Executive Summary
Weakness in both segments of the Wheeling Area’s energy sector caused the region to enter an abrupt economic downturn in early-2015, but conditions have improved as the regional economy has recorded moderate job growth over the past few quarters. In this report, we present a detailed discussion of the Wheeling Area economy along with our forecast for regional economic conditions for the next five years.

Several key facts behind the Wheeling Area’s recent economic performance are as follows:

- After gaining 2,600 jobs between late-2009 and early-2014, the Wheeling Area went on to lose nearly an equivalent amount of jobs from that point until mid-2016.
- The regional economy bottomed out in mid-2016 and has gained around 900 jobs over the past few quarters, or nearly 40 percent of the jobs lost in the downturn.
- All four of the region’s counties experienced some degree of weakening economic activity in recent years, but losses were disproportionately felt in Marshall County.
- In terms of the source of job losses, a large proportion were connected to coal and natural gas.
- Mine employment is 41 percent below its early-2015 peak, but has increased in Marshall and Ohio counties during the past few quarters.
- Natural gas payrolls have recorded gains in the past few quarters due to surging production and increasing exploration in the Utica and Marcellus shale plays.
- Measured unemployment in the region has been volatile in recent years, but overall has begun to show consistent improvement in the last year or so.
- The region has suffered some degree of labor force attrition in recent years. Overall, the area’s work force shrank by 3,400 people percent since 2014.
- Per capita income has grown well above state and national averages in recent years. Ohio County residents have the highest income levels in the state.

Our forecast calls for the Wheeling Area to continue its recovery from its recent economic downturn. The region should register above-average job growth over the next three years or so before gains slow appreciably. Key aspects of our forecast are as follows:

- We expect employment to increase at an average annual rate of 1.0 percent in the region over the next five years. Job growth in the region is expected to be at its strongest between 2018 and 2020.
- While the region’s economic outlook is positive, growth could exceed expectations if PTT Global ultimately decides to build an ethane cracker facility in Belmont County, Ohio.
- Natural resources & mining is expected to lead the way in terms of job during the outlook period, with a forecast gain of 6.0 percent per year. Professional and business services and construction will also record growth that exceeds the overall regional average.
- The manufacturing sector is expected to register moderate job growth after enduring large losses over the past few decades.
- Unemployment is expected to decline over the next five years, but will likely remain higher than the state and national averages.
- Inflation-adjusted per capita income is expected to rise at an annual average rate of 2.2 percent over the next five years. Both wage and nonwage sources of income will increase at healthy rates.
- Regional population losses deepened in recent years due to economic turmoil. Poor health outcomes and a growing share of elderly residents have also caused deaths to outnumber births by a widening margin.
- Population losses are expected to continue in the area during the outlook period, but declines will be smaller compared to the past few years.
- All four counties in the region are expected to lose residents, but Ohio and Wetzel counties will likely endure the largest percentage declines going forward.
Recent Economic Performance

The Wheeling Area has endured a significant amount of economic volatility over the past decade. After experiencing a steady pace of growth during its recovery from the Great Recession, deteriorating conditions in the energy sector led to an abrupt loss of nearly 2,300 jobs between late-2014 and mid-2016. However, conditions have improved measurably over the past several quarters, due in large part to a turnaround in both segments of the area’s energy sector. Indeed, a bounce-back in coal-fired electricity generation has prompted a solid rebound in coal output at the area’s largest mines. In addition, the Wheeling Area economy has benefited from a healthier shale gas industry as output, exploration and development activity in the region have been on the rise due to increased demand and ongoing enhancements in pipeline infrastructure throughout the Mid-Atlantic region. Overall, these improvements have helped to push payrolls in the four-county area up by more than 900 workers since the third quarter of 2016.

PERFORMANCE BY COUNTY

While all four counties in the Wheeling Area saw economic activity weaken between late-2014 and mid-2016, changes have occurred in a relatively uneven fashion across the region. Ohio County, which contains the region’s namesake principal city of Wheeling, accounts for the largest share of jobs in the area. Ohio County’s payroll levels have generally trended lower since the beginning of 2008, but have remained stable for the most part over the past two years or so as gains in several private service-providing sectors and a couple of manufacturing industries offset losses in the energy sector.

Belmont County, Ohio, which constitutes the Wheeling Area’s other major economic center, has registered an appreciable degree of job losses over the past two years. After adding roughly 1,500 jobs between mid-2012 and late-2014, county employers have subsequently surrendered 60 percent of those gains. The energy sector has accounted for essentially all of these losses as mine output from the county’s coal operations continue to shrink and the bear market environment for natural gas prices prompted sizable layoffs by companies holding Utica and Marcellus shale play assets.

Marshall County, though containing just 15 percent of the area’s employment base, has accounted for a
disproportionate share of jobs lost in the area over the past couple of years. Just as in other parts of the region, losses have been mostly associated with the energy sector’s downturn. Indeed, coal and natural gas companies cut payrolls by nearly 1,300 workers while services firms that provide contract labor and technical support functions to energy companies in the area felt the effects of the downturn. Economic activity has remained fairly stable in Wetzel County over the past couple of years, as the winding down of energy sector construction activity was offset by gains across several major sectors.

ENERGY SECTOR While most regions in West Virginia tend to be dominant in one particular type of energy production, the Wheeling Area contains large reserves of high-sulfur coal, natural gas, natural gas liquids (NGLs) as well as small amounts of crude oil. Marshall and Ohio counties rank highest and fourth-highest in overall coal production within West Virginia and accounted for more than 25 percent of the state’s coal tonnage during the first two quarters of 2017—all from just three mining operations.

Both counties did see a noticeable slump in mine output during the second half of 2015 and the first two quarters of 2016 as coal-fired generation plummeted amid the implementation of the EPA’s Mercury & Air Toxics Rule (MATS) rule, which led to the retirement of several power plants that purchased coal produced in the area, extremely low natural gas prices and lackluster electricity demand growth. Production at the three major mines in Marshall and Ohio counties has picked back up over the past several quarters and could potentially reach 24 million short tons in 2017. Coal mine payrolls in Marshall and Ohio counties actually declined more sharply during the early-2015 and late-2016 slump, due in large part to heavy capital intensity for these operations. Mine payrolls have begun to pick up over the past few quarters, but again, given the highly-productive nature of these operations, coal mine employment has grown at a much slower pace than mine output so far. In contrast to the fairly solid performance of coal production in Marshall and Ohio counties, Belmont County coal mine production has been on a downward trend since 2009. Moreover, the recent closure of the Powhatan #6 mine due to depleted reserves means the Rice #1 strip mine is the only actively-producing mine left in the county and its output is much smaller—totaling just 330 thousand short tons during 2016.

In addition to the region’s long-established coal industry, the Wheeling Area’s economy has grown into a major player in natural gas production thanks to its location in the heart of the Utica and Marcellus Shale plays. Wetzel, Marshall and Ohio counties ranked 2nd, 3rd and 7th in terms of statewide natural gas withdrawals in 2016 and their recorded gains for the year helped to offset losses in several of West Virginia’s other key gas-producing counties. Belmont County ranks as Ohio’s leading natural gas-producing county, accounting for more than one-third of the state’s overall gas volume withdrawn during 2016.

Production activity has increased markedly over the past few quarters throughout the Wheeling Area as firms are responding to moderately higher prices, anticipated growth in pipeline infrastructure and rising end-market demand. Rig counts have roughly doubled in the area since October 2016 as several major drilling firms are exploring for new wells and expanding capital spending in the area for the first time since 2014. Natural gas industry payrolls have increased moderately over the past few quarters, though remain roughly 25 percent below their peak levels in late-2014.

In addition to the activity associated with drilling and wellhead output, the Wheeling Area has also seen a dramatic increase in midstream facilities and infrastructure over the years. Indeed, Belmont, Marshall and Wetzel counties each contain several large different
types of midstream natural gas assets, ranging from pipelines to cryo-processing and fractionation capacity. Downstream natural gas processing activity remains practically nonexistent in the area at this time, though the Shell ethane cracker plant that is under construction in Beaver County, Pennsylvania, and ongoing consideration of a site for an ethane cracker facility in Belmont County by PTT Global could greatly increase not only the natural gas industry’s importance to the region, but also for the array of chemicals and plastics manufacturers operating throughout the Upper-Ohio River Valley.

MANUFACTURING Although its dominance has declined over the years, the Wheeling Area contains a sizable concentration of manufacturing activity, particularly chemicals, plastics and metals manufacturing. Overall, the sector has lost roughly 900 jobs since the beginning of 2012 (or an 18 percent decline), though most of those losses stem from a couple of chemical plant consolidations that occurred a few years ago. The plastics, food processing and a few miscellaneous manufacturing subsectors have managed to add a moderate number of jobs over the past two years. Moreover, the shale gas boom throughout the region has generated some measurable benefits for the Wheeling Area’s manufacturing base, most notably the chemicals and plastics producers, which rely heavily on natural gas and by-products from shale deposits as feedstock for their production processes. Furthermore, some new manufacturers have opened in the region over the past few years that manufacture pipe fittings, controls and other components for gas wellpads, pipelines, substations and other infrastructure.

SERVICE SECTORS Energy production and manufacturing activity play an above-average role in the Wheeling Area’s economy, but private service-providing sectors still account for the wide majority of jobs in the region. Trade, transportation and utilities ranks as the largest source of private sector employment in the Wheeling Area, due in large part to the Cabela’s operations in The Highlands. In general, the sector has remained stable over the past few years, with the most significant negative event coming from the closure of the Kammer Power Plant in mid-2015, affecting the utilities part of the super-sector. Transportation and warehousing payrolls have increased moderately since 2014, largely as a result of increased hiring by companies providing materials hauling services for shale gas drillers.

Education and health services contains nearly one-in-five of the region’s jobs, and reflecting broader national trends this sector has generally been a source of steady growth over the past decade. Leisure and hospitality accounts for an above-average share of the region’s economy, due primarily to the presence of the Wheeling Island Hotel-Casino-Racetrack. Unfortunately, the introduction of gaming venues in neighboring states during the past decade, along with a secular decline in casino and racetrack gaming participation across the US as a whole, has led to a drop in revenue at Wheeling Island and other such venues in West Virginia.

The Wheeling Area houses regional and corporate headquarters for several mid-size companies, making professional and business services a key segment of the four-county region’s services sector. However, the area also plays host to a host of companies that provide support functions such as contract labor workers, engineering, legal and accounting services, much of it to the energy industry. As a result, the sector has seen its payroll levels decline by 8 percent since late-2014 as firms in the coal and natural gas industries have reined in contract labor hiring and cut spending on engineering and other services.

UNEMPLOYMENT The Wheeling Area’s unemployment rate climbed rapidly during the Great Recession, peaking at just above 10 percent in 2010. Although the jobless rate has generally been on a downward trend since then,
periods of volatility in the energy sector caused the rate to bounce between 6.5 and 7.5 percent from late-2014 to mid-2016.

Since the second quarter of 2016, the regional unemployment rate has fallen nearly two full percentage points, declining from a seasonally-adjusted average of 7.6 percent down to 5.7 percent in the third quarter of 2017. This marks the region’s lowest jobless rate since late-2008. Unemployment rates vary widely within the region, ranging from a low of roughly 4.6 percent in Ohio County to a high of 6.6 percent in Wetzel County based on preliminary data for the third quarter of 2017.

LABOR FORCE Reflecting a combination of the area’s economic volatility and underlying demographic trends, the Wheeling Area has recorded some degree of labor force attrition in recent years. Overall, the region’s workforce has declined by nearly 5 percent (3,400 people) since 2014. While Wetzel County has a low rate of workforce participation among its adult-age population, the rest of the Wheeling Area tends to have higher rates of labor force participation compared to most regions in West Virginia, particularly among cohorts in the prime working-age years of 25-54.

INCOME Per capita personal income for the Wheeling Area is estimated at approximately $40,100 during calendar year 2016, which is essentially unchanged from the previous year. Despite the sluggish rate of growth in 2016, overall per capita income for the region is 11 percent above 2012 levels (not adjusting for inflation, as presented in Figure 6). Even after adjusting for inflation, residents in the Wheeling Area, on average, have enjoyed a gain in real purchasing power over the last four years as per capita personal income in the region has increased by nearly 7 percent. Over the past decade, per capita income growth in the four-county region has surpassed both state and national averages by several percentage points due to strong wage growth and rising mineral rights royalty payments.
Ohio County residents received income levels of $49,500 per person during 2016, ranking it as the highest among West Virginia’s 55 counties and roughly 35 percent above the statewide average and slightly higher than the national average. The region’s three remaining counties have appreciably lower per capita levels by comparison, ranging between $34,700 and $37,000 in 2016. Per capita incomes in the region are boosted by the high wages that are paid by the coal and natural gas industries as well as portions of the area’s manufacturing and business services sectors. Moreover, in the addition to the wages paid to workers, residents in the area that hold mineral rights have seen their incomes boosted by the shale gas boom. Transfer payments account for an above-average share of personal income in the Wheeling Area, though this is more attributable to the region’s high share of residents above the age of 65 than fundamental weaknesses in the local labor market.

**POPULATION** The Wheeling Area’s resident population totals have declined in a fairly steady fashion over the past few decades. Indeed, the region’s population numbers have shrunk by roughly 17,000 since 1996, or 0.5 percent annually. Each of the Wheeling Area’s four counties have lost population, although Belmont County, Ohio, has been the most stable in the region by comparison, with the total number of residents declining by 2.5 percent in the past decade. Wetzel County saw the largest percentage decline in population in recent years, with the number of residents shrinking by more than 7 percent in the last ten years.

**DEMOGRAPHIC CHARACTERISTICS** Just as with the rest of the state, the Wheeling Area’s population has been negatively affected by deaths consistently outnumbering births. Part of this is due to the area’s larger-than-normal share of elderly residents, but causes of death from a host of issues ranging from heart disease to drug overdoses among younger cohorts living in the region help explain the region’s high mortality rate. Finally, the four-county area lags both state and national averages in measures of educational attainment among the adult population, as less than 19 percent of residents aged 25 years and older possess at least a bachelor’s degree.
Economic Outlook

Expectations for the West Virginia and US economy during the 2017-2022 forecast horizon will have a significant impact on the performance of the Wheeling Area going forward. The forecast calls for the region to remain on a path to continue to recover from a brief economic downturn and actually experience above-average growth over the next several years.

Figure 10: Employment Growth Forecast

Overall, we anticipate total employment will increase by 1.0 percent annually through 2022. Regional growth is expected to be especially strong during the first few years of the outlook period, with payrolls increasing at an average annual rate of 1.3 percent through 2020. Growth will be led in large part by the natural gas industry, as higher prices (compared to early-2016 levels), new pipeline infrastructure and healthy end-market demand spur production and bolster exploration and capital spending activity. Since no official decision has been provided yet, any impacts created by the construction and operation of PTT Global’s potential ethane cracker in Belmont County have not been included in the baseline forecast. Consequently, the Wheeling Area outlook could come in significantly above expectations as the facility would create numerous jobs during its construction and generate positive impacts for the region’s natural gas industry as well as portions of the local manufacturing base. The project could also help to slow the region’s tendency toward net out-migration, and thus stem the in population losses that are expected for the Wheeling Area during the outlook period. Even without these impacts, however, the baseline forecast still calls for the four-county’s overall level of employment to reach the recent cyclical peak set in late 2014 by the second half of 2019.

COUNTY DIFFERENCES  Among the region’s four counties, Marshall County is expected to realize the fastest pace of job growth going forward (1.9 percent per year) and will easily outperform both state and national averages. Most of this growth will reflect a rebound in the county’s energy sector, thanks to rising production and an increase in exploration and development of new Marcellus and Utica wells. Coal industry employment in the county should see moderate gains, but will likely face downward pressure over the longer term as utilities plan to retire more power plants across several states that source their fuel from local mining operations.

Figure 11: Employment Growth Forecast by Area

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3 All forecast estimates presented herein are derived from the West Virginia University Bureau of Business & Economic Research Econometric Model unless otherwise noted.
Belmont County will likely experience growth that is well above the national average over the next five years, with employment projected to grow at an average annual rate of 1.2 percent per year. Natural gas production in Belmont County remained strong during the 2014-2016 time period, and given that development of Marcellus and Utica Shale assets in Ohio are still at a relatively early stage, growth will only accelerate going forward as underlying fundamentals improve. Since Belmont County is the site under consideration by PTT Global for the ethane cracker plant, the construction of this facility would likely boost the county’s natural gas industry even more as it would encourage greater development of Marcellus and Utica Shale assets. Coal output in Belmont County is expected to be mostly stable, though at low levels, as last year’s closure of the Powhatan #6 mine leaves the county with only one active low-producing mining operation in place going forward.

Wetzel County is expected to add jobs at a pace of 1.1 percent annually during the outlook period. As with the other parts of the region, the natural gas industry will likely drive Wetzel County’s performance over the next five years. Expanding production in the Marcellus and development of new Utica Shale assets will buoy the industry’s contribution to local growth, but Wetzel County is expected to see a large amount of new midstream infrastructure come on line in the coming years. Furthermore, the Quantum Utility Generation natural gas power plant in Moundsville is expected to boost construction payrolls and once it becomes operational in 2019, it should offset the generation loss and a portion of the lost jobs attributed to the Kammer plant’s retirement in 2015. Ohio County’s growth will lag the rest of the region during the outlook period, as solid prospects for the area’s energy industry, segments of the manufacturing and services sectors are offset to some extent by the gaming industry’s continued difficulties in competing with newer venues in neighboring states and a downward trend in gambling.

**BUSINESS SERVICES** The energy industry will play an outsized role in the Wheeling Area’s performance during the 2017 to 2022 outlook period in a direct manner, but its influence will extend into other segments of the region’s economy as well. Indeed, a significant portion of the region’s professional and business services sector has a great deal of interdependence with the area’s coal and natural gas firms vis-à-vis providing contract labor workers, as well as engineering, legal and other support services. During the forecast horizon, we anticipate the energy industry’s growth, along with broader US economic gains that will buoy demand for business services firms, will cause payrolls to increase 2.3 percent per year.

**CONSTRUCTION** Construction activity in the Wheeling Area is expected to improve over the course of the next several years. Strong growth in incomes is expected to bolster housing demand in the area to some extent, but underlying demographic trends will likely limit residential construction activity. The biggest driver for the construction sector will be the natural gas industry’s anticipated growth. Several major pipeline projects, such as the Rover, Leech XPress, Mountaineer XPress and Mountain Valley, that go through portions of the Wheeling Area are either currently underway or slated to begin with the next year or so. These projects will lay hundreds of miles of pipeline and also include the construction of numerous compressor stations and other equipment throughout their paths.

In addition, until sufficient pipeline infrastructure is available and downstream facilities such as the Shell ethane cracker in Beaver County, PA, come on line to process NGLs, additional midstream facilities such as fractionation and cryo-processing will likely be needed in the region. Another energy-related project of importance during the first half of the forecast horizon will be the aforementioned advanced combined-cycle natural gas
power plant in Moundsville. Finally, the PTT Global ethane cracker, if approved, would create significant upside potential for the construction sector throughout the upper Ohio Valley as it would likely need thousands of construction workers to build out the facility over a period of several years.

**MANUFACTURING** Although the forecast calls for a relatively limited amount of new job growth in the Wheeling Area’s manufacturing sector, even these moderate gains mark a significant departure from the sector’s experience of the past couple of decades. The region’s chemicals industry has endured a long-term downward trend in production and employment that has resulted in the closure and downsizing at many plants over the years. By contrast, we anticipate the Wheeling Area’s chemicals (and plastics) manufacturers to benefit from the growing abundance of low-cost feedstock in the Marcellus and Utica Shale plays, but will also see spillover benefits from the addition of the Shell facility in Pennsylvania as it adds the potential for entirely new segments of the manufacturing sector to emerge. An additional ethane cracker facility in Belmont County would only enhance these opportunities for development of the area’s petrochemicals and plastics manufacturing base.

**OTHER SECTORS** The Wheeling Area’s leisure and hospitality sector is expected to see job growth on the order of 0.7 percent per year during the outlook period. Competing venues in other states and the structural changes in the US gaming industry do not bode well for Wheeling Island going forward, but the sector as a whole should realize some moderate degree of growth. Expectations for strong income gains associated with the energy sector’s prospects should bolster hiring at food and service establishments as well as other similar businesses that are more reliant on local spending patterns. Trade, transportation and utilities will benefit from similar underlying trends in local consumer demand, but should also see some appreciable job growth for transportation companies that service natural gas wellpads.

Education and health services is expected to add jobs at a 0.3 percent average annual rate through 2022. Healthcare demand is expected to grow consistently within the region, reflecting the region’s large share of elderly residents. The sector has faced uncertainty over the past year or so as Congress has placed a great deal of emphasis on repealing the Affordable Care Act but has been unable to do so thus far. However, the potential for Congress to change portions of the law remains, and this could foster uncertainty during the outlook period as some residents might find their access to insurance coverage jeopardized.

Improved coal and gas severance tax collections bode well for many of the area’s local governments, as do heightened property tax revenues associated with industrial development in the region. However, overall government employment in the Wheeling Area is expected to increase by just 0.2 percent per year as structural budget problems for West Virginia’s state government dampen the outlook. In addition, anticipated declines in the four-county area’s population will put some limits on growth in the local public sector.

**UNEMPLOYMENT OUTLOOK** Large revisions to historical data as well as any unanticipated changes in the Wheeling Area’s labor force participation rate could cause the forecast for the regional unemployment rate to differ significantly from both its projected level and path. With that said, the forecast calls for the regional unemployment rate to remain in the upper-5.0 percent range into the first half of 2018. Growth in the energy sector will bring some previously-discouraged workers back into the labor force as they search for a job, thereby putting some upward pressure on the unemployment rate. Longer term, the area’s jobless rate is expected to settle around 5.3 percent.

![Figure 13: Unemployment Rate Forecast](Image)
The Shell ethane cracker’s construction does have the potential to disrupt the Wheeling Area’s labor market since wage rates rise could be pushed above normal market rates as construction firms and other companies in the region compete for workers during the next several years. The potential addition of the PTT Global ethane cracker in Belmont County would cause the region’s unemployment rate to fall even more than expected, but would also create additional distortions in wage rates within the region.

Ohio County is expected to have the lowest unemployment rate in the four-county region, averaging in the low-4.0 percent range during the outlook period. Marshall and Wetzel counties will see their local labor markets tighten more during the outlook period, while Belmont County’s jobless rate will decline to around 6.0 percent by the latter half of the forecast horizon.

INCOME Inflation-adjusted per capita income in the Wheeling Area is projected to increase at an average annual rate of more than 2.2 percent through 2022, outpacing both state and national averages. Job growth in the region’s high wage sectors will provide a significant boost, but royalty payments attributed to shale gas production will also lift area incomes by an appreciable margin. In addition, the area’s high share of residents at or above the age of 65 will cause government transfer payments (i.e. Social Security and Medicare) to account for a growing share of incomes going forward.

POPULATION Historical demographic trends for the Wheeling Area are expected to persist into the outlook period as the forecast calls for the region’s population to shrink at a rate of 0.4 percent annually over the next five years, or a decline of roughly 650 residents per year. The four-county area’s population Marshall, Ohio and Wetzel counties are expected to lose residents at rates between 0.5 and 0.6 percent per year through 2022, while Belmont County’s population size are expected to be relatively more stable as the number of residents decline at an average annual rate of 0.2 percent.

![Figure 14: Population Forecast](image-url)