

Immigration, Wages and Employment

Some Evidence From the US Service Sector*

Bill Runzhe Zhao[†]

November 21, 2024

Abstract

This paper examines the impact of immigration on labor markets in the healthcare, real estate, and finance sectors in the United States, particularly focusing on changes in employment and wage dynamics within these sectors due to immigrant influxes. The study uses instrumental variable techniques to address endogeneity concerns, employing a shift-share approach as an instrument to capture exogenous variations in immigrant flows. Findings suggest that immigration generally boosts employment in the health-care sector and increases wages across all three sectors. The analysis is grounded in a neo-classical economic model, proposing that immigration acts as a positive demand shock in local service markets, which in turn influences labor demand. The paper argues for immigration-friendly policies, highlighting that immigration leads to welfare gains measured by increasing wages, particularly in sectors with inelastic labor supply.

Keywords: Immigration, wages, employment, labor supply elasticity

JEL Codes: J15, J23, J31

*Course thesis for ECON/PUBPOL590 at Duke University

[†]I thank Professor Matthew S. Johnson for his wonderful instruction, and Miss Mavzuna Turaeva for her helpful comments. Without their help, this work could not be done. All errors are my own.

1 Introduction

High-quality local services can be big attractions for population inflows. It is well documented in the literature that local services, such as healthcare, real estate and finance services¹, can attract the inflow of immigrants (Dahlberg and Fredriksson (2001) , Abowd and Freeman (2007), Wang and Wu (2011), Bodvarsson and Van den Berg (2013)). However, it is much less documented about the effect of the arrival of immigrants on the labor market outcomes of sectors which provide such services. Such effect is worth investigating for two reasons. First, comparing to those sectors that are on the high-end (such as IT) or the low-end (such as agriculture and construction) of the technology spectrum, the effect of immigration on middle-end sectors, such as healthcare, housing, and finance, are less documented. Second, such sectors consists of a significant amount of employment². Any changes in those sectors could have significant welfare impact to the workers.

In this paper, I show that the arrival of immigrants to the US counties affected the labor market outcome in healthcare, real estate, and finance industries by increasing the employment in the healthcare sector and increasing the wages in all three sectors in a 5-year window. To address endogeneity problem, I am inspired by the approach of Burchardi et al. (2020) and use an instrumental variable of local immigration shock, which is constructed by using the canonical shift-share approach and using only plausibly exogenous variation in pre-existing ancestry. Together with the finding of Burchardi et al. (2020) that the inflow of immigrants increased the overall wage level, I argue that the inflow of immigrants generate welfare gain for workers in all these three industries.

A neo-classical economic model in a moderately long term (5 years) with nearly compet-

¹Those sectors correpond to NAICS 62 (Healthcare and Social Assistance), NAICS 53 (Real Estate and Rental and Leasing, and NAICS 52 (Finance and Insurance), respectively.

²According to the Bureau of Labor Statistics, On March 2024, there are about 9.2 million people working in real estate and finance sectors (NAICS 52 and 53), and 22 thousand in healthcare sector (NAICS 62).

itive local labor market for each industry can explain my empirical findings. In this model, the arrival of immigrants serves as a positive demand shock to the good markets of local healthcare, real estate, and finance sectors³. This shock in good market is transformed into the increase in demand for workers by the profit-maximizing producers. However, different sectors may have different labor supply elasticity due to barriers of entry, specialization of skills, or entry certification. Thus, the changes in equilibrium point are different across sectors. In a moderately long term, the labor supply of healthcare sector is moderately elastic, resulting in significant increases in both wages and employment. In contrast, the labor supply of real estate and finance sectors are inelastic, resulting in increases in only wages.

The discussion in this paper centers on the impact of immigration on labor markets within healthcare, real estate, and finance sectors, noting that immigration generally increases labor demand in these sectors, positively affecting wages. It suggests expanding analyses to other sectors and recommends employing non-competitive labor market models, like monopsonistic frameworks, to better understand these dynamics, especially using data from sources like IPUMS for detailed wage analysis across various demographics. My findings support immigration-friendly policies, advocating for equitable access to the benefits of increased employment and innovation that immigration appears to foster, while also considering public opinion to enhance cooperation between immigrants and native residents.

This paper directly contributes to the literature about the sector-specific impact of immigrants by providing evidences from middle-end (in terms of technology and skills) service sectors (healthcare, real estate, and finance). The impact of immigration can vary significantly across different sectors. In sectors like agriculture, construction, and personal services,

³Local healthcare and housing are basic needs for people who want to settle down in a locality. As for finance, legal immigrants, just like all other residents, need basic banking services such as deposits, credit, and loan services. Although these individual finance seem less significant comparing to the billion-deal-market drive by large financial institutes, the aggregate influence of these individual level finance activities is still nonnegligible in driving the local and even national financial market. An obvious example is the 2008 financial crisis that can be traced back to the mass default of millions of household-level subprime mortgages.

immigrants play a crucial role in filling labor shortages (Martin, 2006). In high-tech industries, immigrants contribute disproportionately to innovation, holding a substantial share of STEM (Science, Technology, Engineering, and Mathematics) jobs and patents (Hunt and Gauthier-Loiselle, 2010). To the best of my knowledge, no past literature has specifically look into the impact of immigration on middle-end service sectors.

This paper also contributes to the existing literature on the impact of immigration on U.S. labor market outcomes by adding county-sector level evidence for positive employment and wages effects from some key services sectors. As for employment rate, the past literature generally finds little to no adverse effect of immigration on the employment levels of native-born workers. For example, Peri (2012) finds that immigrants and native-born workers tend to take on jobs in different sectors or with different skill levels, reducing direct competition. As for wages, the impact of immigration on wages is mixed and appears to depend heavily on the education and skill levels of both immigrants and native-born workers. Borjas (2003) argues that while immigration can increase overall economic efficiency, it may negatively affect the wages of competing native-born workers, particularly those without a high school diploma. However, other studies like Card (2009) find minimal wage effects on native-born workers and suggest that any negative effects are likely to be short-lived. As for labor market dynamics, immigration has been shown to influence labor market dynamics by fostering labor mobility and entrepreneurship. Immigrants are more likely to move across state lines in response to economic opportunities, which can help reduce geographical disparities in job vacancies and unemployment rates (Kerr and Kerr, 2011). Moreover, immigrants have higher rates of entrepreneurship compared to native-born citizens, which contributes to job creation and innovation (Fairlie, 2012).

The rest of this paper proceeds as follows: Section 2 discusses the data sources and the key variables; Section 3 discusses my empirical specification, including baseline OLS

and Instrumental Variable strategy; Section 4 interprets the empirical findings; Section 5 explain the findings with a neo-classical model for sectoral labor market; Section 6 provides an discussion and a policy implication; Section 7 concludes.

2 Data

The employment data comes from the Quarterly Workforce Indicators (QWI) dataset. It includes quarterly employment in each NAICS 4-digit industries at county-level from 1990 to the current year. It covers all the counties in the US, with negligible amount of missing values. Within each county, it contains employment and wages data for the sectors of my interest ⁴. The employment measure is the estimate of the total number of jobs on the first day of the reference quarter. The wage measure is average monthly earnings of employees with stable jobs. QWI is a very reliable data source for county-sector level labor market outcome with minimum measurement error.

The measure of immigration inflow and instrument for immigration shock come from the open-source dataset constructed in Burchardi et al. (2020). It includes the actual inflow of non-European immigrants (in 1000s) for each 5-year period and the predicted value of the immigration shock (in 1000s), which is the Instrumental Variable⁵. In order to correctly use this IV and to avoid any unnecessary complexities, I use an empirical specification very similar to theirs. The construction of this IV and the specification will be discussed in detail in the following section.

⁴These sectors and the corresponding indicators are: RealEstate (53 Real Estate and Rental and Leasing), Healthcare (62 Health Care and Social Assistance), and Finance (52 Finance and Insurance).

⁵The entire dataset has been published by the authors in "US Immigration and Ancestry Instruments".

3 Empirical Specification

3.1 Baseline OLS Regression

To investigate the effect of immigration on the local employment in industries of interests, I use the following baseline pooled OLS specification.

$$\Delta Y_{ct}^{5,i} = \delta_{s(c)} + \gamma_t + \beta Immigration_{ct} + \epsilon_{ct} \quad (1)$$

In this specification, $\Delta Y_{ct}^{5,i}$ is the 5-year change (from t to $t + 5$) in the employment and wages of industry i within county c . $Immigration_{ct}$ is the measure for immigration inflow. $\delta_{s(c)}$ and γ_t are state and year fixed effects. i denotes the industry of interests. In this paper, $i \in \{Healthcare, Real Estate, Finance\}$. All standard errors are clustered at the county level to control for county-level correlation.

This specification in changes ensures that any long lasting differences between counties that affect the dependent variable Y are controlled for.

The main reason to use pooled OLS with fixed effects specification is that the dataset is a very unbalanced short-panel, with many industries in some counties only have one year of observation. The advantage of this specification are the followings. First, by using the *changes* of the dependent variable, its skewness are controlled, and any long-lasting differences between counties are also controlled. Second, using the change of dependent variable from t to $t + 5$ allows me to interpret the coefficient as the effect of current immigration on the change of outcomes in the following 5-year windows. Third, adding state and year fixed effects control for other state-level time-invariant characteristics and cross-state time-variant trends.

3.2 Endogeneity Concern and IV Strategy

The drawback of the baseline specification is the endogeneity caused by *reverse causality* and other unobserved *omitted variables*. Immigrants might come to settle in the county because its healthcare, education, and housing industries are already booming (i.e. increasing employment opportunity and service quality). This *reverse causality* problem can induce spurious correlation and bias the estimation. Another concern is that there may be unobserved *omitted variables* that is correlated with the immigration inflow. For example, immigrants from a specific origin who possess skills in healthcare might favor those counties which have a large share of healthcare industry. When there is some change in the industry itself, it may simultaneously affect both the inflow of immigrants to a locality and the labor market outcome of that industry in that locality.

The *Instrument Variable* developed in Burchardi et al. (2020) can mitigate both of those concerns. The construction steps of this instrument is as follows. Step one, we predict the ancestry of immigrants from an origin to a destination county in year t using the sum of interaction terms, which are the share of European immigrants who went to this county each year (pull factor) times the number of immigrants from that origin to other counties each year (push factor), from 1880 to year t . This step allows the instrument to exploit only the exogenous part of the ancestry across the county's immigration history. Step two, we predict the immigration inflow from the origin to the destination county in year t using the interaction terms which are the predicted ancestry in the previous year $t - 1$ times the number of immigrants from an origin to other counties in the current year t . This is a canonical shift-share approach. Step three, for each county in each year (1970, 1975, 1980, 1985, 1990, 1995, 2000, 2005, 2010), they add up the predicted immigration inflow from all the origins. By using both the canonical shift-share approach and the predicted ancestry constructed by the interaction of push and pull factors, this instrument excludes the major source of endogeneity that can cause my explanatory variable to be correlated with unobserved local

labor market characteristics and trends. Thus, the *exclusion restriction* of IV is satisfied.

To validate the *relevance restriction*, Table 2 in Bruchardi et al. (2020) regress the actual immigration on the the push-pull & shift-share instrument at the country-county level for each year. All the significantly positive coefficients and the R^2 bigger than 60% indicates that the instrument has a good explanatory power to the immigration inflow.

Denoting the instrument from Burchardi et al. (2020) as $ImmigrationShock_{ct}$, the following IV specification provides estimation of causal effect.

$$\Delta Y_{ct}^{5,i} = \delta_{s(c)} + \gamma_t + \beta ImmigrationShock_{ct} + \epsilon_{ct} \quad (2)$$

4 Results

Table 1 reports the estimated effect of immigration inflow on local sectors' employment, using both equation (1) and (2). An inflow of 10000 immigrants is associated with 0.3 increase in employment per 10000 people in the local healthcare sector in the 5-year-period. In contrast, the effect of immigrants on housing and finance sector are not very significant. Th positive effect on healthcare sector remains significant under the IV specification, but the estimated coefficients using IV is bigger, which means that the results in baseline OLS are biased downwards. This downward bias might be caused by immigrants avoiding over-competition in job searches that is indicated by rising employment when choosing where to settle. In contract, the estimated coefficients for the housing sector is not positive and not significant under IV strategy.

Table 2 reports the estimated effect of immigration inflow on local sectors' wages, using both equation (1) and (2). The effects of immigration inflow on the wages of healthcare sector and the housing sector in the 5-year-window are positive and significant, and they remain significant under the IV estimation. An inflow of 10000 immigrants increases wages in the healthcare, housing, and

Table 1: Employment Impact

	Healthcare		RealEstate		Finance	
	ΔEmp	ΔEmp	ΔEmp	ΔEmp	ΔEmp	ΔEmp
Immigration	0.321*** (0.016)		-0.008* (0.004)		0.008 (0.013)	
ImmigrationShock		0.565*** (0.088)		-0.007 (0.010)		0.066* (0.037)
N	5925		5067		5875	
Year FE	Yes		Yes		Yes	
State FE	Yes		Yes		Yes	

This table reports the results of the baseline OLS and the IV regression of 5-year changes in employment (per 10000 people) within each sector to the change of inflow of immigration (in 10000s) and its instrument (ImmigrationShock). The estimated coefficients for healthcare sector positive and significant, controlling for state and year fixed effects. The estimated coefficients for housing and finance sectors are not very significant, and it remain insignificant using IV. All the standard errors are clustered within a county. Comparing to the IV estimation, baseline OLS gives a downward-biased estimation.

Table 2: Wages Impact

	Healthcare		RealEstate		Finance	
	ΔWage	ΔWage	ΔWage	ΔWage	ΔWage	ΔWage
Immigration	0.057* (0.026)		0.207*** (0.025)		0.596*** (0.054)	
ImmigrationShock		0.170*** (0.117)		0.304*** (0.082)		1.351*** (0.186)
N	6375		6375		9122	
Year FE	Yes		Yes		Yes	
State FE	Yes		Yes		Yes	

This table reports the results of the baseline OLS and the IV regression of 5-year changes in wages (per \$100) within each sector to the change of inflow of immigration (in 10000s) and its instrument (ImmigrationShock). All the estimated coefficients are positive and significant, controlling for state and year fixed effects. All the standard errors are clustered within a county. Comparing to the IV estimation, baseline OLS gives a downward-biased estimation.

sector by \$0.17, \$0.304, and \$1.351, respectively. These estimations show that the effect of immigration on wages are highly heterogeneous among the service sector. Comparing to the estimations given by Burchardi et al. (2020), my estimations roughly align in average magnitude⁶. All the estimated effect are larger under IV strategy, which implies that the baseline OLS estimations are downward biased.

The downward bias of OLS estimation of the local sector wage effect can be explained by the negative correlation between immigration location choice and the local sector's price as a cost of living. Price, as an *omitted variable* in my OLS regression, is shown to be positively affecting to wages through a pass-through effect⁷. Immigrants, considering their living costs, tend to settle in places where the service' prices are lower. During the recent decades, the service prices in the US showed an increasing trend aligning with the increase in wages.⁸. Therefore, the OLS estimation gives downward biased results of the wage effect of immigrants.

5 Model

5.1 Immigration as a Positive Demand Shock

In this section, I will rationalize the empirical findings by a neoclassical labor market partial-equilibrium model for each sector, assuming that all the sectors are competitive. The inflow of immigration serves as a positive demand shock to the local non-tradable service good markets. Since services are highly non-tradable between counties, I can safely utilize the model with one sector in one county, without considering any trade or spillover effect. Local profit-maximizing

⁶the estimated wage effect of the entire service sector is 0.429 (s.e. 0.135) in Burchardi et al. (2020). The weighted average of my estimations are around 0.5.

⁷Data from the U.S. Bureau of Labor Statistics confirms this relationship, showing that increases in employer wage costs in the service sector can indeed correlate with increases in service prices, particularly when adjusted for inflation.

⁸Over the past few decades, service prices in the U.S. have seen significant increases, particularly in sectors like healthcare and prescription drugs. Healthcare spending, for instance, has climbed steadily, with per capita healthcare expenses rising from 353 in 1970 to 13,493 by recent years. This growth is indicative of a broader trend where service costs, especially medical services, have increased at rates often outpacing inflation. See <https://www.pii.com/blogs/realtime-economic-issues-watch/us-wages-grew-fastest-pace-decades-2021-prices-grew-even-more>

producers respond to these positive demand shock in good markets by expanding their employment size in the 5-year window, to increase production. Thus, the positive demand shock in good markets transformed into the positive demand shock in the labor market, and it shifted out the labor demand curve in each sector.

In my model, the potential positive labor supply shock caused by the inflow of immigrants is negligible. First of all, only a small fraction of immigrants flow into the healthcare, housing, and finance sector in each 5-year window ⁹. Also, legal immigrants who work in their locality would have demand for services healthcare, real estate, and finance sectors to satisfy their basic need for health, residency, and reliable financial services in the modern society. Putting these two factors together, the shock in labor supply is negligible comparing to the positive shock in demand.

5.2 Labor Supply Elasticity and the Change of Equilibrium in Each Sector

From the IV estimation results we see that the healthcare and social services sector experienced positive and significant increase in both employment and wages. This can be rationalized in a supply and demand model with moderately elastic labor supply curve. In Figure 1, the demand shock shifts the equilibrium point to the right, resulting with increases in significant increase in both wages and employment.

The moderately elastic labor supply in local healthcare and social services sector may be because of the counterbalance of entry barriers and transferable skills. On the one hand, many healthcare professions requires specific degrees, certifications, and licenses. These factors act as the barriers of entry, slowing the response of labor supply to wage changes and moderating elasticity. On the other hand, workers in some segments of healthcare and social services may have skills that are transferable to other sectors, such as education or business services (e.g., administrative and management skills). This ability to switch sectors in response to better wages elsewhere can increase

⁹For example, according to Batalova et al. (2020), immigrants made up about 18% of all healthcare workers. This shows that the vast majority of healthcare workers were U.S. born.

the elasticity of labor supply.

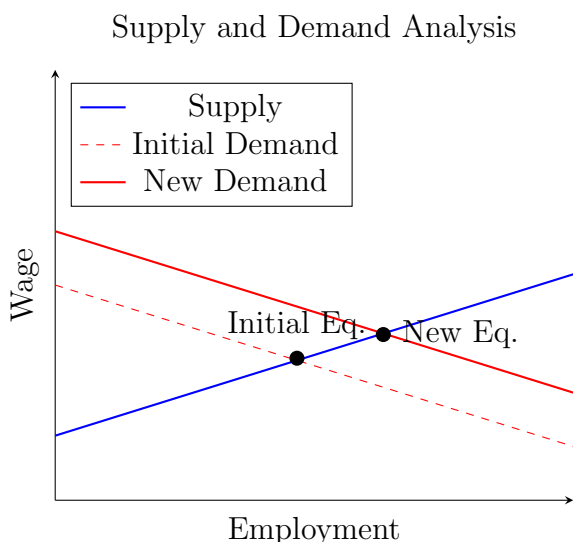


Figure 1: Positive Labor Demand Shock with Moderately Elastic Labor Supply

In the real estate sector, the increase in wages are positive and significant, but the change in employment is insignificant. This can be explained by a supply and demand model with a extremely inelastic labor supply, as in Figure 2. In this situation, the equilibrium wages increases significantly but the equilibrium employment barely changes. The inelastic labor supply in this sector may be because of highly specialized skills and heavy investment in training and certification. Many roles in this sector, such as real estate brokers, appraisers, and property managers, require specific skills, certifications, or licenses. This specialization means that not everyone can quickly enter these professions, limiting the number of people immediately available to fill these roles. Since obtaining the necessary qualifications can require significant time and financial investment, fewer people may be willing or able to make this commitment. Once individuals have invested in acquiring these credentials, they are also less likely to leave the industry, further reducing elasticity.

In the finance and insurance sector, the increase in wages are also positive and significant, and the change in employment is insignificant. This could also be explained by an inelastic labor supply in the neoclassical model, as in Figure 2. The inelastic labor supply in Finance sector may be because of a combination of specialized skills, strict certification, high training costs, and

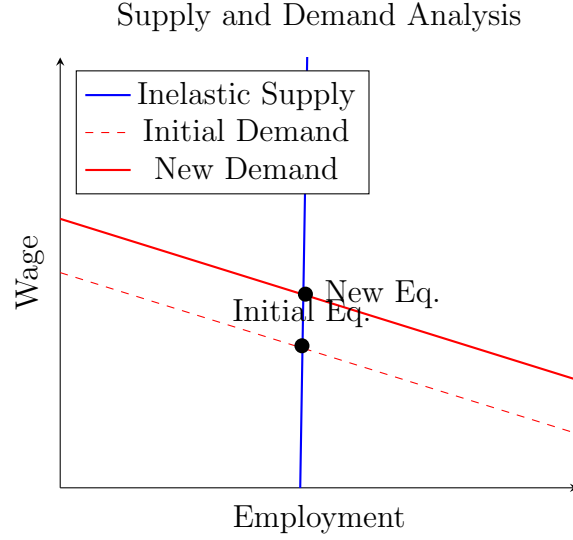


Figure 2: Positive Labor Demand Shock with Inelastic Labor Supply

strict regulatory environment. Jobs in the finance and insurance sector often require specific, advanced skills and knowledge, such as financial analysis, risk assessment, actuarial science, and regulatory compliance. These specialized skills are usually acquired through formal education and on-the-job experience, limiting the pool of immediately available qualified workers. Many roles in this sector, including financial advisors, insurance agents, and various types of analysts, require professional certifications or licenses to practice. Obtaining these credentials involves passing exams and fulfilling continuing education requirements, which can be a barrier to quick entry into the labor market. The finance and insurance sector is heavily regulated, and keeping up with changes in laws and regulations requires ongoing training and adaptation. This regulatory complexity adds another layer of requirement for ongoing professional development, making it harder for new entrants to quickly adapt and for existing employees to switch roles or sectors.

6 Discussion

In this section, I will discuss directions of further analysis and potential extensions that can be made based on current analysis. I will also discuss the implication of my results on the welfare changes of the related labor market and on the inequality in wages across sectors. Then, I will conclude this section with a policy implication.

6.1 Directions for further analysis

In this paper, I chose healthcare, real estate, and finance sectors to analysis because the services they provide satisfy the basic need of every person in the modern society, including immigrants. Their importance is ranked at a very upfront position. It is also worth investigating into other industries, such as wholesale trade, retail trade, transportation, professional and business services, educational services, leisure and hospitality services. However, when analyzing the impact of immigration on the labor market outcomes those sectors, one must be very careful about the mechanism. Other than the positive shock in demand, the inflow of immigration may also significantly increase the supply of labor, as some of those sectors may be already hosting a large proportion of immigrants employment¹⁰. Any changes identified in those sectors might be a result of the changes in both the labor supply and the labor demand.

One should also consider the case of non-competitive labor market and see if it can better explain the empirical findings. One way to do this is to calculate the sector-county level market concentration index (such as HHI) to determine whether this local labor market is competitive. If it is not, then we should use a monopsonic or oligopsonic model to analysis the mechanism. The wage in a monopsonistic market is typically lower than it would be in a competitive market because the monopsonist can exert its market power to set wages below the MRP. The level of employment is also lower compared to a competitive market, because the monopsonist's goal is to balance the cost of hiring additional workers against the revenue those workers generate. Therefore, the changes labor market outcomes and the welfare change might be different from a competitive neo-classical model.

Moreover, we could also investigate whether there is spacial heterogeneity of the impact of immigrants, depending on different characteristics of the counties across the US. In those counties that is influenced the most by immigration inflow, the effect on the labor market should be clearer. Those counties may be heavily located in the coastal areas and have better economic opportunities,

¹⁰According to a survey conducted by USAFacts, Professional and business services hold a 21.3% share of immigrant workers. For Leisure and hospitality, the number is 20.5%.

which attract more immigrants.

6.2 Implication on Welfare and Inequality

From my empirical results we see that the inflow of immigrants caused the wages to increase in healthcare, housing, and finance sector. In the healthcare sector where the labor supply is moderately elastic, the welfare gain is shared by both the firms and the workers. In the housing and finance sector where the labor supply is inelastic, the welfare gain mostly benefits the workers. A natural question to ask is what types of workers benefit the most. Is it the more skilled workers or is it the less skilled workers? Is the wage gain distributed equally by workers from every races and ethnicities? A good way to answer those questions is to use a micro-level data to construct wage indicators for different type of workers in each sector, each county, and each year. An ideal data source would be the Integrated Public Use Microdata Series¹¹. IPUMS currently disseminates integrated microdata describing 1.4 billion individuals drawn from over 750 censuses and surveys. From its individual-level observation of wages of each ethnicity in each sector and each year, the wage indicator or different types of workers could be constructed.

In a neo-classical model of labor market, wages are determined uniformly within a single market. Both firms and workers have little power on wage. Therefore, an increase in wages uniformly benefit all workers. However, in a non-competitive model where firms have monopsonistic power on workers, the inflow of immigrants might generate different results. If the firm is not only monopsonistics but also acting like a private government described by Elizabeth Anderson¹², then the welfare gain might be mostly gulped by firms. Again, we should first determine the market concentration of each county-sector to see whether there are actually monopsony and private government.

6.3 Policy Implication

The analysis of this paper leads to a point that the inflow of immigration generated concrete welfare gain in the labor market of local healthcare, housing, and finance sector. Together with all

¹¹IPUMS.

¹²Private Government: How Employers Rule Our Lives (and Why We Don't Talk about It)

the previous literature, the empirical evidence supports the point that, in general, the inflow of immigrants generated employment and wage increases, and it also leads to more indirect benefits, such as more innovation (Burchardi et al. (2020)). On the contrary, negligibly few evidence indicates that the arrival immigrants "stole" away the jobs from the native residents. Therefore, from the view of labor market analysis, the policymaker should consider making a more positive policy towards the existing immigrants and a more welcoming policy towards potential immigrants.

However, we should also recognize the complexity of policy making and the power of public opinion. When making labor market policies that affects immigrants, policymakers should make all the benefits equally accessible to all types of workers, and should make efforts to compensate those that has a disadvantage in social-economic status¹³. Policymakers should also take public opinion into consideration. Policies that can enhance trust and cooperation between immigrants and native residents and between different types of workers should be given priority. In this way, the overall hostility towards immigrants may decrease, and the power of workers could may increase, making Private Government less likely to exist.

7 Conclusion

This paper is motivated by filling the niche of the important but missing evidence about the impact of immigrants on the labor market outcomes of the service sectors (healthcare, real estate, and finance) that are in the middle range of technology spectrum. Using an Instrumental Variable strategy inspired by Burchardi et al. (2020), I showed that the arrival of immigrants to the US counties affected the labor market outcome in healthcare, real estate, and finance industries by increasing the employment in the healthcare sector and increasing the wages in all three sectors in a 5-year window.

A neo-classical labor market competitive supply and demand model with different labor supply elasticities in different sectors could explain my empirical findings. In the model, the arrival of

¹³The Affirmative Action is a good example of such a compensating policy

immigrants serves as a positive demand shock to the good markets. This shock in good market is transformed into the increase in demand for workers by the profit-maximizing producers in each sector. With different labor supply elasticities, the changes in equilibrium point are different across sectors. In the healthcare sector where the labor supply is moderately elastic, both the employment and wages increase significantly. In the real estate and finance sector where the labor supply is inelastic, only the wages increase significantly.

Together with the findings of the past literature, this paper advocates for immigration-friendly policies. Such policies should create equitable access to the benefits of increased employment and economic opportunities, while also consider public opinion to enhance cooperation between immigrants and residents.

Future research can extend the investigation of the impact of immigrants on other service sectors. One could also employ more flexible models to consider the cases of non-competitive labor market and to better understand these dynamics. One could also investigate the effect on different group of workers by utilizing more detailed micro data containing information about wages of workers with different demographics and social-economic characteristics.

Reference

- [1] Abowd, John M., and Richard B. Freeman, eds. Immigration, trade, and the labor market. University of Chicago Press, 2007.
- [2] Bodvarsson, Örn B., and Hendrik Van den Berg. The economics of immigration. New York, NY: Springer New York, 2013.
- [3] Borjas, George J. "The labor demand curve is downward sloping: Reexamining the impact of immigration on the labor market." *The Quarterly Journal of Economics* 118, no. 4 (2003): 1335-1374.
- [4] Burchardi, Konrad B., Thomas Chaney, Tarek Alexander Hassan, Lisa Tarquinio, and Stephen J. Terry. Immigration, innovation, and growth. No. w27075. National Bureau of Economic Research, 2020.
- [5] Card, David. "Immigration and inequality." *American Economic Review* 99, no. 2 (2009): 1-21.
- [6] Dahlberg, Matz, and Peter Fredriksson. Migration and local public services. No. 2001: 12. Working Paper, 2001.
- [7] Fairlie, Robert W. "Immigrant entrepreneurs and small business owners, and their access to financial capital." *Small Business Administration* 396 (2012): 1-46.
- [8] Hunt, Jennifer, and Marjolaine Gauthier-Loiselle. "How much does immigration boost innovation?" *American Economic Journal: Macroeconomics* 2, no. 2 (2010): 31-56.
- [9] Kerr, Sari Pekkala, and William R. Kerr. "Economic impacts of immigration: A survey." (2011).
- [10] Martin, Philip. "Managing labour migration: Temporary worker programs for the 21st century." In *International symposium on international migration and development*, vol. 45, pp. 1-44. Italy: Population Division, Department of Economic and Social Affairs United Nations Secretariat Turin, 2006.
- [11] Peri, Giovanni. "The effect of immigration on productivity: Evidence from US states." *Review of Economics and Statistics* 94, no. 1 (2012): 348-358.

[12] Wang, Chunhua, and JunJie Wu. "Natural amenities, increasing returns and urban development." *Journal of Economic Geography* 11, no. 4 (2011): 687-707.