



Brennan Barometer

Analysis of the Economy of
Wyoming Valley of
Northeastern Pennsylvania

The University of Scranton Kania School of Management

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May 2022

Foreword

I am immensely proud to introduce the first edition of the Brennan Barometer, a series that presents analyses and commentary on trends and developments in our Northeastern Pennsylvania economy. A key part of the vision of the Kania School of Management is to 'be a major academic resource for business and economic development in Northeastern Pennsylvania' and we hope the information and education provided through this series advances that vision.

The Brennan Barometer is named in honor of Mr. John E. Brennan '68, loyal alum, successful entrepreneur, benefactor, mentor, and champion of student success over many years of voluntary service at the University of Scranton.

Two distinguished colleagues, Dr. Satyajit Ghosh, Professor of Economics and well-known analyst and commentator on our regional economy, and Dr. Aram Balagozyan, Associate Professor of Economics, designed, wrote, and edited this maiden issue. Dr. Sam Beldona, former Dean of the Kania School, suggested and initiated the series. I am grateful to all of them for their work and valuable contributions to our community and region. Thank you.

Michael O. Mensah, Kania School of Management Interim Dean

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Introduction

Brennan Barometer is a digital newsletter sponsored by the Kania School of Management at the University of Scranton, Scranton, Pennsylvania. Created by Aram Balagyozyan, Associate Professor, Department of Economics and Finance at the University of Scranton and Satyajit Ghosh, Professor, Department of Economics and Finance at the University of Scranton, the periodic newsletter aims to provide a rigorous analysis of the regional economy of Wyoming Valley of Northeastern Pennsylvania that can be accessible to academics and non-academics alike. With its many anthracite coal mines, the Wyoming valley of Northeastern Pennsylvania played an important role in the American Industrial Revolution. Although those glory days are long gone, the valley, being the fifth largest metropolitan statistical area of Pennsylvania (Scranton – Wilkes-Barre – Hazleton MSA), is still an important part of the state's economy. Brennan Barometer plans to analyze economic issues that are of particular importance for the MSA and the three counties that it covers: Lackawanna, Luzerne, and Wyoming. However, often the principal focus will be on the two larger counties: Luzerne and Lackawanna that account for ninety-five percent of the population of the MSA and its two larger cities: Scranton and Wilkes-Barre. In each issue of the newsletter, two topics will be covered in detail: labor market trends in employment and unemployment and the housing market. In addition, other issues of importance will also be analyzed. In this inaugural issue, besides employment-unemployment and housing, the importance of the new infrastructure bill is also analyzed in detail.

Brennan Barometer was originally envisioned in 2021 by Sam Beldona, then the Dean of the Kania School of Management (KSOM) at the University of Scranton. Later, Michael Mensah, the interim Dean of KSOM, provided the encouragement and support that has made the publication of the newsletter possible.

The newsletter is named after Jack Brennan, an alumnus of the University. John E. (Jack) Brennan received a bachelor's degree in management from the University in 1968. A veteran of the Vietnam War, he served as a 1st lieutenant in the U.S. Army Signal Corp. in Thailand. Following his years of service, Mr. Brennan joined Motorola as a salesman. He later co-founded Metro Mobile CTS, Inc., and served as the president and chief operating officer. Metro Mobile was later sold to Bell Atlantic, which would eventually become Verizon Communications. He was also president of Activated Communications and a member of the board of directors at Spectrum Signal Processing. At the time of his retirement, he was the vice chairman of the board of Southern Union Co. (later acquired by Energy Transfer LP). Mr. Brennan was a long-time member of the Board of Trustees at the University, where he was also a founding member of the Kania School of Management Advisory Board. He was also among the inaugural inductees to the Business Leader Hall of Fame. In October 2000, the University named Brennan Hall, the home of the Kania School of Management, in his honor.

The authors would like to thank Amye Archer for editorial help and Shayan Tanveer for research assistance. This document reflects the views and opinions of the authors who alone are responsible for any errors or omissions.

For comments on and suggestions for Brennan Barometer, please contact: Aram Balagyozyan at aram.balagyozyan@scranton.edu or Satyajit Ghosh at satyajit.ghosh@scranton.edu.

Labor Markets in the Scranton – Wilkes-Barre – Hazleton Metropolitan Statistical Area

Satyajit Ghosh

Overview

Like most parts of the country, the Scranton – Wilkes-Barre – Hazleton MSA experienced soaring unemployment in the early months of Covid-19. The April 2020 unemployment rate of 18.2% in the MSA was unprecedented in the post-World War II period. In the same month, the number of unemployed in the MSA stood at 49,600 – recording the highest single month job loss for the MSA. Most of the job loss was in the service sector. Some sectors such as Health Services and Leisure and Hospitality suffered substantial job loss from which they have not yet fully recovered. In spite of the considerable progress that has been made in the MSA's labor market since 2021, the recovery is not complete yet. The March 2022 unemployment rate of 5.9% in the MSA is still higher than the pre-pandemic level. There are still 8000 fewer jobs. But if the current rate of job creation is sustained, the MSA may return to the pre-pandemic level of employment in another seven to eight months. The wages and salaries consistently lag behind the state and the national levels, but given the tightness of the labor market, it is most likely that area will continue to experience wage growth.

Employment and Unemployment

Unemployment rate is one of the few economic indicators that is watched with great interest by economists and non-economists alike. The rate of unemployment tells us a lot, not just about the labor market of a country, a state or a region; but it tells us broadly about the state of the economy and where it is heading. The recent movement of the unemployment rates in the U.S., Pennsylvania or even the Scranton–Wilkes-Barre–Hazleton MSA in NEPA is closely related to the Covid-19 pandemic and its economic effects. As Figures 1 and 2 show, the sharp rise in the unemployment rates coincides with the "lockdown" of most of the U.S. economy due to the spread of Covid-19 in early 2020. As we learnt to deal with Covid-19, the economy started to reopen slowly and unemployment rate began to improve gradually.

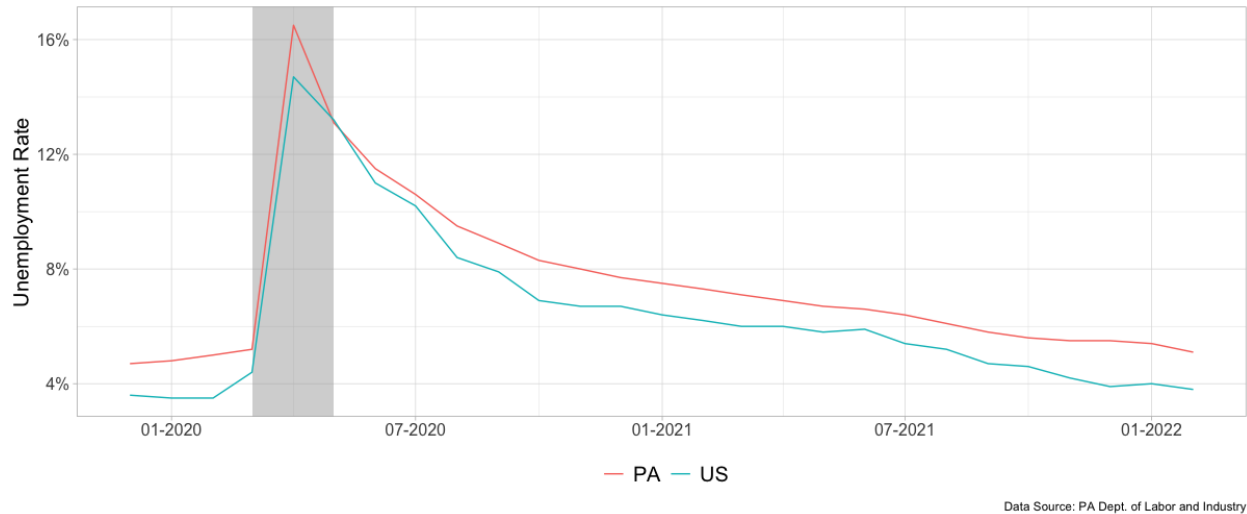


Figure 1: Unemployment Rate in the United States and Pennsylvania

This was to be expected. The unemployment rate fluctuates along with the ups and downs of the business activities, commonly known as a "business cycle". During the phase of recession in a business cycle, a significant decline in economic activity spreads across the economy and can last from a few months to more than a year. The unemployment rate increases during a recession, which happened in the early months of the pandemic. When recession ends, the economy begins to recover and eventually enters the phase of expansion: economic activity rises substantially, spreads across the economy, and usually lasts for several years. The early part of expansion is the period of recovery when the economy starts to catch up and tries to recover from the loss of income and employment. In the later months of 2020, the unemployment rates began to fall, showing signs of recovery.

The dating of business cycle, particularly the start and the end of a recession, is determined by a special committee, known as the "Business Cycle Dating Committee" of the National Bureau of Economic Research (NBER)—a private, non-profit, non-partisan organization dedicated to conducting research. The Business Cycle Dating Committee consists of eight internationally acclaimed macroeconomists. According to NBER, the Covid-19 recession started in February of 2020 and lasted until April, a span of little more than two months. In April 2020, the U.S. unemployment rate shot up to 14.7% from a mere 3.5% in February 2020, while the unemployment rate in Pennsylvania increased sharply in the same period from 5% to 16.5%. The effects of the recession lingered for several months even after the official end of the recession. Even in October 2020, six months after the official end of the recession, the unemployment rate remained high for both the U.S. (6.9%) and Pennsylvania (8.3%).

The recent trends in unemployment rates in the local labor market mimic the national and state level trends. Usually, if the economy is not in recession, the unemployment rate in Pennsylvania is about 1% higher than the national unemployment rate and the unemployment rate in Scranton – Wilkes-Barre – Hazleton MSA is about 1% higher than

the state unemployment rate. During recession, these gaps often fluctuate. As Figure 2 shows, within the MSA, the unemployment rate in Lackawanna County is consistently lower than the MSA unemployment rate, while the Luzerne County unemployment rate is consistently higher than the MSA rate.

Effects of Covid-19 Recession

The Covid-19 recession had a long-lasting impact on almost every sector of the local economy. Between February 2020 and April 2020, the unemployment rate in the MSA increased from 5.5% to 18.2%. It would not be until May 2021, when the unemployment rate would consistently fall below 8%. As Figure 2 reveals, Lackawanna and Luzerne counties showed similar pattern of unemployment with Lackawanna County showing more improvement than both Luzerne County and the MSA.

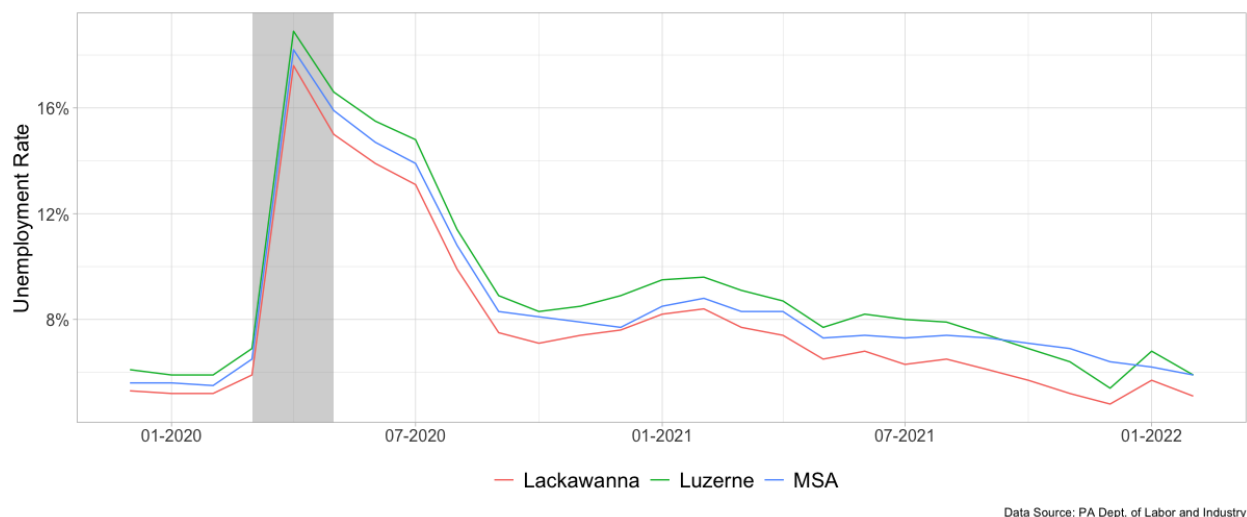


Figure 2: Local Unemployment Rates

The April unemployment rate of 18.2% in the MSA was unprecedented in the post- World War II era. It was followed by 15.9% in May and 14.7% in June. By comparison, during the Great Recession of 2007-2009, the MSA experienced the highest unemployment rate of 9.5% in the months of March and April when the number of unemployed stood at 26,700 – the highest level during the Great Recession. In April 2020, the number of unemployed in the MSA stood at 49,600 – recording the highest single month job loss for the MSA. For five consecutive months until August 2020, the number of unemployed remained at 29,000 or more.

Due to the pandemic and the lockdown, the goods producing sector of the MSA that includes manufacturing, mining, and construction lost jobs, but with the reopening of the economy, it recovered many of the lost jobs; by December 2020, the sector was down by only 600 jobs and by March 2022, it showed a modest gain of 700 jobs compared to

February 2020. But for more than twenty years the importance of the goods producing industries has been declining in the region. It was the service sector, particularly the private-service sector, that was especially hard hit by the Covid-19 recession. By December 2020, there were 11,400 fewer jobs in the private service-providing sector compared to February 2020. The job recovery has been rather slow. In March 2022 the level of employment was still down by 7,500.

Within the private service producing sector different sectors were affected differently. In recent years, the importance of retail trade in the MSA has grown significantly, Initially, the industry suffered due to the lockdown. But with the reopening of the economy, the industry recovered quickly and in March 2022, the industry showed a net gain of employment of 800. Another sector that has grown in importance in recent years in the MSA is Transportation, Warehousing, and Utilities. Due to the increased demand for its services, during and the immediate aftermath of the Covid-19 recession, the industry experienced an increase in its level of employment. By December 2020, it created 4400 more jobs and by March 2022, the level of employment increased by 4900 compared to February 2020.

The Professional and Business Services sector suffered job loss during the pandemic, mostly because of the reduction of the demand for their services, which required close personal contact with the customers. By December 2020, the sector lost 2300 jobs. Over the past 12 months, many of the lost jobs were recovered and in March 2022, the sector has only 600 fewer jobs than in February 2020. The Educational and Health Services sector did not recover as quickly. Because of school closings, the Educational Services subsector lost 1600 jobs by December 2020 and in March 2022, it still has 900 fewer jobs. The Health Services subsector, which includes Health Care and Social Assistance and also Hospitals, experienced sharp reduction of employment, not due to weakness in demand but due to reduction in supply – the growing unwillingness of workers to be exposed to heightened health risk. By December 2020, 3200 fewer individuals were working in this industry. That trend continued and by March 2022, the level of employment in the Health Services industry fell by 5900 from the level of February, 2020 – a drop of about 13%.

The Leisure and Hospitality sector was one of the hardest hit sectors in the nation and the MSA was no exception. Due to the lockdown and the health restrictions that were later put in place, Accommodations, Food Services, and Drinking Places all suffered significant job loss. The industry has not recovered yet. The level of employment in the industry was down by 3400 or 15% in March 2022. Within the industry, there were 2100 fewer jobs in Food Services and Drinking Places by March 2022 – an 11.9% reduction from its February 2020 level.

Recovery is not yet Complete

As Figure 2 shows, there has been considerable improvement in recent months in the local unemployment rates. While the unemployment rates in Lackawanna and Luzerne Counties in March, 2022 (4.9%, and 5.8%) have dropped below the levels observed in

February 2020 (5.1%, and 5.9%), the unemployment rate for the MSA in March 2022 (5.9%) is still slightly higher than the rate in February 2020 (5.5%). But the comparison of unemployment rates between a pre-recession and a post-recession dates may not be sufficient nor desirable to determine if the recovery is complete for at least two reasons. First, unemployment rates can fluctuate from month to month. So, unless a stable pattern is observed for unemployment rates, such comparison is not very useful. Second, even when a stable trend in unemployment rate is established, the use of the unemployment rate alone in determining the state of recovery is not desirable due to the way the unemployment rate is calculated. The unemployment rate is measured as the number of unemployed (those who are jobless, but actively seeking work and available to take a job) as a percentage of the labor force (the sum of the employed in full-time, part-time, or temporary employment and unemployed). Since the calculation of the unemployment rate depends on the size of the labor force as well as the number of employed, they should also be considered to properly examine the state of the labor market and recovery.

Labor force is not a fixed number. Every month a few unemployed workers stop looking for jobs perhaps because they have not had any luck for a long time to get a job, or perhaps they have to stay home to care for a sick family member, or have experienced changes in the need for childcare – both of which happened at a large scale during the pandemic; some may even decide to go back to school full-time. All these individuals may be broadly classified as "discouraged workers" and are no longer counted as unemployed and are not regarded as a part of the labor force. This reduces the size of the labor force. Therefore, even if the number of employed individuals does not change or goes down, because the labor force has shrunk, the unemployment rate falls. But clearly, the state of the labor market or the economy does not show any improvement in such a scenario. Labor force may also increase due to a natural increase in population or immigration. Size of the labor force usually increases when the economy starts to recover or expand. As job opportunities improve, more individuals, previously not in the labor force, start actively looking for jobs. However, in such a scenario, if the rate of job creation cannot keep up with the rate of increase of the labor force, the unemployment rate increases. In such a scenario, an increase in the unemployment rate may send the wrong signal that the conditions in the labor market and the economy are weaker than before. For a proper examination of the labor market and the economy, one should consider not only the unemployment rate but also the size of the labor force and the level of employment.

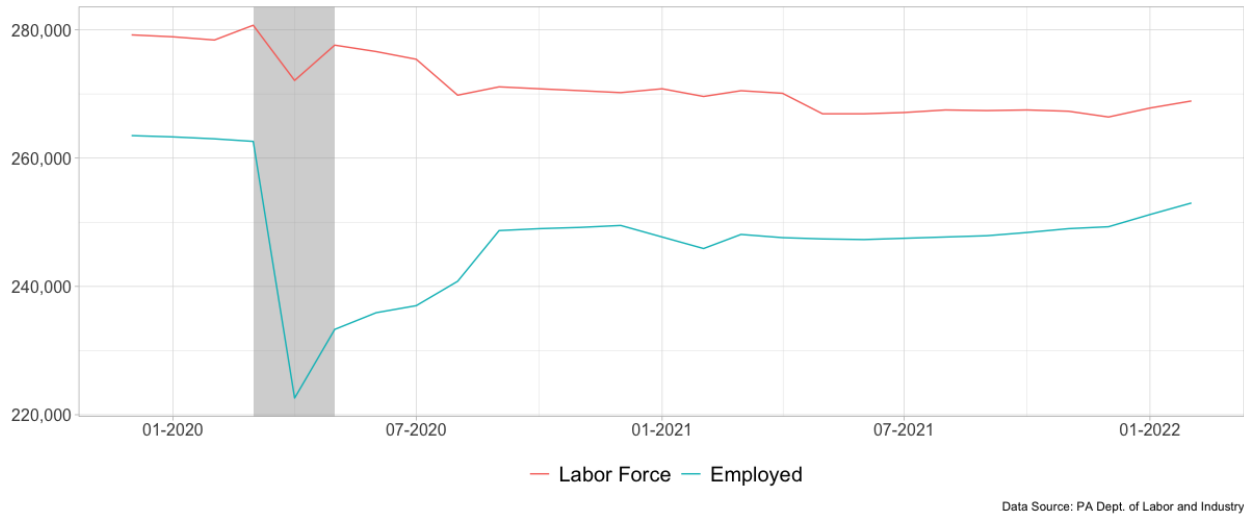


Figure 3: Scranton – Wilkes-Barre – Hazleton MSA: Labor Force and Employed

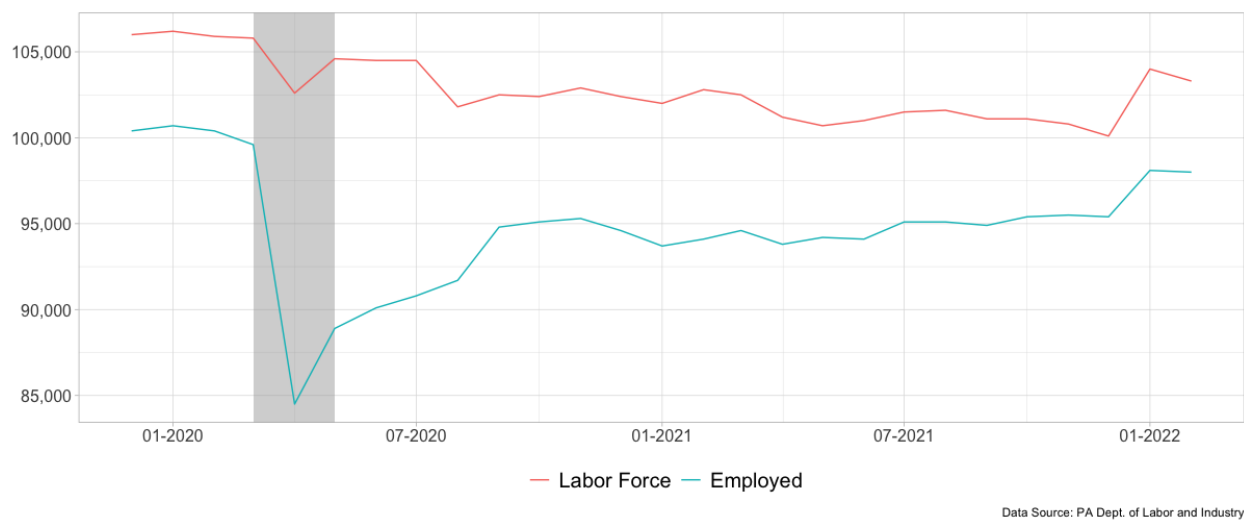


Figure 4: Lackawanna County: Labor Force and Employed

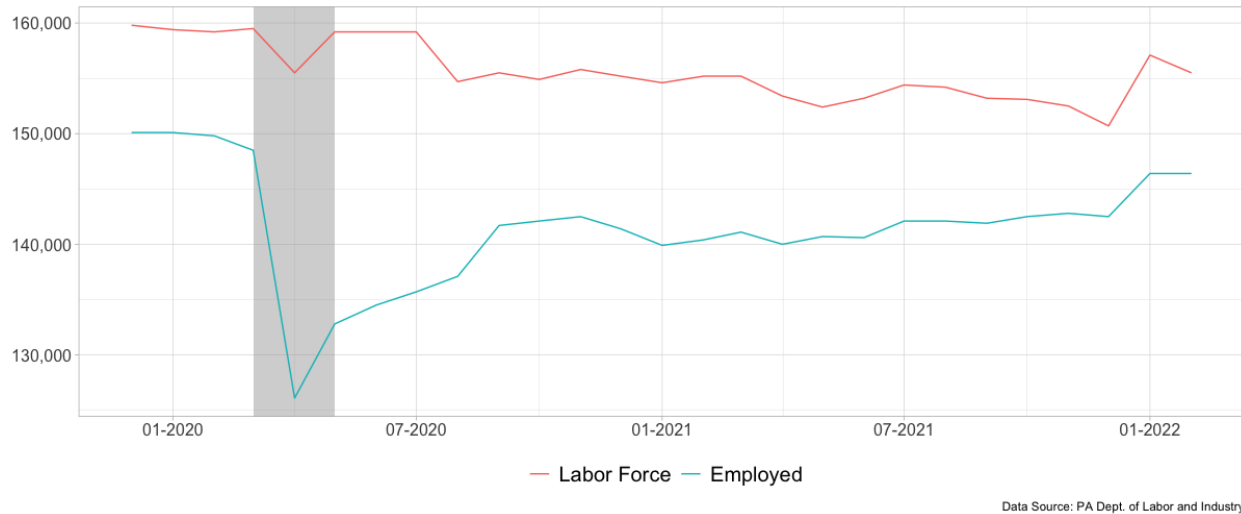


Figure 5: Luzerne County: Labor Force and Employed

Between February 2020, just at the peak before the start of the Covid-19 recession, and March 2022, the size of the labor force in the Scranton – Wilkes-Barre – Hazleton MSA, fell by 7400 or 2.6%. Similar patterns are observed in the counties in the MSA; in Lackawanna and Luzerne Counties, the size of the labor force fell by 2400 (by 2.3%) and by 3500 (by 2.2%) respectively. The statewide picture was similar. In Pennsylvania during the same time period, the size of the labor force fell by 154,000 (by 2.4%). It should be noted that there is a mis-perception that the Government's stimulus payment and generous unemployment insurance program during the pandemic may have caused the reduction in labor force. There is no evidence to support that. The reduction in the labor force is actually a continuing trend in the country caused by a demographic shift. According to the Census Bureau, the oldest baby boomers were 64 in 2010 and turned 73 in 2019. As a large segment of the population has been ageing, the labor force participation rate (the percentage of the working age population that wants to work) is also declining leading to continued reduction in the labor force. Due to the pandemic and its adverse impact on the elderly population combined with the need for at home childcare, the shrinkage of the labor force was intensified in the MSA. However, in the last few months, there has been some increase in the labor force in the MSA and the counties that make up the MSA.

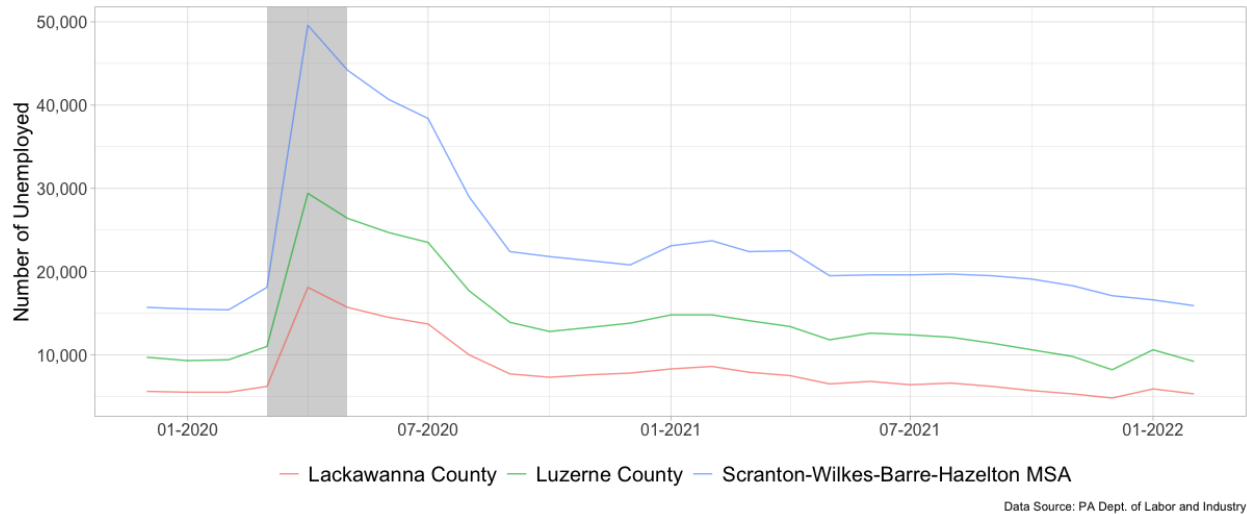


Figure 6: Scranton – Wilkes-Barre – Hazleton MSA, Lackawanna and Luzerne Counties: Unemployed

Despite the increase, the level of employment (the number of employed workers) that shows the strength of job creation in any economy in the MSA and its counties has not yet reached the pre-pandemic levels. Compared to the employment level in February 2020, the employment in March 2022 remains lower by 8,000 – a drop of 3%. In Lackawanna County, in March 2022, there were 2000 fewer jobs than in February 2020 – a drop of 2%. In Luzerne County, the shortfall of jobs is 3000 or 2%. For the state, in March 2022, there were 144,000 (2.3%) fewer jobs than in February 2020. So, while at the state level and the MSA and county levels the unemployment rates have improved, there remain sizeable employment shortfall compared to the pre-pandemic level and the economic recovery from Covid-19 has not been complete. At the current rate of job creation, the MSA may return to the pre-pandemic level of employment in another 7 to 8 months.

The weakness of the local labor market, however, predates the pandemic. In the span of 22 years, between March 2000 and March 2022, the labor force in the MSA remained virtually stagnant: it fell by 500 or .2%. While the reduction in the labor force can be attributed to the demographic factors and the loss of population in the area, the persistent weakness of the labor market cannot be ignored. During the same period the level of employment in the MSA fell by 3300 or 1.3%. This is not consistent with the statewide trend. During this period, in Pennsylvania, the labor force grew by 293,000 or 4.8% and 231,000– nearly 4% more jobs were created.

The wages and salaries in the area have been historically much lower than the state and the national levels. As Table 1 shows, the estimated inflation adjusted per capita income level in the city of Scranton over the past 12 months was only about 67% of the state and national average while it was about 59% in Wilkes-Barre and 58% in Hazleton.

Table 1: Estimated Income Levels over the Past 12 Months
(in 2000 inflation-adjusted dollars)

Region	Per Capita Income (\$)	Median Household Income (\$)
Scranton	23,951	41,687
Wilkes-Barre	20,785	40,505
Hazleton	20,614	38,010
Pennsylvania	35,518	63,627
U.S.	35,384	64,994

Data Source: U.S. Census Bureau

But in recent months after the pandemic, the labor market in the area, as in the entire nation, remains very tight. A conventional measure of the "tightness" of a labor market is the ratio of job openings to the level of unemployment. The most recent estimate (March 2022) of the number of unemployed workers in the MSA is 16,100. Unfortunately, no aggregate data for regional job openings are available. But in one premier job search engine alone, Glassdoor, over the last 30 days, in excess of 25,000 job openings were posted for the MSA. Another popular search engine, Indeed, shows more than 36,000 job postings. Compared to the level of unemployment in the MSA, it is reasonable to conclude that the labor market in the area is considerably tight. Since the tightness of the job market usually leads to wage growth, it is most likely that the wages in the area will continue to increase. However, given the high rate of inflation, it is not clear if the nominal (or dollar) wages will be able to keep pace with inflation.

Housing Markets in the Scranton – Wilkes-Barre – Hazleton Metropolitan Statistical Area

Aram Balagyozyan

Overview

Housing in the Scranton – Wilkes-Barre – Hazleton MSA remains relatively affordable compared to the national and regional standards. In March 2022, the value of a typical house in the Scranton metro area was \$167,000, around half as much as in the United States or Philadelphia. At the same time, the average rent for all Scranton homes and apartments was \$1,158, about 40% lower than the national average. While housing in the MSA remains relatively affordable, various indicators reveal that the post-Covid tightening of the housing market in the MSA occurred at a noticeably faster pace than across the state and nation. Since January 2020, the average annual growth of home values in the Scranton area was 12.7%, around 1.4 percentage points greater than in the US and 2.54 percentage points greater than in Philadelphia. The inventory of for-sale houses in the Scranton area in any given month since January 2020 was on average 25% lower than a year before. As a comparison, in the United States, the for-sale housing inventory in any given month since January 2020 was on average 21% lower than a year before.

Building Permits and Housing Starts

The number of approved housing permits is one of the ten components of the Index of Leading Economic Indicators computed by the Conference Board, and is a leading indicator closely tied to consumer confidence.

Figure 7 exhibits the number of housing permits approved in the US, Northeast, and Pennsylvania, while Figure 8 shows the same indicator for the Scranton – Wilkes-Barre – Hazleton MSA. Following the recession of 2020, there was a visible gradual increase in the number of the US housing permits. While a similar gradual increase has not happened in the the Northeast and PA, at the end of 2021, these areas saw an abrupt spike in permits. Between November and December 2021, the number of housing permits in the Northeast and Pennsylvania has risen by around 13,000 and 11,000 respectively, indicating that the December spike in the Northeast permits was largely driven by the rise in PA permits.

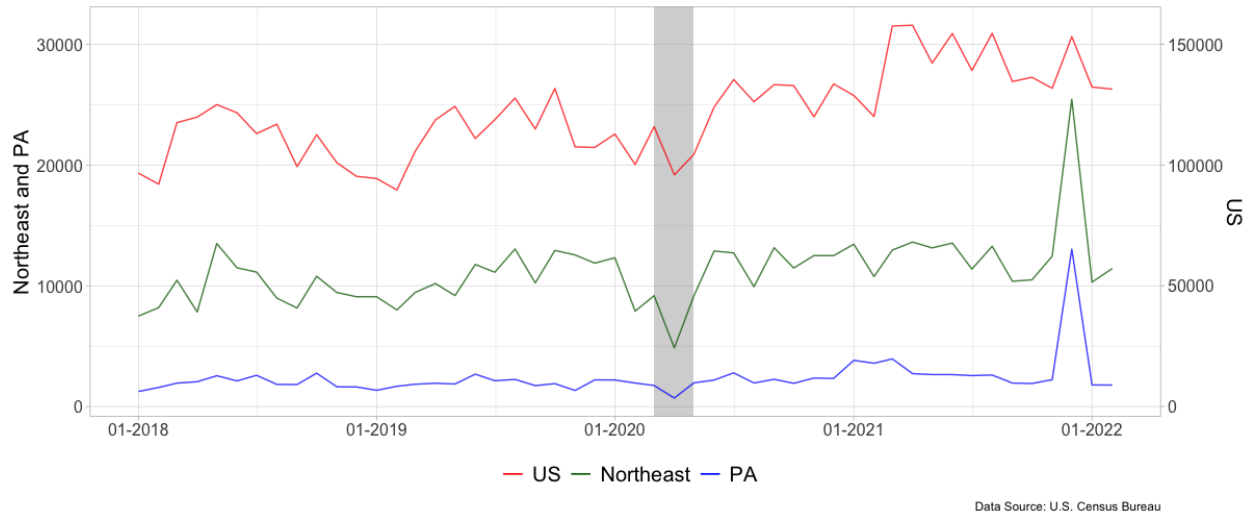


Figure 7: Total Number of Housing Permits in the Northeast, PA, and the US

Figure 8 shows the total number of approved housing permits in the Scranton – Wilkes-Barry – Hazleton MSA, while Figure 9 shows the year-over-year changes in this number. As these figures indicate, in January and February 2022, the Scranton – Wilkes-Barre – Hazleton MSA has also experienced unusually high growth in housing permits. Although encouraging, it is hard to tell whether this upshift is going to be permanent or transitory.

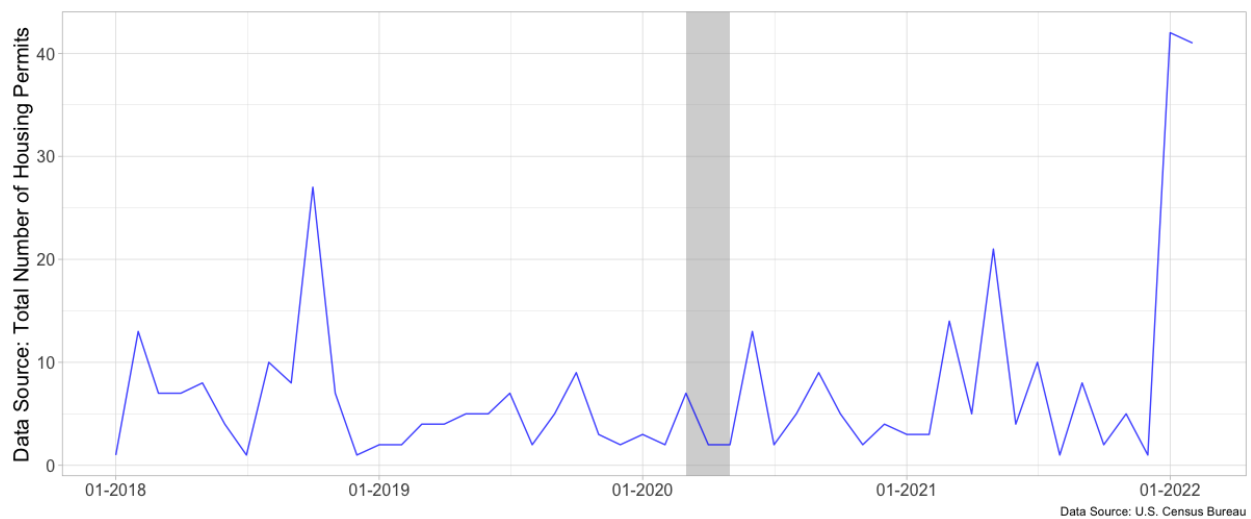


Figure 8: Total Number of Housing Permits in the Scranton – Wilkes-Barry – Hazleton MSA

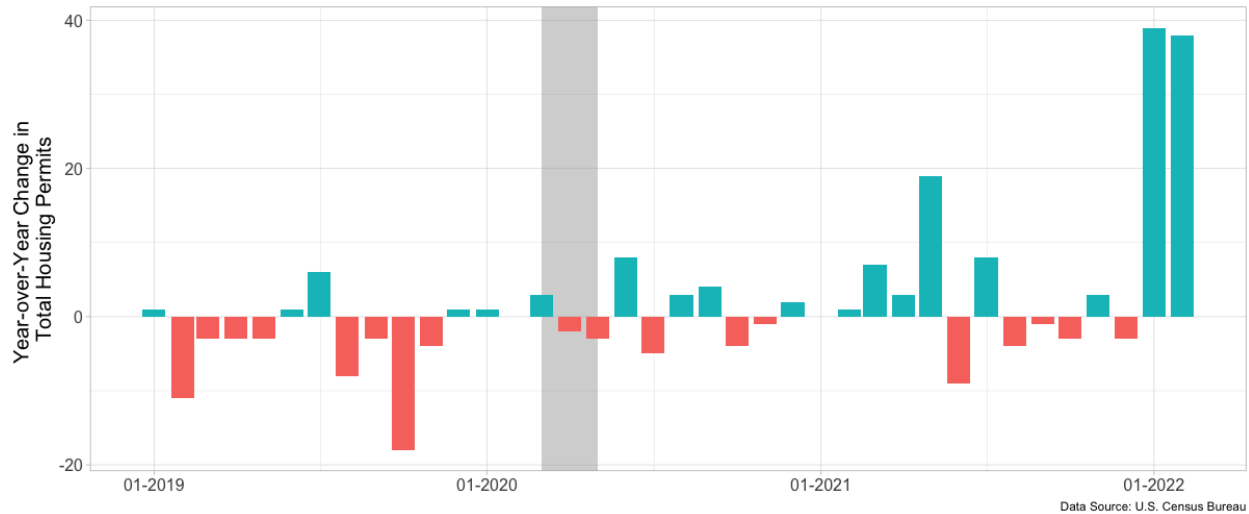


Figure 9: Year-over-year Change in Total Number of Housing Permits in the Scranton – Wilkes-Barre – Hazleton MSA

Home Sales and Inventory

Every month, Zillow.com publishes the (smoothed) number of monthly for-sale inventory of all types of homes measured by the count of unique listings that were active at any time in a given month.¹ With lower numbers representing fewer houses listed for sale, this statistic is often viewed as an overall indicator of the tightness of the housing market. One resounding trend of the COVID pandemic was a greater demand for larger housing spaces and units driven by an increasing number of workers switching to remote work. By looking at Figure 10 that shows the monthly for-sale housing inventory in the United States and the city of Scranton specifically, one can easily spot that the downward trend in the housing inventory at national and city levels has accelerated since early 2020. However, by looking at Figure 11 that shows the year-over-year percent change in housing inventory, one can conclude that a tightening of the housing market in both the United States and Scranton has started well before the beginning of the COVID pandemic; every month between January 2019 and March 2022, Scranton has shed on average around 20% of its housing inventory compared to the same month a year before. In the United States, the average year-over-year percent change in monthly housing inventory was around -14%.

¹<https://www.zillow.com/research/data/>

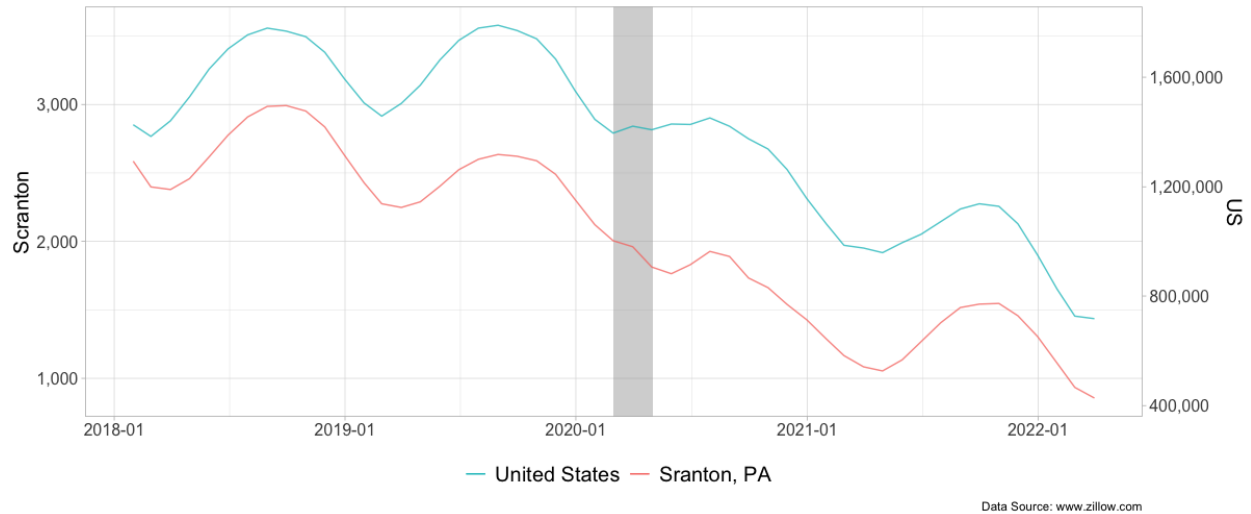


Figure 10: Monthly Smoothed Number of For-Sale Housing Inventory

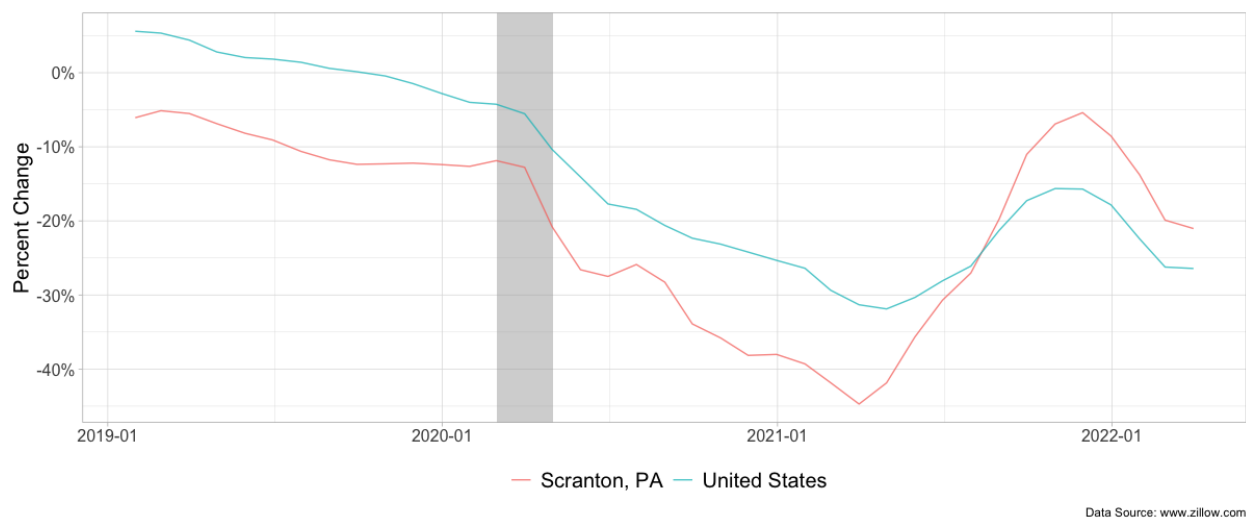


Figure 11: Year-over-Year Percent Change in Monthly Smoothed Number of For-Sale Housing Inventory

Home Prices and Rents

It should not come as a surprise that as a result of the recent increase in the demand for housing (that was largely fueled by the pandemic and historically low mortgage rates) and a decline in housing supply (caused by the higher costs and shortage of labor and building materials), home prices across the United States and the Northeast have been on the rise. While an increase in home prices is welcomed news among current homeowners, it is inversely related to housing affordability and a serious cause for concern for perspective home buyers. Figure 12 exhibits year-over-year growth of the quarterly housing price

index published by the Federal Housing Finance Authority (FHFA) for the Scranton – Wilkes-Barre – Hazleton MSA, Pennsylvania, and the US. The data reflect all metro-area transactions. It must be obvious from the chart that during the pandemic, housing price growth in all three areas has accelerated, reaching a rate of around 15% per year. It is worth noting that while historically growth of housing prices in Pennsylvania exceeded that of the Scranton – Wilkes-Barre – Hazleton MSA, since the beginning of the pandemic in 2020, housing prices in the Scranton – Wilkes-Barre – Hazleton MSA grew at a slightly faster pace than in Pennsylvania.

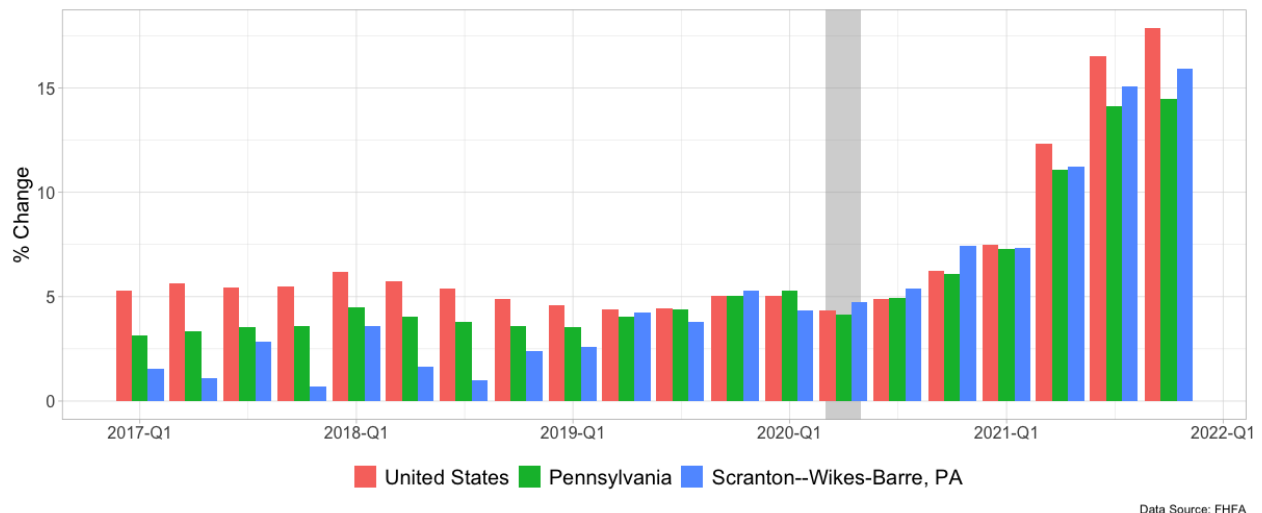


Figure 12: Year-over-Year Percent Change of the FHFA Quarterly Housing Price Index

Still, compared to other major city/metro areas, such as Philadelphia, PA or the US in general, housing in the Scranton area remains much more affordable. Zillow.com publishes historical data describing the value of a typical home in a given geography (e.g. metro area, city, ZIP code, etc.).² Figure 13 exhibits the historical monthly data of the Zillow Housing Value Index (ZHVI) for Scranton, PA, Philadelphia, PA, and the United States. As one can observe in the figure, in March 2022, the value of a typical home in the Scranton area was \$167,000, around half as much as it was in Philadelphia (\$322,475) or the United States (\$337,560). However, as it can be observed in Figure 14 (that exhibits year-over-year percent change of the ZHVI) since late 2019, annual growth of housing prices in the Scranton area slightly outpaced growth of housing prices in Philadelphia and the US. In sum, while house prices in the Scranton area remain relatively low, their recent growth slightly outpaced growth of house prices in the US and Philadelphia, PA.

²ibid. see the footnote on page 13.

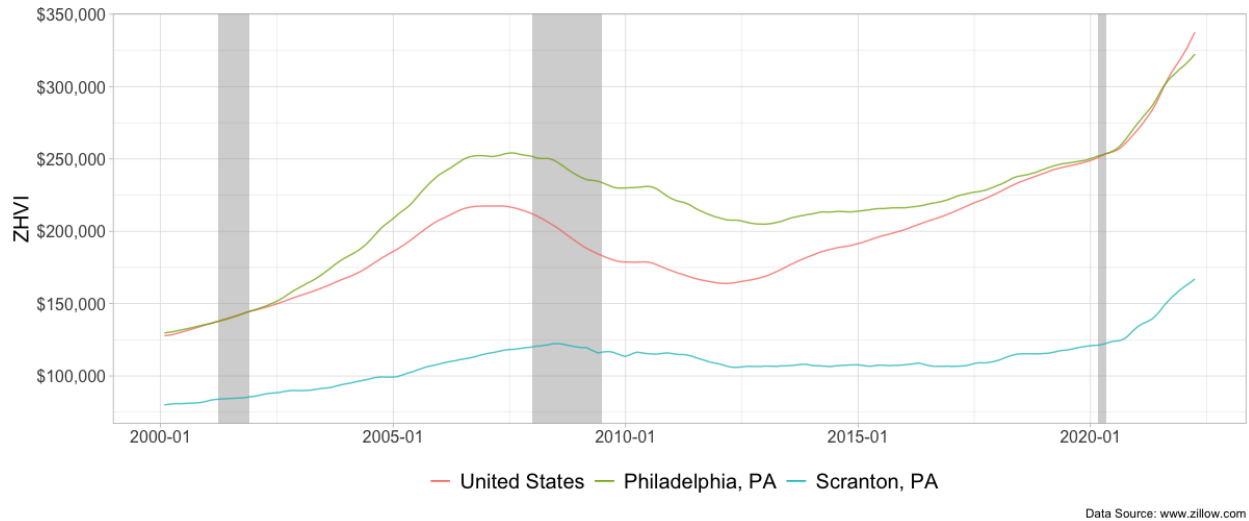


Figure 13: The Zillow Monthly Housing Value Index (ZHVI)

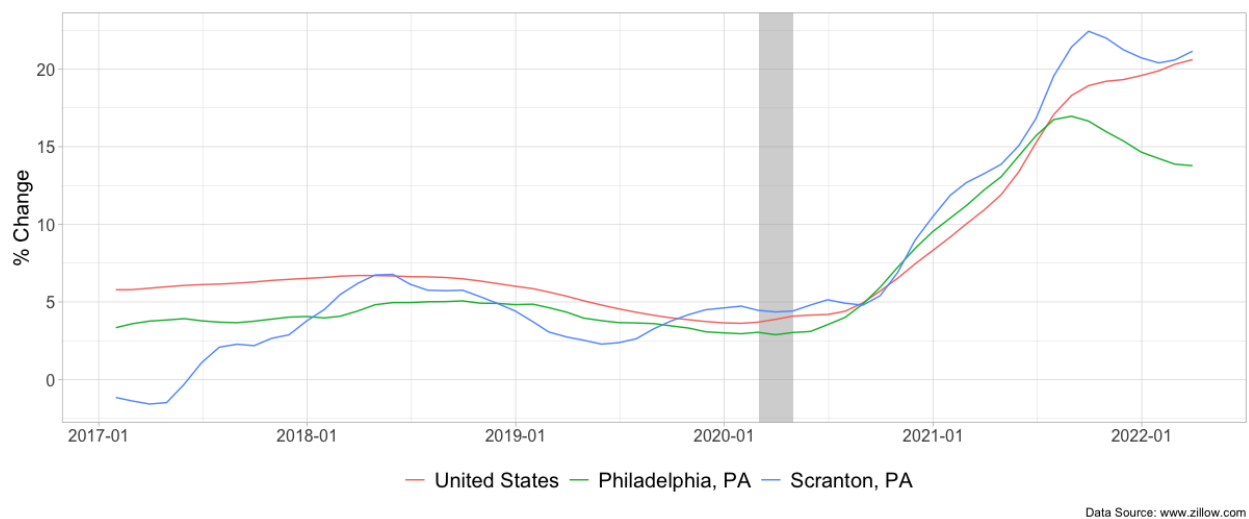


Figure 14: Year-over-Year Percent Change of the Zillow Monthly Housing Price Index

A similar conclusion can be reached regarding Scranton rental prices. We source our data on rents again from zillow.com, that publishes its Observed Rent Index (ZORI) for different types of geographies (metro area, city, ZIP code, etc.).³ ZORI is a measure of typical observed market rent in a region; it represents repeat rents as well as the rents of those homes that are currently listed for-rent. The index is computed by considering the mean of listed rents that fall into the 40th to 60th percentile range for all homes and apartments in a given region. Figure 15 shows the mean rent in Scranton, PA, Philadelphia, PA, and the US over time. The chart reveals that rents in the Scranton metro area on average have been and still are much lower than in the Philadelphia metro area or in the US

³ibid. see the footnote on page 13.

in general. In March 2022, the average rent in Scranton, Philadelphia, and across the US were \$1,158, \$1,775, and \$1,904 respectively. But as it was the case with home values and as Figure 16 shows, while rents in the Scranton area are still low, their annual growth between February 2020 and September 2021 has visibly outpaced rent growth in Philadelphia and the US.

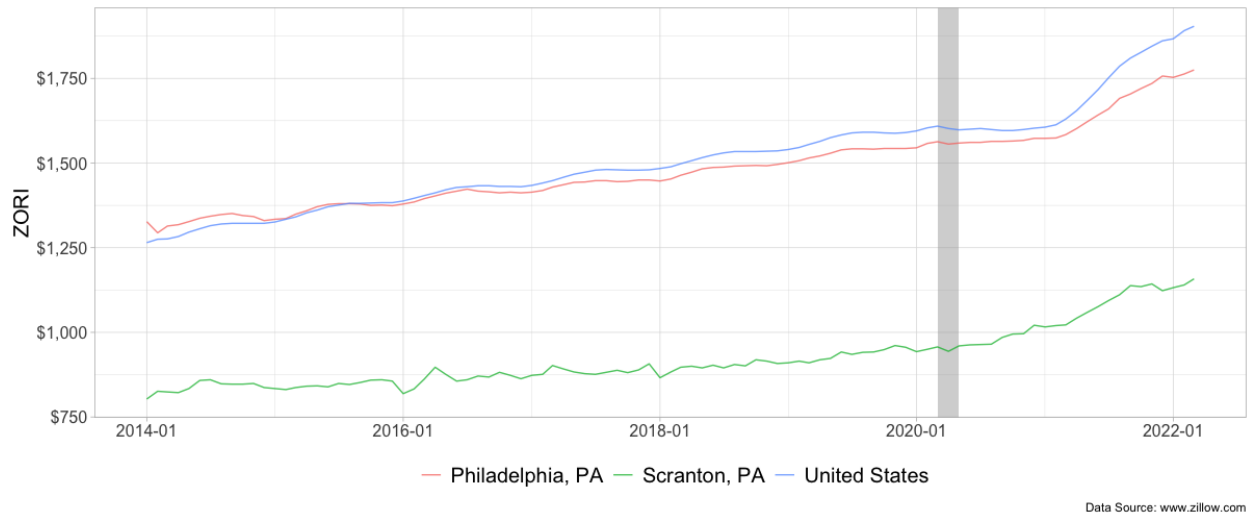


Figure 15: The Zillow Monthly Observed Rent Index (ZORI)

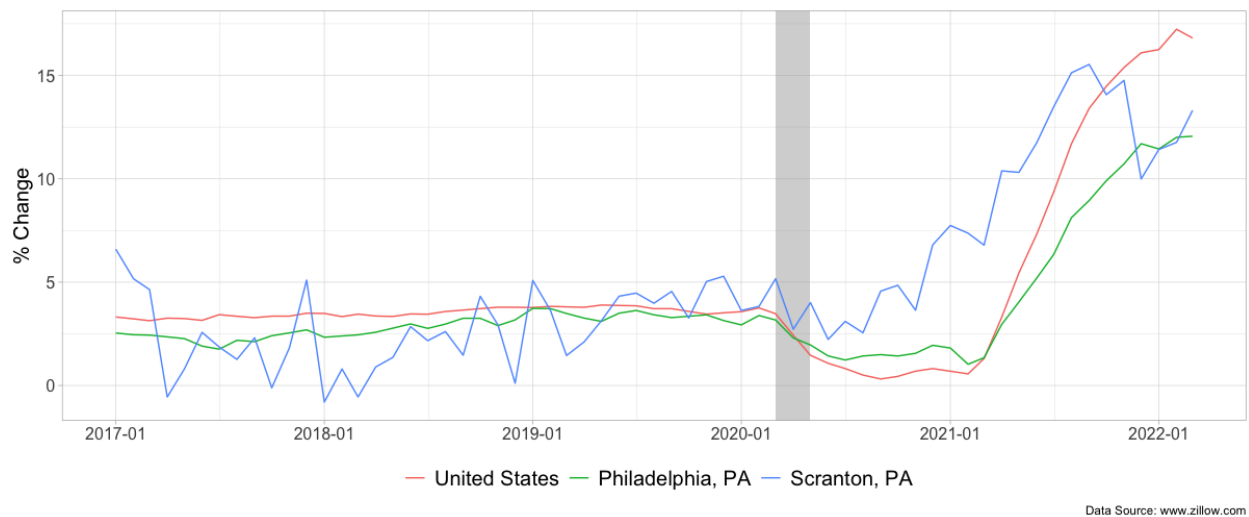


Figure 16: Year-over-Year Percent Change of the Zillow Monthly Observed Rent Index (ZORI)

Impact of the Infrastructure Bill in the Region

Satyajit Ghosh

Overview

The 1.2 trillion-dollar Infrastructure Bill promises to be a “once in a generation” investment in the nation’s infrastructure. Under the bill, over the next five years Pennsylvania is to receive at least \$17.8 billion. Besides traditional infrastructural improvement, the MSA stands to benefit mostly in three areas: repair and replacement of bridges—there are 226 bridges in the tri-county area that are structurally deficient; new passenger rail service between Scranton and New York City that may become operational within three years, and finally, reclamation of abandoned mine land that poses a significant environmental challenge for the area. The substantial infrastructural investment in the area is also expected to create a large number of new jobs.

The Infrastructure Investment and Jobs Act (IIJA), commonly known as the Bipartisan Infrastructure Bill, was signed into law by President Joe Biden on November 15, 2021. Although a significantly scaled down version of the original Bill passed in the House of Representatives, the law has been described as “once-in-a-generation” investment in the nation’s infrastructure and competitiveness. The legislation has authorized \$1.2 trillion in spending over five years (FY 2022-FY 2026) with \$550 billion being newly authorized spending on top of what Congress was planning to authorize regularly.

The legislation is much more than a traditional infrastructure bill which is often seen as a congressional highway bill. It is rather a forward-looking development strategy that in addition to traditional infrastructure investment, one that includes spending on roads, bridges, and transportation, spends money on access to clean water, plans to clean up legacy pollution by reclaiming abandoned mines and capping orphaned oil and gas wells, pays attention to environmental degradation, and paves the way for larger market for electrical vehicles (EV) by building a network of EV chargers. It is forward looking in its investment on high-speed internet for all and, above all, it emphasizes equity by expanding the diversity of beneficiaries of its various programs.

Among all the states, Pennsylvania is the sixth largest beneficiary of the funding under IIJA. Over the five-year period, Pennsylvania is anticipated to receive at least \$17.8 billion infrastructure funding that amounts to \$1,369 per person. Table 2 provides the total funding for the nation and the allocations for Pennsylvania for the broad categories in the legislation. The allocations for the state do not include the variety of grants that states can apply for as part of the infrastructure package.

Table 2: Total Funding for the Nation and the Allocations for Pennsylvania

Category	Total Funding	PA's Allocation
Repair and rebuild roads and bridges	\$110 billion	\$12.9 billion
Investment in public transit	\$90 billion	\$2.8 billion
Passenger rail	\$66 billion	based on Amtrak's proposal
Upgrade airports and ports to strengthen supply chains	\$42 billion	\$355 million
Deliver clean water to all American families	\$55 billion	\$1.4 billion
Upgrade power infrastructure to deliver clean, reliable energy	\$65 billion	Competitive grants and loans
Build a national network of electric vehicle (EV) chargers	\$7.5 billion	\$171 million
Tackling legacy pollution	\$21 billion	\$3.8 billion
Access to reliable high-speed internet	\$65 billion	\$100 million
Cyber-security and weatherization of infrastructure	\$50 billion	\$75 million

Bridges, Trains, and Mines

The Scranton – Wilkes-Barre – Hazleton MSA and Northeastern Pennsylvania (NEPA) in general exemplify the importance of both the conventional and non-traditional infrastructure investment plans that are emphasized in IJJA. While the region will benefit from all the initiatives undertaken by the infrastructure plan, three areas of investment stand out to be particularly important: repair and replacement of bridges, passenger rail services, two traditional types of infrastructure investment, and a non-traditional area of infrastructure investment – abatement of legacy pollution through abandoned mine land (AML) reclamation projects.

Bridges

The infrastructure plan will distribute \$26.5 billion nationwide over the next five years, helping pay for replacements and repairs of up to 15,000 bridges that are in poor condition. Pennsylvania has over 3,000 bridges that are in poor condition—the second most of any state. It will receive \$1.6 billion over the next five years to replace and repair its bridges. There is an immense need for bridge repair in the Scranton – Wilkes-Barre – Hazleton MSA. There are 932 bridges in Lackawanna, Luzerne, and Hazleton Counties out of which 226 bridges, i.e., 24% of the total, are rated poor (structurally deficient) by the US Department of Transportation. In Lackawanna and Luzerne Counties, there are 199 structurally deficient bridges that require extensive repair or replacement. PennDOT Engineering District 4 region – that includes Lackawanna, Luzerne, Pike, Susquehanna,

Wayne, and Wyoming Counties – will begin to repair or replace 88 bridges this year. These projects are supported and accelerated by the infrastructure act. According to PennDOT, under the Infrastructure act, the District 4 region will receive \$266 million additional dollars over the next five years for highway and bridge improvements. Just this year, there will be \$500 million worth of road and bridge work taking place in the six counties.

Trains

Trains are part of the history and culture of Scranton and the surrounding areas. From the early 1900s to 1979, there were daily passenger rail services between Scranton and New York City. Since the 1980s the regional railroad authority has been trying to bring back passenger rail service to the region to once again connect Scranton to New York City. Investment of additional \$66 billion under IIJA in additional funding to Amtrak may finally make that a reality.

Amtrak has proposed a new passenger service with 3 round trips from Scranton to New York. The proposed 136-mile-long route between New York Penn Station and Scranton will pass through New Jersey and include five station stops in New Jersey and three additional stops in Pennsylvania (East Stroudsburg, Mount Pocono, and Tobyhanna). The trip time will be approximately 3 hours and 25 minutes compared to peak driving time of 3 hours and 10 minutes. Amtrak estimates that the service between Scranton and New York City may be operational within three years. In an apparent boost to the Scranton-New York city rail service, on April 13, 2022 NJ Transit's board of directors approved a \$32 million contract to rebuild a tunnel that will provide rail service to northwest Jersey and could pave the way for Amtrak trains to run to Scranton, Pennsylvania.

An Economic Impact analysis by Amtrak predicts a \$2.9 billion one-time financial boost to the region, followed by about \$87 million in economic activity annually due to the construction and operation of the railroad.

Thanks to the investment under the infrastructure plan, in addition to the three daily round trips between Scranton and New York City, Amtrak has also planned to add eleven new round trip passenger services in Pennsylvania including two new round trips between Allentown and New York City and three new round trips between Reading and Philadelphia, five new round trips between Harrisburg and New York City, and one new round trip service between Pittsburgh and New York City.

Mines

While investment on bridges and trains represent traditional infrastructure investment, mines – or appropriately, abandoned mine land (AML) – represent an environmental challenge that has also been addressed by IIJA in its attempt to tackle legacy pollution. Abandoned mines can cause property damage by causing erosion and subsidence. But, more importantly, abandoned mine land is a continuing source of water pollution. Acid mine drainage is the most severe and well-recognized environmental problem related to coal

mining and can impact surface waters, including lakes, ponds, creeks, and even entire watersheds.

With one-third of the nation's abandoned mine land, Pennsylvania has more un-reclaimed abandoned mine-land acreage than any other state in the country, with the majority in Northeastern Pennsylvania, representing 40.7% of the country's reclamation costs. Approximately 43 of Pennsylvania's 67 counties affected by abandoned coal mines. 1.4 million Pennsylvanians are estimated to live within one mile of an abandoned mine. Under the allocation of the infrastructure plan, Pennsylvania will receive more than \$26 million in funding for abandoned mine land (AML) reclamation efforts in fiscal year 2022, a significant part of that is expected to be used in Northeastern Pennsylvania.

Any spending plan initiated by a government agency generates a "multiplier effect" by creating more income and spending in the private sector. These added incomes and spending lead to more production and employment in the economy. It is expected that spending under the infrastructure investment plan will also create such multiplier effects. The economic impact analysis of the proposed Scranton - New York City train service carried out by Amtrak is an attempt to quantify the overall economic impact of one such specific project.

The Infrastructure Investment and Jobs Act expects to create significant number of jobs in our region and in the entire nation. Since the sectors or the industries in an economy are linked to one another, any investment in an industry impacts other sectors through backward and forward linkages. So, while the investment in the construction sector, for example, increases income and employment in the construction industry, it also increases income and employment for its suppliers through backward linkages. The spending and consequently the income generated in the construction sector and its suppliers increase the demand, production, and employment in other sectors such as any consumer goods sector where consumers spend their income through forward linkages. The total effect on employment – the "employment multiplier" – is dependent on the direct effect on employment in the construction sector together with the indirect effect on employment in other sectors generated through the backward and forward linkages.

The estimates by Economic Policy Institute (2019)⁴ show that 1-million-dollar investment in construction industry can generate a total of 16.4 jobs with 5.5 direct jobs in the construction industry and 10.9 indirect jobs, out of which 4.8 jobs are supplier jobs (backward linkages) and 6.1 jobs are induced jobs (forward linkages). Employment generation varies by sectors. For example, 1 million dollars of direct spending in the mining industry creates a total of 7.2 jobs with 1.3 direct jobs and 5.9 indirect jobs, out of which 3.4 jobs are supplier jobs and 2.5 jobs are induced jobs. The potential for employment generation due to IJJA is substantial. But the precise impact on job creation can be better estimated when more accurate spending amounts are determined.

⁴Bives, Josh."Updated employment multipliers for the U.S. economy." *Economic Policy Institute*.(2019, January 23), <https://bit.ly/3M8e0n2>