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Effects of Mass Deportation of Undocumented Workers on the U.S. Agrifood Sector and Economy

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Undocumented workers are an important part of the workforce in many sectors of the U.S. economy, particularly in the agrifood sector. The Trump administration is deporting undocumented workers. This study quantifies the impacts of a mass deportation policy on the U.S. economy and on key sectors using a multi-regional general equilibrium model that includes an undocumented workforce and the movement of migrants across countries. Deportation of 30% of the undocumented workforce will reduce economic activities in all industries (more so in agriculture, food processing, leisure, and construction) and lower the U.S. GDP by $128.56 billion. Furthermore, labor shortfall due to deportation will increase cost of production and raise food prices.

Key words: Agrifood Sector, Deportation, Economy, Undocumented Workers

Introduction

Undocumented workers are an important part of the workforce in many sectors of the U.S. economy. According to a series of Pew Research Center surveys (Krogstad, Lopez, and Passel, 2020; Mukherjee and Krogstad, 2024; Passel and Krogstad, 2024), the number of undocumented workers in the United States steadily decreased from 12.2 million in 2007 to 10.2 million in 2019; however, this trend reversed, with the number of workers reaching 11 million in 2022 and accounting for 3.3% of the U.S. population and 23% of the foreign-born population. Most of the undocumented workers originate from Mexico, Central and South America, but there are undocumented workers from the rest of the world, as far away as Asia and Africa and including Canada and European countries with a higher level of development. Sectors with a large share of undocumented workers in their labor force, in 2017, are farming (22%), construction (15%), food sector (14%), production (8%), service (8%), and transportation (6%) (Krogstad, Lopez, and Passel, 2020).[1] In the food sector, undocumented immigrants also represent about 15% of the workforce in food production, 12% in food processing, 7% in food distribution, and 5% in food retail. Much of the work performed by undocumented workers are low-wage rate jobs. This is confirmed by the Pew Research Center survey, which indicates that 77% of Americans believe that undocumented immigrants work in jobs that U.S. citizens do not want because these jobs are perceived as low-skilled, low-paying, laborious, and physically demanding.

The Trump administration's deportation policies are very ambitious. However, deporting undocumented workers is challenging because these workers are employed in many sectors of

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[1] By contrast, legal immigrants largely work in the transportation and utilities sector (15%), services sector (15%), professional and business service sector (14%), and agriculture, forestry, fishing and hunting sector (14%).

the economy. Therefore, it is worth quantifying the impacts of a mass deportation policy on the U.S. economy and on key sectors that rely on undocumented workers. This study uses a multi-region general equilibrium model that accommodates international migration and an undocumented workforce to quantify the impacts of this policy. The general equilibrium model is needed for analyzing the effects of mass deportation policies because undocumented workers are employed in many sectors and the impacts of these policies will reverberate throughout the entire economy. The deportation policy could provide job opportunities for domestic and H-2A workers in the short-term, and firms involved with the placement of guest workers would experience greater demand for their services. In particular, we focus on the impacts of this policy pertaining to the agrifood sector, though we cover the impacts on many other sectors.

The remainder of the paper is structured as follows. The next section reviews past studies related to immigrant workers and their contributions to agriculture and the general economy. Section 3 presents an overview of the economy-wide model. Section 4 explains the incorporation of the deportation policies in the model and discusses the results of this policy with a specific focus on the agrifood sector. The final section provides concluding remarks and summarizes policy implications.

Literature

Past studies have investigated the importance of undocumented workers to the U.S. economy, both to U.S. agriculture and non-farm sectors because immigration policies related to these workers are constantly at the forefront of public debate. Some politicians view that undocumented workers take the jobs away from domestic workers, leading to higher unemployment and lower wages. These politicians prefer to deport the unauthorized migrants from the United States to provide employment opportunities for native workers. However, the immigrant and labor literature have shown that unauthorized workers contribute to production, both in agricultural (Devadoss and Gautam, 2025) and manufacturing (Card, 2005) sectors, and any displacement of domestic workers and reduction in wage rates are very minimal.

First, we review studies that examine the impacts of undocumented migrants on the output, wage rate, and employment of other factors in the agricultural sector. Devadoss and Luckstead (2018) observed that undocumented workers play a key role in labor-intensive fruit and vegetable production, though a strong bipartisan view exists both opposing and supporting undocumented immigrants, which range from constructing border walls to legislating pathways to citizenship. Devadoss and Luckstead (2008) studied the contribution of undocumented workers to vegetable production in California. They found that in 2005, immigrant workers contributed $1.55 billion to Californian vegetable production, and one immigrant worker expanded the productivity of skilled workers, material inputs, and capital by $11,729. Similar findings were observed by Devadoss and Gautam (2025) for U.S. vegetable sector. Aguiar (2009) modeled undocumented immigrant workers' employment in the United States using a general equilibrium model and concluded that the elimination of these workers will be detrimental to the labor-intensive agricultural sector. Devadoss and Luckstead (2011) observed that stricter border control restricts the entry of undocumented farm workers, causing agricultural production and exports to decline. Furthermore, they concluded that tighter domestic enforcement to remove undocumented workers also curtails production and exports (also see Luckstead, Devadoss, and Rodriguez 2012; Devadoss, Zhao, and Luckstead 2020; Zhao, Devadoss, and Luckstead 2020). Kostandini, Mykerezi, and Escalante (2014) found that the domestic immigration enforcement policies of the 287(g) program created a labor shortage and adversely impacted agricultural output and profitability. Charlton and Kostandini (2021) concluded that the domestic enforcement of immigration policies in the dairy sector lowers milk production, and technological gains arose from these enforcement policies, but these gains are not sufficient enough to compensate the production declines. In a recent study, Devadoss and Luckstead (2025) noted that removal of undocumented migrants in the broiler supply chain increases chicken product prices, leading to lower consumption and a consumer surplus loss of $1.94 billion.

Second, several studies have examined the importance of migrant workers to non-farm sector in different regions of the world: North America (Aguiar and Walmsley, 2014; Clemens, Lewis, and Postel, 2018; East et al., 2023), Europe (Angioloni et al., 2022), and East and Southeast Asia (Corong and Aguiar, 2019). The general findings of these studies is that immigrant workers expand the economic activities in the host countries and do not significantly lower domestic workers' wage rate. For instance, Clemens, Lewis, and Postel (2018) estimated that deportation of about half a million immigrant workers from the United States in 1964 had negligible impacts on the native workers, employment, and wage rates (also see East et al., 2023). Ottaviano and Peri (2012) found that immigrant workers complement native workers and increase the wage rate of the latter by 0.6% (also see Foged and Peri, 2016; Chassamboulli and Peri, 2015). The present study follows this literature to investigate the effects of the Trump Administration's immigration policy to mass deport undocumented workers on the U.S. economy and agricultural sector using a general equilibrium model that incorporates cross-country labor migration.

Related to our work is a study by McKibbin, Hogan, and Noland (2024) who use a CGE model to determine the effects of deportations of undocumented workers along with increasing tariffs and the erosion of Federal Reserve Bank's independence on the US economy. In contrast to McKibbin, Hogan, and Noland (2024), our approach focuses on a more detailed sector-level analysis of the elimination of undocumented workers; our model consists of 65 sectors, compared to the 6 sectors in McKibbin, Hogan, and Noland (2024). We also consider a multi-region (160 regions) model, which allows us to understand the effects that will reverberate in the country of origin of the repatriation of workers, including the effects on remittances. Furthermore, we introduce undocumented workers into our database by skill type, and the model differentiates the use of workers based on domestic or foreign origin and within foreign workers by their legal status. McKibbin, Hogan, and Noland (2024) do not distinguish workers by skill, which implies that all workers within a sector are fully substitutable irrespective of their skill level and whether they are domestic or foreign-born. Distinguishing by skill is important because undocumented workers are generally low-skilled. Another recent work related to our study is Thierfelder, Robinson, and Hinojosa (2025), which also used a CGE model and found that U.S. deportation policy, which will eliminate about 5% of the workforce, will cause U.S. GDP to decline by 4%. They also estimated that the wage rate of the remaining migrant workers will increase, but the wage rate of native workers will decline because undocumented and native workers are complements.

In summary, the recent literature that analyzed the economy-wide effects of deportation policies reveals that these policies will lower the U.S. GDP. The contribution of our study is to examine the sectoral impacts of the deportation policies by modeling the foreign workforce by legal status and skill type and the bilateral movement of workers across countries, which are elaborated in the next section.

Model

This study uses the economy-wide and international migration model, GTAP-Migration (GMig2), developed by Walmsley, Winters, and Ahmed (2007), which is an extension of the Global Trade Analysis Project (GTAP) framework (Hertel, 1997; Corong et al., 2017). GMig2 expands GTAP to track the bilateral movement of workers across countries and considers return migrants, remittances, and wage differentials (Walmsley, Winters, and Ahmed, 2007). Moreover, this version of GMig2 considers substitution between domestic and foreign workers and incorporates undocumented foreign workers (Aguiar, 2009). Next, we briefly explain the structure of the GTAP model and the extensions of this model to GMig2.

The Structure of Standard GTAP Model

The GTAP model is calibrated to the GTAP Data Base, version 11, which is the latest release and consists of 160 countries/regions, and 65 commodities/sectors (i.e., 12 agricultural, 8 food, 25 manufacturing, and 20 service sectors) as described in Aguiar et al. (2022). For this study, the 160 countries and regions are aggregated into 18 countries and regions and the 65 sectors to 26 sectors focusing on food and agriculture (see Tables SA-1 and SA-2 in the Supplemental Appendix). The GTAP 11 Data Base is the baseline data and represents a snapshot of the world economy in 2017. Data used for each country in GTAP are based on Input-Output tables (IOTs), and these countries are interconnected through trade and transportation data. Because IOTs represent various reference years, the data in IOTs are supplemented with other international data sets for consistency. For example, macroeconomic data comes from the World Bank's World Development Indicators and IOTs will be calibrated to represent the GDP of the reference year. Aguiar et al. (2022) document the details of the database construction.

This global, multi-regional, multi-sectoral general equilibrium model provides linkages across goods (products and services) and factors in each economy, as well as international linkages of goods between economies through international trade (Corong et al., 2017). The model incorporates the optimizing behavior of agents (consumers and producers) in the economy. First, for each country/region, there is a representative household that maximizes its utility and owns factor endowments used by firms. That is, household utility is derived from the consumption across private and public/government expenditures, and savings. These three elements are governed by an aggregate Cobb-Douglas per capita utility function. Brockmeier (2001) provides a graphical exposition of the GTAP model, which we replicate here; see Figure SA-1 in the Supplemental Appendix where PRIVEXP stands for Private household Expenditures, while GOVEXP are Government Expenditures. In this model, there is no government agent, instead, the regional household receives all tariff and other tax revenues and determines the level of public/government expenditures. Consequently, welfare indicators are computed from the regional household's utility function.[2]

Second, firms maximize profits under perfect competition and constant returns to scale technology. Firms utilize intermediate inputs (both domestic and imported goods and services) and value added (e.g., capital and labor) to produce goods and services for final demand. Firms also make factor payments to the regional household. Figure SA-2 integrates firms/producers to complete the closed economy part of the model without government interventions. Tax and international flows will be added subsequently. VOA (endw) is the value of output at agent prices paid by firms to the household for the use of factor endowments. The value of domestic private consumption at agent prices is paid to the firms/producers, and similarly, there is an equivalent value of domestic government consumption paid to producers. Intermediate sales within firms is captured by VDFA (Value of domestic purchases by firms for intermediate use). Finally, household savings are invested in firms.

For the firms/producers, input demand functions are nested constant elasticity of substitution (CES) functions. Figure SA-4 (Corong et al., 2017) represents the technology tree of the production structure, where qo represents the percentage change in output that demands value added (qva) and intermediates (qint); within value added, we have demands for factor endowments (qfe) and for intermediates by activity. This is linked to demand for commodities by activity (qfa) and further distinguished by domestic (qfd) and imported (qfm). The demands for imported inputs are modeled under the Armington assumption, meaning goods from different countries are treated as imperfect

[2] Figure SA-3 incorporates tax flows into the interaction between the regional household expenditures and producers.

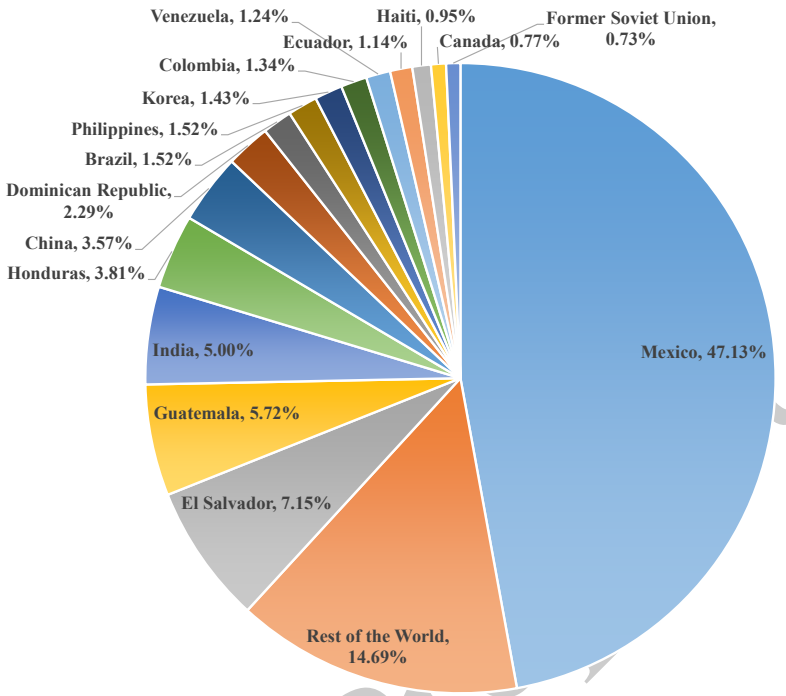

Figure 1. Origin of Undocumented Workers

Source: Passel and Krogstad (2024)

substitutes.[3] All factors of production are assumed to be fully employed. While capital and labor are perfectly mobile across sectors within a region, land and natural resources are imperfectly mobile. Perfect mobility of capital and labor implies returns to each of these factors will be equalized across all sectors. Imperfectly mobile factors enter the model as a constant elasticity of transformation (CET) supply function which controls the mobility and results in sectoral-differentiated prices.

In addition to international trade, international transport margins are explicitly represented, and a global banking sector links world savings and investment.

The Features of the GMig2 Model

The database used in GMig2 is a globally consistent database of bilateral stock of migrants (Aguiar and Walmsley, 2025). While standard GTAP does not distinguish the country of origin of the labor endowment, GMig2 identifies the country of origin for labor endowments by skill. GMig2 also considers bilateral remittances because these are an important consequence of bilateral migration. For this study, GMig2 is modified to incorporate undocumented workers using estimates provided by the Pew Research Center (Krogstad, Lopez, and Passel, 2020). These estimates include the undocumented foreign population in the United States, as well as the occupation of the undocumented workforce in the United States and by country of origin. Figure 1 displays the distribution of the undocumented foreign population in the United States, estimated to be 11 million in 2022, by country of origin. About 47% of U.S. undocumented workers are from Mexico.

The GMig2 model tracks the movement of migrant workers across regions. Specifically, labor-exporting (home) countries see their labor force reduced when workers migrate to another

[3] Figure SA-5 considers the role of the rest of the world in this multi-region open-economy, where international tax expenses/revenues (from export subsidies XTAX, and import tariffs MTAX) are assigned to the regional household. Final demand consumes imports for Private (VIPA) and/or Government (VIGA) Consumptions. Firms also consume intermediate imports (VIFA) and export abroad (VXMD).

country/region (Walmsley, Aguiar, and Ahmed, 2017). Similarly, the labor force increases in the labor-importing (host) country with the inflow of foreign workers. Changes to the labor force in home and host countries are then allocated across sectors to equalize the percentage change in wages for domestic and foreign workers.

The GMig2 model assumes that the resident population owns their labor and every other type of endowment, such as land, natural resources, and capital, while migrants own only labor; income changes for every type of worker are determined accordingly (Walmsley, Ahmed, and Parsons, 2007). Remittances reduce the income of migrants in the host country and increase the income of permanent residents in the home country. The income of new migrants and return migrants requires the conversion of earnings in the host country to those in the home country via purchasing power parity (Timmer and van der Mensbrugghe, 2006). Finally, the model assumes that the flows of remittances from the host country back to the home country are a constant proportion of income. Remittances will affect a country's balance of payments as part of the current transfers. To reflect domestic and foreign workers' different degrees of labor specialization, the model used in this study differs from GMig2 by assuming that domestic and foreign workers are imperfect substitutes as in Aguiar (2009). Moreover, in this study, we also distinguish foreign workers by legal status. Figure SA-6 (from Aguiar and Walmsley, 2013) represents the technology tree of the production structure in this study that differs from Figure SA-4. Using the estimates from the Pew Research Center (Krogstad, Lopez, and Passel, 2020), we identify undocumented workers in the United States, and these workers are treated as imperfect substitutes for other foreign-born workers in the United States (for details, see Aguiar, 2009).

Similar to the GTAP framework, which has been extensively used in global CGE models to analyze trade and environmental issues, the GMig2 framework has been used by various studies relating to migration corridors in North America (Hinojosa-Ojeda, 2012; Aguiar and Walmsley, 2014), Europe (Ko, 2017; Angioloni et al., 2022), East and South East Asia (Walmsley, Aguiar, and Ahmed, 2017; Corong and Aguiar, 2019), South Asia (Ahmed and Walmsley, 2009; Ghani and Morgandi, 2023), as well as other global migration issues (Willenbockel et al., 2015; Mit'ková and Kralova, 2023; Abbas, Nejati, and Taleghani, 2024). In particular, we follow Aguiar (2009) by extending the GMig2 framework by incorporating undocumented migrants in the model to study the effects of mass deportations.

Simulation Analysis and Results

Though the Trump administration's goal is to deport all undocumented workers, finding these workers by the Department of Homeland Security is easier said than done because a) many of them are employed in rural areas, b) employers, churches, and relatives may protect the undocumented workers from deportation, c) there could be public backlash about this policy as these workers are doing back-breaking hard labor that many U.S. citizens do not want to perform (Mukherjee and Krogstad, 2024),[4] d) consequently, this policy could be politically unpopular,[5] and the deportation of all undocumented workers will be expensive because of logistics. Therefore, we consider three scenarios: a 10%, 30%, and 50% reduction in undocumented workers. First, using 2017 data as the base year, we run a baseline simulation of our model with the status quo, i.e., about 10.5 million (based on the report by Passel and Krogstad, 2024) unauthorized population and 7.66 million of those are in the workforce in the United States. Deportation or repatriation of 10%, 30%, and 50% undocumented workers imply, respectively 0.77, 2.30, and 3.83 million workers are removed from employment in the United States. We discuss the results of a 30% reduction of these workers in the main text and report the results of 10% and 50% reductions in Tables SA-3 - SA-10 in the

[4] This is obvious from the nationwide protest in June 2025 (Nichols, 2025).

[5] This is evident from CBS News Poll which indicates that Trump administration's approval of deportation policies declined from 59% in February to 49% in July, and the disapproval of these policies increased from 41% to 51% (Salvanto, De Pinto, and Khanna, 2025).

Table 1. Effects of a 30% Removal of Undocumented Workers on Sectoral output

Real output changes	Baseline ($ millions)	% Change
Agricultural Sectors		
Paddy rice	2,637.08	-0.51
Wheat	15,475.39	-0.68
Other cereal grains	61,234.18	-0.59
Vegetables, fruit, nuts	69,281.43	-0.69
Oil seeds	50,528.54	-0.51
Sugar cane, sugar beet	2,786.33	-0.70
Plant-based fibers	15,822.09	-0.56
Other Crops	13,437.67	-0.64
Bovine cattle, sheep and goats	64,569.49	-0.75
Other animal products	68,061.79	-0.71
Dairy milk production	40,203.23	-0.75
Wool, silk-worm cocoons	636.45	-0.61
Forestry	52,215.91	-0.79
Fishing	8,581.45	-0.30
Non-Agricultural Sectors		
Mining	523,914.41	-0.24
Construction	1,535,424.13	-0.91
Manufactures	6,521,504.00	-0.76
Wholesale and retail trade	3,209,206.00	-0.68
Transportation and utilities	1,829,096.50	-0.62
Information services	1,393,677.38	-0.58
Financial services	2,487,762.50	-0.52
Business services	6,137,395.50	-0.76
Education and health	3,660,348.00	-0.67
Leisure services	1,223,361.63	-0.92
Personal services	843,195.56	-0.96
Public services	3,454,828.00	-0.37

Notes: Baseline values are for the year 2017 in this and subsequent tables

Supplemental Appendix. Given the current low unemployment rate in the United States, we assume full employment in the analysis.

Since several studies (Lee et al. 2017; Clemens et al., 2018; Devadoss and Luckstead, 2025) have shown that domestic workers are unwilling to work in farm jobs or hard physical labor (e.g., meatpacking), it is important to limit the substitution between undocumented workers and legal workers. We also consider various levels of elasticity of substitution (ranging from 0.1 to 9.0) between these two types of workers. Our baseline analysis reported in the manuscript considers an elasticity of substitution of 1.0 between undocumented and legal workers. However, based on the simulation runs of various levels of elasticity of substitution, we report in the Supplemental Appendix Table SA-11 the impacts of a 30% deportation and elasticity of substitution of 1.0, 5.0, and 9.0 on sectoral output.

Table 1 reports baseline values and percentage change in sectoral output arising from a reduction of undocumented workers by 30%. Because undocumented workers are employed in low-skill jobs in numerous sectors, the removal of 30% of these workers unambiguously causes labor shortages and production declines. Sectoral output declines in all sectors, ranging from 0.24% in Mining to 0.96% in Personal services (which includes services such as hospice care and other activities by households as employers and for their own use). Sectors such as Sugar Cane and Sugar Beet; Bovine Cattle, Sheep, and Goat; Other Animal Products; Dairy Farms/Raw Milk; Construction;

Table 2. Effects of a 30% Removal of Undocumented Workers on Domestic Sales

Real output changes	Baseline ($ millions)	% Change
Agricultural Sectors		
Paddy rice	2,196.26	-0.73
Wheat	8,963.64	-0.79
Other cereal grains	49,620.20	-0.75
Vegetables, fruit, nuts	49,929.55	-0.87
Oil seeds	27,124.54	-0.74
Sugar cane, sugar beet	2,777.68	-0.70
Plant-based fibers	9,679.61	-0.74
Other crops	10,165.82	-0.80
Bovine cattle, sheep and goats	63,664.25	-0.76
Other animal products	64,709.97	-0.74
Dairy milk production	40,202.07	-0.75
Wool, silk-worm cocoons	610.64	-0.65
Forestry	50,654.71	-0.72
Fishing	7,515.03	-0.46
Non-Agricultural Sectors		
Mining	465,633.56	-0.56
Construction	1,532,073.38	-0.90
Manufactures	5,205,154.50	-0.86
Wholesale and retail trade	3,179,733.75	-0.69
Transportation and utilities	1,721,275.38	-0.66
Information services	1,329,014.63	-0.64
Financial services	2,370,473.75	-0.56
Business services	5,920,077.50	-0.77
Education and health	3,605,610.00	-0.68
Leisure services	1,107,772.50	-0.91
Personal services	834,538.25	-0.95
Public services	3,437,674.00	-0.37

Manufacturing; Wholesale and Retail Trade; and Business Services that utilize large numbers of undocumented workers experience significant production decline, i.e., more than 0.68%. Most of the agrifood sectors, which generally employ more immigrant workers, endure large declines, led by food services in the Leisure sector; milk production in the Dairy Farms sector; Bovine Cattle, Sheep, and Goat; and Sugar Cane and Sugar Beet. The sectors that are least impacted are Mining, Fishing, and Public services, which employ fewer undocumented workers. The production declines are attributed to both the direct effect of the removal of undocumented workers and the indirect effect of higher wages due to labor shortages and the use of more expensive inputs (e.g., domestic workers), leading to increased cost of production. The reductions in sectoral output are largely consistent with the findings of McKibbin, Hogan, and Noland (2024).

Table 2 presents the impacts of a 30% reduction in undocumented workers on domestic sales. Every sector experiences a decline in domestic sales because of a) production contraction, i.e., the supply curve shifts left due to fewer undocumented workers, which increases the prices of various commodities, leading to lower consumption, and b) less demand due to the departure of 2.30 million undocumented workers. The sectors that endure larger declines are Personal services (0.95%), Construction (0.90%), and agrifood-oriented sectors such as Leisure (0.91%) (which covers food distribution); Manufacturing (0.86%) (which includes the food-producing sector); Vegetables, Fruits, and Nuts (0.87%); Wheat (0.79%); Business Services (0.77%); Other Animal Products (0.74%); Bovine Cattle, Sheep, and Goat (0.76%); Oil Seeds (0.74%); Raw Milk (0.75%); Other Cereal Grains (0.75%); Paddy Rice (0.73%); and Forestry (0.72%). These are the sectors that

Table 3. Effects of a 30% Removal of Undocumented Workers on Exports

Real output changes	Baseline ($ millions)	% Change
Agricultural Sectors		
Paddy rice	442.03	0.58
Wheat	6,511.75	-0.52
Other cereal grains	11,613.97	0.08
Vegetables, fruit, nuts	19,351.88	-0.22
Oil seeds	23,754.60	-0.24
Sugar cane, sugar beet	8.64	-0.13
Plant-based fibers	6,142.48	-0.28
Other crops	3,271.84	-0.16
Bovine cattle, sheep and goats	905.24	-0.09
Other animal products	3,351.82	-0.02
Dairy milk production	1.17	-0.26
Wool, silk-worm cocoons	25.75	0.43
Forestry	1,537.22	-3.24
Fishing	1,071.39	0.81
Non-Agricultural Sectors		
Mining	61,080.42	2.32
Construction	3,350.79	-2.44
Manufactures	1,352,658.00	-0.36
Wholesale and retail trade	29,472.34	0.17
Transportation and utilities	107,821.18	0.09
Information services	64,662.73	0.49
Financial services	117,288.71	0.36
Business services	217,317.77	-0.51
Education and health	54,738.05	-0.16
Leisure services	115,589.16	-1.04
Personal services	8,657.31	-1.31
Public services	17,154.03	0.85

employ more undocumented workers and are also consumed daily by U.S. citizens. Therefore, the deportation of undocumented workers adversely impacts the consumption of these commodities. Consumption decline in these sectors and other sectors highlight the economy-wide damages caused by the policy of deporting undocumented workers.

Table 3 presents the results of a 30% reduction in undocumented workers on exports. The impacts of deportation on exports generate mixed results in that 16 sectors endure export declines, and 10 sectors experience export increases. Export declines in these 16 sectors are largely due to production contractions, thus reducing the amount of exports. By contrast, the export increases in the 10 sectors that preserve competitiveness in the international market. The sectors that endure the largest export declines are Forestry (3.24%), Construction (2.44%), and Personal (1.31%); in these sectors, domestic consumption does not fall much, and much of the export declines are due to production contraction. The sectors that increase their exports are Mining (2.32%), Public services (0.85%), Fishing (0.81%), and Paddy rice (0.58%) because despite the output decreases, these sectors incur larger domestic consumption declines and firms in these sectors are able to find alternate markets for their outputs.

Table 4 reports the effects of a 30% reduction in undocumented workers on imports. Out of 26 sectors, 24 of them endure import declines, and only 2 sectors experience import increases. The import declines are largely due to population decline resulting from the deportation. Consequently, demand for many of the goods and services fall. The largest import declines are in Mining (1.42%),

Table 4. Effects of a 30% Removal of Undocumented Workers on Imports

Real output changes	Baseline ($ millions)	% Change
Agricultural Sectors		
Paddy rice	2.31	-0.11
Wheat	730.63	-0.05
Other cereal grains	1,075.32	-0.52
Vegetables, fruit, nuts	27,831.89	-0.44
Oil seeds	1,192.90	-0.41
Sugar cane, sugar beet	2.40	-0.64
Plant-based fibers	83.76	-0.52
Other crops	12,586.52	-0.65
Bovine cattle, sheep and goats	2,200.30	-0.51
Other animal products	2,012.14	-0.64
Dairy milk production	6.60	-0.58
Wool, silk-worm cocoons	10.54	-0.85
Forestry	394.83	1.26
Fishing	3,102.83	-0.97
Non-Agricultural Sectors		
Mining	161,578.42	-1.42
Construction	3,299.81	0.57
Manufactures	2,120,636.00	-0.50
Wholesale and retail trade	24,523.67	-0.78
Transportation and utilities	65,419.59	-0.64
Information services	70,467.41	-0.90
Financial services	94,419.13	-0.79
Business services	154,596.11	-0.50
Education and health	18,854.33	-0.49
Leisure services	97,454.89	-0.18
Personal services	2,390.56	-0.11
Public services	20,608.10	-0.90

Public services (0.90%), Information Services (0.90%), Financial Services (0.79%), Wholesale and Retail Trade (0.78%), and Transportation and Utilities (0.64%). Furthermore, the import declines in agrifood-oriented sectors such as Sugar Cane and Sugar Beet; Fishing; Wool and Silk-Worm Cocoons; Other Crops; Oil Seeds; Bovine Cattle, Sheep, and Goats; Plant-Based Fibers; Other Animal Products; Other Cereal Grains; and Vegetables, Fruit, and Nuts are due to the reduced amount of labor, arising from the deportation, in further processing of these imported commodities to produce final consumption items. By contrast, Forestry (1.26%) and Construction (0.57%) are the only two sectors that experience increases in imports.

Table 5 documents the effects of a 30% reduction in undocumented workers on U.S. and other countries' real GDP in 2017 dollars. We consider only countries that are significantly impacted by this policy, i.e., the United States and the countries where undocumented workers predominantly originate from. Because of the production contraction in all sectors (see Table 1), the total real GDP of the U.S. economy declines by 0.66%, which amounts to a loss of $128.56 billion. For comparison, Thierfelder, Robinson, and Hinojosa (2025) estimates a 4% decline in U.S. real GDP for deporting all undocumented workers who comprise of 5% of the workforce. However, the GDP of many countries, where undocumented workers originate from, increases. In these countries, because of the returning workers deported from the United States entering the labor force, the economies expand. By far, the largest group of undocumented workers are from Mexico (Passel and Krogstad, 2024), and deported Mexican undocumented workers help to expand their economy by 0.64%. Other

Table 5. Effects of a 30% Removal of Undocumented Workers on Real GDP

Country	Baseline ($ millions)	% Change
United States of America	19,479,580.00	-0.66
Mexico	1,158,914.13	0.64
Canada	1,649,267.38	0.05
Brazil	2,063,512.88	0.03
Colombia	311,884.00	0.07
Ecuador	104,294.54	0.13
Venezuela	247,924.20	0.11
Dominican Republic	79,997.87	0.35
El Salvador	24,979.11	2.47
Guatemala	71,654.15	1.06
Haiti	15,035.09	0.04
Honduras	23,136.25	1.36
China	12,310,429.00	0.01
India	2,651,476.25	0.04
Korea	1,623,898.88	0.06
Philippines	328,482.97	0.03
Former Soviet Union	2,170,898.00	0.00
Rest of the World	37,078,720.00	0.01

Table 6. Effects of a 30% Removal of Undocumented Workers on Welfare (In $ Million)

Country	Equivalent Variation
United States of America	-111,116.75
Mexico	4,180.40
Canada	108.58
Brazil	531.33
Colombia	-27.43
Ecuador	6.10
Venezuela	161.65
Dominican Republic	-85.64
El Salvador	251.85
Guatemala	117.27
Haiti	-114.29
Honduras	-17.68
China	523.43
India	-291.64
Korea	864.69
Philippines	-801.21
Former Soviet Union	-625.95
Rest of the World	-2,150.96

countries that experience larger economic expansions are El Salvador (2.47%), Honduras (1.36%), and Guatemala (1.06%).

Table 6 presents the welfare impacts of a 30% reduction in undocumented workers in the United States and other impacted countries. The welfare impacts are measured using equivalent variation. The drastic reduction in the U.S. labor force has -$111 billion welfare effects. Nine countries (Mexico, South Korea, China, Brazil, El Salvador, Venezuela, Canada, Guatemala, and Ecuador) experience welfare increases as returning workers help to increase production, expand the economy, and bring the prices down in these countries. Seven regions/countries (the Rest of the World, the

Table 7. Effects of a 30% Removal of Undocumented Workers on Wage Rates and Input Prices/Rental Rates

Factor	Baseline ($ millions)	% Change
Low-Skilled Labor	3,175,503.75	0.72
Skilled Labor	5,055,221.50	0.33
Land	42,056.72	-2.36
Capital	7,252,551.00	-0.49
Natural Resource	81,162.29	-1.93

Table 8. Effects of a 30% Removal of Undocumented Workers on Remittance to Home Country

Country	Baseline ($ millions)	% Change
Mexico	31,752.21	-6.74
Canada	900.44	-4.26
Brazil	1,191.03	-5.75
Colombia	3,405.84	-5.17
Ecuador	1,912.23	-5.42
Venezuela	1,371.87	-6.06
Dominican Republic	5,278.48	-5.92
El Salvador	4,688.84	-6.97
Guatemala	7,994.59	-7.32
Haiti	2,011.31	-5.39
Honduras	4,046.68	-7.20
China	20,249.76	-4.92
India	22,162.04	-5.17
Korea	4,093.40	-4.35
Philippines	19,262.69	-4.13
Former Soviet Union	8,980.00	-4.05
Rest of the World	106,751.88	-4.44

Philippines, Former Soviet Union, India, Haiti, Colombia, and Honduras) endure welfare loss. The reason for this negative welfare is the loss of remittances by the deported undocumented workers exceeds the production gains in their home countries.

Table 7 reports the effects of a 30% reduction in undocumented workers on total factor payments. As noted in the Model section, the five productive factors are low-skilled labor, skilled labor, land, capital, and natural resources. Because of the deportation, the number of undocumented workers declines by 2.30 million, which causes labor shortage, leading to higher wages (0.72%) for all low-skilled labor. Though the wage rate increases, the loss of workers due to repatriation causes the total wage earnings of all low-skilled workers to fall. Since fewer low-skilled workers are available, production contracts in almost all sectors of the economy (as reported in Table 1). Consequently, the demands for other factors (land, capital, and natural resource) decrease, and their earnings fall ranging from 0.49% for Capital to 2.36% for Land. This is another unintended consequence of deporting undocumented workers. The skilled-labor earnings increase because of labor substitution to mitigate the loss of undocumented workers.

Table 8 presents the effects of a 30% reduction in undocumented workers on remittances sent by (legal and the remaining undocumented) immigrant workers to their home countries. Because fewer undocumented workers are working and production contracts in the United States, earnings by undocumented workers and foreign-born laborers legally eligible to work in the United States decline in spite of increases in the wages per low-skilled worker. Consequently, the money these workers remit to their relatives in their home countries falls (ranging from 4.05% in the Former

Soviet Union to 7.32% in Guatemala) for all countries where the workers originate. The largest remittance declines are to countries where a significant portion of the immigrants originate, which include the Mexico (6.74%), Guatemala (7.32%), Honduras (7.20%), and El Salvador (6.9%).

Conclusions and Policy Implications

This study analyzes the impact of mass deportations of undocumented workers by the Trump administration. This policy will generate several unintended consequences. First, the sectors (such as agriculture, food processing, leisure, and construction) that rely heavily on undocumented workers experience significant production declines. Second, this policy will reduce economic activities in many sectors and negatively affect the U.S. economy, with a total GDP decline of $128.56 billion. Third, reducing undocumented workers will increase the demand for domestic workers and foreign-born workers legally eligible to work, which given the low unemployment rate in the United States will raise the wage rates and increases the cost of production and prices of U.S. goods. Given the higher price inflation (particularly for food products) in recent years, this policy will exacerbate U.S. inflation woes. Fourth, these higher wage rates can attract foreign workers to illegally migrate to the United States (Devadoss and Luckstead, 2025; Thierfelder, Robinson, and Hinojosa, 2025). Fifth, because of the higher prices, U.S. domestic consumption will decrease. Sixth, production contraction due to deportation of undocumented workers causes demand for and prices of other intermediate inputs to decline. Seventh, this policy can bring a great deal of uncertainty, not only for undocumented workers and their livelihood but also for firms with their business planning and day-to-day operations. Such uncertainties can cause inefficiencies and business failures. Given all these adverse impacts, policymakers should be prudent in implementing this policy without decreasing economic output in various sectors and causing higher food prices.

If the U.S. administration does deport most of the undocumented workers, we recommend that the U.S. government expand H2-A guest-worker programs (see Devadoss and Gautam, 2025; Devadoss and Luckstead, 2025) to meet the labor demand of sectors such as agriculture and food processing for the loss of undocumented workers. Furthermore, many agricultural sectors need to mechanize their operations to avoid the chronic labor shortage.

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