# Border Walls: Nontechnical summary

Treb Allen, Cauê Dobbin, Melanie Morten

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A vigorous debate exists about the economic benefits of building a border wall between the United States and Mexico. Yet, empirical evidence to guide the debate has lagged behind. Our paper studies the effects of the Secure Fence Act of 2006, which increased the border fence that already existed between the two countries by 548 miles. At a cost of $2.3 billion (equivalent to $7 per person in the United States), the expansion raised total fencing to 658 miles, one-third of the entire U.S.-Mexico border.

Our paper answers three questions:

1. *Did the Secure Fence Act lead to a change in migration patterns?*
   Yes, but the effect was small. Using a unique dataset that contains information on the origin and destination of (primarily unauthorized) Mexican migrants, we document that migration fell between Mexican municipalities and U.S. counties that were more affected by the wall (i.e. by geographical proximity). The magnitude of the effects suggests that the direct effect of the wall expansion was to reduce migration flows by 0.8%. The direct effect, however, does not account for other effects, such as whether migrants changed where they migrated to or whether wages changed in the destination. To account for these, we develop and estimate a general equilibrium spatial model. We find the total effect of the wall expansion was to reduce the number of Mexican citizens living in the United States by 0.6%, or roughly 82,650 people.

2. *What impact did the Secure Fence Act have on the U.S. economy?*
   The effect of the Secure Fence Act on the U.S. economy – after accounting for changes in wages, the cost of goods, and the internal migration of U.S. workers – was largely negative. College-educated U.S. workers lost an equivalent of $4.35 in annual income, while less-educated U.S. workers benefited on average by only 36 cents. This number is less than the $7 per person construction cost of the wall.

3. *What impact did the Secure Fence Act have on the Mexican economy?*
   The Secure Fence Act on the Mexican economy was negative. College-educated

Mexican workers lost an equivalent of $2.99 in annual income, while less-educated Mexican workers lost on average by $1.34 per year.

In what follows, we describe the data we use, the methodology we employ, some alternative policies that change migration between Mexico and the United States, and the key policy implications.

## The Secure Fence Act of 2006

The Secure Fence Act (Pub.L. 109-367) authorized the construction of reinforced fencing on locations of the border in California, Arizona, New Mexico, and Texas. Between 2007 and 2010, 548 miles of wall were constructed along the 1954-mile U.S.-Mexico border, bringing the total fencing to 658 miles. Figure 1 shows the location of the new wall and the preexisting wall on the U.S.-Mexico border.

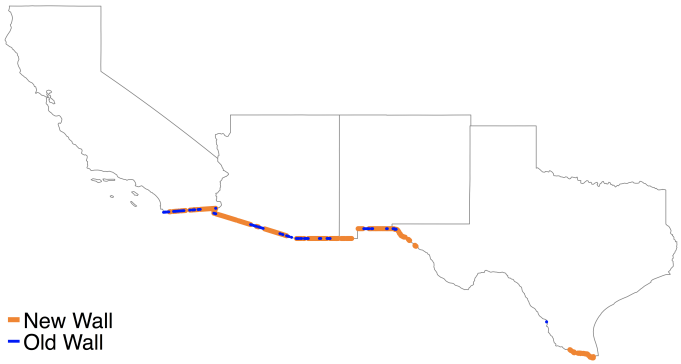


Figure 1: Location of wall constructed after the Secure Fence Act of 2006

## Data sources

### Measure of the wall

We used engineering reports of the wall location to measure the additional distance migrants needed to travel to avoid the wall. For every municipality in Mexico and county in the United States, we calculated the shortest distance to travel avoiding the border wall, both before and after the border wall expansion. This increase in distance is our pair-level measure of exposure to the Secure Fence Act.

### Migration data

We use data from the Mexican government's *Matrícula Consular* (Consular ID card) database. Mexican citizens can apply for a *Matrícula Consular* from Mexican consulates in the United States. This card can be used as a form of identification to e.g. open bank accounts and send money through Western Union. The *Matrícula Consular* is particularly useful for unauthorized migrants who do not have other forms of identification. We use a confidential version of the database that includes the migrant's municipality in Mexico and the U.S. county the migrant is living in when the ID card is issued. From this data we can construct annual bilateral migration flows between municipalities in Mexico to counties in the United States.

### Economic outcomes

We use the U.S. Census and American Community Survey to calculate wages and population of both Mexican-born and U.S. workers in the United States. We use the Mexican Census to calculate wages and population of workers in Mexico.

## Methodology

We show that migration decreased relatively more if the migrant faced a larger increase in distance to travel to the United States after the Secure Fence Act. This relationship is shown in Figure 2. Our methodology allows us to account for the effect of shocks, such as the Great Recession or Arizona's SB 1070 law (which required police officers to demand papers from those suspected of being in the country illegally), in the destination location by comparing changes in migration from different origins to the same destination. Similarly, by comparing changes in migration from the same origin to different destinations, we can account for the effect of shocks in the origin location.

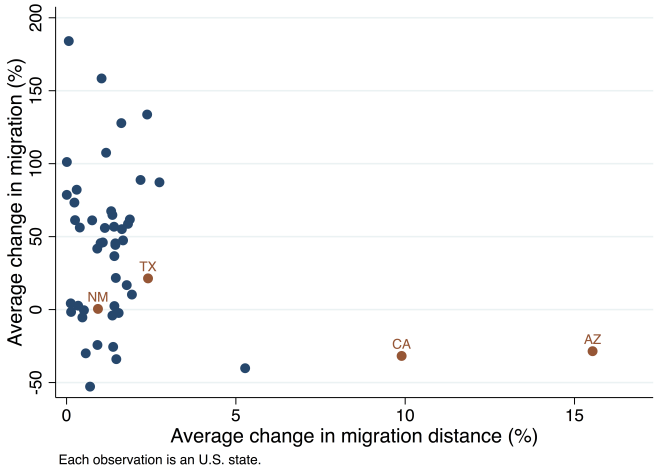


Figure 2: Negative relationship between change in distance and change in migration (U.S. states)

To calculate the overall exposure for each U.S. destination we add up the pair-level effects. Figure 3 shows the total exposure of each location in Mexico and the U.S. to the border wall expansion, where each pair is weighted by the number of migrants prior to the border wall expansion. We find that, on average, the direct effect of the Secure Fence Act was to reduce migration to a U.S. destination by 0.8% (0.008) after the wall. The Secure Fence Act did not affect all locations equally with some locations in the U.S. facing larger decreases in migration.

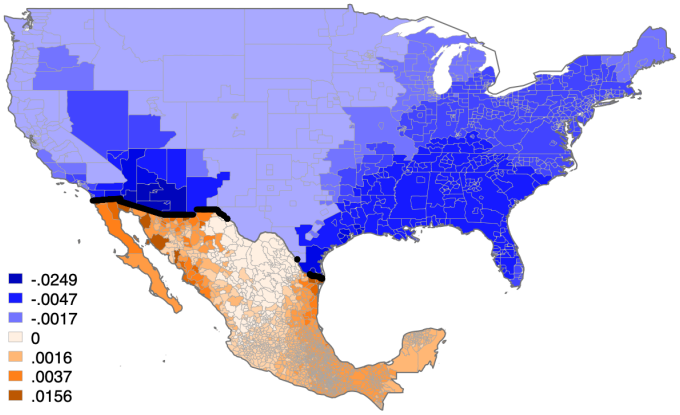


Figure 3: Predicted change in migration as a result of the Secure Fence Act

To compute the effects on the economy, we use an economic model. In the model, the labor market comprises low-skill and high-skill U.S.- and Mexican-born workers; it is costly to migrate between locations; and it is costly for firms to sell their goods across locations. We estimate the main parameters of the model using the variation in migration we observe as a result of the Secure Fence Act. We find that low-skilled U.S. workers gain $0.36 in higher wages after the Secure Fence Act. High-skilled U.S. workers lose $4.45 in higher wages after the Secure Fence Act. These numbers are below the $7 per person cost of the wall expansion.

We also carry out substantial robustness checks of our results. Across a wide range of parameter values, college-educated U.S. workers are never made better off from the Secure Fence Act, and the economic benefits for less educated U.S. workers never exceed $3.62 – well below the $7 per person cost of the wall expansion.

## Counterfactual policies

We also consider what would have occurred if the United States had undertaken two other policies. First, we consider a more extreme border wall expansion that, in addition to the segments constructed by the Secure Fence Act, "fills in" half of the remaining uncovered border. We estimate that such an extension would further harm college educated U.S. workers (whose income would fall by $7.60) and lead to an increase in income for less educated U.S. workers of only $0.58.

The second policy considers lowering the costs of trade between the U.S. and Mexico, which should, in turn, increase wages in Mexico. We simulate a 25 percent reduction in trade costs between Mexico and the U.S. We estimate that migration flows between Mexico and the United States would fall by more than that caused by the Secure Fence Act. Unlike the Secure Fence Act, however, reducing trade costs substantially benefits U.S. workers – raising college educated U.S. workers' welfare by an equivalent of $80.59 in annual income and less educated U.S. workers' welfare by an equivalent of $58.67 in annual income.

## Policy implications

Economic theory suggests that migration will depend on both the costs of migrating and the returns from doing so. The Secure Fence Act was a policy that increased the costs of migrating. While the border wall expansion led to a small change in migration, its direct costs were substantial, and the indirect effects on the U.S. economy were largely negative. Our results suggest that alternative policies that instead change the returns to migrating – for example, by improving economic outcomes in Mexico by reducing trade costs – may be more effective in reducing migration while also benefiting U.S. workers.

*For more information*

Full academic paper

*Contact information*

Treb Allen, Distinguished Associate Professor of Economics and Globalization. Department of Economics, Dartmouth College. Email: treb@dartmouth.edu. Website: https://sites.google.com/site/treballen/

Melanie Morten, Assistant Professor. Department of Economics, Stanford University. Email: memorten@stanford.edu. Website: http://stanford.edu/~memorten/