

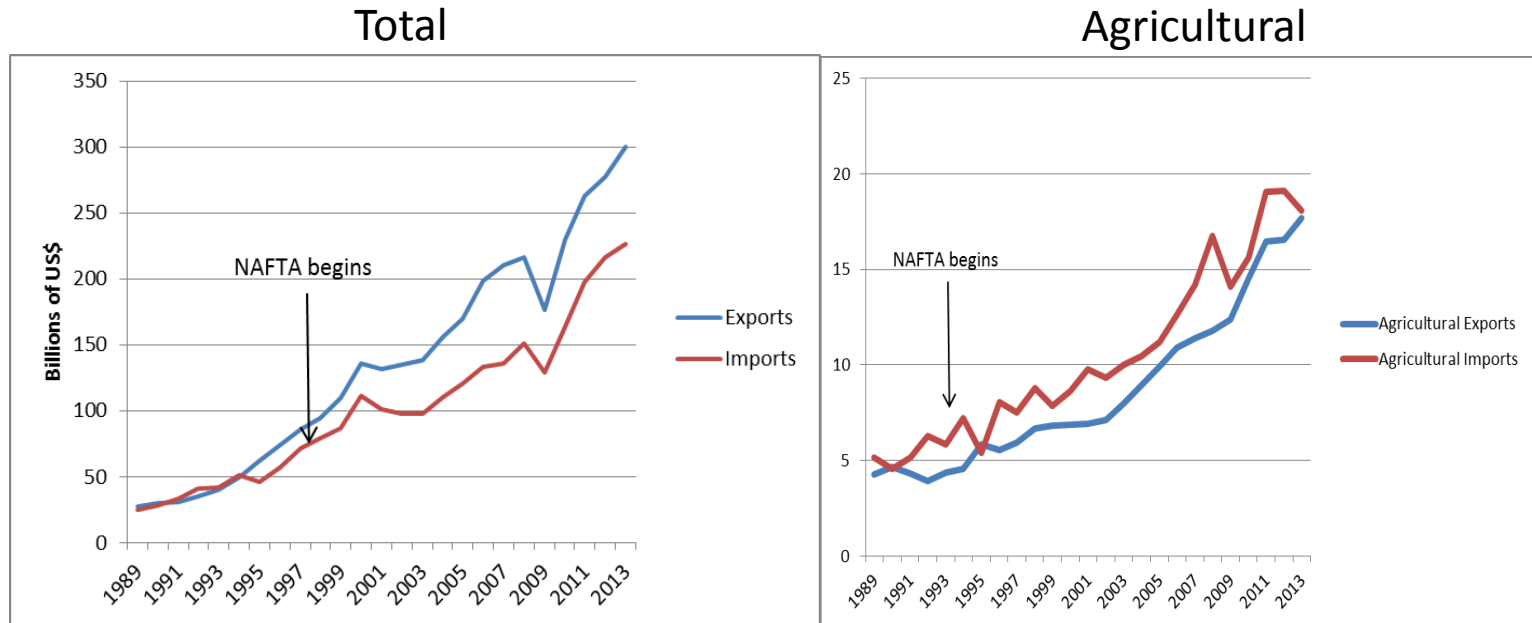
Adjusting to a Post-NAFTA Mexico: What It Means for California

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US-Mexico Trade Expanded Sharply After NAFTA



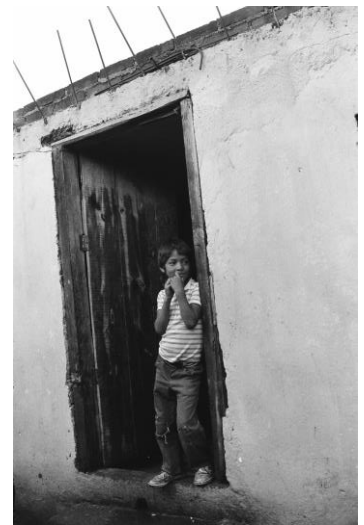
- In NAFTA's first 20 years (1993-2012), US exports to Mexico rose 420%, while Mexico's exports to the US jumped 596%
- US *agricultural* exports to Mexico rose 311%, while Mexico's *agricultural* exports to the US jumped 404%

Did NAFTA *Cause* This?

- The rise in trade began before NAFTA
- We do not have an alternate universe in which there was no NAFTA but everything else was the same
- Many other factors may have influenced Mexico-US trade over this period
 - Huge changes in Mexico's agricultural policies
 - Advances in technology (including the internet)
 - Growing integration of the global economy
- NAFTA *facilitated* Mexico-US trade by *formalizing* changes already underway and providing a *stable policy environment*.

Mexico Is Changing in Ways that Matter for California

- Rural Mexicans are moving out of farm work
- *Everywhere* as incomes go up the share of the workforce in agriculture plummets
- Mexico saved us, now Mexico is changing
- Immigration policy doesn't solve the farm labor problem unless people are there to do farm work
- The biggest change: Mexico's Kids
 - No one dreams of being a hired farmworker anymore



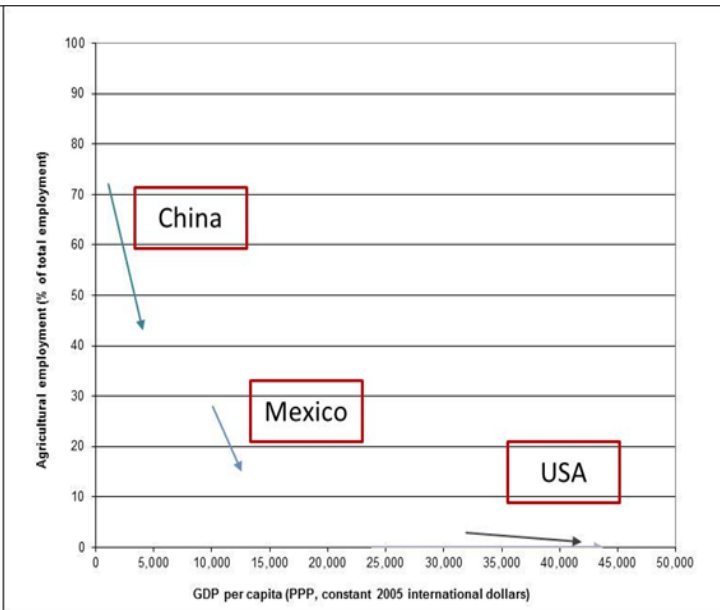
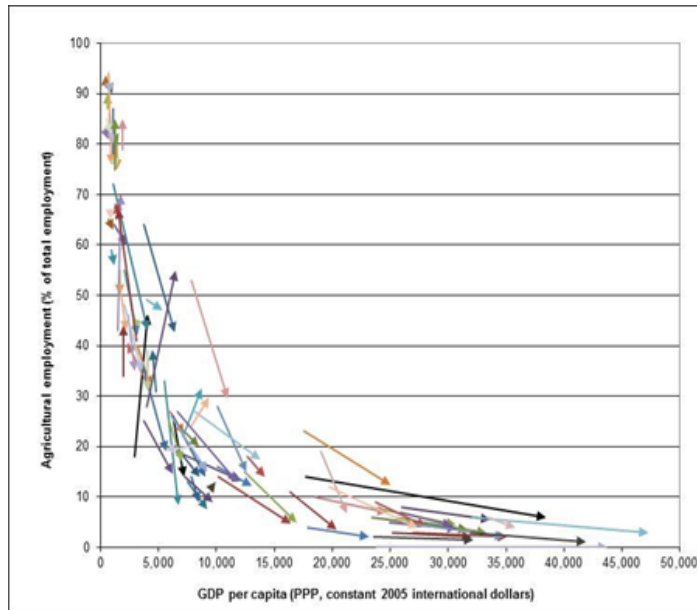
Mexico in Transition

- Mexico is the major supplier of hired workers to U.S. farms
 - Only 2% of California's hired farm workers are U.S.-born
- Guatemala is sending farm workers to Mexico
- Mexico is in the transitional phase of being both a farm labor exporter and importer

Fleeing Farms Around the World

The % of workforce in agriculture falls as per-capita incomes rise

Workforce in Agriculture



Income

Source: Taylor and Lybbert, *RebelText: Essentials of Development Economics*, 2012 (forthcoming, UC Press, 2014).

Is Something Happening Out There?

Farmers across California are experiencing the same problem: Seasonal workers who have been coming for decades to help with the harvest, planting and pruning have dropped off in recent years.

SF Chronicle, May 27, 2012

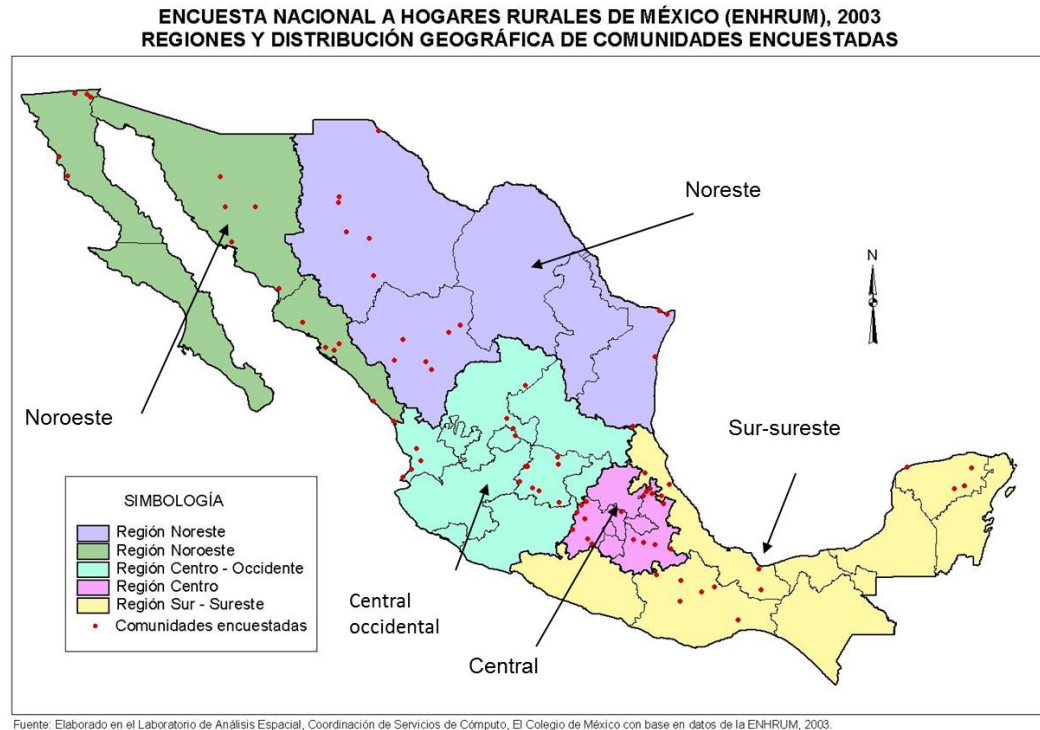
The workforce has been decreasing in the last two to three years, but last year it was drastic.

Kristi Boswell, Farm Bureau

The supply of Mexican labor available to work in the United States has fallen due to a sharp decrease in Mexico's total fertility rate and employment growth in Mexico.

Passel, et al. (2012)

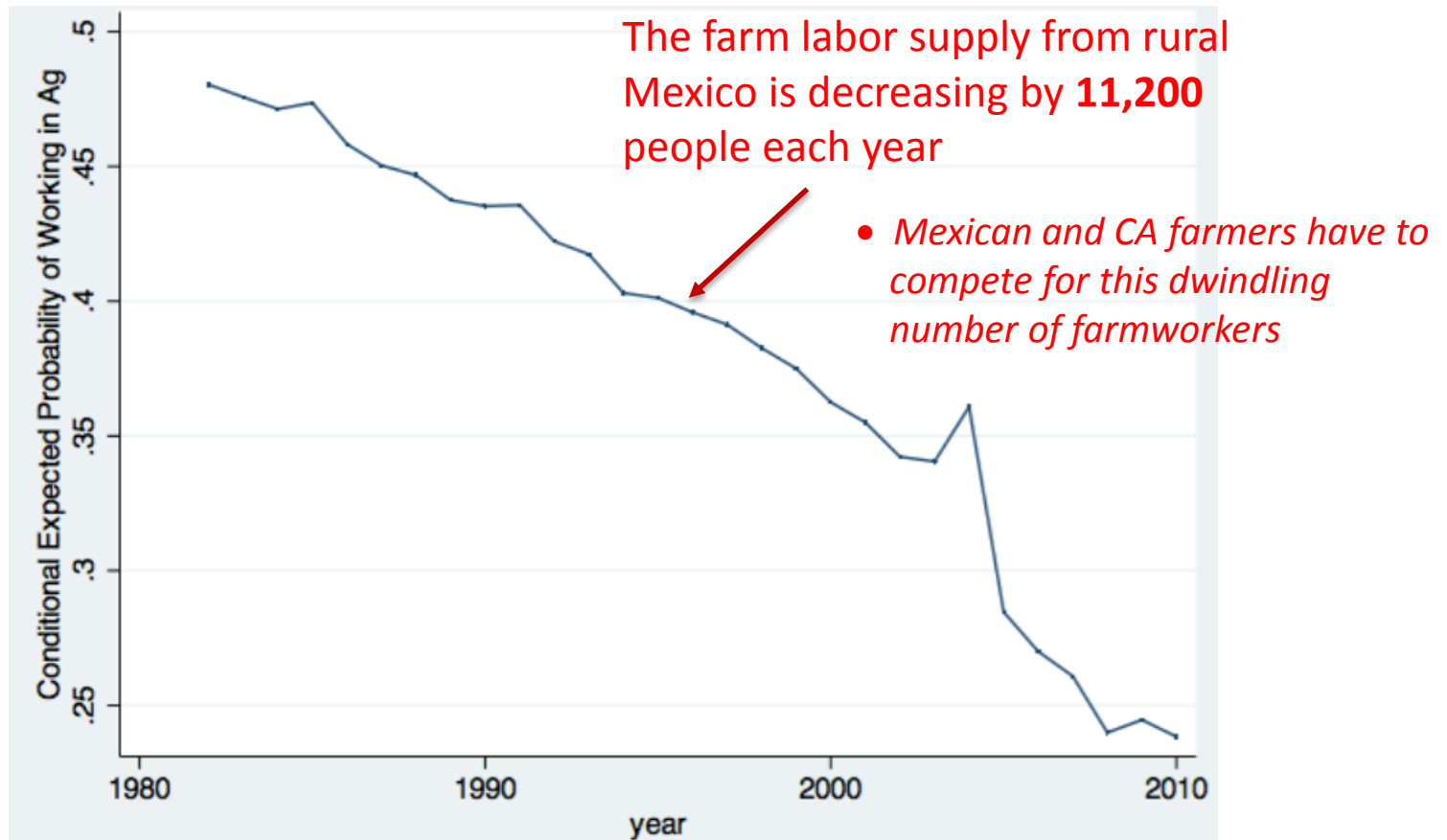
The UCD-COLMEX Mexico National Rural Household Survey (ENHRUM)



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- Nationally representative sample of rural households
- Tracks workers from 1980 through 2010, inside and outside Mexico
- More than 125,000 person-years of data

Probability of Rural Mexicans Working in Ag (anywhere, in Mexico or the US)



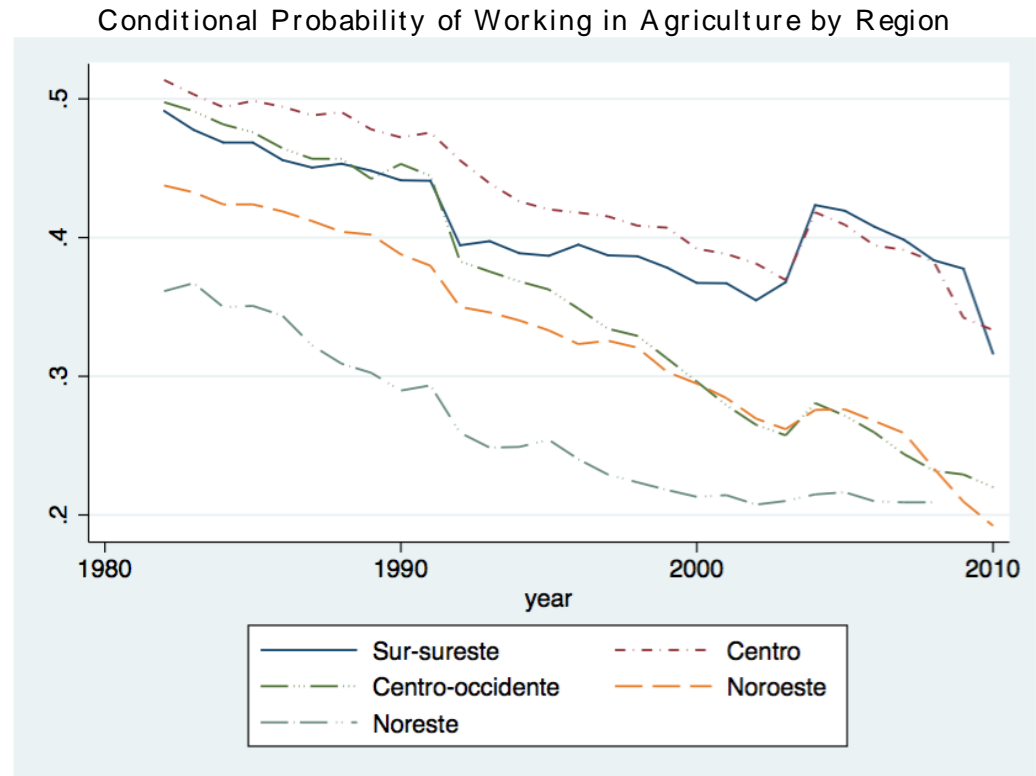
Source: Charlton and Taylor (2014)

Downward Trends in all Regions of Mexico

Percentage Impacts on Probability of working in Agriculture by Region	
(1)	
VARIABLES	Percentage Probability Agriculture
L.agriculture	0.797 (0.009)***
L2.agriculture	0.105 (0.009)***
age in year t	0.052 (0.005)***
Centro	72.237 (46.282)
Centro-Occidente	149.936 (43.639)***
Noroeste	163.267 (46.618)***
Noreste	31.029 (50.806)
Sur-Sureste*year	-0.041 (0.016)**
Centro*year	-0.077 (0.017)***
Centro-Occidente*year	-0.116 (0.015)***
Noroeste*year	-0.123 (0.017)***
Noreste*year	-0.057 (0.020)***
Observations	128,072
Number of id	8,133
R-squared within	0.502
R-squared between	0.955
R-squared overall	0.833

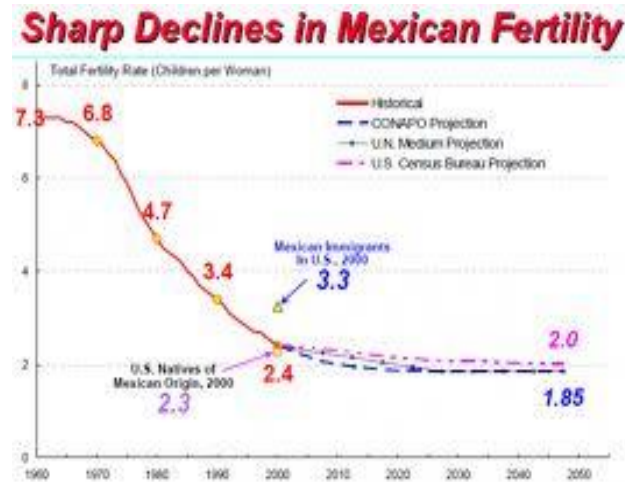
Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1



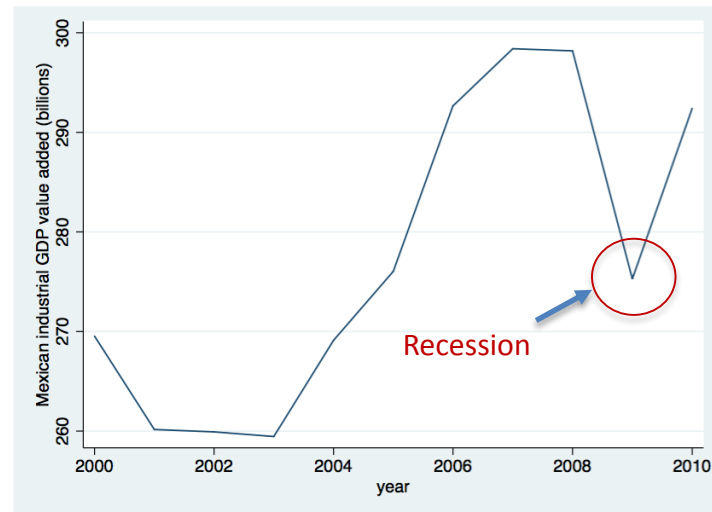
WHY the Negative Trend?

- A falling birthrate:



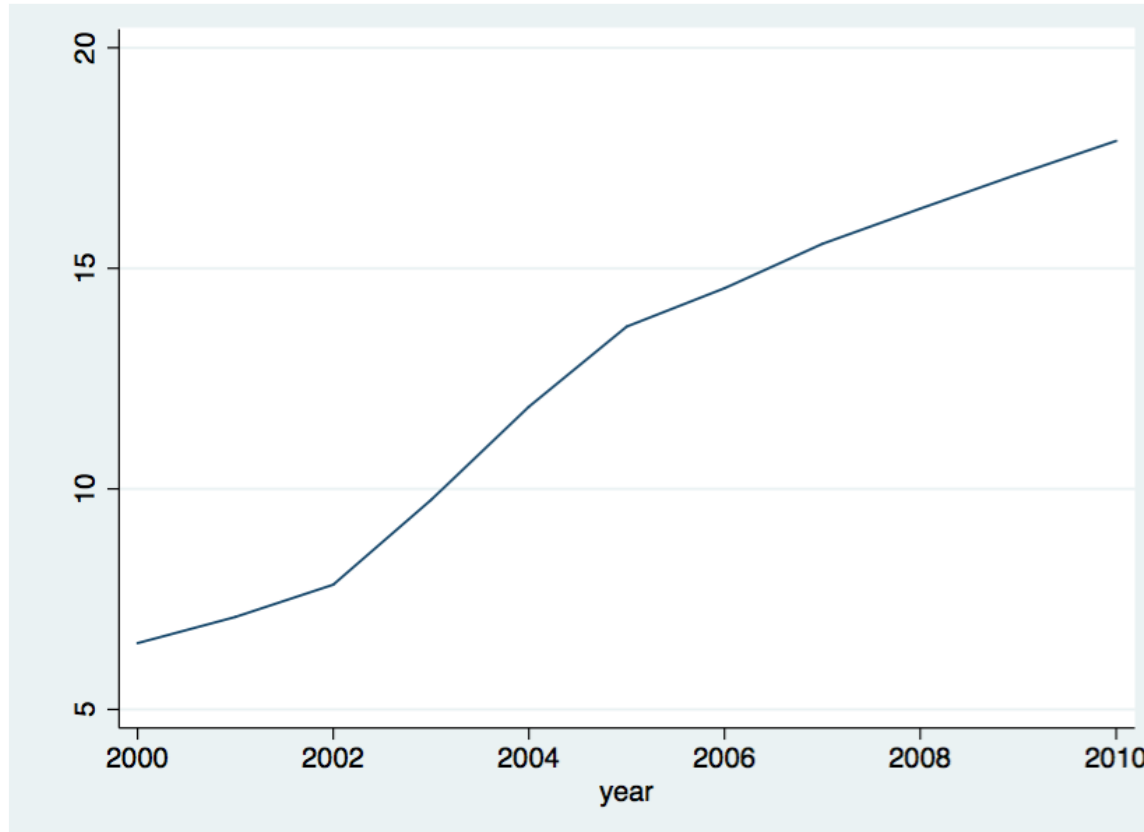
Source: Jeffrey Passel, PEW Research Center

- A growing non-farm economy:



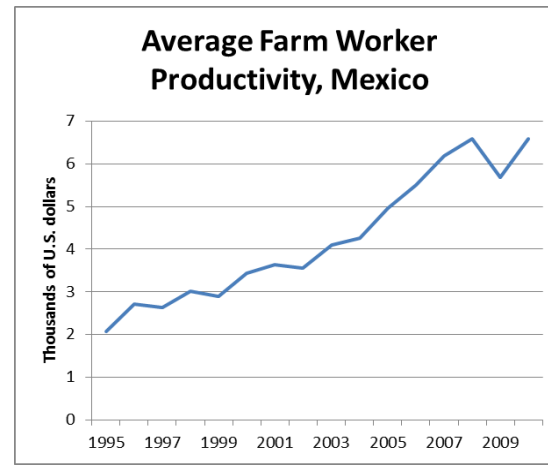
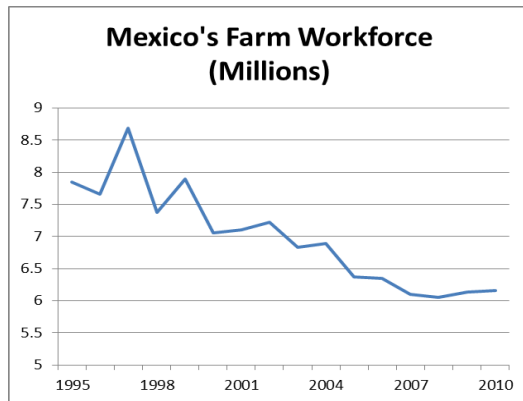
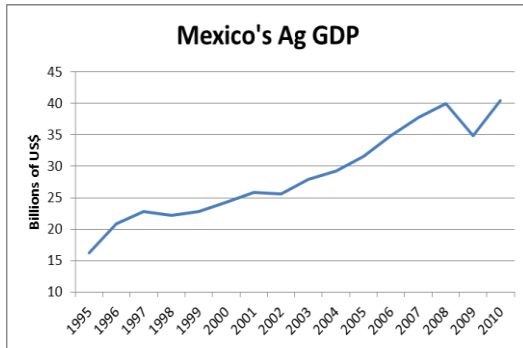
...And Rural Schools!

% of rural Mexico's working-age population with a secondary school in their village at age 12



Educated kids are significantly less likely to do farm work.

What It Means to Mexico: Producing More with Less



- Rising productivity in Mexico means higher farm wages in CA
- Nonfarm wages are now the major source of household income in rural Mexico

What It Means for Immigration Policy

- US workers stopped doing hired farm work in the 1900s
 - A few US kids dream of being farmers, but not *hired farmworkers*
- Immigration solved our farm labor problem
 - Mexico was at an earlier stage of the farm labor transition
- As rural Mexicans shift out of farm work, immigration policy stops being the solution

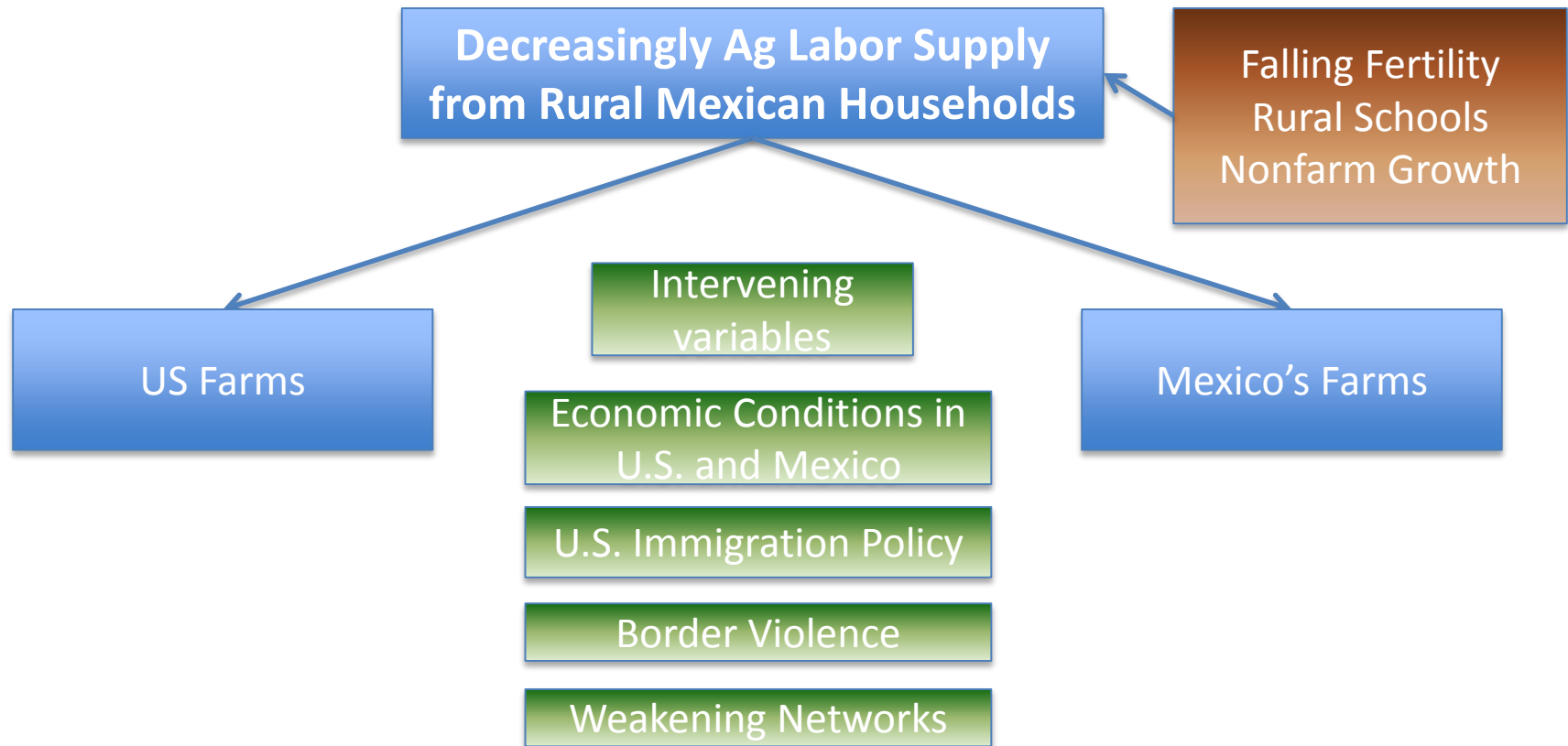
What It Means to California Farms

- Farms will have to produce more with fewer workers:
 - Changing crop mixes
 - More efficient labor management practices
 - There are about 2 farmworkers per year-round equivalent farm job in CA!
 - Technological change: mechanization
 - New tech solutions to make a smaller (and older!) farm workforce more productive
 - UC should be leading the way here...

What It Means for CA Farm Workers and Rural Communities

- Low productivity means low wages and high poverty rates for farmworker families
 - CA has the richest agriculture in the world and farmworker communities with per-capita incomes lower than Mexico's
- Making farmworkers more productive is the key to raising earnings
- A smaller, more skilled & productive farm workforce is good news for CA's rural communities

Immigration Policy in an Era of Diminishing Ag Labor Supply



- Immigration policy plays a role, but it is only an intervening variable against the backdrop of a diminishing farm labor supply in Mexico

Final Policy Lessons

- Don't assume immigration will solve the farm labor problem
 - The labor has to be there
- Adjust to a future with fewer workers
 - Get over the tomato harvester
 - Robots assisting farmworkers in the fields?
- Educate the future farm workforce
 - ...or import engineers from Mexico?
- Good news for ag workers, communities
 - Less labor, higher productivity → higher wages

References

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