

FSU Center for Economic Forecasting and Analysis (CEFA)



The Tallahassee Economy Project

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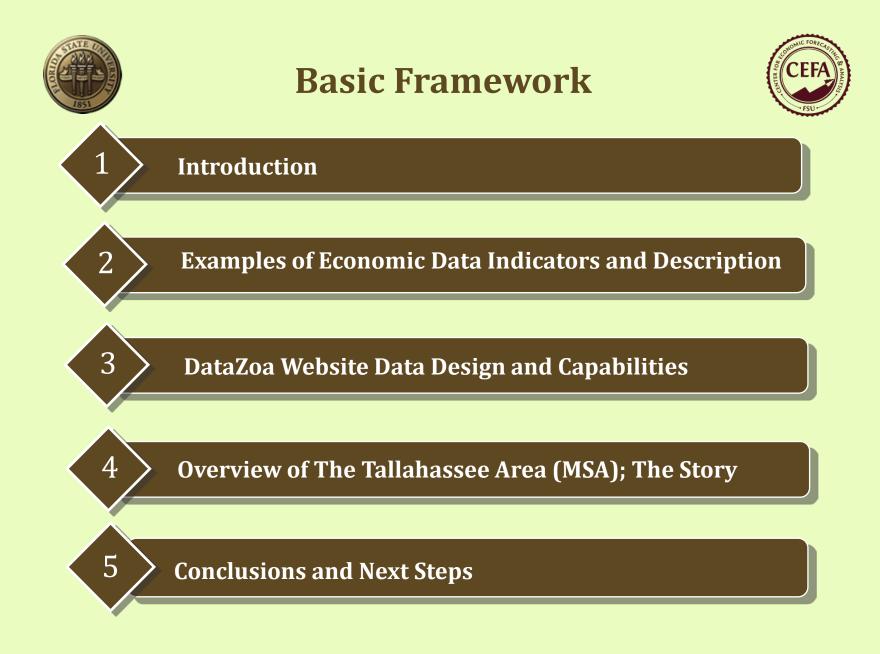
> For: The Tallahassee Economy Working Group October 12, 2016













The Tallahassee Economy "Big Data" Project



"What's really going to make big data go mainstream is the ability to connect not just with data scientists and technologists but business people. And absolutely one of the keys to that is visualization, is being able to show people—not just tell people, not just show numbers or even show charts—but to have those charts and graphs and visualizations come alive."

Chris Selland, Vice President Of Marketing And Business Development, TABLEAU

Companies surveyed in a recent DELL study concerning the implementation of Big Data practices found:

- Better communication and knowledge sharing (51%)
- Gaining competitive advantage (51%)
- Improved efficiency in business processes (49%)
- Improved customer experience and satisfaction (46%)





- The Tallahassee Economy Project partners are:
 - Tallahassee Democrat (Skip Foster)
 - Capital City Bank (Bill Smith)
 - Tallahassee Memorial Hospital (Mark O'Bryant)
 - Florida State University (David Coburn and CEFA)
- The goal of this partnership project is to have a dedicated website for the purpose of providing data (and analysis results) to the Tallahassee area community.
- Users will be able to download data and analyze on their computers, smart phones and/or other technical devices.
- Data analysis results can be seamlessly available from computer, and other devices, to social media venues, as a means to provide information and a guideline as to the characteristics, or current economic indicators, of the Tallahassee economy.



Florida State University Center for Economic Forecasting and Analysis (CEFA)



Specializes in applying advanced, computer-based economic models and techniques to perform economic analyses and to examine public policy issues across a spectrum of research areas. FSU CEFA also serves as a foundation for training students on the uses and applications of advanced economics and statistical tools.

Key Areas of Expertise:

- Economics, Sustainable Energy, High Tech Economic Research,
- Environmental/Natural Resources, Economic Development
- Econometrics, Economic Impact Analysis



http://www.cefa.fsu.edu









FSU CEFA Examples of Local Economic Projects

FSU CEFA

- Worked with the Florida Great Northwest (FGNW) on an "asset and inventories" project, and was a "beta-user" for the Workforce Innovation Technical Solution (WITS) on a Department of Labor WIRED grant.
- Compiled of series of economic indicators according to the International Economic Development Council (IEDC) standards. CEFA utilized numerous data sources (to populate the 24 individual spreadsheets).
- Performed an economic, quality of life and investment climate study for the EDC which provided valuable insight(s) into economic development and the strategic planning process in the area.
- Provided an economic and statistical analysis of the businesses located in the Tallahassee area using NETS. NETS is the National Time Series Establishment database of all businesses in Florida (including 24 years of historical data), which CEFA owns.
- Conducted an economic analysis and best practices microfinance study for the Florida Department of Economic Opportunity.



Economic Impact Analyses Conducted in the Area by FSU CEFA since 2005



From 2005 to 2015, CEFA conducted economic impact analyses for the EDC, for about 80 area businesses relating to expanding, relocating or creating new businesses in the area. The majority of these businesses are currently experiencing sustained or higher growth. The area businesses were primarily in the following categories:

Primary Business Sectors Analyzed in the Tallahassee/Leon County Region								
Aerospace & Aviation	Hotel							
AC Manufacturing	Housing							
Biomedical	Medical Services							
Construction	Media							
Education	Non-Profit							
Emergency Services	Retail							
Green Energy	Shopping Center(s)							



Examples of Local Economic Indicators Tallahassee New Economy Index Indicators Study



		Overall	Manageri	al, Prof.	Work	force	Export	Focus of					New P Tra		Onl	ine	Broad	band
		Final	Technic			cation		acturing		zelles"	Job Ch	· .	Comp		Popul		Tele.	
Rank		Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
1	Gainsville	77.2	1	35%	1	0.60	14	\$ 12,18	6 2	10.9%	20	8.4333	3	0.7688	1	52.5%	20	2.67
2	Melbourne	68.7	5	26%	5	0.41	8	\$ 31,59	2 17	10.4%	19	9.2623	6	0.3930	4	43.6%	4	5.21
3	West Palm Beach	67.8	8	25%	4	0.41	5	\$ 37,80	9 6	10.7%	3	10.6762	4	0.4968	17	36.9%	2	7.22
4	Miami	66.4	13	22%	11	0.36	1	\$ 203,44	6 14	10.5%	18	9.5559	7	0.3609	8	41.8%	3	6.75
5	Tallahassee	65.4	2	35%	2	0.54	18	\$ 9,55	2 5	10.7%	17	9.609	11	0.0000	2	49.6%	17	2.89
6	Orlando	64.9	10	24%	7	0.38	7	\$ 31,64	6 1	16.2%	8	10.0711	9	0.2619	11	40.3%	5	5.21
7	Ft. Laurendale	60.4	9	24%	10	0.37	3	\$ 66,05	1 7	10.7%	11	9.9085	5	0.4056	12	40.0%	1	8.35
8	Tampa	44.7	4	27%	12	0.35	9	\$ 30,97	1 10	10.6%	16	9.6386	10	0.0735	10	40.5%	6	4.87
9	Ft. Walton Beach	42.6	12	22%	3	0.43	10	\$ 30,46	20	10.2%	6	10.528	11	0.0000	3	44.5%	18	2.79
10	Daytona Beach	42.6	7	25%	15	0.33	16	\$ 10,27	1 18	10.4%	5	10.5508	11	0.0000	14	38.2%	14	3.24
11	Punta Gorda	42.1	16	18%	18	0.30	2	\$ 82,40	4 19	10.2%	15	9.6712	1	1.5046	18	35.4%	10	3.56
12	Jacksonville	40.9	6	26%	17	0.30	11	\$ 23,39	2 4	10.8%	14	9.7191	8	0.3411	5	43.1%	8	4.02
13	Pensacola	39.9	3	27%	9	0.38	19	\$ 6,11	1 11	10.6%	4	10.6509	11	0.0000	9	41.6%	11	3.52
14	Ft. Meyers	39.7	14	21%	13	0.34	6	\$ 32,88	3 3	10.9%	7	10.229	11	0.0000	13	38.3%	12	3.45
15	Ft. Pierce	39.6	15	21%	16	0.33	12	\$ 18,84	3 8	10.6%	1	11.1198	11	0.0000	16	37.6%	13	3.44
16	Sarasota	38.1	11	23%	8	0.38	15	\$ 10,46	4 16	10.4%	13	9.7674	11	0.0000	6	43.0%	19	2.79
17	Panama City	37.3	17	18%	14	0.34	4	\$ 49,80	9 9	10.6%	9	10.0213	11	0.0000	15	38.2%	9	4.00
18	Ocala	36.5	19	16%	20	0.26	17	\$ 9,67	3 13	10.6%	10	9.9253	2	0.9212	20	32.9%	15	3.22
19	Naples	34.8	20	12%	6	0.41	20	\$ 6,08	5 15	10.5%	2	10.764	11	0.0000	7	41.9%	7	4.35
20	Lakeland	21.3	18	17%	19	0.27	13	\$ 12,82	5 12	10.6%	12	9.8984	11	0.0000	19	33.1%	16	3.18

- 1) Managerial, Prof. & Tech. Jobs
- 2) Workforce Education
- 3) Export Focus of Manufacturing
- 4) "Gazelles"
- 5) Job Churning

- 6) Publicly Traded Companies
- 7) Online Population
- 8) Broadband Capacity

Study by FSU CEFA, Journal of Applied Research in Economic Development, 2003



Examples of Local Economic Indicators



Tallahassee New Economy Index Indicators Study

		Comput	ter Use	Commerc	ial Internet	Inte	rnet	High-	Tech	Degi	rees			Acad	lemic	Vent	ture
		in Scł	hools	Domain	Names	Back	bone	Jol	bs	Granted	in S&E	Pate	ents	R&D F	unding	Сар	ital
Rank		Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score
1	Gainsville	5	98.7%	8	1.63	14	0.0	12	2.8%	1	0.3753	3	0.77	1	2573.46	11	0.01%
2	Melbourne	3	99.4%	11	1.46	3	191.7	1	11.5%	4	0.1274	1	0.84	8	32.63	5	0.18%
3	West Palm Beach	6	98.5%	2	2.30	9	84.2	3	5.5%	9	0.0497	2	0.83	7	38.46	2	0.30%
4	Miami	2	99.8%	3	2.15	6	155.0	9	3.9%	15	0.0269	16	0.23	3	178.82	10	0.02%
5	Tallahassee	1	100.0%	4	1.83	1	271.3	8	4.1%	2	0.1935	17	0.23	2	796.70	13	0.00%
6	Orlando	7	97.6%	6	1.72	4	181.4	4	4.9%	13	0.0305	18	0.23	5	54.28	3	0.29%
7	Ft. Laurendale	4	99.4%	1	2.50	12	2.5	13	2.8%	14	0.0289	5	0.49	10	4.33	4	0.19%
8	Tampa	14	89.4%	7	1.71	8	106.3	6	4.3%	17	0.0212	11	0.30	4	124.62	6	0.12%
9	Ft. Walton Beach	1	100.0%	16	1.09	14	0.0	2	5.9%	18	0.0203	14	0.24	11	0.00	13	0.00%
10	Daytona Beach	11	93.4%	10	1.51	2	267.4	7	4.2%	6	0.0851	12	0.29	9	22.70	13	0.00%
11	Punta Gorda	1	100.0%	13	1.18	14	0.0	20	1.0%	20	0.0000	6	0.46	11	0.00	13	0.00%
12	Jacksonville	13	92.9%	15	1.14	5	157.1	11	3.3%	11	0.0409	13	0.24	11	0.00	8	0.03%
13	Pensacola	9	94.2%	17	1.09	10	32.5	14	2.6%	3	0.1527	15	0.24	6	40.83	13	0.00%
14	Ft. Meyers	10	93.9%	9	1.58	7	147.1	10	3.3%	16	0.0250	9	0.31	11	0.00	12	0.10%
15	Ft. Pierce	1	100.0%	14	1.15	14	0.0	5	4.5%	10	0.0469	7	0.46	11	0.00	13	0.00%
16	Sarasota	12	93.1%	5	1.75	13	2.3	17	2.2%	12	0.0341	8	0.40	11	0.00	7	0.09%
17	Panama City	1	100.0%	19	0.95	14	0.0	15	2.5%	5	0.0869	4	0.50	11	0.00	13	0.00%
18	Ocala	1	100.0%	18	1.01	11	17.3	16	2.4%	8	0.0574	19	0.22	11	0.00	1	0.46%
19	Naples	1	100.0%	12	1.32	14	0.0	19	1.9%	19	0.0000	10	0.31	11	0.00	13	0.00%
20	Lakeland	8	95.6%	20	0.78	14	0.0	18	2.0%	7	0.0627	20	0.19	11	0.00	9	0.02%

- 9) Computer Use in Schools
- **10) Commercial Internet Domain Names**
- **11) Internet Backbone**
- 12) High Tech Jobs
- 13) Degrees Granted in Science & Engineering
- 14) Patents
- 15) Academic R&D Funding
- 16) Venture Capital



Examples of Local Economic Data Indicators



Tallahassee-Leon County Office of Economic Vitality

http://oevforbusiness.com/data-center/data-downloads/



ECONOMIC DEVELOPMENT COUNCIL OF TALLAHASSEE/LEON COUNTY, INC.

Regional Economic Indicators

Indicator	Details	Potential Sources
Airplane Enplanements Inbound/Outbound	Enplanements; Deplanements; Total Passengers	City of Tallahassee Aviation Department
Annual Taxable Sales	Taxable Sales in Millions; Annual Taxable Sales by Category	Department of Revenue
Average Income	Average Annual Salary; Average Annual Employment and Wages	Department of Economic Opportunity; Florida Agency for Workforce Innovation; ESRI
Commercial Development	Number of Permits; Value in Millions; Value in 2014 Dollars; Projections by Hubs/Zones	City of Tallahassee Growth Management; ESRI
Commercial Vacancy Rate	Office Market Survey; Historical Office Vacancy Rates	Chip Hartung, Coldwell Banker Hartung and Noblin, Inc.; ESRI
Consumer Price Index	CPI for Urban Consumers	Department of Labor; Bureau of Labor Statistics
Higher Educational Attainment	Educational Attainment; Combined Student Population; Specific Areas of Study/Research	Department of Commerce; University and College Partnerships
Employment by Industry/NAICS Code	Target Industry Sectors; General	Department of Economic Opportunity; Bureau of Labor Statistics; ESRI
Gross Domestic (Metropolitan) Product	GDP in Billions	Department of Commerce
Housing Unit Inventory	Inventory; Projected Units; Residential Property/Building Permits Issued; Sales	US Department of Commerce; City of Tallahassee Growth Management; ESRI
Median Family or Household Income	Per Capita Income; Family Income; Income Estimates; Cost of Living Comparisons	Department of Commerce; US Census Bureau; Department of Housing and Urban Development; ESRI
Population	Counts, Estimates, and Projections of Population by Age; Median Age; Race and Ethnicity; Gender	Department of Economic Opportunity; Florida Chamber; Bureau of Labor Statistics; ESRI
Quality of Life	Parks and Rec department; Trails; Bikes; Cascades; Music; Art and Culture; Sports; K- 12	Leon County; ESRI
Research and Development	Specific Areas of Study/Research; Support by Research Centers to Local/International Companies; Registered Businesses; Number of Startups; Number of Startups by Industry Classification; Number of Patents	Department of Commerce; City of Tallahassee Growth Management; University and College Partnerships
Total Property Square Footage	Total Commercial Property Square Footage; Governmental Property Square Footage; Commercial Property/Building Permits Issued	Property Appraiser; ESRI; Spy Glass
Total Property Valuation	Commercial Property Valuation; Governmental Property Valuation	Property Appraiser; ESRI
Tourism Impact	Hotel Occupancy Rates; Visitation; Average Daily Rate	Leon County Tourism
Workforce and Labor Market Estimates	Labor Force; Employment; Unemployment; Unemployment Rate; Job Projection; Job Projection by Industry Sector	Department of Economic Opportunity; Bureau of Labor Statistics





Examples of Economic Indicators, Minneapolis/St Paul Minn.



Indicator	What is the measure?	Why is it important?	How is it measured?
ECONOMY			
Gross regional product per capita	Measures the total the value of goods and services produced in a region per year, per person	A rise in per capita GRP, all else equal, signals a rise in productivity. Increased productivity is associated with a higher standard of living and greater business profitability.	Bureau of Economic Analysis, 2014. Revised estimates. U.S. Census Bureau midyear population estimates, 2014. http://www.bea.gov/itable/
BUSINESS VITALITY			
Establishments surviving 5 years or more	The percentage of new establishments that stay in operations for 5 years or more	Demonstrates the ability of a region to support and sustain new businesses.	Bureau of Labor Statistics, BED, Table 7, 2014. http://www.bls.gov/bdm/bdmage.ht m
TALENT			
Net migration of 25- 34 year olds	Number of residents aged 25-34 that moved from elsewhere to MSP in the past year minus the number that moved out in the past year.	This age group includes younger workers who play a large role in the region's talent pool.	Integrated Public Use Microdata Series from the U.S. Census Bureau, American Community Survey. http://usa.ipums.org/usa/
EDUCATION			
6-year graduation rate at 4-year institutions	Percent of students enrolled in 4- year degree programs who graduate within 6 years	See above.	From Compass: The six-year graduation rate represents the share of first-time, full-time, degree- seeking students who completed their degree at the same institution within 150% of "normal" program time (i.e., within six years.) http://nces.ed.gov/ipeds/



Examples of Economic Indicators, Minneapolis/St Paul Minn., cont.



Indicator	What is the measure?	Why is it important?	How is it measured?
INFRASTRUCTURE			
Percent of population that has access to advertised broadband speeds of 1GB or higher	The percentage of the metropolitan area that have access to "advertised" broadband speeds 1GB or higher. Broadband commonly refers to high- speed Internet access that is always on and faster than the traditional dial-up access.	Broadband is a critical piece of economic infrastructure and higher speeds allow users to access greater amounts of data, faster.	National Broadband Map (2014), National Telecommunications & Information Administration. http://www.broadbandmap.gov/
ENVIRONMENT			
Average price,for electricity for commercial and industrial users (cents/kWh; primary metro utility)	Average retail price of electricity to commercial and industrial users. Price for largest electric utility in each metro market.	Competitive energy costs are an important factor when businesses decide where to locate and hire and in determining long-term expenses.	U.S. Energy Information Administration (EIA).
LIVABILITY			
Violent crime rate per 100k residents	Rate of violent crime (including murder, forcible rape, robbery and aggravated assault) per 100,000 residents	Violent crimes impose large costs on communities through lower property values, higher insurance premiums, reduced investment in high-crime areas, and higher public safety and criminal justice costs.	(# of violent crimes/population)*100000; http://www.fbi.gov/about-us/cjis/ucr/crime-in-the- u.s/2013/crime-in-the-u.s 2013/tables/6tabledatadecpdf/table-6; Trend: https://dps.mn.gov/divisions/bca/Pages/default.a spx
Percent of residents 16+ who volunteered in past year	Percent of residents (16+) who volunteered (a person who performed unpaid volunteer activities at any point during the 12-month period, from September 1 of the prior year through the survey week in September of the survey year) in the past year	"Volunteers are important community assets, often providing care and services that neither govt.nor the private sector can afford to provide on their own. High rates of volunteerism also signal a healthy willingness of individuals to pitch in and make the community a better place."	# of respondents (16+) reported having volunteered at least once in the last year/# of total residents 16+ 2012. Current Population Survey, Volunteer Supplement, the U.S. Census Bureau for the Bureau of Labor Statistics. http://www.volunteeringinamerica.gov/

MSP Regional Indicators Dashboard, 2015. Dale Weeks, personal communication.



Examples of Local Economic Indicators



Economic Indicators can be combined to represent a composite view of economic performance, or an economic index.

Jacksonville Local Economic Indicators Project (LEIP) - Index http://www.unf.edu/coggin/leip/

Jacksonville Index of Leading Indicators

Based on the model developed by the University of San Diego, UNF developed an Index of Leading Indicators(LEI) for Jacksonville. This methodology employs both local and national data to predict economic conditions three to six months in advance. UNF use the Conference Board (national provider) methodology employing the national weighting procedures for each category. In total, there are eleven categories with the national components being new orders for consumer goods, new orders for capital goods, consumer confidence, average work week hours, the money supply, and the percentage of late deliveries. The local components are help wanted advertising, building permits, new applications for unemployment insurance, interest rate spreads, and the local stock price index.

Tallahassee Economic Index (TEI) - Scorecard

http://www.tallahasseeeconomicindex.com/about-the-index/the-creators.html

The TEI is a collaborative effort headed by First Franklin Financial Branch Manager and Financial Adviser Brett F. Ewing. Mr Ewing along with many dedicated staff members, interns from The Florida State University, and other local community members and leaders have spent years compiling and organizing data in an effort to bring an ongoing data based report to the Tallahassee Community about what kind of growth Tallahassee's economy is really experiencing. Components to the TEI include: Initial Unemployment Claims, Airport Traffic, Building Permits Realtor Sales, Average Home Prices, Sales from: Pawnshops, Advertising, Drinking Places, Furniture, Apparel, Office Supplies, Graphics, Lumber, Household Appliances, Shoe Stores



Introduction to DataZoa



Go To Demo Site: https://www.datazoa.com/FSU_CEFA

Information on DataZoa:

Video on working with dataZephyr http://www.datazephyr.com/Videos/AirportStatsInDataZephyr/WorkingWithDataZephyr.html

A general purpose "what is dataZoa/dataZephyr" page with many examples of existing clients along with screen shots and videos (lot of information). http://www.datazephyr.com/UniversityLibraries.html

Multimedia dZBoard Example

http://www.datazoa.com/mydz/mydataboards.asp?uid=dzadmin&databoard_id=jhjmgiol&dzuuid=12 14&tablabel=3%2E%29+Multimedia+dZBoard&action=publicview

Multi-Page dZBoard Example

http://www.datazoa.com/mydz/mydataboards.asp?uid=dzadmin&databoard_id=moogjipn&dzuuid=1 214&tablabel=4%2DA%2E%29+Multi%2DPage+dZBoard%3A+Econ+Stats&action=publicview

dZBoard Creation Video (in detail, 40 minutes)

http://www.marketbrowser.com/dZBoards2Webinar/dZBoards2Webinar.html



Introduction to DataZoa



Examples of DataZoa Managed Sites:

http://nkybythenumbers.nku.edu/index.php?option=com_content&view=a rticle&id=37&Itemid=39

http://www.datazephyr.com/test/ButlerCenter

Delaware Labor

Kansas (deep link example)

Northern Kentucky



Introduction to DataZoa



DataZoa Functionality

Display Tool Descriptions



Download - Allows visitors to download all of the historical data sitting behind any given display

Embed - Allows visitors to place a copy of a given display on their own site (re-embedding)

Share - Allows visitors to share a display via social media (Facebook, Twitter etc.)

Email - Allows visitors to email a link to a display to friends/colleagues

Text - Allows visitors to text a link to a display to friends/colleagues

Mirror - Allows visitors to dynamically mirror a auto-updating copy of a table into an Excel sheet on their desktop

Analyze - Allows visitors to get a free copy of DataZephyr with which they can do advanced analysis of data

Follow - Allows visitors to follow a display into their own DataZoa account (creating a free passive viewing account if they don't have one)

Print (PDF) - Allows visitors to get a snapshot of the display as a PDF for printing or other uses Print (PNG) - Allows visitors to get a snapshot of the display as a PNG for printing or other uses



The Tallahassee Economy Project Initial Economic Indicators in DataZoa



The Tallahassee Economy Project

Tab	Indicator	Details	Sources			
1	Population by Age: Leon County - present	Relative percentage share by age category	Census Bureau			
	Population by Age: Leon County - time series	Total population, and relative percentage breakouts by gender and by age category	Census Bureau			
	Population by Race: Leon County - present	Total population, and relative percentage share by race category	Census Bureau			
	Population by Place of Birth: Leon County - time series	Total population, and relative percentages by origin	Census Bureau			
	Educational Attainment: Leon County - present	Relative percentage share by educational category	Census Bureau			
	Educational Attainment: Leon County - time series	Population 25 years and over, and relative percentage share by degree	Census Bureau			
2	Employment by 10-sector Tallahassee MSA - present					
	and and recorded to react additional second contraction of the reaction of the		Statistics			
	Employment by 11-sector Tallahassee MSA - present	Nonfarm, Private, Goods and Service, Private Service, Industries.	Bureau of Labor			
	(historic data)		Statistics			
3	Unemployment rate - time series	Leon: Labor Force and unemployment rate,	Bureau of Labor			
		Tallahassee, Leon, Florida and US: unemployment rate	Statistics			
	Unemployment rate - present	Labor Force, Employment, Unemployment, Unemployment rate (with changes from a year ago)	Bureau of Labor			
			Statistics			
	Comparative Unemployment rate by Region - present	Comparisons between Florida, Tallahassee MSA, Leon, Gadsden, Jefferson, Wakulla, Baton Rouge,	Bureau of Labor			
		Colombia (MO), Columbia (SC), Gainesville and Nashville-Davidson-Murfreesboro-Franklin MSAs	Statistics			
4	Per Capita Income Tallahassee MSA - time series, and	Per Capita Income in current dollars, and Per Capita Real GDP in 2009 dollars.	Bureau of Economic			
	Per Capita Real GDP Tallahassee MSA - time series		Analyses			
	Per Capita Income Tallahassee MSA - time series, and	GDP, Real GDP, Per Capita GDP and change in Per Capita GDP	Bureau of Economic			
	Per Capita Real GDP Tallahassee MSA - time series		Analyses			
	Comparative Per Capita Real GDP	Comparisons between United States, Florida, Tallahassee MSA, Baton Rouge, Colombia (MO),	Bureau of Economic			
		Columbia (SC), Gainesville and Nashville-Davidson-Murfreesboro-Franklin MSAs	Analyses			
5	Per Capita Income Tallahassee MSA - time series, and	Per Capita Income in current dollars, and Per Capita Real GDP in 2009 dollars.	Bureau of Economic			
	Per Capita Real GDP Tallahassee MSA - time series		Analyses			
	Personal Income Leon County, Population and Per	Comparisons between United States, Florida, Tallahassee MSA, Leon, Gadsden, Jefferson, Wakulla,	Bureau of Economic			
	Capita Income Leon County – time series,	Baton Rouge, Colombia (MO), Columbia (SC), Gainesville and Nashville-Davidson-Murfreesboro-	Analyses			
		Franklin MSAs				
	Median Household Income - present	Comparisons between Leon, Gadsden, Jefferson, and Wakulla	Bureau of Economic			
			Analyses			
	Median Household Income - time series	Comparisons between United States, Florida, City of Tallahassee, Tallahassee MSA, Leon, Gadsden,	Bureau of Economic			
		Jefferson, Wakulla, Baton Rouge, Colombia (MO), Columbia (SC), Gainesville and Nashville-	Analyses			
		Davidson-Murfreesboro-Franklin MSAs				
	People Living in Poverty - time series	Comparisons between Florida, Leon, Gadsden, Jefferson, Wakulla	Bureau of Economic			
			Analyses			
6	Wages by Occupation - present	Employment, Median Hourly, Mean Hourly and Mean Annually over all major Occupation	Bureau of Labor			
		categories	Statistics			
7	House Price Indices – time series (quarterly)	Comparisons between United States, Florida, Tallahassee MSA, Baton Rouge, Colombia (MO),	Federal Reserve			
		Columbia (SC), Gainesville and Nashville-Davidson-Murfreesboro-Franklin MSAs (and changes from	Bank of St. Louis			
		year ago)				
	Building Permits: Units - time series	Total, Single Family, Two Family, Three & Four Family, Five or More Family.	Census Bureau			
	Building Permits: Cost - time series	Total, Single Family, Two Family, Three & Four Family, Five or More Family.	Census Bureau			

*The initial list of economic indicators were developed by Tallahassee Economic Project Team during August and September 2016



What is the Tallahassee Economy Story? (Tallahassee MSA Data, 2015) (DataZoa Demo Site Tabs)



Go To Demo Site: https://www.datazoa.com/FSU_CEFA

See the Following Tabs of Indicators:

- Demographics
- Employment
- Unemployment
- GDP
- Income
- Wages
- Housing
- Other



What is the Tallahassee Economy Story? (Tallahassee MSA Data, 2015) Demographics Snapshot



- Strong representation of youth (aged less than 24 years); about 39 percent of the population. The largest age group are the 20-24 year olds, at 15%. There are 31% > 24 and < 49 years; and 31% > 49 years). About 46 percent of the population are less than 30 years old.
- Population has increased 2.9% (since 2010) with 378,593 in 2015; with about 52 percent female.
- The group with ages 40 60 years are higher wage earners (~23%) and are marginally declining (since 2010), whereas the relative share of young (ages 20-24 years) and older (60+ years) is increasing over time.
- 65% of the population has attained at least some college or greater. 35% have either Bachelor's (20.4%) or Graduate/Professional degrees (15%).



Examples of Economic Indicators in DataZoa (Tallahassee MSA)



Population by Age for Years 2010-2015

Pop. by Age: Tallahassee MSA	2010	2011	2012	2013	2014	2015
Total population	368,117	370,292	376,331	373,961	374,890	378,593
Male	177,595	179,055	182,411	181,054	184,166	181,980
Female	190,522	191,237	193,920	192,907	190,724	196,613
Population by Age:						
Under 5	5.7%	5.4%	5.2%	5.4%	5.4%	5.2%
5 to 9	5.9%	5.3%	5.3%	5.3%		5.5%
10 to 14	5.1%	5.8%	5.2%	5.9%	5.2%	5.3%
15 to 19	8.9%	9.3%	9.0%	8.2%	8.5%	8.1%
20 to 24	13.8%	13.9%	14.5%	14.9%	14.1%	14.6%
25 to 29	7.3%	7.5%	7.2%	7.2%	7.3%	7.3%
30 to 34	6.3%	6.0%	6.3%	6.2%	6.7%	6.5%
35 to 39	5.8%	5.6%	5.9%	5.4%	5.7%	6.1%
40 to 44	6.1%	6.3%	6.0%	6.5%	5.5%	5.4%
45 to 49	6.6%	6.0%	5.9%	5.7%	5.8%	5.5%
50 to 54	6.6%	6.7%	6.3%	6.1%	6.1%	6.0%
55 to 59	6.7%	5.8%	6.2%	6.0%	5.9%	5.9%
60 to 64	4.8%	5.8%	5.4%	5.4%	6.1%	5.9%
65 to 69	3.5%	4.0%	4.0%	4.2%	4.1%	4.8%
70 to 74	2.8%	2.2%	2.7%	2.9%	3.3%	3.1%
75 to 79	1.6%	1.8%	1.7%	2.0%	2.0%	2.1%
80 to 84	1.3%	1.4%	1.6%	1.5%	1.3%	1.4%
85 & Over	1.3%	1.3%	1.5%	1.1%	1.5%	1.3%
Median Age	32.3	31.8	32.6	32.3	32.8	33.1
Note: American Community Survey 1-Year Estimate	es					
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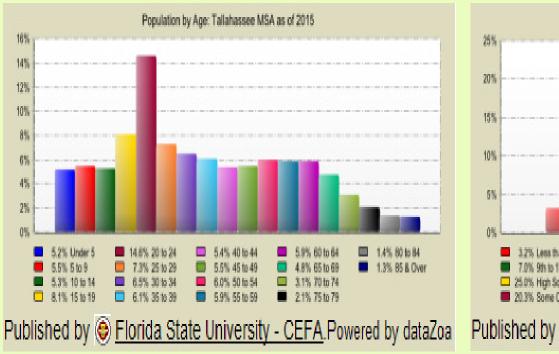


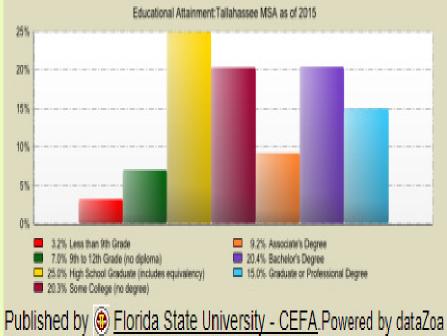
Examples of Economic Indicators in DataZoa (Demographics Tallahassee MSA, 2015)



Population by Age for 2015

Educational Attainment for 2015







What is the Tallahassee Economy Story? (Tallahassee MSA Data, as of Aug. 2016) Employment Snapshot



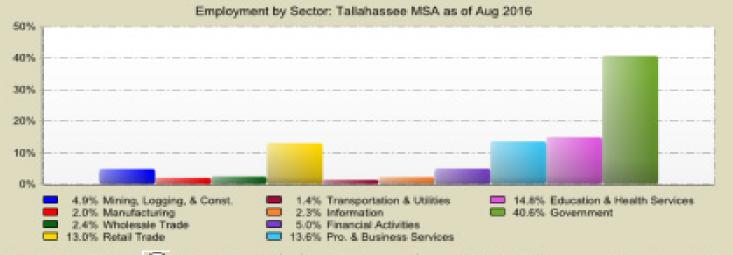
- Government is largest employer with a share of 40.6% of all employed.
- The second largest employment industry is Education and Health Services. Combined with government, these two sectors represent 55.4% of all employed in Tallahassee.
- Professional and Business Services (13.6%), and Retail Trade (13%) represent the next highest employers in the area.
- For the Tallahassee comparison MSA's, Tallahassee MSA has a 5 year average growth rate of 1.0% (and 10 year growth rate of 0.02%). The other MSA's 5 year growth rates:
 - Baton Rouge LA: 2.37%
 - Columbia MO: 1.98%
 - Columbia SC: 2.47%
 - Gainesville: 1.72%
 - Nashville TN: 3.70%



Examples of Economic Indicators in DataZoa (Employment in Tallahassee MSA, 2015)



Employment by Sector as of August 2016



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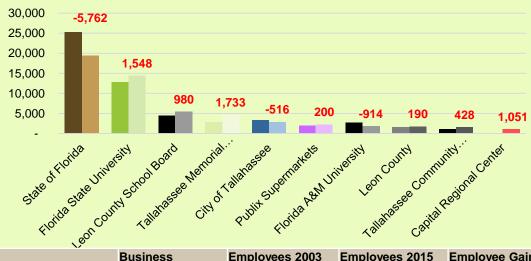
Total Nonfarm Employment	May 2016	Jun 2016	Jul 2016	Aug 2016	5-Year Growth Rate	10-Year Growth Rate
Tallahassee, FL	176.4	176.1	176.4	175.6	1.00% 👚	0.02% 😭
Baton Rouge, LA	411.0	414.7	416.2	413.4	2.37% 會	1.36% 😭
Columbia, MO	101.6	100.9	101.1	100.9	1.98% 👚	1.29% 😭
Columbia, SC	391.9	393.1	394.2	395.0	2.47% 😭	0.88% 😭
Gainesville, FL	136.8	137.4	138.4	137.9	1.72% 👚	0.29% 💧
Nashville-Davidson-Murfreesboro-Franklin, TN	931.7	937.6	942.6	948.8	3.70% 😭	1.86% 💧
Note: All Employees in Thousands; Seasonally Adjusted						
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Total Non Farm Employment as of August 2016



Examples of Economic Indicators in DataZoa (Employment in Tallahassee MSA, 2015) Top Ten Employers in 2003 and 2015





Largest Employers	Business	Employees 2003	Employees 2015	Employee Gain/(Loss) 2003-2015
State of Florida	Government	25,204	19,442	(5,762)
Florida State University	Education	12,830	14,378	1,548
Leon County School Board	Education	4,403	5,383	980
Tallahassee Memorial Hospital Inc.	Healthcare	2,850	4,583	1,733
City of Tallahassee	Government	3,327	2,811	(516)
Publix Supermarkets	Retail Grocery Store	2,000	2,200	200
Florida A&M University	Education	2,681	1,767	(914)
Leon County	Government	1,522	1,712	190
Tallahassee Community College	Education	1,090	1,518	428
Capital Regional Center	Healthcare		1,051	1,051
		55,907	54,845	(1,062)

Source: Moody's Investor's Service, Florida State University and City of Tallahassee FL, Issuer In-dept, 18- May 2016



What is the Tallahassee Economy Story? (Tallahassee MSA Data, as of Aug. 2016) Unemployment Snapshot



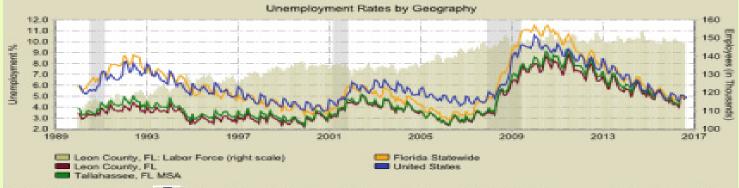
- Over the last decade, employment has remained relatively flat, at around 150,000.
- Unemployment in both the Tallahassee MSA (4.8%) and Leon County (4.7%) are similar, but are lower than the state of Florida (4.9%), which in turn is lower than the U.S unemployment rate (5.0%).
- For the Tallahassee comparison MSA's, as of August 2016, the highest unemployment rates are in Baton Rouge LA and Columbia SC.
 - Baton Rouge LA: 5.7%
 - Columbia SC: 5.2%
 - Tallahassee FL: 4.8%
 - Gainesville FL: 4.4%
 - Columbia MO: 4.1%
 - Nashville TN: 3.9%



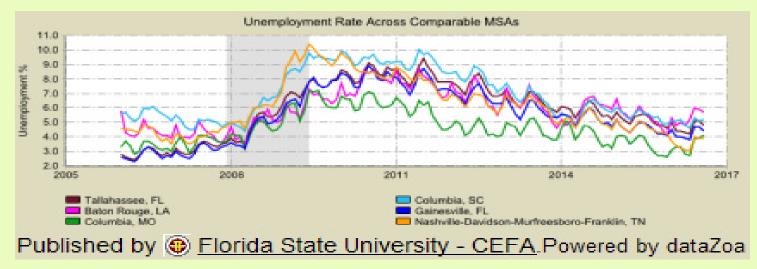
Examples of Economic Indicators in DataZoa (Unemployment in Leon County, 2016)



Unemployment Rates as of August 2016



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Unemployment Rates among Comparisons, as of August 2016



What is the Tallahassee Economy Story? (Tallahassee MSA Data) GDP Snapshot, Years 2010-2015



- Although remaining relatively flat at less than 1%, the real per capita GDP has been up for the last three years, at 0.63%, 0.92% and 0.71%, for years 2013, 2014, and 2015, respectively.
- Tallahassee MSA GDP was \$14.75 billion (up 0.71% from 2014).
- For the Tallahassee comparison MSA's, as of 2015, the highest per capita GDP are in Nashville TN and Baton Rouge LA.

Per Capita Real GDP	2010	2011	2012	2013	2014	2015		
United States	\$47,287	\$47,586	\$48,156	\$48,396	\$49,091	\$49,844		
% Chg from Year Ago	1.3% 👚	0.63% 會	1.2% 😭	0.5% 😭	1.44% 😭	1.53% 😭		
Florida	\$38,314	\$37,529	\$37,702	\$38,090	\$38,497	\$38,950		
% Chg from Year Ago	-1.01% 🌷	-2.05% 🌷	0.46% 😭	1.03% 😭	1.07% 😭	1.18% 😭		
Tallahassee MSA	\$36,125	\$34,917	\$33,881	\$34,096	\$34,408	\$34,652		
% Chg from Year Ago	-1.66% 🌷	-3.34% 🌷	-2.97% 🌷	0.63% 😭	0.92% 😭	0.71% 😭		
Baton Rouge, LA MSA	\$53,659	\$51,605	\$52,613	\$51,096	\$52,450	\$54,946		
Columbia, MO MSA	\$41,057	\$40,876	\$40,798	\$42,393	\$42,296	\$42,269		
Columbia, SC MSA	\$41,074	\$40,995	\$40,872	\$40,986	\$41,821	\$42,201		
Gainesville, FL MSA	\$39,718	\$38,778	\$38,518	\$38,428	\$38,753	\$38,843		
Nashville-Davidson-Murfreesboro-Franklin, TN MSA	\$50,198	\$51,694	\$53,518	\$53,992	\$54,867	\$55,841		
Note: In Chained 2009 Dollars; All Industry Total								
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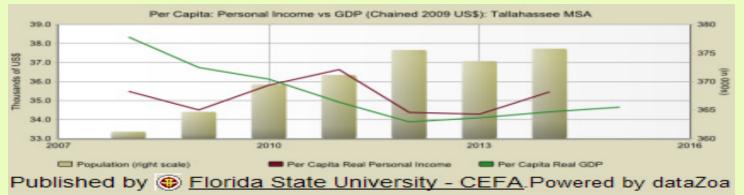
Per Capita Real GDP Comparisons



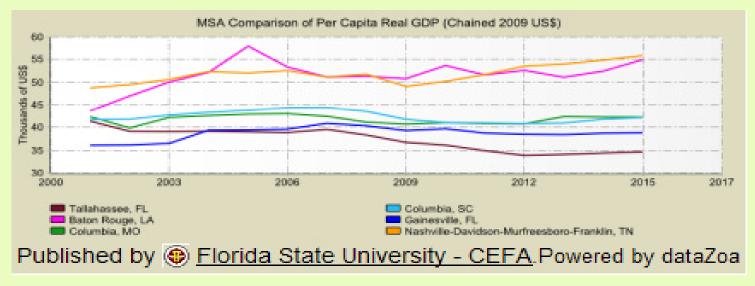
Examples of Economic Indicators in DataZoa (GDP in the Tallahassee MSA)



Per Capita Personal Income & Real GDP, from years 2000 to 2014



* Per capita personal income is in current dollars, and per capita real GDP is in 2010 dollars



Per Capita Real GDP Comparisons



What is the Tallahassee Economy Story? (Tallahassee MSA Data) Income Snapshot, Years 2010-2014



• Personal income is starting to rise in the Tallahassee MSA (up in 2014 by 4.82%).

Tallahassee MSA	2009	2010	2011	2012	2013	2014										
Personal Income (in Thousands)	\$9,509,484	\$10,107,391	\$10,673,441	\$10,338,109	\$10,377,772	\$10,878,196										
% Chg from Year Ago	-1.86% 🌷	6.29% 😭	5.6% 會	-3.14% 🌷	0.38% 😭	4.82% 💧										
Population	273,263	276,063	278,320	283,854	282,184	283,988										
Per Capita Personal Income	\$34,800	\$36,613	\$38,350	\$36,421	\$36,777	\$38,305										
% Chg from Year Ago	-2.63% 🌷	5.21% 😭	4.74% 💧	-5.03% 🌷	0.98% 🛉	4.15% 😭										
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Tallahassee MSA Personal Income

• For the Tallahassee comparison MSA's, as of 2015, the highest median household incomes are in Nashville TN and Baton Rouge LA.





Examples of Economic Indicators in DataZoa (Income in the Tallahassee MSA)



Median Household Income from Years 2010 to 2015

Median Household Income	2010	2011	2012	2013	2014	2015
United States (1-Year Est.)	\$50,046	\$50,502	\$51,371	\$52,250	\$53,657	\$55,775
Florida (1-Year Est.)	\$44,409	\$44,299	\$45,040	\$46,036	\$47,463	\$49,426
City of Tallahassee, FL (1-Year Est.)	\$35,911	\$38,607	\$39,913	\$39,564	\$38,085	\$40,000
Tallahassee MSA (1-Year Est.)	\$41,511	\$43,950	\$44,715	\$44,420	\$44,242	\$44,295
Leon County, FL (5-Year Est.)	\$44,490	\$45,827	\$45,915	\$46,369	\$46,620	
Gadsden County, FL (5-Year Est.)	\$35,728	\$33,453	\$35,593	\$35,380	\$36,146	
Jefferson County, FL (5-Year Est.)	\$41,359	\$42,096	\$41,163	\$44,170	\$42,866	
Wakulla County, FL (5-Year Est.)	\$53,301	\$54,151	\$53,385	\$52,691	\$53,143	
Baton Rouge, LA MSA (1-Year Est.)	\$48,294	\$48,441	\$50,286	\$51,134	\$52,091	\$54,774
Columbia, MO MSA (1-Year Est.)	\$40,853	\$46,703	\$43,172	\$48,953	\$50,085	\$50,520
Columbia, SC MSA (1-Year Est.)	\$45,929	\$45,292	\$48,763	\$48,672	\$50,091	\$51,369
Gainesville, FL MSA (1-Year Est.)	\$40,274	\$39,493	\$41,226	\$38,658	\$45,353	\$46,949
Nashville-Davidson-Murfreesboro-Franklin, TN MSA (1-Year Est.)	\$47,975	\$49,992	\$51,500	\$51,996	\$52,640	\$57,985
Note: American Community Survey; In Inflation Adjusted Dollars						
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Median Household Income Comparisons



What is the Tallahassee Economy Story? (Tallahassee MSA Data)

Annual Mean Wages Snapshot, Years 2011-2015



- Management occupations earnings are at the top in the Tallahassee MSA, followed by Legal occupations. Architect & Engineering and Healthcare Practitioners and Technical, are the same; at \$66,330.
- For the Tallahassee comparison MSA's, as of 2015, the highest annual mean wages are in Nashville TN, Baton Rouge LA and Columbia MO. Gainesville and Tallahassee are very close (with \$42,940 and \$42,850, respectively. Columbia SC exhibits the lowest wages for 2015: \$42,200.

Mean Annual Wages	2011	2012	2013	2014	2015	1-Year % Change	4-Year Growth Rate
Tallahassee, FL	41,450	41,760	41,450	41,660	42,850	2.86% 🛉	0.83% 🛉
Baton Rouge, LA	39,810	40,560	41,580	42,650	43,700	2.46% 😭	2.36% 🛉
Columbia, MO	37,780	38,200	41,100	42,570	43,530	2.26% 💧	3.61% 🛉
Columbia, SC	41,140	40,560	40,360	41,020	42,200	2.88% 🛉	0.64% 🛉
Gainesville, FL	44,270	42,980	44,470	43,040	42,940	-0.23% 🌷	-0.76% 🌷
Nashville-Davidson-Murfreesboro-Franklin, TN	41,620	41,810	42,920	43,950	44,700	1.71% 🛉	1.8% 🛉
Note: All Occupations							
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		1.14/-	-				

Tallahassee MSA Mean Annual Wages Comparisons



Examples of Economic Indicators in DataZoa (Wages in the Tallahassee MSA)



Mean Annual Wages from Years 2011 to 2015

All Oco	cupations: Mean Annual Wages	2011	2012	2013	2014	2015
00-0000	Total All Occupations	41,450	41,760	41,450	41,660	42,850
11-0000	Management	98,160	99,690	101,010	100,910	104,030
13-0000	Business & Financial Operations	51,530	51,510	52,340	53,240	53,050
15-0000	Computer & Mathematical	58,880	60,300	60,450	62,530	61,700
17-0000	Architecture & Engineering	62,950	64,380	65,680	64,520	66,330
19-0000	Life, Physical & Social Science	48,900	49,750	54,290	55,260	56,000
21-0000	Community & Social Service	38,690	38,170	38,640	39,300	41,360
23-0000	Legal	81,950	85,090	91,050	89,190	88,610
25-0000	Education, Training & Library	61,330	58,240	55,190	48,570	49,830
27-0000	Arts, Design, Entertainment, Sports & Media	44,800	45,220	46,150	50,200	54,820
29-0000	Healthcare Practitioners & Technical	61,130	64,290	64,070	62,130	66,330
31-0000	Healthcare Support	25,420	26,130	25,730	25,580	27,560
33-0000	Protective Service	39,690	40,640	38,690	41,440	42,890
35-0000	Food Preparation & Serving Related	19,370	20,070	20,450	21,120	23,350
37-0000	Building & Grounds Cleaning & Maintenance	20,330	21,530	21,640	22,500	22,400
39-0000	Personal Care & Service	24,320	24,070	24,350	24,080	25,800
41-0000	Sales & Related	33,160	32,330	31,730	32,370	32,500
43-0000	Office & Administrative Support	29,560	29,970	30,010	30,820	31,380
45-0000	Farming, Fishing & Forestry	24,050	23,200	22,950	22,610	24,220
47-0000	Construction & Extraction	34,480	34,510	32,990	35,760	36,470
49-0000	Installation, Maintenance & Repair	37,590	37,500	37,630	38,180	38,630
51-0000	Production	29,430	29,700	30,020	30,160	30,870
53-0000	Transportation & Material Moving	27,180	26,890	26,950	28,090	28,260
Occupational Employment and Wage Estimates for Tallahassee, FL MSA						
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Tallahassee MSA Mean Annual Wages Years 2011-2015



What is the Tallahassee Economy Story? (Tallahassee MSA Data)



Housing Snapshot, Years 2014-2016

- Using the last year of quarterly data, the average annual growth in house prices for the period was 11.7%.
- For the Tallahassee comparison MSA's, all the comparison MSA's have also increased in terms of house price indices. For the last quarter change, both Columbia SC and Gainesville FL have decreased.

House Price Indices	2014 Q4	2015 Q1	2015 Q2	2015 Q3	2015 Q4	2016 Q1	2016 Q2
United States	346.86	350.23	357.09	363.21	366.41	369.5	376.55
Chg from Year Ago	17.84 😭	18.2 👚	18.37 😭	19.38 😭	19.55 👚	19.27 😭	19.46 😭
Florida	332.49	339.16	349.25	358.58	365.06	372.98	382.78
Chg from Year Ago	27.17 😭	29.02 😭	30.67 😭	32.65 😭	32.57 😭	33.82 😭	33.53 😭
Tallahassee, FL (MSA)	165.83	166.47	170.09	173.11	173.62	175.71	181.78
Chg from Year Ago	3.93 👚	8.23 😭	5.4 😭	6.38 😭	7.79 😭	9.24 😭	11.69 😭
Baton Rouge, LA (MSA)	195.25	198.38	199.32	202.75	201.05	205.58	208.98
Columbia, MO (MSA)	163.7	164.08	168.76	166.67	169.13	171.3	174.11
Columbia, SC (MSA)	160.64	162.0	163.91	163.53	164.72	170.32	168.48
Gainesville, FL (MSA)	176.69	182.86	183.84	189.05	194.21	196.98	196.02
Nashville-Davidson-Murfreesboro-Franklin, TN (MSA)	197.38	199.9	205.85	211.15	214.46	218.39	226.09

Note: All Transactions; 1980 Q1 = 100

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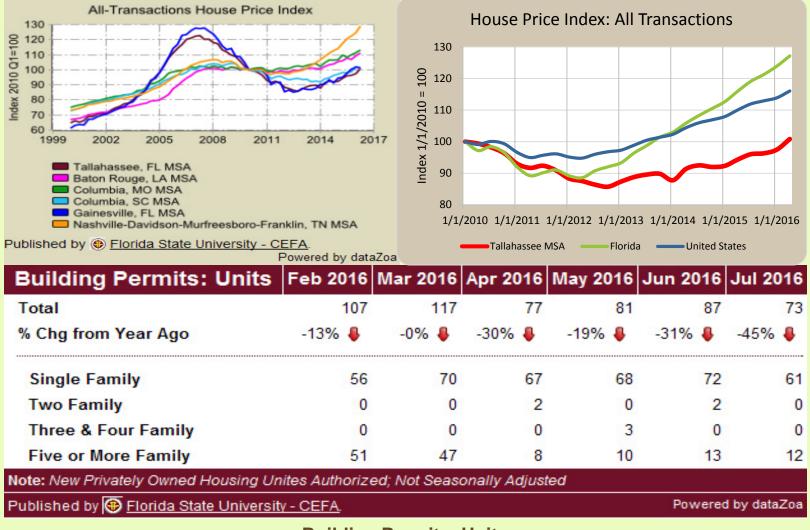
Tallahassee MSA House Price Indices Comparisons



Examples of Economic Indicators in DataZoa Housing in the Tallahassee MSA



Housing Price Indices for Comparison MSA's



Building Permits: Units



What is the Tallahassee Economy Story? (Tallahassee MSA Data)



"Other Indicators" Snapshot

Examples of some additional Quality of Life indicators:

Demographics

<u>Minority school enrollment</u>

Families

- Children Under Age 18 In Poverty
- Births to Unwed Mothers
- Births to Unwed Mothers Age 15 To 19

Public Safety

- <u>Tallahassee City Crime Data</u>
- Leon County Crime Data
- <u>Tallahassee Crime Comparison</u>
- Tallahassee Crime Rates
- Youths Referred for Delinquency

Health

- Leon County Rankings
- Infant Mortality
- Infant Mortality Documents and Data
- Sexual Transmitted Diseases Among Teenagers
- Youth substance Abuse

Housing

Leon County Real Estate Supply & Demand



The Tallahassee Economy Project Other Quality of Life Economic Indicators



DEMOGRAPHICS 1. Total population 2. Population by age group 3. Population by race 4. Income distribution 5. Public school enrollment 6. Minority public school enrollment 7. Private school enrollment	 FAMILIES 1. Children in single parent families 2. Births to unwed mothers 3. Births to teen mothers 4. Children in foster care 5. Child abuse and neglect 6. Child care affordability 7. Homelessness 	 PUBLIC SAFETY 1. Violent crime rate 2. Property crime rate 3. Youths referred for delinquency 4. Youths referred for felonies and misdemeanors 5. Traffic crashes 6. Fatal traffic crashes 7. Drinking and driving 8. Perception of neighborhood safety 9. Recidivism among serious habitual offenders 	 HEALTH 1. Health insurance 2. Emergency room visits 3. Infant mortality 4. Low birth weight 5. Sexually transmitted diseases among teenagers 6. Youth smoking 7. Youth drinking 8. Youth substance abuse 9. Youth mental health
 EDUCATION 1. School readiness 2. Reading 3. White-African American gap in reading 4. Mathematics 5. White-African American gap in mathematics 6. Writing 7. Third grade retention 8. High school graduation rate 9. High school dropout rate 10. Pursuit of postsecondary education 11. Average teacher salary 12. School safety 13. Adult educational attainment 14. Public library use 15. Class size 16. Students with disabilities 	ECONOMY 1. Unemployment rate 2. Average annual wage 3. Per capita income 4. Children in poverty 5. Child poverty by family 6. Home ownership 7. Affordability of rental 8. Tourism 9. Employment by industry	COMMUNITY 1. Voter registration 2. Voter turnout 3. Public perception 4. Sprawl 5. Substandard living 6. Use of public transportation 7. Transportation to work 8. Travel time to work 9. Parks and recreation 10. Traffic congestion	ENVIRONMENT 1. Lake water quality 2. Conservation of natural 3. Water consumption 4. Electricity consumption 5. Recycling 6. Outdoor air quality

* Tallahassee Area Quality of Life study conducted in 2008 by FSU CEFA.



What is the Tallahassee Economy Story? (Based on the Big Data in DataZoa)



Summary

The area is seeing greater population growth in two age groups; youth (about 46 percent of the population are less than 30 years old) and older (60+ years; 19%) is increasing over time. The age groups 40-60 (about 23%) are marginally declining (since 2010).

Highly educated community - 35% have either Bachelor's (20.4%) or Graduate/Professional degrees (15%). It should be noted that there are 20.3% with some college and no degree in the area.

Government is the largest employer (~41%). State Government, City of Tallahassee and FAMU are decreasing over time. FSU, Leon County Schools, TMH, Publix, Leon County, TCC and Capital Regional Hospital are increasing. Employment over the last 10 years has remained relatively flat, at 150,000. Unemployment slightly lower than the state.

Real GDP has been up for the last three years and is now up to 0.71%. Per capita GDP highest in Nashville TN and Baton Rouge LA.

Tallahassee MSA personal income (in 2014) up 4.82% from a year earlier. Median Household income has been relatively flat for the last three years.

Annual mean wages is up 2.86% when compared with a year earlier, but Gainesville's is down 0.23% (when compared with a year earlier).

Management occupations earnings are at the top in the Tallahassee MSA, followed by Legal occupations. Architect & Engineering and Healthcare Practitioners and Technical, are the same; at \$66,330.

Using the last year of quarterly data, the average annual growth in house prices for the period was 11.7%. For the last quarter change, both Columbia SC and Gainesville FL have decreased.



Conclusions and Next Steps



• Continue refining data and data sources

Some examples of types of data/measures/indicators (not exhaustive):

- Area government expenditure, revenues, debt
- Workforce data
- Real estate: home sales, property taxes, appraised and market values, mortgage and other loans, average age of housing stock
- Auto sales and loans
- Tourism/Visitor data
- Quality of life measures
- Business sector activities
- > Further refinement on data; more recent quarterly and monthly data
- **Provide Wiki Site User Manual of DataZoa.**
- Continue working with DataZoa regarding improvements to the functionality.
- Possible creation of a Tallahassee MSA index.
- Additional Collaborations



Big Data Quotes



- "We chose it because we deal with huge amounts of data. Besides, it sounds really cool." – Larry Page, co-founder of Google.
- "Data is the new science. Big Data holds the answers." Pat Gelsinger, the Chief Executive Officer of VMware, Inc. and former Chief Operating Officer of EMC Corporation.
- "Data are becoming the new raw material of business." Craig Mundie, Senior Advisor to the CEO at Microsoft.
- "Everybody gets so much information all day long that they lose their common sense." – Gertrude Stein
- "The goal is to turn data into information, and information into insight." – Carly Fiorina, former chief executive of Hewlett-Packard Company or HP.
- "In God we trust. All others must bring data." W. Edwards Deming, statistician, professor, author, lecturer, and consultant.

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