



MICHIGAN PRIVATE AND PUBLIC SECTOR EMPLOYMENT LEVELS OVER THE BUSINESS CYCLE

Public sector employment, similar to private sector employment, is impacted by the ups and downs of the business cycle. A key difference between the two sectors is the responsiveness of changes in employment levels to changes in economic activity. In general, private sector employment tends to be more sensitive to the economy, especially in a downturn and in the short-term, while changes in public sector employment levels exhibit a delay relative to changes in the underlying business climate. To the extent that downturns in the business cycle are prolonged, the changes in public sector employment tend to mirror what occurs in the private sector.

The national economy officially slipped into recession in December 2007.¹ From December 2007 through July of this year, Michigan's total seasonally-adjusted monthly employment declined by 378,000 jobs, a loss of nine percent. Michigan, in many respects, never

pulled out of the previous recession that ran from March through November 2001. Total monthly employment began declining in June 2000 and has fallen by 827,400 jobs (21 percent) since.

This paper examines changes in public employment at the state and local levels in Michigan vis-à-vis the private sector over the current recession. It looks at the employment picture during the previous recession for comparative purposes and examines changes in employment, by sector, dating back to June 2000, Michigan's employment high water mark. This report looks at what may lie ahead in terms of public sector employment and the potential employment effects resulting from the Federal government's economic stimulus package. In light of both the past and future challenges facing public budgets at all levels of government, a clear understanding of public employment changes over the business cycle can be instructive.

Size of Public Sector in Michigan

While Michigan's total monthly employment picture has been on an uninterrupted downward trend for the past nine years, these figures paint a fairly broad picture and hide sector-specific variations that may or may not be consistent with overall trends observed in the totals. One way to break down the employment picture in Michigan is in terms of private and public sector jobs. Dividing Michigan's wage and salary workforce in such a manner is not unimportant because the public sector accounts for one of every six jobs in Michigan and is currently larger than the manufacturing sector, a historically key industry for the state.

The Michigan workforce, measured by seasonally-adjusted wage and salary employment consisted of 3,864,000 employees in July 2009 (most recent monthly data). Michigan's public sector makes up 16.6 percent of the total wage and salary employment (See

Table 1). Monthly data is best for examining changes in employment over the short run, such as during a recession. In order to avoid the problems with seasonality in the job market, the monthly numbers are adjusted to remove seasonal influences which can create ambiguities.

Public sector jobs are located primarily at the state and local level across the United States and in Michigan. In Michigan, federal government employees represent only 1.4 percent of the total jobs and 8.5 percent of

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¹ According to the National Bureau of Economic Research, a private research organization widely recognized as the authoritative source for dating the business cycle.

Table I
Seasonally Adjusted Michigan Employment: April - June 2009

	<u>Total (1,000s)</u>	<u>Percent of Total</u>
Total	3,873.3	100.0
Private Sector	3,229.9	83.4
Public Sector	643.4	16.6
Federal	54.7	1.4
State	175.9	4.5
Local	412.8	10.7

Source: Bureau of Labor Statistics; CRC calculations

the public sector jobs. The “state” category used by the U.S. Department of Labor includes institutions of higher education (instructional as well as non-instructional staff). The “local” government figures include both jobs in general governmental units (e.g., county, city, villages and township) and in special purpose units (e.g., road commission, park authorities and public K-12 schools).

State and local government jobs supply services to Michigan residents and the associated payrolls contribute to the overall economy, especially during times of recession. Government employees are responsible for the provision of

education, public safety, and health care services, the demand for which tends not to decline with downturns in the economy. Because payrolls are large components of public budgets (especially at the local level), government employment levels largely determine overall taxpayer costs.

The most recent U.S. Census of Government report found that state and local governments in Michigan accounted for nearly \$2.0 billion in monthly gross payroll expenses in March 2007. Annualizing this monthly payroll figure suggests that state and local government payrolls in Michigan approached \$24 billion. Michigan’s

total personal income in 2007 (i.e., the total measure of goods and services produced, including payrolls) amounted to \$346 billion with public sector payrolls accounting for roughly seven percent of the total. State and local public sector jobs, as evidenced by these payroll figures, are not an insignificant portion of Michigan’s economic base.

Viewed in relation to other states, Michigan’s state and local public sector is not very large. In 2006, Michigan ranked 45th among the states with 482 total state and local full-time employees per 10,000 residents, below the U.S. average of 539.²

Employment Stability over the Business Cycle

Since the start of the 2008 recession, total public sector monthly employment has remained fairly constant when contrasted with private sector employment, which has fallen 11 percent from its December 2007 level. The private sector has been shedding jobs since June 2000, but job losses have accelerated over the current

recession as a result of sizeable reductions in consumer demand for goods and services, both nationally and in Michigan. Governments do not experience the same downturn in the demand for their services during a recession. In addition to this “demand” explanation, there are several other factors contributing to the stability

observed in public sector employment over the business cycle.

² For a complete discussion of Michigan public sector employment levels relative to other states’, please see CRC Memorandum #1084, *State and Local Government Employment, A Comparative Analysis*, December 2007.

Mix of Public Sector Employment

The composition of the public sector explains some of the employment stability seen in this sector. The mix of government employment (state versus local) and composition (by job function) are important because factors, financial or otherwise, can affect various levels of government differently. In Michigan, local government is the predominant entity of the sector, accounting for about 70 percent of the total (See **Table 1**). Because the local government workforce is much larger than the state government workforce in Michigan, changes at the local government level drive changes in total public sector employment.

The mixture of revenues supporting local government budgets and jobs is different than what is found

at the state level. Michigan local governments, both general and special-purpose units, rely much more heavily on property taxes than does the state. For example, less than nine percent of the total \$26.1 billion in taxes collected by the State of Michigan in Fiscal Year 2008 came from property taxes dedicated to finance K-12 education spending at the local level. For nearly all local governments in Michigan, the property tax is the only own-source tax collected. Local governments collected more than \$12 billion of property tax revenues in 2007, while local income taxes, the next largest locally-levied tax, raised a total of \$473 million in that year.

After the property tax, state aid is the second-largest revenue source supporting local government budgets in the aggregate.

Depending on the type of local government in Michigan, state aid may play a much larger role. For example, of the total \$19.6 billion in revenue to support public K-12 education in Fiscal Year 2008, state aid accounted for nearly two-thirds (64 percent). State aid is funded primarily from sales and use taxes levied by the State.

The “state” government employment category in Michigan, similar to the “local” category is not monolithic. The two largest components of the “state” government grouping are the State of Michigan government (e.g., classified and unclassified employees of the executive, legislative and judicial branches) and higher education institutions, which includes hospitals. Revenues supporting the budgets of these two groups differ considerably. Higher educa-

Table 2
State and Local Employees by Function in 2007

<u>Function</u>	<u>Number of Employees</u>		<u>Percent of Total</u>	
	<u>State</u>	<u>Local</u>	<u>State</u>	<u>Local</u>
Education	108,224	283,143	59.3%	64.1%
Elementary and Secondary	1,072	250,846	0.6%	56.8%
Higher Education, Other, Libraries	107,152	32,297	58.7%	7.3%
Public Protection	19,809	46,156	10.8%	10.4%
Police	2,759	21,999	1.5%	5.0%
Fire	0	18,397	0.0%	4.2%
Corrections	17,050	5,760	9.3%	1.3%
Health and Hospitals	21,206	22,742	11.6%	5.1%
Public Welfare and Social Insurance	11,278	3,533	6.2%	0.8%
Transportation and Transit	3,053	16,276	1.7%	3.7%
Natural Resources, Parks, Water, and Sewerage	5,394	18,454	3.0%	4.2%
Judicial and Legal	1,564	10,662	0.9%	2.4%
Housing and Community Development	0	1,642	0.0%	0.4%
Utilities	0	799	0.0%	0.2%
Administration and Other	<u>12,126</u>	<u>38,474</u>	6.6%	8.7%
Total	182,654	441,881	100.0%	100.0%

Source: U.S. Census Bureau; CRC calculations

tion institutions largely rely upon a combination of state aid and tuition revenue to support their operations (i.e., employment). State of Michigan government employment levels are financed by a combination of federal and own-source revenues, almost all of which come from economically sensitive taxes.

Examining Michigan government employment by function reveals that education (all levels) dominates, with higher education making up nearly 60 percent of the total state workforce and local schools making up 64 percent of the total local workforce. State government's other large groupings are health and hospitals and public safety, 11 percent and 12 percent of the total, respectively. The second-largest employment category for local governments in Michigan is public safety at 10 percent of the total.

Revenue Stability of Some Public Budgets

Employment levels in the public sector, similar to the private sector, are largely determined by the amount of resources available over a given fiscal period. For public sector entities, this means the various revenue sources (taxes) used to finance annual budgets at the state and local level. Taxes are not immune to the ups and downs of the business cycle; however, some are more sensitive than others to changes in economic activity.

Local government tax revenue tends to be more stable than state tax revenue, in large part because of the heavy reliance on property taxes. Property tax revenue in

Michigan has been very stable historically. Looking forward this may change with the disruption in the real estate market and its effects on property values in Michigan. To date, the relative stability of this revenue source has helped to moderate the declines in the other large local government budget revenue source, state aid. State aid, whether provided to schools or to general units of government, has been negatively affected by the recession.

State tax revenues are much more sensitive to economic activity as evidenced by the current recession. Reductions in consumption and wages due to a slowdown in economic activity have resulted in falling state tax revenues from consumption and income taxes. Through August 2009, Michigan monthly state tax collections have been below their year-ago level in each of the last 10 months with one exception (January). August 2009 collections from the Personal Income Tax were 18 percent below the 2008 level and collections of Sales Tax down 9 percent from the year prior.

In contrast to the relative stability of local government revenues (and therefore employment), private sector revenues (i.e., sales) tend to be much more volatile, especially in the near term. A downturn in the business cycle decreases demand for private sector goods and services and prompts firms to cut variable costs, such as labor, in fairly short order.

When public budgets do require adjustments that affect employ-

ment levels, these modifications are delayed as governments are much slower than the private sector to react to declining revenues. Private sector employment levels react almost immediately to a slowdown in economic activity, but state and local governments tend to wait until the next budget year to make such adjustments. This can result in a lag between the onset of a recession and declines in government employment. Personnel adjustments at the local level in response to falling tax receipts may be delayed further by the timing of tax collections. Unlike major state taxes which are collected on a monthly basis, property taxes are collected just twice a year, based on annual assessments.

“Countercyclical” Programs

The demand for many government services (e.g., education, public safety, and health and hospitals) does not subside with the onset of a recession. Unlike the private sector where consumer demand for goods and services often diminish with the downturn in the business cycle, citizens continue to demand basic public services from government regardless of the condition of the underlying economic base upon which the services are financed. The demand for government services is largely driven by factors disconnected from changes in the business cycle. For example, the demand for elementary and secondary education services (largest local government employment category) is determined largely by the number of students enrolled. Because the financing of these services directly relies upon taxes

that are tied to economic activity in the state, the level of service actually provided is affected by changes in the business cycle.

In some cases, services provided by government are “countercyclical” in nature. This means that when the business cycle sours, demand for a program,

and therefore employment in that program, rises (e.g., unemployment insurance, job training). Demand for higher education, especially at the community college level, tends to rise with a slowdown in economic activity. Individuals return to school to seek new skills and job re-training for future employment opportunities

when the economy rebounds. Enrollments at Michigan community colleges and public universities have exhibited steady annual increases coinciding with the 2001 recession. Between 2001 and 2007, enrollments increased a total of 15 percent, and employment at these institutions 17 percent.³

Public versus Private Sector Employment in the Current Recession

Since December 2007, the official start of the current recession, changes in private and public sector employment in Michigan have taken divergent paths. Employment in Michigan’s private sector (total non-farm less government) declined by 387,900 jobs, for a cumulative decrease of 11 percent over the past 20 months (See

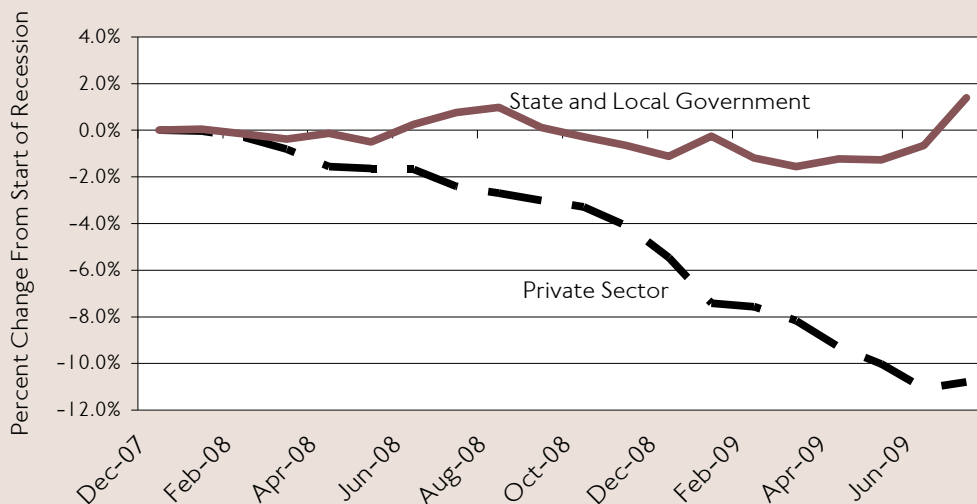
Chart 1). Losses in the private employment have been concentrated in the goods-producing sector, most notably manufacturing. Since the start of the recession, manufacturers have cut one of every four jobs in Michigan. The much larger service industries (in the aggregate) have also shed jobs, just not at the same rate as the

goods-producing industries.

On the other hand, public sector employment remained fairly stable and constant relative to the December 2007 level. Prior to July 2009, public sector employment was below the December 2007 level for nine straight months, albeit marginally (range

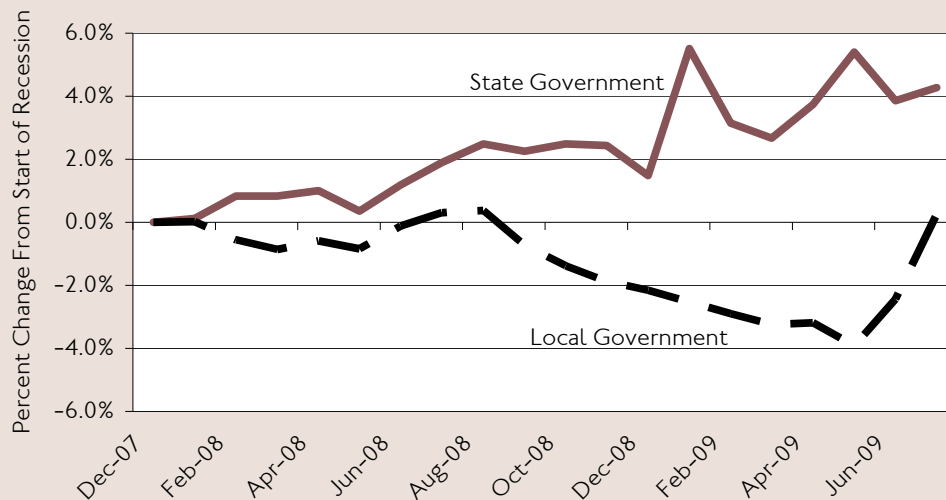
³ Enrollment data based on fiscal year equated student (FYES) for community colleges and universities combined. Employment data from the Integrated Postsecondary Education Data System, National Center for Education Statistics, 2007, includes both full- and part-time employees, which is similar to the Bureau of Labor Statistics data.

Chart 1
Seasonally Adjusted Monthly Employment by Sector since December 2007



Source: Bureau of Labor Statistics; CRC calculations.

Chart 2
Seasonally Adjusted Monthly Employment in Public Sector since December 2007



Source: Bureau of Labor Statistics; CRC calculations.

of -0.3 percent to -1.7 percent). By July 2009, public sector employment (state and local only) had increased by 8,300 jobs or about 1.5 percent, cumulatively, compared to the start of the 2007 recession, its highest level since the start of the recession.

Breaking down public sector employment by the level of government reveals two different stories. Local government monthly employment levels have remained near or below the December 2007 level for the entire 20-month period (See **Chart 2**). For the first nine months of the recession, local government employment hovered around the December 2007 level, before beginning a moderate, but steady, decline. In May 2009, employment in local government was four percent below its level at the start of the recession, although the last two months have shown month-over-

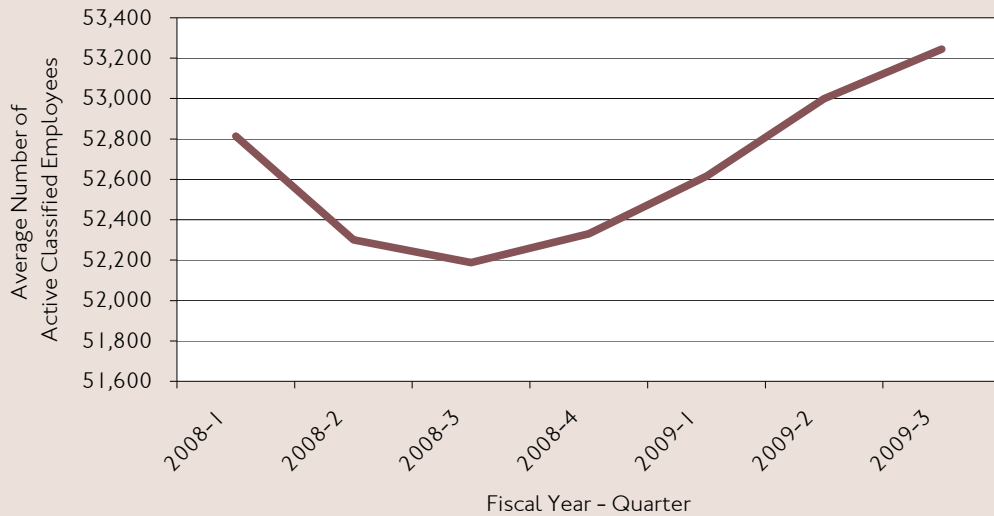
month job gains in this sector. The July 2009 level stands just barely above the December 2007 starting point, possible evidence of the impact of the federal stimulus spending (discussed further below).

In stark contrast, state government monthly employment levels have been above the December 2007 level consistently. As of July 2009, state employment was four percent greater than it was at the beginning of the recession. Dissecting this subsector sheds some light on what may be behind the increase in the state government component. As mentioned earlier, this grouping consists of both the “traditional” state workforce (State of Michigan) and employment at state universities and colleges. As can be seen in **Chart 3**, the State’s classified workforce (largest piece of State of Michigan government) has remained fairly stable during

the current recession, increasing by less than one percent between December 2007 and June 2009. This suggests that increases in the “state” government category occurred in the higher education component, which accounts for nearly 60 percent of the jobs in this grouping.⁴ (Note: Although stable since December 2007, the State of Michigan workforce level has contracted significantly since June 2001 (13 percent, when it consisted of 63,000 employees.)

⁴ The U.S. Bureau of Labor Statistics monthly, seasonally-adjusted employment data does not break down the “state” government category. Furthermore, we are unaware of a data source that tracks monthly/quarterly higher education employment in Michigan. In light of stable State of Michigan employment over the current recession, it stands to reason that another component is responsible for the observed job gains.

Chart 3
State of Michigan Classified Workforce: Four-Quarter Rolling Average since December 2007



Source: Civil Service Commission; CRC calculations.

Public and Private Sector Employment in the Prolonged Recession

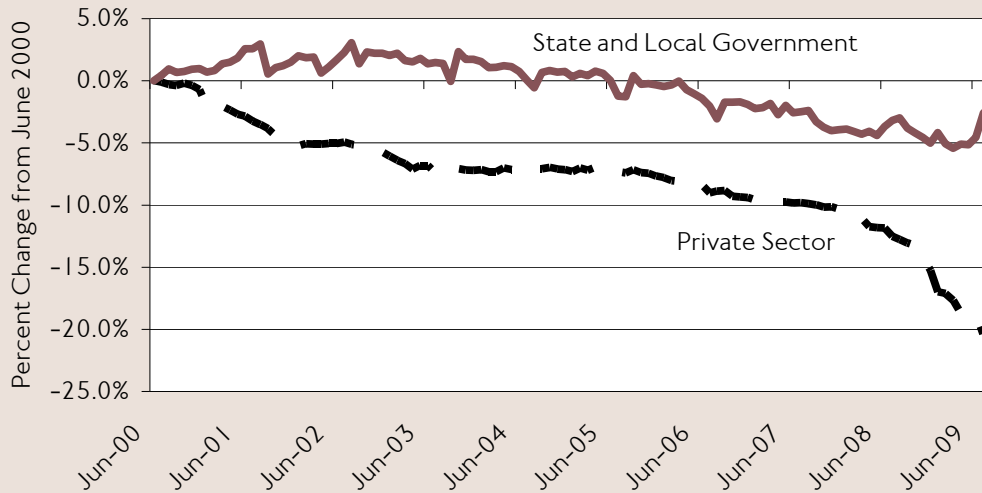
Michigan reached its peak monthly employment level in June 2000, with 4.7 million jobs. Since that time, total employment has declined steadily and consistently and stands at slightly less than 3.9 million jobs in July 2009; a loss of 21 percent. Changes in total employment and by sector during the current recession illustrate the effects that the business cycle can have on the job picture, but the long-term job loss in Michigan cannot be ignored. This is especially pertinent given the fact that

Michigan's total wage and salary employment level never experienced a rebound, coming out of the 2001 recession. The current data should be examined in this light to ascertain the extent to which the current trends are a continuation of, or deviation from, more long-run changes in Michigan's employment picture.

As can be seen in **Chart 4**, changes in Michigan public and private sector employment over the past nine years have exhibited a similar

trend for the most part – generally downward. The chart illustrates changes in monthly employment levels by sector (private versus public) since June 2000, the high water mark for total employment. (Note: June 2000 was the all-time high for private sector employment in Michigan, but public sector employment did not top out until August 2001.) Public sector (state and local only) monthly employment remained above the June 2000 level, albeit fairly modestly, until mid 2005. Beginning at

Chart 4
Seasonally Adjusted Monthly Employment by Sector since June 2000



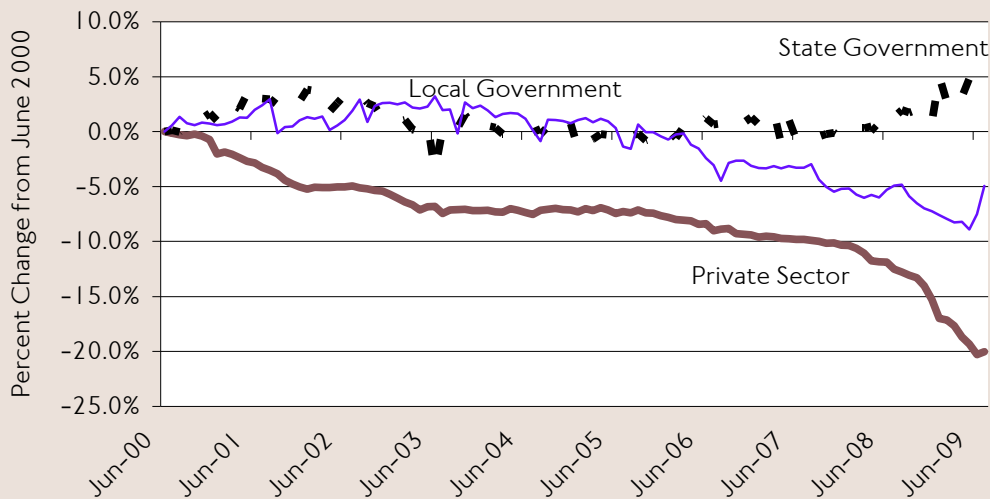
Source: Bureau of Labor Statistics; CRC calculations.

that time, the number of government jobs in Michigan began a general downward decline consistent with the trend in the private sector.

Unlike **Chart 4**, which aggregates state and local government employment data, **Chart 5** separates out these two components to illustrate two different trends since

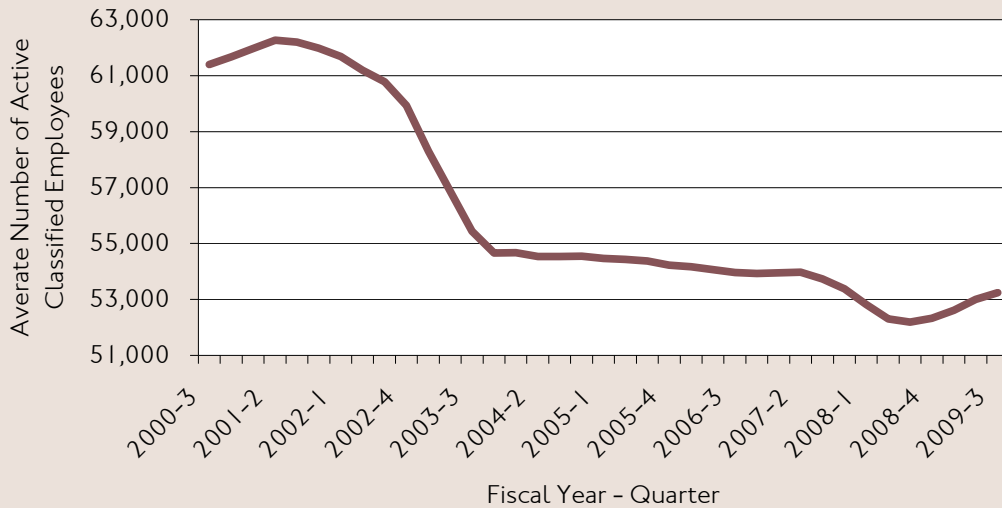
mid 2005. First, local government employment in Michigan showed steady declines over the last four years, with a cumulative job loss of nearly 6 percent (22,300 jobs)

Chart 5
Seasonally Adjusted Monthly Employment by Public Sector Compared to Private Sector since June 2000



Source: Bureau of Labor Statistics; CRC calculations.

Chart 6
State of Michigan Classified Workforce: Four-Quarter Rolling Average since June 2000



Source: Civil Service Commission; CRC calculations.

since June 2000. In contrast, state government employment showed a combination of stability and gains since mid 2005. As of July 2009, state government employment is 4 percent (6,300 jobs) above the June 2000 level.

Chart 5 clearly shows what drove the change from fairly stable monthly public sector employment up until mid 2005 to consistent declines after that point. The decline was fueled by what was

occurring in the local government job arena. The job losses in this subsector coupled with the relative size of this component, vis-à-vis state government, was sufficient enough to drive total public sector employment below the June 2000 level.

The stability observed in state government employment levels since the start of the decade has not been the result of additions to the State of Michigan workforce,

but rather other components of this segment of public sector employment. As evidenced by **Chart 6**, Michigan’s civil service workforce experienced steep quarter-over-quarter declines up until early Fiscal Year 2004, shedding nearly 14 percent of the total state workforce in a two-year period. Since that time, Michigan governmental levels have been fairly constant, falling from 54,500 (June 2004) to 53,200 (June 2009).

Table 3 sheds some light on the long-term annual trends in employment levels within each component of the public sector and private sector. Whereas, monthly seasonally-adjusted data is important for illustrating changes over shorter periods of time, annual data can be used to look at changes over a longer period. The benefit of the annual data over the monthly data is that it breaks down the individual public sector cat-

egories further, which provides a better understanding about what is taking place within each category over time.

Focusing on the state government level reveals that the sector, in the aggregate, has remained stable over the eight-year period, 2000 through 2008 – growth of 0.7 percent. This is confirmed in the monthly data. This stability hides sizeable changes at the sub-state

level, where employment levels at hospitals and educational institutions (primarily higher education) increased 27 percent and 9 percent, respectively. Employment levels in the comparable private sector category (i.e., education and health services) is up 21 percent over the period. This is the only private sector industry in Michigan with substantive growth over the last eight years.

Table 3
Non-Seasonally Adjusted Michigan Employment (1,000s): 2000 - 2008

Employment (by place of work)	2000		2008		Change from 2000 to 2008	
	Jobs	% of Total	Jobs	% of Total	Jobs	Percent
Total nonfarm employment	4,676.9		4,159.2		(517.7)	-11.1%
Private sector	3,995.5	85.4%	3,511.3	84.4%	(484.2)	-12.1%
Goods-producing	1,117.5	23.9%	736.8	17.7%	(380.7)	-34.1%
Construction and mining	219.1	4.7%	161.5	3.9%	(57.6)	-26.3%
Manufacturing	898.4	19.2%	575.3	13.8%	(323.1)	-36.0%
Private service-providing	2,878.0	61.5%	2,774.6	66.7%	(103.4)	-3.6%
Trade, transportation, and utilities	881.2	18.8%	769.4	18.5%	(111.8)	-12.7%
Information	76.7	1.6%	61.8	1.5%	(14.9)	-19.4%
Financial activities	209.4	4.5%	204.4	4.9%	(5.0)	-2.4%
Professional and business services	635.3	13.6%	557.0	13.4%	(78.3)	-12.3%
Educational and health services	502.1	10.7%	608.3	14.6%	106.2	21.2%
Leisure and hospitality	398.2	8.5%	398.1	9.6%	(0.1)	0.0%
Other services	175.3	3.7%	175.6	4.2%	0.3	0.2%
Public sector	681.4	14.6%	647.9	15.6%	(33.5)	-4.9%
Federal	60.4	1.3%	53.4	1.3%	(7.0)	-11.6%
State	169.9	3.6%	171.1	4.1%	1.2	0.7%
Education	92.3	2.0%	100.5	2.4%	8.2	8.9%
Hospitals	13.1	0.3%	16.6	0.4%	3.5	26.7%
Other	64.5	1.4%	54.0	1.3%	(10.5)	-16.3%
Local	451.1	9.6%	423.4	10.2%	(27.7)	-6.1%
K-12 education	244.5	5.2%	214.2	5.2%	(30.3)	-12.4%
Community colleges	21.4	0.5%	23.8	0.6%	2.4	11.2%
Hospitals	13.1	0.3%	13.6	0.3%	0.5	3.8%
Other	172.1	3.7%	171.8	4.1%	(0.3)	-0.2%
State and local	621.0	13.3%	594.5	14.3%	(26.5)	-4.3%

Source: Bureau of Labor Statistics; CRC calculations

The “other” category within the state component is comprised mainly of the State of Michigan workforce (classified and non-classified) and has decreased 16 percent. This reduction is consistent with the data presented from the Michigan Civil Service Commission.

In contrast, annual local government employment levels have declined six percent between 2000 and 2008. Both hospital and community college employment levels are up from the start of the period, 4 percent and 11 percent, respectively. Education employment at the K-12 level, however,

has fallen by 12 percent. This occurred, most likely, in response to the two forces facing public elementary and secondary schools in Michigan over the past eight years. First, schools have faced funding challenges resulting from minimal state revenue growth. Second, and more recently, state-wide public K-12 enrollments began declining in Fiscal Year 2004. Under Michigan’s school finance formula, general operational dollars are distributed on a per-pupil basis.

The different changes in annual employment levels over the period 2000 to 2008 marginally modified

the composition of the Michigan workforce. The public sector is slightly larger and the private sector is slightly smaller (**Table 3**) at the end of 2008 compared to 2000. The accelerated job losses over the current recession, again concentrated in the private sector, further added to the changes observed over the past eight years. Comparing the 2008 data with the most recent quarterly data (**Table 1**), reveals that Michigan’s private sector workforce, as a percent of the total, lost one percentage point (from 84.4 percent to 83.4 percent) and the public sector picked up one percentage point of the total (from 15.6 percent to 16.6 percent).

Looking Forward: Federal Stimulus Spending and Public Employment Levels

Michigan public sector employment, when compared to the private sector, has contracted minimally over the past nine years. As noted previously, this resulted from reductions in local government jobs not the state government subsector. The current economic recession and its impacts on public budgets will likely result in a further deterioration of public sector jobs in Michigan, especially in the area of education where local government jobs are concentrated. However, the Federal Government, through various provisions of the American Recovery and Reinvestment Act of 2009 or the “stimulus” package, will be pro-

viding state and local governments with additional financial resources to mitigate the employment effects of the current recession.

As the federal economic stimulus dollars flow to state and local governments, the observed slide in public employment levels may be temporarily suspended. One goal of the stimulus package is to preserve state and local services, most notably education. For example, Michigan public school districts will receive enhanced federal funding in 2009 and 2010 in both general per-pupil grants and earmarked funding to avoid reduc-

tions to staff that most likely would accompany the funding reductions from state and local taxes. While, the public employment impact of this funding is not fully known at this time, it will help Michigan state and local governments mitigate personnel cuts in the short-term. The longer-run outlook for Michigan public sector employment levels, similar to the private sector, is tied to the performance of the Michigan economy. As with the private sector, it may be some time, if ever, before the public sector employment level regains its high of August 2001.

Conclusion

Michigan public sector employment has been trending downward since mid 2005, which is not visible looking only at employment levels since December 2007. Whereas both total and private employment levels have declined

substantially since their peaks in June 2000, job reductions in government did not begin in earnest until more recently. Over the past four years, the employment trend in the public sector has mirrored what is taking place in the private

sector, without the same severity. Nonetheless, the short-term employment picture hides, to some degree, the gradual long-term shrinking of the public sector workforce in Michigan.

Data Used:

Monthly Employment Data by Sector (seasonally adjusted): U.S. Department of Labor, Bureau of Labor Statistics, Current Employment Statistics Program. www.bls.gov/sae/

Annual Employment Data by Sector (non-seasonally adjusted): U.S. Department of Labor, Bureau of Labor Statistics. www.bls.gov/sae/

State of Michigan Classified Workforce: State of Michigan, Civil Service Commission, Annual Workforce Reports. www.michigan.gov/mdcs

Government Employment and Payroll: U.S. Census Bureau, 2007 Census of Government. www.census.gov/govs/apes/index.html