Do Immigrant flows Influence the Health Care Expenditures in the U.S.?

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Abstract

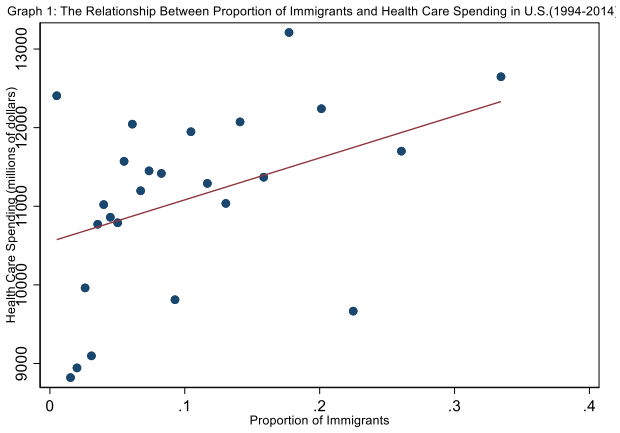
I use the variation across all the states in the U.S. and through time between 1994 to 2014 in the relative immigration proportion to estimate the relationship of immigration on public health care expenditures per capita. Using instrumental variables method, I find that there is no significant association between overall immigration proportion and public health care expenditures at state level, and there is no significant relationship of immigrants from specific original countries. However, the results of the relationship with selected birthplace shows that, an increase from 25th percentile to 75th percentile of proportion of immigrants from Puerto Rico, China and Cuba leads the state health care spending 2.68% decrease, 8.73% increase and 0.34% increase in health care spending.

1. Introduction

Health spending in United States has increased over the past years and has outpaced the growth of GDP[1]. According to Annual Survey of State and Local Government Finances, a major part of public welfare spending results from payments to Medicaid providers in 2016[2], which brings a burden for economy growth. Therefore, the reasons of rising health expenditures arise policymakers' concern. One major concern is the new documented immigrants entered the United States. The number of immigrants in the U.S. increased rapidly after 1980[3].In 2017, of those granted lawful permanent resident (LPR) status, 51.3 percent (578,081) were new arrivals in U.S.[4].

The reasons of rising health expenditures arise policymakers' concern. How immigrants' flow has influenced the health care expenditures? Some studies hold the view that the diversity of population brings many challenges for host country and increased the healthcare burden (Dias et al. 2008), while others said there's no significant relationship. My hypothesis is that the higher immigrants proportion states has, the higher health expenditures government should afford. This positive relationship could be proved in *Graph 1*, using IPUM CPS dataset. However, after I cluster the year variation from 1994 to 2014, the positive relationship disappears, which means there is no strong relationship between the change of proportion of immigrants and change of health care expenditures (in millions) *(Graph 2)*. To further analyze this question, using cross-state data from 1994 to 2014, this paper will focus on whether immigrant proportion results in the heavy health care expenditures in the United States, with year and state fixed effects.

Graph 1: The relationship between proportion of immigrants and health care spending in U.S. (1994 –2014)



Note: Own elaboration with Microsoft Excel.
Data source: IPUMS, CPS

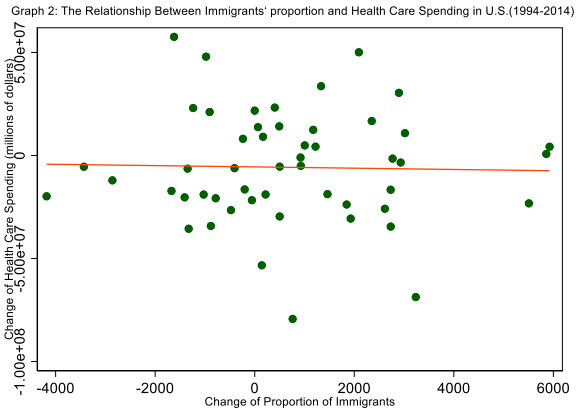
Graph 2: The relationship between the change of proportion of immigrants and health care spending in U.S. (1994 –2014)

[1] Health spending trends, https://www.healthsystemtracker.org/chart-collection/u-s-spending-health care-changed-time/#item-nhe-trends_year-over-year-growth-in-health-services-spending-by-quarter-2010-2019

[2] Public welfare, https://www.urban.org/policy-centers/cross-center-initiatives/state-and-local-finance-initiative/state-and-local-backgrounders/public-welfare-expendituress

[3] Immigration trends, https://www.migrationpolicy.org/programs/data-hub/us-immigration-trends#history

[4] Number of new arrival, https://www.ncsl.org/research/immigration/snapshot-of-u-s-immigration-2017.aspx



Note: Own elaboration with Microsoft Excel.
Data source: IPUMS, CPS

Since immigrants are not move randomly, so there is reverse causality bring by states variation and immigration networks. To address the endogeneity of immigrants' location choices, I use instrument variable is to interact immigrants' inflows by country of origin with immigrants' past geographic distribution, which produces estimates that are likely to be less biased than those in the previous commonly-used "shift-share" Bartik instrument[5].

Currently, most of the studies about immigration impact on public health care expenditure are panel analysis focusing on OECD countries, or a national level analysis to compare the expenditures between native citizens and immigrants. My study would provide a deeper understanding considering the year variation and state variation in the U.S.

The result shows that there is no significant association between overall immigration proportion and public health care expenditures at state level, and there is no significant relationship of immigrants from specific original countries. My study rejects the assumption that immigrants represent a financial burden on the US health care welfare system. Therefore, cutting coverage of immigrants to lower the public expenditures is not a good way to relieve the health expenditures. Maximizing the use of public resources should be achieved through other methods.

The first two sections of this paper provide the background information about this topic; Section 3 shows the data resources and research design; Section 4 and section 5 presents the analysis results and limitation discussion; The last section concludes the paper.

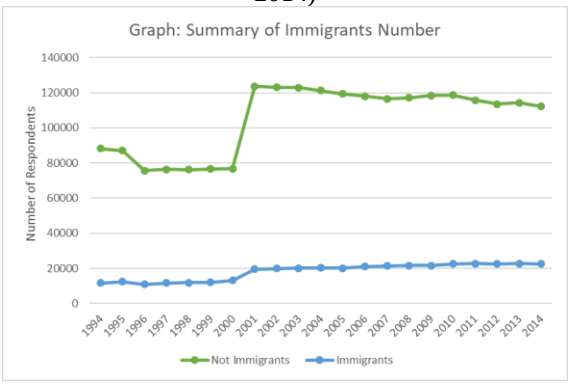
2. Research Design

2.1 Data

The independent variable is immigrant proportion of in each state. The outcome variable is the health care expenditures per capita by state of residence. Both variables are panel variation which include all 51 states in the US, from 1994-2014 yearly.

An immigrant is defined as someone who reports being a naturalized citizen or not being a citizen in this paper. I use the immigration information from Integrated Public Use Microdata Series, Current Population Survey (IPUMS, CPS)[6] . Total number of samples is 2,594,770. According to the data, the percentage of immigrants in this dataset has increased year by year, accounting for an average of 15% of the entire country. The time trend of immigrant' numbers according to this data showing in this Graph 3:

Graph 3: Summary of immigrants' number by year (1994 – 2014)



Note: Own elaboration with Microsoft Excel.
Data source: IPUMS, CPS

In this paper, first, to create the all countries immigrants' proportion variable, I created immigrants' proportion by choosing the citizenship status who is naturalized citizen or not a citizen from the original dataset. Then, instead of using immigrant's citizenship status, I use the top ten immigrants' birthplaces to represent the proportion of immigrants by state. This immigration proportion from selected countries will be used for the main analysis.

[5] Jaeger, David, et al. "Shift-Share Instruments and the Impact of Immigration." 2018, doi:10.3386/w24285.

[6] Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren. Integrated Public Use Microdata Series, Current Population Survey: Version 7.0 [dataset]. Minneapolis, MN: IPUMS, 2020. https://doi.org/10.18128/D030.V7.0

The dependent variable is accessed from the Centers for Medicare and Medicaid Services (CMS) Office of the Actuary[7], and downloaded from the Karser Family Foundation (KFF)[8]. Health Spending Per Capita includes spending for all privately and publicly funded personal health care services and products (hospital care, physician services, nursing home care, prescription drugs, etc.) by state of residence (aggregate spending divided by population). Hospital spending is included and reflects the total net revenue (gross charges less contractual adjustments, bad debts, and charity care). Costs such as insurance program administration, research, and construction expenses are not included in this total.

2.2 Model

I use a fixed effects empirical strategy to test my predictions. How the number of immigrants in each state influence the public and private health care spending? My hypothesis is that the immigrant inflow will bring a positive increase on all privately and publicly funded health care expenditures per capita in each state. Besides, there are other mechanisms which could influence the causal effects. First, immigrant inflow might affect local citizens' occupation opportunities. Also, given the age composition of migrants, states might spend more on less on health expenditures. If the age of migrants is younger, the health care spending on migrants might be higher than the states with older age composition. Third, if the important shifts in U.S. immigration law will influence the immigrants' proportion, like the *Illegal Immigration Ieform and Immigrant Responsibility Act* in 1996 which increases enforcement at the border and in the interior, Enhanced Border Security and Visa Entry Reform Act in 2002 that might increase the difficulty of immigration, and Secure Fence Act in 2006[9]. Fourth, the United States' growing economic and military presence in Asia and Latin America might push the increase of immigration. These push factors from the sending countries will influence immigrants' location decision. For example, if migrants form El Salvador would like to go to New York, and an earthquake happens in El Salvador. This event could affect the population of immigrants in Miami, and then further affect the health care spending in Miami. Fifth, powerful immigrant networks could bring immigration inflow to specific states. Immigrants do not choose their location randomly, so it might be based on their immigrant network or other unobserved determinants, which might influence the state health care expenditures. For instance, immigrants from Cuba would like to go to Miami because they have family members or friends who are located in Miami. Also, these networks facilitate the job search process and assimilation to the new culture (Munshi 2003).

There are two major concerns with the endogeneity problems. First, omitted variable biases (OVB) could be the immigrants came to the U.S. are positively selected compared to their original countries. These selected immigrants might prefer to spend more money on public or private health insurance, which related to the high state health care spending. Therefore, immigrants age, education attainment level, unemployment rate in each state… should be controlled considering the selected problem. Specifically, if there's a recession of economy in state i, the health care expenditures will decrease, resulting in less job opportunities for immigrants. Also, education level of immigrants will be controlled. The proportion of insured population should also be considered. Since the more insured people in a state, the attraction of immigrants will be higher compared with other states, the personal health care in this state will be higher. The second concern is the reverse causality when I identify the causal effect of X on Y. The high health care expenditures in a state will be an attraction for immigrants.

Therefore, I use an instrument variable (BARTIK) to solve for the endogeneity of the distribution of immigrants. The Bartik instrument is named after Bartik (1991) and popularized in Blanchard and Katz (1992)[10]. The following part captures the logic of Bartik logic from Patricia

[7] Centers for Medicare & Medicaid Services, Office of the Actuary, National Health Statistics Group. National Health Expenditures Data: Health Expenditures by State of Residence, June 2017.

[8] Health Care Expenditures per Capita by Service by State of Residence. https://www.kff.org/state-category/health-costs-budgets/health-expendituress-by-state-of-residence/

[9] How U.S. immigration laws and rules have changed through history. D'VERA COHN. https://www.pewresearch.org/fact-tank/2015/09/30/how-u-s-immigration-laws-and-rules-have-changed-through-history/

[10] These papers define the instrument as the local employment growth rate predicted by interacting local industry employment shares with national industry employment growth rates. https://paulgp.github.io/papers/bartik_gpss.pdf

Cortes (2008). Based on the tendency of immigrants to settle in a state with a large influx of immigrants from the same origin country, the instrument uses the immigration distribution among various states in the United States in 1994 to allocate new waves of immigrants from their original country. The instrument for the number of immigrants in state i and year t could be written as

$$\sum \frac{base\_IMM_{1994,ji}}{base\_IMM_{1994,j}} \times total\_IMM_{jt}$$

Where j are all countries of origin included in 1994, $\frac{base\_IMM_{1994,ji}}{base\_IMM_{1994,j}}$ represents a baseline share of all immigrants from country j who were going in the states i in 1994, and $total\_IMM_{jt}$ means the total number of immigrants from origin country j to all the states every year.

However, according to the study of Jaeger and Ruist (2018), decomposing immigrant inflows by origin groups rather than considering the overall inflow (Card 2001) would be better to measure the impact of immigration. The multiple instrument procedure isolates innovations in local immigrant inflows that are caused by compositional changes at the national level. Therefore, in this paper, to create the instrument variables, instead of using all immigrant's citizenship status, I use the immigrants from top 10 birthplace located in U.S. to represent the percentage in the whole countries (Table 2.2.1) except Mexico and Philippines.

Table 2.2.1. Top 10 Birthplaces of Immigrants in the U.S.

Birthplace	Frequency	Percentage
United States	2,167,817	83.55
Mexico	128,237	4.94
Philippines	19,856	0.77
Puerto Rico	17,861	0.69
India	14,814	0.57
El Salvador	14,283	0.55
China	12,419	0.48
Cuba	10,880	0.42
Vietnam	10,249	0.39
Dominican Republic	10,071	0.39
Germany	10,042	0.39

Note: Own elaboration with STATA.
Data source: IPUMS, CPS

The first stage regression of different birthplace shows, the positive coefficient of immigrant share holds only in Puerto Rico, India, El Salvador, China, Cuba, Vietnam, Dominican Republic and Germany, so I choose these 8 birthplaces to create the immigrant share IV and predict immigrants' proportions in states. Furthermore, I created shift-share instrument for each birthplace, which could be written as

$$\sum \frac{base\_IMM\_India_{1994,ji}}{base\_IMM\_India_{1994,j}} \times total\_IMM\_India_{jt}$$

The birthplace here will be replaced as Puerto Rico, India, El Salvador, Cuba, China and Vietnam.

The results of first stage regression shows in Table 2.2.2. As table shows, the instrument is a good predictor of immigrant shares. The magnitudes of the coefficients suggest that, at current U.S. immigration levels, an increase of 10 percent in the predicted number of immigrants increases the share of immigrants in the labor force between 34.09 percent and 146.9 percent. Only column (2) includes state and year fixed effects.

Also, there's no significant relationship between the IV and health care spending, so the IV could influence dependent variable only through X variable, which is proportion of immigrants in each state.

Table 2.2.2. First Stage Regression (selected 8 top birthplaces)

VARIABLES	(1) Immigrant	(2) Immigrant
Immigrant share $(\sum \frac{base_{IMM_{1994,ji}}}{base_{IMM_{1994,j}}} \times total_{IMM_{jt}})$	146.9***	34.09**
	(13.92)	(16.82)
Constant	0.00998***	0.000226
	(0.00154)	(0.00154)
Observations	1,071	1,071
R-squared	0.836	0.952
F-Test of IV	3.578	3.578
State FE		YES
Year FE		YES

Note: OLS estimates. The dependent variable is the predicted immigrants' proportion. The independent variable is the IV created before. State and year fixed effects are included in the column (2). Robust standard errors are reported in parentheses. *Significant at the 10% level. ** Significant at the 5% level. *** Significant at the 1% level.

The first stage estimating equation that represent the instrument prediction is:

$$\widehat{immigrants\_IV}_{it} = \alpha_{it} + \beta_1 \left\{ \sum \frac{base_{IMM_{1994,ji}}}{base_{IMM_{1994,j}}} \times total_{IMM_{jt}} \right\} + \delta_i + \gamma_t + \epsilon_{it} \quad (1.1)$$

$$\widehat{immigrant}_{India_{IV_{it}}} = \alpha_{it} + \beta_1 \left\{ \sum \frac{base_{IMM\_India_{1994,ji}}}{base_{IMM\_India_{1994,j}}} \times total_{IMM_{jt}} \right\} + \delta_i + \gamma_t + \epsilon_{it} \quad (1.2)$$

δ_i are state fixed effects; γ_t are year fixed effects; immigrants_IV$_{it}$ are the independent variable, and β_1 captures how the unobserved factors influence the immigrants' proportion in state i.

The second state estimating equation that represents our empirical strategy is:

$$\text{Health care}_{it} = \alpha_{it} + \beta_2 \widehat{immigrants\_IV}_{it} + \delta_i + \gamma_t + \varepsilon_{it} \quad (2.1)$$

$$\text{Health care}_{it} = \alpha_{it} + \beta_2 \widehat{immigrants\_India\_IV}_{it} + \delta_i + \gamma_t + \varepsilon_{it} \quad (2.2)$$

Health care$_{it}$ is the state public health care expenditures in state i and year t; $\widehat{immigrants\_IV}_{it}$ is the immigrants share IV described before. δ_i are state fixed effects; γ_t are year fixed effects, and ε_{it} is error terms. This paper includes states and year fixed effects, which controls unobservable factors across the states and across time, like federal tax regimes. β_2 captures how the immigrants' proportion pushed by the unobserved factors could affect the health care expenditures in state i and year t. I estimate the results using Two-Stage Least Squares (2SLS). Standard errors are clustered and at state level.

The second state estimating equation for few birthplaces IV is:

$$\text{Health care}_{it} = \alpha_{it} + \beta_1 Pueto\ Rico_{it} + \beta_2 India_{it} + \beta_3 El\ Salvador_{it} + \beta_1 China_{it} + \beta_2 Cuba_{it} + \beta_3 Vietnam_{it} + \delta_i + \gamma_t + \varepsilon_{it} \quad (2.3)$$

Therefore, the instrument will help in identifying the causal effect of immigration concentration on health expenditures as long as three conditions hold: first, the unobserved factors determining that more immigrants decided to locate in a specific state in 1994 are not correlated with changes in the relative economic opportunities offered by this state in the following years. Second, the total (national) flow of immigrants in a given year (second term in the interaction) is exogenous to differential shocks to each state. Third, the only mechanism through which immigrant distribution in 1994 affects recent changes in health care expenditures is its effect on the actual distribution of immigrants across states (exclusion restriction).

The limitation of this research design is that the health care expenditures captures too many unobserved influences which is not fully controlled in this paper. Also, the rural and urban area's health care spending will be different, which is related to the immigrant's location preference. However, the expenditures in different type of areas does not analyzed in this paper since the lack of resources.

3. Results and Analysis

3.1 Ordinary least squares (OLS) regression

In order to know the impact of immigrants' proportion in each state on public health care spending, I first run the ordinary least squares (OLS) regression with and without fixed effect, as showing in the Table 3.1. The OLS regression with reverse causality shows that, there is a positive relationship between proportion of all countries' immigrant on public health expenditures, with 99% statistically significant. However, after I include the year and state fixed effect, the coefficient turns to be no significance.

Table 3.1. OLS regression of immigrants' proportion with reverse causality

VARIABLES	(1) Health care spending	(2) Health care spending
Proportion of immigrants	34,619***	9,472
	(9,804)	(8,285)
		(188.2)
Constant	10,019***	7,741***
	(284.6)	(134.1)
Observations	1,050	1,050
R-squared	0.065	
State FE	NO	YES
Year FE	NO	YES
Number of states		50

Note: Column (1) is the relationship without year and state fixed effects, while column (2) has. The unit of health care spending is millions of dollars. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Also, in order to know whether a respondent has the immigrant citizenship have what kind of impact on public health care spending, I run the OLS regression of binary immigrant variable with reverse causality. The result shows that immigrant citizenship brings positive impact on states' health care spending significantly, but it turns to be negative after controlling education attainment

level, age of immigrants, year and state variables, with significance. Also, the impact of whether immigrant with Mexico citizenship has a negative effect on state health care spending, with the same controls.

Obviously, even if I control the fixed effects and add control variables, the OLS results cannot well identify the relationship, since the reverse causality exist, which means the states with better health care welfare might attract more immigrants' inflow. In order to solve this problem, I include instrument variables and discussed in 4.2.

3.2 Two-Stage least squares (2SLS) regression analysis

After including instrument variables to predict the immigrants' proportion, the coefficient of immigrants' proportions from selected countries on the state health care spending turns to be negative, with no significance (Table 3.2). Specifically, after including state and year fixed effects, 10 percentage point increase in the share of immigrants leads to a 288.12 million of dollars decrease in the health care spending, with no significance. For magnitude of the coefficients, the increase from 25th percentile to 75th percentile of proportion of immigrants leads the state health care spending 28.15% decrease in health care spending, without year and state fixed effects; the increase from 25th percentile to 75th percentile of proportion of immigrants leads the state health care spending 5.98% decrease in health care spending, with year and state fixed effects.

Table 3.2. Regression of immigrants' proportions from selected countries on state health care spending

VARIABLES	(1) Health Care Spending	(2) Health Care Spending
Proportion of immigrants of selected countries	-135,618.010	-28,812.253
	(350,319.167)	(75,055.512)
Observations	1,050	1,050
R-squared	-0.371	0.961
Number of States	50	50
Partial R-squared	0.0111	0.0139
F-Test of IV	6.198	2.848
Mean of health care spending	11091.56	11091.56
State FE		YES
Year FE		YES

Note: Column (2) includes state and year fixed effect, while column (1) not. The unit of health care spending is millions of dollars. Standard errors clustered at state level. Robust standard errors in parentheses. *Significant at the 10% level. ** Significant at the 5% level. *** Significant at the 1% level.

Since after including year and state fixed effects, the F-test of IV becomes much lower, which means a weak instrumental variable included. Therefore, in the next step, I run a 2SLS regression of proportion of immigrants from different birthplace on state health care spending, in order to know the birthplace variation about this issue. The result shows the second stage regression results by different birthplace. Specifically, 1 percentage point increase in immigrants from Puerto Rico leads to a 1056.43 million of dollars decrease in the state health care spending, with 95% statistically significance; 1 percentage point increase in immigrants from India leads to a 1121.31 million of dollars increase in the state health care spending, with no significance; 1 percentage point increase in immigrants from El Salvador leads to a 4353.41 million of dollars decrease in the state health care spending, with no significance; 1 percentage point increase in immigrants from China leads to a 2664.13 million of dollars increase in the state health care spending, with 90% statistically significance; 1 percentage point increase in immigrants of Cuba leads to a 342.66 million of dollars increase in the state health care spending, with 99% statistically significance; 1 percentage point increase in immigrants from Vietnam leads to a 5923.11 million of dollars decrease in the state health care spending, with no significance; 1 percentage point increase in immigrants from Dominican Republic leads to a 1693.55 million of dollars decrease in the state health care spending, with no significance; 1 percentage point increase in immigrants from Germany leads to a 2402.35 million of dollars increase in the state health care spending, with no significance.

For the interquartile range explanation, an increase from 25th percentile to 75th percentile of proportion of immigrants from Puerto Rico leads the state health care spending 2.68% decrease in health care spending; an increase from 25th percentile to 75th percentile of proportion of immigrants from India leads the state health care spending 4.86% increase in health care spending; an increase from 25th percentile to 75th percentile of proportion of immigrants from El Salvador leads the state health care spending 13.82% decrease in health care spending; an increase from 25th percentile to 75th percentile of proportion of

immigrants from China leads the state health care spending 8.73% increase in health care spending; an increase from 25th percentile to 75th percentile of proportion of immigrants from Cuba leads the state health care spending 0.34% increase in health care spending; an increase from 25th percentile to 75th percentile of proportion of immigrants from Vietnam leads the state health care spending 19.70% decrease in health care spending; an increase from 25th percentile to 75th percentile of proportion of immigrants from Dominican Republic leads the state health care spending 1.68% increase in health care spending; an increase from 25th percentile to 75th percentile of proportion of immigrants from Germany leads the state health care spending 5.87% increase in health care spending. In sum, only the coefficient of Puerto Rico, China and Cuba are significant, so proportion of immigrants from Puerto Rico leads to a negative impact on state health care spending, while both immigrants' proportion form China and Cuba bring a positive impact on state health care spending.

3.3 Few countries immigration share IV

Since the instrument turns to be weak, I create the share of immigrants for each country as instrumental variables to observe the relationship. I choose Puerto Rico, India, El Salvador, Cuba, China and Vietnam. The second state estimating equation is:

$$\text{Health care}_{it} = \alpha_{it} + \beta_1 Pueto\ Rico_{it} + \beta_2 India_{it} + \beta_3 El\ Salvador_{it} + \beta_1 China_{it} + \beta_2 Cuba_{it} + \beta_3 Vietnam_{it} + \delta_i + \gamma_t + \varepsilon_{it} \quad (3)$$

The results show that, even with strong instrument variables, all the coefficients are not statistically significant. In all, the primary findings of the study are that the immigrants' proportion has no significant association with public health care expenditures at state level, so the significant rise in public health care expenditures cannot attribute to the immigrants' proportion in a state (Table 3.3).

Table 3.3. 2SLS regression of predicted immigrants' proportion from different countries on state health care spending with few countries IV

VARIABLES	(1) Health care Spending
Puerto Rico	-345,772.762
	(751,412.919)
India	270,297.725
	(518,004.284)
El Salvador	-937,985.456
	(857,134.431)
China	-492,246.984
	(912,296.090)
Cuba	20,041.889
	(142,728.564)
Vietnam	-498,607.734
	(1334187.048)
Observations	1,050
Number of states	50
R-squared	0.402
Partial R-squared	0.229
F-Test of IVs	9.183
Mean of health care spending	11091.56

Note: The unit of health care spending is millions of dollars. State and year fixed effects are included. Standard errors clustered at state level. Robust standard errors in parentheses. *Significant at the 10% level. ** Significant at the 5% level. *** Significant at the 1% level.

4. Limitation Discussion

The dataset of this study for independent variables is a survey from CPS rather the census data, so the proportion of immigrants to represent the state level real number is an estimated value. After merging with the public health care expenditures data set, there are two states' data (District of Colombia and New England) were eliminated because of missing values.

The limitation of this research design is that the health care expenditures captures too many unobserved influences which is not fully controlled in this paper. Also, the rural and urban area's health care spending will be different, which is related to the immigrant's location preference. However, the expenditures in different type of areas does not analyzed in this paper since the lack of resources.

The major concern of this paper is the weak instrument variables. The first stage regression of instrumental variable (all countries immigration share) on the immigrants' proportion is not significant after including year and state fixed effects. After selecting specific countries from the top 10 birthplaces immigrants, the first stage regression of the selected countries immigration share on the selected immigrants' proportion becomes strong, but still, including state and year fixed effects will weaken the power of instrument variable. Even if I fix the results by regressing each birthplace instrument variable on each birthplace's

immigration proportion, the analysis cannot prove the overall situation of the total immigrants in the U.S. Considering the strong immigration networks, there's variation by different birthplaces, which needs further discussion.

For further analysis, I tried to include the impact on private health insurance expenditures (PHI) as another outcome variable. However, the instrument variable I created in this paper becomes weak when I include the PHI, and there's a significant influence of the immigration share IV on the PHI. Therefore, unless these problems could be solved, the model in this paper could not be applied to other outcomes.

5. Conclusion and Policy Implications

This paper discusses the relationship between immigration proportion and state health care expenditures, and the primary finding is that the immigrants' proportion has no significant association with public health care expenditures. Then, considering immigration proportion from each birthplace, only the coefficient of Puerto Rico, China and Cuba are significant. 1 percentage point increase in immigrants from Puerto Rico leads to a 1056.43 million of dollars decrease in the state health care spending; 1 percentage point increase in immigrants from China leads to a 2664.13 million of dollars increase in the state health care spending; 1 percentage point increase in immigrants of Cuba leads to a 342.66 million of dollars increase in the state health care spending.

This analysis provides a broader view when policymakers setting immigration policy. Cutting the coverage for publicly insured immigrants does not relieve the high health care spending (Mohanty 2005). The large consumption of health care resources cannot attribute to immigration increase or decrease. Maximizing the use of public spending should be achieved through more channels, rather than attributed to a diverse population and ethnic environment. The high expenditure comes from high administrative costs, drug costs, defensive medicine, expensive mix of treatments, etc[11]. Therefore, the government should step up its intervention, including the rational allocation of medical resources, the strengthening of the accountability mechanism of medical institutions, the standardization of diagnostic rules, and the protection of patients' rights and interests.

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