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An Analysis of the Economic and Fiscal Impacts of Potential UAW Strike Scenarios

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Executive Summary

This memo summarizes the simulated economic and fiscal impacts of a series of hypothetical strike scenarios by UAW workers at the Detroit Three automakers this year.¹ We find that the economic and fiscal impacts of a strike would depend largely on its length and scope. A short strike would have a small impact, with limited spillovers into the aggregate economy, regardless of which automaker were targeted. A prolonged strike or one involving multiple automakers, on the other hand, would cause a much larger disruption to the national and state economies.

We estimate that, within Michigan, a four-week strike involving all UAW workers at Stellantis would result in 58,000 total job losses by the strike's end. Statewide job losses from a four-week strike would come to 54,000 for a strike at Ford and 49,000 for a strike at GM. Statewide cumulative personal income losses would range from \$140 million for a four-week strike targeting GM and \$150 million for a strike targeting Ford to \$170 million for a strike targeting Stellantis. State tax revenues would decline by a total of \$10–\$12 million in a four-week strike depending on the target company. Cumulative personal income losses mount for each additional week that a strike persists. Spillover effects to suppliers and the broader economy also continue to spread, reaching their full effect at eight weeks in our simulations.

An eight-week strike at Stellantis would lead to 112,000 total job losses in Michigan and 315,000 nationally. For an eight-week strike at Ford, job losses would be 105,000 in Michigan and 434,000 nationally. An eight-week strike at GM would result in 96,000 total job losses in Michigan and 432,000 nationally. Cumulative national personal income losses from an eight-week strike total \$1.9 billion for a strike at Stellantis, \$2.5 billion for a strike at GM, and \$2.6 billion for a strike at Ford. State tax revenues would decline by \$41.2 million from an eight-week strike at Ford, \$37.6 million from an eight-week strike at GM, and \$44.4 million from an eight-week strike at Stellantis.

We did not simulate scenarios featuring a strike at multiple automakers simultaneously. We judge, however, that the impacts of a strike at all three automakers would be more quickly felt, but of roughly the same magnitude, as the sum of the impacts we estimated for strikes at each automaker individually. A long-term strike against all three automakers could therefore cause over 300,000 job losses in Michigan, or nearly one-third of the job losses the state experienced at the start of the COVID-19 pandemic. We would expect a much faster rebound than the state experienced after the pandemic, however.

¹ The analysis was conducted by the University of Michigan's Research Seminar in Quantitative Economics (RSQE). We estimated economic impacts nationally, in Michigan, and in the nine other states with significant Detroit Three manufacturing activities. We also estimated fiscal impacts on state tax revenues for the state of Michigan.

Introduction

The current contracts between the UAW (officially “The International Union, United Automobile, Aerospace and Agricultural Implement Workers of America”) and the Detroit Three automakers expire on September 14, 2023.² Initial negotiations for new contracts kicked off on July 13 with Stellantis, July 14 with Ford, and July 18 with GM.³ If the past pattern holds, the new contracts will extend for four years, to September 2027.

Given the EV transformations currently underway in the auto sector, the UAW will be looking to establish as much security as possible for its members. Top concerns include what labor demand will look like in the new EV landscape and how to ensure that wage gains keep pace with high inflation and record automaker profits. Those concerns, combined with the new leadership at the UAW, are leading industry analysts and experts to judge that there is an elevated risk of a significant strike this fall upon the expiration of the current contracts.⁴

This memo analyzes the economic impacts of various strike scenarios associated with the 2023 contract negotiations between the UAW and the Detroit Three automakers. We estimate the economic impacts on the ten states where the Detroit Three automakers have significant production activities as well as on the balance of the United States. We also estimate the impacts of the various strike scenarios on state tax revenues in the state of Michigan.

Background on Contract Negotiations

Table 1 displays the years of contract negotiations between the Detroit Three automakers and the UAW since 1960. The table shows whether each contract year featured a company-wide strike, and if so, the strike’s duration, the number of striking workers, and the company of the striking workers. There were other local strikes during this period at individual plants that are not included in the table, some of which caused major disruptions. Two notable local strikes, both in Flint, were the 1998 GM strikes at Flint

² The Detroit Three automakers are Ford Motor Company (Ford), the General Motors Company (GM), and Stellantis N.V. (Stellantis).

³ Lawrence, Eric D., Phoebe Wall Howard, and Jamie L. LaReau, “Here’s what happened when UAW, Detroit Three leaders kicked off bargaining,” *Detroit Free Press*, July 20, 2023. <https://www.freep.com/story/money/cars/2023/07/20/uaw-negotiations-ford-gm-stellantis-tavares/70435912007/>

⁴ Grzelewski, Jordan, “Prominent auto analyst on UAW contract talks: ‘I think we’re going to see a strike,’” *The Detroit News*, June 21, 2023. <https://www.detroitnews.com/story/business/autos/2023/06/21/bank-of-america-analysts-expect-uaw-strike-during-auto-talks-this-year/70343417007/>

Metal Center and Flint East, which halted most of GM’s production in North America, and the 1969–1970 strike at GM’s Fisher Body 2 plant, which persisted for 136 days.

Table 1
UAW Contract Years Since 1960 and Company-Wide Strikes with the Detroit Three Automakers

Year	Company	Days	Number of Workers
1961	Ford	17	120,000
1964	GM	27	300,000
1967	Ford	46	150,000
1970	GM	67	400,000
1973	Chrysler	9	117,000
1976	Ford	20	165,000
1979		<i>No Strike</i>	
1982		<i>No Strike</i>	
1984		<i>GM Strike in Canada, but not U.S.</i>	
1985	Chrysler	12	60,000
1987		<i>No Strike</i>	
1990		<i>No Strike</i>	
1993		<i>No Strike</i>	
1996		<i>No Strike</i>	
1999		<i>No Strike</i>	
2003		<i>No Strike</i>	
2007	GM	2	73,000
2011		<i>No Strike</i>	
2015		<i>No Strike</i>	
2019	GM	40	48,000

Table 1 reveals several noteworthy patterns in the contract-year national strikes. First, the UAW has never led a strike at more than one company during a contract year. Some observers believe that a strike in the current round of negotiations could potentially involve all three Detroit-based automakers.⁵ If so, that would be a departure from the historical pattern. Second, strikes since 1960 have tended to be fairly short, lasting a few days to a few weeks. The longest company-wide strike was at GM in 1970, which lasted 67 days. Third, between 1961 and 1976 the contract negotiations always included a strike. More

⁵ LaReau, Jamie L. and Eric D. Lawrence, “UAW to bring militant negotiations like Detroit Three haven’t seen in years, experts say,” *Detroit Free Press*, March 27, 2023. <https://www.freep.com/story/money/cars/general-motors/2023/03/27/shawn-fain-uaw-detroit/70033882007/>

recently, strikes have been relatively rare. For example, in 2015, Fiat Chrysler’s UAW workers rejected the first contract and forced a renegotiation, without a strike. In 2019, UAW members at General Motors went on strike for 40 days. The 2019 strike was the second-longest companywide strike since at least 1960, causing GM to lose an estimated \$3 billion in earnings.⁶

Another important lesson shown in Table 1 is that the experience of negotiations between the Detroit Three automakers and the UAW has been highly varied over history. Our analysis is not meant as a forecast or to suggest that any particular outcome is likely. We believe that many different outcomes are possible in terms of the negotiations and potential strike scenarios.

We have therefore analyzed the impacts of a potential strike against each of the Detroit Three automakers. We have considered potential strike durations ranging from one to ten weeks, and we have estimated the impacts of a strike week by week. We considered companywide strikes, assuming that all UAW workers at all facilities owned by a given automaker participate in the strike. We have not formally analyzed the impacts of a potential strike against two or three of the Detroit Three automakers simultaneously for this memo, but we comment briefly on how the impacts of a simultaneous strike may differ from the estimates in the scenarios we considered.

Data on Detroit Three Automakers’ Production and Employment

There are nine states with Detroit Three assembly facilities. In descending order of production, they are Michigan, Kentucky, Missouri, Ohio, Texas, Illinois, Indiana, Kansas, and Tennessee.⁷ New York does not host any assembly plants, but it is home to a Ford Stamping plant, two GM component plants, and a GM engine plant, together employing nearly 4,300 workers. According to the companies’ websites, all of the Detroit Three manufacturing facilities in the United States are located in the nine states with assembly plants plus New York. Therefore, we estimate separate impacts for each of those ten states in our simulations. We also include a “Rest of the U.S.” region in our simulations to account for spillover effects across the auto sector and broader economy.

Table 2 summarizes the estimated numbers of UAW workers by state and company. We collected this data during July 2023 from facility information listed on each of the company’s websites and

⁶ Boudette, Neal E., “Strike Will Cost G.M. Nearly \$3 Billion in 2019 Earnings, Company Says,” *New York Times*, October 19, 2019. <https://www.nytimes.com/2019/10/29/business/gm-earnings.html?smid=url-share>

⁷ Wards Intelligence, “North America Vehicle Production by State and Plant, 2018–2022,” March 21, 2023.

supplemented these figures with our own calculations where necessary.⁸ Based on discussions with industry experts, we assumed that all listed hourly employees at production facilities in the United States are UAW members in our simulations.

We estimate that Michigan has over 66,000 total UAW workers at Detroit Three facilities, the most in the nation, with roughly 22,000 at Ford, 20,000 at GM, and 25,000 at Stellantis. Ohio has the next highest number of Detroit Three UAW workers, with over 16,000. In total, we estimate nearly 140,000 UAW workers at Detroit Three facilities across the United States.

Table 2
Estimated UAW Workers at Detroit Three Facilities by State, July 2023

State	Ford		GM		Stellantis		Total
	Assembly	Other	Assembly	Other	Assembly	Other	
Michigan	12,247	9,759	10,780	9,092	20,144	4,390	66,412
Ohio	1,661	4,733		3,840	5,584	422	16,240
Kentucky	11,895		1,248				13,143
Missouri	8,452		3,903				12,355
Indiana			3,754	1,478		6,231	11,463
Illinois	4,585	1,036					5,621
Texas			5,116				5,116
New York		730		3,143			3,873
Tennessee			2,564	894			3,458
Kansas			2,054				2,054
Total	38,840	16,258	29,419	18,446	25,728	11,043	139,734

Sources: Estimated using facility information from Ford, GM, and Stellantis corporate websites.

Methodology and Key Assumptions

We use the REMI PI+ model to analyze the strike scenarios under consideration.⁹ The REMI model is a widely used model for economic impact analysis. Our version of the model divides economic activity into 70 sectors spanning eleven geographical regions. The eleven regions comprise the nine states with Detroit Three assembly production, New York State, and the rest of the United States grouped into a single region. For this analysis, the inclusion of the “rest of the United States” region allows us to account fully for macroeconomic feedback effects.

We model 10 separate strike scenarios for each company, each scenario extending the duration of the hypothetical strike by an additional week, from one week up to ten weeks. In each scenario, we

⁸ Data used to estimate the number of UAW workers are from <https://corporate.ford.com/operations/locations.html> for Ford, <https://www.gm.com/company/facilities> for GM, and <https://media.stellantisnorthamerica.com/factsheets.do?&mid=105> for Stellantis.

⁹ See <https://www.remi.com/> for a description of the model.

assume that all UAW workers at a given company participate in the strike, as summarized in Table 2. We treat striking employees in each state as experiencing temporary job losses in the local motor vehicles and parts manufacturing sectors in the simulations. We assume that the number of striking workers is constant over time for a given target company in our simulations.

We assume, however, that it would take time for the impacts of a strike to be felt across the automotive supply chain. Based on our conversations with industry experts, we believe that many suppliers to the Detroit Three automakers as well as other affected businesses will try to avoid layoffs for as long as possible. We would expect such “labor hoarding” to be more prevalent than in the past due to tight labor markets and the current difficulty associated with hiring new workers. It is also possible that the target company of a strike would choose to continue paying suppliers to produce even during a strike in order to allow for faster “catch-up production” after the strike’s conclusion. The ongoing process of inventory rebuilding from the recent microchip shortage increases the likelihood of labor hoarding along the automotive supply chain and the potential for the Detroit Three automakers to continue paying suppliers to produce parts for at least part of a strike.

We assumed that there would be no layoffs among auto suppliers for the first two weeks of a potential strike. For each subsequent week, we assumed that the induced spillovers would then grow by one-sixth of the total spillovers that we estimate would result from a long-term strike until week eight, when the spillovers are assumed to reach their full effect. These growing spillover effects across the automotive supply chain produce successively larger spillovers to the broader economy, as well, as laid-off workers in the supply chain lose purchasing power and cut back on spending in other parts of the economy.

We adjusted our simulations, however, to account for the ultimately temporary nature of the job losses from a strike. In particular, we made adjustments to reduce the simulated impacts on construction activity and population migration relative to what the REMI model would estimate in response to permanent plant closures. We also assumed that the economy would not respond quickly enough to re-employ the displaced workers during the strike.

Each simulation assumes that all striking workers receive weekly strike pay benefits of \$500 from the UAW for the full duration of the strike. The strike pay partially offsets the lost wages that UAW workers normally receive from the Detroit Three and helps to soften the overall economic impacts.¹⁰

¹⁰ Our estimates indicate that the UAW has sufficient liquid assets to pay those strike benefits for the full duration of all of the strike scenarios we analyzed. The UAW’s [Form LM-2](#) for the year 2022 provides information about the UAW’s asset position. While the UAW also covers medical and prescription drug costs, such as COBRA payments, for striking workers, those payments do not enter into the REMI model.

Results of Economic and Fiscal Impact Analysis

Our economic impact analysis focuses on total job loss and cumulative personal income losses by state and nationally in each scenario. For Michigan, we also estimate the fiscal impacts associated with each scenario. We estimate the cumulative total state tax revenue loss for each simulated strike using a methodology for converting economic impacts to revenue impacts that we previously developed for the Michigan Economic Development Corporation (MEDC).¹¹

Table 3 through 5 summarize the results from our simulations for Ford, GM, and Stellantis, respectively by state. Results are presented in alphabetical order by company and are intended to cover a wide range of scenarios. For the purposes of this analysis, we do not consider any particular scenario to be more or less likely than another. Employment impacts, both for the number of striking workers and total employment losses, have been rounded to the nearest thousand workers.

Ford Motor Company

Table 3 presents a summary of the simulation results for a strike at Ford. Nationally, Ford has the most UAW-represented workers of the three automakers, with a total of 55,000. Ford's facilities are spread across Michigan (with 22,000 UAW workers), Kentucky (12,000), Missouri (8,000), Ohio (6,000), Illinois (6,000), and New York (1,000).

Because Michigan is home to the most UAW workers at Ford by a large margin, it also bears a higher burden than any other state for a strike at the company. A one- or two-week strike at Ford is estimated to produce a total employment loss of 28,000 jobs statewide (including the 22,000 striking workers), with a cumulative personal income loss of \$50 million by the second week. After the second week, we assume that spillover effects in the supplier chain would begin to be felt. In a four-week strike, the total employment loss jumps to 54,000 in the state, with a cumulative personal income loss of \$150 million. We assume that all spillover effects would be fully phased-in by the eighth week, resulting in 105,000 total job losses in Michigan along with a cumulative personal income loss of \$610 million. For strikes longer than eight weeks, the total job loss for Michigan remains at 105,000, but personal income losses continue to accumulate.

The simulated impacts on Michigan's state tax revenues are roughly proportional to the estimated personal income effects. A one-week strike results in a loss of \$1.8 million in state tax revenue. That figure

¹¹ RSQE's fiscal impact analysis methodology is summarized on pages 26–29 of the report, "An Economic and Fiscal Impact Assessment of the Transformational Brownfield Plan Submitted by Bedrock Management Services, LLC" (April 30, 2018): <https://lsa.umich.edu/econ/rsqe/impact-analysis/transformational-brownfield-plans.html>

increases to \$10.9 million for a four-week strike, \$41.2 million for an eight-week strike, and \$60.2 million for a ten-week strike.

Table 3
Simulated Economic and Fiscal Impacts of a UAW Strike by Ford Workers
Results Presented by Length of Strike

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
United States										
Total Employment Loss (BEA Measure)	82,000	82,000	141,000	200,000	258,000	317,000	376,000	434,000	434,000	434,000
Striking UAW Workers	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000	55,000
Cumulative Personal Income Loss (\$ millions)	\$80	\$150	\$320	\$590	\$940	\$1,390	\$1,940	\$2,570	\$3,210	\$3,840
Michigan										
Total Employment Loss (BEA Measure)	28,000	28,000	41,000	54,000	66,000	79,000	92,000	105,000	105,000	105,000
Striking UAW Workers	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000
Cumulative Personal Income Loss (\$ millions)	\$20	\$50	\$90	\$150	\$240	\$340	\$470	\$610	\$760	\$900
Cumulative Total Tax Revenue Loss (\$ millions)	\$1.8	\$3.5	\$6.6	\$10.9	\$16.5	\$23.5	\$31.7	\$41.2	\$50.7	\$60.2
Illinois										
Total Employment Loss (BEA Measure)	8,000	8,000	13,000	17,000	22,000	26,000	31,000	35,000	35,000	35,000
Striking UAW Workers	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
Cumulative Personal Income Loss (\$ millions)	\$10	\$20	\$30	\$60	\$90	\$130	\$180	\$230	\$290	\$350
Indiana										
Total Employment Loss (BEA Measure)	1,000	1,000	4,000	7,000	10,000	13,000	16,000	19,000	19,000	19,000
Striking UAW Workers	0	0	0	0	0	0	0	0	0	0
Cumulative Personal Income Loss (\$ millions)	\$0	\$0	\$10	\$20	\$40	\$60	\$80	\$110	\$140	\$160
Kansas										
Total Employment Loss (BEA Measure)	0	0	1,000	1,000	2,000	3,000	3,000	4,000	4,000	4,000
Striking UAW Workers	0	0	0	0	0	0	0	0	0	0
Cumulative Personal Income Loss (\$ millions)	\$0	\$0	\$0	\$10	\$10	\$20	\$20	\$30	\$40	\$40
Kentucky										
Total Employment Loss (BEA Measure)	14,000	14,000	18,000	21,000	24,000	28,000	31,000	34,000	34,000	34,000
Striking UAW Workers	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000
Cumulative Personal Income Loss (\$ millions)	\$10	\$20	\$30	\$50	\$80	\$110	\$140	\$180	\$210	\$250
Missouri										
Total Employment Loss (BEA Measure)	11,000	11,000	14,000	18,000	22,000	25,000	29,000	33,000	33,000	33,000
Striking UAW Workers	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000
Cumulative Personal Income Loss (\$ millions)	\$10	\$20	\$30	\$50	\$70	\$100	\$140	\$180	\$220	\$260
New York										
Total Employment Loss (BEA Measure)	2,000	2,000	4,000	6,000	7,000	9,000	11,000	13,000	13,000	13,000
Striking UAW Workers	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Cumulative Personal Income Loss (\$ millions)	\$0	\$0	\$10	\$20	\$30	\$50	\$70	\$90	\$120	\$140
Ohio										
Total Employment Loss (BEA Measure)	9,000	9,000	15,000	20,000	25,000	31,000	36,000	42,000	42,000	42,000
Striking UAW Workers	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
Cumulative Personal Income Loss (\$ millions)	\$10	\$20	\$30	\$60	\$90	\$130	\$180	\$240	\$290	\$350
Tennessee										
Total Employment Loss (BEA Measure)	1,000	1,000	2,000	4,000	5,000	6,000	8,000	9,000	9,000	9,000
Striking UAW Workers	0	0	0	0	0	0	0	0	0	0
Cumulative Personal Income Loss (\$ millions)	\$0	\$0	\$10	\$10	\$20	\$30	\$40	\$50	\$70	\$80
Texas										
Total Employment Loss (BEA Measure)	1,000	1,000	3,000	5,000	7,000	9,000	12,000	14,000	14,000	14,000
Striking UAW Workers	0	0	0	0	0	0	0	0	0	0
Cumulative Personal Income Loss (\$ millions)	\$0	\$0	\$10	\$20	\$30	\$40	\$60	\$80	\$100	\$120
Rest of the United States										
Total Employment Loss (BEA Measure)	8,000	8,000	28,000	48,000	68,000	87,000	107,000	127,000	127,000	127,000
Striking UAW Workers	0	0	0	0	0	0	0	0	0	0
Cumulative Personal Income Loss (\$ millions)	\$10	\$20	\$70	\$140	\$250	\$390	\$570	\$770	\$970	\$1,180

Note: Simulated employment results and the number of striking workers are rounded to the nearest 1,000 workers.

Outside of Michigan, states that experience the largest impacts include Ohio, Illinois, Kentucky, and Missouri. The simulated impacts tend to be proportional to the number of striking UAW workers in each state, but there are interesting exceptions. Our simulations suggest that although Illinois has fewer potential striking Ford workers than Kentucky or Missouri, its industry profile combined with its proximity and economic linkages to other states with high impacts, such as Michigan, result in higher simulated job losses. In our simulations, even states without striking workers, such as Indiana, can have substantial impacts due to spillover effects through the supply chain and into the broader economy.

Nationally, our simulations result in 82,000 total job losses for a one- or two-week Ford strike, increasing to 200,000 losses for a four-week strike, and 434,000 job losses for an eight-week or longer strike. The national cumulative personal income loss in our scenarios starts relatively small at \$80 million in the first week, but it increases to a much larger loss of \$3.8 billion by the tenth week.

General Motors

The estimated results for a strike at GM are presented in Table 4. Facilities owned by GM are the most geographically widespread among the Detroit Three even though Ford has more total workers in the United States. GM has plants in Michigan (with 20,000 UAW workers), Indiana (5,000), Texas (5,000), Missouri (4,000), Ohio (4,000), Tennessee (3,000), New York (3,000), Kansas (2,000), and Kentucky (1,000) for a total of 48,000 potentially striking workers.¹²

Just as with Ford, Michigan is home to the most UAW workers at GM, and it also bears a larger burden than any other state from a strike on GM. A one- or two-week strike at GM is estimated to produce a total employment loss of 25,000 jobs (including the 20,000 striking workers) in Michigan, with a cumulative personal income loss of \$40 million by the second week. In a four-week strike, the total employment loss climbs to 49,000 statewide, with a cumulative personal income loss of \$140 million as spillover effects in the supply chain begin to take hold. By the eighth week, once all spillover effects are fully phased in, Michigan's total job loss reaches 96,000. The cumulative personal income loss for an eight-week strike totals \$560 million. For strikes longer than eight weeks, the total job loss for Michigan remains at its steady-state level of 96,000, but cumulative personal income losses continue to mount.

The simulated fiscal impacts on Michigan of UAW strike scenarios targeting GM are roughly proportional to the estimated personal income effects. A one-week strike results in a loss of \$1.6 million in state tax revenue. That figure increases to \$9.9 million for a four-week strike, \$37.6 million for an eight-week strike, and \$55.0 million for a ten-week strike.

¹² The total number of potentially striking workers differs from the sum of the individual states due to rounding.

Table 4
Simulated Economic and Fiscal Impacts of a UAW Strike by GM Workers
Results Presented by Length of Strike

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
United States										
Total Employment Loss (BEA Measure)	71,000	71,000	131,000	191,000	252,000	312,000	372,000	432,000	432,000	432,000
Striking UAW Workers	48,000	48,000	48,000	48,000	48,000	48,000	48,000	48,000	48,000	48,000
Cumulative Personal Income Loss (\$ millions)	\$70	\$130	\$290	\$550	\$900	\$1,350	\$1,890	\$2,530	\$3,160	\$3,800
Michigan										
Total Employment Loss (BEA Measure)	25,000	25,000	37,000	49,000	61,000	72,000	84,000	96,000	96,000	96,000
Striking UAW Workers	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Cumulative Personal Income Loss (\$ millions)	\$20	\$40	\$80	\$140	\$220	\$310	\$430	\$560	\$690	\$830
Cumulative Total Tax Revenue Loss (\$ millions)	\$1.6	\$3.2	\$5.9	\$9.9	\$15.0	\$21.4	\$28.9	\$37.6	\$46.3	\$55.0
Illinois										
Total Employment Loss (BEA Measure)	1,000	1,000	4,000	7,000	9,000	12,000	15,000	18,000	18,000	18,000
Striking UAW Workers	0	0	0	0	0	0	0	0	0	0
Cumulative Personal Income Loss (\$ millions)	\$0	\$0	\$10	\$20	\$40	\$60	\$90	\$120	\$150	\$180
Indiana										
Total Employment Loss (BEA Measure)	7,000	7,000	11,000	15,000	18,000	22,000	26,000	30,000	30,000	30,000
Striking UAW Workers	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Cumulative Personal Income Loss (\$ millions)	\$10	\$10	\$20	\$40	\$60	\$90	\$130	\$170	\$210	\$250
Kansas										
Total Employment Loss (BEA Measure)	3,000	3,000	3,000	4,000	5,000	6,000	7,000	8,000	8,000	8,000
Striking UAW Workers	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Cumulative Personal Income Loss (\$ millions)	\$0	\$0	\$10	\$10	\$20	\$30	\$40	\$50	\$60	\$70
Kentucky										
Total Employment Loss (BEA Measure)	2,000	2,000	3,000	4,000	6,000	7,000	8,000	9,000	9,000	9,000
Striking UAW Workers	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Cumulative Personal Income Loss (\$ millions)	\$0	\$0	\$10	\$10	\$20	\$30	\$30	\$50	\$60	\$70
Missouri										
Total Employment Loss (BEA Measure)	5,000	5,000	7,000	10,000	12,000	14,000	16,000	19,000	19,000	19,000
Striking UAW Workers	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
Cumulative Personal Income Loss (\$ millions)	\$0	\$10	\$20	\$30	\$40	\$60	\$80	\$100	\$130	\$150
New York										
Total Employment Loss (BEA Measure)	4,000	4,000	7,000	9,000	11,000	13,000	16,000	18,000	18,000	18,000
Striking UAW Workers	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Cumulative Personal Income Loss (\$ millions)	\$0	\$10	\$20	\$30	\$50	\$70	\$90	\$120	\$150	\$180
Ohio										
Total Employment Loss (BEA Measure)	6,000	6,000	10,000	14,000	19,000	23,000	27,000	32,000	32,000	32,000
Striking UAW Workers	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
Cumulative Personal Income Loss (\$ millions)	\$10	\$10	\$20	\$40	\$60	\$90	\$130	\$170	\$220	\$260
Tennessee										
Total Employment Loss (BEA Measure)	5,000	5,000	7,000	9,000	11,000	14,000	16,000	18,000	18,000	18,000
Striking UAW Workers	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Cumulative Personal Income Loss (\$ millions)	\$0	\$10	\$10	\$30	\$40	\$60	\$80	\$100	\$120	\$140
Texas										
Total Employment Loss (BEA Measure)	7,000	7,000	15,000	22,000	30,000	37,000	44,000	52,000	52,000	52,000
Striking UAW Workers	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Cumulative Personal Income Loss (\$ millions)	\$10	\$10	\$30	\$60	\$100	\$150	\$220	\$290	\$360	\$440
Rest of the United States										
Total Employment Loss (BEA Measure)	7,000	7,000	28,000	49,000	70,000	91,000	112,000	132,000	132,000	132,000
Striking UAW Workers	0	0	0	0	0	0	0	0	0	0
Cumulative Personal Income Loss (\$ millions)	\$10	\$20	\$70	\$140	\$260	\$400	\$580	\$800	\$1,010	\$1,220

Note: Simulated employment results and the number of striking workers are rounded to the nearest 1,000 workers.

Outside of Michigan, states with the next largest impacts include Texas, Ohio, and Indiana. As with the simulated Ford strikes, the simulated impacts of a GM strike tend to be proportional to the number of striking UAW workers in the state, but there are exceptions. For example, Ohio and Missouri both have roughly 4,000 UAW workers at GM, but the total simulated job loss for an eight-week strike is 32,000 for Ohio and 19,000 for Missouri. In contrast, Texas has approximately 5,000 striking workers in our simulations, but loses a total of 52,000 jobs with an eight-week strike. The differences can be attributed to the relative sizes of the auto sectors and other related sectors in each state, as well each state's proximity and linkages to other states with high impacts.

Nationally, our simulations result in 71,000 total job losses for a one- or two-week GM strike, increasing to 191,000 losses for a four-week strike and 432,000 job losses for an eight-week or longer strike. The national cumulative personal income loss in our scenarios starts relatively small, at \$70 million in the first week. It increases to a much more substantial loss of \$3.8 billion by the tenth week.

Stellantis

Table 5 presents simulation results for a strike at Stellantis. Although Stellantis has fewer UAW workers nationally than Ford or GM, it has the most UAW workers (25,000) in Michigan. Stellantis also has facilities in Indiana (with 6,000 UAW workers) and Ohio (6,000), for a total of 37,000 potentially striking workers.

Michigan has the most Stellantis UAW workers of any state by a wide margin, and it therefore bears the greatest burden from a strike at Stellantis. A one- or two-week strike at Stellantis is simulated to produce a statewide total employment loss of 31,000 jobs (including the 25,000 striking workers), with a cumulative personal income loss of \$50 million by the second week. In a four-week strike, the total employment loss climbs to 58,000 in the state with a cumulative personal income loss of \$170 million. By the eighth week, once all spillover effects are fully phased in, Michigan's total job loss reaches its maximum for our simulated strikes on Stellantis, with 112,000 total job losses. The cumulative personal income loss for an eight-week strike totals \$660 million. For strikes longer than eight weeks, the total job loss for Michigan remains at its steady-state level of 112,000, but cumulative personal income losses continue to add up.

The simulated fiscal impacts on Michigan of UAW strike scenarios targeting Stellantis are roughly proportional to the estimated personal income effects. A one-week strike results in a loss of \$1.9 million in state tax revenue. That figure increases to \$11.9 million for a four-week strike, \$44.4 million for an eight-week strike, and \$64.8 million for a ten-week strike.

Table 5
Simulated Economic and Fiscal Impacts of a UAW Strike by Stellantis Workers
Results Presented by Length of Strike

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
United States										
Total Employment Loss (BEA Measure)	55,000	55,000	99,000	142,000	185,000	229,000	272,000	315,000	315,000	315,000
Striking UAW Workers	37,000	37,000	37,000	37,000	37,000	37,000	37,000	37,000	37,000	37,000
Cumulative Personal Income Loss (\$ millions)	\$50	\$100	\$220	\$410	\$670	\$1,000	\$1,390	\$1,850	\$2,320	\$2,780
Michigan										
Total Employment Loss (BEA Measure)	31,000	31,000	45,000	58,000	72,000	85,000	99,000	112,000	112,000	112,000
Striking UAW Workers	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000
Cumulative Personal Income Loss (\$ millions)	\$30	\$50	\$100	\$170	\$260	\$370	\$500	\$660	\$810	\$970
Cumulative Total Tax Revenue Loss (\$ millions)	\$1.9	\$3.9	\$7.2	\$11.9	\$18.0	\$25.4	\$34.2	\$44.4	\$54.6	\$64.8
Illinois										
Total Employment Loss (BEA Measure)	1,000	1,000	3,000	5,000	8,000	10,000	12,000	15,000	15,000	15,000
Striking UAW Workers	0	0	0	0	0	0	0	0	0	0
Cumulative Personal Income Loss (\$ millions)	\$0	\$0	\$10	\$20	\$30	\$50	\$70	\$90	\$120	\$140
Indiana										
Total Employment Loss (BEA Measure)	8,000	8,000	12,000	15,000	19,000	23,000	27,000	30,000	30,000	30,000
Striking UAW Workers	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
Cumulative Personal Income Loss (\$ millions)	\$10	\$10	\$30	\$40	\$70	\$100	\$130	\$170	\$220	\$260
Kansas										
Total Employment Loss (BEA Measure)	0	0	0	0	1,000	1,000	1,000	1,000	1,000	1,000
Striking UAW Workers	0	0	0	0	0	0	0	0	0	0
Cumulative Personal Income Loss (\$ millions)	\$0	\$0	\$0	\$0	\$0	\$0	\$10	\$10	\$10	\$10
Kentucky										
Total Employment Loss (BEA Measure)	0	0	1,000	2,000	3,000	3,000	4,000	5,000	5,000	5,000
Striking UAW Workers	0	0	0	0	0	0	0	0	0	0
Cumulative Personal Income Loss (\$ millions)	\$0	\$0	\$0	\$0	\$10	\$10	\$20	\$20	\$30	\$40
Missouri										
Total Employment Loss (BEA Measure)	0	0	1,000	1,000	2,000	2,000	3,000	3,000	3,000	3,000
Striking UAW Workers	0	0	0	0	0	0	0	0	0	0
Cumulative Personal Income Loss (\$ millions)	\$0	\$0	\$0	\$0	\$10	\$10	\$10	\$20	\$20	\$20
New York										
Total Employment Loss (BEA Measure)	1,000	1,000	2,000	3,000	5,000	6,000	8,000	9,000	9,000	9,000
Striking UAW Workers	0	0	0	0	0	0	0	0	0	0
Cumulative Personal Income Loss (\$ millions)	\$0	\$0	\$10	\$10	\$20	\$30	\$50	\$60	\$80	\$100
Ohio										
Total Employment Loss (BEA Measure)	8,000	8,000	13,000	18,000	22,000	27,000	31,000	36,000	36,000	36,000
Striking UAW Workers	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
Cumulative Personal Income Loss (\$ millions)	\$10	\$10	\$30	\$50	\$80	\$110	\$150	\$200	\$250	\$300
Tennessee										
Total Employment Loss (BEA Measure)	0	0	1,000	2,000	2,000	3,000	4,000	5,000	5,000	5,000
Striking UAW Workers	0	0	0	0	0	0	0	0	0	0
Cumulative Personal Income Loss (\$ millions)	\$0	\$0	\$0	\$0	\$10	\$10	\$20	\$20	\$30	\$40
Texas										
Total Employment Loss (BEA Measure)	0	0	2,000	3,000	5,000	6,000	8,000	9,000	9,000	9,000
Striking UAW Workers	0	0	0	0	0	0	0	0	0	0
Cumulative Personal Income Loss (\$ millions)	\$0	\$0	\$0	\$10	\$20	\$30	\$40	\$50	\$70	\$80
Rest of the United States										
Total Employment Loss (BEA Measure)	5,000	5,000	19,000	34,000	48,000	62,000	76,000	90,000	90,000	90,000
Striking UAW Workers	0	0	0	0	0	0	0	0	0	0
Cumulative Personal Income Loss (\$ millions)	\$10	\$20	\$50	\$100	\$180	\$270	\$400	\$540	\$680	\$830

Note: Simulated employment results and the number of striking workers are rounded to the nearest 1,000 workers.

Outside of Michigan, the states with the next largest impacts are Ohio and Indiana. Both Ohio and Indiana have roughly 6,000 UAW workers, but the simulated impacts are larger for Ohio, due to its industry profile, geographic location, and economic linkages with other states. Even states without Stellantis workers can experience sizeable losses due to spillovers. For example, Illinois is simulated to lose 15,000 jobs with a ten-week Stellantis strike, while Texas and New York are both simulated to lose 9,000 jobs.

Nationally, our simulations result in 55,000 total job losses from a one- or two-week strike against Stellantis, increasing to 142,000 losses for a four-week strike, and 315,000 job losses for an eight-week or longer strike. The national cumulative personal income loss in our scenarios starts relatively small at \$50 million in the first week, but it increases to a more substantial loss of \$2.8 billion by the tenth week.

Scenarios Involving More than One Automaker

The rhetoric leading into this year's UAW auto contract negotiations has raised the possibility that if the UAW decides to strike, it could potentially target more than one automaker. That would be unprecedented over the past 60+ years, as discussed in the context of Table 1, but it is certainly possible. We did not explicitly simulate any scenarios involving a strike at more than one of the Detroit Three automakers simultaneously.

In the REMI model, however, simulated economic impacts are approximately linear in the near term with respect to the scale of economic shocks. That means that a strike of a given duration that involved more than one automaker would result in impacts that were approximately equal to the sum of the individual impacts presented in Table 3 through Table 5, at least for the initial period of the strike. Spillovers to the supply chain, however, might occur more quickly were more than one automaker to face a work stoppage at once. For that reason, it is possible that the full employment impacts could be reached well before the eight weeks that we estimated for the scenarios in which only one automaker faced a strike.

For example, in a scenario in which the UAW workers struck at all three automakers simultaneously, there would be roughly 140,000 potential striking workers nationally. Assuming all UAW workers participated in the strike, our simulations suggest total employment losses of roughly 208,000 jobs in the first week of the strike with a personal income loss of approximately \$200 million. Our simulations also suggest that the ultimate job loss could reach nearly 1.2 million jobs. Exactly how long it would take for those losses to occur would depend on how quickly the spillover effects spread through suppliers and the broader economy, which could potentially be significantly sooner than eight weeks.