



TEXAS

“The Texas economy expanded in November. Employment growth accelerated, and unemployment ticked down. Both the Texas Leading Index and the Texas Business-Cycle Index indicated a return to moderate economic growth. The energy sector saw mixed conditions, exports were flat, and the housing market expanded.” – Dallas Fed

The Real Estate Center at Texas A&M University (Real Estate Center) posted a positive outlook on the Texas economy in December stating that “Overall, the economy appears to be on solid ground and expectations are for continual improvement into 2017.”

AUSTIN

The Dallas Fed reported in early 2017 that “The Austin economy expanded at a moderate pace in November. The Austin Business-Cycle Index continued to decelerate, though growth remains positive. Jobs grew at their fastest pace since July, while the unemployment rate fell below its prerecession levels. Following a sharp recovery and expansion from 2010 to 2015, growth moderated last year due primarily to persistent labor market tightness and softness in some large sectors such as health care and hospitality.”

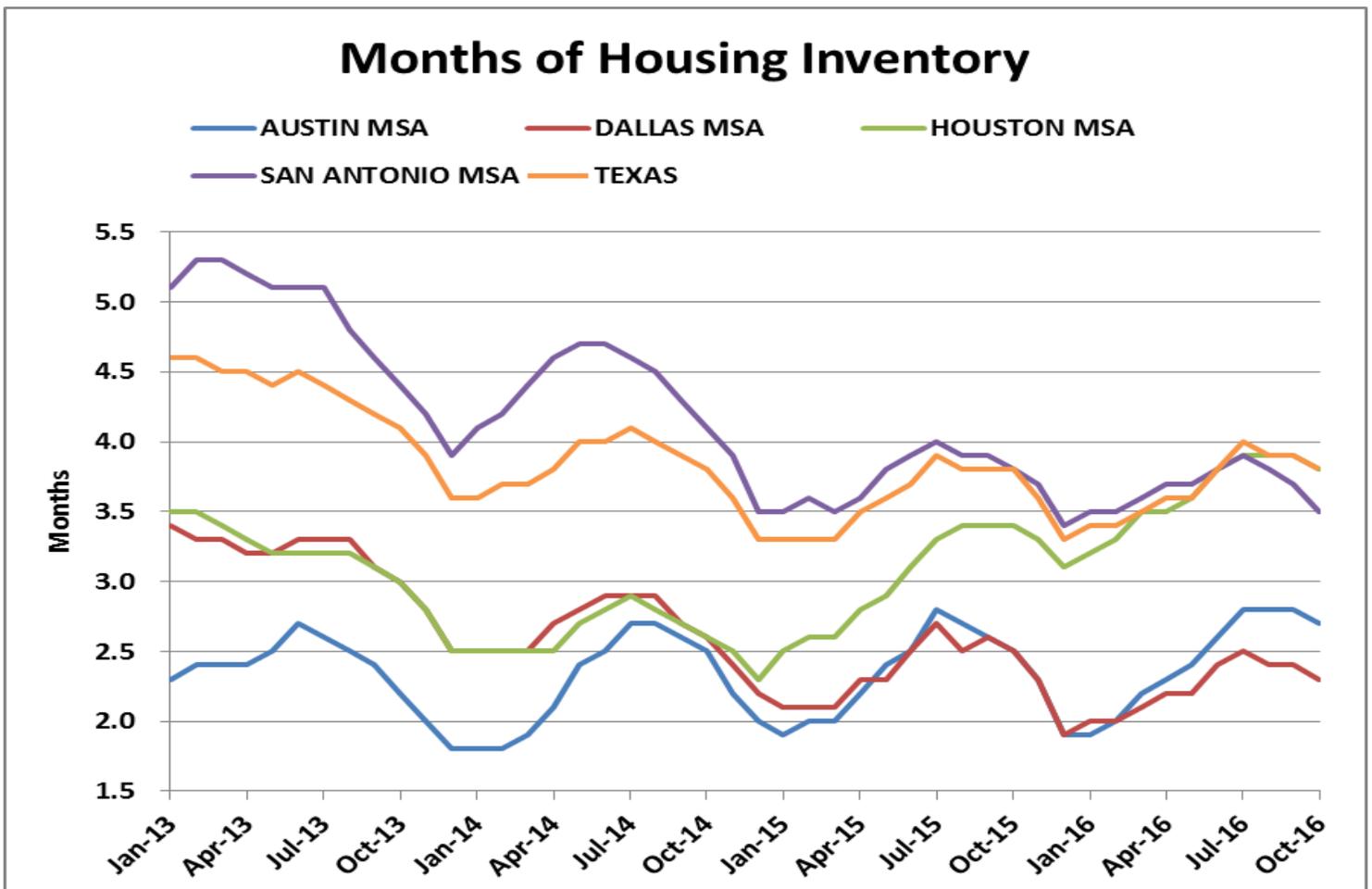


UNITED STATES

Daniel Chapman, a research assistant at the Federal Reserve Bank of Dallas reported in mid December that “U.S. economic indicators released in November and December have been mostly positive. Real gross domestic product (GDP) growth accelerated in the third quarter to its fastest pace in two years, while the unemployment rate fell to its lowest level since 2007. Core measures of personal consumption expenditures (PCE) inflation have edged up toward the Federal Reserve’s target rate of 2 percent. Bond yields rose sharply following the presidential election. Professional forecasts point to moderate growth in fourth quarter 2016.”

HOUSING – INVENTORY

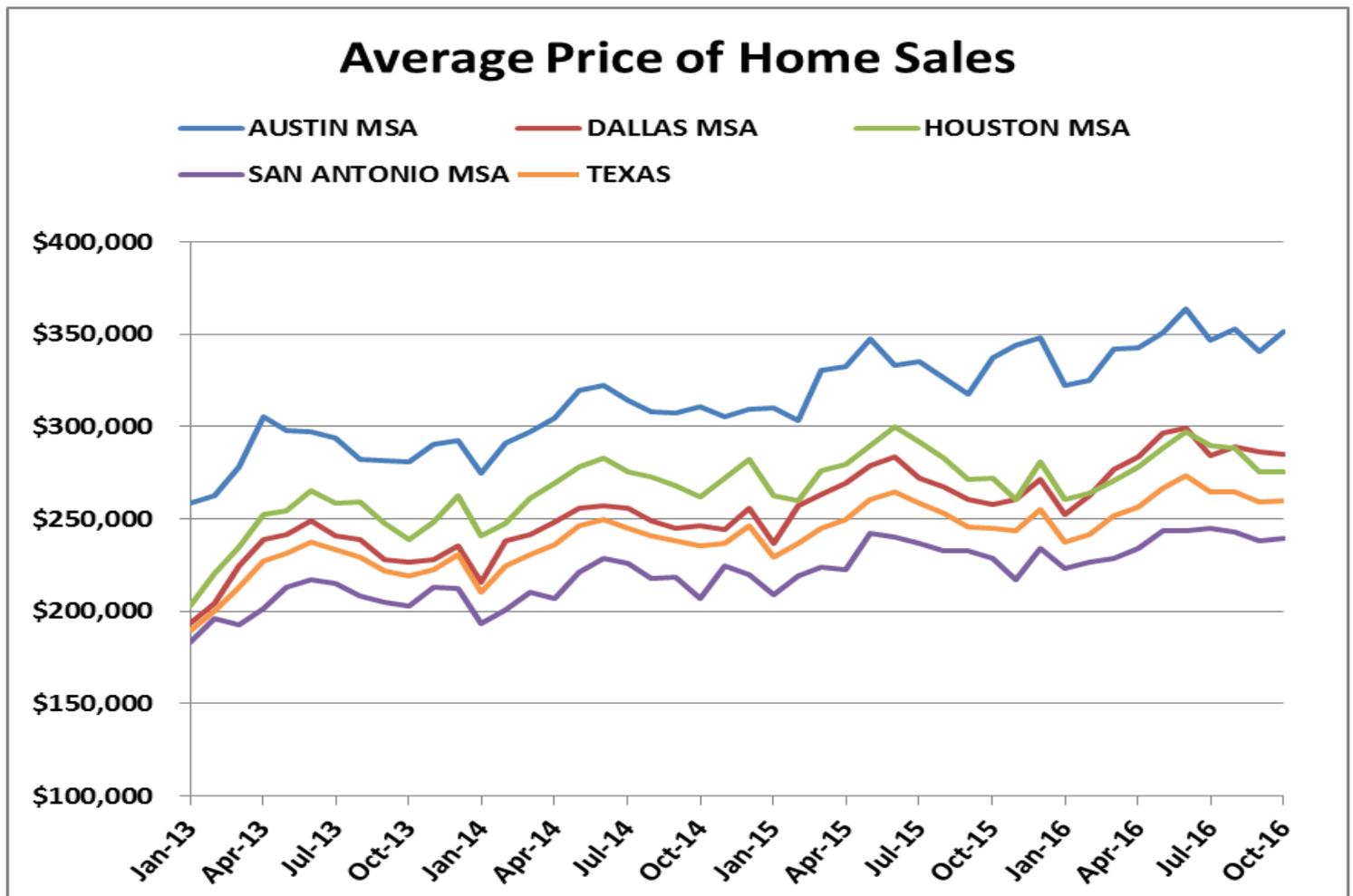
The Austin MSA’s months of housing inventory decreased from 2.8 in September to 2.7 in October. The Real Estate Center has estimated that “seasonally adjusted; around 6.5 months of inventory is considered a balanced housing market in which neither sellers nor buyers dictate prices.” We expect Austin’s housing inventory to follow its historic trends and continue to decline through January. In January 2016, there were 1.9 months of housing inventory.



Source: Real Estate Center at Texas A&M University

HOUSING – AVERAGE SALES PRICE

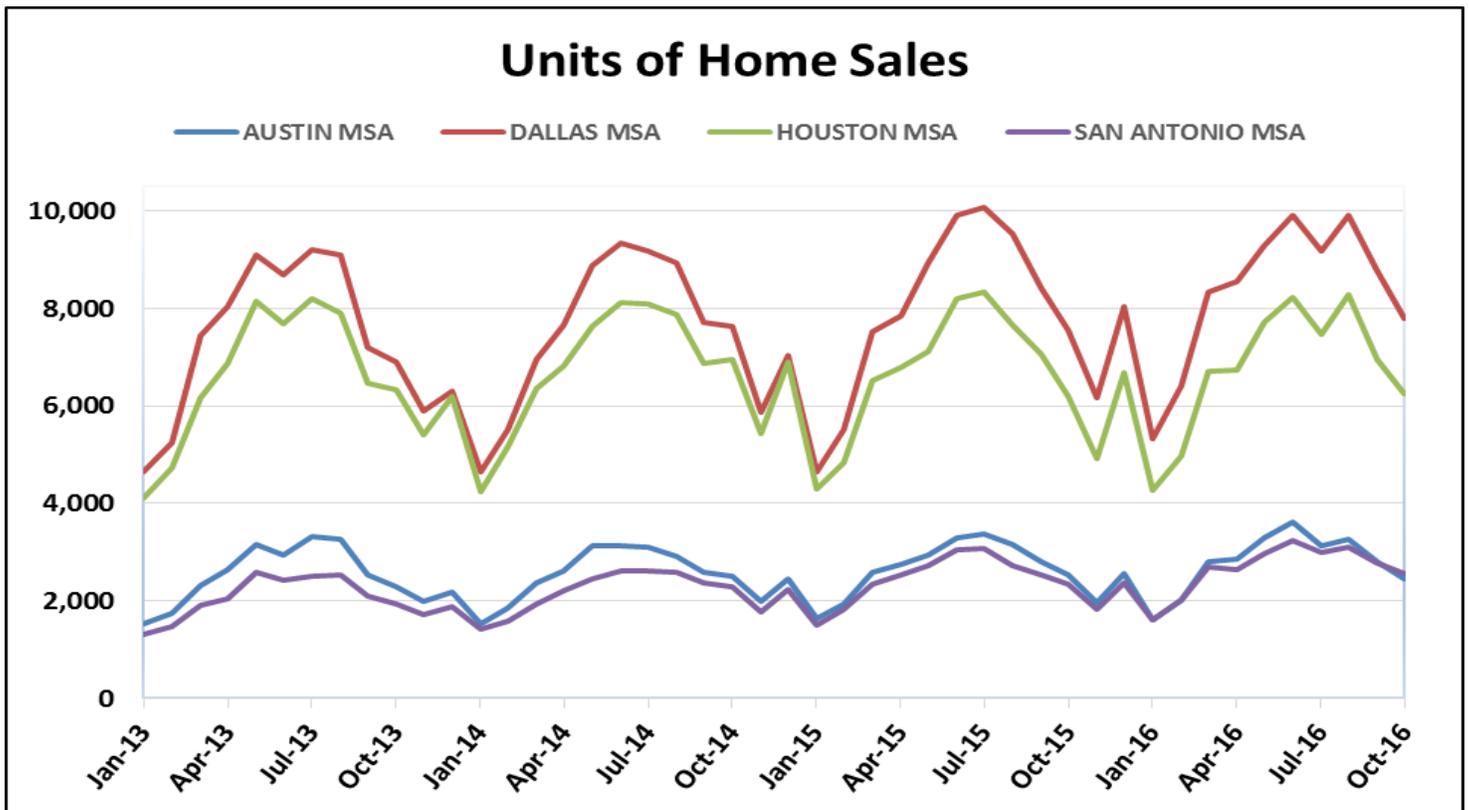
The Real Estate Center noted that “Rising Texas home prices reflect the low inventories resulting from constrained supply.” This would explain in part the high cost of Austin housing as seen in the graph below. Ironically, the Dallas Fed reported in December that “Housing affordability in Austin increased in the third quarter. According to the National Association of Home Builders/Wells Fargo Housing Opportunity Index, the percentage of homes sold that were affordable for a median-income family rose to 58.7 percent from 56.3 percent in the second quarter. This is nearing the average of 58.9 percent for the other large Texas metros. Despite having the highest median-home price among the major Texas metros, Austin continues to be more affordable than Dallas (the least affordable of the metros) because of higher average income levels.”



Source: Real Estate Center at Texas A&M University

HOUSING – HOME SALES

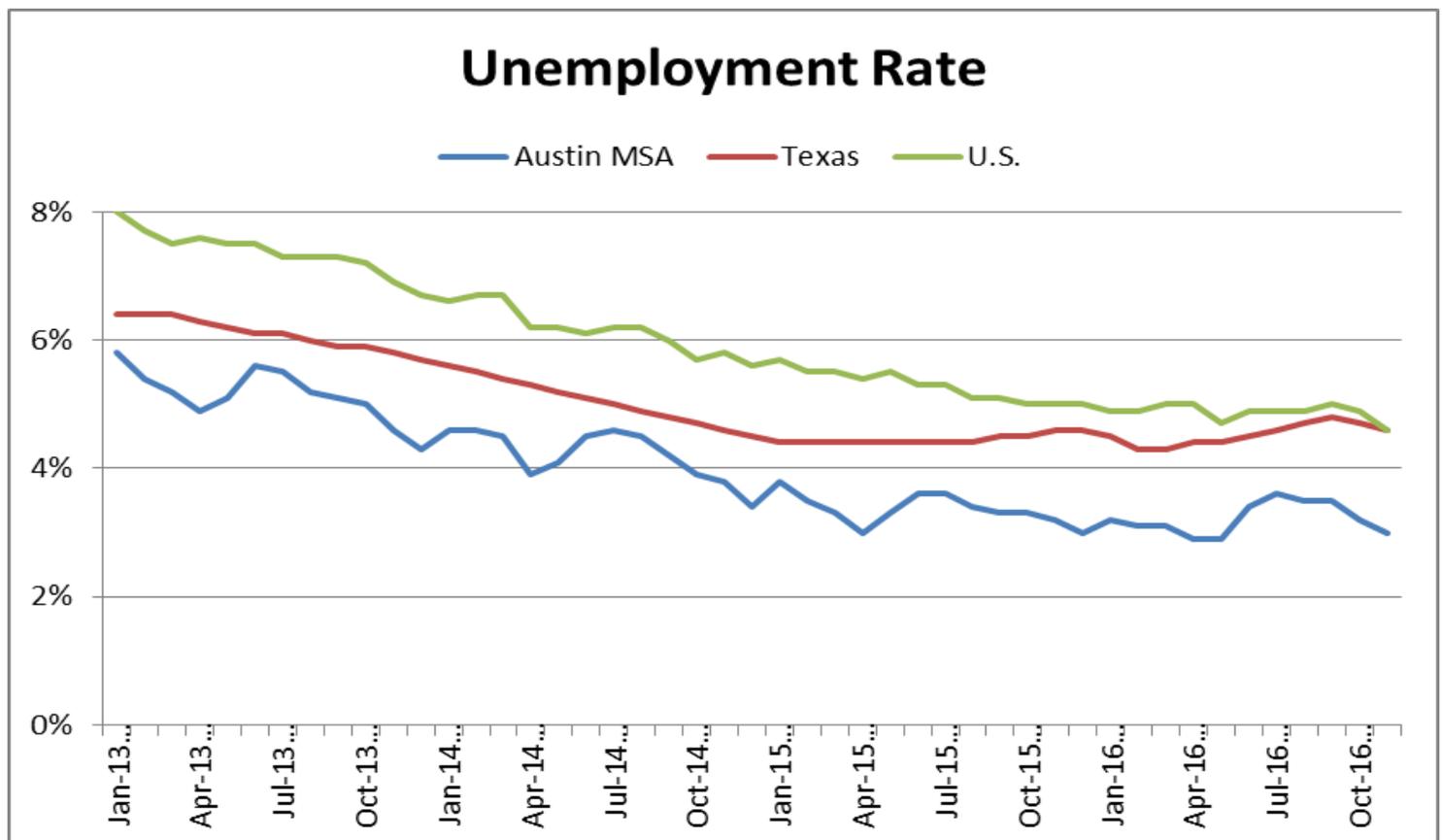
Knowing that home sales tend to decline in the fall, it is not surprising that “Texas housing demand was tepid in October. Statewide housing sales increased 1.9 percent year-over-year on a seasonally adjusted basis compared to 1.7 percent for the nation. Sales growth in Austin slid while San Antonio led the major metros. Dallas and Fort Worth sales expanded during the second half of the year after a first half slowdown. Houston sales growth was still positive.” – Real Estate Center - October 2016 Summary



Source: Real Estate Center at Texas A&M University

JOBS - UNEMPLOYMENT RATE

The preliminary November 2016 Austin MSA unemployment rate is 3.0%. This number is slightly lower than the October rate of 3.2%. The Austin MSA unemployment rate compares favorably to both the preliminary Texas unemployment rate of 4.6% and the U.S. rate of 4.6% for November 2016. The Texas unemployment rate has been equal to or below the national rate for over nine years. Part of the reason for the low unemployment rate is that many have left the workforce. This is shown graphically on the next page.

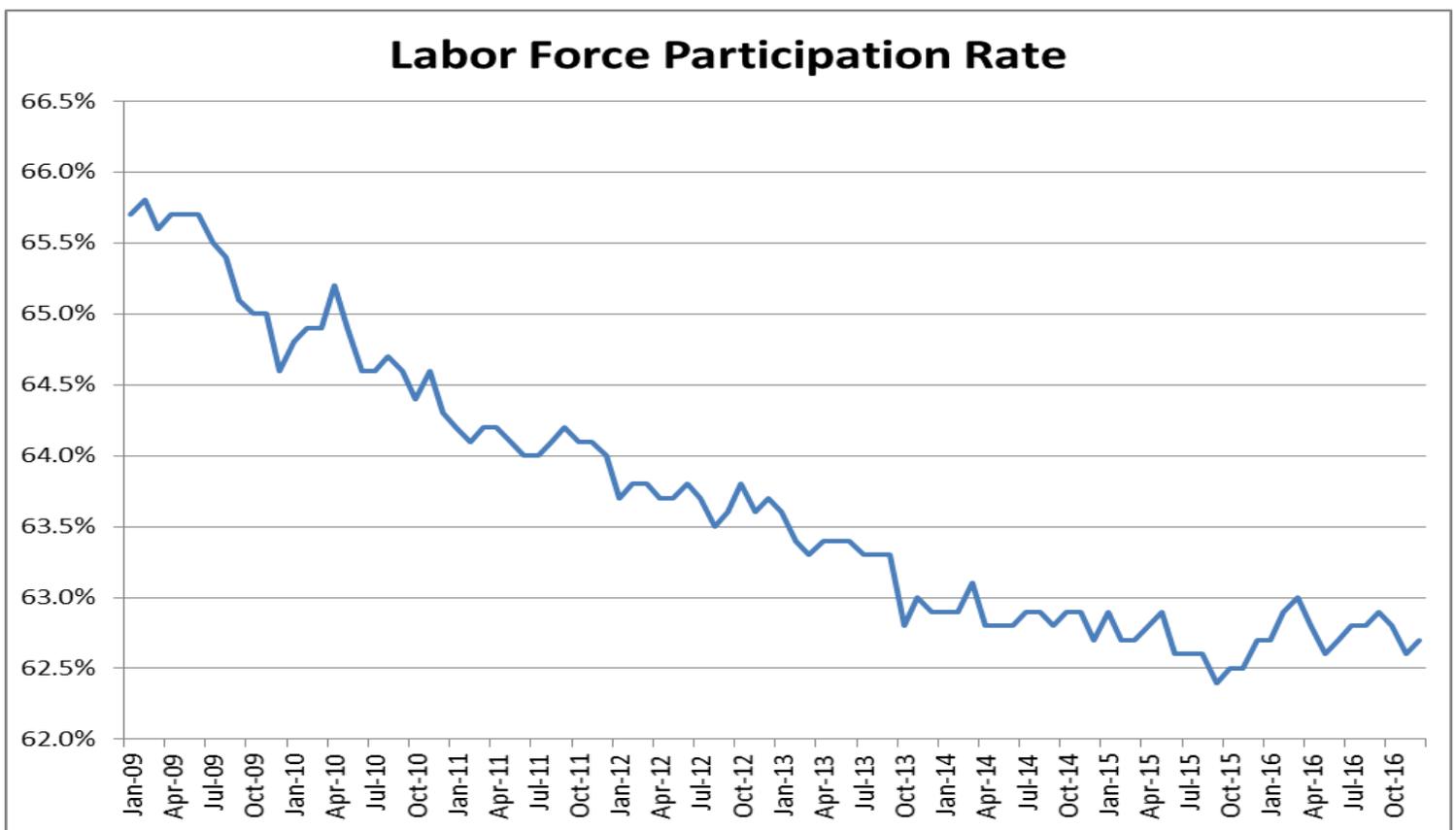


*Note: U.S. and Texas seasonally adjusted, Austin MSA not seasonally adjusted.
Source: Bureau of Labor Statistics*

JOBS - LABOR PARTICIPATION RATE

The **labor force participation rate**, as defined by the Bureau of Labor Statistics (BLS), is “the percentage of the population [16 years and older] that is either employed or unemployed [that is, either working or actively seeking work].”

“The final jobs report of the Obama presidency, released Friday, shows that the number of Americans not in the labor force has increased by 14,573,000 (18.09 percent) since January 2009, when Obama took office, continuing a long-term trend that began well before Obama was sworn in. In December, according to the Labor Department’s Bureau of Labor Statistics, a **record 95,102,000 Americans were not in the labor force**, 47,000 more than in November; and the labor force participation rate was 62.7 percent, a tenth of a point higher than in November. The participation rate dropped to a 38-year low of 62.4 percent on Obama's watch, in September 2015. It was only 3-tenths of a point higher than that last month. When President Obama took office in January 2009, 80,529,000 Americans were not in the labor force, the highest number on record. That number rose steadily during his two terms, reaching a record 95,055,000 in November 2016, then setting another record (95,102,000) in December.” – CNSNews

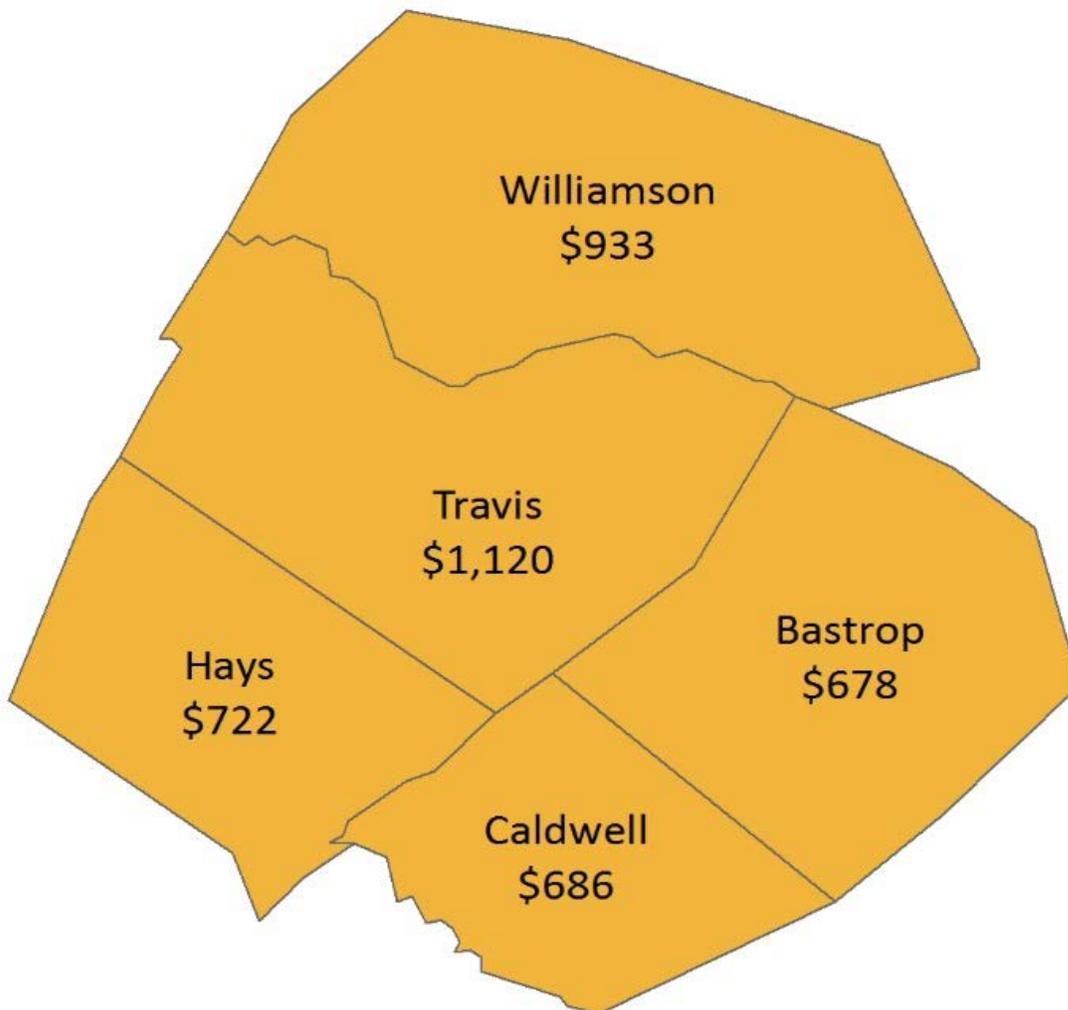


Source of Data: Bureau of Labor Statistics

JOBS – AVERAGE WEEKLY WAGES BY COUNTY

Below is a chart comparing the average weekly wages for all industries by county. The data for the Austin area is from the 2nd Quarter 2016. (U.S. = \$989)

What is included in total wages? “Under most State laws or regulations, wages include bonuses, stock options, severance pay, profit distributions, cash value of meals and lodging, tips and other gratuities, and, in some States, employer contributions to certain deferred compensation plans such as 401(k) plans.” – Bureau of Labor Statistics (BLS)



Source: U.S. BLS, Quarterly Census of Employment and Wages.

JOBS – NONFARM EMPLOYMENT BY INDUSTRY

The chart below shows the year-over-year changes in employment by major industry sector.

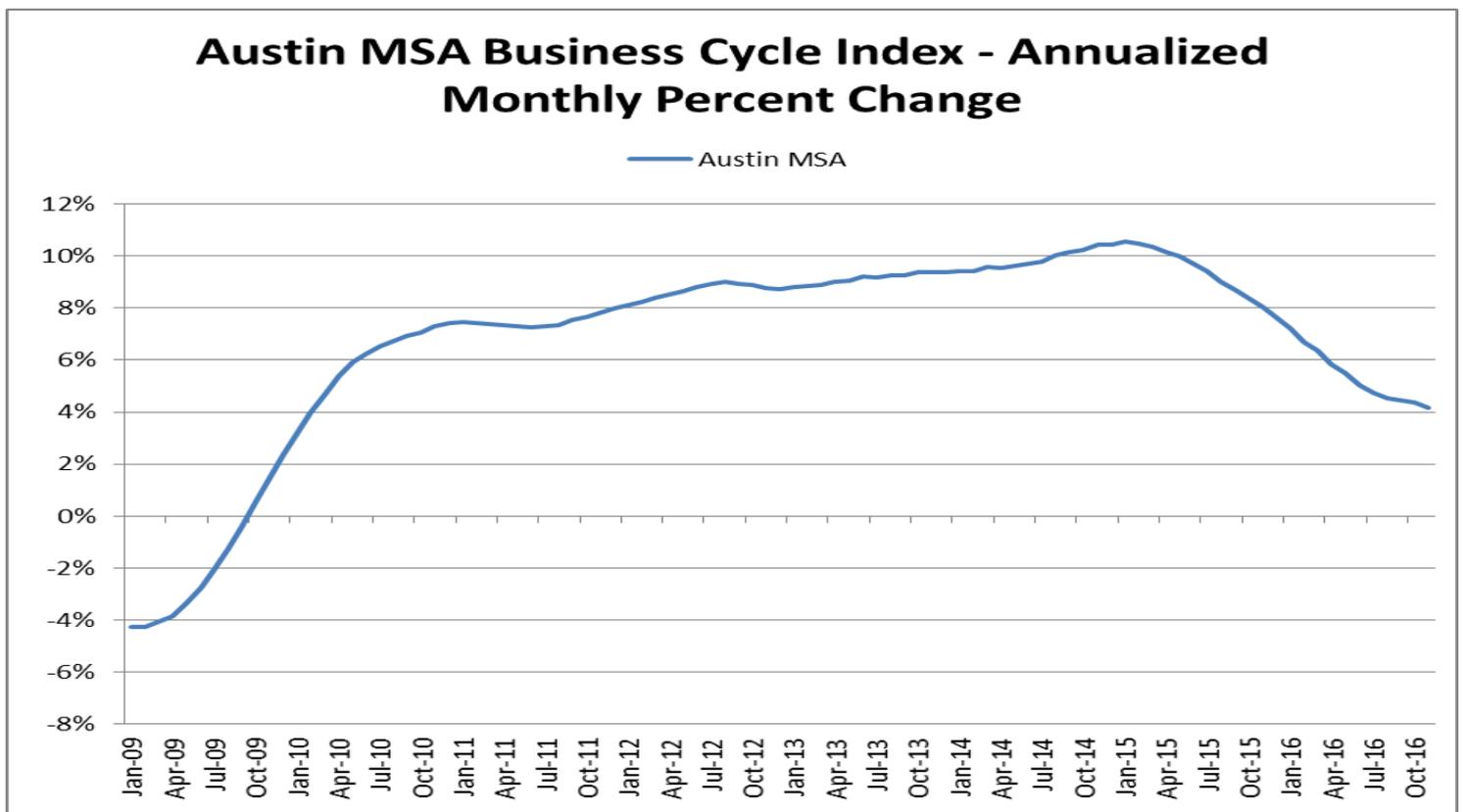
Austin area employment (numbers in thousands)	Nov. 2016	Change from Nov. 2015 to Nov. 2016	
		Number	Percent
Total nonfarm	1,005.0	19.5	2.0
Mining, logging, and construction	61.8	3.8	6.6
Manufacturing	53.9	-3.7	-6.4
Trade, transportation, and utilities	176.3	4.0	2.3
Information	28.0	0.7	2.6
Financial activities	57.1	2.1	3.8
Professional and business services	169.8	2.5	1.5
Education and health services	117.3	4.8	4.3
Leisure and hospitality	120.4	1.4	1.2
Other services	42.9	1.6	3.9
Government	177.5	2.3	1.3

Source: U.S. BLS, Current Employment Statistics.

BUSINESS CYCLE INDEX – AUSTIN MSA

Business Cycle Indexes are meant to reflect broad movements in local economic conditions. The Dallas Fed states that “the [local area] indexes are constructed based on the aggregated movements in the local area unemployment rate, nonagricultural employment, inflation-adjusted wages, and inflation-adjusted retail sales. The weights of the components are statistically optimized for each metropolitan area in order to best capture the underlying cyclical movements in the local area economy.”

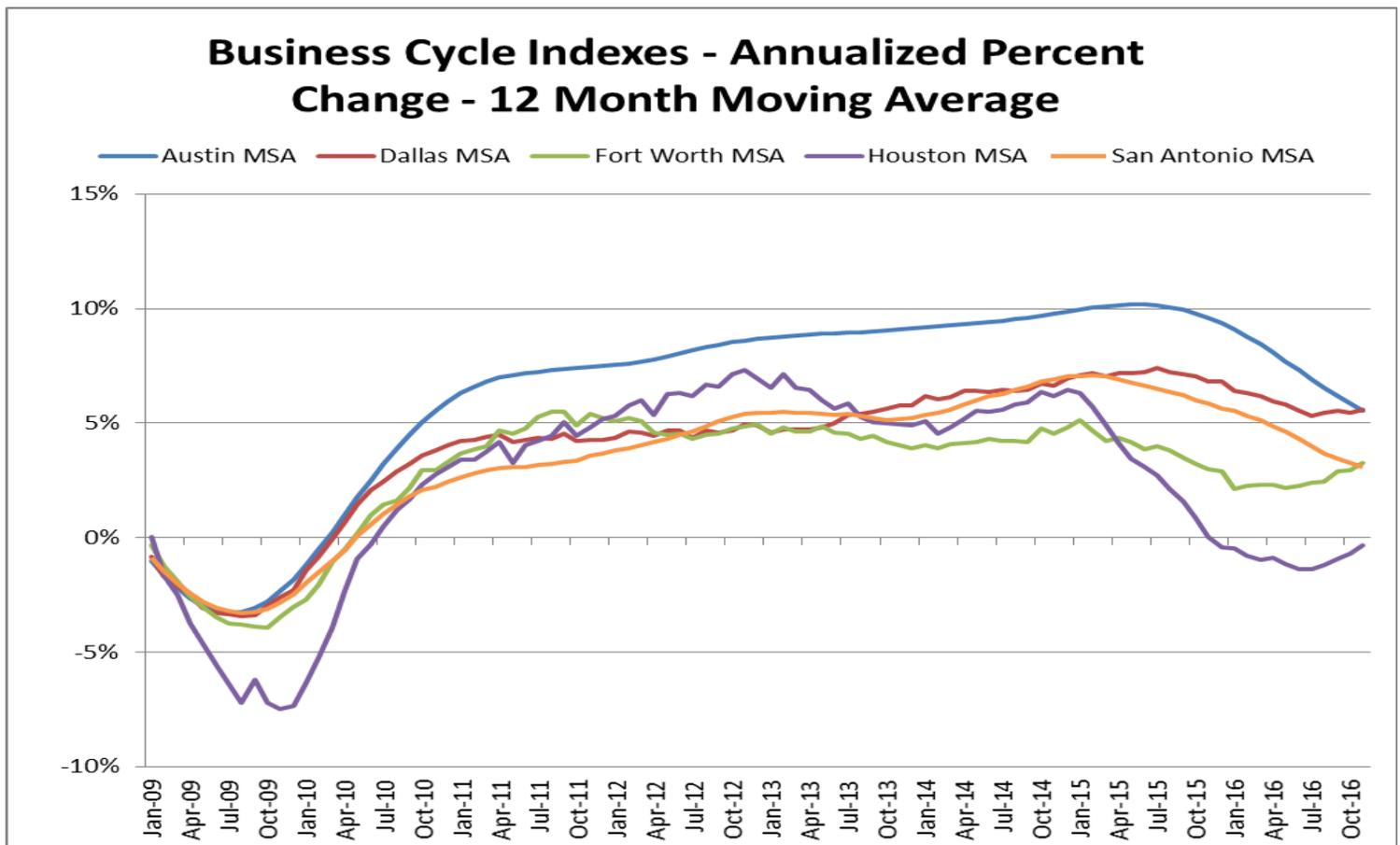
“The Austin Business-Cycle Index decelerated to a 4.1 percent annualized rate in November following a revised 4.4 percent in October. Since index growth peaked in January 2015, job growth has averaged 3.1 percent, and the unemployment rate has declined by less than one percentage point, both somewhat tame for Austin in periods of expansion. By comparison, in the prior two years of rapid expansion, job growth averaged 4.4 percent, and the unemployment rate fell nearly 2 percentage points.” – Dallas Fed



Source: Federal Reserve of Dallas - Index, 1980 = 100

BUSINESS CYCLE INDEX – MAJOR METROS

In the chart below, a twelve month moving average was incorporated to smooth out short-term fluctuations and highlight longer-term cycles. San Antonio’s November index came in at 3.4% which is its highest reading in 9 months. The Dallas Fed believes San Antonio will continue to do well in 2017 “as help-wanted advertising by sector suggest moderate growth in service sectors and a modest recovery in the construction and manufacturing industries in the coming months.” Dallas and Ft. Worth’s “overall economic growth was solid” as their November indexes increased 6.7% and 5.0% percent respectfully. Houston’s index was essentially unchanged at 0%, but as seen in the chart below its moving average shows signs of recovery.



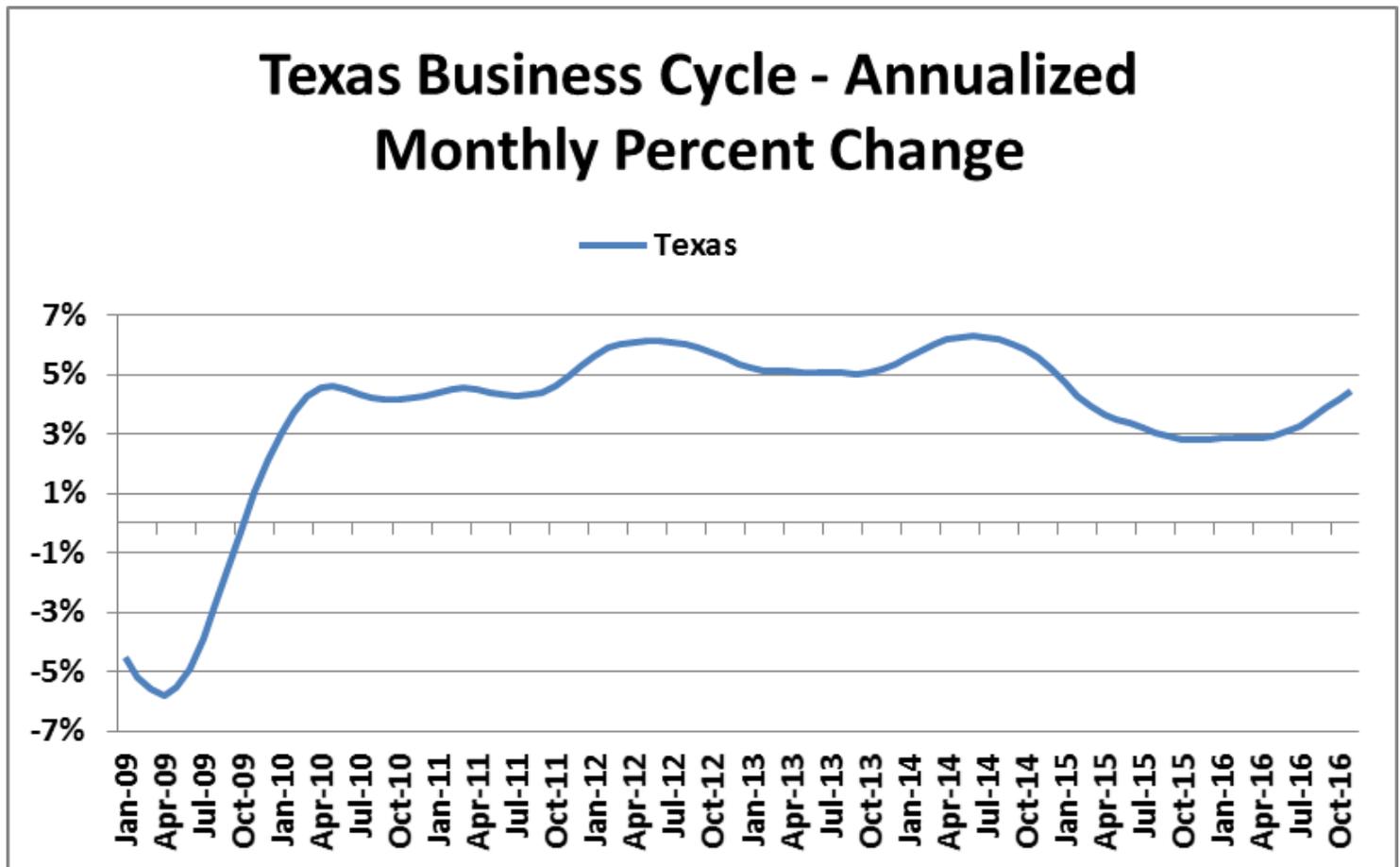
Source: Federal Reserve of Dallas

Source: Federal Reserve of Dallas - Index, 1980 = 100

BUSINESS CYCLE INDEX - TEXAS

The **Texas Business Cycle Index** measures the current state of the Texas economy. The Dallas Fed constructed the index using payroll employment, gross state product, and the unemployment rate.

The Texas Business Cycle Index has increased for 8 consecutive months. The index grew at a 4.5% annualized pace in November. Currently, the economy is expanding at a faster pace than its long-term average of 3.9%.

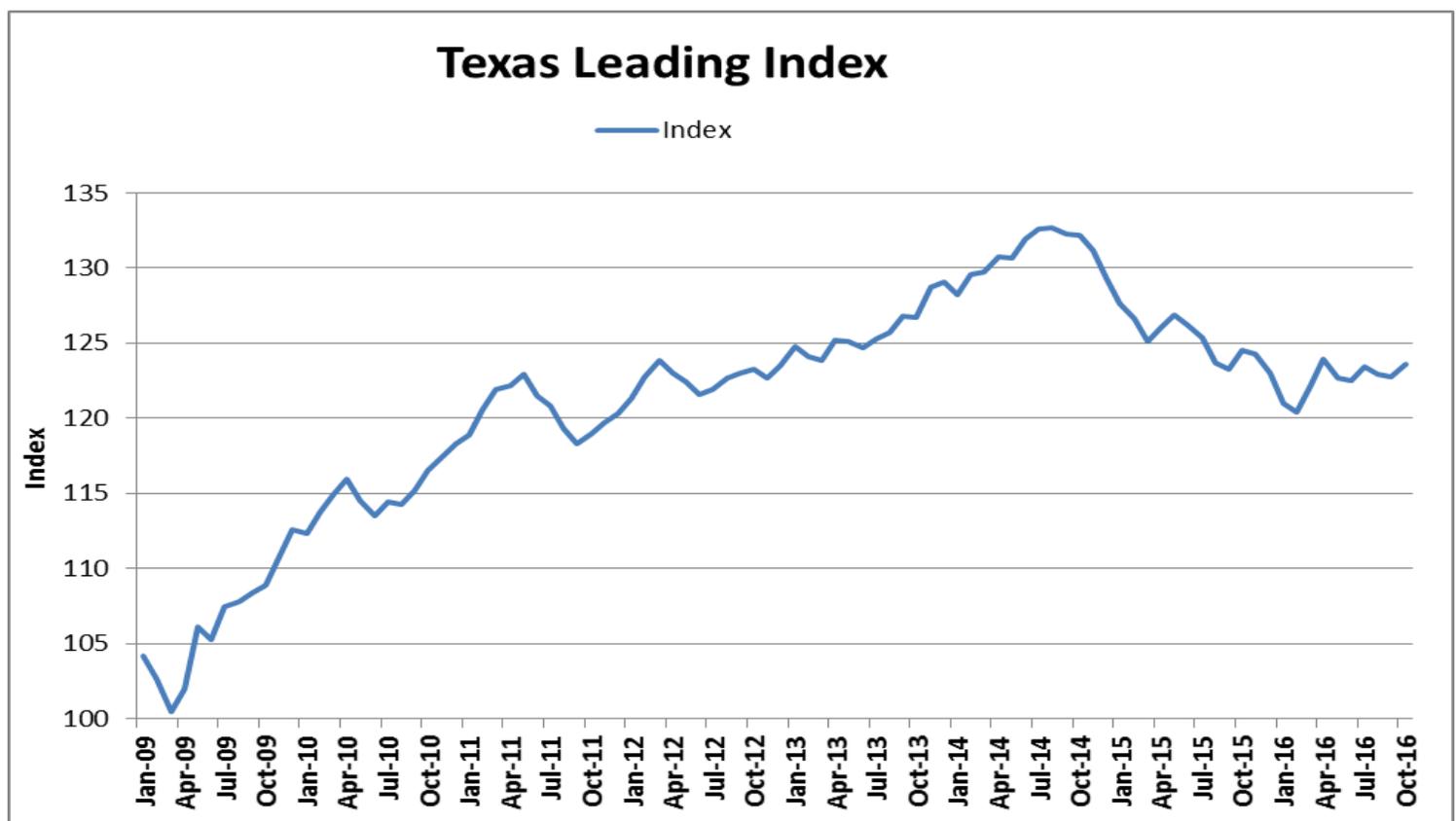


Source: Federal Reserve of Dallas - Index, 1987 = 100

LEADING INDEX - TEXAS

Dallas Fed has defined the **Texas Leading Index** as the “single summary statistic that sheds light on the future of the state's economy.” The Texas Leading Index is made up of eight leading indicators that have been shown to change direction – up or down – before the overall economy. The eight indicators used by the Dallas Fed are the Texas value of the dollar, U.S. leading index, real oil price, well permits, initial claims for unemployment insurance, Texas stock index, help-wanted index and average weekly hours worked in manufacturing.

The Texas Leading Index “improved modestly during October. The index was positively affected by advancement in the U.S. leading index, improved oil prices, and increased well permits. The index was negatively affected by Texas value of the dollar appreciation, stock price depreciation of Texas companies, average weekly hours worked by employees, a slowdown in the number of new workers sought after, and an increase in new unemployment claims.” – Real Estate Center



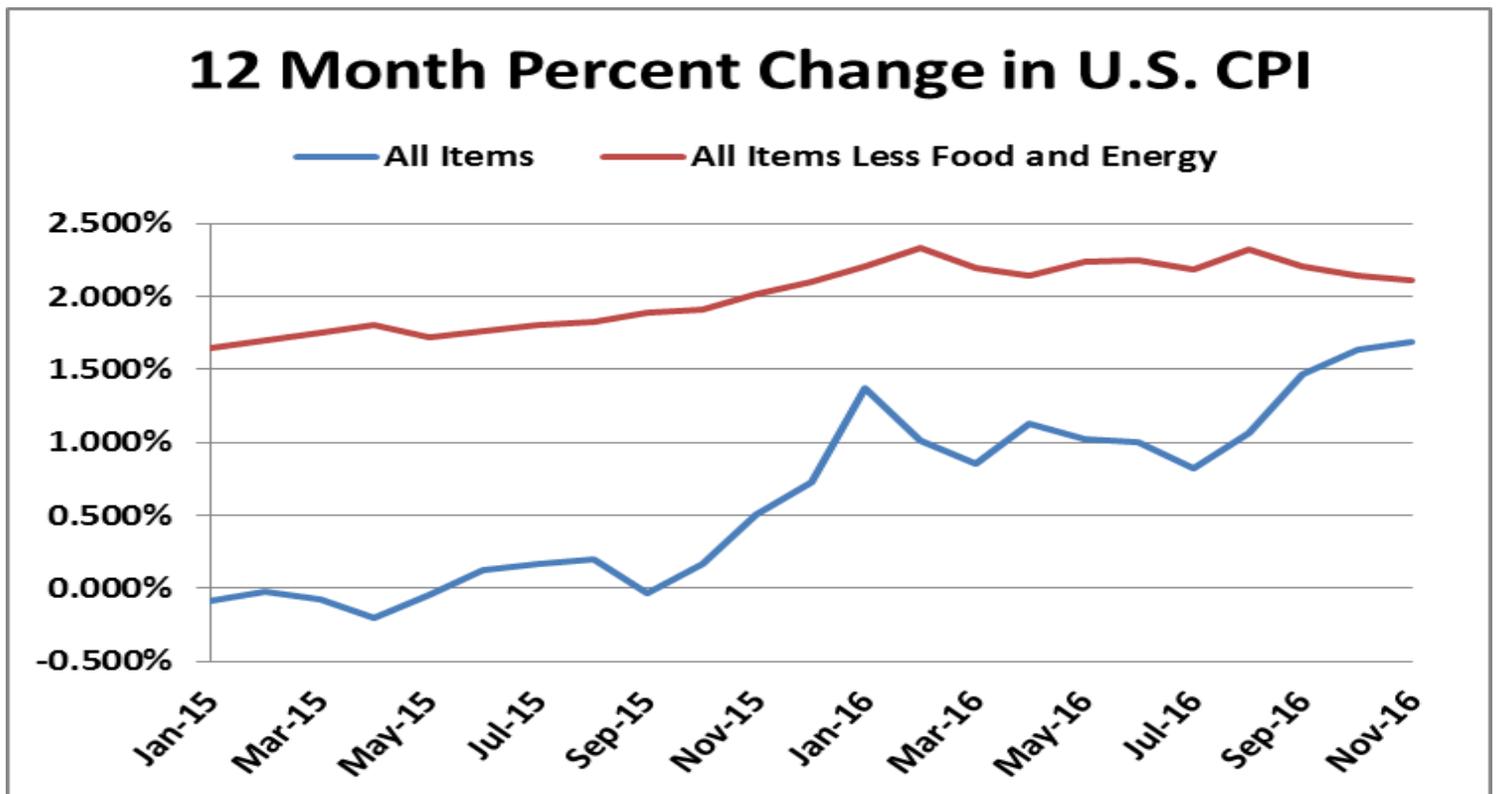
Source: Federal Reserve of Dallas - Index, 1987 = 100

CONSUMER PRICE INDEX

According to the Bureau of Labor Statistics (BLS), “The Consumer Price Index (CPI) is a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services.” Basically, the CPI measures inflation as experienced by 87% of the total U.S. population in their day-to-day living expenses.

There are a variety of CPI numbers generated each month. In the graph below, two numbers are compared. The first is the **Official CPI Number** that is reported to the media. It is the broadest and most comprehensive CPI and is called the **All Items CPI for All Urban Consumers**. The second one is called the **All items less food and energy**. The BLS mentions that “Some users of CPI data use this index because food and energy prices are relatively volatile, and these users want to focus on what they perceive to be the ‘core’ or ‘underlying’ rate of inflation.”

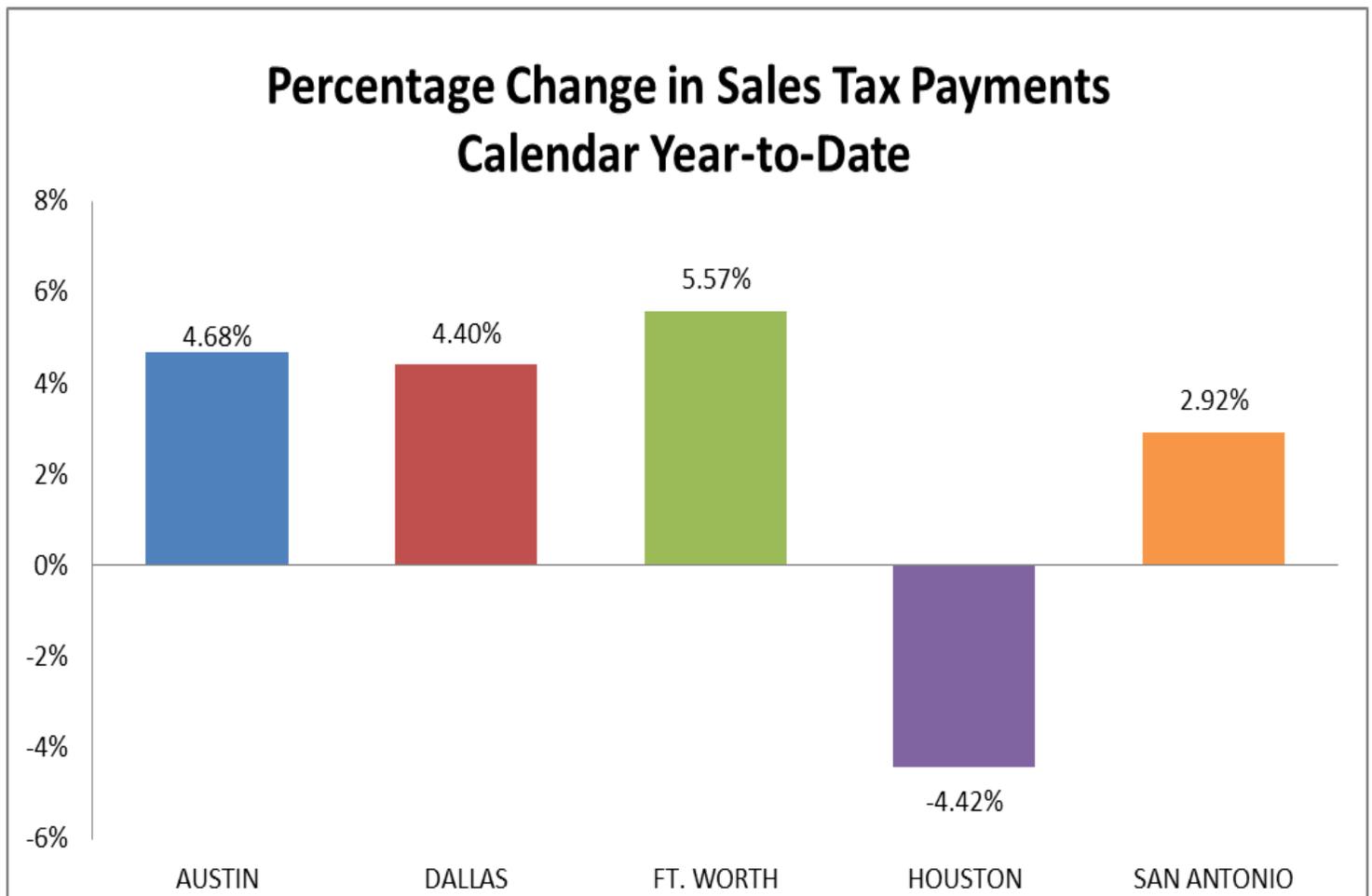
“The all items index rose 1.7 percent for the 12 months ending November; the 12-month all items increase has been rising since it was 0.8 percent in July. The index for all items less food and energy rose 2.1 percent for the 12 months ending November, and the energy index increased 1.1 percent. In contrast, the food index declined 0.4 percent over the last 12 months.” – BLS – Economic News Release



Source: Bureau of Labor Statistics, not seasonally adjusted, 1982-84=100

SALES TAX - METRO

Below is a graph of the 2015 vs. 2016 year-to-date percentage change in Sales Tax Payments made by the State to the five major cities in Texas. Based on the December 2016 report, Houston is the only top five city in Texas that has experienced a decline in revenue. The increase in Austin's year-to-date revenue is \$9.2M.



Source: Texas Comptroller of Public Accounts

TAXES - TEXAS

Below are the year-to-date FY 2017 Total Tax Collections for the **General revenue-related funds** for the State. Total Tax Collections represent approximately 86% of the Total Net Revenue for the General revenue-related funds.

FY 2017 year to date tax collections are running below prior year and substantially below FY 2015. Comptroller Glenn Hegar had predicted that oil would average \$64.52 a barrel in fiscal year 2016 and \$69.27 a barrel in fiscal year 2017. Unless there is a dramatic increase in oil and gas prices and economic activity, the state will end up with a large tax shortfall for the second year in a row.

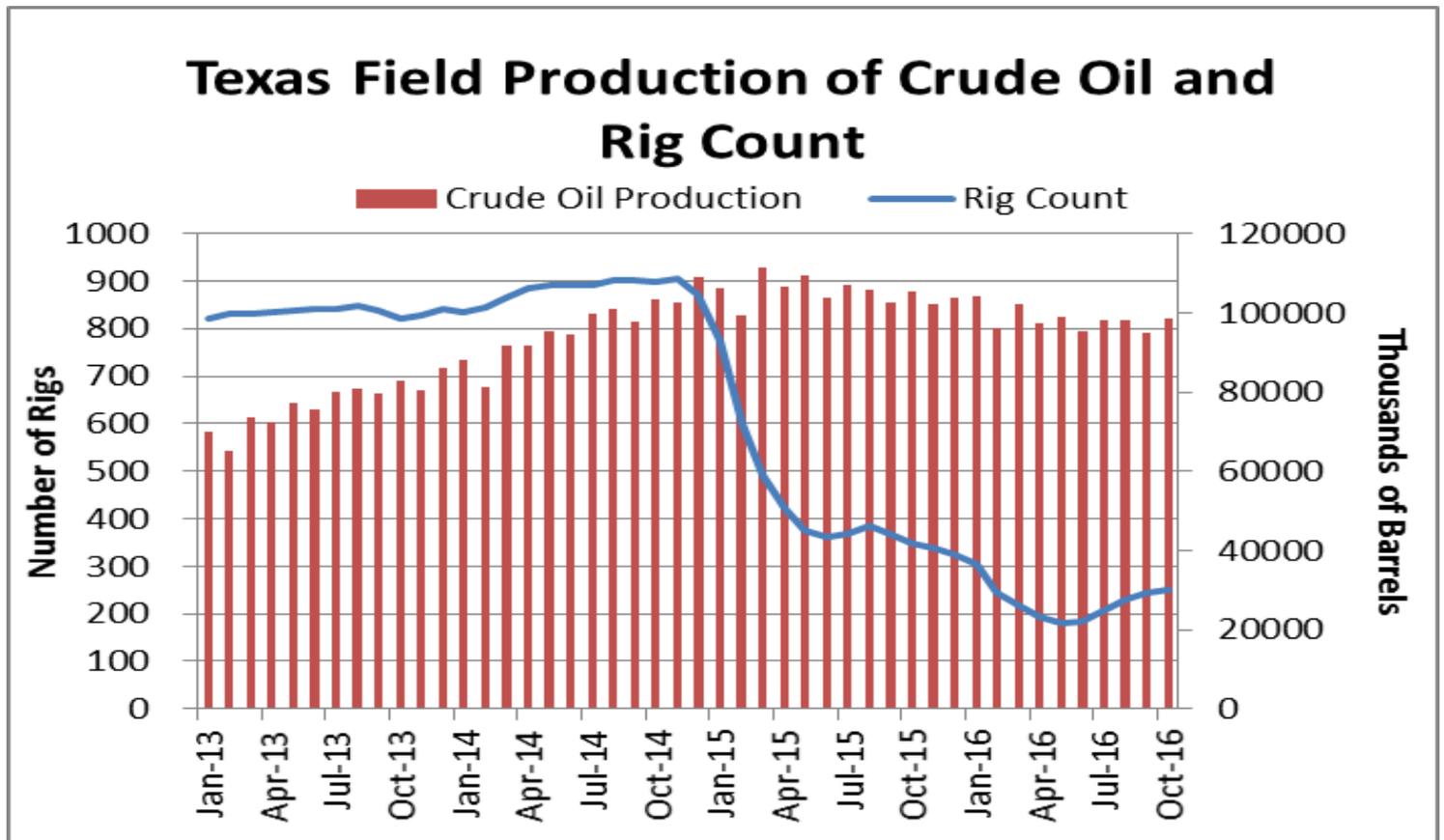
The Dallas News recently estimated that at “current collection rates, the state would wind up the year with between \$1.3 billion to \$2 billion less than the \$30.5 billion of sales tax that Hegar predicted in October 2015.”

Tax Collections by Major Tax (amounts in millions)	Dec YTD FY 2017	Dec YTD FY 2016	Dec YTD FY 2015	FY17 vs. FY16 Variance	FY17 vs. FY15 Variance
Sales Tax	\$ 9,356	\$ 9,395	\$ 9,596	\$ (39)	\$ (240)
Motor Vehicle Sales and Rental Taxes	1,518	1,535	1,504	(17)	14
Motor Fuel Taxes	310	290	305	21	5
Franchise Tax	(320)	(186)	(444)	(134)	124
Insurance Taxes	86	70	73	16	13
Natural Gas Production Tax	295	309	596	(14)	(300)
Cigarette and Tobacco Taxes	259	255	288	4	(30)
Alcoholic Beverages Taxes	390	378	365	12	25
Oil Production and Regulation Taxes	627	649	1,270	(22)	(643)
Utility Taxes ¹	113	118	124	(5)	(11)
Hotel Occupancy Tax	172	171	168	1	4
Other Taxes ²	27	33	69	(7)	(42)
Total Tax Collections	\$ 12,833	\$ 13,017	\$ 13,913	\$ (184)	\$ (1,080)
Totals may not add due to rounding.					

Source: Texas Comptroller of Public Accounts

OIL AND NATURAL GAS

“West Texas Intermediate crude oil prices averaged \$49.78 per barrel in October compared with \$46.22 a year earlier. Oil prices started an upward trend in February and have stabilized in recent months. Oil price expectations are positive following an agreement by OPEC to cut output. High oil output and large inventories have been constraining oil price increases. The number of operating rigs in Texas continued to climb slowly for the fifth straight month to 250 from a previous negative trend; however, they remain down from 349 a year ago. Oil production maintained recent output levels after dropping from its peak reached in March 2015. According to Dallas Federal Reserve surveys, most oil producers need prices above \$50 to \$55 to expand production profitably.” – Real Estate Center



Source: of Data: Baker Hughes and U.S. Energy Information Administration.

What's Trending: BITCOIN



Bitcoin is a type of digital currency that is created and held electronically. Bitcoin is not printed like regular currency, it is intangible. It can be used to electronically purchase goods or services with online payment being sent from one party to another. Bitcoin differs from conventional currency in that it is decentralized. This means, it is not controlled by any single institution, i.e. bank. Bitcoin transactions and balances are stored on a public ledger using blockchain technology. Entities called miners verify all bitcoin transactions via a complex process involving mathematical formulas and massive computing power to ensure its validity. As the popularity of bitcoin rises, more and more companies like Overstock.com are accepting bitcoin as a form of payment.

To read more about bitcoin, see the In-depth section starting on page 18.

IN-DEPTH – BITCOIN

WHAT IS BITCOIN?

“Bitcoin: A Peer-to-Peer Electronic Cash System” – Satoshi Nakamoto (Bitcoin.org Nov 2008)

WHO CREATED BITCOIN?

Bitcoin was first proposed in 2008 by an unknown person or persons using an alias Satoshi Nakamoto. Satoshi continued to work on the Bitcoin project with coders until April 2011.

WHY WAS BITCOIN CREATED?

Bitcoin was created to “allow online payments to be sent directly from one party to another without going through a financial institution.” Prior to bitcoin “commerce on the internet [had] come to rely almost exclusively on financial institutions serving as trusted third parties to process electronic payments.” “A certain percentage of fraud [had become] accepted as unavoidable.” - Satoshi. With bitcoin there is no fraud, so the financial institutions are no longer needed. Neither is the need to collect personal data which can be stolen or sold.

WHO PRINTS BITCOIN?

No one. Each bitcoin is created digitally with a string of numbers that identify a unique unit of currency. They do not exist physically. New bitcoin enters the system as a payment to miners for verifying bitcoin transactions.

WHAT IS THE TOTAL VALUE OF ALL BITCOIN?

The total capitalization of bitcoin reached \$18.2 billion on January 4, 2017. Two days later it was \$14.4 billion. The value varies daily.

WHY IS BITCOIN REVOLUTIONARY?

By utilizing a blockchain data structure, Satoshi found a way for two parties to securely make financial transactions over an unsecure internet without involving a financial institution.

IN-DEPTH – BITCOIN

HOW DOES A BLOCKCHAIN DATA STRUCTURE VARY FROM A CONVENTIONAL STRUCTURE?

A financial institution's data is centralized. Access to this data is strictly controlled, unless it gets hacked or otherwise stolen. Bitcoin data is “decentralized into a ‘blockchain’, an ever-expanding ledger that holds the transaction history of all bitcoins in circulation, and lives on the thousands of machines on the Bitcoin network.” – The Economist January 2015

HOW CAN A DECENTRALIZED DATABASE BE SECURE?

Approximately every ten minutes, all bitcoin transactions that have occurred are compiled into a file called a block. As each new block is completed, it contains a reference to the previously completed block. When all the blocks are linked together, it is called a blockchain. So in this way, every transaction of every bitcoin is recorded on thousands of computers. As more transactions are added, the stronger the security. The only way to counterfeit a bitcoin would be to possess over 51% of the computers and change the history of the transactions.

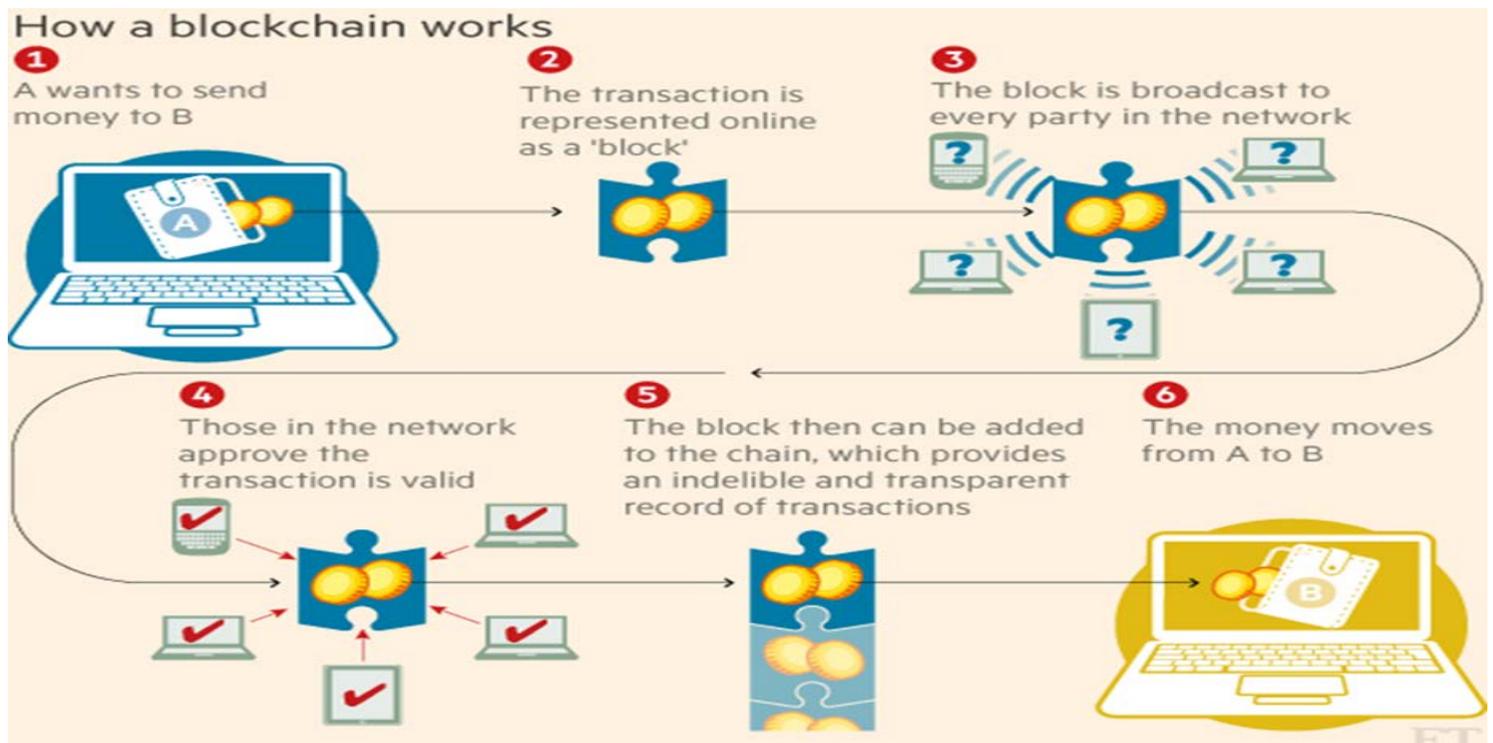


Image source: Financial Time

IN-DEPTH – BITCOIN

WHO VERIFIES THAT EACH BITCOIN BEING TRANSFERRED FROM ONE PARTY TO ANOTHER IS VALID?

Miners. In the early days of bitcoin, anyone with a computer could be a bitcoin miner. Today, thousands of specialized processors are needed to be competitive. If an individual wants to mine bitcoin, they can join a pool combining their mining power with others. Successful miners use specialized software and extraordinarily powerful computer farms to solve complex math problems, which are designed to take 10 minutes to solve even if using the most sophisticated array of computers.

If it takes less than 10 minutes to solve a problem, the complexity is increased. Similarly, if it takes more than 10 minutes to solve a problem, the complexity is decreased. Solving the math problem validates all previous bitcoin transactions. Every time a block is validated, the miner who solved the problem first is awarded a fixed amount of bitcoin and a transaction fee. In this manner, new bitcoin is produced approximately every 10 minutes. After every 210,000 blocks are validated, the number of bitcoin issued to the miners is cut in half.

In the past, miners received 50 bitcoin per validation. Today, the number is set at 12.5. The market value of bitcoin varies daily. In the past month, the value of 12.5 bitcoin varied from \$9,700 to \$14,123. At the higher end, this equates to over \$2M a day in new bitcoin.

ARE THE MINERS A POTENTIAL RISK TO THE SECURITY OF BITCOIN?

Yes. If a group of miners controlled more than half of the network's problem solving capacity they could rewrite the blockchain and generate counterfeit bitcoin.

IN-DEPTH – BITCOIN

IS IT POSSIBLE FOR A GROUP OF MINERS TO GAIN 51% CONTROL?

Yes. Some may argue that “a ‘51% attack’ would be prohibitively expensive: (because) bitcoin miners now have 13,000 times more combined number-crunching power than the world’s 500 biggest supercomputers.” – The Economist.

However, the consolidation of miners is inherent in the validation structure. Given the increasing complexity of “Bitcoin’s algorithm, a large number of computers working together has a significantly better chance of solving the equations quickly and earning money – while keeping costs down.” - CoinDesk

In “June 2014 one pool, GHash.IO, had the bitcoin community running scared by briefly touching that level (51%) before some users voluntarily switched to other pools.” - The Economist.

IS THERE A GEOGRAPHICAL CONCENTRATION OF MINERS? IF SO, WHERE AND WHY?

Yes. According to a September 2016 Washington Post article “mines run by Chinese companies account for about 70 percent of the world’s bitcoin processing power.” The three basic requirements for mining are computing power, electricity and labor. Locations that can provide these components at a low cost have a competitive advantage in recruiting miners.

- Chinese factories produce and sell highly efficient but low cost microprocessors to miners.
- In addition to low cost computing power, the hydroelectric plants in the Tibet region of China have some of the lowest electricity rates in the world. This competitive advantage should not be overlooked as the cost of cooling thousands and thousands of processors is a major cost to miners.
- Labor costs in the mining areas of China are dramatically less than other parts of the world.

IN-DEPTH – BITCOIN

OUTSIDE OF MINERS OR THIRD PARTIES INITIATING A 51% ATTACK, IS BITCOIN SAFE?

Similar to all other stores of wealth, bitcoin can be stolen. Though bitcoin is held anonymously there have been many instances of bitcoin wallets being hacked.

WHAT IS A WALLET?

A wallet is where bitcoin is stored. More specifically, a wallet is where one stores the public and private keys to which bitcoins are attached. There are a number of types of wallets. Two of the more common are a web wallet and a software wallet.

A web wallet is one managed by a third party. The third party is responsible for maintaining the integrity of one's wallet and safeguarding the private and public keys. Web wallets can be accessed from anywhere in the world through the internet and are relatively easy to use. Unfortunately, there have been instances where online hosted wallets and cloud wallets have been hacked. If the bitcoin is stolen, there is little or no recourse.

In a software wallet, bitcoin is stored on your own computer or mobile device. Software wallets are tricky for novices to install and maintain. Fortunately, software can be purchased to simplify the installation process, provide layers of security and allow recovery of bitcoin in the event of a computer failure. Once again, hackers are a constant threat and there have been instances of bitcoin being lost because of equipment failure. To avoid hackers many store digital currencies in a cold wallet. A cold wallet is not connected to the internet. It can be a laptop with no connection to the outside world or perhaps an USB thumb drive.

WHAT ARE PUBLIC AND PRIVATE KEYS?

A public key is an address that tells everyone on the Bitcoin network where to transfer value. When sending bitcoin one will broadcast on the Bitcoin network that the bitcoin at one address needs to be sent to another address.

A private key “is the part of data that you keep secret in your bitcoin wallet. Every bitcoin address has a unique private key attached. Possession of this key is what allows you to maintain control of those bitcoins. If someone else is able to obtain your key, they also have control of your bitcoins.” – Bitcoin Simplified

IN-DEPTH – BITCOIN

IS IT LEGAL TO BUY BITCOIN?

“The legal status of bitcoin varies substantially from country to country and is still undefined or changing in many of them. While some countries have explicitly allowed its use and trade, others have banned or restricted it. Likewise, various government agencies, departments, and courts have classified bitcoins differently.” – Wikipedia

Below are a few examples of how different countries treat bitcoin.

Bangladesh – bans the use under anti-money laundering laws

China – private parties can hold and trade bitcoin but not financial firms – In January 2017 China announced an inspection of three Chinese bitcoin exchanges. No one knows what the outcome will be but prior to the announcement bitcoin was over \$1,100 and shortly thereafter around \$800 per bitcoin.

India – unregulated

United States – classification of bitcoin varies by department but its use is not prohibited

HOW DO YOU BUY BITCOIN?

First, set up a wallet. To set up a simple web wallet go online to Coinbase or similar company and follow their set up instructions. Second, connect your bank account, debit card, or credit card. Third, buy some bitcoin.

WHERE CAN BITCOIN BE SPENT?

An online search is probably the best way to determine which merchants accept bitcoin. In most cases, companies do not actually take payments in bitcoin but work with a middleman to accept and quickly convert bitcoin to their local currency. Even if a vendor does not accept bitcoin, it may be possible to purchase gift cards from eGifter or Gyft and then redeem them at the retailer.

IN-DEPTH – BITCOIN

HOW DO YOU ACTUALLY SPEND BITCOIN?

Depends on your wallet and the merchant. “If the merchant you're paying is using Coinbase to accept bitcoin payments and you also have a funded Coinbase account, you can complete the checkout by simply signing in to your Coinbase account and confirming the order. Once you confirm the order, the process is finished and the merchant will be notified of your payment.” - Coinbase

IS THERE A LIMIT ON HOW MANY BITCOIN WILL BE CREATED?

Bitcoin protocol says that only 21 million bitcoins will ever be created. “The number of bitcoin given to miners in exchange for validation services is cut in half whenever 210,000 blocks are added. Because of this it is estimated that it will take until 2140 until all 21 million coins have been minted.” – Wikipedia

WHAT WILL HAPPEN AFTER 21 MILLION BITCOIN HAVE BEEN CREATED?

Unless the value of bitcoins grows exponentially, most miners will have dropped out long before all bitcoin have been mined. Those remaining will continue to validate blocks of data for transaction fees. In the future, it is expected that miners will choose which transactions to process and prioritize those that pay higher fees.

IS BITCOIN ANONYMOUS?

For the most part, bitcoin can be sent and received without giving any personal information. As mentioned previously, every transaction requires an address. “If your address is ever linked to your identity, every transaction will be linked to you.” – Bitcoin Simplified

IN-DEPTH – BITCOIN

WHAT IS THE FUTURE OF BLOCKCHAIN TECHNOLOGY?

Over time, most expect blockchain technology to impact everyday lives. There are many ways that blockchain technology may assist local government:

- Transparent record keeping and public archives
- Fraud-free voting
- Distributed, tamper-free registries
- Smart contract administration
- Grant distribution and tracking

Blockchain Futures Lab identified many companies and governments that are currently exploring blockchain applications:

“Delaware has recently announced a blockchain initiative, which includes a pilot project for public record keeping.”

“Bitland wants to create a land registry for Ghana on the blockchain.”

“Factom is piloting a similar project and aims to move more public data to the blockchain. Tax lot and assessor data could be more easily maintained, updated, and shared in a similar fashion.”

“BTC Media is convening experts to apply the blockchain to the healthcare industry, and the US Department of Health and Human Services is actively soliciting white papers on blockchain technology in healthcare. In healthcare, data privacy and sharing is a paramount concern.”

IN-DEPTH – BITCOIN

WHEN WILL THE AVERAGE PERSON SEE AN IMPACT FROM BLOCKCHAIN TECHNOLOGY?

Going Mainstream

The World Economic Forum asked more than 800 executives and technology experts when they thought various tipping points would occur—when various technologies would hit mainstream society. Here are the respondents' expectations for two tipping points for blockchain technology.

ECONOMIC ROLE

TIPPING POINT: 10% of global gross domestic product stored on blockchain technology

AVERAGE EXPECTED DATE: 2027

BY 2025: 58% of respondents expect this tipping point to have occurred

TAX ROLL

TIPPING POINT: Tax collected for the first time by a government via a blockchain

AVERAGE EXPECTED DATE: 2023

BY 2025: 73% of respondents expect this tipping point to have occurred

Source: World Economic Forum survey of 816 executives and experts from the information and communications technology sector, conducted in March 2015

THE WALL STREET JOURNAL.