

Economic Effects of Mass Deportations

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Since taking office, the Trump administration has allocated more resources to the Department of Homeland Security to fulfill the campaign promise “to deport all immigrants in the US illegally over his four-year term” (Hesson and Hesson, 2024). Deporting all undocumented workers is difficult because many are employed in rural areas, and a network of employers, churches, and relatives may provide safe locations to avoid deportation. Public protests to these deportation policies, as evidenced by nationwide demonstrations in June 2025, are in support of undocumented workers, many of whom perform laborious jobs that many US citizens do not want to take on (Mukherjee and Krogstad, 2024; Devadoss and Luckstead, 2025b). In response to nationwide protests and well-publicized Immigration and Customs Enforcement raids, the presidential rhetoric has softened on deporting illegal migrants (Nichols, 2025). More recently, President Trump said he would let migrant workers stay on US farms and in the hotel industry (Reuters, 2025). In contrast, White House “border czar” Tom Homan noted that “work site enforcement operations are going to massively expand” (Meyersohn and Yurkevich, 2025).

Even though much of the deportation took place in big cities, a few highly publicized deportations of migrants in Omaha meat-packing plants and farm raids in California have undocumented workers on alert. Consequently, these raids have caused fear and anxiety among these workers, triggering workplace absenteeism (Arcand, 2025; Meyersohn and Yurkevich, 2025).

In view of these raids and increased workplace absenteeism, we consider a 50% deportation rate of unauthorized workers, which amounts to 3.83 million workers unable to come to work. Gutiérrez-Li (2025) notes that mass deportation could have significant consequences for the agriculture, construction, and hospitality sectors that have relied heavily on these workers. Because mass deportation would affect many sectors and reverberate to allied and subsidiary sectors of the US economy, a general equilibrium analysis is

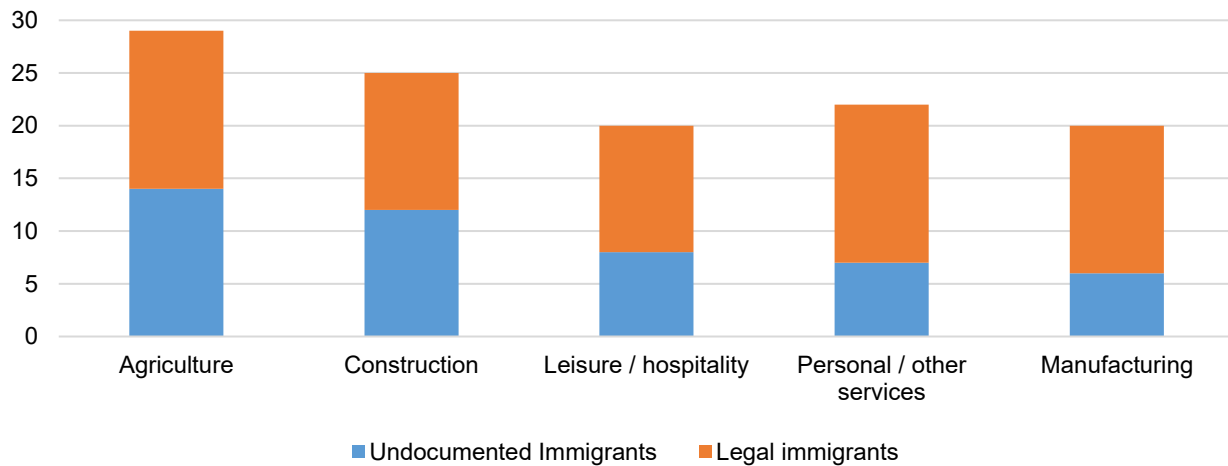
needed to determine the economy-wide impacts of this policy. Therefore, the goal of this article is to use a version of the GTAP (Global Trade Analysis Project) framework to quantify the impacts of Trump’s mass deportation policy on the US economy, with a focus on the agriculture sector.

GTAP Model

The GTAP framework considers a database and model of the world economy. Corong et al. (2017) introduce the latest changes to this multiregional model, where every country/region consists of multiple sectors, and countries are linked through bilateral trade. The GTAP model is an open-source model, and the database provides the country and sectoral dimensions and, more importantly, the initial baseline. For this study, we use the GTAP database version 11, which contains 141 countries and 65 sectors in each country. This snapshot of the world economy serves as the benchmark or initial equilibrium.

Aguiar et al. (2022) describe the many international inputs reconciled to compile the latest version of GTAP. The countries’ intersectoral relations in GTAP are calibrated using individual input-output tables (IOTs). In the GTAP database, macroeconomic data are used to update the IOTs, and balanced bilateral trade flows are used to connect countries, such that IOTs are adjusted to account for balanced trade and bilateral import tariffs and agricultural export subsidies. Domestic supports capture protection measures; agricultural and energy production values are accounted for to provide the best representation of the world economy for the reference year 2017. The standard assumptions include perfect competition and constant returns to scale. The production structure considers a combination of value-added and intermediate goods. Intermediate goods are differentiated between domestic and imported goods, and imported goods are differentiated by country of origin. It is in the value-added nesting that our model exploits the migration extension of GTAP (Walmsley, 2017). While in standard GTAP, all workers are assumed to be domestic, Aguiar and Walmsley (2025)

Figure 1. 2017 Share of Immigrants by Industry (as a percentage)



Source: Krogstad, Lopez, and Passel (2020).

identify the number of domestic and foreign workers in each of the 160 regions in GTAP. This extension differentiates domestic labor from foreign labor, and foreign labor is further differentiated by legal status. Following the methodology in Aguiar (2009), we calibrate the number of undocumented workers by industry using the estimates of Krogstad, Lopez, and Passel (2020), which match our reference year.

We use a 2017 reference year to model a recent policy scenario; though this is not ideal, it is the latest available data to calibrate our model. Since 2017, the single major event that has affected the world is the COVID-19 pandemic, and US unemployment reached its highest point in recent history at 15% but has returned to pre-pandemic levels and remains stable at around 4% (FRED, 2025). According to the USDA (2025), the size of the US agricultural workforce declined due to mechanization between 1950 and 1990, but has remained stable after 1990. Recently, the American Immigration Council (2024) has published shares of undocumented workers by industry based on the 2022 American Community Survey, consistent with the values we use.

Simulation Analysis

Because the exact number of the undocumented foreign-born population is not known, demographers use the residual method to estimate that between 10 million and 13 million undocumented immigrants reside in the United States. Since not all are of working age, we calibrate our model to the labor participation of the United States and follow the work published by The Pew Research Center, whose estimations are closer to the lower end of the undocumented population (see Krogstad, Lopez, and Passel, 2020). The Pew Research Center also provides information on the origin of undocumented migrants and on the distribution of undocumented workers in the United States across industries. According to Krogstad, Lopez, and Passel (2020), certain industries have a large share of undocumented workers in their labor force. Figure 1 shows that in 2017, agriculture and construction had the largest share of undocumented workers, but the total immigrant workforce did not exceed 30%. We use this employment information to calibrate our model (Aguiar and Devadoss, 2025).

Table 1. Real Output Changes (2017 USD, millions)

	Baseline	Updated	Percentage Change
Agriculture	465,471	459,874	-1.20%
Construction	1,535,424	1,509,531	-1.69%
Mining	523,914	521,538	-0.45%
Leisure/hospitality	1,223,362	1,202,166	-1.73%
Personal/other services	843,196	828,485	-1.74%
Manufacturing	6,521,504	6,429,932	-1.40%
Other services	22,172,314	21,915,154	-1.16%
GDP	19,479,580	19,241,184	-1.22%

Source: Author's results.

Table 2. Changes to Domestic Sales, Imports, and Exports (2017 USD, millions)

	Baseline	Percentage Change
Domestic sales		
Agriculture	387,814	-1.38%
Paddy rice	2,196	-1.35%
Cereal grains nec	49,620	-1.38%
Construction	1,532,073	-1.68%
Mining	465,634	-1.04%
Leisure /hospitality	1,107,773	-1.71%
Personal/other services	834,538	-1.74%
Manufacturing	5,205,155	-1.59%
Other services	21,563,859	-1.19%
Imports		
Agriculture	51,233	-0.95%
Paddy rice	2	-0.30%
Cereal grains nec	1,075	-0.99%
Construction	3,300	0.99%
Mining	161,578	-2.63%
Leisure /hospitality	97,455	-0.35%
Personal/other services	2,391	-0.29%
Manufacturing	2,120,636	-0.94%
Other services	447,811	-1.03%
Exports		
Agriculture	77,990	-0.33%
Paddy rice	442	1.04%
Cereal grains nec	11,614	0.16%
Construction	3,351	-4.37%
Mining	61,080	4.31%
Leisure /hospitality	115,589	-1.97%
Personal/other services	8,657	-2.28%
Manufacturing	1,352,658	-0.68%
Other services	596,399	1.97%

Source: Author's results. nec stands for "not elsewhere classified."

Results

Sectoral Output and GDP

In our scenario, we reduce the undocumented labor force by 50%, or 3.83 million, which will create a labor shortage and reduce production activities, leading to a decline in US gross domestic product (GDP) by 1.22%, or about \$237.65 billion. Overall, the effect of this deportation scenario is to reduce the output for all sectors (Table 1).

The estimated loss to GDP is consistent with the losses reported by other studies. Thierfelder, Robinson, and Hinojosa (2025) and McKibbin, Hogan, and Noland (2024) present larger GDP losses because they simulate that all undocumented workers will be repatriated; in the latter case, since they use a dynamic model, they find

that the US economy will follow a new path that is below the initial baseline. Edelberg et al. (2025) obtain smaller GDP losses using a model that is more detailed in their accounting of migration flows, as they estimate changes in net migration flows, considering inflows and outflows. Accounting for the inflow of migrants helps ameliorate the effects on GDP. It appears that the model used by Edelberg et al. (2025) does not account for the effects on other industries due to competition for the labor force as modeled by the current study and those by Thierfelder, Robinson, and Hinojosa (2025) and McKibbin, Hogan, and Noland (2024).

On aggregate, sectoral output is negative, where leisure and other personal services (which include those who work in private households)¹ endure the largest output reduction. Construction and agriculture also experience

¹ GTAP uses the International Standard Industrial Classification, where these services include Arts, entertainment and recreation; Other service activities; Activities

of households as employers; undifferentiated goods- and services-producing activities of households for own use.

large output reductions, which are affected not only by the loss of workers but also by the expected reallocation of resources. To compensate for the loss of workers, these sectors would have to hire workers from other sectors, putting pressure on wages and increasing the cost of production, which would lead to higher output prices. Increase in the labor costs is consistent with East et al. (2023), who examine the labor market effects of immigration enforcement and find that deportations would reduce the hourly wages of US-born individuals in the short term. This is not what we find in our model, which reflects medium- to long-term effects and considers additional factors of production.

Domestic Sales, Imports, and Exports

Given higher prices and a reduction in output, domestic sales and imports decrease. The domestic sales of personal services and leisure decrease the most, followed by construction and manufacturing (Table 2). Imports from mining and other services would decline the most. Imports are determined in the model by the level of substitution and price differentials. Although overall output declines, the reduction of domestic sales in certain sectors and price differentials across sectors provide opportunities for export growth. This is the case in mining, rice, and other cereals sectors; however, in overall agriculture, exports decrease as well.

Input Prices

The deportation policy causes labor shortages in many sectors of the economy. The model traces reallocation of resources (e.g., capital and workers of different skills) until the percentage changes in these input prices or rates of return are equalized. Producers expand the use of other inputs to compensate for the loss of these workers. The additional demand will increase the price of other inputs, causing an increase in the cost of production. We estimate a 1.36% increase in the real wage of low-skilled workers and a 0.6% increase for skilled workers because these workers are substitutes for undocumented workers to a certain degree. The higher wage rates in the United States due to deportation can have the unintended consequence of attracting foreign workers to illegally migrate to the United States (Devadoss and Luckstead, 2025; Thierfelder, Robinson, and Hinojosa, 2025). Given the reduction in production, other factor endowments (capital, land, and natural resources) experience their returns to decrease because these inputs are

complements to the undocumented workers. The results show that returns to capital decrease by 0.91% and land and natural resources by about 4%.

Contributions to Food Price Increases

Because of the reduction in undocumented workers, employers need to increase the demand for other workers. Given the low unemployment rate in the United States, the model is based on full employment, which means that employers compete for factors of production already employed in other industries. To attract workers into their industry, employers increase wages, which in turn raises the operating costs, leading to higher costs of production and subsequently prices of US goods, and thus exacerbating US inflation.

International Impacts of Mass Deportations

Our model tracks the relocation of migrants from the United States to their country of origin. Since most of the undocumented workers are from Mexico, the repatriation leads to more Mexican workers returning to their home country, implying an increase in the labor force in Mexico. With fewer migrants from Mexico in the United States, the remittances sent from the United States to Mexico after the deportation fall (Table 3). Total remittances from the United States decline by \$21.6 billion, the largest reduction in remittances to a single country is to Mexico (\$6.6 billion), followed by the remittances to the rest of the countries in the Americas (\$6.3 billion). If we combine the remainder of countries, excluding Mexico and the rest of the countries in the Americas, we find that remittances to the rest of the world drop by \$8.6 billion. Since the model captures changes in bilateral remittances, our simulation also reflects diminished remittances into the United States. The smaller changes are due to the influx of return migration, which reduces the wages in the home country, reducing the income and therefore the level of remittances.

Conclusion

A large-scale deportation of immigrant workers will lead to a decline in GDP. Because of the reduction in output, domestic sales and exports fall, and, to meet the shortages, imports increase. To mitigate the adverse impacts of the repatriation of migrant workers, the US government could expand its guest-worker programs (e.g., the H-2A), which is a temporary program for

Table 3. Change in Bilateral Remittances (USD, millions)

	US	Mexico	Rest of America	Rest of the World
US	0	-44	-5	0
Mexico	-6,630	0	-1	0
Rest of the Americas	-6,337	-4	-9	1
Rest of the world	-8,585	-18	-58	38

Source: Author's results.

seasonal work in agriculture (Devadoss and Gautam, 2025). Luckstead and Devadoss (2019) and Devadoss and Luckstead (2025a) provide details of this program that focuses on the agricultural industry. While expanding the H-2A program would also alleviate short-run labor shortages in agriculture, it is not available for nonseasonal sectors like dairy (Gutiérrez-Li, 2025).

Similarly, other industries are in need of workers, and temporary work programs could also address labor shortages in these industries. Congress must pass new regulations to satisfy the legal flow of workers for the US economy to grow.

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