

ECONOMIC INDICATORS

Trend in the Cuyahoga County Sales Tax Collection Level 1991-2018
Current Level Down by 3.57% over One Year; Deteriorates to 6.25% below 2001 Peak
Annualized Loss since 2001 now -\$14.56 Million per Year
July 2017 Ended Eighty-One Straight Positive Month Streak
Consecutive Positive Growth Streak Broken at Seven Full Years Plus 9 Months
New Two Month Positive Growth Streak in August & September
New Four Month Negative Growth Streak in Oct Nov Dec Jan
Technical Factors Distorted June Cuyahoga County Figure, but That Distortion Gone
Rate of Increase Far Below 12.76% Growth All-Time Peak in October 1994
Rate of Increase now Still Well Below Recent 6.23% Increase in May 2005
Rate of Increase in 2018:
-3.5% in Jan;
Previous Record Streak was January 2000 (30 Months) for Local Sales Tax Collections
Data Heavily Distorted downward by One Time Retroactive Payment in June 2016
This Still Represents Dramatic Improvement over Catastrophic Late 2009 Performance
Loss Caused by Slight Local Economic Improvement; But That Improvement Still Slow
Growth Coincides with Slowing Local and Statewide Job Growth
Ohio Economy Still not Recovered from 2000 Recession
Ohio now Below USA Job Growth Rate for 60 Consecutive Months
Future 2018 Growth slowing dramatically from Medicare Managed Care Tax Repeal

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Summary

The newly available January 2017 figure on sales taxes collected in Cuyahoga County finds that this level *decreased* by -3.57% in comparison to the same level in January 2017, a negative figure now farther below zero. The new growth figure represents the impact of the end of the Managed Care Sales Tax that has moved the current figure below zero in comparison to four months ago's September 0.04%. The current negative rate of increase fell further behind the 6.23% recent peak rate of increase seen during May 2005. The 2.9% growth in December 2012 was a sharp slowing in comparison to the 4.2% growth in December 2011. Most 2013 months generated a slowing rate of increase, but *all* 2013, 2014, 2015, 2016, and 2017 months registered increases until October 2017's negative decline, which has returned more alarmingly in January 2017. The growth rate during the first month of 2017 currently measures a new four consecutive month negative growth streak, with continuing monthly volatility and current growth falling below zero. The slowing growth rate in June was heavily distorted by technical issues, most of which have now lost their importance.

July 2017 very unfortunately ended an eighty-one consecutive monthly increase in the real sales tax level. That positive streak dramatically exceeded the thirty consecutive months of increase in the Cuyahoga County real sales tax level in June 2005. Prior to that, the record for consecutive monthly increases in the real Cuyahoga County sales tax level was 30 consecutive months between August 1997 and May 2001. The end of the lengthy streak of monthly increases for seven full consecutive years and nine additional months had been clearly highly favorable news, particularly in comparison to the continual record-breaking disastrously horrible performance of the sales tax during two previous years in 2010 and 2011.

The new negative figure for January 2018 extends a new streak of four consecutive months when the Cuyahoga County Sales Tax Level has decreased.

The real inflation-adjusted tax collection level was negative during all twelve months of 2008, and all twelve monthly figures for 2009 were all sharply and very alarmingly negative. **January, February, and March 2010 were three of the eleven worst declines in the Cuyahoga County sales tax of any month during the last 25 years. January, February, March, April, and May 2009 ranked fifth, eighth, and eleventh, ninth, and fourteenth respectively, on the list of the worst monthly declines in the Cuyahoga County sales tax level during the last 25 years.** The worst monthly plunge during the last 24 years was the -10.98% decline in December 2009. **The fact that each of the twelve months of 2010 were not the worst monthly plunge in twenty years broke the highly discouraging trend of six consecutive months in which the Cuyahoga County sales tax broke the all-time record for worst ever monthly plunge in the sales tax revenue level, which had taken place earlier in 2009.** Those extremely discouraging figures during 2009 and during all 2010 months until October were caused by the fact that the 2000-2011 recessions in Ohio's labor market was deeper and lengthier than the historically horrible 1979-1983 recession in Cuyahoga County. The national 2007-2009 "Great Recession" dramatically deepened the impact of the 2000s labor market recession in Cuyahoga County to catastrophic levels not seen in many decades, resulting in declines in sales tax revenues.

But, the last three months of 2010, all twelve months of 2011, all twelve months of 2012, all twelve months of 2013, all twelve months of 2014, all twelve months of 2015, all twelve months of 2016, and the first five months of 2017 finally reached growth and increases in the Cuyahoga County Sales Tax level. The peak of that growth so far is the March 2017 level, with 6.43% real growth. But, the growth trend went negative in July 2017 for the first time in years, prior to a brief return to growth in August and September 2017.

The new -2.24% negative and sharply declining level for December 2017 is the fourth consecutive month with an decrease in the inflation-adjusted level of sales tax collections in Cuyahoga County. The May 2013 growth rate fell below 2%, as did July 2014, October 2014, and December 2014. But, the sharply improving May 2015 growth rate finally rose above 4%. **The current January 2017 negative sales tax growth rate of -3.57% falls farther below the recent March 2017 peak growth rate of 6.43%, and July's decline ended the eighty-one consecutive month with positive growth that fortunately replaced the former extremely deep monthly losses. That positive streak ended in July 2017 at seven full years and nine additional months. The ended streak had been the longest all-time record streak for consecutive months that the Cuyahoga County inflation-adjusted sales tax level saw real inflation-adjusted growth. A return to growth in August and September was a positive development, albeit barely. That positive figure vanished during October, November, and December 2017 and now during January 2018.**

The peak level of the real monthly Cuyahoga County sales tax collection was experienced in April 2001. Since that peak, the current level of the monthly Cuyahoga County inflation adjusted sales tax has declined by -6.25%, despite the slowing of the rate of decline during all 2010 months and the actual increases in October, November, and December 2010, and actual increases during all 2011, 2012, 2013, 2014, 2015, 2016, and 2017 months until July and now October, November, and December. January's disappointing level starts 2018 in negative territory. Entities who rely on the sales tax for revenues have been suffering catastrophic damage from the real decline in that tax collection level during the last seventeen years.

On an annualized basis, this yearly *decrease* relative to 2001 is currently -\$14.56 million in Cuyahoga County alone. This sales tax decline is directly proportional to a corresponding decline in retail sales during the last seventeen years in Cuyahoga County. **The end to further damage from this huge decline in October, November, and December 2010, and during all 2011, 2012, 2013, 2014, 2015, 2016, and 2017 months through June and until a further negative reversal during October, November, and December 2017 had been an extremely favorable development, but the July 2017 slowing of the growth rate into a negative range that has now returned in October, November, December, and January is a very unfavorable and highly troubling development.**

The 2000-2011 loss of -129,590 jobs in Cuyahoga County, a decline of a very large -16.0% in Cuyahoga County's employment, caused a -\$1.47 billion annual decline in Cuyahoga County's aggregate wages for all workers. That decline was -4.2% of all local wages. That frightening plunge in local earnings paralleled a -6.6% statewide decline in Ohio's aggregate wages. The extremely deep 2007-2009 national recession and the resulting massive aggregate paycheck losses made the 2000-2007 Ohio labor market recession worse and caused the record-breaking declines in sales tax revenues in Cuyahoga County and across the entire state of Ohio. Despite the end of job losses in Ohio and Cuyahoga County through the end of the first quarter of 2012, average wages continued to fall in most industries across the state and county. Associated sales tax losses continued during 2010 until the extremely welcome small increases in October, November, and December 2010 and in all months of 2011, 2012, 2013, 2014, 2015, 2016, and 2017 until July and October, November, and December. With local economic fundamentals still relatively weak with continuing declines in average wages of workers in Cuyahoga County through second quarter of 2013 and in Ohio during the third quarter of 2013 until mean earnings finally stopped declining in Ohio during the fourth quarter of 2014, the highly unwelcome July 2017 sales tax decline still does not yet clearly establish a solid and firm trend for future months. Both the national USA economic recovery and the parallel economic recovery in Ohio remain slow and recently weakening. The most recent data on employment find that Ohio currently has extended a streak of fifty-nine consecutive months when the job growth rate in Ohio has been slower than the USA national average. This horrible streak returned following a downward revision to Ohio jobs in 2016 that exceeded 100,000. In addition, the continuing volatility in the USA and worldwide equity and financial markets is having a negative impact that has not yet been precisely measured on economic growth. These recent findings, along with three recently enacted interest rate increases by the US Federal Reserve Bank will put downward pressure on sales tax collections during forthcoming 2018 months.

Unfortunately, updated monthly Ohio figures were delayed considerably in unprecedented fashion as a result of the federal government shutdown in 2013. September and October data on Ohio employment were not released until November 22, 2013. So, in unusually damaging fashion, routinely available data on Ohio employment were not available at any time during October 2013. This of course increased our ignorance of the current Ohio employment situation during most fall months in 2013. But, given the belated release of these data, we now know that Ohio's recovery continued to be weak and continuously below national norms during late 2013 and through newly revised data up through November 2017.

A substantial gain in the expanded sales tax base from Managed Care Medicaid plans was a key contributor to the more positive figures during the early months of 2011. The end to job losses in Cuyahoga County barely arrived during the third quarter of 2011, only as a result of increased federal employment in Cuyahoga County. The monthly size of the increased sales tax collection from the expanded Medicaid base varies from month to month, but the monthly figure was roughly \$500,000 in Cuyahoga County. The actual size in dollars of the real Cuyahoga County sales tax increase between July 2010 and July 2011 was \$1,280,381. Thus, on a net basis about one-third of the 3.8% August 2011 increase was accounted for by the base expansion that resulted from the new sales tax on Medicaid

managed care firms. All subsequent months in the 12 month moving average since then had the Medicaid managed care sales tax in both this year's data and last year's data. Thus, the influence of the base expansion on sales tax collection trends diminished considerably during all of 2012, 2013, 2014, 2015, 2016 and 2017 months as the base expansion is now built into both last year's level and also in current 2016 data. Thus, the base expansion from the Medicaid Managed Care sales tax currently has no impact on current year to year comparisons during all 2017 and 2018 months. But, it now is clear that the repeal of the Managed Care Medicaid sales tax is now having an additional catastrophically downward impact on the sales tax trend, particularly during the last three months of 2017 and also during all 2018 months and during subsequent years. **Data from the Ohio Office of Budget and Management find that recent growth in both the Cuyahoga County and Ohio sales tax trend has mainly been caused by growth in the Managed Care Medicaid sales tax. The repeal of this tax has caused both a loss of sales tax revenue from the tax elimination and also is having a substantial negative impact the rate of forthcoming sales tax growth during the last four months of 2017, the first month of 2018 and also during all future months in 2018.** Additional growth in the Cuyahoga County Sales Tax level during future 2018 months will have to rely on actual growth in local employment and earnings. The repeal of this tax has therefore caused a substantial slowdown in sales tax revenue growth.

Ohio OMB at first claimed that the September 2017 data were the first month when the Medicaid Managed Care sales tax was repealed in Ohio, but it now appears that this disastrous development did not fully take place until October, November, and December 2017 data, pending action by the Ohio State Legislature that so far has not materialized.

An extremely unfortunate additional factor arrived during the fall of 2013. The federal government shutdown and the possibility that the United States might exceed its debt ceiling during October 2013 provided a serious threat for additional slowing of the economic growth rate in both the United States and in Ohio. An additional very serious problem from this damaging political collapse is that all normal updated data sources on employment and earnings were no longer released, either in a timely fashion or at all. Thus, there was no conclusive means to measure what was currently happening either in the United States economy or in the Ohio labor market. This was a dangerous unprecedented situation that was fully resolved only in December 2013.

A massive problem caused by the elimination of the Managed Care Medicaid sales tax altogether is a very large sales tax cut that has dramatically impacted revenues all 88 Ohio counties, Ohio municipalities with sales taxes, and at nearly all Ohio transit authorities. This catastrophic development also lowered tax revenue receipts by the state of Ohio itself, in the absence of a finalized 2017 biennial budget with provisions to mitigate this major problem.

The November 2017 statewide Ohio data find that automobile sales tax decreased over November 2016 by -1.4%, with the non-automobile sales tax decreasing over 2016 by a larger -6.4%. Overall Ohio sales tax collections decreased in November 2017 by a substantial -5.9%, a figure far below the current 2.0% level of inflation. Ohio OMB blamed the large decline in the non-automobile sales tax on the end of the Medicaid Managed Care Sales Tax, stating that this was the fifth consecutive month with the Managed Care Sales Tax repealed.

The news in local sales tax collections is still largely unrelated to the lengthy shrinkage in the local private sector labor market from the 2000s recession, except for an extremely welcome recent increase of 1,329 Manufacturing jobs in Cuyahoga County during the third quarter of 2009 that was the chief cause of the current local labor market recovery. Another small increase of 496 Manufacturing jobs

during the fourth quarter of 2010, an increase of 1,229 Manufacturing jobs during the first quarter of 2011, an increase of 1,969 Manufacturing jobs during the second quarter of 2011, an increase of 1,614 Manufacturing jobs during the third quarter of 2011, an increase of 1,966 Manufacturing jobs during the fourth quarter of 2011, an increase of 1,923 Manufacturing jobs during the first quarter of 2012, and a continuing increase of 1,969 Manufacturing jobs during the second quarter of 2012, but a recent *loss* of 169 Manufacturing jobs during 3Q 2013, were an extremely beneficial increase in Cuyahoga County's employment within the very important Manufacturing industry that has been the main factor driving the local recovery for eleven consecutive quarters prior to the more negative recent 3Q 2013 figure. The end of local Manufacturing growth during 3Q 2013 is a discouraging development going forward. Another Manufacturing loss during 3Q 2014 was highly alarming. **The resulting local recovery from the 2000s recession is genuine, but that recovery remains quite slow. At the current extremely slow rate of increase it will take the Ohio labor market more than 6 years to recover the very large figure of 82,000 jobs that Ohio lost during the last 16 years. That recovery is genuine, but it remains an extremely slow recovery. In Cuyahoga County, at the current slow rate of recovery it would take a startlingly lengthy period of more than 664 years to recover the jobs that Cuyahoga County lost during the lengthy and deep 2000s recession that lasted more than a full decade. All of northeast Ohio is in a similar situation. At the current very slow rate of recovery, northeast Ohio will need six years to recover the still very large -104,100 jobs that it has lost since 2000. Further, among the sixteen counties of northeast Ohio, only one county, Carroll County, has recovered the jobs that it lost during the 2007 "Great Recession." That has been true for three consecutive quarters for which data are available. So, while the Ohio, northeast Ohio, and Cuyahoga County economy are all generating current job growth, that rate of growth remains too slow to produce a full recovery of jobs previously lost.**

During the second quarter of 2014, a 303 loss of Cuyahoga County jobs in Local, State, and Federal Government jobs during the past year is still the chief industrial culprit in the current slow rate of growth in total employment in Cuyahoga County. But, in newly available 3Q 2014 data, the largest industrial loss of jobs in Cuyahoga County returned to a loss of -1,283 jobs in Finance and Insurance. A -3.4% decline in Cuyahoga County jobs in Government during the past year continues to be a substantial industrial decline that is slowing down the current rate of job growth in Cuyahoga County. An additional current loss of 451 Cuyahoga County jobs in Manufacturing is a continuing discouraging problem that is causing the excessively slow growth. Statewide, Ohio lost -1,856 jobs in Local Government and State Government during the past year through 4Q 2013 in the most recently available data by industry from the QCEW Quarterly Census of Employment and Wages, the complete count of jobs and wages in all 88 Ohio counties. This loss of Ohio's Government employment and a loss of -1,318 jobs in Ohio Finance and Insurance were the two largest losses of jobs in any industry within Ohio during a time when the state was actually experiencing a very slow recovery that produced overall employment gains.

Thus, the primary cause of very slow growth during the ongoing labor market recovery is known. It has been large cuts in state funding for school districts as well as large cuts to municipalities and counties in the Local Government Fund, as well as cuts to State and Federal Government employment. Outside Government, the Ohio labor market is currently recovering. But, the slow pace of the ongoing labor market recovery in Ohio is primarily being caused by the large current losses in Government, Finance and Insurance, and Manufacturing employment.

A further very ominous development that emerged in the complete count of employment and wages for the fourth quarter of 2011 in Ohio is that despite the beginning of slow job growth across the state, a very large loss in aggregate real wages emerged. Nearly all industries suffered

losses in both total wages and mean real wages during 2011. The total loss across Ohio in wages during 2011 was -\$6.56 billion. The same 2011 loss of wages in Cuyahoga County was -\$1.47 billion.

Since then, aggregate wages have recovered sharply. In 4Q 2014 data, average earnings of a job in both Cuyahoga County and Ohio increased by 1.4% in Ohio and by 1.1% in Cuyahoga County, finally bringing a prior loss in mean earnings to an end. The mean earnings growth is encouraging, even though mean earnings are not currently growing across all industries. Nevertheless, despite the continued impact of the 2000-2011 labor market recession in Cuyahoga County and Ohio that was seen in 2011 from sharply declining aggregate and average real wages, both the Cuyahoga County and Ohio sales tax collections continued to grow on an inflation adjusted basis during the same period of time. The wage cuts contributed to the slowing rate of increase in sales tax collections through April 2017. But, the negative 0.11% January 2018 sales tax growth rate measures a rate of growth in Cuyahoga County that now is far below the recent 6.43% peak March 2017 rate of increase. October, November, December, and January sales tax losses continued. Cuyahoga County currently has measured real losses for four consecutive months.

There always is a three month lag between the actual collection of the sales tax revenue and its tabulation and distribution of that tax revenue by the Ohio Department of Taxation. Thus, the January 2017 sales tax revenues were actually collected by retail merchants in October 2017. The known continued weak growth of the Cuyahoga County labor market will have a dampening impact on forthcoming sales tax figures during future months of 2018. Mixed indications during 2015, 2016, and 2017 clearly indicate an ongoing national economic recovery in both the United States and in Ohio. That recovery continues to be quite slow, however, and the recovery is slowing substantially because of large cuts in government employment at the federal, state, and local levels across Ohio and the USA. Three recent interest rate increases by the Federal Reserve Bank, with additional increases scheduled, threaten to be another influence slowing down the rate of employment growth.

The July 2016 Ohio job growth at first appeared to be better than numerous prior months, since Ohio experienced increases in both Manufacturing and Government. This short run development verified analysis in this report during numerous prior months, which found that weak Manufacturing data and actual cuts in Government employment have been the ongoing cause of too slow employment growth in Ohio. But, the annual benchmark revision to Ohio employment for 2016 revised all of that improvement away, and it is now eliminated.

The annual benchmark revision to Ohio job data that was made in March 2017 plus a large upward revision to the February 2016 figure startlingly found that Ohio's job growth during 2015 and 2016 continued to be weak. Therefore the growth during 2017 in both the Cuyahoga County and Ohio sales tax level has not been caused by robust growth in the Cuyahoga County or Ohio labor markets.

Further, rising inequality of earnings has produced growth in total wages paid in Ohio as wages rise for high wage workers while they continue to fall for low wage workers. That growth has appeared in the monthly sales tax collection level figures. The very positive streak of eighty-one consecutive months with increases in the sales tax collection level in Cuyahoga County built up a very solid base prior to the current decline that should buffer probable forthcoming future weaker months during 2018, even though that earlier positive streak has been stopped and replaced with four consecutive months of decline.

A key factor contributing substantially to the solid current sales tax collection level increases in both Ohio and in Cuyahoga County is an ongoing sharp rise in the level of income inequality in both Ohio and in the United States. High income households have continually rising incomes while the median income has been weak in Ohio. This phenomenon resulted in welcome increases in sales tax collection levels even as incomes continue to be relatively weak for typical Ohio, Cuyahoga County, and Cleveland workers. The former increases vanished during the last three months of 2017 and during the first month of 2018.

The fact that the January 2018 sales tax collection level is no longer being compared in the twelve month moving average to any of the 20 worst months during the last 20 years of local sales tax collections continues to be a factor that recently slowed both the county's and the state's rate of increase. Sales tax collections eight years ago were so brutally bad that even a small improvement showed up as growth in the current figure last year. Now that last year's figure is no longer plunging at historically catastrophically high levels, it is somewhat more difficult to generate current increases this year. While the early 2017 growth was extremely welcome, its causes included time lags in the distribution of the revenues, the diminished impact of the sales tax base expansion, genuine current aggregate earnings growth above inflation, and also a comparison to a less brutally bad series of months one year ago. Thus, going forward some continued weakening of the monthly figure can be anticipated during future 2018 months. Ongoing large declines in the price of oil worldwide, a concurrent substantial volatility in USA equity and bond markets, and the first three in a series of interest rate increases by the Federal Reserve Bank are also having a dampening impact on growth that has greatly complicated forecasts of future trends.

The Cuyahoga County sales tax data were distorted upward during the last half of 2016 and during the first several 2017 months by a one-time payment of delinquent sales taxes by one large firm in June 2016. In the June 2017 data, it appears certain that this firm was located in Cuyahoga County. (The Ohio Department of Taxation will not identify this firm given confidentiality provisions in the law). The removal of June 2016 from the 12 month real moving average had a dramatic impact on the rate of growth in the sales tax that this statistic measures. The continued disappearance of this previous distortion contributed to continued relative weakness in September and subsequent declines in October, November, December, and January. **The July growth figure of -0.11% went negative for the first time in many years. The return to slow growth in August and September 2017 ended the July decline quickly, but the October, November, December, and January growth levels are once again a return to negative growth.**

Overall, the new December 2017 Cuyahoga County Sales Tax Level is a negative and slowing figure. The July decline ended an eighty-three consecutive month streak of previous growth. The August and September increases restored a two month consecutive streak of growth. The new negative October, November, December, and January figures begin a new streak of four consecutive months with negative real growth in the Cuyahoga County sales tax. Future trends are complicated by the ongoing elimination of the Medicaid Managed Care sales tax that is having devastating consequences to most Ohio transit authorities, some Ohio municipalities, all 88 Ohio counties, and the state of Ohio itself as sales tax revenues are declining very substantially during late 2017 and into 2018, unless this impact is mitigated by any forthcoming final form of the 2017 biennial budget at the state of Ohio.

Definitions

The Cuyahoga County sales tax collection level is measured in this report by using a constant 1% collection in all months between 1990 and the current month. Changes in the rate at which the tax is collected do not impact the trend in the data under this approach. Since the monthly sales tax figure is notoriously volatile during individual months, an unusually long 12 month moving average minimizes that volatility so that the underlying economic trend is clearer. Data are adjusted for inflation by the Consumer Price Index, and are expressed in current dollars. In this updated report, October 2017 dollars represent the current inflation adjustment. Percentage changes from year to year are generated by a comparison to the current real 12 month moving average with the real 12 month moving average during the same month of the prior year.

Some technical quirks distort the time series in the sales tax collection level as a measure of underlying retail sales trends. The base of industries on which the sales tax is collection has been expanded twice in recent years by the fact that some service industries began to pay the sales tax for the first time in history in 2004. That artificially inflated the increase in the sales tax from the broadening of the base on which the tax was collected, rather than from trends in the local economy. Data for all months in 2010 and 2011 are very substantially inflated by a new sales tax charged on premiums paid to managed care Medicaid health insurance firms. That base expansion is carried over in the twelve month moving average for all months in 2011, but, its impact on current year over year growth in 2017 has disappeared, except for growth from increases in medical insurance costs above inflation. **The ongoing elimination of the Medicaid Managed Care sales tax will have a drastic negative impact of sales tax revenues collected in 2018, as well as a more drastic negative impact on the rate of sales tax growth during that same period of time.**

Effective with the Economic Indicators report on the Cuyahoga County sales tax collection level for March 2013, revisions to numerous prior months' inflation measures from the Consumer Price Index have been implemented in this report. Thus, there are small changes to numerous prior months' measures of change in the sales tax collection level, even though the general trend in these figures is little changed.

The sales tax is an important revenue stream for governments in all 88 Ohio counties and for the state of Ohio itself. It also is a major local funding source for nearly all public transit authorities in Ohio. So, the level of sales taxes collected is an important figure for the financing of these government entities, and therefore the level of taxes collected is vital during budget preparation and management. In addition, the level of sales taxes collected is also a good measure of the condition of local business cycles in the economy. The tax collection level is directly proportional to the level of local retail sales, and thus it is also an important barometer of conditions over time in the local business cycle.

The Data

Between 2001 and 2011 the level of the Cuyahoga County sales tax was consistently weak. During the fourth quarter of 2004 and the first two quarters of 2005, the level of sales tax collected increased. **But, this 2004 and 2005 growth was not related to local retail business conditions.** It was instead related to an expansion of the base of firms on which the sales tax is charged. With the exception of this favorable period, the level of sales tax collected in Cuyahoga County was consistently negative between 2001 and 2010. But, growth rates improved during all four quarters of 2011, 2012, 2013, 2014, 2015, 2016, and during early 2017 months until weakening figures returned during the last three months of 2017. The new data for January 2018 that are measured in this report measure a decline in the local level

of sales tax collections, a noticeable weakening of the growth rate in comparison to September 2017. **The July and August improvement is finally unrelated to technical distortion caused by the removal of a large one time June 2016 payment of delinquent taxes from an unnamed Cuyahoga County firm.** That distortion inflated all figures between June 2016 and June 2017, but it no longer appears in the data.

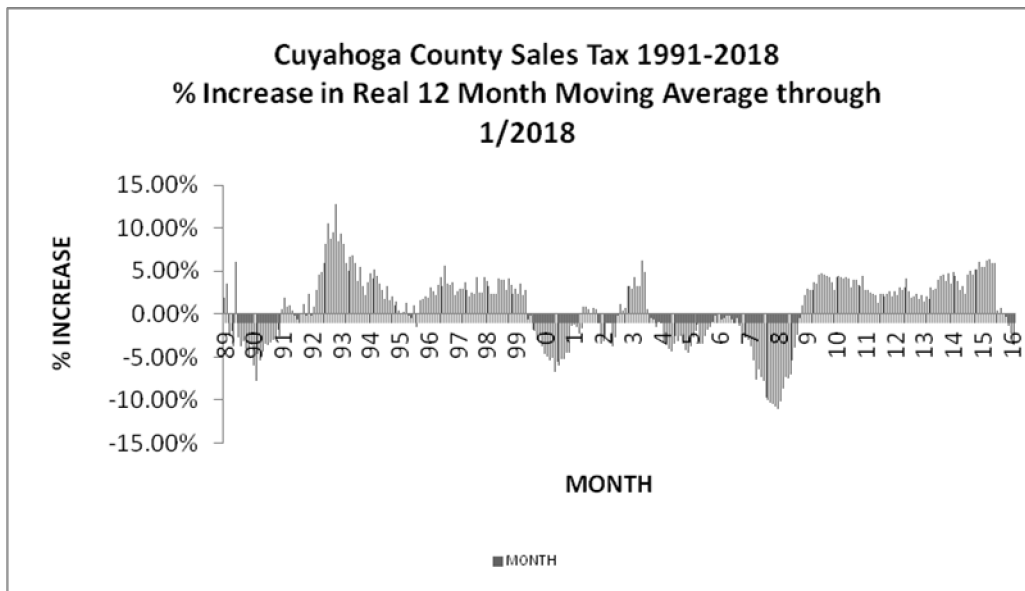
The lengthy eleven year 2000s recession in Ohio's labor market was the cause of this prior severe and continual weakness. That weakness became dramatically worse when the extremely deep 2007-2009 national recession started. That weakness caused unprecedented large declines in sales tax collections throughout Ohio, until a local trough was finally reached during the third quarter of 2010. Since then, the level of sales taxes collected continually improved until late 2017, albeit with erratic rates of growth that have been noticeably variable from month to month. The end of that measured growth rate in July 2017 was an extremely negative development. But, that July decline returned to growth in August and September 2017, prior to the new declining level in October, November, and December 2017 and January 2018.

In newly updated data for January 2018, which reflect sales taxes that were actually collected in October 2017 by local retail firms, the real twelve month moving average of the Cuyahoga County sales tax collection level decreased by a sharply slowing -3.57%. That current growth rate falls farther below the recent peak growth rate of 6.43% measured in March 2017, and is further behind the 6.23% monthly increase during April 2005. **The July 2017 decrease ended an eighty-one consecutive monthly increase in the inflation adjusted Cuyahoga County sales tax collection level, a highly unfavorable development. But, the August and September growth extended that streak to three consecutive months with growth.** The 4.42% increase in November 2012 slowed for six consecutive months through a 1.34% May 2013 increase. That slowing rate of increase ended in June 2013 with a faster increase of 2.40%. Since then, the monthly rate of increase has been erratic from month to month, but has been a generally improving rate of increase until renewed slowing growth rates during many months of 2016. The new January 2017 data still measure a growth rate that has consistently slowed lately, culminating in the June 2017 dramatic slowdown caused by the removal of June 2016 from the twelve month real moving average. Cuyahoga County had not previously had eighty-one consecutive months with an increase in the real level of the local sales tax during any prior month though May 2017.

The level had increased by a tiny amount of less than 0.1% in April 2008, but during all other 2008 months there were small declines in the local sales tax collection level. Small 0.3% increases in both October and November 2007 were the only other monthly increases since 2000 that were not caused or heavily influenced by expansion of the base of firms on which the sales tax is collected. **The 0.07% increase in April 2008 was not genuine. It was caused by a one time late payment of delinquent tax receipts by one of Ohio's largest retail firms, which by law remains unidentified by the Ohio Department of Taxation. Another one time audit settlement for delinquent taxes inflated the January 2010 figure slightly. Another large one time audit settlement for delinquent taxes inflated the June 2016 figure substantially, thus artificially inflating the 2016 data during the second half of the year and also the 2017 monthly data from January through June.** But, the declining figure for July 2017 was an extremely unwelcome and still continually slowing -0.11% decrease. The August 2017 0.64% growth restored some favorable (albeit still slow growth). The very weak September 2017 0.04% growth technically extended the streak of growth to two months, albeit barely.

The July 2017 -0.11% negative growth figure ended an eighty-one consecutive month real increase in the Cuyahoga County sales tax collection level, but the August 2017 0.64% increase was the first month in a new streak of one consecutive month with growth in the inflation adjusted Cuyahoga County Sales

Tax level. The troubling 0.04% growth in September 2017 extended the growth streak to two consecutive months, despite its obvious returning weakness. Then the October 2017 decline of -0.26 began a new negative streak of one consecutive month with a decline in Cuyahoga County's sales tax level. This negative growth streak was extended to two consecutive months of negative growth in November 2017. The December 2017 decline of -2.24% extend the current decline to three consecutive months. This month's January 2018 decline of -3.57% deepened the current rate of decline. The current rate of decline is farther below the recent peak increase of 6.43% set in March 2017. The continual recent consecutive month trend of real increases was of course highly welcome, but the June 2017 data certified that the data between May 2016 and May 2017 had been technically distorted upward by a one-time payment of delinquent taxes by a large Cuyahoga County firm. The elimination of this technical distortion massively slowed last the rate of increase and then finally eliminated the increased growth rate altogether in July 2017, with a new positive streak started in August and September 2017 that has now ended in October, November, and December 2017 and in January 2018.



During the last twenty years, Cuyahoga County's twenty worst months for sales tax revenue growth were heavily concentrated in 2009 and 2010 alone. Astonishingly, sixteen of the twenty worst monthly declines in the rate of Cuyahoga County sales tax growth during the last 20 years were suffered during 2009 and 2010. The six worst months were consecutive in July, August, September, October, November, and December 2009. Seven of the nine months of 2010 were among the top forty worst monthly declines during the last twenty years. This massive plunge in Cuyahoga County sales tax revenues during 2009 and 2010 was clearly unprecedented in modern times. The depth of the recession during 2009 and 2010 in Cuyahoga County was worse than any other period of time since the 1930s.

Cuyahoga County Sales Tax Collection Level

Year over Year % Increase

12 Month Real Moving
Average

December 2012 Dollars, CPI Deflator

20 Worst Months 1990-2013

Source: Ohio Department of Taxation, Greater Cleveland RTA, and George Zeller

	<u>Month</u>	<u>Prior Year Month</u>	<u>This Month</u>	<u>\$ Incr</u>	<u>% Incr</u>
1	December 2009	\$15,297,975	\$13,614,913	-\$1,683,061	-11.0%
2	November 2009	\$15,381,734	\$13,731,265	-\$1,650,469	-10.7%
3	January 2010	\$15,221,235	\$13,611,518	-\$1,609,717	-10.6%
4	October 2009	\$15,415,614	\$13,824,622	-\$1,590,992	-10.3%
5	September 2009	\$15,505,837	\$13,926,905	-\$1,578,932	-10.2%
6	August 2009	\$15,623,311	\$14,091,445	-\$1,531,866	-9.8%
7	July 2009	\$15,727,662	\$14,236,952	-\$1,490,710	-9.5%
8	February 2010	\$15,017,409	\$13,622,508	-\$1,394,901	-9.3%
9	April 2010	\$14,799,067	\$13,570,775	-\$1,228,292	-8.3%
10	March 2010	\$14,781,602	\$13,556,142	-\$1,225,459	-8.3%
11	May 2009	\$15,691,702	\$14,461,814	-\$1,229,888	-7.8%
12	May 2010	\$14,641,852	\$13,506,780	-\$1,135,072	-7.8%
13	January 1992	\$14,780,836	\$13,642,985	-\$1,137,851	-7.7%
14	June 2009	\$15,620,160	\$14,461,814	-\$1,158,345	-7.4%
15	March 2009	\$15,830,294	\$14,799,067	-\$1,031,227	-6.5%
16	April 2002	\$17,640,503	\$16,521,035	-\$1,119,467	-6.3%
17	June 2010	\$14,461,814	\$13,608,950	-\$852,865	-5.9%
18	April 2009	\$15,674,700	\$14,799,067	-\$875,633	-5.6%
19	June 2002	\$17,416,543	\$16,449,751	-\$966,791	-5.6%
20	May 2002	\$17,320,768	\$16,445,621	-\$875,147	-5.1%

Fortunately, the small 0.95% October 2010 sales tax increase broke a streak of 34 consecutive months when the Cuyahoga County real inflation-adjusted sales tax collection level had declined in comparison to the level collected during the same month in the previous year. Since that October 2010 increase, the Cuyahoga County real sales tax collection level increased for eighty-onw consecutive months over a period that reached seven full years and nine additional months. These increases were highly welcome indeed. Nevertheless, the stunning concentration of months in 2009 and 2010 among the forty worst sales tax declines during the last twenty years in Cuyahoga County created a very deep deficit in such collections that will require vigorous growth for many months or even years before collection levels return to historically normal levels.

The December 2009 -11.0% decrease was the worst one month decline during any month between 1990 and 2013. A decline of -0.8% in the September 2010 twelve month moving average of the Cuyahoga County sales tax was the first decline of less than 1% for local sales tax collections since December 2005, showing that the end of record-breaking plunges from last year were beginning.

The newly negative and no longer technically distorted downward December 2017 negative figure of -2.24% nevertheless stands in very sharp contrast to the historically gigantic plunge of -10.7% that the sales tax experienced in December 2009. The December decrease came as a result of continued relative weakness and only a very slow recovery in the Ohio and Cuyahoga County labor markets, combined with the elimination of the Medicaid Managed Care Sales Tax. The deeper January 2018 decline of -3.57% was worse.

The annual rebenchmarking of Ohio's monthly Current Employment Statistics job estimates in the January 2014 data found that Ohio's job losses during the 2000s recession were -340,600 even after the annual revision to the data. A loss of -206,500 Ohio jobs as a result of the fact that Ohio has not yet recovered from the very deep 2007 "Great Recession" remains a key cause of this issue. A similar situation remains following the January 2015 benchmark revision. Even though job destruction has finally ended in Cuyahoga County and in the state of Ohio during 2011, 2012, 2013, 2014, 2015, 2016, and 2017, employment growth continues to be weak and very slow in both Ohio and in the United States. The lengthy period of increases to the level of Cuyahoga County sales tax collection growth for 83 consecutive months will be more difficult to sustain in future months, given the continued relative weakness in the Ohio labor market during all 2012, 2013, and 2014 quarters. It is also known that that average wages generated by Ohio jobs are currently declining statewide in Ohio by -0.1%. A gain of zero jobs during 2015 in the state of Ohio following the annual benchmark revision to the data and following a downward revision to the January 2016 data also was a highly discouraging pattern across the state of Ohio. Even after these very recent slow improvements, there are still 82,000 Ohio workers who are having difficulty finding a job, since Ohio's growth rate is still too slow and below the national average even after the quirky ending of the Ohio sub-par job growth streak in September 2017 data because of natural disasters outside Ohio, and subsequent downward revisions to the data during the last four months of 2017.

The most recent Ohio job data for November 2017 find that Ohio's current 0.80% job growth rate is below the current 1.46% USA job growth rate. November 2017 was the 60th consecutive month when Ohio's job growth rate was below the USA national average. Continuing slow growth in Ohio jobs during the fourth quarter of 2013, during 2014, 2015, 2016, and during 2017 through November increased the gap between the United States employment growth rate and the Ohio job growth rate.

The end of the long streak of monthly increases in the local sales tax collection level growth rate in Cuyahoga County during July 2017 was *extremely unwelcome news*. Fortunately, that one month negative streak ended quickly in August and September 2017 with a new two month consecutive streak of growth. That brief improvement ended with subsequent declines in October, November, and December 2017 as well as in January 2018. Further, as this year's figure is now being compared with growing figures for last year, the growth will be increasingly difficult to sustain, particularly with a large sales tax cut currently scheduled for all future 2018 months, since the Managed Care Medicaid sales tax collection has been eliminated in Ohio.

The horribly negative monthly trends, particularly in 2009 and during the first three quarters of 2010, have resulted in a large long term decline in the level of real sales tax collected in Cuyahoga County. The peak level of inflation-adjusted sales tax collections in Cuyahoga County was sixteen years ago in February 2001. The size of the decline during the sixteen year period since February 2001 had been large, but the favorable March 2017 data finally returned the current figure to the March 2001 level. But, slower growth in April, May, June, July, August, September, October, November, and December 2017 and now in January 2018 returned the current figure to a level below the February 2001 figure. If the

terrible impact of the 2000s recession in Cuyahoga County is to be eliminated by a recovery, that recovery will require numerous positive months over a period of several years. The recession caused such massive plunges in the Cuyahoga County sales tax level that it will be quite some time before normal conditions resume, particularly if the late 2017 and early 2018 decreases are sustained or further extended during subsequent months. It will take a very long time to dig out of a hole this deep.

Cuyahoga County Real Sales Tax Growth April 2001 to December 2017
Peak 12 Month Real Moving Average to Current Level
Real Sales Tax Level in October 2017 Dollars, CPI Deflator

<u>MONTH</u>	<u>SALES TAX LEVEL</u>
February 2001 Monthly Peak	\$19,400,735.27
January 2018 Current Month	\$18,187,296.50
2004-2017 Dollar Increase	-\$1,213,439
2004-2017 % Increase	-6.25%

This -6.25% decrease is no longer distorted upward from a large one time late payment in June 2016 by a large delinquent Cuyahoga County firm. That loss of tax revenue from the 2000s recession and the 2007 “Great Recession” has been extremely damaging to both entities dependent on the sales tax for their revenues, and also for retail merchants who have suffered a corresponding decline in sales within Cuyahoga County. These still discouraging figures are a result of the fact that the local 2000-2011 recession was much deeper and more lengthy than the horrible 1979-1983 recession in Cuyahoga County’s labor market. Cuyahoga County’s loss of -108,936 jobs between 2000 and 2015, a very large loss of -13.5% of the county’s jobs caused an enormous simultaneous loss of -\$2.97 billion in real inflation-adjusted aggregate payroll, consisting of a very large loss of -7.8% of all Cuyahoga County aggregate paychecks. That staggering enormous loss of jobs and paychecks caused the gigantic sales tax decline since the February 2001 monthly peak.

The record breaking declines in the real Cuyahoga County sales tax levels during 2009 and 2010 were generally not caused by inflation. The Consumer Price Index measured year over year deflation during all six consecutive months when the sales tax fell by increasingly record-breaking amounts between July and December 2009. Instead, those record-breaking monthly sales tax declines were entirely caused by the record breaking plunge in Cuyahoga County retail sales for six consecutive months. The United States Bureau of Labor Statistics in fact measured -0.4% deflation on an annual basis during 2009. However, ominously, BLS measured year over year annual inflation of 1.6% in 2010. So, the 2010 sales tax figures were influenced by the small level of inflation that took place during the last two months of 2009 and the all twelve months of 2010. These recent inflation figures deepened the depth of the long term decline in Cuyahoga County inflation-adjusted sales tax collection level. The small October 2010 through July 2012 increases in the sales tax level were above the inflation level for all months of both the third and fourth quarters of 2010, all four quarters of 2011 and 2012, and during the first three quarters of 2012. The October 2017 inflation rate used in this month’s report currently still is a slow 2.0%. Therefore, recently continuing relatively low levels of inflation are not a noticeable factor that caused the growth rate in the real Cuyahoga County sales tax collection level to slow during various recent 2013, 2014, 2015, 2016, and 2017 months, although that influence is slowly starting to return in 2017.

An examination of the subcategories of the Cuyahoga County sales tax performance during 2010 and early 2011 shows that a large majority of the improvement during those months was concentrated in “Direct Pay Tax Return Payments.” This subcategory is heavily dominated by the new Medicaid Managed Care sales tax. Monthly year over year gains in this category ranged from \$154,000 to \$610,000 in various months, with the largest gains concentrated in months such as October 2010. Most months were in the \$500,000 range. Thus, it appears that the monthly proceeds from the Medicaid Managed Care Sales Tax base expansion are approximately \$500,000 in Cuyahoga County. **But the now scheduled elimination of the Managed Care Sales Tax in Ohio is certainly having a dramatic and catastrophic downward impact on sales tax revenues during November 2017 and in subsequent 2017 and 2018 months in all 88 Ohio counties, in Ohio municipalities, in Ohio statewide, and also for nearly all Ohio transit authorities, not only because of the loss of revenue from this tax cut, but also as a result of the loss of Ohio’s leading cause of sales tax growth since the Managed Care Sales Tax was implemented in Ohio.**

In data for the summer of 2011, the increase in the real moving average of the Cuyahoga County Sales Tax Level between August 2010 and August 2011 in absolute real dollars was \$687,652. This new expansion of the base on which the sales tax is charged was a factor in the increases during most 2011 months. But, since all of the months during which the Medicaid Managed Care sales tax was collected are now in both the 2011, 2012, 2013, 2014, 2015, 2016 and 2017 monthly figures, the influence of the base expansion on growth is now eliminated in the year over year September, October, November, and December 2017 figure on *growth* in the Cuyahoga County sales tax level. Going forward, the influence of this factor on the sales tax trend has entirely disappeared as an influence on the trend in 2013, 2014, 2015, 2016, 2017, and 2018 except for above inflation growth in the cost of health insurance, should that longtime trend continue.

It is known with certainty that the elimination of the Medicaid Managed Care sales tax is now having a catastrophic downward effect on the level of total sales taxes collected across Ohio and in Cuyahoga County during the last three months of 2017 and then into all 2018 months, depending upon the specifics in the new Ohio biennial state budget that should be finalized sometime early in 2018.

Steady declines in the rate of the sales tax plunge were present during all twelve months of 2011, and were highly welcome indeed. Actual increases for eighty-four consecutive months between October 2010 and June 2017 were a very welcome and extremely positive improvement. But, it will be considerably more difficult for monthly figures to continue growth during future 2018 months unless local employment and earnings begin to grow robustly instead of very slowly. The fact that Cuyahoga County’s job losses ceased during the third and fourth quarters of 2010 and during all quarters of 2011, 2012, 2013, and during the first three quarters of 2014 was a very helpful leading indicator. New data finding that despite job growth in Ohio and in Cuyahoga County during 2012 and 2013, average earnings generated by an Ohio job fell slightly by -0.1% during 2012 and 2013, is also very problematic. Instead of robust recovery in employment and earnings, both Ohio and the United States are currently experiencing quite slow labor market recoveries. Falling wages of surviving jobs except for increases for very high wage workers and large cuts in Government employment are slowing down the recovery. Newly released revisions to data for 2016 months between January and December find that Ohio has still not recovered the jobs that it lost as a result of the mild 2000s national recession, a rate of growth that is obviously too slow. Government employment losses continued to be a major problem in the data through November 2017. This negative public policy trend is still slowing down the rate of recovery substantially across Ohio.

An extremely welcome recent increase of 1,329 Manufacturing jobs in Cuyahoga County during the third quarter of 2010 and during subsequent quarters through an increase of 79 Manufacturing jobs during the second quarter of 2013 has been the chief cause of the currently ongoing local labor market recovery. The resulting local recovery from the 2000s recession is genuine, but that recovery remains quite slow. The Manufacturing job growth unfortunately ended during the third quarter of 2013 in Cuyahoga County, when Cuyahoga County *lost* 451 Manufacturing jobs.

At the current extremely slow rate of employment increases, it will take the Ohio labor market nearly 13 years to fully recover the -114,200 jobs that Ohio lost during the last sixteen years. The ongoing current recovery is genuine, but it remains extremely slow. **In Cuyahoga County, at the current slow rate of recovery will take a literally astonishing 664 years to recover all of the -139,202 jobs that Cuyahoga County lost during the lengthy and deep 2000s recession.**

In Ohio and also elsewhere in the United States, a gigantic -42,288 loss of Ohio jobs in Federal, State and Local government jobs during the past decade (-5.8%) is still the chief industrial culprit that is causing the current slow rate of growth in total employment. This statewide Ohio decline in Government jobs is by far the biggest long run factor slowing down the current rate of job growth in both Cuyahoga County and in the state of Ohio. In Cuyahoga County and in Ohio the return of substantial employment losses in Ohio is also very troubling. The current 0.0% job growth rate in Cuyahoga County is highly alarming.

Cuyahoga County Employment Growth by Industry, 3Q 2013 to 3Q 2014

Source: George Zeller from ODJFS NAICS QCEW ES-202

<u>NAICS INDUSTRY</u>	<u>JOBS 3Q 2013</u>	<u>JOBS 3Q 2014</u>	<u>13-14 JOBS # INCR</u>	<u>13-14 JOBS % INCR</u>
Agr, forestry fishing hunting	214	228	14	6.5%
Administrative and waste services	45,804	47,972	2,168	4.7%
Real estate and rental and leasing	13,427	13,675	248	1.8%
Local Government	69,618	70,720	1,102	1.6%
State Government	4,007	4,053	46	1.1%
Wholesale trade	32,402	32,747	345	1.1%
Construction	21,503	21,712	209	1.0%
Utilities	1,407	1,417	10	0.7%
Professional and technical services	44,246	44,474	228	0.5%
Accommodation and food services	55,694	55,799	105	0.2%
Other services, except public admin	20,656	20,623	-33	-0.2%
Health care and social assistance	127,948	127,742	-206	-0.2%
Arts, entertainment, and recreation	13,637	13,568	-69	-0.5%
Retail trade	62,798	62,442	-356	-0.6%
Manufacturing	70,073	69,622	-451	-0.6%
Educational services	18,723	18,568	-155	-0.8%
Federal Government	15,663	15,451	-212	-1.4%
Mgt companies and enterprises	21,938	21,556	-382	-1.7%
Finance and insurance	38,152	36,869	-1,283	-3.4%
Transportation and warehousing	19,718	18,965	-753	-3.8%
Information	12,885	12,311	-574	-4.5%
Mining	335	290	-45	-13.4%
TOTAL EMPLOYMENT	710,848	710,804	-44	0.0%

In the short term, the government employment losses increased as a result of the shutdown of the United States federal government, an ominous situation that was only resolved very late in 2013.

One key factor is noticeable as a cause of the now terminated eighty-one month positive streak in the sales tax trend. The positive trend was heavily concentrated in growth that has taken place in sales taxes collected on automobile sales. Sales taxes collected on goods other than automobiles have shown a noticeably less robust recent trend. This has been a major cause of the recently improved levels of sales taxes collected in both Cuyahoga County and in Ohio during most 2012, 2013, 2014, 2015, 2016, and 2017 months. The most recently available statewide December 2017 non-automobile Ohio decreased by a sharply decreasing -6.4% level. The same current monthly figure for the automobile sales tax was better, but it also declined at -1.4%. Combined, both sales tax categories generated a sharply declining negative -5.9% nominal decrease across Ohio in combined December 2017 sales taxes collected from all sources that fall to a negative level even before a downward adjustment for the October 2017 still relatively slow 2.0% rate of inflation. The Ohio data are also no longer influenced by the one time distortion caused by a large delinquent payment by a Cuyahoga County firm, which no longer impacts the trend data.

In another unfavorable development, the Ohio Office of Management and Budget reports a still discouragingly slow but improving September 2016 to September 2017 nominal *increase* of 1.0% in

Ohio personal income tax collections prior to the 2.0% adjustment for inflation that lowers the real growth rate to a loss. **The negative income tax trend during prior 2016 and 2017 months has been a distorted current measure of economic trends, since its cause was a significant reduction in the rate of income tax legislated in Ohio.** Overall, the current Cuyahoga County sales tax collection level growth currently is similar to still weak levels of growth being seen elsewhere in the state of Ohio through December 2017, no longer on a statistically distorted basis.

The nominal values of the 2010 sales tax collections were highly volatile from month to month. The technical factors and some timing issues in the collection of the tax led to that volatility. Similar monthly volatility has extended into 2011, 2012, 2013, 2014, 2015, 2016, 2017 and 2018. As a result, the smoothing of month to month volatility in the tax collection level by the real twelve month moving average has become increasingly important as a measure of the actual trend in Cuyahoga County sales tax collections and the underlying local economic trend. This report removes that volatility by the use of the twelve month real moving average.

The record-breaking monthly plunges in Cuyahoga County retail sales and sales tax collections for the last six months of 2010 were an enormous decimation of the level of resources available from the sales tax for the financing of government operations. Those plunges created a large budget deficit hole that will take quite a while to completely dig out of.

The record-breaking monthly plunges during the latter half of 2009 no longer impact the twelve month moving average for any 2011, 2012, 2013, 2014, 2015, 2016, 2017, or 2018 month. Thus, it will also be more difficult to register increases in the sales tax during future 2018 months, since the horrible 2009 and 2010 months are no longer the basis of comparison with current figures. Thus, actual increases in sales tax collections will therefore be increasingly influenced by trends in the local Cuyahoga County economy, and not by technical factors caused by the large expansion of the base on which the Ohio sales tax is collected or the mammoth record-breaking declines in 2009 and 2010.

Overall, the newly negative and quickly weakening -3.57% monthly January 2018 decrease in the Cuyahoga County real sales tax collection level reverses the July and August 2017 ending of the eighty-one consecutive month streak of growth and now ending a new two month streak of positive growth is a mixed but overall unwelcome development. Thus, given continued signs of relative weakness and slow growth rates in the local economic fundamentals, it will be important to carefully examine data for future 2018 months before a clear long term trend can be documented with certainty. The welcome end of Cuyahoga County's job losses in 3Q and 4Q 2010 data as well as in fresh 2012, 2013, 2014, 2015, 2016, and 2017 data is a positive sign looking forward. New data showing that average wages of jobs in have declined slightly in both Cuyahoga County and in Ohio is a further cause for concern, although that problem moderated during 3Q 2014. Newly downwardly revised weak Ohio job growth during more than the last full year is another major cause for concern. **This is particularly true since Ohio currently has extended a streak of 60 consecutive months of employment growth below the USA national average through October 2017. Further, the impact of the ongoing substantial decline in the price of oil, worldwide equity and bond market volatility, and the first three of several forthcoming interest rate increases by the Federal Reserve Bank is continuing to defy accurate impact projections from virtually all analysts.**

The one-time distortion from payment of delinquent taxes in June 2016 no longer distorts the Cuyahoga County sales tax figure. This technical factor ends that distortion that inflated the local figures between June 2016 and June 2017. Further, in addition, the 2017 and 2018 figures are

beginning a dramatic decline caused by the elimination of the Medicaid Managed Care Sales Tax in Ohio, apparently beginning in October 2017 and continuing into 2018.

Acknowledgment

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Monthly Data

Cuyahoga County Monthly Sales Tax Receipts, 1991-2017 Page 1
Year-to-Year Percent Increase in Real 12 Month Moving Average
Using October 2016 Dollars and the Consumer Price Index Deflator

<u>Month</u>	<u>% Incr</u>	<u>Month</u>	<u>% Incr</u>	<u>Month</u>	<u>% Incr</u>	<u>Month</u>	<u>% Incr</u>	<u>Month</u>	<u>% Incr</u>	<u>Month</u>	<u>% Incr</u>
12/90	2.0%	5/95	6.8%	10/99	2.5%	3/04	-0.8%	8/08	-0.9%	1/13	2.8%
1/91	3.6%	6/95	5.9%	11/99	4.2%	4/04	-3.5%	9/08	-1.6%	2/13	2.5%
2/91	-2.5%	7/95	3.9%	12/99	3.8%	5/04	-2.7%	10/08	-2.2%	3/13	2.3%
3/91	-2.0%	8/95	5.4%	1/00	2.5%	6/04	-0.3%	11/08	-2.0%	4/13	2.2%
4/91	-3.8%	9/95	3.2%	2/00	1.6%	7/04	0.9%	12/08	-2.2%	5/13	1.3%
5/91	-2.7%	10/95	2.2%	3/00	1.6%	8/04	0.2%	1/09	-3.7%	6/13	2.4%
6/91	-2.8%	11/95	3.7%	4/00	1.8%	9/04	0.6%	2/09	-5.4%	7/13	2.3%
7/91	-3.8%	12/95	4.7%	5/00	3.6%	10/04	3.1%	3/09	-7.6%	8/13	2.1%
8/91	-3.1%	1/96	4.2%	6/00	3.5%	11/04	3.1%	4/09	-6.4%	9/13	2.3%
9/91	-4.0%	2/96	5.3%	7/00	3.4%	12/04	2.5%	5/09	-7.3%	10/13	2.7%
10/91	-4.9%	3/96	4.4%	8/00	2.3%	1/05	4.0%	6/09	-7.8%	11/13	2.1%
11/91	-3.7%	4/96	3.6%	9/00	3.8%	2/05	2.9%	7/09	-9.7%	12/13	2.6%
12/91	-5.9%	5/96	2.8%	10/00	3.0%	3/05	3.0%	8/09	-10.0%	1/14	2.3%
1/92	-7.7%	6/96	1.8%	11/00	2.1%	4/05	5.9%	9/09	-10.4%	2/14	3.2%
2/92	-4.6%	7/96	3.2%	12/00	2.7%	5/05	4.7%	10/09	-10.4%	3/14	2.8%
3/92	-5.3%	8/96	1.7%	1/01	2.2%	6/05	0.6%	11/09	-10.8%	4/14	3.0%
4/92	-4.3%	9/96	2.1%	2/01	3.4%	7/05	-0.2%	12/09	-11.0%	5/14	4.1%
5/92	-3.5%	10/96	1.0%	3/01	2.2%	8/05	-0.5%	1/10	-10.2%	6/14	2.7%
6/92	-3.6%	11/96	1.5%	4/01	2.9%	9/05	-0.8%	2/10	-8.6%	7/14	1.9%
7/92	-3.3%	12/96	0.4%	5/01	-0.7%	10/05	-1.9%	3/10	-7.4%	8/14	2.1%
8/92	-3.0%	1/97	0.0%	6/01	-0.3%	11/05	-1.2%	4/10	-7.5%	9/14	2.3%
9/92	-2.9%	2/97	0.3%	7/01	-1.7%	12/05	-1.2%	5/10	-7.0%	10/14	1.7%
10/92	-1.8%	3/97	1.3%	8/01	-1.8%	1/06	-3.4%	6/10	-5.3%	11/14	2.1%
11/92	-2.5%	4/97	0.0%	9/01	-2.8%	2/06	-3.8%	7/10	-3.9%	12/14	1.4%
12/92	0.6%	5/97	-0.5%	10/01	-2.2%	3/06	-4.3%	8/10	-2.4%	1/15	2.1%
1/93	2.0%	6/97	1.0%	11/01	-3.5%	4/06	-4.5%	9/10	-0.5%	2/15	1.8%
2/93	0.9%	7/97	-1.5%	12/01	-4.3%	5/06	-3.6%	10/10	0.9%	3/15	3.1%
3/93	1.0%	8/97	0.1%	1/02	-4.5%	6/06	-2.8%	11/10	2.2%	4/15	2.8%
4/93	0.4%	9/97	1.6%	2/02	-4.9%	7/06	-3.5%	12/10	3.0%	5/15	2.9%
5/93	0.0%	10/97	1.7%	3/02	-4.6%	8/06	-2.8%	1/11	2.9%	6/15	4.1%
6/93	-0.6%	11/97	2.0%	4/02	-6.3%	9/06	-3.3%	2/11	2.9%	7/15	4.4%
7/93	-0.6%	12/97	2.0%	5/02	-5.1%	10/06	-3.8%	3/11	3.6%	8/15	4.6%
8/93	0.0%	1/98	3.1%	6/02	-5.6%	11/06	-4.0%	4/11	3.6%	9/15	3.9%
9/93	1.2%	2/98	2.6%	7/02	-4.8%	12/06	-3.3%	5/11	4.6%	10/15	4.8%
10/93	-0.2%	3/98	2.2%	8/02	-4.8%	1/07	-2.4%	6/11	4.7%	11/15	3.6%
11/93	2.3%	4/98	3.4%	9/02	-4.2%	2/07	-1.6%	7/11	4.6%	12/15	4.8%
12/93	-0.1%	5/98	4.3%	10/02	-4.3%	3/07	-0.8%	8/11	4.4%	1/16	4.5%
1/94	0.8%	6/98	3.2%	11/02	-1.3%	4/07	-3.2%	9/11	4.3%	2/16	3.8%
2/94	2.8%	7/98	5.7%	12/02	-1.4%	5/07	-3.2%	10/11	3.6%	3/16	2.8%
3/94	4.6%	8/98	3.6%	1/03	-1.7%	6/07	-2.4%	11/11	2.8%	4/16	3.3%
4/94	4.8%	9/98	3.3%	2/03	-2.5%	7/07	-1.5%	12/11	4.2%	5/16	2.4%
5/94	5.9%	10/98	3.6%	3/03	-2.1%	8/07	-1.2%	1/12	4.4%	6/16	4.6%
6/94	8.2%	11/98	2.3%	4/03	0.5%	9/07	-0.7%	2/12	4.3%	7/16	5.1%
7/94	10.5%	12/98	2.6%	5/03	0.7%	10/07	-0.1%	3/12	4.1%	8/16	4.6%
8/94	8.7%	1/99	2.8%	6/03	0.4%	11/07	-0.3%	4/12	4.3%	9/16	5.2%
9/94	9.5%	2/99	2.9%	7/03	-0.1%	12/07	-1.0%	5/12	4.2%	10/16	5.1%
10/94	12.8%	3/99	3.6%	8/03	0.5%	1/08	-1.0%	6/12	3.2%	11/16	6.0%
11/94	8.5%	4/99	2.7%	9/03	0.3%	2/08	-0.8%	7/12	4.1%	12/16	5.4%
12/94	9.3%	5/99	2.0%	10/03	-1.2%	3/08	-0.4%	8/12	4.0%	1/17	5.5%
1/95	8.2%	6/99	2.5%	11/03	-3.6%	4/08	0.0%	9/12	3.3%	2/17	6.2%
2/95	5.9%	7/99	2.2%	12/03	-3.1%	5/08	-0.2%	10/12	3.3%	3/17	6.4%
3/95	5.0%	8/99	4.2%	1/04	-2.4%	6/08	-0.6%	11/12	4.4%	4/17	5.9%
4/95	6.7%	9/99	2.4%	2/04	-0.9%	7/08	0.1%	12/12	2.9%	5/17	5.9%

Source: Greater Cleveland RTA and George Zeller

Cuyahoga County Monthly Sales Tax Receipts 1991-2017 Page 2
Year-to-Year Percent Increase in Real 12 Month Moving Average
Using October 2017 Dollars and the Consumer Price Index Deflator

<u>Month</u>	<u>% Incr</u>
6/17	0.5%
7/17	-0.1%
8/17	0.6%
9/17	0.0%
10/17	-0.3%
11/17	-1.3%
12/17	-2.2%
1/18	-3.6%

Source: Greater Cleveland RTA and George Zeller