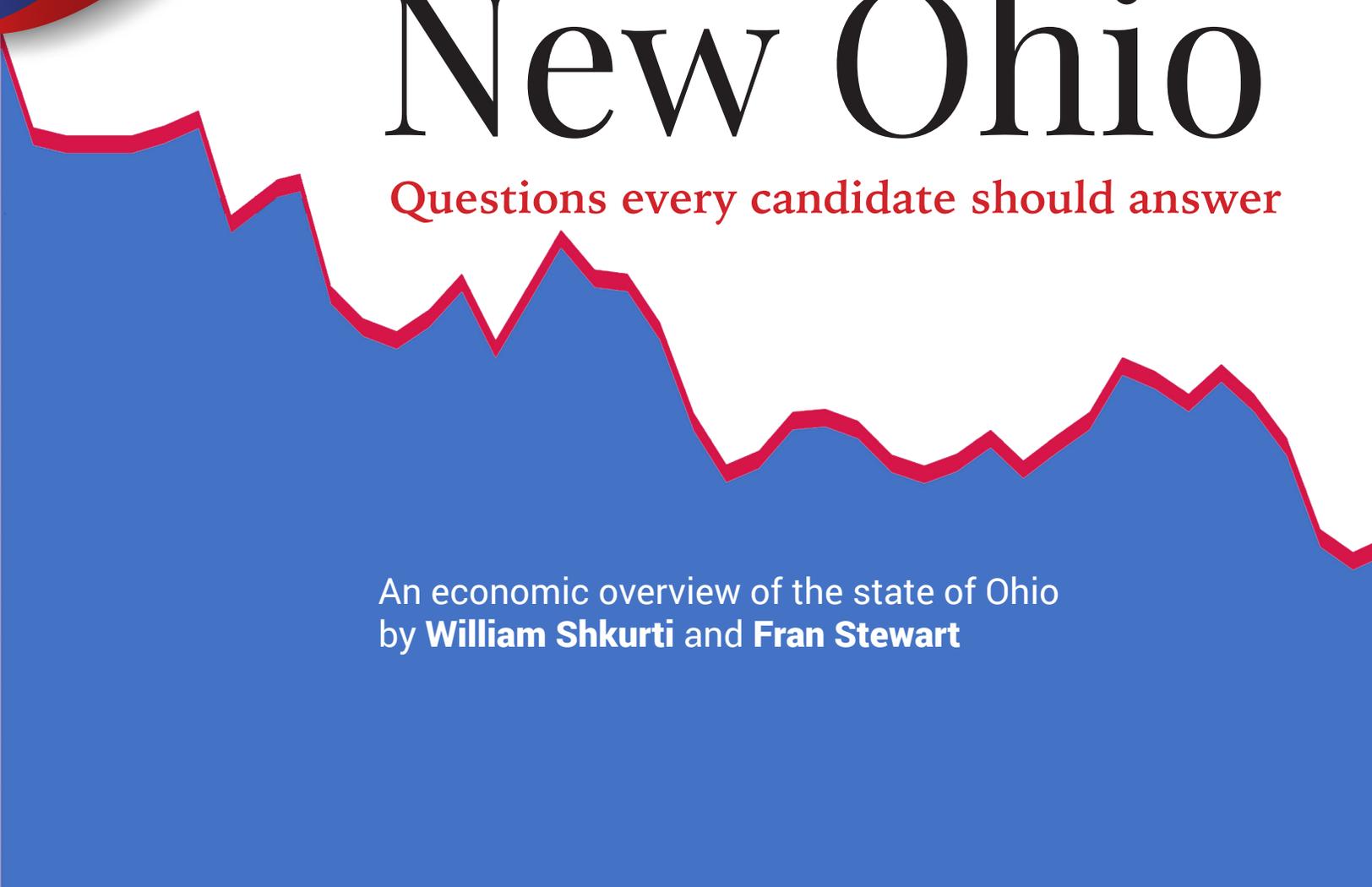




Toward a New Ohio

Questions every candidate should answer



An economic overview of the state of Ohio
by **William Shkurti** and **Fran Stewart**

The findings, conclusions, and recommendations expressed in this report are the product of research conducted by the authors and do not represent the views of either the John Glenn College of Public Affairs or The Ohio State University.



In fall 2018, Ohioans will elect a new governor. For only the second time in the past 16 years, an incumbent governor will not be on the ballot. The new governor and the voters who elect her or him will need to grapple with challenges to Ohio's future, many of which are rooted in the state's past.

This three-article series aims to help inform the gubernatorial candidates and Ohio voters on important policy choices and decisions that lie ahead. The papers provide historical context for Ohio's current economic performance, examine concerns regarding future growth and identify key questions facing the next governor.

The first paper traces the performance of Ohio's economy over the past half-century — a time when Ohio's economy declined compared to the nation overall, in large part due to the loss of high-paying manufacturing jobs. We look at the role foreign and domestic competition and automation have played in this decline, as well as the impact of manufacturing job loss on local economies.

The second paper focuses on changes in the nature of Ohio's workforce over this period and workforce challenges the state faces in the future. We pay particular attention to the projected skill demands of Ohio employers and how they match up with the skills Ohio workers possess.

The third paper begins with the efforts of Ohio governors over the past 50 years to accelerate growth of the state's economy. It discusses the politics of jobs as an issue and compares Ohio's performance, relative to other states, in generating income for its citizens. The paper concludes with a discussion of policy questions we believe the next governor should be prepared to address.

We would like to thank Trevor Brown, dean of the John Glenn College of Public Affairs, for his support of this project. We also want to acknowledge our Ohio State colleagues — Ned Hill, Herb Asher, Ben Kanzeg and Brian Perera — as well as retired Columbus Dispatch editor Mike Curtin, for their advice and support. Coretta Pettway, director of the Ohio Bureau of Labor Market Information, along with Lew Horner and Keith Ewald of her staff, provided valuable assistance in accessing the bureau's labor market information database.

This paper reflects the views of the authors and does not represent the position of the John Glenn College of Public Affairs or The Ohio State University or anyone other than the authors. Any errors of omission or commission are solely ours.

Bill Shkurti and Fran Stewart

March 29, 2018

Toward a New Ohio

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PAPER ONE

The Decline of Ohio

KING OF THE HILL

In the quarter-century following the end of World War II, Ohio's workers stood in the front ranks of the industrial elite. If America was the “shining city on a hill” President Reagan would later invoke on the eve of his election, then Ohio's bustling factories built its sturdy foundation. Whether making auto parts and machine tools in the Cuyahoga Valley, steel tubing in the Mahoning Valley, or business machines and appliances in the Miami Valley, Ohio workers numbered among the best-paid and most productive in the world.

This industrial might benefitted the nation and state at the same time that it rewarded the individual worker. Ohio's factory workers needed no college degree or advanced education to support their families. As long as they had the skill and the inclination to do the work, these workers could look forward to making enough to own a comfortable home in a safe neighborhood, being cared for by employer-provided health insurance, sending their kids to a nearby public college, and enjoying a well-earned retirement secured by an employer-sponsored pension plan.

Then, seemingly without warning, everything changed. Starting with the 1969 recession and accelerating with the onset of the 1974 recession, factories began to close. And less than a decade later, the double-dip recession of 1980 to 1982 threw thousands of Ohio workers out of jobs they had held for years. It soon became fashionable to refer to parts of Ohio and its industrial neighbors as the “Rust Belt.” Although some areas managed to shake off the moniker, for too many communities the term telegraphed the societal corrosion that accompanied economic decline.

Ohio, once the shining example of middle-class progress, suddenly became known for a much darker reality, as too many of its citizens lost hope for a better life for themselves and their loved ones. Today, too much of Ohio has become the nation's poster child of opioid addiction and crumbling communities. Many villages and towns that are beyond the reach of commuters to the state's major metropolitan centers are experiencing social problems at rates once reserved for the poorest inner city neighborhoods.¹

This is not something that happened overnight, nor is it unique to Ohio. But having a better understanding of what happened and why is an essential first step in shaping an appropriate response. This paper is the first of a three-part exploration of Ohio's path downward and its path forward. The next section traces the magnitude of the decline over time. An examination of the multiple causes, particularly as they relate to manufacturing, follows. This paper concludes with an assessment of the impact on local communities.

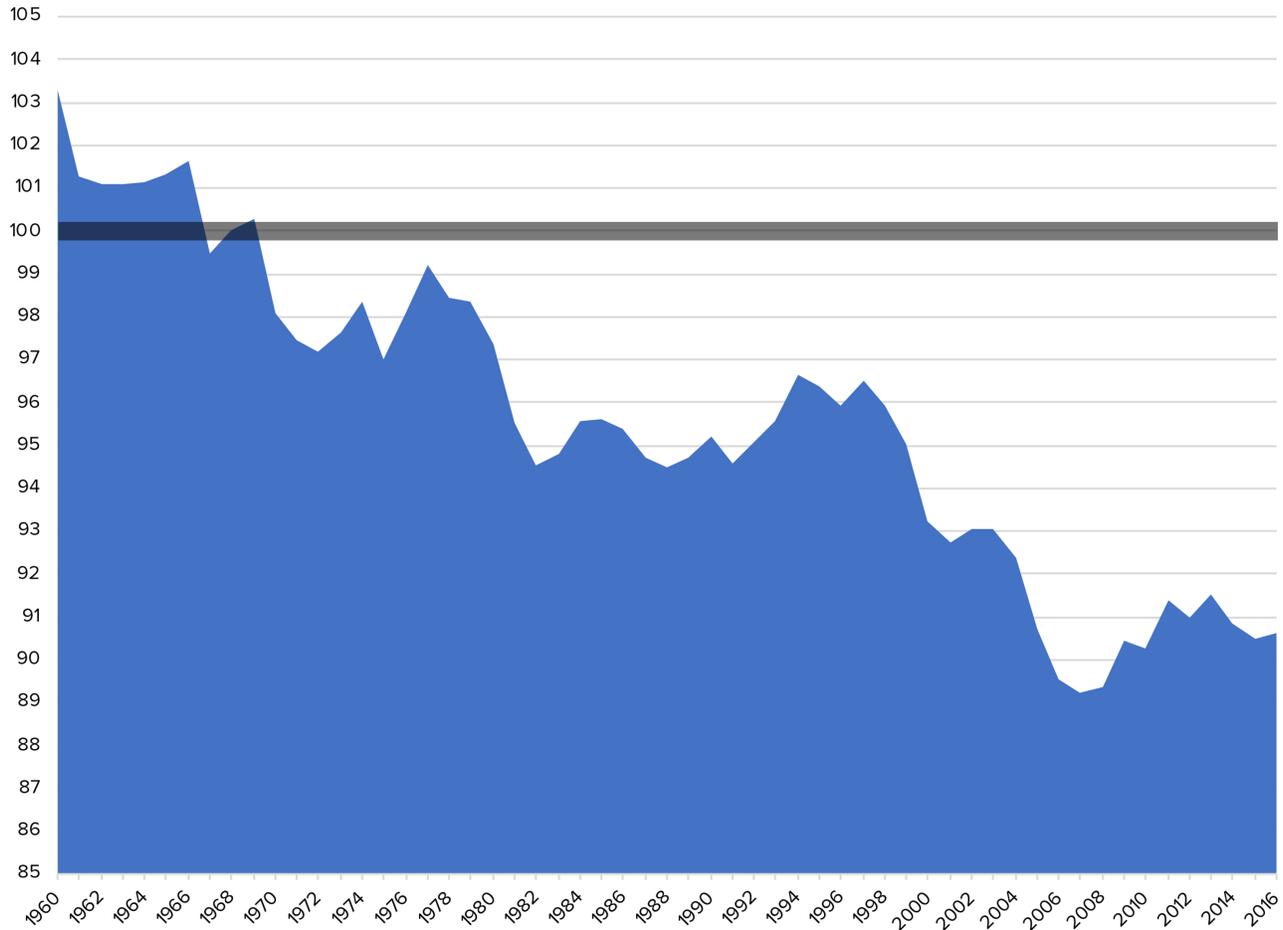
TRACING OHIO'S RELATIVE DECLINE

Ohio's economic well-being can be assessed and compared to the rest of the country in a number of ways (see Appendix A). The measure we have selected for this report is per capita personal income. Per capita personal income includes all income Ohioans collectively receive from wages, salaries, investments and government transfer payments (such as Social Security) divided by total state population. This is the most comprehensive measure of economic strength because it captures income available to families, and it also reflects the tax base to support public services such as schools and safety. The Bureau of Economic Analysis in the U.S. Department of Commerce reports these figures annually.

Per capita income has grown in Ohio since the late 1960s, but that growth has been slow and the state's position relative to the nation as a whole has deteriorated. Figure 1 compares the economic progress of the average Ohioan to the U. S. average since 1960. It displays the ratio of Ohio's annual per capita income to the nation's annual per capita income. If the ratio is equal to 100, then average personal incomes in Ohio and the nation are equal; if above 100, Ohio's average income is higher than the nation's; if below 100, Ohio's per capita income is lower than the nation's. A thick black line marks the 100 value in Figure 1.

The last year Ohio's per capita income was equal to the nation as a whole was 1968. After that, a pattern was established of relative decreases in per capita income in Ohio following the onset of a national recession. The nation experienced a recession in 1969 and another in 1974. The nasty double-dip recession started in 1980,

Figure 1 Ratio of Ohio Per Capita Income to U.S. Per Capita Income



Source: U.S. Bureau of Economic Analysis, Personal Income Per Capita [A792RC0A052NBEA] and Per Capita Personal Income in Ohio [OHPCPI], retrieved from FRED, Federal Reserve Bank of St. Louis; February 13, 2018.

and a recession followed in 1990. A shock that was short in duration and mild nationally took place in 2000 and proved to be the start of an economic tsunami that hit Ohio hard, and the Great Recession of 2007 is clearly visible. In 2007, the ratio bottomed out at 89.2. In other words, Ohio's average personal income was 10.8 percentage points below the national average. By 2016, Ohio had recovered a bit and was 9.4 percentage points below the national per capita income.

In 2016 national per capita income totaled \$49,246, while Ohio's was \$44,568, a difference of \$4,678 per person. Spread over 11.7 million Ohioans, that totals \$54 billion not available for Ohioans to spend on themselves, their families and their communities.

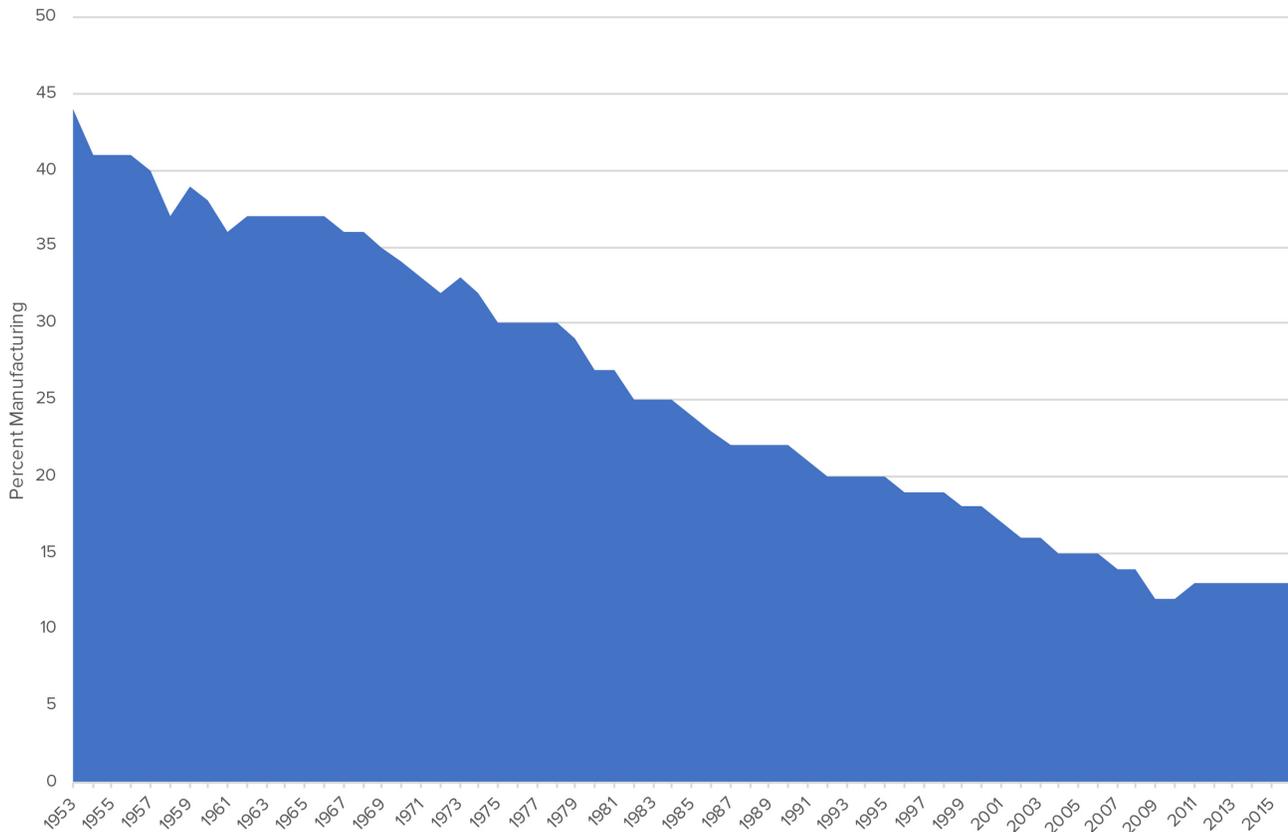
OHIO MANUFACTURING GOES LEAN

Ohio's relative decline in economic well-being reflects a number of factors, but the state's loss of high-paying manufacturing jobs has been a major contributor. Figure 2 traces the decline in manufacturing jobs in Ohio as a share of all jobs in the state since 1953. After reaching 44 percent in 1953, manufacturing as a share of state employment has declined steadily since.

The reason this is important is that it helps explain why Ohio has fallen behind in relative per capita income compared to the country as a whole. Manufacturing jobs have traditionally paid well compared to other jobs. In general, manufacturing jobs paid 5 percent to 10 percent more per hour than other jobs through the mid-1990s.

In Ohio, manufacturing wages were even higher. Figure 3 traces the average hourly wage of Ohio manufacturing workers compared to manufacturing workers in the country as a whole since 1953, where the national

Figure 2 Percent of Nonagricultural Jobs in Manufacturing in Ohio



Source: Figures prior to 1990 are from U.S. Census Bureau, *Statistical Abstract of the United States* (various years), Bureau of Labor Statistics, “Employment in Non-Agricultural Establishments by Industry by State,” and post-1990, Ohio Bureau of Labor Market Information, “Current Employment Query” at ohiolmi.com.

average equals 100. In other words, in 1953, Ohio manufacturing workers made an average of 10 cents more per dollar per hour compared to their counterparts across the country. This reflected, in part, the concentration of highly paid union workers in the automotive, rubber and steel industries across the industrial Midwest. This wage “premium” reached a high of 20 percent in 1993 and remained as high as 15 percent until 2005. However, the bottom fell out on Ohio’s manufacturing wage premium during the Great Recession of 2007-2009, and the differential has not returned.

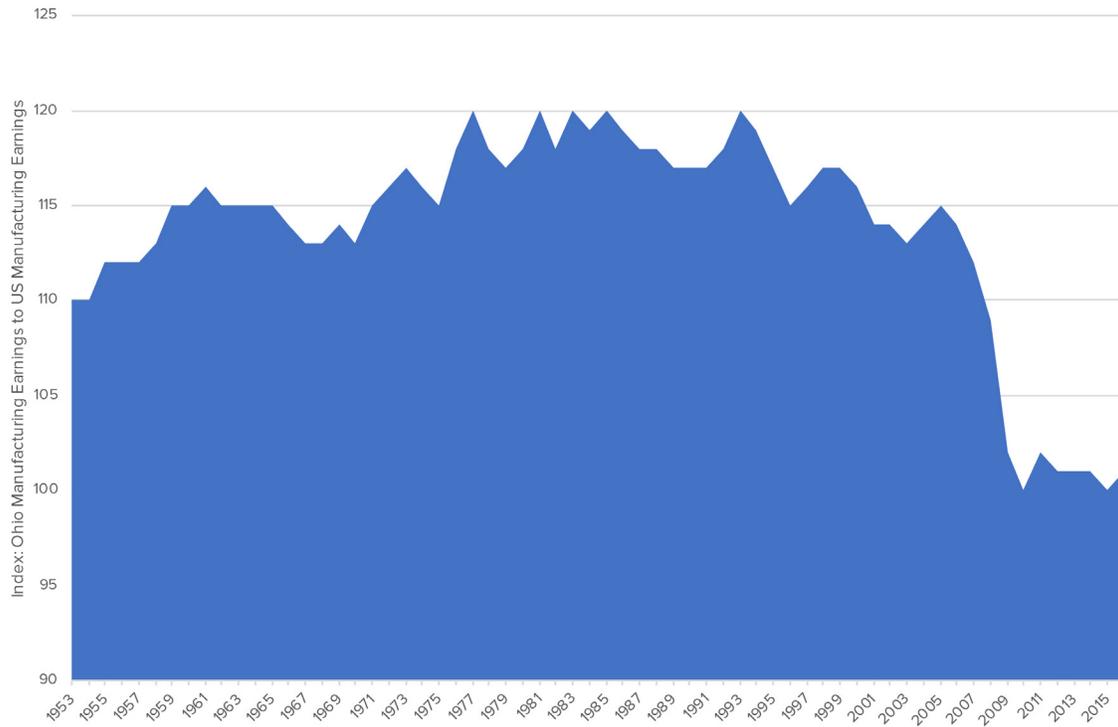
In other words, Ohio has suffered from a trifecta of bad news since the heyday of manufacturing: Well-paying manufacturing jobs have declined in total. The wage premium manufacturing workers earned compared to nonmanufacturing workers has evaporated. And the premium Ohio manufacturing workers earned compared to manufacturing workers in other states has disappeared. Why these declines have happened is explored in the next section.

SEARCHING FOR CULPRITS

Since Ohio’s preeminent status in manufacturing peaked in the late 1960s, an intense, decades-long debate has ensued over who is at fault for the loss of 700,000 manufacturing jobs (see Figure 4). Blame is often placed on one of three culprits: cheap, foreign-made goods (particularly after China joined the World Trade Organization in 2001), domestic competition from right-to-work states, and automation. By using detailed data on manufacturing published by the Census Bureau’s Census of Manufactures and other sources, we have been able to estimate the relative influence of these forces.

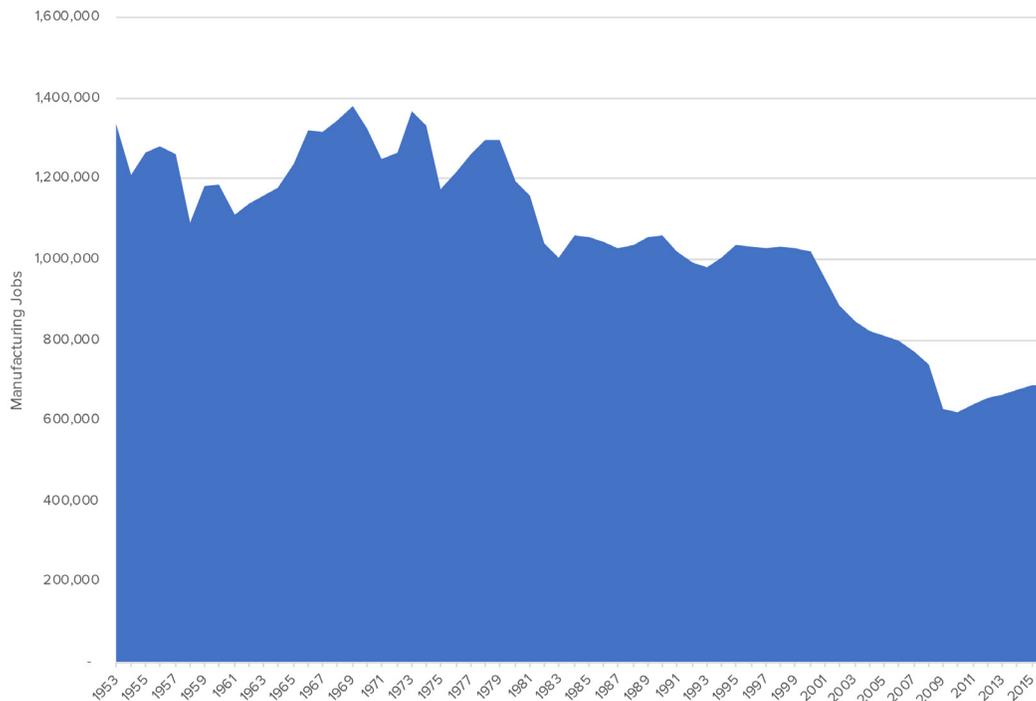
Our calculations involve a set of assumptions and interpretations that are, by nature, subjective. For example, the Census of Manufactures does not specifically measure the impact of automation or foreign trade. The impact

Figure 3 Ohio to U.S. Manufacturing Earnings Index



Source: U.S. Census Bureau, *Statistical Abstract of the United States* (various years), Bureau of Labor Statistics, “Wages of Production Workers in Manufacturing by State.”

Figure 4 Number of Manufacturing Jobs in Ohio



Source: Figures prior to 1990 are from U.S. Census Bureau, *Statistical Abstract of the United States* (various years), Bureau of Labor Statistics, “Employment in Non-Agricultural Establishments by Industry by State,” and post-1990, Ohio Bureau of Labor Market Information, “Current Employment Query” at ohiolmi.com. For a discussion of methodology, see Appendix B.

from these forces must be inferred from other data sources. Our calculations also try to isolate individual influences, all of which affect the manufacturing process in different ways at different times. To reflect this, we have provided estimated ranges rather than specific numbers. Finally, Census of Manufactures data are collected only every four years, so instead of 1969 and 2015 as benchmarks, we are limited to the closest corresponding years for which data are available — 1967 and 2014. Nevertheless, this analysis provides some clarity as to the nature of Ohio's challenges.

Domestic Competition

In order to estimate the number of Ohio manufacturing jobs lost to domestic competition, we used data from the Census of Manufactures to calculate the difference between the number of manufacturing jobs Ohio had in 2014 and what it would have had if the state had retained its 1967 share of the national total. In 1967 that share was 7.3 percent of U.S. manufacturing jobs. By 2014 that share had dropped to 5.5 percent, a loss of 1.8 percentage points. There were 11,624,500 manufacturing jobs in the United States in 2014; 1.8 percent of that equals more than 209,000 jobs lost to decreased domestic market share.²

As an alternative measure, we calculated the change in Ohio's share of manufacturing value added over the same period. Ohio's share of value added dropped from 7.8 percent in 1967 to 5.5 percent in 2014, a difference of 2.3 percentage points. If Ohio's share of manufacturing employment fell proportionally, that would mean Ohio lost 267,000 manufacturing jobs due to domestic competition.

Thus, we estimate manufacturing job losses due to domestic competition ranged from 209,000 to 267,000. It is important to note that the loss of these manufacturing jobs to other states occurred primarily during the 1967-1990 period. Ohio's share of total U.S. manufacturing employment bottomed out at 5.4 percent in 1990 and has since stabilized, suggesting that Ohio has more than held its own against domestic competition. Foreign competition is another matter.

Foreign Trade

Measuring the impact of the U.S. trade deficit on Ohio manufacturing jobs is both complicated and controversial. Estimates vary significantly, but here's what we do know:

- In 1967 the United States maintained a small surplus in its international trade transactions involving merchandise.
- U.S. factories continued to run a surplus through 1982, but by 1993, the year before NAFTA, the surplus had turned into a more than \$100 billion deficit.
- This trade deficit grew to more than \$300 billion by 2001 when China was accepted into the World Trade Organization and gained access to American markets.
- By 2014 the U.S. trade deficit in goods had exploded to \$751 billion.³

Translating this into manufacturing jobs lost in Ohio is not straightforward. There are a number of different estimates. Public Citizen, a Ralph Nader-affiliated group that has been critical of U.S. trade policy, estimated manufacturing job losses due to foreign imports for every state from 1994 to 2017. The group arrived at its estimate by adding up the certifications for manufacturing jobs lost that were issued by the U.S. Department of Labor under the Trade Adjustment Act.⁴

Public Citizen's job loss estimate for Ohio is 151,000. The group argues that this estimate understates the real number because certification is difficult under terms of the act. Although there may be some truth to this, the estimate does not take into account jobs that have been added due to increased sales abroad. For example, between 2000 and 2014, sales of Ohio-manufactured goods abroad doubled from \$26 billion to \$52 billion.⁵

Another approach is to use sophisticated econometric models that take into account both jobs gained and jobs lost, as well as other factors. The Economic Policy Institute, a think tank with ties to organized labor and critical of U.S. trade policy, ran such a simulation of manufacturing jobs lost by state between 2001 and 2015 due to the U.S. trade deficit with China. The EPI estimated that trade with China had cost Ohio 121,500 jobs.⁶

Independent economists David Autor and Daron Acemoglu, of MIT’s Economics Department, have written extensively on this topic. Their most recent estimate indicated that Chinese imports cost between 853,000 and 1.4 million manufacturing jobs across the United States between 1991 and 2007.⁷ This compares to an estimate of 3.4 million from the Economic Policy Institute for the 2001-2015 period.

The MIT group did not provide separate estimates for each state. However, if we use the Economic Policy Institute’s calculation that Ohio accounts for 3.6 percent of jobs lost due to Chinese imports, the MIT number would translate into a loss of between 31,000 and 51,000 manufacturing jobs in Ohio. If we use instead Ohio’s share of total manufacturing employment (5.8 percent), the figures would be 49,000 and 81,000.

These figures apply to Chinese imports only. Imports from Canada, Mexico and other countries have grown as well. Chinese goods account for about half of the trade deficit in manufactured goods.⁸ Therefore, if we double the estimate of jobs lost only to China to approximate the jobs lost to the trade deficit for all countries, the total grows to between 62,000 and 160,000 jobs.

The Ball State University Center for Business and Economic Research modeled the loss of manufacturing jobs between 2000 and 2010 and determined that only 13.4 percent of the total job loss was attributable to the foreign trade deficit. The report attributed the remainder to automation.⁹ If we apply that proportion to Ohio’s loss of 700,000 manufacturing jobs from 1967 to 2014, that would be the equivalent of 94,000 jobs.

Reviewing all these numbers, we can fairly conclude that Ohio lost between 62,000 and 243,000 jobs due to growth in the foreign trade deficit since the early 1980s. The lower number rests on the MIT calculation. The higher number reflects the Economic Policy Institute’s calculation with an adjustment to reflect all foreign trade, not just China. Remaining open is the question of the role played by automation.

Automation

The Ball State University Center for Business and Economic Research attributed 87 percent of the manufacturing job loss from 2000 to 2010 to automation. To test this argument, we estimated the impact of automation on the Ohio manufacturing workforce from 1967 to 2014. We did this by calculating the increase in productivity of Ohio factory workers in this period using two different methods.

The first method was to use value added per job, adjusted for inflation (value added is the difference between the sale price of goods coming out of factories and the costs of raw materials and parts going in). In 1967 this was \$15,616. By 2014 it had grown to \$60,612 in 1967 dollars.¹⁰ In other words, one Ohio factory worker in 2014 could produce what it took almost four (3.9) to do in 1967. This translates into the loss of more than one million jobs (only 338,000 workers would have been needed at 2014 productivity levels, compared to 1.3 million workers needed at 1967 levels). This analysis is incomplete because it does not take into account the additional sales Ohio factories were able to generate because they were more productive. Ohio factories produced almost twice as much in 2014 as they did in 1967. Meeting this increase in the value of sales required approximately another 301,000 workers. Table 1.1 provides our process in modifying the job loss figures.

Based on the methodology explained above, Ohio’s economy lost 671,000 jobs due to improved productivity — both in terms of improved physical productivity and increased production of products with higher profit margins, or value added.

We did an alternative calculation (shown in Table 1.2) based on the national figures on the value of output per worker hour developed by the U.S. Department of Labor. The outcome was similar, but not identical. The Department of Labor calculation shows that productivity improved more than fourfold (4.2) between 1967 and 2014.¹¹ This compares to our estimate of 3.9 described above. In other words, if total productivity in Ohio equaled the national average, then one worker

Table 1.1 Net Job Loss Due to Productivity Improvements, 1967-2014, Value Added Estimate

Variation	# Workers
1967 Output at 1967 Productivity Level	1,310,000
1967 Output at 2014 Productivity Level	338,000
2014 Additional Output at 2014 Productivity	301,000
2014 Subtotal (338,000 + 301,000)	639,000
Difference (1,310,000 – 639,000)	671,000

Source: U. S. Bureau of Census, 1967 *Census of Manufactures*, “Manufactures by State” in 1970 *Statistical Abstract*, 699, and U. S. Bureau of Census, “Survey of Manufactures – Summary by State, 2014,” in *Proquest Statistical Abstract 2017* (online edition), Table

in 2014 could do what it took 4.2 to do in 1967.

This means Ohio lost between 671,000 and 718,000 jobs between 1967 and 2014 based on automation alone. Which estimate is more likely? Ohio’s manufacturing sector does not specialize in the manufacture of the highest value-added products that have appeared in the U.S. economy over the past half-century, such as electronics, integrated circuits, pharmaceuticals and chemicals. This makes us lean toward the lower estimate.

Table 1.2 Net Job Loss Due to Productivity Gains, 1967-2014, Using National Output per Worker Hour

Variation	# Workers
1967 Output at 1967 Productivity	1,310,000
1967 Output at 2014 Productivity	313,000
2014 Additional Output at 2014 Productivity	279,000
2014 Subtotal (313,000 + 279,000)	592,000
Difference (1,310,000 – 592,000)	718,000

Source: U. S. Bureau of Labor Statistics, “Labor Productivity and Costs” at data.bls.gov.

The Sum of All Culprits

This table lists the estimated job losses attributed to all influences: domestic competition, foreign competition and automation. These numbers exceed the 700,000 lost manufacturing jobs referred to earlier because they include jobs not created because of lost market share as well as existing jobs that were actually lost.

These figures clearly show that all three forces contributed to the loss of Ohio manufacturing jobs, but they strongly suggest that automation was a bigger factor than the remaining two combined. This means any future set of policy initiatives needs to make sure Ohio workers are able to update their skills to keep up with changing technologies.

Table 1.3 Estimate of Jobs Lost and Not Created Due to Competition and Automation by Category, Ohio, 1967-2014

Category	Low Estimate	High Estimate
Domestic Competition	209,000	267,000
Foreign Trade Deficit	62,000	243,000
Automation	671,000	718,000
Total	942,000	1,228,000

Source: Estimates by authors. For sources see discussion in the applicable preceding section.

LOCAL COMMUNITIES SUFFER

Statewide figures are useful for examining context and statewide policies, but job markets are regional, and economic well-being can vary greatly by geography. For example, in the early 1970s, when Ohio’s average per capita income was just starting to fall below the national average, high-income jobs were not spread evenly across the state. Each of Ohio’s six most populous counties was above the national average, and in the cases of Cuyahoga and Montgomery counties, substantially so. Most of the state’s other counties, particularly the smaller, more rural ones, had below-average per capita incomes. Sixty-eight of Ohio’s 88 counties, including five of the biggest six, saw their per capita incomes decline relative to the nation as a whole from 1970 to 2015. The decline, while widespread, was anything but even. Table 1.4 shows the change in prosperity for Ohio’s six largest counties, which accounted for 42 percent of the state’s population in 2015.

Montgomery County, which includes the city of Dayton, fell further than any of Ohio’s 88 counties. The county’s bedrock in 1970 was a thriving middle class, but a brutal series of factory and related headquarters closings over the next 45 years cost it 65,000 of its 91,000 manufacturing jobs, much of

Table 1.4 Per Capita Income for Ohio’s Six Largest Counties Compared to the National Average, 1970 and 2015 (National Average = 100)

County	1970	2015	Difference
Cuyahoga	115	101	-14
Franklin	102	97	-5
Hamilton	108	108	0
Summit	102	96	-6
Montgomery	112	88	-24
Lucas	104	87	-17

Source: Ohio Department of Development, Ohio Research Office, BEA Per Capita Income (May 2017)

its middle class, and associated corporate leadership positions. Factory closings included Dayton Press in 1981 (2,000 jobs lost), GM Delphi in 2006 (3,000 jobs), GM Moraine in 2008 (2,200 jobs) and, in a final demoralizing blow, the departure of the National Cash Register headquarters in 2009 and its 1,000 jobs. NCR had called Dayton home for 125 years, employing as many as 18,000 people in the city in the mid-1960s.

In 1970 pollsters Richard Scammon and Ben Wattenberg identified the wife of a machinist in a suburb of Dayton as the example of the typical middle-class swing voter who would determine elections over the next decade. In 2017 MSNBC featured Montgomery County as a classic example of the challenges facing local communities in dealing with opioid addiction.¹²

The next three biggest losers in relative income are listed below. All three suffered big losses in manufacturing jobs.

Marion Power Shovel once employed 3,200 workers and produced the steam shovels that built the Panama Canal. It closed its doors in 1978. Closure of Armco steel in 1981, Quaker Oats pet food in 1989, and Con Agra popcorn in 2014 followed. Marion did manage to hold onto its giant Whirlpool plant (2,000 employees) but suffered losses amounting to 3,600 jobs (38 percent of the total) between 1970 and 2015.

Richland County, in the center of the state, suffered the loss of 10,000 jobs over this period from a string of plant closings that included Mansfield Tire and Rubber in 1978, Westinghouse Appliances in 1990, Tappan appliances in 1992 and its GM stamping plant in 2010.

In 1970 Trumbull County boasted the highest proportion of manufacturing workers (49.1 percent) of any Ohio county. It lost nearly 70 percent of its manufacturing jobs (30,000 out of 43,000) between 1970 and 2015. Employment at the giant Lordstown GM plant fell from a peak of 12,000 in 1985 to just over 4,500 in 2015. The Delphi parts plant (formerly Packard Electric) in Warren, which once employed 11,000, closed altogether in 2014.

Eighteen of Ohio's counties showed gains in relative income over this 45-year period, but there is no dominant pattern as to which ones or why. Some were wealthy suburban counties. Some were not. Some added manufacturing jobs; others lost manufacturing jobs but grew anyway. This shift is discussed in more detail in Paper Two, but the devastating impact of lost manufacturing jobs is clear across the state.

Numbers alone fail to capture the devastation many Ohio communities have endured. The cycle of economic despair includes job loss, population loss, disrupted families and demoralization. Narratives from natives who grew up in these communities have become a growth industry of sorts. The most well-known is J.D. Vance's 2016 book, *Hillbilly Elegy: A Memoir of a Family and Culture in Crisis*, about his hometown of Middletown, Ohio. But other books and articles with similar observations and recollections have been written as well. Former Ohio State University-Mansfield professor Christopher Phelps, who taught at the regional campus for 10 years, wrote about the devastating effects of the closing of the GM stamping plant and other factories on the Mansfield area in *Nation* magazine in 2010. Harvard public policy scholar Robert Putnam wrote about his troubled hometown of Port Clinton in "Crumbling American Dreams," an article that appeared in the *New York Times* in August 2013 and was at the core of his 2015 book *Our Kids*. Author Brian Alexander described how the loss of manufacturing jobs shattered the social fabric in his once-thriving hometown of Lancaster in *Glass House: The 1% Economy and the Shattering of the All-American Town* (2017). And Sam Quinones' prescient 2015 book, *Dreamland*, told the tale of the devastation of communities and individuals caused by the toxic combination of no work and opiate addiction. The book focuses on a southern Ohio river town that lost its steel mill in the 1980s. That town is Portsmouth.

Table 1.5 Ohio Counties With Largest Decline in Per Capita Income, Compared to National Average, 1970 and 2015 (National Average = 100)

County (Largest City)	1970	2015	Difference
Montgomery (Dayton)	112	88	-24
Marion (Marion)	90	68	-22
Richland (Mansfield)	95	74	-21
Trumbull (Warren)	97	76	-21

Source: Ohio Department of Development, Ohio Research Office, BEA Per Capita Income (May 2017).

CONCLUSIONS

The subject of this paper is Ohio's economic trajectory since the late 1960s. The relatively high incomes that Ohioans enjoyed compared to the rest of the nation declined steadily after 1969. The loss of approximately 700,000 well-paying manufacturing jobs between 1970 and 2015 has negatively affected the lives of Ohioans and communities across the state. It is not that Ohio is no longer a manufacturing state; it very much is one. What is produced in the state has higher value, production is highly automated, and what we make is different today than it was in the late 1960s. Labor-intensive manufacturing is gone from Ohio and will never return. Factories that employ more than a thousand workers have nearly disappeared, with auto and truck assembly, aircraft engines and appliance factories being among the few exceptions.

These losses reflect multiple causes, including increased domestic and foreign competition. However, the most powerful force has been the automation of factory jobs, followed by a drop in demand for products of historic importance to the state — especially steel. Automation has allowed many of Ohio's factories to remain competitive and has opened up opportunities for some Ohioans but at the expense of opportunities for other Ohioans, especially those lacking a college degree.

The state's changing economy has varied greatly by community. Large metropolitan areas, such as Cleveland, Columbus and Cincinnati, have not been immune but have been able to offset some manufacturing job losses through diversification. Many less-populous counties have found it more difficult to grow other forms of business after major plant closings. Yet some other Ohio counties have managed to thrive for various reasons.

While these issues of economic decline have festered for years, the soaring rates of opioid addiction and the discontent voiced by white working-class voters in the 2016 presidential campaign have pushed these concerns more firmly onto the national agenda and have raised fears of the nation polarizing into haves and have-nots.

The next paper in this three-article series examines the impact of these changes on Ohio's workforce.

APPENDIX A — MEASURING THE STANDARD OF LIVING

There are alternate ways to measure the relative performance of Ohio's economy. We have chosen personal per capita income because it is the most comprehensive measure of the relative standard of living for Ohio residents. It includes wages and salaries as well as investment earnings and transfer payments, such as Social Security. Another useful measure is per capita disposable income because it measures how much money people have left to spend after taxes. However, this calculation does not reflect the ability of the state's taxpayers to support public services, such as schools and local law enforcement. Another potential indicator is median household income, which is a better measure in some ways because it is less subject to distortion by a relatively small number of extremely wealthy people. However, median household income is also subject to other extraneous influences, such as average household size.

Two other possible measures are gross state product (GSP) and employment growth. GSP measures the value of goods and services produced but does not reveal how much of that trickles down to workers. In addition, that data series only dates to 1987. Employment growth is important, but that number alone does not tell whether the jobs that are being added are high-paying or low-paying ones.

The table below provides all three income-related indicators over a 46-year period at three critical points: 1969, while Ohio income still equaled the national average or better; 1993, the year before NAFTA took effect; and 2015. The results for per capita personal income and per capita disposable income are similar. The results for median household income are similar for 2015 but show a greater decline than the other two measures both from 1969 to 1993 and from 1993 to 2015.

Table 1.6 Ohio versus U.S. Average, Selected Income Measures (1969-2015)

Measure (U.S.=100)	1969	1969	2015
Per Capita Personal Income	101	96	91
Per Capita Disposable Personal Income	101	95	92
Median Household Income	108	100	92

Sources: "Personal Income and Employment by Region, State and Area," in Hannah M. Anderson (ed.), *Patterns of Economic Change by State and Area, Fourth Edition* (Lanham, MD: Bernan Press, 2016), p. 51; and U.S. Bureau of Census, "Median Money Income of Families by State," in *Current Population Reports*, selected years.

APPENDIX B — MEASURING MANUFACTURING JOB LOSSES

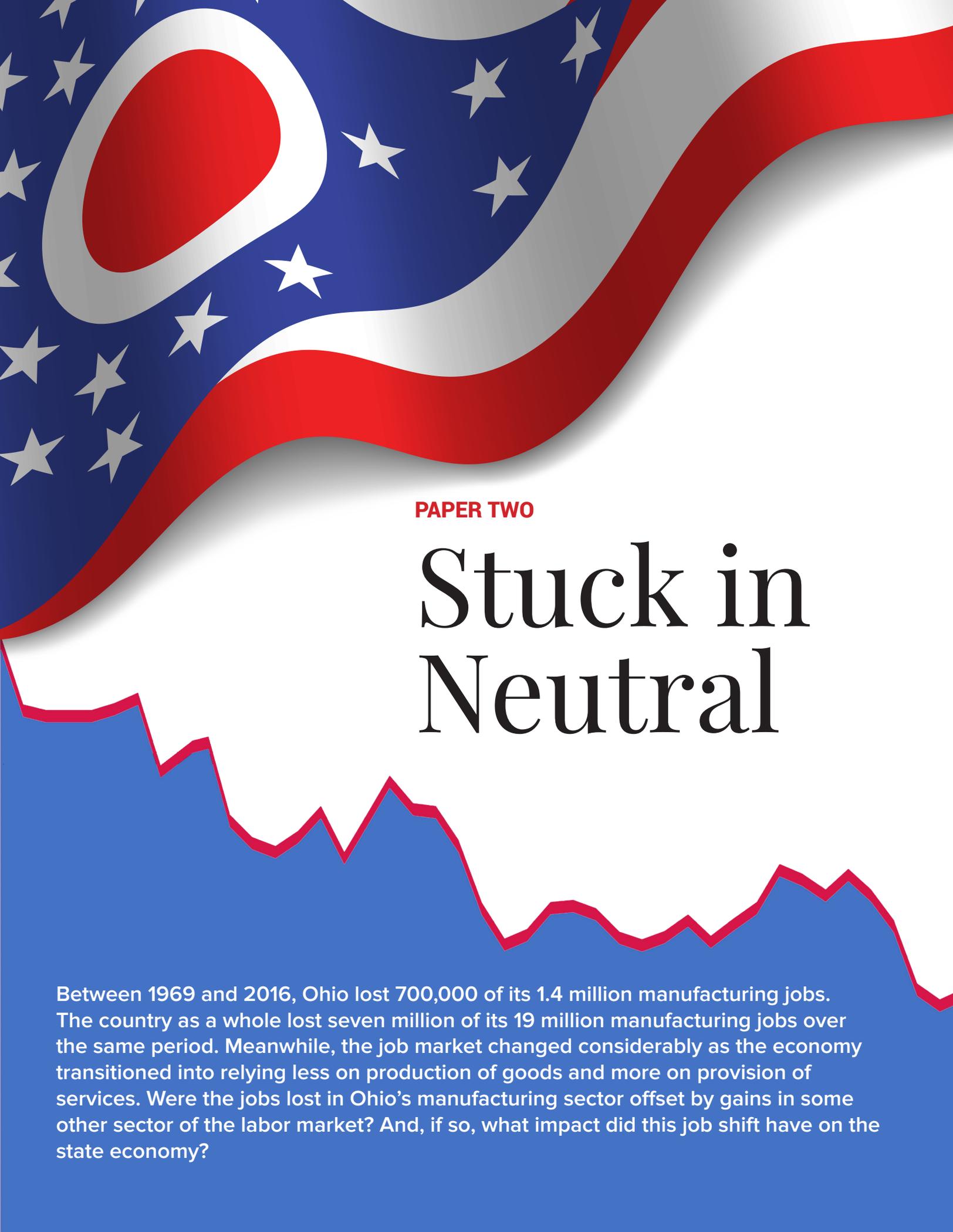
Comparisons over time are useful in identifying long-term trends, but they are subject to data distortions when the definitions change. This proved to be true with the shift from the Standard Industrial Classification (SIC) system to the North American Industry Classification System (NAICS), which occurred in 2003 as part of the North American Free Trade Act (NAFTA). Changes made in 2003 reduced the number of jobs classified as manufacturing positions by about 6 percent.¹³ Many manufacturing establishments were reclassified as part of the headquarters industry, administration and back office, or wholesale and distribution sector. The number of temporary employees working in manufacturing has grown rapidly in recent years as domestic manufacturing companies reacted to competitive cost pressures, but such workers are classified in the business services industry, not in manufacturing. The U.S. Department of Commerce estimates that temporary workers now account for 5 percent to 10 percent of manufacturing employment. This means that manufacturing employment has been undercounted compared to previous years.¹⁴

If these adjustments are appropriate, it means the loss of manufacturing jobs between 1969 and 2014 may have been overstated by as much as 11 to 16 percent, or between 161,000 and 235,000 jobs. Nevertheless, adjusting for this potential overstatement still means Ohio lost at least a half-million manufacturing jobs.

For the purposes of this paper, we have adjusted the pre-2003 manufacturing employment numbers down by 6 percent (88,000 jobs) to conservatively reflect current definitions. We did not attempt to adjust for contract workers because there is no reliable historical base to work from. It is possible these jobs don't pay as well as the permanent jobs they replaced, but it is also possible Ohio would have lost even more jobs had employers not taken these steps to remain competitive.

ENDNOTES

- ¹ See, for example, John Begala, *Big City Problems in Ohio's Small Towns*. Cleveland: Center for Community Solutions, November, 2016.
- ² U.S. Census Bureau, *U.S. Census of Manufactures, 1967 and Annual Survey of Manufactures, 2014*.
- ³ U.S. Census Bureau, "U.S. Trade in Goods and Services-Balance of Payments (BOP) Basis, 1960-2016," at census.gov/foreign-trade/statistics/historical/GANDS.
- ⁴ The Trade Adjustment Act provides retraining for affected workers. See: Public Citizen, "Ohio Job Loss During the NAFTA-WTO Period" at citizen.org/our-work/globalization-and-trade.
- ⁵ U.S. Census Bureau, "U.S. Exports of Goods by State of Origin: 2000 to 2015," *Proquest Statistical Abstract 2017* online, Table 1314.
- ⁶ Economic Policy Institute, "Net U.S. Jobs Displaced Due to Trade Deficit with China by State 2001-2015" from epi.org/114752.
- ⁷ Daron Acemoglu et al., "Import Competition and the Great U.S. Employment Sag of the 2000s," *Journal of Labor Economics*, 2016, vol. 34, no. 1, pt. 2, Table 8, electronically published December 16, 2015.
- ⁸ U.S. Bureau of Economic Analysis, "U.S. Balances on International Transactions by Area and Selected Country: 2015 and 2016," Table 1300, *Proquest Statistical Abstract 2017*.
- ⁹ Michael J. Hicks and Srikant Devaraj, "The Myth and Reality of Manufacturing in America," Ball State Center for Business and Economics Research, June 11, 2015, 6, at projects.cberdata.org/report.
- ¹⁰ U.S. Census Bureau, *U.S. Census of Manufactures, 1967 and Annual Survey of Manufactures, 2014*. We adjusted for inflation by using the GNP deflator for Personal Consumption Goods calculated by the U.S. Bureau of Economic Analysis. More information about this can be found at bea.gov, Table 1.19, "Implicit Price Deflator for Gross Domestic Product."
- ¹¹ U.S. Bureau of Labor Statistics, "Labor Productivity and Cost: Superseded Historical SIC Measures for Manufacturing, 1949-2003" and "Major Sector Productivity and Costs, Manufacturing Output per Man Hour, 1988-2017" at data.bls.gov.
- ¹² Richard Scammon and Ben Wattenberg, *The Real Majority*, (New York: Coward-McCann, 1970), and Jack Heretik, "Ohio County Becomes Epicenter of Opioid Epidemic," MSNBC, June 19, 2016, at freebeacon.com/issues/MSNBC-profiles-ohio-county-hit-hard-opioid-epedem.
- ¹³ Teresa L. Morisi, "Recent Changes in the National Current Employment Statistics Survey," *Monthly Labor Review*, June 2003, 3.
- ¹⁴ Jessica R. Nicholson, "An Update on Temporary Help in Manufacturing," U.S. Economics and Statistical Administration, U.S. Department of Commerce, *ESA Issue Brief #02-15*, April 29, 2015.



PAPER TWO

Stuck in Neutral

Between 1969 and 2016, Ohio lost 700,000 of its 1.4 million manufacturing jobs. The country as a whole lost seven million of its 19 million manufacturing jobs over the same period. Meanwhile, the job market changed considerably as the economy transitioned into relying less on production of goods and more on provision of services. Were the jobs lost in Ohio's manufacturing sector offset by gains in some other sector of the labor market? And, if so, what impact did this job shift have on the state economy?

THE CHANGING JOB MARKET

Ohio's economy has changed significantly since the state's manufacturing heyday of the 1950s and '60s. Mirroring a similar shift nationwide, Ohio's economy has become more diversified and more services-oriented. Between 1969 and 2000, the number of employed Ohioans grew by 1.7 million despite the loss of more than 400,000 manufacturing jobs. Since 2000, however, employment growth has tapered off, and the number of jobs in the state was no greater in 2016 than it was in 2001.

Table 2.1 shows Ohio's composition of jobs in 2016. As can be seen, manufacturing's long dominance as the source of most jobs in the state is over; the manufacturing sector has shrunk to the state's fifth-largest employer. Trade, transportation and utilities is now first. Education and health is Ohio's second-largest employment sector.

Even though manufacturing employment dropped from a third of the state workforce in 1969 to less than 13 percent in 2016, Ohio has remained more dependent on manufacturing than the country as a whole. The ratio in the third column is the share of an industry's jobs in the state to its share in the nation, multiplied by 100. The ratio

Table 2.1 Ohio Economy by Sector, 2016

Industry	Number of Employees (in thousands)	Percent of Ohio Jobs	Ratio of Industry's Share of Ohio Employment to Its Share of U.S. Employment
Trade, Transportation and Utilities	1,021	18.6	98
Education and Health	924	16.9	108
Government	776	14.0	90
Professional and Business Services	722	13.2	95
Manufacturing	686	12.5	147
Leisure and Hospitality	551	10.0	90
Finance	300	5.5	96
Other Services	213	3.9	100
Construction	206	3.8	83
Information	72	1.3	68
Total	5,481		

Source: U.S. Bureau of Labor Statistics, "Employees in Non-Farm Establishments, by State and Industry, 2016," at *Proquest Statistical Abstract 2018 Online Edition*, Table 654.

should be interpreted as if it is a percentage. That is, 100 means that the shares in Ohio and the nation are equal. The 147 for manufacturing means its share of employment is 47 percent higher in Ohio than in the nation.¹

The state's current reliance on trade, transportation and utilities may itself portend employment challenges for Ohio. Employment in trade, transportation and utilities is more likely to shrink in the near future as retail stores close and automation, in the form of drones and driverless vehicles, diminishes the need for logistics and delivery workers. States that have a greater share of employment in service-oriented sectors that are expected to continue to grow, such as education and health services, business and professional services, and leisure and hospitality, should benefit from corresponding employment gains. Yet, even among these sectors that are expanding, many of the jobs do not pay well. This leaves open the question of what will be the good jobs of the future and will Ohio have the skilled workers to fill them?

THE CHANGING WORKER

As the structure of Ohio's economy has changed, so has its labor force. The biggest transformation has been the entry of more women into the workforce. At the end of the 1960s, women made up little more than one-third of all workers. Now they account for almost half.

Another significant change has been the subject of much more controversy. As recently as 2007, nearly 68 percent of Ohioans age 16 and over were in the labor force, compared to 66 percent nationally. Workforce participation dropped during the Great Recession of 2007-2009 and has not fully recovered. As the table below shows, labor force participation in Ohio is now slightly below the national average and 5.5 percentage points below where it was in 2007. Those 5.5 percentage points translate into more than 300,000 potential workers.

This precipitous drop in labor force participation has raised concerns about large numbers of "discouraged" workers who are no longer in the job market because of a lack of good jobs, a lack of marketable skills or an unwillingness of employers to hire them.

Multiple influences are evident. The U.S. workforce is aging, so there are more retirees, but the labor force participation rate among workers over age 65 has actually increased. The participation rate for people age 24 and under has gone down, but more young people are pursuing additional schooling and training. It is the decline in workforce participation for men between the ages of 25 and 54 that has attracted the most concern. Trends in Ohio are similar to the nation as a whole. Some combination of a lack of good-paying jobs for workers without a college degree, lack of marketable skills and lack of work ethic have all been cited and asserted, but no clear explanation has been identified for the decline in labor force participation among men of prime working age.

For a state like Ohio, which is not growing population overall, it is important to make sure as many people who are able to work are doing so. Given the multiple influences that are contributing to the problem, reversing the decline in labor force participation will likely require a multipronged policy approach that focuses on growing jobs, improving and aligning skills, and addressing obstacles to work.²

Table 2.2 Labor Force Participation Rates, Ohio and U.S., 2000-2015 (selected years)

Year	Ohio Labor Force Participation Rate	U.S. Labor Force Participation Rate	Ohio as a Percent of U.S. (U.S. = 100)
2015	62.3%	62.7%	99.4
2010	65.2%	64.7%	100.7
2007	67.8%	66.0%	102.7
2005	66.7%	66.0%	101.1
2000	66.9%	67.1%	99.7

Source: U. S. Bureau of Labor Statistics, *Current Population Survey*, selected years at bls.gov/lau/ex14Tables.htm

Skills Gap?

As the national economy approaches full employment, debate has shifted somewhat from creating more jobs to filling existing ones. This has been a contentious issue between employers and their critics for many years. How much of a gap is there between the skills employers need and the skills available in the workforce? The Bureau of Labor Statistics tracks existing jobs that are open but not filled. These numbered six million nationally in April 2017. If Ohio's share of these unfilled jobs is close to its 3.8 percent share of the total national workforce, that would mean there are 228,000 open jobs in the state. That nearly matches the official state unemployment count of 288,000 Ohioans.³

In other words, if these numbers are correct and if markets work perfectly, there should be a job in Ohio for nearly every worker who wants one. Of course, markets do not work perfectly, and many of these jobs are open because they are low-paying.

Vacancies also exist in higher-paying skilled jobs, especially in manufacturing, where new technologies and looming retirements are driving demand for both evolving and traditional skills. This has sparked more debate over the need for worker training and whether it should be supplied by public sources or the employers themselves. For example, the Manufacturing Institute, an industry trade group, maintains that 60 percent of open, skilled, production positions are unfilled due to a lack of qualified workers.⁴ Critics dispute this assertion, arguing that vacancies are not unusually high for this point in the economic cycle and that some employers are just unwilling to pay the higher wages these skilled positions require.⁵

In any event, it is clear that the skills demanded of workers are changing. As such, local school districts, colleges, universities and other state and local agencies that provide education and training will need to adapt accordingly.

Education Level

Over the past half-century, the education level of Ohio's working population has improved, but it has not kept pace with the rest of the nation. Table 2.3 shows the level of educational achievement for Ohio's population age 25 and over in 2000, 2010 and 2015. Ohio's high schools have improved student graduation rates over the

Table 2.3 Educational Attainment of Ohio's Population Age 25 and Over, 2000, 2010 and 2015, Compared to Attainment in the U.S. as a Whole

Category	% of Ohioans, 2000	Ohio % of U.S.	% of Ohioans, 2010	Ohio % of U.S.	% of Ohioans, 2015	Ohio % of U.S.
High school Diploma	83.0%	103	88.1%	103	89.7%	103
Bachelor's Degree	21.1%	86	24.6%	87	26.8%	88
Advanced Degree	7.4%	83	8.9%	86	10.0%	86

Source: U. S. Census Bureau, *2000 Census, and American Community Survey at Proquest Statistical Abstract, 2016, Table 256.*

past 15 years and have continued to have higher graduation rates than the country as a whole. Although Ohio still lags the nation in graduating students with bachelor's and advanced degrees, it is making progress in closing that gap.

WHAT LIES AHEAD?

What does all this portend for Ohio's future? A good place to look for answers to that question is the Ohio Job Outlook prepared by the Labor Market Information division of the Ohio Department of Jobs and Family Services. The December 2016 report draws on present trends to project what the job picture will look like in 2024. Of course, present trends may or may not continue. Nevertheless, the Ohio Job Outlook provides a good baseline to begin to think about Ohio's future workforce.

The report projects that the state will add 300,000 jobs from 2014 to 2024, even though it anticipates the loss of an additional 28,000 manufacturing jobs. Half of the 300,000 new jobs are expected to be in health care. Table 2.4 shows anticipated job growth for the six sectors with the largest employment gains. These industry categories accounted for about 44 percent of all Ohio jobs in 2014 but are expected to account for 90 percent of the projected job growth through 2024.

Employment projections indicate potentially big challenges ahead in providing workers with the education and training required to fill these jobs. The Ohio Job Outlook report estimates that by 2024, 54 percent of the state's new jobs will require education or training beyond high school, compared to 35 percent of current jobs.

While there is widespread agreement that Ohio's future workforce will have to be better educated and trained than the one it replaces, there appear to be substantial differences among analysts as to what this means. These

differences are important because policy recommendations based on them are very different in terms of where our education and training dollars should be directed and what we can expect in return.

For many years, the projections published by the Bureau of Labor Statistics (BLS) of the U. S. Department of Labor and their cooperating agencies in the 50 states have been the basis for workforce planning and programming. In Ohio, this agency is the Bureau of Labor Market Information (LMI) of the Ohio Department of Jobs and Family Services. The baseline data for Ohio are gathered by LMI from employers and are then classified as to the “typical” education and training requirements for more than 800 job titles. They are reported in a common template developed by BLS so that results are comparable across state boundaries.

The table below compares the skill profile of Ohio’s workforce in 2014 with projections for hiring requirements in 2024. To help simplify the presentation, eight education and training categories are consolidated into three:

- Bachelor’s degree or higher — share of jobs requiring a four-year college degree or more
- Associate degree, some college or postsecondary training — share of jobs requiring more than a high school diploma but less than a bachelor’s degree
- High school diploma or less — share of jobs requiring no education or training beyond high school

These numbers suggest that a very gradual, but steady, increase in educational and training outcomes will be required of Ohio’s workers by employers. In fact, when compared to overall levels of educational attainment in the existing workforce, they don’t show much of a gap at all. For example, the projections show a need for 24.8 percent of the workforce to have at least a bachelor’s degree by 2024. Figures from the U.S. Census show that in 2015, 26.8 percent of Ohioans age 25 and over had at least a four-year degree. Among the critical 25-34 age bracket, the share of workers with a college degree was even higher, at 31.5 percent.

What the numbers alone do not tell us is whether these degrees are distributed where they are needed most. For example, are we producing enough scientists, teachers and engineers? We also do not know whether graduates have the requisite soft skills for working in diverse workplaces, the flexibility to change jobs, or the motivation to be a self-reliant lifelong learner. Some of these questions can be addressed by drilling down into the existing data, provided they are accurate.

Table 2.4 Ohio Industry Categories With Biggest Employment Growth, 2014-2024

Industry Category	Number of Jobs in 2014	Projected 10-Year Increase	Projected 10-Year Percent Increase
Health Care	791,700	148,130	18.7%
Professional and Technical	248,420	28,620	11.5%
Administrative and Waste Services	322,710	26,830	8.3%
Accommodations and Food	451,190	25,770	5.7%
Construction	195,760	23,820	12.2%
Education Services	423,460	23,650	5.6%
Total	2,433,240	276,820	11.4%

Source: Ohio Labor Market Information, 2024 *Ohio Job Outlook*, December 2016, Appendix Table B.

Table 2.5 Typical Education and Training Qualifications of Ohio Workforce, 2014-2024

Highest Educational Attainment	2014 Percent of Workforce	2024 Percent of Workforce
Bachelor’s Degree or Higher	24.3%	24.8%
Associate Degree, Some College or Postsecondary Training	11.2%	11.5%
High School Diploma or Less	64.4%	63.6%

Source: Ohio Bureau of Labor Market Information, “Employment by Typical Education Levels, 2014 Base and 2024 Projection,” (October 2017).

Duelling Numbers

In recent years, other players have entered this discussion. One of them is the Georgetown University’s Center on Education and the Workforce. Center researchers argue that the time lag in collecting the survey data and the rigid definitions of “typical” education requirements result in estimates that fail to capture the constant upgrading of skills required in a changing economy. The center issued projections in 2013 indicating that 65 percent of job openings between 2010 and 2020 nationally would require education or training beyond high school.⁶ This is nearly double the BLS estimate.

But the process used by the Georgetown group also has its critics, who argue that the center’s focus on the credentials of new hires fails to take into account the number of people who may be overqualified, leading to an escalation in the educational credentials held by new workers. This critique seems especially pertinent given that these numbers were compiled in the wake of the Great Recession, when a slow recovery in jobs allowed employers to be choosier about new hires. For example, workers who hold college degrees but work at jobs requiring only mid-level skills because they can’t find anything else produce evidence that can be interpreted that college degrees are a job requirement, rather than the highest level of education achieved by those who took the job. Observers also point out that the Georgetown Center is funded, in part, by the Lumina Foundation, whose self-described mission is to advocate for higher education.⁷

The National Skills Coalition, an advocacy group representing 1,400 employers, unions, educators and government agencies, jumped into the fray in 2015 with a report that projected 80 percent of job openings nationally between 2014 and 2024 would require some sort of training or education beyond high school; however, its methodology is not as transparent as BLS/LMI and the Georgetown Center.⁸

Table 2.6 lays out what these differing estimates mean for Ohio’s working future. These figures represent what BLS/LMI, the Georgetown workforce center and the National Skills Coalition define as “open positions” or “open jobs” for Ohio for the periods indicated. We have aggregated them into the same classifications we used in Table 2.5.

These projections are for slightly different time frames, but that does not explain the wide differences in estimates. There are also differences in how these organizations treat “churn” — that is, workers who change jobs but remain in the same occupation.⁹ This is not some esoteric exercise. Which set of numbers one chooses to believe may have a dramatic impact on the allocation of resources and career decisions made by Ohio citizens. This can be demonstrated more clearly in Table 2.7, which compares estimates of the number of Ohioans with a two-year associate degree to the share of jobs requiring that level of educational attainment.

The first row displays U.S. Census Bureau figures as to the share of the state’s population age 25 and over who terminated their

Table 2.6 Projections for the Educational Levels Required to Fill Open Jobs in Ohio

Highest Educational Attainment	BLS/LMI 2012-22	Georgetown 2010-20	National Skills 2014-24
Bachelor’s Degree or Higher	20%	30.9%	32%
Associate Degree, Some College, or Postsecondary Training	13%	32.1%	48%
High School Diploma or Less	67%	37.0%	20%

Sources: Ohio LMI, Figure 13, “Typical Training and Education Needs for Projected Job Openings for the Period 2012 to 2022 in *WOIA State Plan for State of Ohio* (2016), 24; Georgetown Center on Education and the Workforce, *Job Growth Through 2020*, 80, and National Skills Coalition, “Ohio’s Forgotten Middle,” at nationalskillscoalition.org.

Table 2.7 Ohioans With Associate Degrees Compared to the Share of Projected Job Openings Requiring Them

Estimating Organization	Percent
Census 2015 – Share of Ohio Adults Age 25 and Older With Associate Degrees	8.2%
BLS/LMI 2012-2022 – Share of Ohio Job Openings Requiring an Associate Degree	5.0%
Georgetown 2010-2020 – Share of Ohio Job Openings Requiring an Associate Degree	9.9%

Sources: U.S. Census Bureau, “Educational Attainment, Ohio, 2011-2015,” *American Community Survey 5-Year Estimates* at factfinder.census.gov; LMI, 2014, “Employment by Typical Education Levels 2024,” Ohio Job Outlook 2024, Figure 12 (December 2016), 24; LMI, “Figure 13: Typical Training and Education Needs for Projected Job Openings for the Period 2012 to 2022,” *WOIA State Plan for State of Ohio*, (2016), 24; Georgetown Center on Education and Workforce, “Total Ohio Job Openings 2010-2020” at *Recovery: Job Growth and Education Through 2020* (2013), 80.

formal education with a two-year associate degree. The Census Bureau maintains that these estimates are accurate to a margin of +/- .02 percent. The second row provides the BLS/LMI estimate for the share of job openings from 2012 to 2022 that will require an associate degree. In this case, “job openings” encompass both newly created jobs and vacancies due to retirements and departures. The third row is the Georgetown Center’s projection for the share of job openings (also encompassing newly created jobs and vacancies in existing jobs) from 2010 to 2020 requiring an associate degree.

This table highlights the challenges facing anyone trying to use job estimates for planning purposes. Depending on which source is used, one can conclude that Ohio has far more workers with associate degrees than jobs demand or slightly too few. This is not a trivial discrepancy. Our purpose in pointing out these differences is not to impugn the integrity or the competence of the people or organizations — all of which have extensive track records — involved in providing employment estimates. Rather, it is to explore the challenges this creates for public officials trying to figure out the appropriate support for the education Ohio’s workers need and its jobs require.

These discrepancies have not gone unnoticed. In 2014, the Federal Reserve Bank of Cleveland evaluated Ohio’s workforce development programs. It concluded that the state suffered from a lack of standard data definitions, a lack of clear definitions of success, and an inability to address the mismatch between the skills workers possess, including college graduates, and the skills employers say workers should have.¹⁰

Also in 2014, Congress, in a rare bipartisan display, passed and President Obama signed the Workforce Innovation and Opportunity Act, which is intended to provide better information, better integration of multiple federal programs and greater flexibility to the states.

In 2012, Governor Kasich created the Office of Workforce Transformation, which, in part, was given the task of reconciling some of these estimates. In 2015, the state of Ohio and the National Skills Coalition announced a joint effort to use new data tools to better align worker skills and employer needs.¹¹

The mechanisms to better align these numbers appear to be in place, but a great deal of work remains to be done. Until the disparities in estimates are resolved, state policymakers will be working with incomplete and contradictory information.

ADDITIONAL CONSIDERATIONS

The role of these projections in setting policy raises important additional questions regarding the nature of projections, how they should be used, what they may be missing, and how they may ultimately impact the opportunities, wages and personal incomes of Ohioans.

Projection Perils

Projecting human behavior 10 years out is a challenge under any circumstances. And even though entities such as the Ohio Bureau of Labor Market Information and the Georgetown Center enjoy solid reputations, they face the same challenges as anyone else. Both have based their workforce projections on a steady increase in Ohio employment over a 10-year period. For example, Georgetown estimated that Ohio would add 715,000 jobs from 2010 to 2020. Ohio LMI projected a growth of 300,000 jobs from 2014 to 2024.

Both of these projections assume that growth continues on a steady basis, which it has so far although the pace of growth has slowed recently. No one is predicting a downturn at this point, but that doesn’t mean it can’t or won’t happen. The current expansion is already one of the longest in history. Eventually it will end, turning all predictions of steady growth on end. For example, between 2007 and 2010, Ohio lost 391,000 jobs, and employment did not return to 2007 levels until 2016.¹²

What this means for policymakers is that they should view these projections with some degree of caution. Although projections from respected experts can help inform policy, they should not be the only information relied on to make policy.

Elephant in the Room

Education rates and changing skill demands tell an important story about the quality of Ohio's workforce. But there is another workforce challenge that the state must confront: the number of Ohioans who are not able to work, or not able to work productively, because of substance abuse. The epidemic of opioid abuse and addiction has generated considerable media attention. The Centers for Disease Control estimates that one out of every 100 Ohioans age 12 and older abuses opioids. This is about 90,000 people.¹³

Although addiction to heroin and prescription pain pills is a serious and growing problem, misuse of marijuana and other substances is an even bigger problem for employers, especially manufacturers. Government surveys estimate that slightly more than 7 percent of Ohioans age 12 and over report smoking marijuana within the past 30 days. That amounts to 630,000 people.¹⁴ This is a workforce problem as well as a public health problem. Employers complain about how difficult it is to find potential employees who test free of drugs.

Drug tests are common in today's workplace, especially for workers who operate vehicles or machinery. But traces of marijuana remain in the body long after the immediate effects of the drug have worn off. While society has tried to send a clear message about the dangers of opioid addiction, it is sending a mixed message about the use of marijuana for recreational purposes, which has gained much wider acceptance and has even been legalized in many states. There are not easy solutions here, but addressing this in a thoughtful way is a necessary part of preparing Ohio's workforce for the future.¹⁵

The Future of Wages

The projections we have discussed so far focus on jobs and not wages. But if the projections are anywhere near correct, just adding more jobs will not, in and of itself, improve the prospects for Ohio and its workers. Nearly half of Ohio's job growth in the next 10 years is expected to come from the healthcare sector. Although some medical occupations, such as physicians, registered nurses and technicians, are well-paid, other occupations in the industry, such as home health aides (projected to grow by 39.6 percent) and physical therapist aides (projected to grow 35.2 percent), are not. Another sector anticipated to see large employment gains is accommodations and food service, which also has relatively low pay.

Table 2.8 shows the median hourly wages for six occupations that are among those projected to have the largest number of annual job openings in Ohio. The differences in wage rates are stark.

Even if Ohio manages to add 300,000 jobs or more, that employment growth by itself will not likely reverse the state's relative decline in per capita income (discussed in the first paper in this series). Ohio gained 1.7 million jobs from 1969 to 2001 while experiencing a decline relative to the national average in per capita income. Home health aides and food servers work hard and contribute to our economy, but unless we can achieve higher rates of growth in more high-paying jobs as well, we will not be able to generate the resources needed to improve the lives of all Ohioans.

Table 2.8 Median Hourly Earnings for Selected Occupations in Ohio, 2015

Occupational Category	Median Hourly Wage	Projected Number of New Jobs 2014-24
Accountants and Auditors	\$30.46	1,438
Registered Nurses	\$29.46	4,833
Machinists	\$19.07	1,150
Home Health Aides	\$9.83	4,476
Food Preparation and Service Workers	\$8.94	6,920

Source: Ohio Bureau of Labor Market Information, 2024 Ohio Job Outlook, December 2016, Appendix Table H.80.

CONCLUSION

The fundamentals of Ohio’s economy have changed from one based on producing goods to a more diversified set of employers, with service-producing industries growing the fastest. This shift in jobs and industry presents a series of challenges and opportunities that will exist throughout the years ahead. To better prepare the state to address these changes, policymakers need to resolve the wide differences in projections of future skill needs for Ohio jobs. They must also go beyond understanding the level of academic achievement demanded by employers and instead understand the mix of skills — both hard and soft — employers reward. State policymakers must recognize that the public goal of economic development policy is not only growing jobs, but growing good-paying jobs and developing the skilled workers needed to fill them.

In our third paper, we look at what Ohio’s political leaders have done to try to reverse the long-term decline in relative per capita income, what the outcomes have been and what options may be available to the next governor.

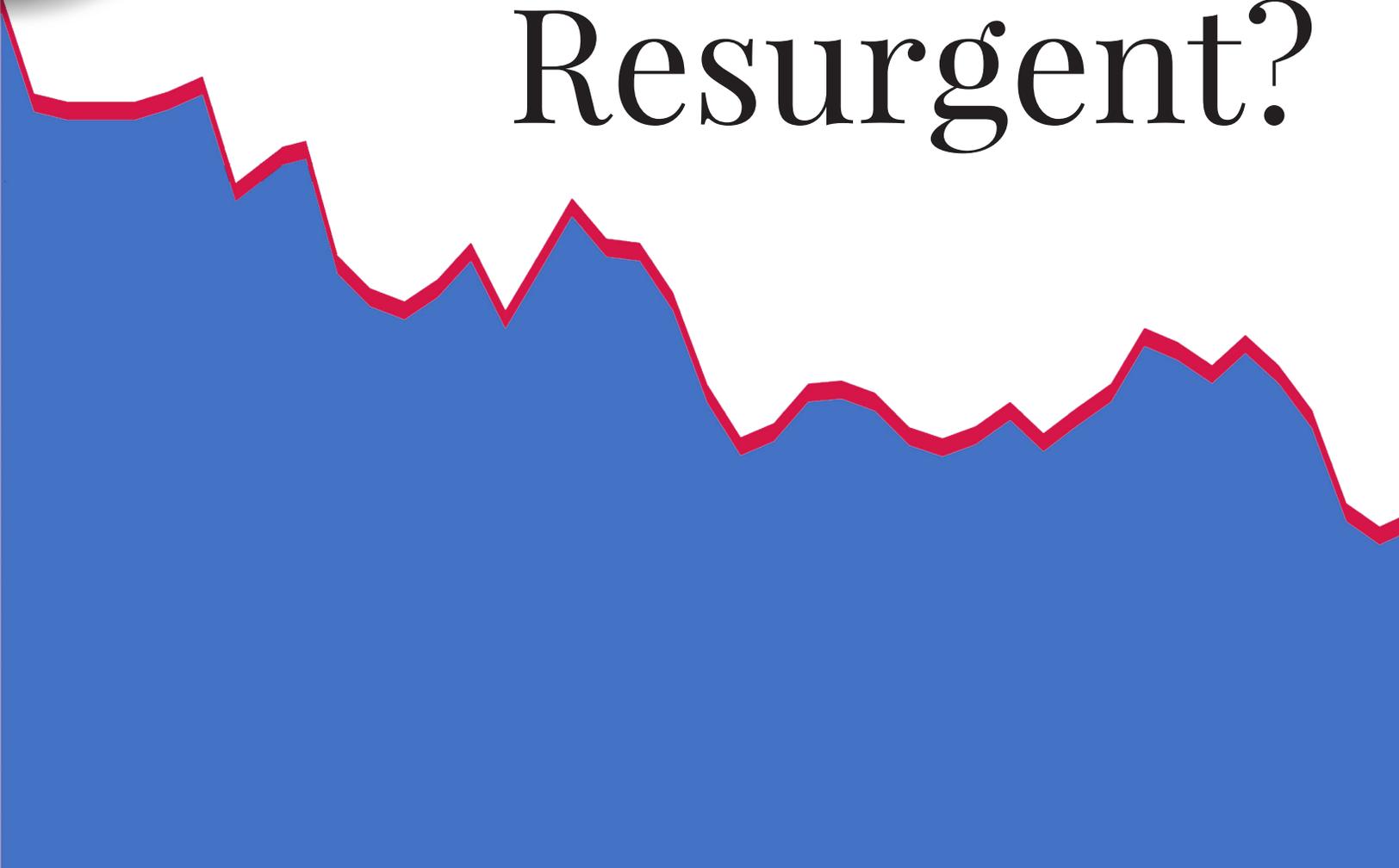
ENDNOTES

- ¹ Ohio is particularly dependent on auto parts and vehicle assembly, where the state is second only to Michigan in the number of workers employed. U. S Census Bureau, “Motor Vehicle Manufactures — Employees, Payroll and Shipments by Major Producing State: 2015,” *Proquest Statistical Abstract of the United States*, 2017, Table 1051.
- ² For two different perspectives on what to do about this, see Edward Lazear, “The Incredible Shrinking Workforce,” *Wall Street Journal*, December 8, 2017, A17, and Jason Furman, “How to Get American Men Back into the Workforce,” *Wall Street Journal*, December 18, 2017, A17. For a more extensive analysis of possible causes, see Alan B. Krueger, *Where Have All the Workers Gone? An Inquiry into the Decline of the U.S. Labor Force Participation Rate*, Brookings Papers on Economic Activity, August 26, 2017, at brookings.edu.
- ³ U.S. Bureau of Labor Statistics, “Job Openings and Labor Turnover Summary,” Economics News Release, June 6, 2017, at bls.gov/news.release/jolts.
- ⁴ Deloitte, “The Skills Gap in U.S. Manufacturing, 2015 and Beyond” at themanufacturinginstitute.org/Research/Skills-Gap-in-manufacturing/s/media.
- ⁵ See, for example, Paul Krugman, “Jobs and Skills and Zombies,” *New York Times*, March 30, 2014, A23, and Peter Cappelli, “The Skills Gap Myth: Why Companies Can’t Find Good People,” *Time*, June 4, 2012, at business.time.com.
- ⁶ Anthony P. Carnevale et al., *Help Wanted: Projections of Jobs and Education Requirements Through 2018*, (Washington: Georgetown Center on Education and Workforce, June 2010) at files.eric.gov/fulltext/ED534310, and Georgetown Center on Education and the Workforce, *Job Growth Through 2020*, 80.
- ⁷ Molly Hensly-Clancy, “How a Private Foundation with Student Loan Ties Became a Force in Higher Education,” *BuzzFeed News*, May 22, 2014, at buzzfeed.com.
- ⁸ National Skills Coalition, “Ohio’s Forgotten Middle,” February 2017, at nationalskillscoalition.org.
- ⁹ The Bureau of Labor Statistics has identified what it has called “statistical and conceptual issues” with the way it counts these workers. It is implementing a new method it expects to be more accurate beginning with the 2016 to 2026 projections. “Occupational Separations and Openings,” at bls.gov/emp/ep_separations.htm, last modified October 24, 2017.
- ¹⁰ Mary Helen Petrus, “Workforce Development Challenges in Ohio,” Federal Reserve Bank of Cleveland, February 10, 2014, at cleveland-fed.org.
- ¹¹ Executive Order 2012-02K at workforce.ohio.gov and “State Workforce and Education Alignment Project, Ohio,” at nationalskillscoalition.org/state-policy.
- ¹² Ohio Bureau of Labor Market Information, “Current Employment Statistics, Nonagricultural Employment, Annual Average for Ohio,” at ohiolmi.com/asp/CES. Accessed 3/11/18.
- ¹³ U.S. Department of Health and Human Services, “The Opioid Epidemic by the Numbers,” at hhs.gov/sites/default/files/Factsheet-opioids-061515 (June 2016). This source estimates the opioid addiction rate for Ohio at between 9.4 and 10.3 per 1,000 residents age 12 and over.
- ¹⁴ Arthur Hughes et al., “Marijuana Use and Perceived Risk of Harm from Marijuana Use Varies Within and Across States,” July 26, 2016, at SAMSHA.gov/data/series/default/file/report_2404/ShortReport-2024.
- ¹⁵ Marty Schladan, “Failed Drug Tests Keep Ohio Jobs Unfilled,” *Columbus Dispatch*, August 13, 2017, A1, and Danielle Paquette, “Companies Need Workers But People Keep Getting High,” *Columbus Dispatch*, May 21, 2017, F1.



PAPER THREE

Ohio Resurgent?



Our purpose in writing these three papers is to help focus public interest and the upcoming gubernatorial debate on what we believe is one of the most important issues of the campaign: the future of the state's economy. This is a topic that has vexed Ohio's political leaders over the past four decades, and the challenge remains. If the problems were easy to define and fix, we would have solved them by now. These papers are not intended to promote a specific set of policy recommendations, but instead to provide the framework for candidates to engage in a constructive debate about what Ohio's course should be for the next four years.

In the first paper, we traced Ohio's relative decline in economic well-being from its postwar high more than 60 years ago. This decline has been painfully felt in the pockets of Ohio's citizens, as state per capita income has fallen from 9 percent above the national average in 1953 to more than 9 percent below in 2016. At the root of this reversal in Ohio's economic clout has been the loss of 700,000 high-paying manufacturing jobs in the state. The loss of these jobs reflects long-term structural forces that, for the most part, are outside the control of Ohio's policymakers. Increased domestic and foreign competition and changing consumer preferences have played a role, but the most significant influence has been automation on the factory floor. Ohio's challenge is not one of moving on from manufacturing. It is in developing and attracting new products and industries with profit margins that can provide earnings sufficient to support families and economic mobility for Ohio's population.

As Ohio's economy has shifted from one based on making things to one based more on providing services, workers in the state have had to adapt. Our second paper explored Ohio's evolving demand for and supply of skilled workers. By most measures, Ohio's workforce is better educated than ever before. Although this upgrading of worker education and skill needs to continue, there is lack of alignment in the state as to what kind of training is needed, how it should be structured and who should pay. Additionally, significant issues remain regarding the well-being of Ohioans who work important jobs that pay low wages and provide limited benefits.

Responses to these issues are too often shaped by ideology rather than pragmatically informed by the realities of the marketplace. These are complex issues to talk about, no silver bullet exists, and we cannot simply copy public policies from other states and expect them to work in Ohio. Economic development is resource and context specific. Public policies that appear to be effective in California or Texas may also need California or Texas resources and tax bases to work.

In this third paper, we hope to enrich the debate over Ohio's economic future by posing a series of questions to the hopefuls for governor in the 2018 election. These questions are also appropriate for legislative candidates:

1. What will be your priority for initiatives aimed at improving Ohio's economy? Is it number of new jobs, number of well-paying jobs, median family income, or something else?
2. Governors of both parties have tried to stanch the relative decline of Ohio's economy and return to the prosperous 1950s and '60s. But to what extent can any state government, through either program initiatives or tax policy, exert a significant influence on the direction of a state's economy?
3. Gov. Kasich has launched several initiatives designed to create more jobs and help Ohio businesses and workers. Which of these would you continue as is? Which ones would you continue but modify, and which ones might you abolish altogether?
 - a. Privatization of some Ohio Department of Development functions into a nonprofit corporation (JobsOhio)
 - b. Creation of Office of Workforce Transformation
 - c. Identification of nine industry clusters
 - d. Reduction in personal income tax rates
 - e. Establishment of a business income tax pass-through exemption to assist certain categories of small business
 - f. Medicaid expansion
 - g. Mandatory renewable energy standards
4. Do you think Ohio's energy, transportation, and water and sewer infrastructure is capable of supporting the state's goals for economic growth? If not, what would you do to keep Ohio competitive in this regard, whether

or not the federal government acts, and how should such efforts be paid for?

5. Do you think the current state tax structure is conducive to economic growth? If not, what would you do to change it?
6. Do you think targeted tax breaks and other financial incentives are appropriate tools for recruiting or retaining businesses? If so, at what level does the cost exceed the benefits? What measures other than tax incentives do you think are necessary to attract and retain jobs for Ohio?
7. Do you support what is known as “right-to-work” legislation, which limits the ability of unions to collect dues or service fees from nonmembers?
8. What portion of Ohio workers do you think needs a bachelor’s degree or higher over the next five to 10 years? What would you do to help achieve that goal, and who should pay for it?
9. What portion of Ohio workers do you think needs training beyond a high school diploma but less than a four-year degree (including apprenticeships)? What would you do to achieve that goal, and who should pay for it?
10. Should the state do more for “forgotten Ohio,” those communities outside of major metropolitan areas that are losing jobs, and should it do more for the many Ohioans who work in important but low-paying jobs?
11. What would you do to help Ohio employers deal with the challenge of finding workers who can pass a drug test, while still ensuring a safe workplace?
12. What are the most important policy issues regarding Ohio’s economy to be decided in Washington D.C.? How would you go about making sure Ohio’s economic interests are effectively represented at the federal level?

In the remainder of this paper, we will examine these questions in more detail. We will begin at the intersection of politics and public policy by taking a look at what actions previous governors have tried to address these issues. We will then take a closer look at the issues involved with creating jobs and the challenges of matching the skills of Ohio workers with the needs of our employers. In the fourth section, we explore the “forgotten Ohio” issue and close with a discussion of federal policies that affect Ohio’s future.

AN OPPORTUNITY MISSED?

In fall 1960, a group of 100 business leaders from The Ohio State University Alumni Advisory Council proposed that the state invest \$15 million in an engineering research center on campus.

The proponents argued that Ohio was falling behind other states in high-tech research, particularly in electronics and materials. If the state didn’t up its investment in these areas, the business leaders warned, Ohio would fall further behind and suffer a significant loss of jobs and tax revenues by 1970. The Ohio State administration and its Alumni Association rallied behind the proposal and managed to get it approved by the Ohio House, only to have it die in the Senate.¹

Meanwhile, several other states did make the kinds of investments the business leaders had championed. Some of those states have thrived in the decades since, while Ohio’s economy has faltered, just as the Ohio State alumni had predicted. Was this a missed opportunity that could have changed the direction of the state’s economy? It is tempting to conclude that, yes, state officials blew it: had they supported the Ohio State proposal, Ohio’s future would have been secured. But real life is seldom so tidy.

JOBS FOR OHIO

A long succession of Ohio political leaders has tried to jump-start the state’s economy. Five years after the Ohio State Alumni Advisory Council proposal was made, Ohio Governor James A. Rhodes proposed

a \$25 million Transportation Research Center in Marysville to be run by Ohio State's College of Engineering. The project, which was conceived of as a way of leveraging Ohio State's strength in transportation engineering to attract high-tech jobs to the state, was quickly approved by state legislators. And the investment paid dividends when it proved critical in attracting Honda to Ohio 10 years later.

Gov. Rhodes, whose catchphrase was "jobs and progress," was one of the first governors in the country to tout the state's role in economic development. He went on to become one of only six U.S. governors to serve four four-year terms (1963-71 and 1975-83). Rhodes expanded the state's higher education system with the goal of placing a campus within 30 miles of each student and, at the same time, improved vocational education. Rhodes served in many ways as a model for his successors:

1. Gov. John Gilligan (1971-1975) upgraded the Ohio Department of Development and sought to attract more service- and technology-oriented firms to diversify Ohio's industrial base.
2. Gov. Richard Celeste (1983-1991) initiated the Eminent Scholars program and Edison Technology Centers to tie business and universities together to support high-tech job creation and retention in Ohio.
3. Gov. George Voinovich (1991-1999) continued these programs and strengthened the role of local development efforts and private/public partnerships across the state.
4. Gov. Robert Taft (1999-2007) initiated a phased-in reduction of business and income taxes and established the Third Frontier program to provide early-stage and venture capital for high-tech business expansion in Ohio.
5. Gov. Ted Strickland (2007-2011) continued the phased reduction of business and income taxes and established the University System of Ohio to make higher education more supportive of economic development.
6. Gov. John Kasich (2011-2019) privatized Ohio's development efforts, created special tax incentives for small businesses, and worked to transform the public workforce system to be more closely aligned with business job skill needs.

Despite these initiatives, Ohio has remained on a disappointing trajectory in terms of both job creation and income growth. Does this reflect a failure of policy on the state level or broader trends in the national and international economic environment?

Comparing Ohio's per capita income to the nation overall and to our five neighboring states suggests that the fault does not lie, at least not solely, with the state or even with the actions of its leaders. We are experiencing what economists call "path dependencies." Our way forward is freighted by our past. The very industries that provided opportunity and well-being between the end of the Second World War and the end of the Vietnam War, the institutions erected to reinforce the competitive advantage of those industries ranging from educational expectations to unions, and the implicit social contract that existed among capital, labor, and government hurt entrepreneurship and deflected capital investment from our state and directed it toward others. There was a strong sense throughout U.S. regions that benefited from manufacturing during the era of assembly-line mass production that the economy and life would not change. But they did.

Table 3.1 shows that Ohio's decline relative to the nation as a whole is part of a pattern largely shared with our border states, except in two cases: Pennsylvania and Kentucky.

In Pennsylvania's case, it is important to note that the western half of the state (including Pittsburgh) is more like Ohio in that it has faced a decline in heavy manufacturing, but the eastern edge (including Philadelphia) is part of the thriving East Coast metropolitan economy.

Kentucky's per capita income has increased, but the state started with a manufacturing base far below Ohio's and still trails its

Table 3.1 Ratio of Per Capita Personal Income for Ohio and Neighboring States to National Average (100), 1960-2015

State	1960	1970	1980	1990	2000	2010	2015
Ohio	105	101	98	94	93	91	90
Pennsylvania	101	100	100	100	99	104	103
Michigan	105	104	102	98	99	87	89
Indiana	99	96	93	91	92	87	87
Kentucky	71	78	81	80	81	82	86
West Virginia	72	77	80	74	73	80	76

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Per Capita Personal Income at bea.gov/itable.

neighbor to the north in per capita income.

Looking beyond Ohio and its neighbors to other Great Lakes states, such as Wisconsin and Illinois, the similar pattern of decline over the past half-century is evident. In other words, states of the industrial Midwest largely lost ground in terms of per capita personal income compared to the nation as a whole. On the other hand, the big winners over this period were states such as Massachusetts, which saw its ratio to U.S. per capita income grow from 113 in 1960 to 130 in 2015, and Virginia, which grew from 83 to 108.

It is possible that these statewide totals are so broad they may mask the success or failure of individual state policy changes. It is also important to remember that jobs are not usually created on a statewide basis, but on a local basis — within regional labor and housing markets. Pittsburgh is a good example. While former industrial cities in Pennsylvania, such as Erie and Scranton, have continued to struggle, Pittsburgh has emerged as a model many point to for job growth and economic revitalization. After being hit hard by closing steel plants in the 1980s, Pittsburgh resurrected itself as a regional center for medical care, research and digital technology.² The specific ingredients of the “Pittsburgh Miracle” may not be replicable elsewhere, but the city’s resurgence does demonstrate the ability of local areas to bounce back and underscores the importance of statewide strategies incorporating and complementing local efforts.

In any event, it makes sense to dig deeper to see what can be learned about where good politics and good policy might intersect, particularly in four key areas:

- Creating jobs
- Training skilled workers
- Helping forgotten Ohio
- Shaping national policy

JOBS FIRST

State development efforts have traditionally clustered around one of two approaches: 1) attract jobs directly by reducing the cost of doing business in a particular jurisdiction through tax cuts and other direct financial incentives, or 2) attract jobs indirectly by investing in improving worker skills, promoting access to new technologies, upgrading local infrastructure and promoting entrepreneurship.³

Results from these two approaches have been mixed nationally. Texas has been very successful in attracting and growing jobs by touting its low tax costs. Kansas has not. Massachusetts has been very successful on the public investment side; Illinois less so. Of course, Texas has oil and gas and the refineries along the Gulf of Mexico, and Kansas does not. Massachusetts has the electronics legacy of World War II and Cold War defense research, along with MIT, Harvard and Northeastern University’s co-op engineering education program; Illinois does not.

Over the years, Ohio has pursued various initiatives reflecting both tax reduction and human capital approaches to development, but historically the state has focused more on reducing the costs of doing business. The success of such efforts is difficult to measure. Political leaders are quick to point to various business climate rankings when the results are favorable, but independent research has found little correlation between the rankings and job or income growth.⁴ For example, Ohio has placed in the top 10 of Site Selection magazine’s rankings on business climate for four straight years, one of the few non-Southern states to do so. Although this ranking is regarded as more credible than many others, Ohio has continued to lag the national average in job creation during this period.⁵

Chasing Smokestacks?

In the 1960s and ’70s, Ohio stressed attracting large manufacturing plants. When it opened in 1966, the General Motors plant in Lordstown was touted as the largest and most technologically advanced at the time. By 1985, the Lordstown plant boasted 12,000 employees and injected more than half a billion dollars annually into the

local economy. Although it began shedding jobs in the 1990s, the Lordstown facility still employs 2,000 workers. It has emerged from the restructuring of General Motors after the Great Recession as one of the most productive plants in the world.⁶ However, its employment headcount has dropped by 10,000 people.

Honda began making motorcycles in Ohio in 1979 and cars in 1982. While employment at Lordstown was declining, Honda was expanding and now directly employs more than 14,000 workers and indirectly is responsible for another 20,000 jobs at parts suppliers around the state. These are jobs that pay good wages and offer good benefits.⁷

Not all of these deals worked out as well as Honda did for Ohio. The best-known failure was the incentive-laden plan that brought a Volkswagen Rabbit plant to New Stanton, Pennsylvania, in 1978. The plant never produced the 20,000 jobs that were expected, and it closed entirely in 1988, leaving 2,500 workers jobless, an empty 2.8 million-square-foot facility and taxpayers with a \$70 million loss. Former Pennsylvania Gov. Richard Thornburgh later observed that it may be better “to have 50 small companies with 100 employees each” than one with 5,000.⁸ Sony took over the plant to manufacture video glass in 2003, employing 3,000 workers at its peak, but closed in 2010 with the onset of the Great Recession. Today, the site has been repurposed and is aimed at attracting a diversified set of businesses.⁹

Although some states, particularly in the South, have been successful in attracting large auto assembly plants since then, many states have shifted away from the approach that some critics have called “smokestack chasing,” in favor of greater emphasis on diversification. However, the bidding war that has erupted among cities and states after Amazon announced plans for a second headquarters suggests that political leaders are still willing to chase big deals that come with big promises of jobs.

Going Diversified

One of the fundamental dilemmas officials at the state level face is whether to try to expand their existing economic base or try to become more broadly diversified. Diversification is an increasingly attractive goal because it is assumed to provide the state with a buffer against the ups and downs of a changing economy. But diversification requires venturing into less-familiar industries in which the state or political subdivision does not have historically demonstrated advantage.

The dilemma faced by political leaders and economic development professionals in Ohio is that they do not get to select the economy they desire. The private sector chooses its locations, and the private market rewards and punishes companies for their business decisions. The private sector controls the demand side of the site-selection market. State and local governments have three roles. First, they act as facilitators or matchmakers. Economic developers link the supply side of the site-selection market (real estate, talent and location) to the demand side (companies looking to locate their businesses). Second, economic developers are marketers of the state’s competitive resources. Third, they can try to lower the transaction costs involved with opening a new business establishment and mitigate the investment risk the company takes on when it invests in a new location.

In Ohio, manufacturing stands at the center of this dilemma. Manufacturing has been declining in terms of employment for 50 years, and that is not likely to change. However, the state is a very competitive location for different manufacturing industries, which could produce good-paying jobs and generate an enormous spin-off through their supply chains and through services provided to the business and its workers.¹⁰

Ohio has moved to a blended approach to economic development by: (1) targeting industries where regions of the state have demonstrated competitive advantage, (2) actively marketing to industries where the state may be able to satisfy future competitive requirements, and (3) supporting technology-based business formation and product development. The Kasich administration formalized the first two parts of its strategy by identifying nine targeted industries where average salaries in Ohio are twice what they are in the state’s remaining industries.¹¹ These are:

- Advanced manufacturing (the use of advanced technology to improve processes and products)
- Aerospace and aviation
- Automotive

- Biohealth
- Financial services
- Food processing
- Information technology
- Logistics and distribution
- Shale energy and petrochemicals

Five of the nine (advanced manufacturing, aerospace, automotive, food processing and petrochemicals) are manufacturing-related industries. The others are industries in which Ohio has an existing competitive advantage. One of the benefits of this approach is that it recognizes Ohio's complex economic geography, which is based on a dispersed set of population centers (as opposed to one dominant area, as is the case with metropolitan Boston in Massachusetts or Chicago in Illinois), each with unique advantages. Such an approach also allows for efforts that support and encourage small and medium businesses, instead of focusing exclusively on larger ones. Small manufacturers and would-be entrepreneurs are more likely to need support in the form of technology transfer, venture capital and business incubation space.

Revenge of the Megadeal

While the ardor for megadeals cooled somewhat after Pennsylvania's Rabbit plant closed in 1988, the lure of big facilities never disappeared. In 1992, BMW transformed Spartanburg, South Carolina, from a struggling textile town into a global motor vehicle competitor. Tennessee won Volkswagen's second attempt to manufacture in the United States when it opened its plant in 2011. In August, Wisconsin announced a deal with electronics giant Foxconn to locate in the state a \$5 billion plant that promises to open with 3,000 workers. Wisconsin offered a record \$3 billion in incentives. The nonpartisan Wisconsin Fiscal Bureau estimated that it could be 25 years or more before state taxpayers break even. But, if history is any guide, in 25 years, automation will have reduced employment in that plant considerably.¹²

After the Foxconn deal was approved, the Wall Street Journal reported that Michigan had offered a larger incentive package in terms of dollar value, but Wisconsin carried the day because its proposal included cash payments for unused tax credits, while Michigan's offer did not. In other words, Wisconsin will transfer cash to Foxconn whether or not Foxconn pays taxes.¹³

The politics of these deals are very difficult for elected officials because of the enormous pressure to emerge from the competition a "winner." While the perceived benefits of succeeding in one of these competitions are immediate, the costs are usually less direct and more remote, often occurring long after the officials involved have left office. This gives the employer an overwhelmingly strong bargaining position. Amazon's decision to shop the site of its second headquarters and a potential 50,000 high-paying tech jobs touched off a bidding war among 238 communities, including some in Ohio. The usually business-friendly Site Selection magazine described this process as the "Hunger Games of economic development."¹⁴

While it makes sense politically and strategically to demonstrate an openness to any employer who wants to locate in Ohio, the escalating costs of these megadeals may be reaching the point where the risk is not worth the reward. Jobs Ohio does have a return on investment model that it uses to evaluate these proposed deals, but details have not been made public because of what the agency feels are competitive concerns.¹⁵

An alternative strategy might be to avoid bidding wars for large firms unless the state enjoys a significant competitive advantage and instead focus more resources on nurturing smaller homegrown firms that can develop into tomorrow's mega-firms, or what one think tank has called the "home-grown gazelles."¹⁶ Although many small businesses may fail, the successful ones can create a lot more jobs at much less cost. Ohio and the Midwest are having some success in growing a flourishing array of small tech firms.¹⁷

Additional Issues

Attracting headline-making deals is only one part of the complex puzzle involving state government interventions to spur economic growth. Even if Ohio continues to pursue this blended, targeted-industries approach, some interesting questions remain:

- 1. Non-targeted industries** – What is the state’s policy position on supporting non-targeted industries, such as food service, hospitality and home health care? These industries provide thousands of essential jobs, but at the low end of the pay scale.
- 2. Tax policy** – What is the proper level of business taxation? Over the past quarter-century, a reduction of the tax burden on business has been high on the agenda of state officials. In 2005, Ohio adopted a major business tax overhaul designed to spur economic growth in the state. Six years later, a study by the accounting firm Ernst and Young done on behalf of the Business Roundtable, which supported the changes, found that it had reduced the effective tax rate on new business investments by 50 percent as intended, moving Ohio from 31st in terms of tax burden to third-best among the 50 states. A 2012 study by the Tax Foundation and KPMG found the same thing.¹⁸

In 2013, Ohio adopted additional tax cuts designed to help small businesses by exempting part of their income from the personal income tax. Critics argued that these changes primarily helped wealthy professionals, such as lawyers and physicians, rather than created jobs.¹⁹

- 3. Right to work** – Twenty-six states have what are called “right-to-work” laws that are intended to restrict the collective-bargaining power of labor unions. Proponents argue that such legislation improves business climate and encourages job creation. Opponents argue that it hurts workers and leads to lower pay and benefits. Independent research is inconclusive. Some states with right-to-work laws, such as Texas, have thrived, while other states without such legislation, such as Massachusetts, have thrived as well.²⁰

Ohio is currently one of the 24 states that do not have this legislation. A statewide ballot issue to adopt right to work in Ohio failed in the latter part of 1958. The Ohio General Assembly did pass a bill in 2011 to limit the bargaining power of public employee unions, but it was repealed shortly thereafter in a statewide referendum. Since that time, legislation has passed in neighboring states, including Michigan, Wisconsin, Kentucky and West Virginia. Governor Kasich has said it is not a priority for him, but proponents of the legislation have vowed to continue the fight.²¹ The next governor will have to decide whether right-to-work legislation is something she or he will support, oppose or remain neutral on.

- 4. Energy** – Ohio is one of 29 states with mandatory renewable energy portfolios for electricity production. Proponents argue that this is the best way to allow an emerging industry to grow, which will lead to more jobs and a cleaner environment. Opponents argue that the government should not intervene in the marketplace in this case and that such standards would cause a loss of jobs in the fossil fuels industry.

Strong majorities of both houses of the Ohio Legislature voted to end mandatory standards in 2016, but the bill was vetoed by Gov. Kasich. A second similar bill passed the House in early 2017. As of this writing, it is waiting in the Senate, pending negotiations with the governor’s office. If an agreement is not reached, this issue will face the next governor.²²

Purchased power agreements, where utilities commit to buy power from affiliates, is another energy-related issue. Two major cases are now before state regulators. Utilities argue that these agreements are a hedge against market volatility necessary to assure adequate supply of electricity. Critics, including the Ohio Manufacturers’ Association, argue that they are a form of corporate welfare that will drive up electricity costs.²³

- 5. Applied research** – A strong body of evidence supports the critical role of university research as a stimulus to economic development.²⁴ A 2012 study by an Ohio Board of Regents (OBOR) task force, which included business leaders, educators and public officials, concluded that Ohio was a “third-tier state” in terms of supporting technology commercialization.²⁵

The OBOR report referred to two national rankings as appropriate benchmarks. Ohio ranked 29th among

the 50 states in the Milken Foundation State Technology and Science Index in 2010 and 25th in the Kauffman Foundation's New Economy Index. Since then, the results have been mixed. In 2016 Ohio ranked 26th in the Milken Index. The Kauffman Foundation changed its methodology in 2012, so a direct comparison is not possible, but the Foundation's "Growth Entrepreneurship" ranking placed Ohio seventh among the 25 largest states, an improvement from 13th the year before.²⁶

In fact, both federal and business-sponsored research funding in Ohio is less than one would expect, given the size of the state's economy. In 2015 Ohio accounted for only 2.2 percent of federal research and development obligations and 2.1 percent of business-paid research and development even though Ohio accounts for 3.4 percent of the country's economic activity.²⁷

The issue facing the next governor will be to determine which benchmarks to use and whether to continue existing tech transfer programs, such as Ohio Third Frontier, expand them, modify them or develop something different.

6. Infrastructure – What is the state's priority in maintaining the infrastructure needed to support targeted as well as non-targeted industries? Ohio does have a comprehensive infrastructure renewal program through the Ohio Public Works Commission; however, funds are limited compared to needs both in Ohio and nationally. The deterioration of state and national infrastructure (not just roads and bridges but airports, docks, dams, water-treatment facilities, the energy grid, internet access, public transit and railroads) is widely acknowledged by both business and political leaders.²⁸ Data compiled by the Center on Budget and Policy Priorities, a think tank that advocates spending more on infrastructure, show that Ohio's state and local investment in capital projects as a share of the state's GNP slipped from slightly above the national average in 2000 to 10 percent below by 2014.²⁹

Not only would a comprehensive infrastructure upgrade improve the competitiveness of Ohio businesses, it would also provide thousands of high-paying jobs for people with and without a college degree. Since there is already a reported shortage of some critical skills in this area, an expanded construction program might be paired with an expanded training and apprenticeship program to bring more workers into the field. Although jobs associated with infrastructure improvements are sometimes identified as temporary, a long-term (10-year) plan would provide stability that many other jobs lack.

However, progress in addressing infrastructure challenges has been slow because of the large price tag involved and the lack of agreement regarding how to pay for improvements. Infrastructure is a particularly important issue for Ohio because of its aging transportation network and its location as a hub of logistics activity. If agreement can't be reached with the General Assembly regarding infrastructure funds and priorities, an alternate route would be for the governor to go directly to the people via statewide ballot initiative.

WORKERS FOR OHIO

The Elusive Skills Gap

In Paper Two, we discussed the issues involved in preparing Ohio workers for jobs of the future. We reviewed the various projections on what has been called the "skills gap" and found a surprising lack of consensus about how large of a gap there really is, or in some cases, if one even exists.

In December 2016, the Governor's Executive Workforce Board, a group of 25 leaders representing employers, labor unions, nonprofit agencies and public officials, reached its own conclusion. The board set a goal that "65 percent of Ohioans aged 25-64 will have a degree, certificate or other postsecondary workforce credentials of value in the workplace by 2025." Gov. Kasich quickly accepted the group's recommendations.³⁰

The Executive Workforce Board did not elaborate on why it chose this goal or what education and training goals were for various subgroups. However, the board's recommendations very closely parallel recommendations contained in a 2013 report from the Georgetown Center on Education and the Workforce.

This table compares the educational recommendations contained in the Georgetown report with the Census Bureau’s American Community Survey estimates on educational attainment levels among Ohioans age 25 or older in 2015. Comparing the data shows that only modest improvement is needed in all categories except in raising the share of residents in the state with bachelor’s degrees and lowering the share of Ohioans with a less than a high school diploma.

If we accept the goal of upgrading educational levels of Ohio’s workforce to be both politically necessary and feasible, a number of challenging questions still must be answered.

Table 3.2 Educational Attainment of Ohioans 25 and Older in 2015 Compared to Georgetown Center Projected Workforce Need by 2020

Category	Census 2015	Georgetown 2020
Master’s Degree or Higher	9.7%	10.4%
Bachelor’s Degree	16.4%	20.5%
Associate Degree	8.2%	9.9%
Some College	20.7%	22.2%
High School Diploma or Less	44.8%	37.0%

Sources: U.S. Census Bureau, “Educational Attainment, Ohio,” *American Community Survey 5-Year Estimate, 2011-2015*, Table S1501 at factfinder.census.gov; Georgetown University Center on Education and the Workforce, “Ohio 2010-2020 Total Job Openings,” *Job Growth and Education Requirements Through 2020*, (July 16, 2013), 80.

College Degrees: How Much Is Enough?

The Georgetown Center analysis for Ohio estimates 30.9 percent of the job openings between 2010 and 2020 will require a bachelor’s degree or higher. Based on census data, 26.1 percent of Ohioans age 25 and older had a bachelor’s degree or higher in 2015, but among the critical 25-34 age group, 31.5 percent did. So, if present growth continues, Ohio should be able to meet this overall goal.

Beyond the issue of the appropriate number of degrees in the workforce, attention has increasingly turned to how higher education investments should be distributed by specialty. Some states have moved aggressively into channeling students into “high-demand” STEM (science, technology, engineering and math) disciplines. Kentucky, for example, has adopted a plan to directly incentivize its colleges and universities to emphasize STEM degrees and de-emphasize liberal arts.³¹

Supporters of the liberal arts, however, argue that their disciplines in fact produce the kind of graduates employers say they need most — people who are skilled at communications, problem-solving and teamwork.³² A Harvard researcher recently highlighted that employment in occupations requiring analytical and social skills has outpaced the rate of growth in STEM jobs.³³ Others warn that more attention should be paid to regional differences in demand for skills instead of force-feeding a one-size-fits-all approach to skill development. Failing to respect what jobs the local economy can support risks creating skilled workers who will leave for other states. A more differentiated approach to skill development offers the potential to leverage competitive advantages associated with individual regional economies.³⁴

This raises a series of important policy questions for Ohio:

1. Even if the state has enough degrees overall, are they in the specialties that are needed most? If not, is it better to depend on the free market to provide the needed skills or is some sort of government intervention appropriate?
2. Does it matter that Ohio has historically offered low state financial support and high tuition for college?³⁵ What implication does that have for student debt loads and upward mobility for historically excluded groups?
3. What about the research missions of Ohio’s universities? Job growth is closely associated with high levels of research activity. Is Ohio doing enough to support this?

Mid-level Skills: Definition Elusive

No other aspect of workforce development has attracted as much recent attention as apprenticeships and other mid-level training. These programs are aimed at providing skilled, good paying jobs for people without a four year college degree. These mid-level skills are usually defined as those obtained through associate degrees, apprenticeships, certificates or some college beyond high school. Beyond that, there is little agreement about the mix of credentials needed to meet demand or the total number of jobs requiring workers with mid-level skills. For example, the National Skills Coalition estimates 51 percent of all job openings in Ohio over the next 10 years will require mid-level skills, the Georgetown Center predicts 31 percent, and the Ohio Office of Labor Market Information projects 13 percent.

The National Skills Coalition did not provide detailed estimates of which specific components of mid-level skills would be required. The Georgetown Center did estimate that an associate degree would be required for 9.9 percent of jobs open between 2010 and 2020. The Census Bureau estimated that 8.2 percent of Ohioans over age 24 held associate degrees in 2015, compared to 8.1 percent nationally and 7.3 percent of Ohioans in 2010. If Ohio maintains the same rate of growth from 2015 to 2025 as it did for the period 2010 to 2015, it should be able to meet this goal.

Apprenticeships have long been used to develop valuable skills and trades, but they have been receiving renewed interest due to the heightened focus on mid-level skills in Ohio and nationwide. German employers have been particularly successful at utilizing apprenticeships to create a skilled, globally competitive workforce, particularly in manufacturing. Sixty percent of German high school students participate in such programs, compared to less than 5 percent in the United States. Although wholesale imposition of the German system on American workers and companies is not feasible, many political leaders, employers and workforce advocates have called for an expansion of apprenticeship opportunities in the United States. President Trump and the National Skills Coalition have advocated increase the number of apprenticeships by tenfold but have not elaborated on how to get there.

According to the U.S. Department of Labor, Ohio had 16,237 active apprentices in federal Registered Apprenticeship programs in 2016, third-largest among all states.³⁶ The Governor's Office of Workforce Transformation has made expansion of apprentice programs a priority, as have many localities in the state. However, it is not clear what the ultimate goal is and how long it will take to get there.

Certification programs increasingly provide another avenue for developing mid-level skill talent. These programs may be offered through secondary or postsecondary institutions or through industry organizations. Some certification programs have been developed to serve the talent needs of specific businesses; others attempt to address skill demands for entire industries. Yet, there are questions regarding how many and what kinds of certifications are needed, who should pay for such programs, and whether certifications have the same portability for workers as associate degrees.

For Ohio to move ahead in developing mid-level skills, it needs to be able to address the following questions:

1. Even if the number of associate degrees being produced is about right, are they distributed appropriately?
2. What are the goals for apprenticeships over the next 10 years, and what should be the distribution between manufacturing and nonmanufacturing?
3. What other mid-level skills are needed, and what training level is appropriate?

The Forgotten 35 Percent

Even if the ambitious goal of 65 percent of Ohio workers having training beyond high school is met, that leaves people with a high school diploma or less. With this being the case, state leaders need to ask themselves what responsibility, if any, the state has in supporting these workers. For example, what is an appropriate minimum wage? Ohio's minimum wage, which is indexed to the Consumer Price Index, stands at \$8.30 per hour in 2018 for most employees (compared to the national minimum of \$7.25).³⁷ A wage too high can slow job growth, but a wage too low slows demand and puts people on public assistance who shouldn't be. What responsibility does the state or federal government have in ensuring that these workers have access to benefits, such as health insurance?

The K-12 Foundation

Although training beyond high school is increasingly critical in the modern economy, ensuring that all students graduate from Ohio high schools equipped with the basic skills to pursue opportunities in the workplace, as well as in college and training programs, is also important. Ohio school districts have steadily improved their graduation rates over the past 15 years, and most comparisons of state performance data rank Ohio schools somewhere in the middle on various metrics, or roughly around the national averages.³⁸ Thus, it's fair to conclude that Ohio's K-12 system isn't holding Ohio back compared to other states, but it also doesn't provide a competitive edge overall.

Still, the state is struggling with a number of contentious issues, such as the appropriate standards for measuring and comparing district performance, charter schools and funding differences among districts. The Governor's Executive Workforce Board also identified a significant gap in expectations between Ohio's employers and its educators.³⁹ Employers want new employees to be more job-ready, requiring minimal additional training. Educators think their job is to prepare students for success at lifelong learning because job requirements are likely to change for them perhaps several times.

Governor Kasich attempted to address this by proposing that three business executives be added to each local school board. This proposal did not meet with much support from educators or legislators and was eventually dropped. More recently the governor has supported changing the reporting line of the Department of Education from the Board of Education to his office. At the time of this writing, it is not clear whether this proposal will be adopted.

Nevertheless, the challenge is a real one. Employers need people ready to handle the jobs they are hired for, but they will also need workers who can adapt to new skills as those jobs change. This does not lend itself to a simple solution, but perhaps the next governor may want to begin by bringing educators and businesspeople together to find some common ground.

Long Lead Times

In our first paper, we discussed the impact of automation on Ohio jobs, particularly in manufacturing. This trend is likely to continue, placing an even greater premium on being able to retrain people in a timely way. Yet, for the most part, Ohio is following a training timeline developed 100 years ago: two years or more for associate degrees, four years or more for bachelor's degrees, three years or more for doctorates and professional degrees, and from one to six years for apprenticeships. Perhaps it is time to re-envision postsecondary education and training, allowing a quicker route to a degree or credential. The time needed to complete programs should not be cut just for speed's sake or to improve completion numbers. The goal should be the "just right" time — neither short shrift nor overly long — needed to acquire relevant knowledge and skills. There have been some efforts to streamline degree and credential programs — for example, Ohio has developed three-year pathways to some four-year degrees — but more needs to be done.

A Workforce Crisis

In Paper Two, we discussed the workforce challenges related to substance abuse, including opioid addiction and marijuana use. One of the challenges facing employers in particular and society at large is whether there is a difference in risk between addiction to painkillers and casual use of marijuana. This poses two policy-related questions to the next governor:

1. Do you see a difference in risk between opioid addiction and casual use of marijuana? What should the state do or not do to help employers deal with this problem?
2. For high-risk opioid abusers, what should Ohio be doing to see that they are provided with incentives to seek treatment and rehabilitation, and, for those who have done so, what, if anything, should the state do to encourage employers to hire them?

Tyranny of the Business Cycle

All the projections used to identify future skill levels assume slow but steady growth in the state's economy. This is not an unreasonable assumption, but an economic downturn is inevitable at some point. Recessions have a way of wreaking havoc on people and on businesses. For example, in response to the last recession, employers across the country reduced apprenticeships by 19 percent from 2008 to 2011, according to the Department of Labor, and the number did not rebound to 2008 levels until 2015.⁴⁰ It's unfortunate, but an apprenticeship is not very meaningful without a job to attach it to. Moreover, when the economy does recover, shortages tend to develop quickly because the pipeline has dried up.

There is no easy solution. However, one option would be that the state could work with businesses to set up some sort of rainy day fund similar to the one for the state's general funds budget. Such a fund could be used to keep the pipeline for skills training in high-demand occupations flowing until the economic cycle turns back to growth.

What's Next for Workforce Transformation?

The Governor's Office of Workforce Transformation was established to bring some order to the patchwork of offices and agencies responsible for preparing Ohio workers for the new economy. The discussion of labor force issues in this section highlights the complex relationship between worker supply and demand in Ohio's changing economy. Consequently, a key question facing the next governor is what he or she wants for this office. The answer will be an important indicator of what the approach may be to bring more good jobs for Ohio workers.

Some of the questions the next governor will need to address include:

1. Should the five-year-old Governor's Office of Workforce Transformation be continued, and if so, be more aggressive, less aggressive or about the same?
2. Now that the state has accepted the goal of 65 percent of the workforce having some training beyond high school by 2025, what does that mean exactly? How much emphasis should be placed on apprenticeships versus certificates, or doctorates compared to associate degrees? And would the state be better off with goals expressed as a range, rather than something to the nearest tenth of a percent?
3. At what pace should these goals be implemented? Should there be a crash program to fill the biggest gaps as soon as possible or a more incremental approach that provides more flexibility to adjust to changes in a dynamic jobs market?
4. How do we get better alignment between skills needed by employers and training offered to workers? Does it make sense to focus more on credentials, on job-specific skills, or a combination of both?

OHIO VERSUS THE WORLD

Decisions made by others, including the federal government, have a lasting impact on the welfare of Ohioans. Some of these are obvious, such as trade policy or Medicaid funding. Others are less obvious, such as the value of the dollar, which dramatically affects exports of Ohio manufactured goods, or the future of federal installations. Federal facilities, such as the NASA Glenn Research Center near Cleveland, the Defense Supply Center Columbus and the Wright-Patterson Air Force Base near Dayton, are sources of thousands of well-paying middle-class jobs. Wright-Patterson is Ohio's single-largest employer at one location, with 27,600 workers, two-thirds of whom are civilians.⁴¹ The Defense Supply Center provides 7,600 jobs, and the NASA Glenn Center employs 3,200 workers, 855 of whom hold at least a bachelor's degree.⁴²

Ohio's elected officials are active on many of these federal issues that affect the state, but Ohio policymakers, particularly the next governor, must determine which issues, going forward, are likely fruitful investments of

time and energy and which are not. For example:

1. What should be the highest priorities for advancing Ohio's interests in Washington? For example, Gov. Kasich has been out front in offering bipartisan alternatives to fund Ohio's Medicaid expansion. Sens. Brown and Portman have worked across party lines on issues of unfair trade practices and opioid addiction.
2. To what degree should Ohio work with neighboring states, which are also, in a sense, competitors, to support a common agenda? Ohio participates in a number of organizations, such as the Northeast-Midwest Institute and the Great Lakes Council, that work to influence federal policy. Do these organizations offer an opportunity to serve as a force multiplier to counteract the loss of congressional seats due to population losses?
3. To what extent should the governor try to reconcile differences among Ohio interest groups on issues such as trade, where various groups may have disparate objectives? For example, the debate over NAFTA has revealed deep splits among businesses based on how much they depend on export sales or imported parts. Ohio's auto assembly plants serve as a classic example. Is it worth state officials' time to try to develop a common position, or is that a fool's errand?

FORGOTTEN OHIO

We have previously discussed the two components of the forgotten Ohio. The term applies to both certain geographical areas of the state and certain groups of workers. Sometimes these overlap; sometimes they do not. The loss of manufacturing jobs has been felt throughout the Buckeye State, but some areas have suffered more than others. Generally, the state's larger metropolitan areas with more diverse economies, such as Columbus, Cincinnati and Cleveland (and to a lesser extent Toledo, Dayton and Akron), have been able to replace at least some of their lost manufacturing jobs.

However, many of Ohio's rural areas and smaller cities have had a much more difficult time growing or attracting new jobs to replace those lost in manufacturing. Ashtabula, Hamilton, Lima, Mansfield, Portsmouth, Port Clinton, Springfield, Steubenville and many other similar communities continue to face a downward spiral of declining population, aging infrastructure and inadequate public services. These areas will never return to what they were, but they deserve something better than being written off. The Ohio General Assembly included a \$60 million tax incentive for investment in rural areas in the latest budget bill, but Gov. Kasich vetoed the bill, arguing it was too broadly worded. He offered to work with legislators on alternative language, but critics of the bill argue that similar programs in other states have failed to deliver the promised economic growth.⁴³

Another option for these distressed areas might be an investment fund targeted toward infrastructure improvements, such as clearing dilapidated properties or providing high-speed internet, which might help attract more jobs to those areas. For example, the Ohio General Assembly is currently considering a bill to expand high-speed internet access to 300,000 households currently lacking this capability.⁴⁴

Even in more prosperous communities, opportunity has eluded many Ohioans who are working, but in low-paying jobs. Many of these low-wage workers are women and single parents. Many are black or Hispanic. Many are employed as food service workers, housekeepers, custodians, cashiers, laborers or home health aides.

In many cases, these workers who contribute valuable service to their communities lack the employer-paid health care, retirement plans and other benefits available to higher-wage workers. They are often vulnerable to events they can't control, such as in the case of sudden illness. They depend on state-established protections, including the minimum wage and health insurance. For example, about half of the more than 650,000 people newly eligible for Medicaid in Ohio under the 2014 expansion are employed or married to working spouses. Yet, their wages are so low that they meet eligibility requirements that household income not exceed \$27,720 annually for a family of three.⁴⁵

These workers are usually the ones most directly affected by political decisions involving health insurance, minimum wage and unemployment insurance. Although it is important to maintain an incentive for those in low-wage jobs to work, it is also important to recognize that these workers deserve a fighting chance to support their families and to better themselves.

This presents two related sets of questions for the next governor:

1. Do you think the state has a role in providing additional help for poorer, more isolated areas of the state that have lagged in economic growth? If so, what would you propose and how would you pay for it?
2. Do you think the state has a role in helping Ohioans who work but in low-wage jobs? If so, what would you do and how would you pay for it? Do you support a work requirement for Medicaid?

CONCLUSIONS: WHERE HOPE AND REALITY MEET

This paper has explored the intersection of politics and economic realities. We recount how Ohio governors of both political parties have consistently tried to improve the lives of Ohio workers and the state's economic vitality. Some of these efforts have been more successful than others, but none has significantly altered the state's trend of relative economic decline.

We argue that four areas deserve more attention from the gubernatorial candidates because they hold promise for improving the lives of Ohioans. These four issue areas center on how best to: 1) stimulate the creation of new jobs in industry clusters that have the potential both to diversify the state's economy and exploit its competitive advantages; 2) align the needs of Ohio employers with the skills of Ohio workers, particularly in the mid-level skill range, and streamline education and training programs; 3) address the unique challenges of Ohio workers and Ohio communities that have been unable to adapt to and compete in the modern economy; and 4) engage allies and develop effective political coalitions to shape federal policies that impact Ohio.

Ohio's next governor needs to be prepared to articulate, gain support for, adopt and implement a comprehensive strategy to move the state forward. Although understanding the past is important, the governor's vision and actions must not be directed at recreating the Ohio that was, but on building the foundation for the Ohio that can be.

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