

Mexican migration flows and agricultural labor markets in the U.S.

Julian Arteaga
Ashish Shenoy

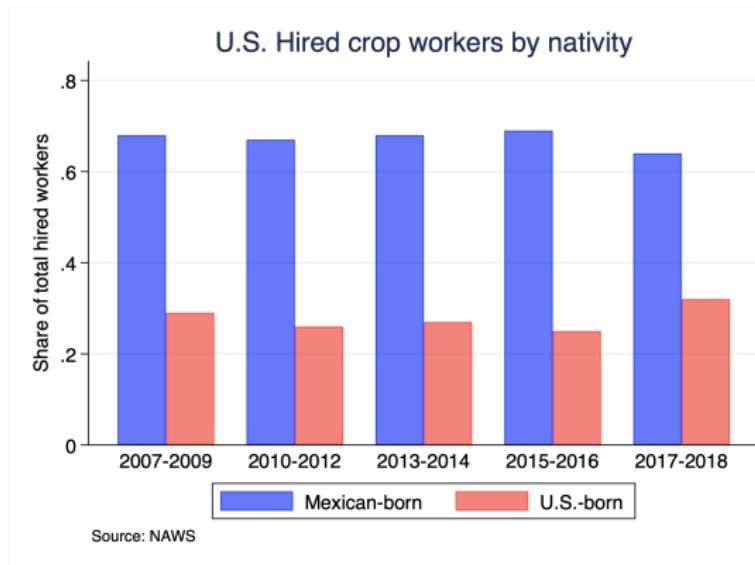
University of California, Davis

HUMANS - LACEA Network Seminar

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Mexican migrants and U.S. agricultural labor markets

- 2 out of 3 hired farmworkers in the U.S. were born in Mexico.



- Mexican migration to the U.S. is in decline since 2005.
- Prevalence of labor shortages is high.

Mexican migrants and U.S. agricultural labor markets

- Last few years have exacerbated these trends...

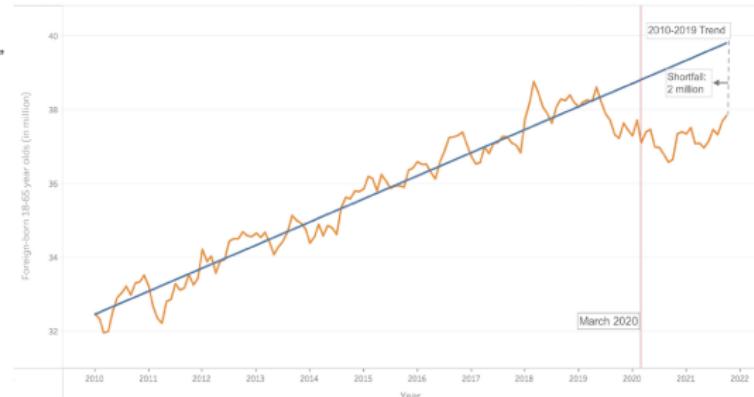
Farmworkers, Mostly Undocumented, Become ‘Essential’ During Pandemic

Immigrant field workers have been told to keep working despite stay-at-home directives, and given letters attesting to their “critical” role in feeding the country.



A strawberry field in California's Salinas Valley. Carlos Chavarria for The New York Times

WORKING-AGE FOREIGN-BORN POPULATION (2010-2021)



Source: U.S. Bureau of Labor Statistics, and Current Population Survey, U.S. Census Bureau

EconoFact econofact.org



By Miriam Jordan

Published April 2, 2020 Updated April 10, 2020

Source: Peri & Zaiour, 2022.

This paper:

- How do agricultural labor markets in the U.S. adjust to changes in migration flows from Mexico?
 - Type of employment and wages
 - Direct-hires; Contract labor; Guest seasonal workers
- **How:** Instrument for migration inflows with violent shocks at origin with preexisting migration networks.
- We find important differences between short- and long-run responses.

Conceptual Framework: Martin (2017) 4-S strategy

Employers may adapt to lower immigration rates following 4 broad paths:

- *Satisfy*: Faster wage growth.
- *Stretch*: Expansion of labor-market intermediaries (Taylor & Thilmany, 1993).
- *Suplement*: Increases in H-2A guest-worker requests.
- *Substitute*: Increased mechanization; shifts away from labor-intensive crops.

Measuring migration inflows from Mexico:

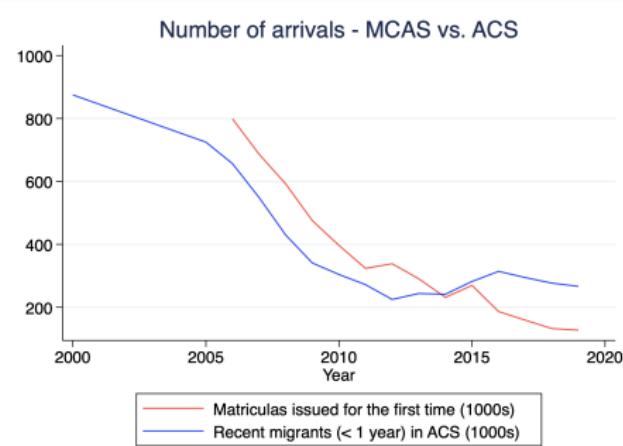
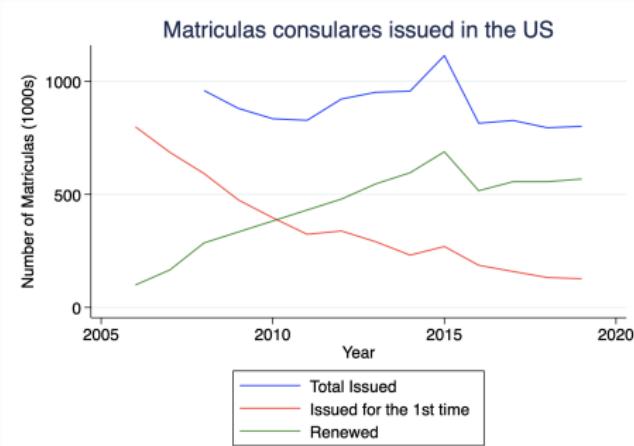
Matrículas Consulares de Alta Seguridad (MCAS)



- ID card issued by Mexican Consulates regardless of migratory status.
- Accepted as proof of identity by most states & local authorities.
- Records municipality of birth and county of residence.
- ≈ 5 million new cards issued between 2006–2019

MCAS vs. ACS

MCAS figures track observed Mexican-born migrant inflows in the ACS:

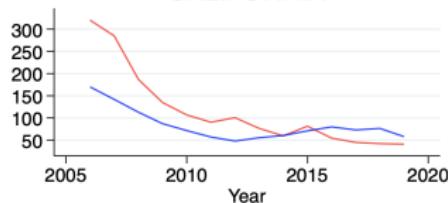


MCAS vs. ACS

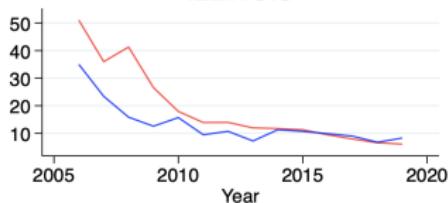
MCAS figures track observed Mexican-born migrant inflows in the ACS:

Number of arrivals - MCAS vs. ACS

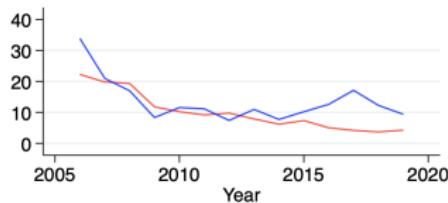
CALIFORNIA



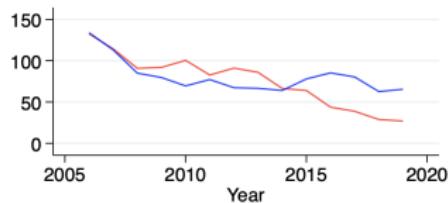
ILLINOIS



FLORIDA

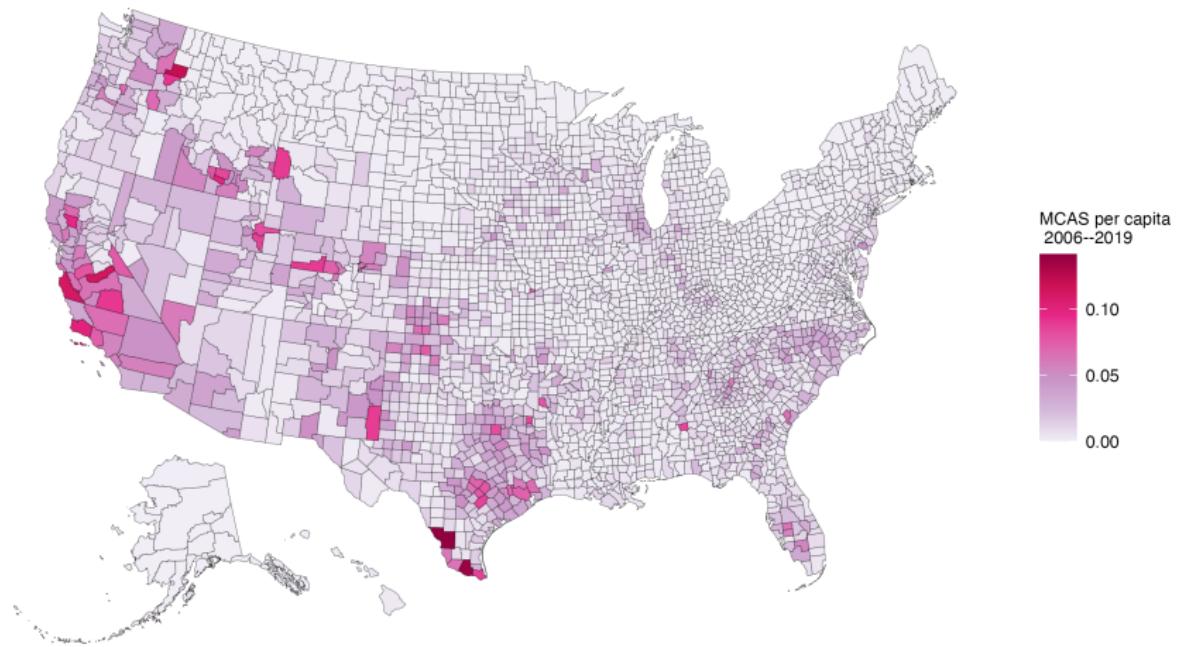


TEXAS

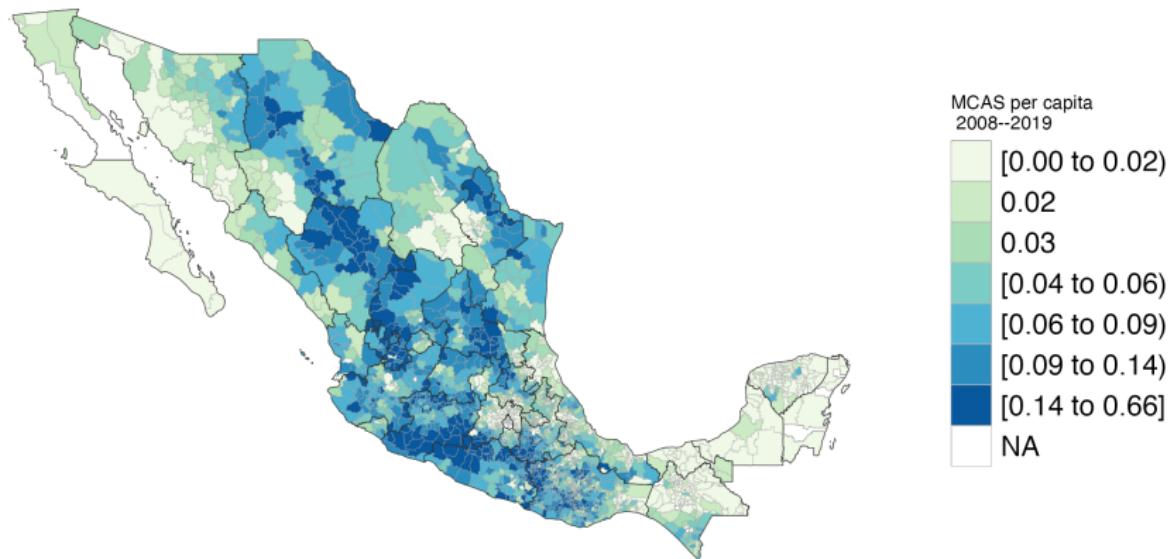


— Matriculas issued for the first time (1000s)
— Recent migrants (< 1 year) in ACS (1000s)

We can measure migration inflows at the county level...

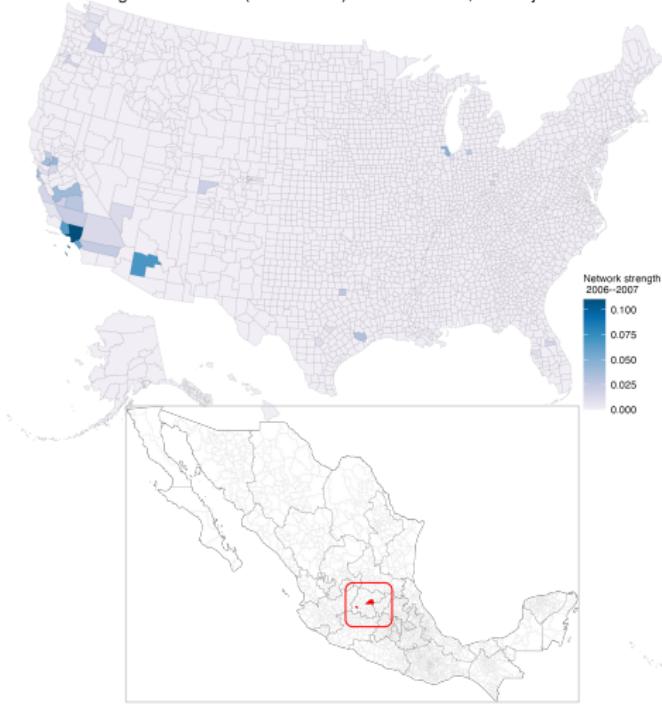


Outflows at the municipality level...

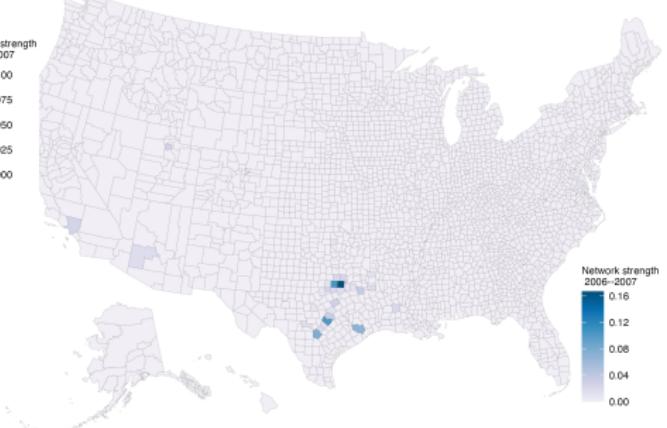


...and municipality-county migration networks

Migrant Networks (2006–2007) for Cueramaro, Guanajuato



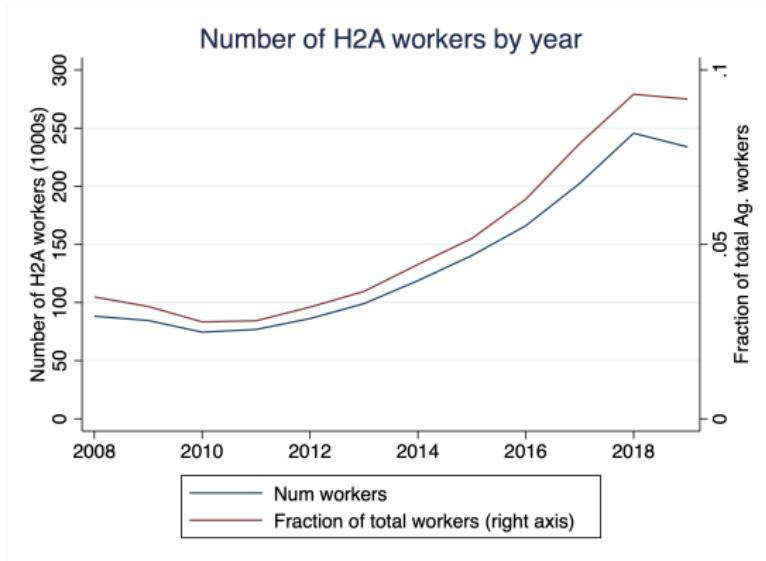
Migrant Networks (2006–2007) for San Miguel de Allende, Guanajuato



Data

- Wages and Employment: QCEW
 - NAICS 111: “Crop production Workers” → Direct hires.
 - NAICS 115: “Agriculture support activities” → Contract workers.
 - Sample: For each industry, counties that have information for *all* quarters throughout (2008–2019).
- H-2A requests: Department of Labor
- Violence: Mexican National Statistics Office (INEGI).

H-2A Temporary Agricultural Workers



Employers must:

- Demonstrate that there are not enough U.S. workers available.
- Show that employing H-2A workers will not adversely affect native wages.
- (Sometimes) provide housing and transport.

Methodology

For industry i in county c in year t , specify a regression in differences:

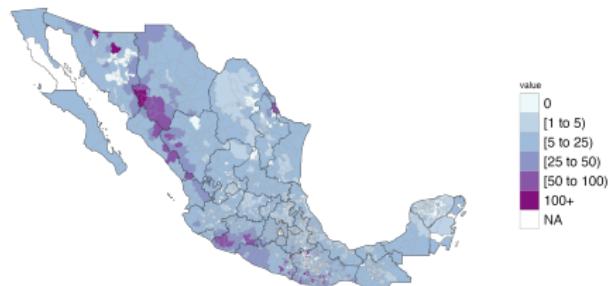
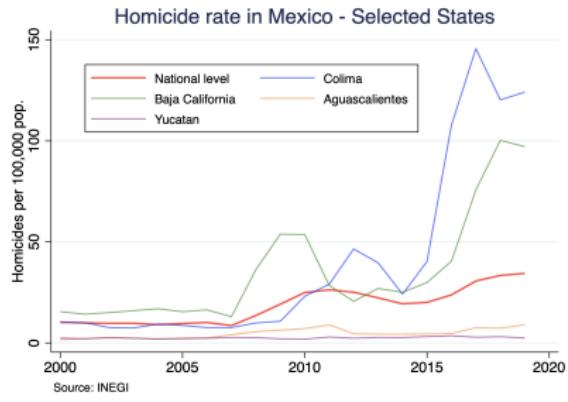
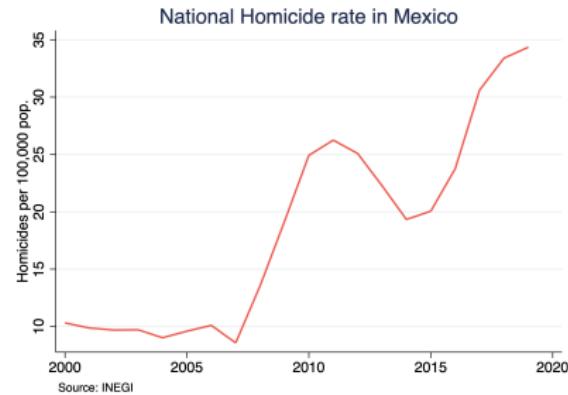
$$\Delta y_{c,t}^i = \beta_0 + \beta_1 \left(\frac{\Delta \text{Migrants}_{c,t}}{\text{Population}_{c,t^0}} \right) + X'_{c,t} \gamma + \delta_t + \mu_c + \varepsilon_{c,t}$$

To isolate supply-driven changes, $\frac{\Delta \text{Migrants}_{c,t}}{\text{Population}_{c,t^0}}$ is instrumented by

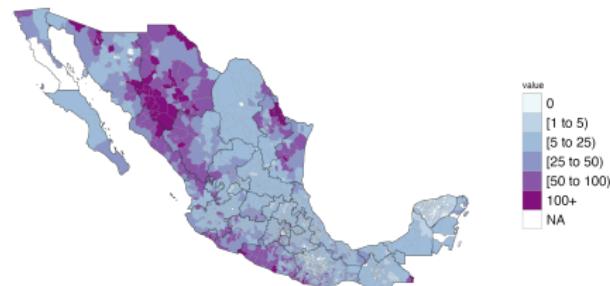
$$Z_{c,t} \equiv \frac{1}{\text{Pop}_{c,t^0}} \sum_m [\text{Homicides}_{m,t} \times \text{Network}_{m,c}]$$

Identification: Mex violence only affects US ag labor markets through its effect on migration.

Violence in Mexico



Average municipal homicides per 100,000 pop - 2000--2007



Average municipal homicides per 100,000 pop - 2008--2019

Violence in Mexico and emigration rates

For Mexican municipality m in year t :

$$\frac{\text{Migration}_{m,t}}{\text{Pop}_{m,t^0}} = \alpha_0 + \alpha_1 \left(\frac{\text{Homicides}_{m,t}}{\text{Pop}_{m,t^0}} \right) + \delta_t + \gamma_m + \varepsilon_{m,t}$$

	(1) Emigration rate	(2) Emigration rate	(3) Emigration rate	(4) Emigration rate
Homicides per capita	0.9561*** (0.1759)	1.2932*** (0.1878)	-0.2133 (0.1784)	0.2832** (0.1376)
Constant	0.0050*** (0.0001)	0.0111*** (0.0002)	0.0052*** (0.0000)	0.0112*** (0.0002)
Observations	29232	29232	29232	29232
Year FE	No	Yes	No	Yes
Municipality FE	No	No	Yes	Yes

Standard errors clustered at the municipality level. *** p<0.01, ** p<0.05, * p<0.10.

- Similar point estimate to Clemens, (2021), who looks at violence-emigration relationship in Northern Triangle countries.

Instrumental variable - First Stage:

$$m_{c,t} = \alpha + \delta \frac{1}{P_{c,t^0}} \sum_m [\text{Homicides}_{m,t} \times \text{Network}_{m,c}] + \delta_t + \gamma_c + \varepsilon_{c,t}$$

	(1) Migration rate ($m_{c,t}$)	(2) Migration rate ($m_{c,t}$)	(3) Migration rate ($m_{c,t}$)	(4) Migration rate ($m_{c,t}$)
$Z_{c,t}^B$	7.6174*** (0.4627)	7.8619*** (0.4857)	-5.3182*** (0.8688)	-4.2718*** (0.7744)
Constant	0.0003*** (0.0000)	0.0007*** (0.0000)	0.0007*** (0.0000)	0.0009*** (0.0000)
Observations	37680	37680	37680	37680
Year FE	No	Yes	No	Yes
County FE	No	No	Yes	Yes

Standard errors clustered at the county level. *** p<0.01, ** p<0.05, * p<0.10.

- Counties connected to more violent municipalities receive more migrants, but less-so during particularly violent years.

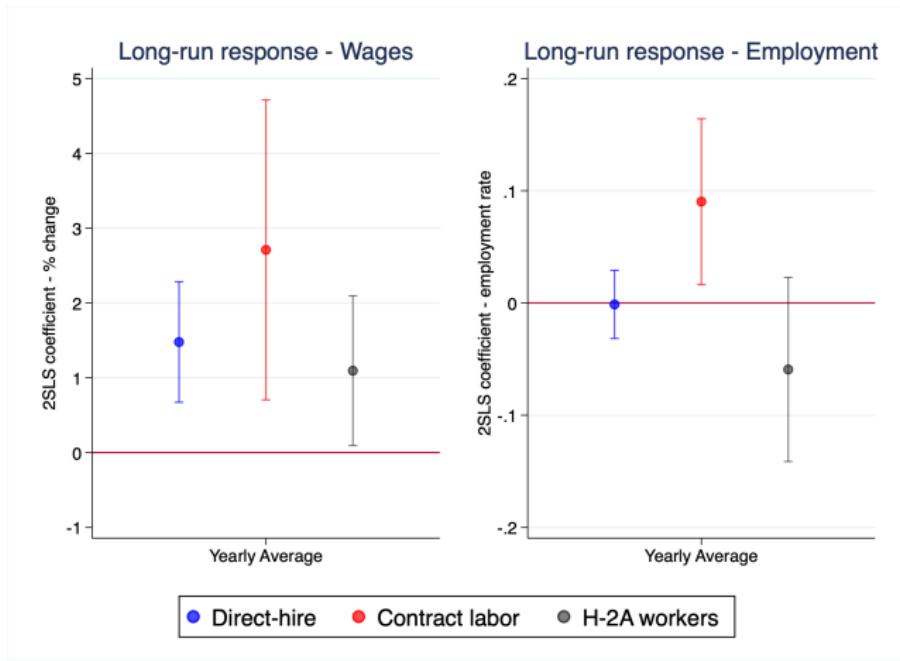
Short-run Results



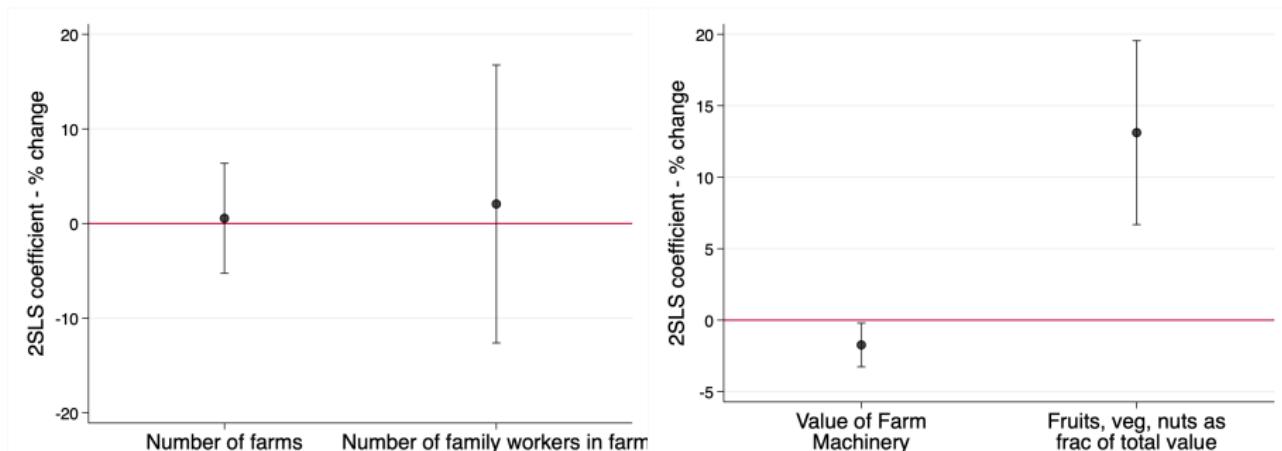
- $\approx 77\%$ of drop in migration flows are offset by H-2A seasonal guest worker requests.

Long-run Results

$$\Delta y_{c,2008-2019}^i = \beta_0 + \beta_1 \sum_{t=2008}^{2019} \frac{\Delta \text{Migrants}_{c,t}}{\text{Population}_{c,t^0}} + X'_{c,2008-2019} + v_c$$



Long-run adjustment mechanisms



Conclusion

- Drops in migration inflows are offset through H-2A requests
- Suggests a very inelastic domestic labor supply.

Long-run results might be due to various mechanisms:

- Tradable sectors may change total output instead (Burstein et al., 2020).
- Flexible capital/labor ratios and complementarities across types of workers (e.g. Clemens et al., 2018).
- Increased competition from other migration-reliant industries (Castillo & Charlton, 2022).

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Thank you!
jgarteaga@ucdavis.edu