



The Oklahoma Economy

2006 Economic Outlook

Outlook Update – OKC GM Plant Closing

by Mark C. Snead

On Monday, November 21, 2005, GM announced their decision to close the Oklahoma City auto manufacturing plant by early 2006. Our 2006 outlook for the state and the Oklahoma City metro area will be affected given the expected ripple effects the closure of a facility the size of the GM plant is certain to generate.

In this update, we provide a preliminary estimate of the net job impact on the Oklahoma City metropolitan area and the state as a result of the plant closing. Estimates of the economic impact by industry are combined with assumptions about the reemployment and out-migration rates of displaced workers in order to revise our employment forecasts for next year.

Summary of Findings:

1. The shutdown of the GM plant is expected to generate 13,400 direct, indirect, and induced job losses in 2006 and 2007.
2. The direct impact at GM is 2,600 jobs with \$140 million in labor income (\$53,850 per job). For comparison, statewide average labor income per employee is \$30,550.
3. The indirect impact at firms supplying GM is estimated at 7,700 jobs with \$280 million in labor income (\$36,360 per job).
4. Estimates suggest that 4,400 of the indirect job losses (\$190 million in labor income, \$43,180 per job) will occur in the higher paying manufacturing, transportation, warehousing, and wholesale trade sectors. The private services sectors are expected to experience a loss of more than 2,650 indirect jobs (\$76 million in labor income, \$28,680 per job).
5. Induced effects from reduced household spending will affect an estimated 3,100 jobs (\$86 million in labor income, \$27,740 per job) and will disproportionately affect certain services sectors that are typically affected by the spending of households, most notably retail, food services, accommodations, and health services.
6. Due in part to a strong state economy and limited opportunities elsewhere in manufacturing, laid-off workers affected by the closure will have a strong incentive to remain in Oklahoma.
7. Existing studies suggest that most displaced workers find work relatively quickly. However, older workers ages 55 and above tend to drop out of the labor force (including through retirement) at higher rates.
8. Average wages tend to fall slightly for displaced workers after reemployment. In recent survey data, 43% of displaced workers report earning the same or more in wages, 57% report earning less. About one-third report a wage decline of more than 20%, while 17% report a wage increase of more than 20%.
9. We anticipate that roughly 10,000 (75%) of the total 13,400 job impact will occur in 2006. After out-migration of 10%, 9,000 of the displaced workers are expected to remain in the state through 2006, of whom 60% (5,400) will be reemployed, 20% (1,800) will remain unemployed, and 20% (1,800) will drop out of the labor force. In total, the forecasted level of the 2006 state workforce is expected to decline by more than 4,600 workers (1,000 who out-migrate and 3,600 who remain unemployed or exit the labor force).
10. The remaining job impact is expected to occur in 2007 and should impart one-third the 2006 impact, or more than 1,500 workers exiting the labor force as a result of the plant closing.
11. Consequently, our initial 2006 state forecast of 23,500 new jobs (1.6% gain) will be revised downward by about 20% (4,600 workers) to 18,900 new jobs (1.26% gain).
12. Most of the job losses should be confined to the Oklahoma City area where the forecasted 2006 expansion of 10,500 jobs (1.9% gain) will be revised downward by 4,600 jobs, or nearly 50%, to 5,900 net new jobs (1.1% gain).
13. Lost labor income will total an estimated \$113 million in 2006, or approximately 20% of the current labor income earned by displaced workers. The lost income represents only 0.2% of state, and 0.6% of OKC metro, total wage and salary income.
14. We believe that the shutdown is a temporary shock that will not affect the overall trend rate of job growth at the state level; however, there remains some risk that the shutdown may marginally reduce the core OKC metro job growth rate in 2006 and 2007 and weaken job formation beyond our estimates.

Broader Manufacturing Woes

The GM plant closing is merely another symptom of the weakness being experienced across the broader domestic manufacturing sector. In total, the state has lost more than

35,000 manufacturing jobs (1 of every 4) statewide since early 2001, a rate of more than 7,000 per year. The bulk of the job losses occurred in the 2001-2003 period when manufacturing jobs were disappearing at a rate of more than 10,000 per year. The Oklahoma City area has shouldered the largest relative share of the manufacturing job losses statewide, having shed 15,000 jobs since 1999 in a continuous contraction of the region's manufacturing base. The Tulsa area lost approximately 9,000 manufacturing jobs in the same period.

Most of the job losses statewide during the last recession occurred either in manufacturing or in the manufacturing-related wholesale trade, transportation, and warehousing sectors. These job losses created large economic ripple effects and contributed to the state underperforming the nation during the recession. Oklahoma manufacturers have battled a consistent downward trend in the price for state manufactured goods since 1998 as low-cost foreign competitors continue to squeeze the margins of domestic producers. Nowhere has this been felt more intensely than in the domestic auto industry. The good news is that the layoffs in manufacturing have mostly ended across the state as job losses reached a bottom in the past 18 months, and output in the industry is increasing once again. Unfortunately, there is little evidence that manufacturing employment will bounce in 2006 and is unlikely to offer much potential for absorbing workers displaced by the shutdown.

Economic Impact of the Plant Closing

From an economic impact perspective, auto manufacturing is well known to generate very large ripple, or multiplier, effects, in large part because they attract related companies to the region. Most suppliers locate in the region surrounding an assembly plant for one reason – to supply the plant. The only other industry in the state that exerts similar economic influence is the oil and gas sector, one which has offered the state ample experience with managing severe industry contraction in the past. Despite the bleak nature of the closing, the shutdown of the GM plant is a minor economic event relative to the oil bust, as evidenced by the 90,000-plus high wage jobs the state's energy industry has shed the past twenty years. This historical experience should undoubtedly assist the state in navigating certain aspects of the current crisis.

Currently, the OKC metro area has more than 8,000 transportation equipment manufacturing wage and salary workers. About 1,500 work in aerospace and other transportation sectors unrelated to auto manufacturing, leaving roughly 6,500 workers in the area directly tied to either the GM plant or the broader auto industry. Using

multiple job databases to categorize the 6,500 workers by activity, our estimate is that approximately 2,800 work in auto assembly and body manufacturing (NAICS 3261 and 3262) and 3,700 in auto parts manufacturing (NAICS 3263).

The impact on the OKC metro area of the loss of the plant will be pervasive. For convenience, we use conventions from standard economic impact analysis to categorize the varying expected impacts into three effects:

1. direct effect – the economic activity generated by the plant itself;
2. indirect effect – the economic activity generated by GM doing business with other state firms, including auto parts suppliers;
3. induced effect – the economic activity generated by the spending of households working for either GM or other firms doing business with GM.

The three effects provide a convenient way to describe the chain of events that occur as the plant closes (direct effect), then impacts those firms that support and supply the plant (indirect effect), and then finally affects the broader regional economy as worker's incomes and spending patterns are affected (induced effect). Our estimates of the impacts are discussed next.

Direct Effect. The GM plant currently employs approximately 2,600 workers earning \$140 million in annual labor income (\$53,850 per job).

Indirect Effect. The shutdown will indirectly affect all suppliers providing either goods or services to the facility. Many suppliers are located in the state solely to supply the production line at the plant and most of these firms will have to find alternative markets for their production or shut their local operations.

Our estimates suggest that as a result of the 2,600 direct jobs lost at GM, an additional 7,700 indirect jobs (\$280 million in labor income, \$36,360 per job) will be lost as the plant shuts down and GM no longer makes direct purchases from other state-based businesses.

We expect approximately 4,400 of the indirect job losses (\$190 million in labor income, \$43,180 per job) to occur in manufacturing, transportation, warehousing, and wholesale trade. The private services sectors (e.g. financial services, food service, etc...) are expected to experience a loss of more than 2,650 indirect jobs (\$76 million in labor income, \$28,680 per job). The plant closing should also reduce federal, state, and local government payrolls by approximately 150 workers (\$6

million in labor income, \$40,000 per job). All other industries (including agriculture, construction, and utilities) are projected to see combined losses of nearly 500 indirect workers (\$10 million in labor income, \$20,000 per job).

Induced Effects. Induced effects reflect the expected decline in economic activity as a result of reduced household spending by workers at both GM and businesses supplying GM. It is the induced effects that represent the greatest source of uncertainty when modeling the closure of the plant. The expected decline in household income and spending is difficult to estimate because it is dependent upon many factors including union bargaining agreements, the availability and duration of unemployment compensation payments, the likelihood of workers leaving the state to find work or retire, the number of workers finding replacement jobs, the willingness of workers to spend temporarily from savings or debt, the number of new businesses formed by laid-off workers, the ability of existing businesses to find new customers for new or existing products, etc....

Our estimates suggest that the induced effect from reduced household spending represents approximately 3,100 jobs (\$86 million in labor income, \$27,740 per job). The induced effects will disproportionately affect certain services sectors, most notably retail, food services, accommodations, and health services; in general, those industries typically affected by the spending of households. The relative economic impact of the induced effects is less severe than both the direct and indirect effects because the affected industry sectors are mostly services and pay below the state average (\$30,550) in labor income per employee.

Economic Impact Does Not Equal Economic Outcome

Based on our estimates of the indirect and induced effects, each job at the plant supports 4.2 additional workers in the state economy. Economic impact estimates, however, merely provide an estimate of the economic linkages between the GM plant and the state economy as they exist today. While they provide an indication of the potential lost economic activity as a result of the plant closing, they do not account for the fact that we live in a dynamic economy with an ever-changing structure where capital is guarded closely and workers adjust to changes in labor market conditions.

Mitigating Factors. The U.S. and Oklahoma economies have a long history of business formation and destruction and several mechanisms are in place to mitigate the effects of worker displacement and lost income. Most of these

forces work to reduce the size of the expected negative ripple effects. For example, the existing union bargaining agreement will provide pay through 2006 and into 2007 to GM workers. Many workers will retire and receive a stream of income payments, while some workers who choose to accept early retirement and stay in the state will take another job and may see an increase in their earned income. In many cases, laid-off workers will seek replacement jobs (often more than one) or start new businesses. Others will seek additional training and education that can have a significant impact on their earnings over the remainder of their working life.

Out-Migration is a Concern. One factor that intensifies the negative effect of the plant closing on the state economy is the decision of workers to leave the state. GM has stated that some workers will have the option to accept early retirement (staying either in the state or transferring out of state), transfer to another GM facility out of state, or be laid-off and find work elsewhere (either in state or out of state). Laid-off workers at companies indirectly affected by the shutdown will also be faced with the decision to stay in the state or seek employment elsewhere. Workers who transfer to another GM facility, and those who retire out of state or find a job in another state, will have the greatest negative impact as their purchasing power will leave the state. Those who accept early retirement and stay in Oklahoma, and those who find another job in the state, will have the least impact.

Why Workers Will Stay in Oklahoma. We assume that laid-off and retiring auto-related workers, as well as workers indirectly affected by the closure, will have a strong incentive to remain in Oklahoma for four reasons: first, the weakness in the domestic auto industry has eliminated many opportunities for auto-related workers to move to other states in order to remain in the same craft; second, the manufacturing sector in general remains weak across the country and cannot easily absorb workers into similar occupations; third, most workers began working at the plant more than two decades ago and have settled into the OKC metro area; and, fourth, and possibly most important, is that their employment prospects are very good where they currently are with job growth in the state at least as strong as hiring at the national level. Research also confirms that displaced workers tend to seek work in the same location as long as the market offers adequate opportunity and is not too 'congested' with job seekers. For example, a Bureau of Labor Statistics study (Helwig, 2001) found that only 9% of workers displaced in the January 1997 to December 1998 period had moved to another area by February 2000.

Strong State Economy Aids Displaced Workers. The state economy is currently growing at a rapid pace and will be able to quickly absorb many of the displaced workers. More importantly, the Oklahoma City metro area is currently the strongest part of the state and is far outpacing job growth at the national level. Strong demand throughout the state for workers has pushed the latest state unemployment rate down to 4.3%. Before the plant shutdown announcement, the state was forecasted to add more than 23,500 jobs in 2006 and should offer ample capacity to absorb many of the workers; the OKC metro area was projected to add 10,500 new jobs in 2006. Likewise, the Tulsa metro area has finally recovered and is currently adding jobs at a rapid pace.

Some of the workers may find transitional employment in other goods-producing jobs in the surging energy sector and the rebounding construction sector. As discussed earlier, the other goods-producing sector, manufacturing, is unlikely to provide net new jobs for displaced workers in 2006. Nevertheless, many of the workers must undoubtedly make the job transition to the services side of the economy. It is well known that unless workers have significant education or specialized skills, most services sector jobs pay below state average wages. It will be a combination of the ability of the services sectors to generate enough jobs to absorb workers and the process of preparing workers for transitional jobs that largely determines the net impact of the shutdown and the duration of the transition for workers.

Data on Displaced Workers and Reemployment Rates

Ongoing Census Bureau surveys of displaced workers provide a great deal of evidence on the probable transition path for the average worker affected by the GM plant closing. The latest survey examines long-tenure workers (workers displaced from a job they held at least 3 years) who were displaced between January 2001 and December 2003 and details their employment status as of January 2004. The average time since displacement for workers in the survey is approximately 1.5 year.

The dataset suggests the following outcomes for displaced workers in the most recent survey:

1. Most displaced workers find transition jobs fairly quickly – 65% found alternative employment, 20% remained unemployed, and 15% dropped out of the workforce (for reasons including retirement).
2. 69% of displaced workers ages 25 to 54 were reemployed, versus 56% for those ages 55 to 60; however, 20% of older workers ages 55 to 60 dropped out of the labor force.
3. Management workers (67%) were more likely to return to work than production workers (62%).
4. Manufacturing workers were slower to reenter the labor force (60%) than most industries.
5. Men were more likely to return (68%) than women (61%).
6. 43% of displaced workers reported earning the same or more in wages, 57% report earning less. About one-third reported a wage decline of more than 20%, while 17% reported a wage increase of more than 20%. A review of the literature on displaced workers (Kletzer, 1998) finds that real earnings fall on average by 13%.
7. Manufacturing workers tend to experience the largest decline in wages after displacement.
8. Workers who received written advance notification that their jobs would be terminated were no more likely to be reemployed.

Given the current strength of the labor market in the OKC area, and because the labor market was unusually weak during the survey period, these estimates likely serve as a lower bound on the probability that local displaced workers find transitional employment by the end of 2006 or early 2007. A Bureau of Labor Statistics report (Hipple, 1999) using data from the January 1995 to December 1996 survey of displaced workers, a period with a much stronger national labor market, found that 83% of those surveyed were reemployed by February 1998. In addition, workers ages 45-54 in the February 1998 survey had an average of only 11.6 weeks without work following displacement.

Revised 2006 Economic Outlook

In general, we believe that the GM plant shutdown is a temporary economic shock that will have a significant and measurable impact on job growth in the Oklahoma City metro area, and consequently at the state level, in 2006. However, the current momentum, size, and diversified-nature of the Oklahoma City metro area economy should allow the region to absorb the plant closure in 2006 and 2007 without a detrimental shift in the long-run growth potential of the region. The impact will be confined largely to the Oklahoma City metro area; however, as a result of the interconnected nature of the state economy, the effects will nevertheless slightly impact the Tulsa area job recovery next year as well as growth rates in the rural areas.

Our revised employment outlook for 2006 is based on the following additional assumptions:

1. The plant will cease production in the first quarter of 2006 and will not resume production or retool. Most area auto parts suppliers will stop production in 2006. In addition, no substantially equivalent use will be uncovered for the existing GM production facility and workforce.
2. It will take more than one year to fully realize the impacts of the plant shutdown - 75% of the projected direct, indirect, and induced job and income losses occur in 2006 and the remaining 25% occur in 2007. Some of the impact is pushed back into 2007 because GM plans to continue production in early 2006 and likely will have to maintain some employment in a transitional shutdown period. Similarly, not all suppliers will make immediate and total layoffs. The induced effects will likewise take time to ripple through the regional economy.
3. A total of 13,400 net jobs are expected to be lost (\$506 million in labor income, \$37,760 per job) due to the shutdown, with 10,050 of the expected job losses in 2006 and the remaining 3,350 expected in 2007.
4. 10% of the 13,400 jobholders affected by the shutdown leave the state, either transferring to another GM facility or moving to retire or work in another state.
5. Of the displaced workers who remain in the state, 60% will be reemployed in 2006, 20% will retire or drop out of the labor force, and 20% will remain unemployed.
6. GM workers will receive current pay levels through 2006. The average wages of other displaced workers are expected to fall by 15% when reemployed. Workers who drop out of the labor force will receive a 40% reduction in income, while unemployed workers receive a 60% reduction in income.

Based on the above assumptions, roughly 10,000 (75%) of the total impact of 13,400 jobs will occur in 2006. After out-migration of 10%, 9,000 of the displaced workers are expected to remain in the state through 2006, of whom 60% (5,400) will be reemployed, 20% (1,800) will remain unemployed, and 20% (1,800) will drop out of the labor force. In total, the forecasted level of the 2006 state workforce is expected to decline by more than 4,600 workers (1,000 who out-migrate and 3,600 who remain unemployed or exit the labor force). The remaining job impact is expected to occur in 2007 and should impart one-third the 2006 impact, or more than 1,500 workers exiting the workforce as a result of the plant closing.

Our initial 2006 state forecast of 23,500 new jobs (1.6% gain) will be revised downward by 4,600 jobs, or at least 20%, to 18,900 new jobs (1.26% gain). Because most of

the job losses will be confined to the Oklahoma City area, the forecasted 2006 expansion of 10,500 jobs (1.9% gain) will be revised downward by nearly 50% to 5,900 net new jobs (1.1% gain).

Lost labor income is expected to total \$113 million in 2006 (20% of current labor income) and another \$38 million in 2007. For comparison, the expected lost income next year represents only approximately 0.2% of current state wage and salary income of \$50 billion annually, and only 0.6% of OKC metro area wage and salary income of \$18 billion.

While these estimates depend upon the metro and state economies not experiencing any additional collateral weakness as a result of the shutdown, we believe that the shutdown is a temporary shock that will not affect the overall trend rate of job growth at the state level. However, there remains some risk that the shutdown will marginally reduce the core OKC metro job growth rate in 2006 and 2007 and weaken job formation beyond our estimates.

A full revision of the 2006 Oklahoma Economic Outlook will be released in January 2006 and made available at economy.okstate.edu.

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