International Institute of Social Studies

Has International Trade Accelerated the Obesity Epidemic in Mexico?

Research brief

This research brief is based on an article by Osea Giuntella, Matthias Rieger and Lorenzo Rotunno "Weight Gains from trade in foods: Evidence from Mexico" published in the Journal of International Economics, 122, in January 2020 and written by Adinda Ceelen.[1,2]

The World Health Organization (WHO) has identified obesity as a global epidemic ("globesity") and one of the most pressing public health problems of our time. The global south in particular has seen a startling surge in obesity, overweight and other diet-related chronic diseases. From 1980 to 2008, the number of overweight or obese people has seen a threefold increase and most of these people are now in developing countries.[3]

In emerging economies, the rise in obesity and a fast-paced "nutrition transition" has been anecdotally associated with accelerated trade liberalization as food imports by emerging economies are increasingly high in sugars and animal fats and tend to be processed.

These patterns prompted researchers from the University of Pittsburgh, the International Institute of Social Studies of Erasmus University Rotterdam, and Aix-Marseille University to quantify the causal effect of trade in foods on obesity using evidence from Mexico. This research brief presents a summary of the findings.

Who is this brief for? **This research brief is for fellow academics, policymakers, civil servants, international organizations, thinktanks and practitioners interested in nutrition, public health and international trade.**

Linking trade and obesity – three factors

Trade can conceptually drive obesity through changes in prices, income and tastes:

Price effect - Trade in food can lower relative prices of imported foods and of competing local foods. This can increase consumption and obesity, especially if the price effect applies to unhealthy foods.

Income - Trade liberalization can positively affect individual incomes and induce the nutrition transition and obesity.

Tastes - Trade liberalization can lead to exposure to foreign products, resulting in changes in food tastes and ultimately consumption.

Research at a glance – the case of Mexico

Mexico is the prototype of a country that has lived through a rapid nutrition transition. It has seen a tremendous increase in obesity and diabetes, with close to one third of adults being obese. Trade flows with the US have soared since the 1980s, particularly in food and beverage (F&B). In 2012 US foods accounted for 75% of total Mexican F&B imports.
The concurrence of these trends begs the question whether these two developments are significantly related. This study, published in the leading journal dealing with issues in international economics, examines whether there is a causal effect of trade in foods with the US on the prevalence of obesity across Mexican states, looking specifically at women in the time period 1988-2012 for which high-quality data are available.

Research question

Is there a causal effect of trade in foods with the US on the prevalence of obesity in Mexico?

The research matches three sets of data to answer this question:

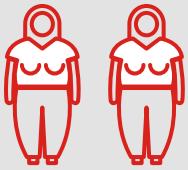
Anthropometrics of Mexican adult women
drawn from Mexican National Nutrition Surveys

Trade in Mexican food imports from the US
drawn from UN International Trade Statistics Database (UN COMTRADE)

Mexican household food expenditure
drawn from Mexican household-level surveys on expenditures

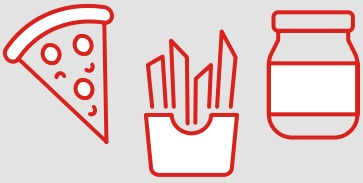
Findings

Increases in obesity, US food imports and expenditure on US food imports



Obesity – **average body mass index** (BMI) of women increased by **19%** between 1988-2012, while the **obesity rate** among women rose from **10% to 35%** .

Import of (unhealthy) food – US food imports increased tenfold, driven by unhealthy foods with the **highest relevant increase in food preparations** (e.g. preparations of fats, sauces, soups and homogenized foods) which rose from **US$ 35.5 to US$ 859 million** .

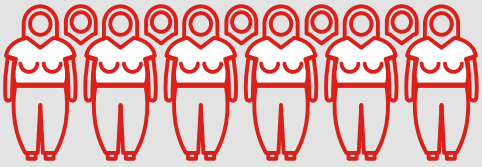


Mexican household expenditure on US imports ("import penetration") – share of **US imports in total Mexican household expenditure** on food tripled, increasing from **2.5% to 8%** . Food imports from other countries only accounted for an increase of **1.9% to 3%** of household expenditures.

Positive relationship between US food imports and obesity

The findings point to a positive and significant effect of exposure to US food exports on obesity prevalence. This effect is mainly driven by the import of unhealthy foods. Up to 20% of the rise in obesity among Mexican women can be explained by exposure to food imports. When converted to population numbers, exposure to US food exports has led to an extra two million obese women in the period covered.

Exposure to US food imports explains up to **20%** of the increase in obesity...



...which amounts to **2 million** additional obese women

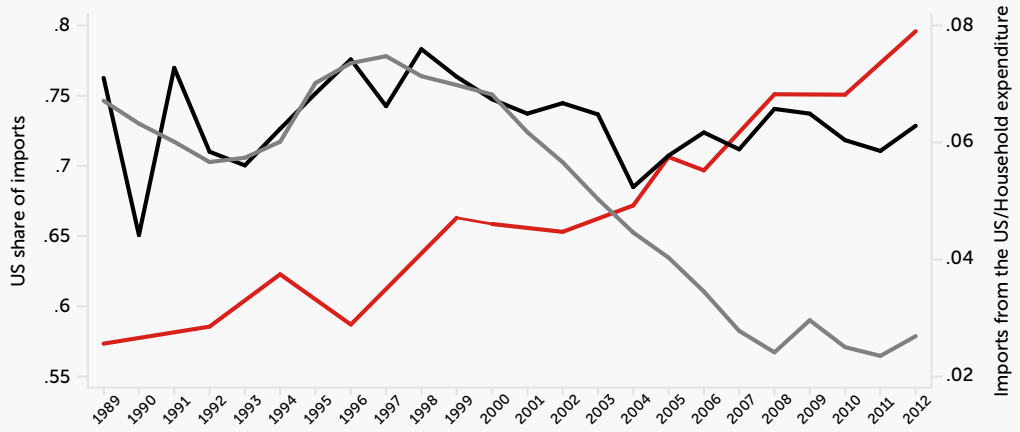
Increasing F&B imports from the US

US share of imports (F&B)

Imports from the US/ Household expenditure (F&B)

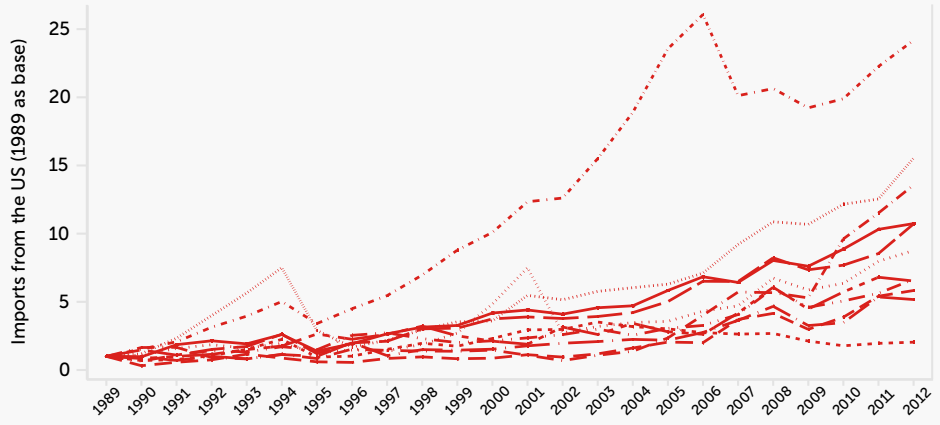
US share of imports (Other)

Mexican imports from the US and US import penetration



Meat
Dairy
Fish
Cereals
Vegs
Sugars
Coffee
Food prep.
Drink
Oil-seed
Oils-fats

Mexican imports of F&B from the US over time



Evidence for a price channel

The study also examined plausible mechanisms:

The price effect – Greater exposure to US food imports led to reduced food prices for unhealthy food.

Income – Authors found no significant relationship between obesity and income. There is little evidence that exposure to US import foods is causing obesity through changes in income.

Taste – Exposure to US food imports has shifted tastes towards more unhealthy foods, but the effect is relatively weak.

Conclusion

The study demonstrated that greater exposure to food imports can negatively affect population health and nutrition. US food imports had a significant and substantial effect on obesity within Mexico. However, these of course only explain part of the increase. Mexico, like other emerging economies, would have experienced increased levels of obesity even without the increased exposure to US imports of unhealthy food. However, expanding US food imports and import penetration accelerated the obesity trajectory amongst Mexican consumers.

The findings demonstrate how trade in food constitutes a channel through which globalization can affect the health of populations in countries importing unhealthy food products.

The study supports the notion that health concerns should be taken into consideration in the design of trade policies, particularly when it comes to unhealthy food products.

This is relevant in light of recent global trends. Emerging countries are experiencing a double burden of under- and overnutrition at all levels of the population, a development which according to WHO is affecting a third of low and middle-income countries.

More information

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1 O. Giuntella, M Rieger and L. Rotunno, Weight gains from trade in foods: Evidence from Mexico, J. Int. Econ., https://www.sciencedirect.com/science/article/pii/S0022199618302630

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3 All facts and figures are taken from the article unless indicated otherwise. Original sources of facts and figures can be found in references in the article.