I am a labor economist studying how regional shifts in human capital and religiosity, as well as local labor market shocks driven by immigration affect workers, industries, and firms. In my job market paper, I study the impacts of historical immigration-induced exogenous shifts in local human capital on the industrial skill composition of employment and establishment shares in US counties. My work also highlights the role of recent immigration policies in affecting firm creation at the US commuting zone level, which enhances our insight into the effectiveness of these policies to address undocumented immigration. My secondary field of interest is health economics, with one of the works in my future research agenda focusing on the effects of religiosity on mortality and sexual health outcomes in US commuting zones. In addition, I aim to examine the skill heterogeneity in emigration in response to weather shocks and violence in Mexico. To address these empirical questions, I use advanced causal inference methods, particularly the shift-share instrumental variable (SSIV) approach as well as the triple difference (TD) estimator. The following projects describe my current and future works:

Human Capital, Immigration, and Skill Composition

The spatial differences in the skill distribution of industries across the United States have been documented and are explained by a variety of factors including local demand shocks (Moretti, 2010). The varying human capital levels of individuals are another likely factor in contributing to this spatial sorting within localities as the changes in individuals' educational attainment can impact skills and industries. From the policymaking perspective, if the objective is to build additional community colleges granting the associate degrees in a particular city, which could result in higher wages and employment amongst the graduates, it might not produce the desired outcome. One possible reason for it could be the underlying economic conditions that have changed the path of development in that city due to "persistence" and "path dependence" (Allen and Donaldson, 2020). Yet, the causal impact of human capital on industrial skill distribution of US regions remains largely unknown. Thus, my job market paper, **"Human Capital, Immigration, and Skill Composition"**, studies how immigration-induced shifts in human capital of local population affect the industrial skill composition of employment and establishment shares in US counties.

To address the endogeneity concern in human capital, I utilize a two-step procedure. First, I predict immigration stocks by leveraging the origin-by-destination immigration patterns from 1850 to 2010. Second, using this quasi-random variation in immigration, I isolate skill-specific exogenous working-age population for the 1970-2010 period. The mechanisms behind this strategy stem from (*i*) the transmission of human capital from "ancestors" to "descendants", (*ii*) the immigrant selection process, and (*iii*) the presence of "ethnic enclaves" and "social networks" amongst immigrants. I make two major contributions to the literature. My first contribution pertains to generating skill-specific exogenous variation in working-age population at the county level by tackling the concerns associated with the use of a canonical shift-share instrumental variable (SSIV) approach. In particular, I use an enhanced version of the SSIV method that handles those problems in the spirit of Terry et al. (2021). My second contribution relates to quantifying the causal effects of the exogenous shift in human capital of local population on the industrial skill composition of employment and establishment shares in US counties.

I find that an increase in medium- and high-skill population shares raises employment and establishment shares of high-skill industries and reduces those of low-skill industries. The heterogeneity analysis along industry tradability demonstrates that a substantial portion of the positive effects originates from the nontradable sector, whereas a significant fraction of the adverse impacts arises from the tradable sector.

These empirical results are supported by a CES model in which representative firms with differentiated products employ labor of a certain skill type more, intensively. On the whole, my investigation bridges the literature on historical persistence and local labor markets, offering insightful and policy-relevant findings.

Holy Work: How Religiosity Shapes Local Labor Market Outcomes

Identifying a causal impact of religiosity is difficult, since an individual's religious identity is not random and is driven by a variety of factors, which is a typical endogeneity problem. While the previous studies have attempted to account for this issue in both experimental and quasi-experimental settings, the challenge still remains. Interestingly, the role of historical immigration in influencing religiosity has not been explored, which is a relevant factor, especially in the context of the US (Gagliarducci and Tabellini, 2022). In this joint work with my colleague, Mary Peshoff, we utilize a novel identification strategy to causally quantify the effects of religiosity on US local labor markets. To this end, we leverage the interaction of the quasi-random variation in immigration with origin-specific religiosity measures to isolate destination-specific religiosity shocks in US commuting zones. We first predict immigration stocks using the historical origin-by-destination immigration patterns per Terry et al. (2021). Later, we interact these predicted immigration stocks with country-specific religiosity measures to construct the instruments for commuting-zone-specific religious affiliations. Our aim is to show that the interplay between historical immigrant settlements in commuting zones and religiosity measures by origin (*i.e.*, home country) is a good predictor of current church memberships in commuting zones. Mechanically, this also assists in mitigating the endogeneity concern emanating from religious affiliations in US localities.

We find that a higher Catholic share leads to a higher unemployment share and income, but lower college education and fertility in commuting zones. An increase in the Protestant share results in an increase in unemployment share, some college education, marriage, and fertility, but a decrease in income. However, a higher Jewish share causes higher income, college education, and divorce, but lower marriage in commuting zones. Our results reveal considerable heterogeneity by gender. Overall, we contribute to the literature by using a novel approach to document new findings for the local labor market effects of religiosity.

Firm Creation under DACA

The Deferred Action for the Childhood Arrivals (DACA) program was enacted in August 2012. The program offered temporary relief from deportation and granted work authorization to young undocumented immigrants for two years. The criteria for eligibility were based on schooling, age, and year of arrival among others. To the extent that this policy was effective in assisting the labor market integration of undocumented youth, a sizeable portion of whom is low-skilled, how it impacts firms becomes an empirical question. While the existing literature has investigated the human capital and labor market effects of this policy, the response of establishments to the activation of this policy remains largely unexplored. To answer this question, leveraging DACA as a natural experiment, I study its impact on establishments within industries employing primarily low-skilled workers in a triple difference (TD, also known as Difference-in-Difference-in-Differences) setting. For this purpose, I define the treated group as DACA-eligible young undocumented immigrant workers employed in industries that tended to hire these workers prior to the

enactment of the policy within commuting zones. I define the control group as DACA-ineligible undocumented immigrant workers with identical age profiles in the same industries within commuting zones.

Since the information on the legal status of immigrants is not directly available, I rely on the residual method enhanced in Borjas (2017) to impute the undocumented status for foreign-born population. This algorithm uses a number of characteristics such as the year of arrival, age, citizenship status, veteran status, whether a person receives some government subsidies, and so forth to determine the legal status. Since the vast majority of DACA recipients are of Mexican origin, I also limit my sample to only young Mexican workers. To tackle the potential selection problem, I construct an instrument using the administrative records on the *Matrícula Consular de Alta Seguridad (MCAS)* dataset within a shift-share instrumental variable (SSIV) design. My analysis highlights how this legalization program affects the establishments operating in industries that mainly employ low-skilled workers, providing new insights not previously documented in the existing literature.

Future Agenda

One of my current works emphasizes the impact of religiosity on local labor markets in US commuting zones. Looking ahead, I am curious as to how religiosity shapes mortality and female sexual health outcomes in the US. Given the "deaths of despair" and the stigma around the use of protection and contraception among certain religious groups, I aim to explore the causal effects of religious affiliations on mortality and women's sexual health, an area with limited causal studies. This project will potentially shed light on our understanding on health outcomes within a quasi-experimental setting by also furthering the literature on the economics of religiosity. The existing literature documents both positive and negative selections of immigrants in various contexts, but the evidence on emigration across skill heterogeneity in response to weather shocks and violence is limited. My objective is to analyze if weather shocks and violence affect the emigration of low- and high-skill individuals from Mexican municipalities to US counties. This work aims to extensively study the differences in the skill distribution of Mexican emigres driven by two different events, which could also provide additional empirical explanation for return intensions among Mexican immigrants in the US.

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