to describe what is going on in the entire economy, as if it were one to-

«stages» of production, and regardless of whether production is fully vertically divided among many different firms, resources are paid, not as mainstream microeconomics would have it, their marginal revenue product, but as Austrian economics maintains, their *discounted* marginal revenue product (Block, 1990). The *entirety* of cost of resources used throughout the production process must be paid from the revenue generated by the sale of the consumers' goods produced. It is almost always the case that the owners of resources, especially labor/human capital require to be paid long before the revenue generated by the sale of the consumers' goods to whose value their resources contributed is realized. And, this is true whether the production process is vertically integrated or divided among numerous different firms; financing will be required throughout the process.

Consider another example of HT as provided in figure 2.

FIGURE 2



There are two production processes, A & B. The GO of each is the same, $500 yr. However A takes a full year and results in $1,000 of consumers' goods, whereas B takes but one-half year and results in $2,000 of consumers' goods. Obviously, B is superior to A from the perspective of GDP, but both are *equal* from the standpoint of

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tally integrated firm. Imagine using GO to describe a simple economy, consisting of A and B. A grows corn and sells it to B for $100. B shucks the corn and sells it A for $200. According to GDP there is $200 of output; according to GO, $300. We say, «Go figure.» Double counting, and double entry book-keeping, Skousen to the contrary notwithstanding, are simply not identical.

GO. Moreover, for the same measured GO, not only does B yield twice as much in terms of consumers' goods, but from the point of *consumption*, B involves twice as much leisure time (itself an essential element and form of consumption, which is entirely missing from HT —so much for congruence with economic theory) for the workers, it also implies, although with no necessity, less stress on the machines involved.

Skousen, the recognized driving force behind GO,[22] is wont to simplify the time period of production by dividing it into four stages: the earliest being «raw commodities,» followed by «manufacturer's [sic] goods,» then «wholesale goods,» and last, «retail goods» (Skousen, 1990, 304, Figure 9.10.) The last stage, retail, ends with the sale of the final goods to consumers. In considering his analysis we may, for the sake of simplicity, and without affecting the substance of our inquiry, assume the duration of each stage to be three months, and the value of the goods-in-process to have been zero at the beginning of the first stage, $100 at the end of that stage, $200 at the end of the second stage, $300 at the end of the third stage, and $400 at the end of the fourth and final stage.

In that case, the bureaucrats who compute GO would calculate it to be $1,000, the sum of the values at the end of each stage. In doing so, they would have ignored the fact that production takes time; i.e., by ignoring the fact that $100 of interim (non-final) output would have been available for use, assuming the first stage began on January 1, on March 31, that $200 of interim output would

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[22] Colander (2014) states: «… let me briefly discuss the history of the new gross output measure. The impetus to provide this new measure came from Mark Skousen, a maverick supply-side economist who has been pushing for such a measure for the last 25 years, at least. He made the argument for the measure in "The Structure of Production"» [Skousen, 1990, 2007]. In it he argued that gross output was a much better measure of production in the economy than the standard Gross National Product (GNP) and Gross Domestic Product (GDP) measures.

«… initially, Mark didn't have much luck in pushing for his measure, and his "gross output" measure never really was discussed in the economic literature. But Mark is a persistent well-connected supply-side economist, and he kept at it. So I wasn't all that surprised when last year Mark wrote me that the BEA decided to start providing the measure quarterly. (It has always been available on a yearly basis. I'm not sure what the politics of that BEA decision were, but I suspect they were interesting.)»

have been available on June 30, that $300 of interim output would have been available on September 30, and that the final output of $400 would only have become available on December 31. That is the $1,000 of gross output, regardless that it is composed of $600 of interim output and $400 of final output, was never available at any one time. This is an analysis of a single production process that from start to finish; i.e., four consecutive three-month periods.

All human action may be categorized as either production or consumption.[23] The purpose of production is to increase value; i.e., increase our ability to better satisfy our wants. The ability to better satisfy wants arises from one of two causes: first, changes in our subjective values such that we evaluate the goods we already have more highly because we now think them to be better able to satisfy our wants[24]; or, second, production —action that adds value to goods such that we will be able to better satisfy wants. The former results in what are referred to as capital gains; the latter results in income or output, which are the same things viewed from different perspectives. Or quite simply put, income and output are equal. Rothbard (2004, 479-480) states: «The price of the unit service of every factor, then, is equal to its discounted marginal value product. This is true of *all* factors, whether they be "original" (land and labor) or "produced" (capital goods).» Of course, the price received by a factor is its income and that is equal to its discounted marginal revenue product.[25] That is, output, in the form of revenue from its sale, is paid as income to those who contribute to its production. The amount of income that each producer receives is in accordance with his contribution to production at the margin; i.e., in accord with his marginal revenue product. Because the only source of

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[23] Consumption necessarily involves leisure. Nor is there any «third» or sui generis, option, for example, exchange. See on this Barnett and Block, 2005.

[24] This, in turn, might emanate from changes in tastes, alterations in the prices of substitutes complementary goods, etc.

[25] Note that Rothbard (2004, 479) maintains that a factor's price is equal to its marginal value product (MVP), not its marginal revenue product (MRP). The distinction is that MVP = the price earned from selling an additional unit of the output times the marginal physical product of the factor, whereas the MRP = the marginal revenue earned from selling an additional unit of the output times the marginal physical product of the factor. For more on this distinction, see Barnett and Saliba, 2002.

revenue available to pay the resource owners is that from the sale of the consumers' goods to individuals, those being paid in advance of that receive their discounted value; i.e., their discounted marginal revenue products.[26]

The revenue, then, from the sale of consumers' goods is paid out as income to the providers of labor/human capital services, of the services of capital goods, of natural resources, of financial capital in the form of advances to the providers of other services who receive their incomes prior to the consumers' goods being sold to households, and to entrepreneurs. Payments to the first group, those who supply-labor/human capital services —properly called employees, are referred to as employee compensation; i.e., wages, salaries, and fringe benefits. Payments to the second group, the owners of capital goods, are referred to as rent on capital goods.[27] Payments to the third group, the owners of natural resources, are referred to as land rent. Payments to the fourth group, the providers of financial capital —properly called capitalists, are referred to as interest. After these four groups receive their incomes, the entrepreneurs receive the residual revenue which is referred to as profits.[28]

Inter alia, because output and income are the same thing considered from different perspectives, the concept of GO is faulty from the start, as there is no corresponding concept of «gross income.» That is, there is not a dollar of income created for every dollar of gross output produced. The basic concept is that every dollar spent on output; newly produced final goods creates a dol-

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[26] Most suppliers of resources, other than capitalists and entrepreneurs, and in particular the providers of labor/human capital services, cannot and will not wait for the entire process to be finished; i.e., for the consumers' goods to be finished and sold, especially as many of these services enter into early stages of the production process and the suppliers thereof do not have any direct connection to, nor are they aware of, the specific consumer' goods they help produce. Therefore, it almost always the case that they wish to be paid before the consumers' goods are sold to households.

[27] Rent as used in economics is an ambiguous term. Rent here is not to be confused with «economic rent or quasi-rent.» Nor with so-called «rent-seeking.» As used herein it refers to the payment to a resource owner.

[28] If the residual revenue is negative losses have been incurred. These fall primarily to the entrepreneurs, and secondarily to the capitalists. There are situations in members of the other three groups also experience losses.

lar of income for the producers thereof. Money spent in purchasing previously produced goods or titles thereto does not create income,[29] rather it merely transfers the ownership of such goods and titles from one economic entity to another.

IV
AN ILLUSTRATION

To illustrate this point about the inequality of income and output insofar as GO is concerned, consider the previous example of a production process of four, three-month stages with zero value existing at the beginning, and with $100 of value added during each stage so that the sales from stages one to two, two to three, and three to four equal $100, $200, and $300, respectively, with final sale to the consumer for $400. GO is, then, $1,000. Go must consist of output, else why is it referred to as output at all? So the $100 of GO at the end of the first stage must have created income of $100 for those who produced the output of that period. And, the $200 of GO at the end of the second stage must have created income of $200 for those who produced the output that was sold at the end of that period. Next, the $300 of GO at the end of the third stage must have created income of $300 for those who produced the output that was sold at the end of that period. Finally, when all is said and done, the $400 of GO at the end of the fourth stage must have created income of $400 for those who produced the output that was sold at the end of that period. That is the GO of $1,000 must have created $1,000 of income for those who produced it during the year. And yet only *$400* of consumers' goods were created, no fixed capital goods were produced and the goods-in-process manufactured during the year ended as the consumers' goods and there was no inventory of them left. That is, only $400 of consumers' goods were produced, but $1,000 of income was earned by the producers. I.e., $1,000 of income is to be spent on $400 (at pre-existing prices) of final goods to be purchased. The result —a massive inflation as the price of the final

[29] Of course, any expenditures for newly produced services or goods involved in such purchases does create income, but only to that extent.

goods is bid up from $400 to $1,000. Obviously, something is wrong here. Either so-called GO is not output at all, or the production of output does not create income. But, as the latter is contrary to economic analysis, it must be that the former is correct; to wit: GO does not measure output — rather, it measures expenditures. And, it does not measure expenditures on newly produced final goods, including increases in inventories, it measures as a part of output the price paid every time a good-in-process is sold from one business to another, so that contribution to GO of the same good produced using different processes can diverge. Vertical integration, ceteris paribus, reduces GO. Henry Ford's vertical integration would have meant that, ceteris paribus, Ford added less to GO after integration than before, given the same output of vehicles, and the same would be true for Ford post vertical integration in comparison to other, less vertically integrated, automobile companies. Obviously, something is wrong with such a measure of output.

This is not to deny the importance of the structure of production and of production, more generally. It is entrepreneurs who acquire resources, organize, and allocate them in such ways as to use «our» scarce resources to produce goods that best, or at least better, satisfy our wants or remove felt uneasiness. The entrepreneurs who are responsible for production are the driving force in an economy.

Why, then, is the BEA prepared to throw a bone to Austrian economics, in the form of gathering data and using it to calculate GO statistics? A skeptic might suggest that it has something to do with increasing the size and rewards to the bureaucracy.

We have yet another bone to pick with this author. In the view of Skousen (2010), it is not consumer spending that «drives» the economy, but, rather, investment. Why? Because the latter is much larger than the former: «I calculated total spending (sales or receipts) in the economy at all stages to be more than double GDP (using gross business receipts compiled annually by the IRS). By this measure —which I have dubbed gross domestic expenditures, or GDE— consumption represents only about 30 percent of the economy, while business investment (including intermediate output) represents over 50 percent.» He continues: «It's supply —not demand— that drives the economy.» Here, supply is investment, demand is consumption.

But this «supply side» argument is just as Keynesian (this is a negative pejorative) as is the «demand side.» Neither is fully true. Both are partially correct. What «drives» the economy is economic freedom (Gwartney, 1996; Smith, 1776). This, in turn, allows economic actors to both save and invest, on the one hand, and consume on the other. The latter, Skousen to the contrary notwithstanding, is also very important. It is the sole *aim* of economic activity. Did we not want to consume, we would neither save nor invest in the first place. Nor will mere spending on investment «drive» the economy. Posit that investment doubles, or triples (quadruples is fine, too), but it is all spent on the proverbial Keynesian «digging ditches and filling them in again» projects. Would our economic well-being, e.g., *consumption,* increase thereby? Not by one whit. Any old spending on investment projects simply will not do. In order to increase economic welfare, it must be congruent with the wishes of people to *consume.* And, on the not very heroic assumption that no one enjoys the sight of ditches being dug and then filled in again, all of the spending on this «investment» will be for naught.

Here is one last criticism of Skousen. Columbus tried to get to India by going west from Spain; did the Americas not intervene, he would have succeeded. However, he did «discover» that continent, not a mean accomplishment. The supporters of GO attempted to make a contribution to macroeconomics in general, and, specifically, to better measures for national income accounts. They were not successful either. However, they did attain a goal they had no intentional of achieving: GO does measure the degree not only of vertical integration, but also horizontal business-to-business interaction. This is a contribution not to macro-economics, but to its sister discipline, micro-economics. Unhappily, while Columbus did make a positive contribution to society with his discovery of the Americas, the same cannot be said for GO's contribution to micro-economics, vis a vis vertical and horizontal integration? Why not? In a word, because this only plays further into the hands of the statists, in that it provides an additional weapon for the trust-busters.[30]

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[30] For an Austrian critique of neoclassical monopoly theory, see Anderson, et. al., 2001; Armentano, 1972, 1982, 1989, 1999; Armstrong, 1982; Barnett, et. al., 2005, 2007; Block, 1977, 1982, 1994; Block and Barnett, 2009; Boudreaux and DiLorenzo, 1992;

Let us consider horizontal integration first. There can be no doubt that GO shines an additional light on this phenomenon. The lower is GO, ceteris paribus, the less interfirm business there is. The higher becomes the concentration ratio, however defined.[31] The point is that with GO, trust-busters now have a third weapon in addition to concentration ratios and Herfindahl (aka Herfindahl-Hirschman) indices, to use against firms guilty of no more than competing successfully. We cannot think that Skousen and other Austro-libertarian supporters of GO meant for this measure to strengthen anti «monopoly» legislation, but it cannot be denied that this is exactly one of its implications. A similar if less dramatic effect occurs with regard to vertical integration. This, too, is a phenomenon related both to GO and the anti-trust division of the so-called «justice» department.

V
CONCLUSION

It is difficult to understand why economists and political philosophers ostensibly dedicated to libertarianism and Austrian economics would welcome yet another set of government statistics. Not only welcome them, but take an active role in instigating the state to take a larger role in their creation; to even adopt a new set of them.

In the view of Rothbard (1961), «While private agencies and trade associations do gather and issue some statistics, they are limited to specific wants of specific industries. The vast bulk of statistics is gathered and disseminated by government. The overall statistics of the economy, the popular "gross national product" data

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Costea, 2003; DiLorenzo, 1996; DiLorenzo and High, 1988; Henderson, 2013; High,1984-1985; Hull, 2005; McChesney, 1991; McGee, 1958; Rothbard, 2004; Shugart, 1987; Smith, 1983; Tucker, 1998A, 1998B

[31] The Herfindahl index has some advantages over a four or eight firm concentration ratio, but both are highly problematic, in that there is no objective definition of an «industry.» Anti trust plaintiffs, including the government, define an industry as narrowly as possible, so as to increase concentration; defendants do the very opposite.

that permits every economist to be a soothsayer of business conditions, come from government.»

«Furthermore, many statistics are by-products of other governmental activities: from the Internal Revenue bureau come tax data, from unemployment insurance departments come estimates of the unemployed, from customs offices come data on foreign trade, from the Federal Reserve flow statistics on banking, and so on. And as new statistical techniques are developed, new divisions of government departments are created to refine and use them.» The source, as is indicated, is Rothbard 1961.

No truer words were ever written. Unhappily, GO fits this bill entirely. It is a (relatively) new departure for the government. It will enable, encourage and support the hiring of a new army of bureaucrats. These will, in turn, interfere even the more with the economy, particularly in the arena of monetary and fiscal policy and business cycles. The U.S. Treasury and the Federal Reserve System will seize upon this new data with alacrity. It will also aid and abet government involvement in the economy in terms of antitrust law. All and all, it will give central planning a boost, both in terms of philosophical justification as well as actual intervention.

Happily, however, the present essay will in some sense serve as a barrier against this new set of incursions. By demonstrating the fallacious nature of GO, it will to some degree ameliorate the risk of this new threat to economics freedom.

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