BEA www.bea.gov

Today we will look at only the BEA's *Regional Economic Accounts* web pages; we will not look at anything from their other web pages of *National, International,* and *Industry* data. Although I don't know enough about *Industry* data to teach it, if you're interested in my possibly presenting webinars about these other datasets tell me so in the webinar evaluation GPO will ask you to complete today.

HOW TO USE

Two main things to remember when we access the home page are –

1. Click on "Interactive Data" to bypass the "Regional Economic Accounts" web page and directly *access* and *work* with its data.
2. Click on the "Regional Economic Accounts" homepage to find out more about the data. You can also access its data here. Click here to also get such supplemental BEA reports as *Economic Information for Coastal Areas* and *Supplementary estimates of state and local government defined benefit pension plans*. The supplemental data here can be important for some users, so don't overlook it.

Geographies: state, MSA, msa, and these local geographies:
a) metropolitan divisions for of our nation's largest cities (think larger cities such as Dallas, not Oklahoma City or Tulsa);
b) combined statistical areas (CSAs) which are one or more adjacent MSAs with or without an msa adjacent to them both of which exhibit significant employment interchange, example: Joplin, Missouri and Miami, OK; and c) state metropolitan and non-metropolitan areas ("non-metro areas" is what I call a negative definition because it's "everything that's not metropolitan," similar to "rural" being everything that's not "urban on the Census.gov website). MSA: 50,000+; msa: 10,000 to 50,000.

Metropolitan Divisions are smaller groupings of counties or equivalent entities defined within a metropolitan statistical area containing a single core with a population of at least 2.5 million. Not all metropolitan statistical areas with urbanized areas of this size will contain metropolitan divisions.

What data does the BEA-Regional webpage give us?

- *GDP* for state and MSA
- *Personal consumption expenditures* by State
- *Personal income* for state, MSA, and county

- *Personal income and employment* for state, MSA, msa, combined statistical areas, and state metropolitan and non-metropolitan areas. These local geographies are all grouped in the "Local Areas Personal Income and Employment" tab on the *Interactive Data* webpage.
- *Real personal income and regional price parities*

Because I gave a webinar for GPO on *Personal consumption expenditures* on February 27, 2015 I may show an example for that data today, but I won't say much about it otherwise. You can view this webinar and get its webinar archive handouts at the FDLP Training Assistance Center.

Use your computer's SHIFT and CONTROL keys to make multiple selections in any choices in BEA data.

Natural break is data assigned to data ranges on "the basis of mutual similarity;" **Equal break** is data arranged by the same sizes of data values in each range. Best practice: you should use "Natural Break" unless you're asked for "Equal Break" data by someone who knows what it is and how to work with it.

"Natural break" = divides data into groups based on the natural groups that appear in the data (which means that this divides data into groups in numbers that may be different for each survey, like the word "natural" implies)

"Equal break" = divides data into groups that contain an equal range of data values (this choice will assign the same numbers to each range of data, as "equal" implies)

Don't know all the terms used on BEA.gov? Throughout this website you'll see that they've linked data terms to definitions. Here's an example –
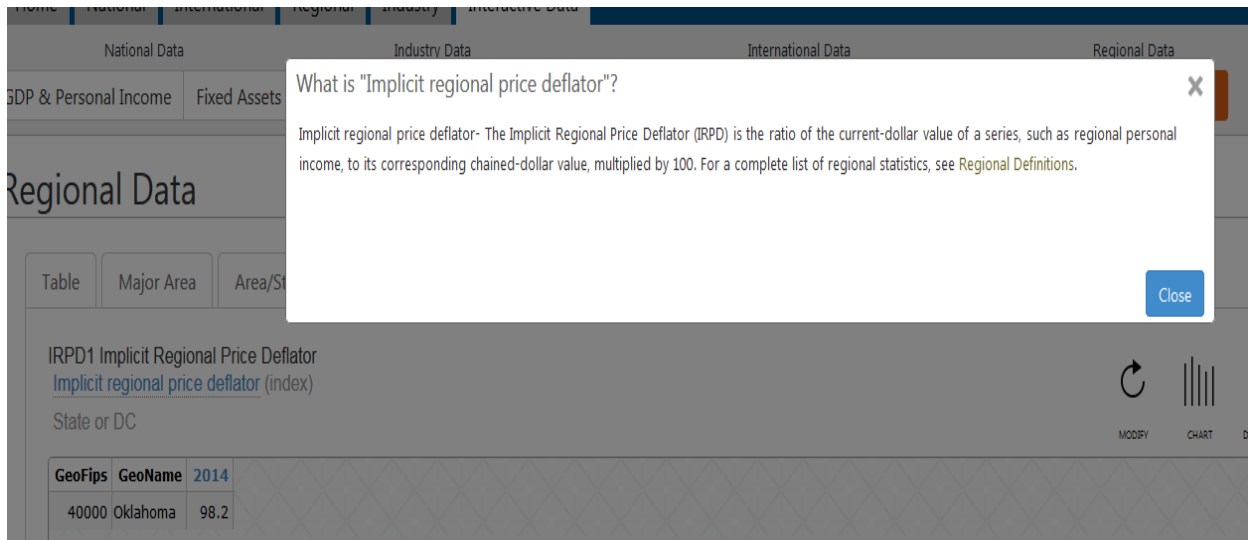
Remember that you can also use the **Glossary** on the *Regional* homepage; the glossary for the entire BEA website is here: http://bea.gov/glossary/glossary.cfm There is also an **FAQs** file on upper right screen of the homepage that is a well-developed feature and answers such questions as "Can current-dollar GDP decline when real (chained-dollar) GDP increases?" and "How does BEA account for seasonality in GDP?" (but many of the questions and answers here are about the how-to's of businesses filing their compliance forms with the BEA).

Abbreviations –
>	"D" – "Disclosure": data not given to protect privacy
>	"L" – data not given because it's of less value than $500,000
>	"MSA" – Metropolitan Statistical Area (50,000+ population)
>	"msa" – Micropolitan Statistical Area (10,000 – 50,000 pop.)
>	"N/A" – data not available
>	"TOPI"- Taxes on Production and Imports
>	"UOM" – Unit of Measure

INTERACTIVE DATA HOMEPAGE FEATURES

Everything on BEA.gov is so much easier to use since this webpage was redesigned in 2011. It existed earlier in a less usable format that consisted of links to the web pages of individual surveys. As far as federal government data goes it's one of the best examples we have of a one-stop search engine that features all current data with standardized search tools to data tables, charts, and graphs.

The two following choices work for the *Regional* datasets. But let me stress that if you want to get just the data return to the *Interactive Data* tab on the BEA homepage for

every search. Begin a search by starting there; get lost, return there.

HOW TO START YOUR SEARCH – VERSION #1 FOR DATA
1. Click the "GDP & Personal Income" bar under "Regional
   Data"
2. Click "Begin Using the Data". Note that you can download
   the data at this point.
3. Choose a data topic and then one of its datasets to get its
   data and start working with it

Work through the prompts; these datasets have *four steps* to click through to get your data. You'll then have these options: a) Modify returns you to your data drilldown choices; b) Chart lets you choose a bar chart or line chart and decide what data you want charted; c) Download has a choice of Excel, CSV, or PDF formats; d) Print - has good formatting with useful notes; and e) Share - you can share your search via e-mail or 204 social networking sites. Knowing the terms on this websites can be a challenge; its *Glossary* doesn't always do what it should. Here are two examples of terms and the economic ideas they represent from the many used here that you may need to research to fully understand - NOTE #1: one "Unit of Measure" you'll see is "Industrial Specialization Index (Location Quotient)". Here's what this is: A location quotient (LQ) is an analytical statistic that measures a region's industrial specialization relative to a larger geographic unit (usually the nation). An LQ is computed as an industry's share of a regional total for some economic statistic (earnings, GDP by metropolitan area, employment, etc.) divided by the industry's share of the national total for the same statistic. For example, an LQ of 1.0 in mining means that the region and the nation are equally specialized in mining; while an LQ of 1.8 means that the region has a higher concentration in mining than the nation. NOTE #2: "Real gross domestic product" ("real GDP") is a measure of the value of an economic output adjusted for price changes such as inflation or deflation. This adjustment transforms the money-value measure, the "nominal GDP" (raw number GDP) into an index for the quantity of total output.

Read the notes about your data to see that the data is in millions of dollars, the data is coded to the 2007 edition of NAICS, and there's a note about the most recent data posted. Remember that instead of choosing a state or other local geography in these drilldowns you can always choose the geography of "United States" and then perhaps your state and perhaps states contiguous to your state.

HOW TO START YOUR SEARCH – VERSION #2 FOR MAPS
1. Click the "GDP & Personal Income" bar under "Regional
   Data"

2. Click the "Begin Mapping the Data"
3. Choose a data topic and then one of its datasets to make
   map display choices. Mapping your data is not an option
   available in the "Version #1" approach to using this data.
   You only get maps here. I'll do some map searches after I
   do data searches.

>   a) choose a data topic; b) choose the "Unit of measure" that you want
>   mapped; c) choose a color group for your map; d) select the dataset you want
>   mapped; and e) select the number of ranges in your map.

DATA AND MAP CHOICES

Whenever you use this website this question should occur to
you: how do I use this data? Especially since this website wasn't created for the public
but for economists and others who regularly work with this type of economic data?
There's a BEA web page here that says very little about the use of this data:
http://bea.gov/regional/about.cfm   Other than citing specific uses by some federal
agencies and state governments in general it only offers this general, unuseful guidance
–

- Academic researchers use the estimates for applied economic research.
- Businesses, trade associations, and labor organizations use the estimates for market research.

The inherent tension that exists in this webinar today is that I need to focus on showing
you the how-to's of getting its data, charts, and maps, but understanding that data and
putting it to practical use is more important *and we have only one thin hour together!* But
here are my thoughts about how you can improve your understanding this data –
1. read the linked definitions in the data you create
2. if necessary read additional definitions in the *Glossary* on
   its home page
3. then if necessary open and read files in "Methodologies"
4. use the "Contacts" link on right screen of homepage to
   send questions to BEA staff via e-mail or phone
5. last resort: search everywhere on Internet and hope for the
   best

GDP by State: Quarterly *or* Annual

GDP by state measures the value added in production by the labor and capital in each
state. This is current-dollar GDP and is made up of this data: compensation of

employees, taxes on production and imports less subsidies, & gross operating surplus.

State Quarterly Estimates
State Annual Estimates
(a) Annual data is released 6 months after the end of a year; released at the same time are data revisions for the preceding 3 years; (b) **"Current-Dollar"** data reflects the value of a dollar for the period being measured; **"Chained-Dollar"** data reflects the value of a dollar for a specified time period that has a defined "zero-year" beginning; (c) for the SIC years of 1963-1997 it has data for 75 SIC-based industries; for the current NAICS 1997-it has data for 81 NAICS-based industries. BEA claims that this is "…the most comprehensive measure of state production available".

From: *Quarterly GDP*
GDP in Current Dollars
Real GDP in Chained Dollars
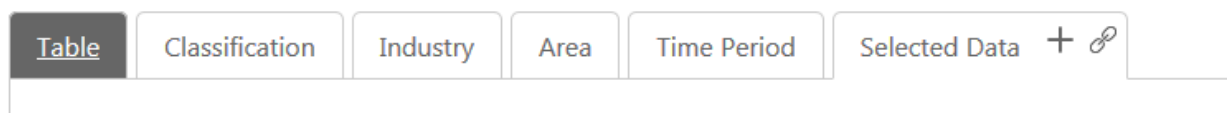Quantity Indexes for Real GDP

From: *Annual GDP*
GDP in Current Dollars
Subsidies
Taxes on production and imports (TOPI)

Let's look at another search feature now. We've seen how we can use the top tabs in our search to navigate its search engine. There are two additional tools here –

Within the "Selected Data" tab you'll see a cross that opens an e-mail tool that you can use to e-mail your search to yourself or your customers. The chain is for embedding this data into a website.

GDP by Metropolitan Area
Metropolitan area annual estimates
(a)This specifically measures the market value of "final" goods and services for a period of time; (b) data is released 6 months after the end of the year; (c) annual county estimates of compensation per industry are released 12 months after the end of a year,

annual county estimates of personal income are released about 16 months after the end of a year; (d) data is available for 61 NAICS industries.

GDP in current dollars
Per Capita Real GDP

Personal Consumption Expenditures by State
Personal Consumption Expenditures
Per Capita Personal Consumption Expenditures

Quarterly State Personal Income
Annual State Personal Income & Employment
Local Area Personal Income & Employment
State Quarterly Personal Income: (a) data is released 3 months after the end of the year, but is revised as "final data" after an additional 6 months; (b) preliminary quarterly data is released 3 months after the end of quarter, detailed data 9 months after the end of a year; (c) BEA claims that this is the "most current, comprehensive, consistent [CCC] measure of household income available"; (d) "Income" consists of 1. earnings, 2. dividends, interest, and rent income, 3. "government and business transfers" (Social Security, Medicare/Medicaid, worker's comp. payments, etc.); (e) quarterly data is available since 1948, annual data since 1929; (f) includes **per capita** data and **disposable personal income** data.

Compensation of employees by industry
State Annual Personnel Income
Local Personal Income

Real Personal Income & Regional Price Parities
BEA uses data from BLS and Census to create this data.

Real Personal Income
For states, MSAs, the Metropolitan Portion of a state, and the Non-Metropolitan portion of a state. Real personal income is personal income by *Regional Price Parities* divided by the national *Personal Consumption Expenditures* price index.
Real personal income is inflation-adjusted per capita disposable income (which is personal income minus personal taxes).

Regional Price Parities
Regional Price Parities (RPPs) measure the differences in the price levels of goods and services across states and metropolitan areas for a given year. RPPs are expressed as

a percentage of the overall national price level for each year, and are calculated using price quotes for a wide array of items from the Consumer Price Index (CPI) of the U.S. Bureau of Labor Statistics which are aggregated into broad expenditure categories such as food, transportation or education. Data on rents are obtained separately from the Census Bureau's *American Community Survey.* The expenditure weights for each category are constructed using CPI expenditure weights, BEA's *Personal Consumption Expenditures*, and ACS' rent expenditures.

Implicit Regional Price Deflator

This is regional price data derived as the product of two other sources of data: *Regional Price Parity* data and the *Personal Consumption Expenditures* data. The implicit regional price deflator will equal current dollar personal income divided by real personal income in chained dollars. The growth rate or year-to-year change in the index is a measure of **regional inflation**. What does the word "deflator" mean here? To simplify it, a deflator is a value that measures data over time in terms of a base period-- which is chained dollars rather than current dollars--to distinguish between the changes in the money value of the gross national product that results from a change in prices versus changes that result from a change in physical output.

NOW LET'S DO A FEW MAP SEARCHES

Click the *Interactive Data* tab so we can choose the "Begin mapping the data" choice. There are no "Local Area Personal Income and Employment" choices available here, and there are other choices in data that aren't here either.

Annual GDP by State: Compensation of employees –
Annual state personal income and employment – Economic
  Profile
Personal income and employment: Farm income and
  expenses

BEARFACTS

Until a couple of years ago there were 170 BEARFACT geographies are for State, County, MSA, and the unique-to-the-BEA *Economic Areas* geography that usually extended across state borders and mapped local economic geographies. This *Economic Areas* geography no longer exists so when we click *BEARFACTS* we get only state, county, and MSA (but no Micropolitan Statistical Areas). These measure an area's personal income using current estimates, growth rates, and a breakdown of the sources of personal income. The ease of getting data by clicking on its selection maps is its best feature.

USED TO SHOW: an area's personal income including per capita income using current estimates, growth rates, and a breakdown of sources of personal income.

1. Choose your geography: state, county, MSA (no msa's)
2. Use the drilldown boxes or click on the next map or if you choose *County* or *MSA* one additional map to select your geography. Your report appears.
3. There's a *Modify* tool in upper right screen that lets you change geographies, but not types of geography (so state to state changes, county to county changes, MSA to MSA changes). Or in upper left screen there's a *Return to Map* tool.

REGIONAL ECONOMIC ACCOUNTS HOMEPAGE FEATURES

TOP NAVIGATON BARS
1. **Methodologies** – what to remember: the glossary and geography lists. But I encourage you to read the statistical methodology guides if you work closely with any of these datasets.
2. **Articles** from *Survey of Current Business* and other sources *only* about the *Regional Economic Accounts* webpage
3. **Release Schedule** – only for the *Regional Accounts* webpage's data releases
4. **Staff contacts** – this is a list of e-mail addresses by the topics of the Regional Economic Accounts datasets.
5. **E-mail subscriptions** – do you know that BEA has data about the arts, health care, and travel and tourism?

The following intel is on *both* left and right screen –
WHAT'S NEW – current features

NEWS RELEASES – with an archive from 1996 –

RIMS II – the most focused marketing service available from any federal govt agency; you pay for it; if you could afford RIMS data you wouldn't be watching this webinar now

DEFINITIONS AND GEOGRAPHY – a) glossary of the many terms used in this regional data; b) a statistical areas search tool. This is a good tool that you can use for geographical components questions you have since it has all the components of MSAs and msa's; and c) BEA Regions codes – you should know your state's code; it will be the same code that the Census Bureau uses, such as

"Oklahoma: 40".

PREVIOUSLY PUBLISHED ESTIMATES – this is all data
that has been superceded. It is unrevised "real-time data"
that can serve as an indicator of how data was regarded at
the time of its release. No data before 2002; Excel or CSV.

LAST THING: FROM THE BEA HOMEPAGE – on left screen you'll see a
Publications tab where we'll find the *Survey of Current Business* (with archives
back to 1921), *Papers by Topic,* and always the most current *BEA Customer
Guide.*

In the archive of this webinar that will be soon be sent to you by GPO in the next few
days you'll find the most current version of the BEA customer guide, *Measuring the
Nation's Economy; A Guide to the Bureau of Economic Analysis*. Because the BEA has
moved into the Census Bureau's national headquarters in Suitland, Maryland its next
customer guide may be different. You'll also find a link in the webinar archive to their
current *Guidelines for Citing BEA Information.*

ADDENDUM: Let's be more precise: my statements about the revision and publication
of BEA data are "made-simple" summaries. This is from the current BEA methodology
manual for state and local personal income and gives precise information about this
data Source: *State personal income and employment: concepts, data sources and
statistical methods*, Sept. 2016. Can be found on this web page:
http://bea.gov/regional/methods.cfm

Preparation and Revision Schedule

The state personal income estimates are released and then revised on a regular schedule to incorporate source data that are more complete, more detailed, or otherwise more appropriate than the data which were available when the estimates were initially prepared. They are also revised to keep them consistent with revisions to personal income estimates in the National Income and Product Accounts (NIPA), to which they are controlled. The quarterly estimates are also revised to incorporate updated seasonal factors.

Personal income estimates are first prepared for the nation and then for states. Lastly they are prepared for counties, metropolitan statistical areas (MSAs), and other local areas that are combinations of counties.

Quarterly estimates of state personal income are prepared about three months after the end of the quarter. The preliminary annual state estimates are prepared about three months after the end of the year, and the revised state estimates are prepared about nine months after the end of the year. The annual estimates of local area personal income are prepared about 11 months after the end of the year.

In March of each year, the state estimates for the fourth quarter of the previous year are prepared, and the estimates for the first three quarters are revised; the preliminary annual state estimates for the previous year are prepared by averaging these quarterly estimates.[6]

In June, the state estimates for the first quarter of the current year are prepared, and the estimates for the four quarters of the previous year are revised.

In September, the annual state estimates for the previous year are revised using the annual, rather than the quarterly, methodology, and the annual estimates for the two years before that are revised. The annual estimates are based on administrative and survey data and replace previously reported estimates of total taxes, total transfers, and total farm proprietors' income that relied on extrapolations of past trends. Annual estimates by industry are prepared in greater detail—for 3-digit NAICS industries—than the quarterly estimates, which are prepared for 2-digit industries. Estimates of transfer receipts by major program, tax payments by level of government, employment by industry, and detailed farm income and expenses for the previous year are prepared. With the same release, the state estimates for the second quarter of the current year are prepared, and the estimates for the first quarter are revised. Furthermore, the estimates for the quarters of the previous three years are revised for consistency with the revised annual estimates.

In November of each year, the estimates of local area personal income for the previous year are prepared, and the estimates for the two years before that are revised.

In December, the estimates of state personal income for the third quarter of the current year are prepared, and the estimates of the first and second quarters are revised.

Aside from this schedule, the state and local area estimates are normally revised again only after a comprehensive, or benchmark, revision of the NIPA. Comprehensive revisions of the NIPA are made approximately every four or five years.[7]

Steve Beleu, Oklahoma Dept. of Libraries, November 30, 2016. Got a question? E-mail it to me at steve.beleu@libraries.ok.gov