Did Immigration contribute to wage stagnation of unskilled workers?

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Abstract

In this paper we first show that the timing and skill distribution of Immigrants between 1970 and 2016 imply they did not contribute to the decline in the wages of native, non-college educated workers - including high school dropouts - at the national level. We then review other evidence at the local level, which implies immigration is not associated with lower non-college wages. Rather, higher immigration seems associated with higher average (and college-level) wages. Local externalities, complementarities, efficient specialization and appropriate technological choice may imply at least part of the positive association is causal.

1. Introduction: Wage Stagnation of non-college educated workers

Abundant evidence (e.g. Autor et al 2008), confirmed by the trend presented below, shows that the problem of real wage stagnation and decline since 1980 is one experienced primarily by non-college educated workers, who are sometimes referred to as "unskilled". This tendency seems to begin around 1980, after a period of decreased inequality extending to the 1970's when wage-growth for non-college educated workers out-performed that of college educated workers.

To confirm these trends we calculate some representative trends from Census and American community survey data. The average national real (weekly) wage of college educated (US born, employed for at least one week of the previous year and aged between 18 and 65 years old) grew by a total of about 20% from 1980 to 2014. Most of the gains accrued during the 1980's and 1990's, and moderate losses accrued to this group in the 2000-2014 period, because of the great recession. To the contrary the average real weekly wage of non-college educated decreased by 8%, in total, during the same period, while those with no diploma lost about 18% of their real

weekly wages overall. Most of the real wage loss for this group took place between 1980 and 1990, a decade of significantly rising inequality, and in the 2000-2010 period due to the great recession. These numbers, obtained from our calculations, summarize the extent of the US wage problem and constitute the basis for the analysis performed below.

It is useful to note, before analyzing a potential role of immigration on wages, that during the 34 year period from 1980 to 2014, wage inequality between college and non-college workers increased substantially, but with significant variation across decades. The 1990's were the only decade in which both college and non-college educated had positive wage gains (gains of 10 and 14%, respectively), and were a period of only moderate growth in college-non college wage inequality. The 1980-1990 decade was the worst in terms of inequality growth as wages for college educated workers grew much faster than those of non-college educated workers, and the 2000-2010 period saw the second-largest increase in inequality combined with declining real wages for all workers because of the great recession.

2. National Approach: Can relative supply be the story, and did immigration contribute?

A simple way in which immigration could be a culprit for the increased wage gap and the associated wage stagnation/decline of non-college educated is related to its role in changing the supply of different types of workers. If immigration increased the supply of non-college educated substantially more than the supply of college educated, it could contribute to a pure "relative supply" explanation of the phenomenon.

Moreover, within the non-college educated group, if immigration increased the supply of those with no diploma significantly more than that of workers with a high school diploma, in periods of increasing inequality between the two groups, it could constitute prima facie evidence of a role of immigration in generating this problem. Relative supply shifts produced by immigration, combined with robust estimates of the elasticity of complementarity between college and non-college, and between high school graduates and dropouts could be used to generate relative wage shifts assuming that relative wages approximate marginal productivity of workers. This is the channel that most economists and non-economists have in mind when talking about the wage effect of immigration, we test this hypothesis first.

2.1 College-non College inequality

In the CES approximation of a production function (which is extensively used in the literature on college-non college wage gap, beginning with Katz and Murphy 1992) it is easy to calculate

the potential effect of the relative supply shift produced by immigrants. Consider the following production function employing college and non-college educated:

$$Y = A\left[(\theta_{CO}L_{CO})^{\frac{\sigma-1}{\sigma}} + (\theta_{NoCo}L_{NoCo})^{\frac{\sigma-1}{\sigma}}\right]^{\frac{\sigma}{\sigma-1}} \qquad (1)$$

Where the factors L_{CO} and L_{NoCO} represent employment of college-equivalent and non-college equivalent workers, respectively, and the parameters θ_{CO} and θ_{NoCO} represent their relative productivity and add up to one. The term A captures total factor productivity and σ (>1) represents the elasticity of substitution between the two types of workers.

In this case the changes in relative supply of factors, determine the changes in the relative wages if we keep the relative productivity fixed. The size of this effect depends inversely on the elasticity σ. So assuming for now that immigration does not affect relative productivity (a point on which we will return later) the following expression, derived equating wages to marginal productivity of each group, can be used to obtain the change in relative (log) wage due to change in relative (log) supply from immigrants:

$$ln\frac{w_{CO}}{w_{NoCO}} = \left(\frac{\sigma-1}{\sigma}\right) ln\frac{\theta_{CO}}{\theta_{NoCO}} - \left(\frac{1}{\sigma}\right) ln\frac{L_{CO}}{L_{NoCo}} \qquad (2)$$

The difference in percentage changes of college and non-college supply due to immigration, multiplied by the inverse of the elasticity of substitution produces the difference in percentage change of wages between non-college and college workers, if relative productivities are constant. Table 1, columns 1 to 6, shows how immigration cannot account at all, using the formula described under (2) and the consensus estimates of σ , taken to be 1.75 (Katz and Murphy 1992 and Borjas, 2003) for the observed increase in inequality in the considered period, divided into decades: 1970-80, 80-90, 90-2000, 2000-2010 and 2010-2014.

The relative supply effect of immigration, in fact, has the wrong sign (i.e. attenuates inequality) in the periods of largest increase in the college non college gap (1980-90 and 2000-2010). Immigration was college intensive in these two decades, but these periods were experiencing the largest increase in college-non college wage differentials. Immigration flows even contributed to reduced inequality in the 1970's. Only in the 1990's -a period of moderate increase in college-non college inequality (and of overall wage growth) - can immigration explain a very limited 14% of the increase in the wage gap. So in terms of the

differences in the wage dynamics across broad education groups, immigration has simply been too college intensive to explain any of the relative wage decline of non-college, especially in the decades when this decline was the strongest. Only in the 1990's was immigration moderately non-college intensive. However, this was not a period in which inequality rose significantly, and immigration can only explain 14% of this small increase (18% if we choose an elasticity of 1.5). In summary, combining the three decades of inequality growth from1980 to 2010, of the 24% *decrease* in relative non-college/college wage, the relative supply change because of immigrants could account only for a 0.1% *increase* (incorrect sign and no explanatory power).

2.2 High School Dropout-High School Graduate inequality

While it cannot explain changes in relative wages between the two broad skill groups, can immigration at least help explain the worse wage performance of dropouts relative to High school graduates at the national level in the considered thirtyfour year period? There is a debate on the elasticity of substitution between these two groups. Several estimates (Goldin and Katz 2008, Ottaviano and Peri 2012, Card 2009 and more recently a study I am completing with Accetturo and Mocetti of the Bank of Italy in 2016) argue that, within the non-college group, dropouts and high school diploma are rather substitutable workers. Hence, when their relative supply changes, their relative wages do not change significantly. This would negate a role for immigration in affecting wage losses of Dropouts. We will get back to this point when we consider the area-based analysis.

Here we take the position that the elasticity of substitution between dropouts and high school graduates (ε in the formula below) is equal to σ, the elasticity between college and non-college (i.e. 1.75 roughly as in Borjas 2003, or in Grogger, Borjas and Hanson 2012). This is the preferred scenario by those who are determined to find an effect of immigration on relative wages and, in particular, in depressing the wages of high school dropouts. In this case we can translate changes in relative dropouts-high school graduates supply, due to immigrants, into the relative wage effects in the considered decades. We assume a nested CES approach (prevalent in this literature) and consider non-college workers as a combination of dropouts and high school graduates. We obtain this formula:

$$ln\frac{w_{HS}}{w_{Dropout}} = \left(\frac{\varepsilon-1}{\varepsilon}\right) ln\frac{\theta_{HS}}{\theta_{Dropouts}} - \left(\frac{1}{\varepsilon}\right) ln\frac{L_{HS}}{L_{Dropouts}} \qquad (3)$$

Table 2 shows the results of this exercise. Even in this case, the simple relative supply story has very little success. Only for the 1990-2000 period - one in which high school dropout- graduate wage inequality did not increase much - can it explain a substantial part of increased inequality (75%). In the other decades such explanation either has the wrong sign (in the 1970-80 and in the 1980-90 periods) or it contributes to an attenuation (rather than an increase) in inequality (2010-14), or it did not explain any significant part of the increased inequality (2000-10). Let me emphasize once more that in this scenario we made all the choices preferred by researchers who claim an important role of immigration in depressing wages. Still, except for some explanatory power in the 1990-2000 period, we are not able to explain any significant percentage of increased wage inequality across these education groups with immigrant inflows in any other period. Combining the three decades 1980-2010, of the 18.2% decrease of dropout wages (relative to high school graduates) the relative supply change from immigration can only produce a 3.9% decrease, amounting to around $1/5^{th}$ of the whole change, concentrated in the 1990-2000 period.

Even looking at 5 education groups spanning all workers from high school dropouts to those with more than a college degree, separately, we confirm the inability to explain changes in the inequality across them using immigration as a supply shifter. Certainly the theory has no explanatory power in the 1980-90 period, which experienced the largest increase in inequality, nor in the 2000-2010 period, which had a large increase in inequality and big wage drops for all groups.

Figure 1 illustrates this point. It shows the percentage change in employment of each education group due to immigration in the 5 periods considered. Each of the line connects the percentage changes, arrayed from small to large by years of schooling, for one specific period. Notice a general flat or upward slope in all decades except for the 1990's where the U-shape prevails. This implies that immigration increased supply of highly educated groups more than that of less educated in most decades except for the 1990's in which high school dropouts increased at an unusually high rate.

Figure 2 shows the observed percentage growth in weekly wages for the same five education groups of natives, also connected for each period considered. These figures also show upward trends (especially for the periods 1980-90, 2000-10 and 2010-14). If larger immigration was associated with lower relative growth of real wages across groups, the distribution of wage changes should be inversely related to the change in immigrants. This happens only in the 1990-2000 period (denoted with a red line in both graph) in which the V-shape of immigration supply change corresponds to a (much attenuated) inverse V for the wage growth. During all other decades (shown by different thickness of black lines) the segments for immigrant supply and native wage growth are actually positively (and not negatively) associated. This reveals that immigration's effect of relative supply cannot

explain at all wage inequality changes, but it was either irrelevant or counteracting the inequality forces.

In summary, immigration was more college than non-college intensive in most decades, and certainly in 1980-90 and 2000-2010 period, those of fastest inequality growth and stagnation of non-college and of dropouts' wages. It was only dropout intensive (relative to the native education distribution) in the 1990-2000 period. This, however, was a period when inequality did not grow much and the real wage of non-college workers increased more than in any other period. Hence, the aggregate numbers simply make it impossible for the relative supply of immigrants to explain any significant change in inequality or wage loss for the unskilled group of workers.

2.3 Aggregate College Externalities and average wages

The last two columns of Table 1 make another important point. Immigrants have increased the share of college educated workers in each of the periods considered, relative to the existing US workers' population. In each decade they have increased the share by about 1%, relative to what it would have been without the immigrants' inflow. This may have positive average external effects on natives.

Using the estimates of the elasticity of the TFP externality to college educated share from Moretti (2004) and Iranzo and Peri (2009), we quantify this external effect on natives in terms of percentage of average wage (TFP) growth. Between 0.4 and 1.7% average wage growth, benefiting also non-college educated workers, can come from this externality according to those calculations. We will talk more about this effect on TFP when dealing with local effects of immigrants.

3. Local Effects: can immigration explain local wage decline?

While at the national level the inflow of immigrants and their timing across decades rule out any significant effect on non-college wage losses, one can think that in some areas high immigration affected local non-college (or dropout) wages. If not the national inequality, large localized immigration flows may explain geographic inequality of wages, possibly for non-college or for dropout workers.

Economic analysis of the impact of immigrants that uses local variation (across metropolitan areas or commuting zones) has rarely found significant wage impact of immigrants. Card (2001)

and Card (2009) find that immigration may change the relative supply of dropouts to high school graduates across metro areas, but it does not seem to have a significant effect on their relative wages. Hence, the argument that the elasticity between dropouts and high school graduates, ε, is close to infinity and relative supply does not affect their relative wages has gained traction. Lewis (2011) explains the lack of a relative wage effect at the local level within the frame of equation (3) showing that immigration may increase the intensity of college dropouts and induce the choice of dropout-efficient techniques that decrease the term $ln\frac{\theta_{HS}}{\theta_{Dropouts}}$ and offset the relative supply effect. Peri (2012) shows that estimating equation (3) at the state level supports the claim that immigrant-abundant states choose techniques more efficient in the use of non-college workers, offsetting the wage impact with productivity gains.

An alternative mechanism to absorb immigrants is that natives change their task specialization in response. Recent studies in several areas of labor economics (see Autor 2015,) have looked at skills considering the distribution of workers across productive tasks rather than by education group. While college and non-college workers seems differentiated enough and perform different tasks, within non-college an important differentiation is between Manual and non-Manual (Mainly communication-interaction) tasks. Immigrants tend to specialize in the first type, because of comparative advantages linked to limited language knowledge. Peri and Sparber (2009) show that immigrants increased the relative supply of manual tasks in some US states among non-college workers. This may have depressed the wage for manual tasks in that group and penalized immigrants themselves and those natives performing manual tasks. Natives have attenuated this effect on their wages by shifting to non-manual tasks over time, whose returns have been increased by the inflow of immigrants (because of complementarity). This may also explain the imperfect substitution of immigrants and natives among non-college educated workers (e.g. Ottaviano and Peri 2012) which further attenuate the effect of increased immigrants supply on natives' wages.

These mechanisms rationalize the fact that even at the local level one may not find much wage effect of immigrants on non-college wages. As illustrative evidence that empirical studies do not find that local immigrant inflows depress wages of non-college (or college) educated workers in these areas, we show two figures and a table from Basso and Peri (2016). In that paper we analyze, for all the 722 Continental US commuting zones (Labor Markets), the correlation between the change in immigrants as a share of employment and the percentage change of wages for non-college and college educated, pooling each of four decades 1970-80, 1980-90, 1990-2000 and 2000-2010. Figure 3 and 4 show the correlation between the decadal change in foreign-born workers in the commuting zone as a share of initial employment and the decadal percentage change in average weekly wages of non-college natives (Figure 3) and of college-educated natives (Figure 4). The correlation is positive in both cases and significant, denoting that larger inflows of immigrants are not associated with depressed wages across labor markets, but

with somewhat higher wages. The positive association is stronger for college educated workers and is small, but positive, for non-college educated workers. Table 3 (taken from Table 5 of Peri and Basso 2016) confirms this positive correlation survives the inclusion of fixed commuting zone effects and extends to larger geographical zones (States, Census regions). While no causation can be inferred from the Least Squares coefficients shown in Table 3, Peri and Basso (2016) use an instrumental variable approach with shift-share instrument based on immigrant location as of 1970 and differential aggregate inflows across nationalities (following Altonji and Card 1991), and find insignificant correlation of immigration and native non-college wages and positive correlation with average wages.

The fact that commuting zones with large immigration rates are not associated with lower wages of non-college educated rules out the possibility that immigration can explain geographic wage differentials for non-college workers. The performance of their wages was not worse in areas of high immigration. In fact, the positive association of immigrants with college worker wage changes at the local level may be due to omitted productivity shocks on college wages, which also attract immigration. Alternately, they may be in part due to the positive external effect discussed in the national approach, which may be stronger at the local level. The inflow of immigrants can boost local human capital externalities. It can encourage specialization with positive productivity effect.

4. STEM-externalities and local technological change

An alternative specification of the local positive productivity effect generated by immigrants comes from Peri et al (2014). In that paper the authors focus on the fact that foreign-born are especially concentrated among the very highly educated (PHD) and especially among those employed in STEM (Science, Technology, Engineering and Math) occupations. Figure 5 illustrates the presence of foreign-born among workers with some tertiary education as of 2014, and shows the increasing concentration going from Bachelor to Master to PHD and to PHD in STEM jobs.

In producing and adopting scientific innovation, this group enhances local firms' productivity and may generate local positive effects on growth and wages. In that study the authors argue that over a 20 year period (1990-2010) foreign college educated STEM workers may have produced a 2% increase in non-college wages and a 5% increase in college wages, nationally, through local technological growth and adoption.

The authors use the expansion of H1B visa program (that allows highly educated foreigners entry and temporary work in the US) interacted with existing foreign STEM workers in a city to identify a causal effect. As science and technology may drive productivity growth, foreign-born

STEM workers contributed to this growth. Additionally, this growth may have increased demand for college educated workers more than demand for non-college workers, however; and possibly is associated with part of the wage success of college educated.

5. Other Channels: Density Externalities, Immigrant entrepreneurship and assimilation

Two other potential channels are worth mentioning, and they both suggest that immigrants may actually have had a role in stimulating (rather than depressing) average wages. First, immigrants in the US are highly concentrated in metropolitan areas, and particularly in denser ones. Figure 6 shows the increasing share of immigrants moving from geographical location with low density (non-Urban areas) to location with high population and population-density (up to the largest metropolitan areas). As density reduces transport costs, increases labor market interactions and efficiency, as it rises knowledge spillovers, reduces information asymmetries and has positive effects on productivity known as "agglomeration economies" (e.g. Ciccone and Hall 1996, and Greenstone et al 2010) then immigrants inflow contributed positively to these effects. Without immigrants several of the large US metropolitan areas would be from 10% to 30% smaller, and hence would benefit to a lesser extent from these local effects of density.

A second potentially interesting role of immigrants is their role as entrepreneurs in small firms and start-ups. Immigrants have a higher self-employment rate than natives (see Fairlie 2013 for an overview of immigrant entrepreneurs) and several high-tech companies have been started by immigrants. Their inflow therefore implies a larger share of entrepreneurs in the labor force. In this role they may generate local opportunities for natives, further increasing demand for native workers. While mostly "policy reports," rather than academic papers, have developed this role, it may have had a role in stimulating local demand and wages, so more academic research on this is needed.

A final channel is worth mentioning, and it is about immigrants themselves rather than their effect on natives. They may have contributed somewhat to lower wages of non-college educated workers. Immigrants in the group of high school dropouts have become a much larger share of that group (almost 40% of it as of 2014 from less than 20% in 1970), and their wage overall is somewhat lower than that of corresponding natives (by 4 to 10 percent after controlling for demographics). Hence, less-skilled immigrants may have become a disadvantaged group with slow wage growth. However, there is not much evidence that the wage disadvantage of this group has worsened in the last 14 years (Borjas 2015, however, argues that there has been a slowing in economic assimilation in recent decades). One interesting difference in labor market outcomes is that, while having relatively low wages, immigrants with no degree have a much

higher employment rate than natives. Hence, on average, accounting for the probability of being employed, they earn higher wage income than natives. As a significant share of this group (about 80%) are Hispanic, and many of them undocumented, policies that allow regularization and full access of these workers to the labor market may reduce this wage gap with positive impact on their wages.

6. Conclusions

A combination of very simple modelling and regression analysis applied to the last 4 decades of US labor market history rule out a role for immigration in producing the wage stagnation and decline of non-college workers both nationally and in regions with high immigration. As immigration has been concentrated among college educated workers, among STEM workers, and as immigrants have moved to dense and dynamic cities and their entrepreneurship rate is higher than for natives, they may have contributed to the high productivity performance and job creation of those localities. While we need more evidence that these factors have helped the wages of non-college workers, there is no evidence that they harmed them. A policy of larger and balanced immigration inflows (allowing college and non-college immigrants in balanced proportions), and a policy that may lift the wage of existing immigrants themselves (e.g. regularization, integration) could produce positive effect on US productivity and wages. However, it will probably not cure the wage problems of non-college native workers as their demand may have declined due to technology, offshoring and the demise of non-college manufacturing jobs. Immigration did not contribute to the emergence of this issue, but some appropriate immigration policies may help wages and jobs at the local level.

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Tables

Table 1
College-Non college relative wages and effects of immigrants

	1	2	3	4	5	6	7	8
	Change of immigrants as % of High school or less	**Change of immigrants as % of some college and more**	**Relative % change**	**Potential % effect on wage of No College relative to College (elasticity 1.75)**	**Actual national Change in wage of non-College relative to College**	**What share of Non-college underperformance can be due to immigrants?**	**Increase in share of college educated due to immigrants**	**Potential externality range on average wages**
1970-80	4.6	8.7	4.2	+2.4	2.6	91% (reducing inequality)	+1.1	+0.3/1.1
1980-90	3.3	5.2	1.8	+0.1	**-13.7**	Wrong sign	+1	+0.3/1
1990-00	6.7	5.8	-0.9	**-0.5**	**-3.7**	**14%**	+1.7	+0.4/1.7
2000-2010	3.9	4.8	0.9	+0.5	**-6.6**	Wrong sign	+1.6	+0.4/1.6
2010-14	0.1	1.3	1.2	+0.7	0.8	91% (reducing inequality)	+0.6	+0.1/0.6

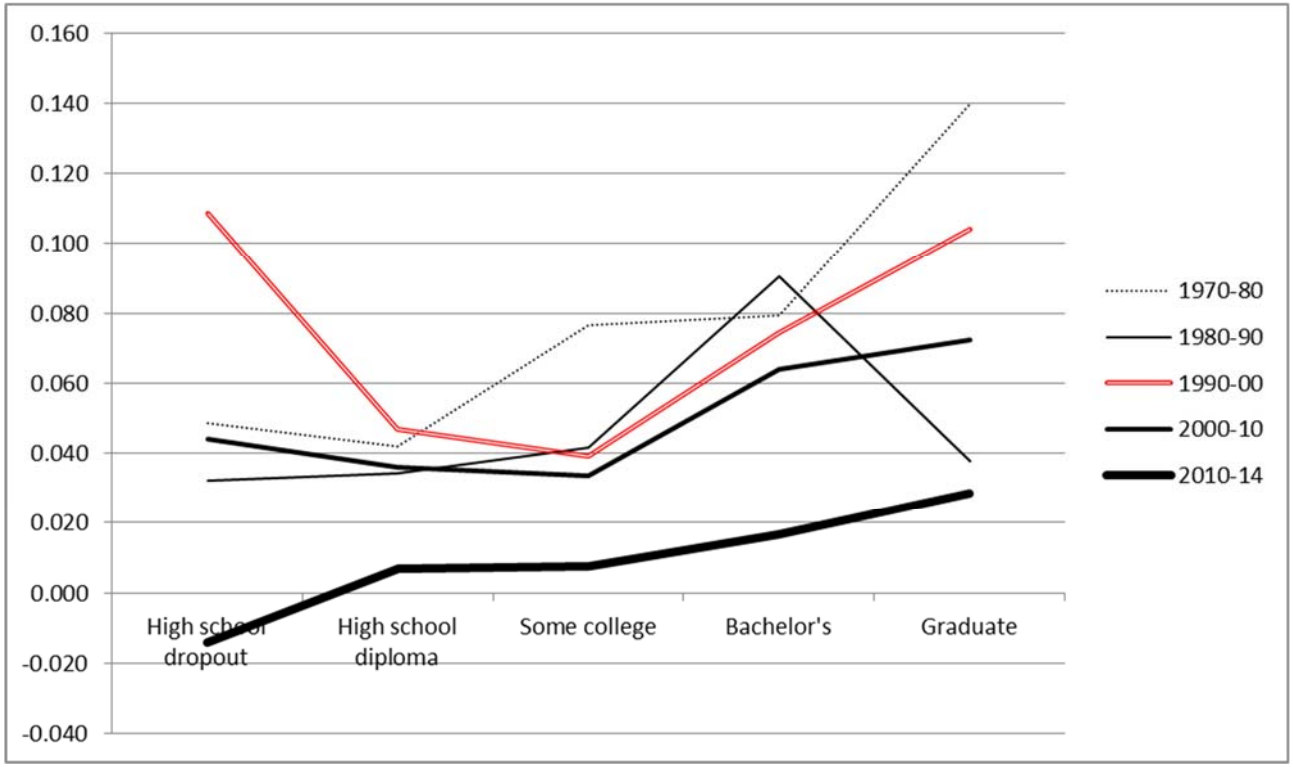
Note: The figures are obtained from Author's calculations on US Census Data 1970, 1980, 1990 and 2000 and American Community Survey 2010 and 2014. We include as workers individuals 18-65 not in group quarters who have worked at least one week. College educated are those workers with some tertiary education, high-school educated are those with at most a high school diploma.

Table 2
High school graduates-dropouts relative wages and effects of immigrants

	Change of immigrants as % of Dropouts employed	**Change of immigrants as % of High School graduates**	**Relative change**	**Potential effect on wage of Dropouts relative to Diploma (elasticity 1.75)**	**Actual national Change in relative wages**	**What share of Dropouts underperformance can be due to immigrants?**
1970-80	4.9	4.2	-0.7	-0.4	2.9	Wrong sign
1980-90	3.2	3.4	0.2	0.1	**-7.2**	Wrong sign
1990-00	10.9	4.7	-6.2	-3.5	**-4.7**	**75%**
2000-2010	4.4	3.6	-0.8	-0.5	**-6.3**	7%, very small impact
2010-14	-1.4	0.7	0.2	0.12	3.1	39% reducing inequality

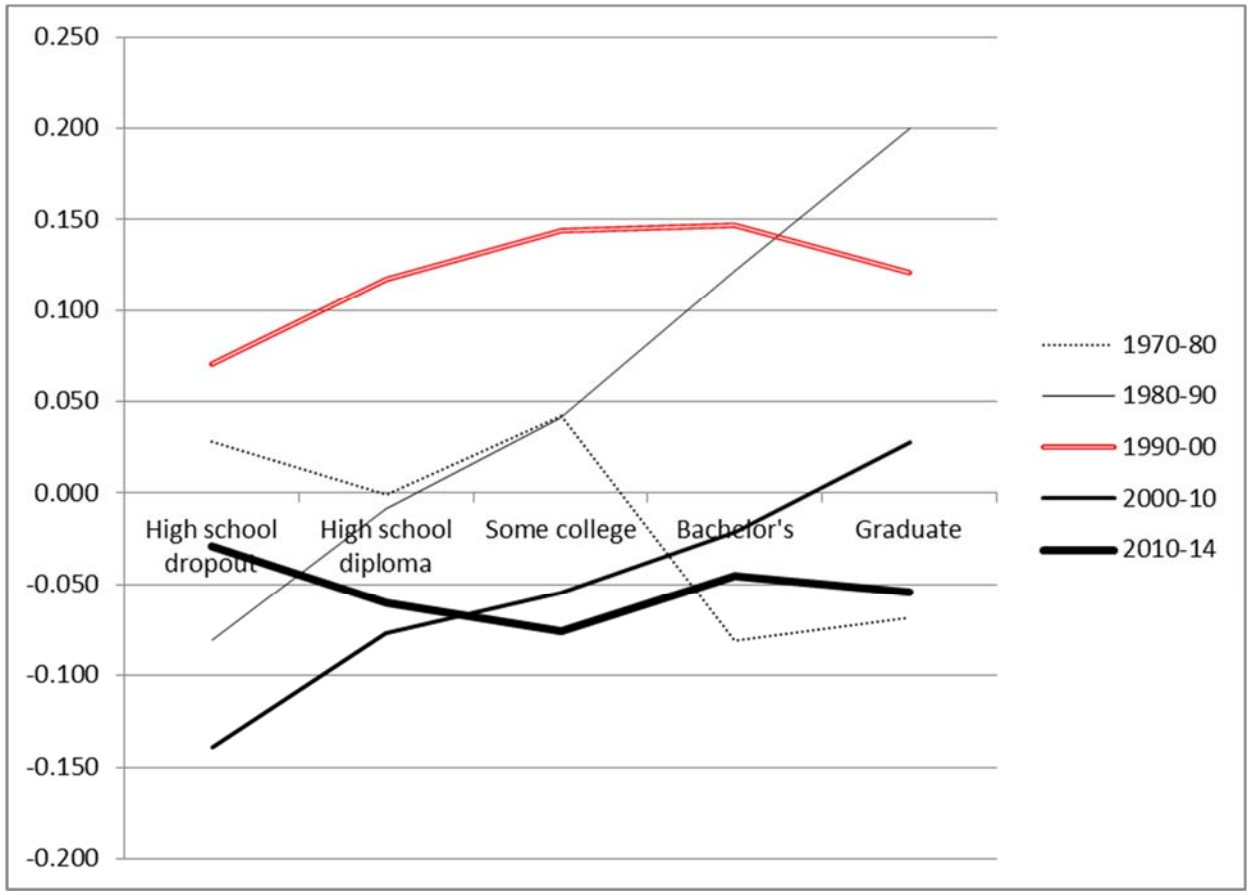
Note: The figures are obtained from Author's calculations on US Census Data 1970, 1980, 1990 and 2000 and American Community Survey 2010 and 2014. We include as workers individuals 18-65 not in group quarters who have worked at least one week. Dropouts are those workers with no high school diploma, high-school educated are those with at exactly a high school diploma.

Figure 1
Growth of employment due to immigrants, by education group, 5 periods
US, 1970-2014.



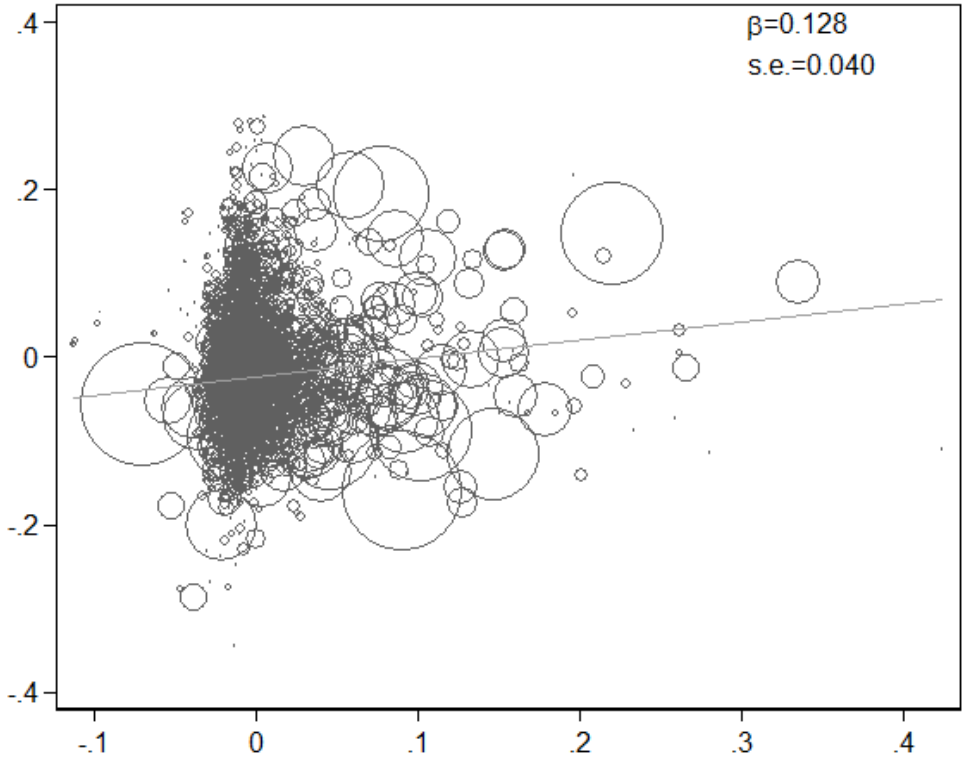
Note: The figures are obtained from author's calculations on US Census Data 1970, 1980, 1990 and 2000 and American Community Survey 2010 and 2014. We include as workers individuals 18-65 not in group quarters who have worked at least one week. High School dropouts are workers with no high school diploma, High school diploma are those who just achieved a diploma but have no further schooling. "Some college" denotes workers with some years of college education but no bachelor degree. "Bachelor's" indicates workers who have a bachelor degree, and "Graduate" indicate workers who have some graduate education up to a PHD.

Figure 2
Change in Real Wages for natives by education group, 5 periods
US 1970-2014.



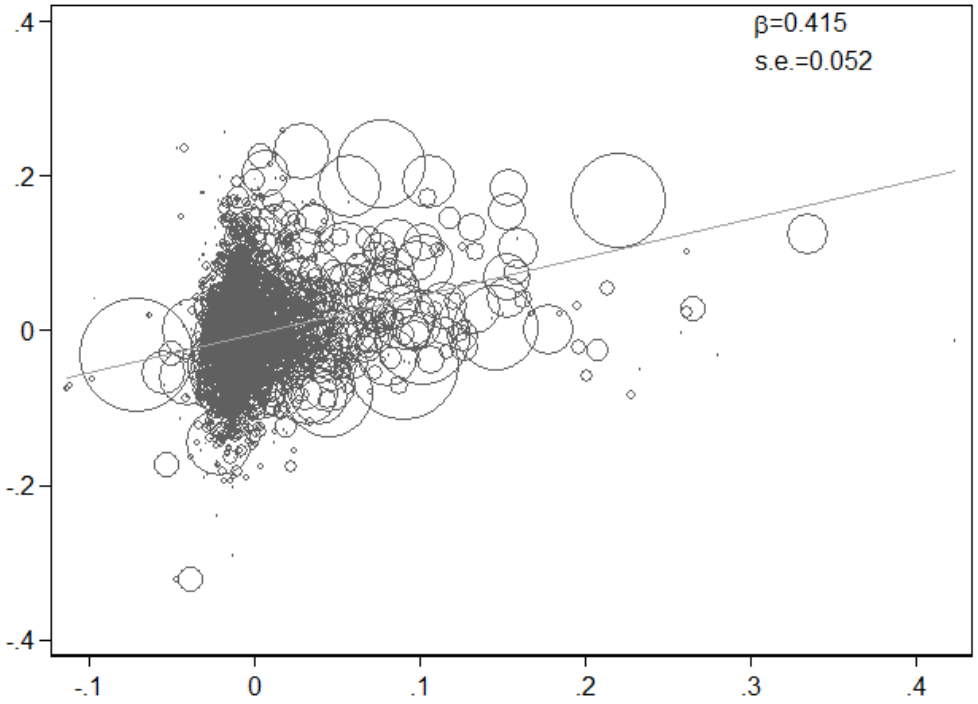
Note: The figures are obtained from Author's calculations on US Census Data 1970, 1980, 1990 and 2000 and American Community Survey 2010 and 2014. We include as workers individuals 18-65 not in group quarters who have worked at least one week. "High School dropout" are workers with no high school diploma, "High school diploma" are those who just achieved a diploma but have no further schooling. "Some college" denotes workers with some years of college education but no bachelor degree. "Bachelor's" indicates workers who have a bachelor degree, and "Graduate" indicate workers who have some graduate education up to a PHD.

Figure 3
Change in immigrants and change in weekly wages of non-college educated natives
Commuting Zones per decade, pooled 1970-2010



Note: The vertical axis shows the change in logarithmic weekly wages for non-college educated natives, the horizontal axis shows the change in foreign-born as share of initial population. Unit of observation is a CZ in a decade. The changes are cleaned from the decade average. The size of the circle is proportional to the beginning of decade population in the CZ.

Figure 4
Change in immigrants and change in weekly wages of college educated natives
Commuting Zones per decade, pooled 1970-2010



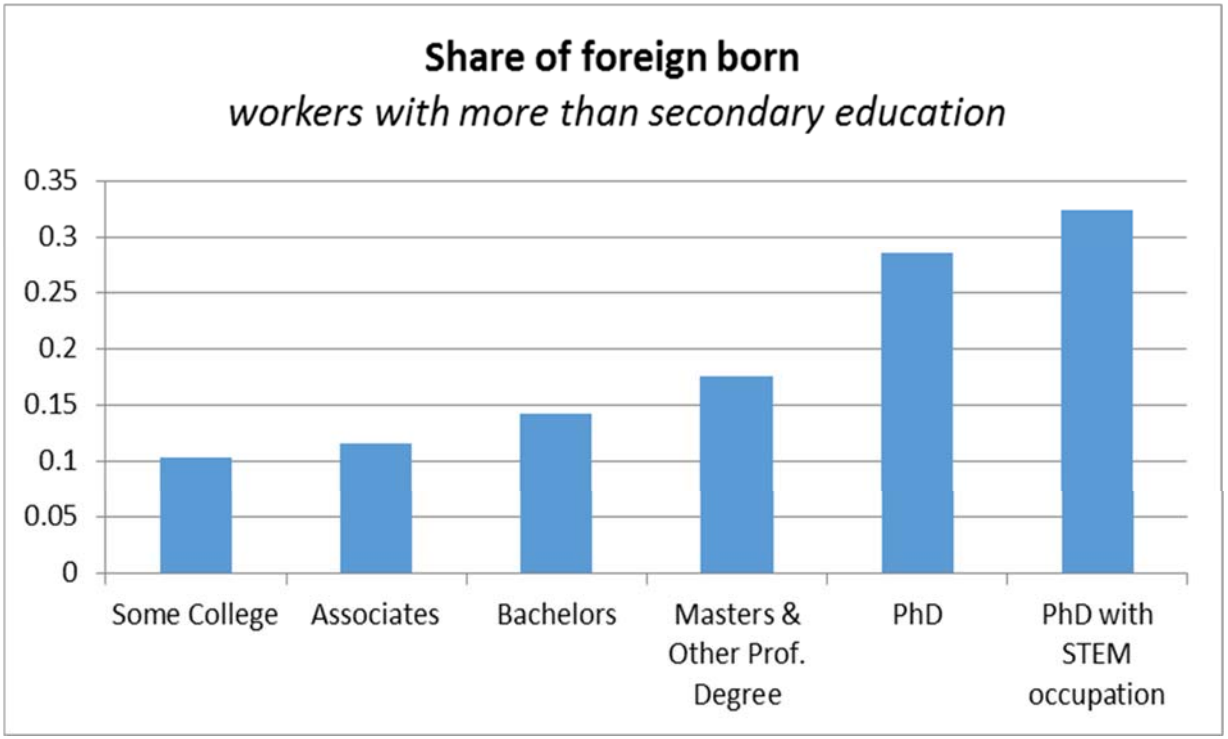
Note: The vertical axis shows the change in logarithmic weekly wages for natives with some college education or more, the horizontal axis shows the change in foreign-born as share of initial population. Unit of observation is a CZ in a decade. The changes are cleaned from the decade average. The size of the circle is proportional to the beginning of decade population in the CZ.

Table 3
Correlation between change in immigrants and change in native log weekly wages
area regressions, period 1970-2010

Dependent variable: decade change of average native log weekly wage			
Specification	**(1) Commuting Zones**	**(2) States**	**(3) Census regions**
Non-College			
(1) FE: Decade	0.13**	0.12	0.11
	(0.04)	(0.11)	(0.30)
(2) FE: Decade, Area	0.23**	0.33**	0.14
	(0.04)	(0.14)	(0.30)
(3) Only 2000-2010	0.16	0.50	1.28
	(0.12)	(0.31)	(0.72)
College			
(4) FE: Decade	0.41**	0.41**	0.46**
	(0.05)	(0.05)	(0.14)
(5) FE: Decade, Area	0.42**	0.65**	0.60**
	(0.05)	(0.12)	(0.15)
(6) Only 2000-2010	0.29	0.32	0.84
	(0.15)	(0.31)	(0.56)

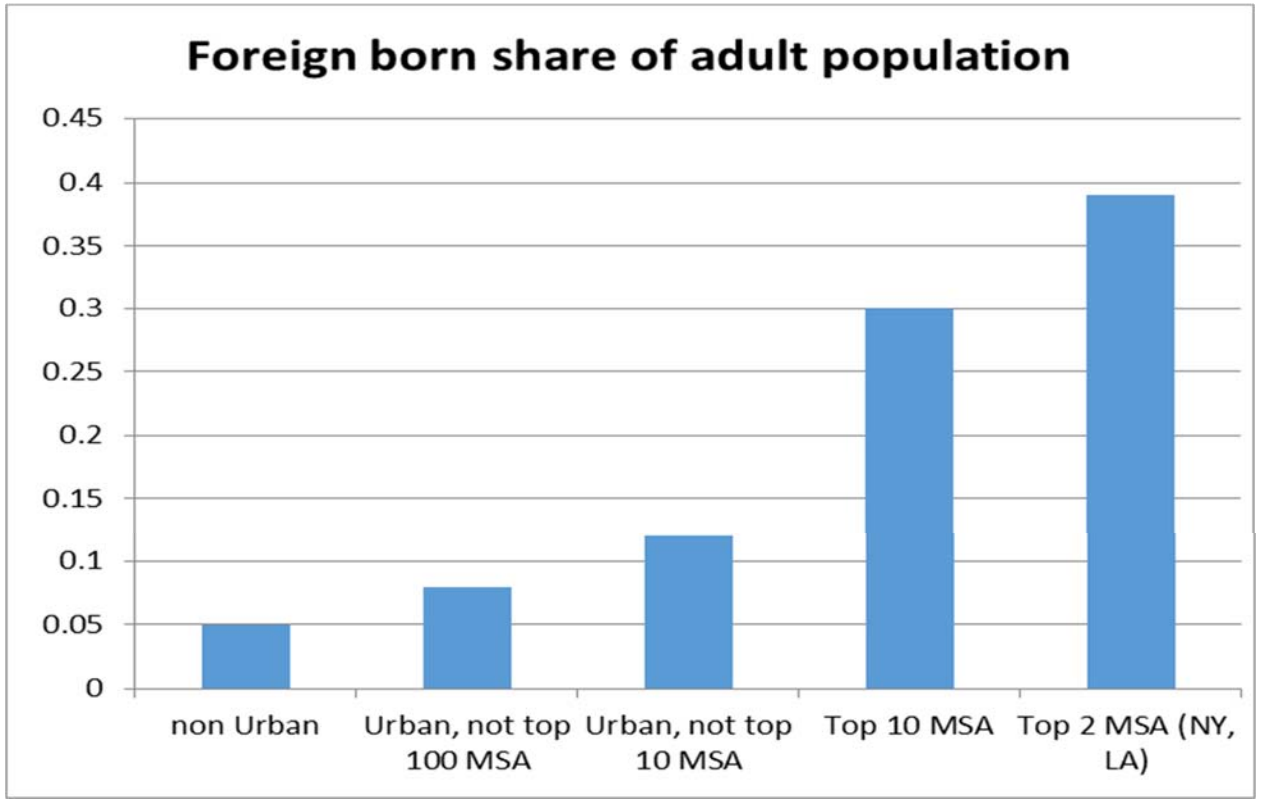
Note: Each cell shows the coefficient on the variable "change of immigrants as share of initial population" from a different regression that includes Fixed Effects (FE) only for decades (specifications (1) and (4)) or for decade and area (specifications (2) and (5)). Specification (3) and (6) include only the mode recent decade 2000-2010. The units of observations are geographical areas, as specified at the top of the column by decades. Variables are in decadal changes. In the upper part of the table labelled "No-College" the dependent variable is the change in native average log weekly wage for natives with a high school degree or less. In the lower part of the table labelled "COLLEGE" the dependent variable is the change in native average log weekly wage for natives with some college education or more. Regressions are weighted by the total number of individuals in the area at the beginning of the decade. Standard errors clustered at the area unit level.
*, **=significant at 5%, 1% confidence level.

Figure 5
Concentration of Immigrants among highly educated
US, 2014



Note: The figures are obtained from author's calculations on US American Community Survey data for 2014. We include as workers individuals 18-65 not in group quarters who have worked at least one week.

Figure 6
Concentration of immigrants by density
US, 2014



Note: The figures are obtained from author's calculations on US American Community Survey data for 2014. We include as workers individuals 18-65 not in group quarters who have worked at least one week.