

APHIS  
Policy and Program Development

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# Retrospective Analysis of Significant Rules

Avocados

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# Outline

- Why Retrospective Analysis
- Our Approach to Retrospective Analysis
- Avocado Regulation History
- Demand for Avocados
- Supply of Avocados
- Public Comment Received
- Lessons Learned and Next Steps

# Why Retrospective Analysis?

- Do anticipated outcomes differ from observed outcomes?
- Unintended consequences?
- Are there alternatives to regulatory actions?
  
- Incorporate lessons from prior actions for future analyses

# History of Avocado Rules

- 1914 – Prohibit importation of avocados from Mexico because of seed weevils
- 1993 – Entry of Mexican avocados into Alaska
- 1997 – 19 northeastern states from November to February
- 2001 – 31 states from October 15 to April 15
- 2003 – Draft Risk Analysis for entry into 50 states

# History of Avocado Rules

- 2004 – Rule published
- 2006 – Imports allowed into 50 states.
- 2010 – Bulk shipments allowed
- 2014 – Allow importation of avocados from additional Mexican states.

# Our Approach to Retrospective Analysis

- Assess accuracy of economic projections
  - Demand
  - Supply
  - Trade Issues
- Impacts on Producers
- Issues raised in public comments

# 2004 Avocado RIA Projections

- Production
  - Decrease of 7.3% in CA
- Consumption
  - Increase by 9.1% in U.S.
- Prices
  - Decrease of 21.2% at the producer level

# Avocado Demand

- Population Growth

*U.S. population increased by 9%  
from 2002 to 2012*

- Demographic Changes

*Hispanic population up by 40% since 2002*

- Commercial Use

*More than 60 % of chain restaurants have  
avocados on the menu*

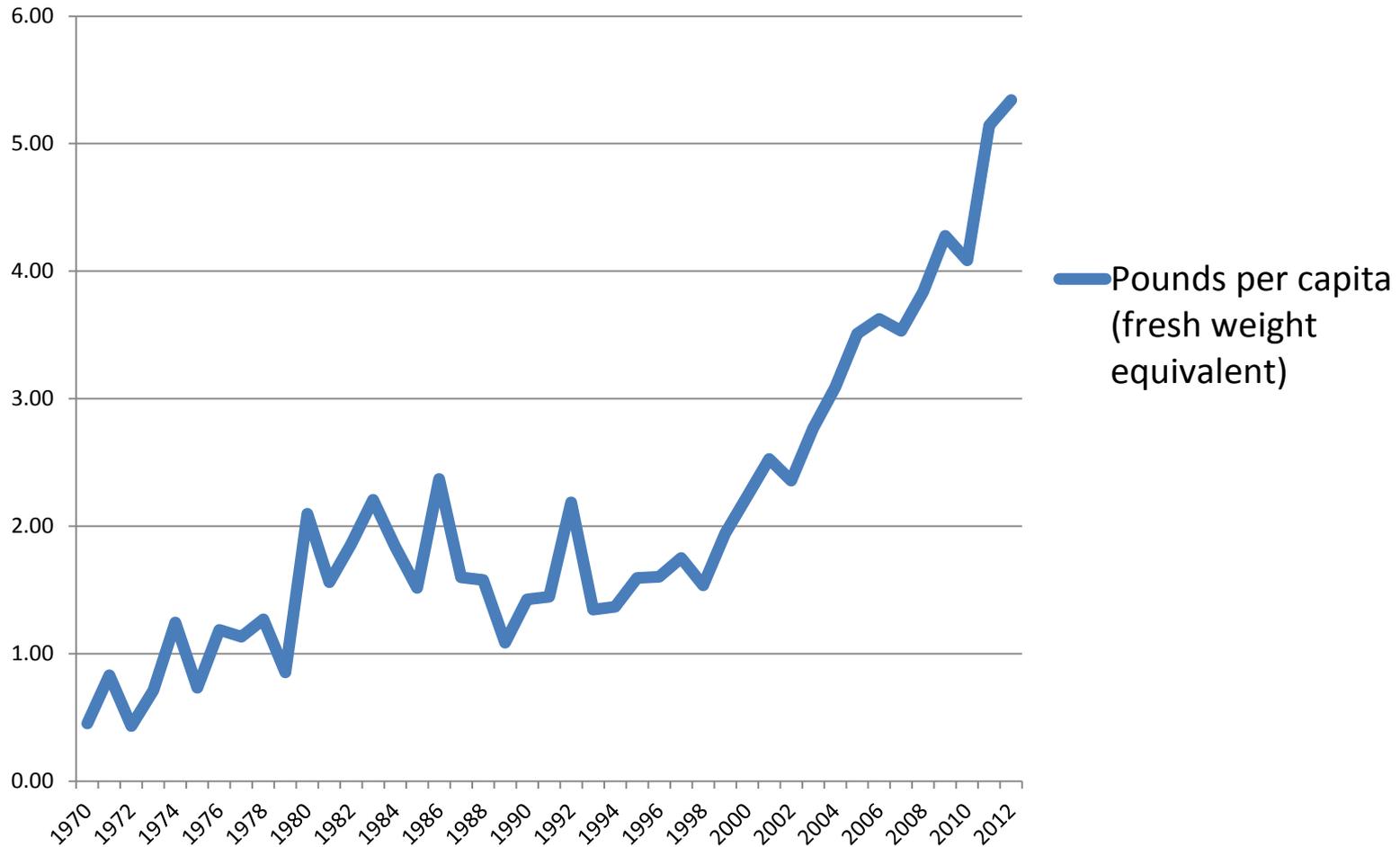
- Advertising and Promotion Programs

*250% increase in expenditures since 2003*

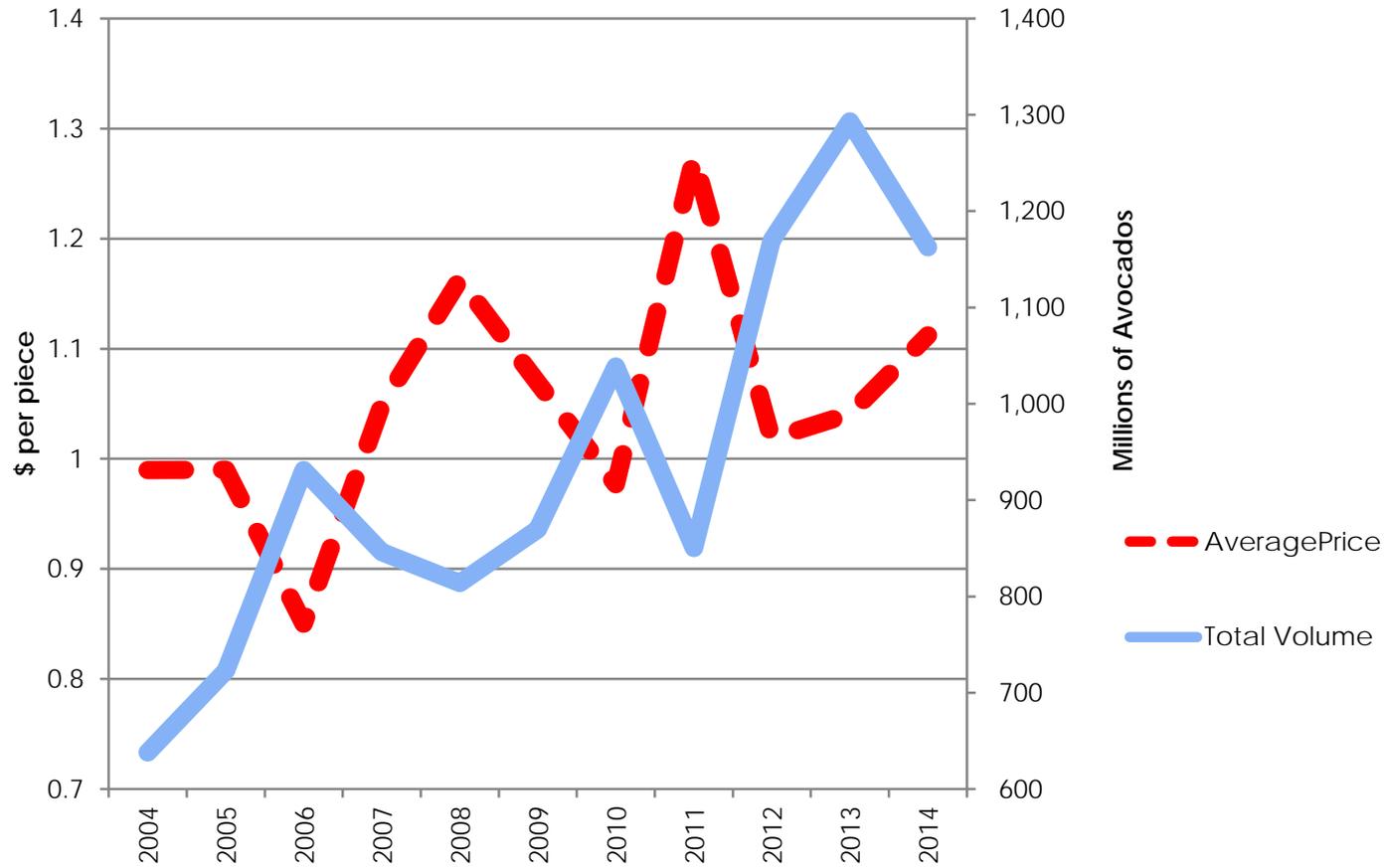
# Avocado Demand

- Per capita avocado consumption up 115% in ten years
- 2012 – 1.7 billion pounds consumed
- From 2011 to 2012, increase of 12%
- Avocado consumption is an outlier among fruit consumption over this period

# Per Capita Avocado Consumption, 1970 - 2012



# Avocado Prices



# Demographic Changes

## Hispanic or Latino Population, Percent of Total, By County: 2010

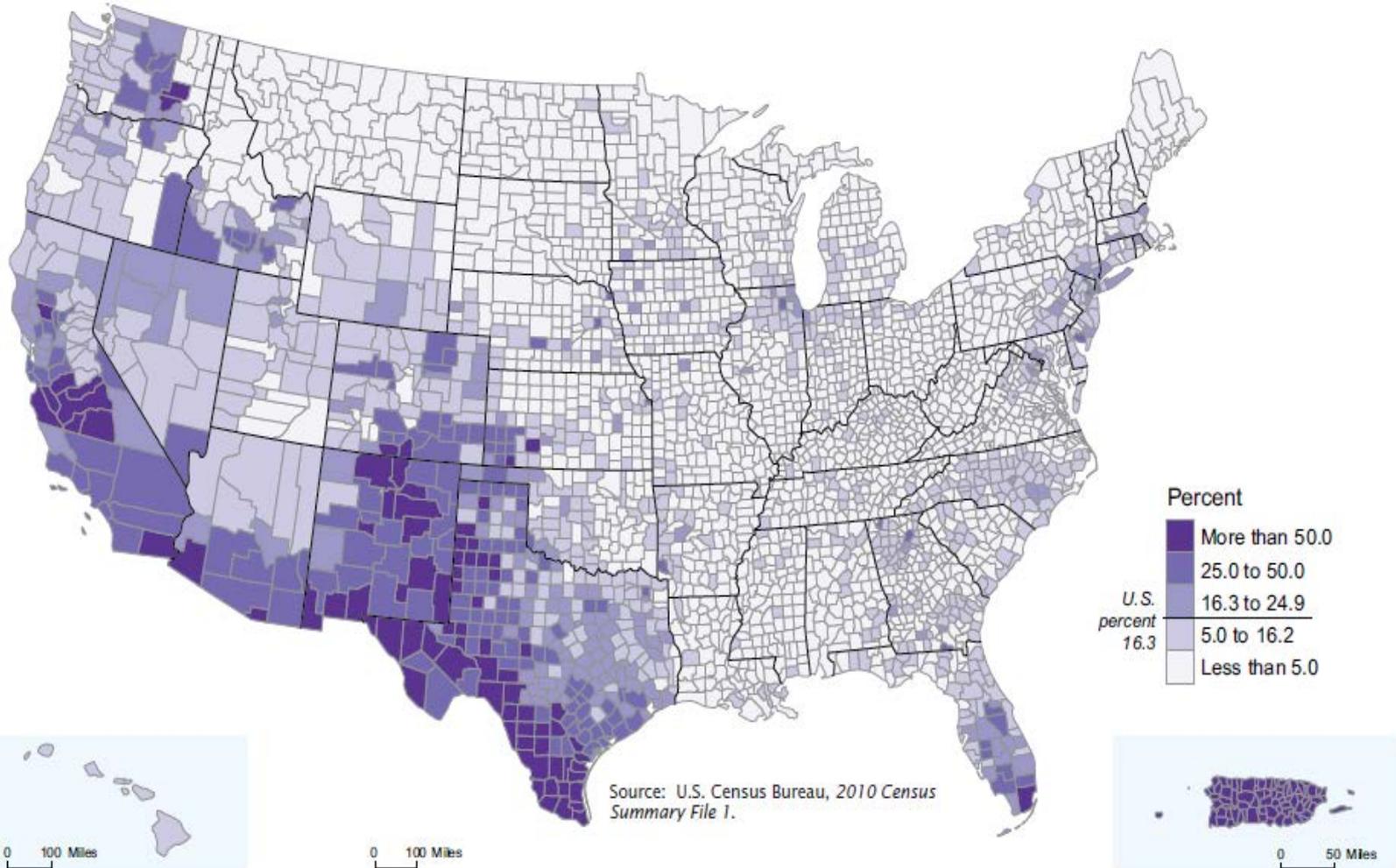
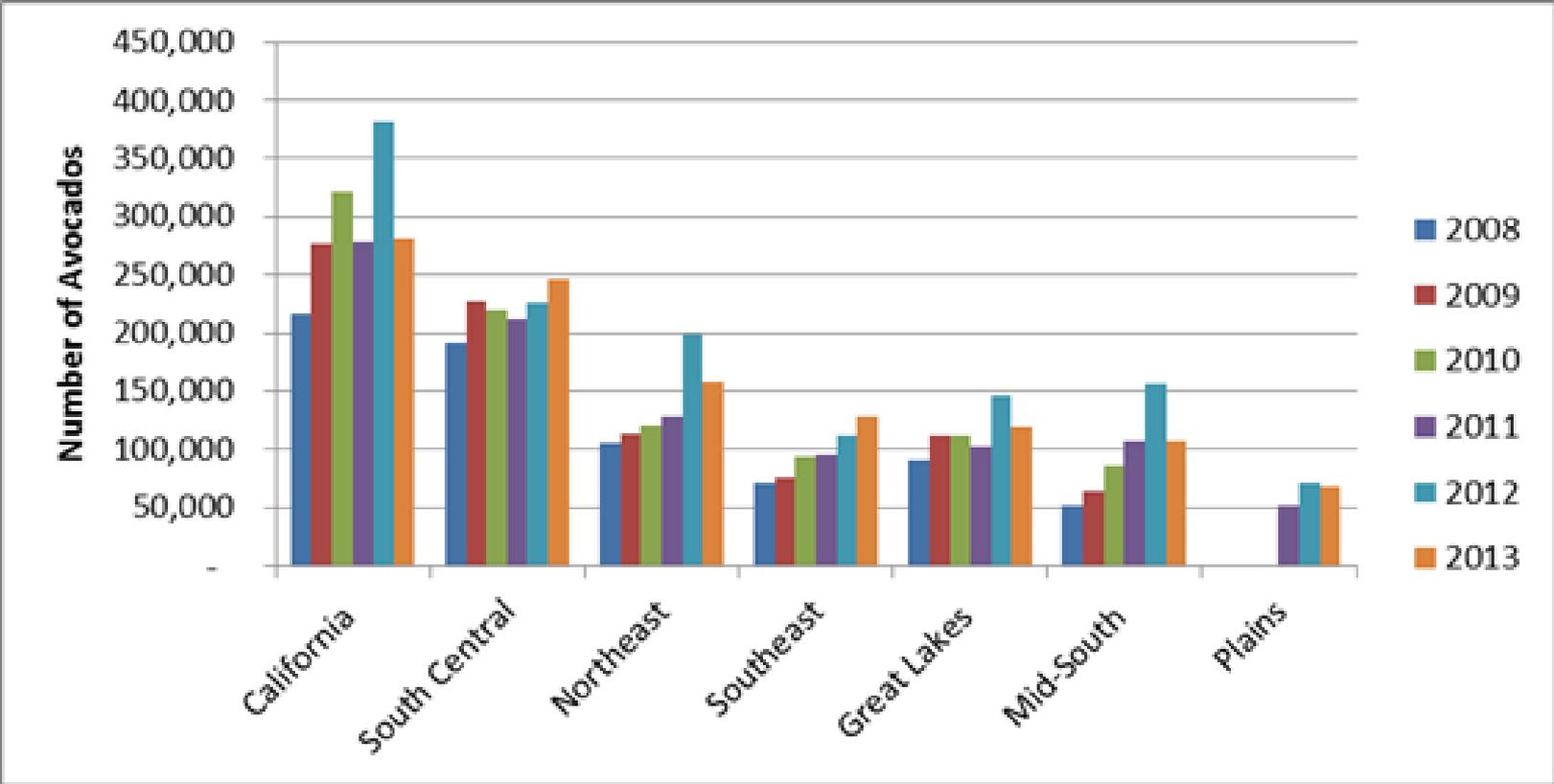


Figure 2: Avocado Consumption by Region, 2008-2013



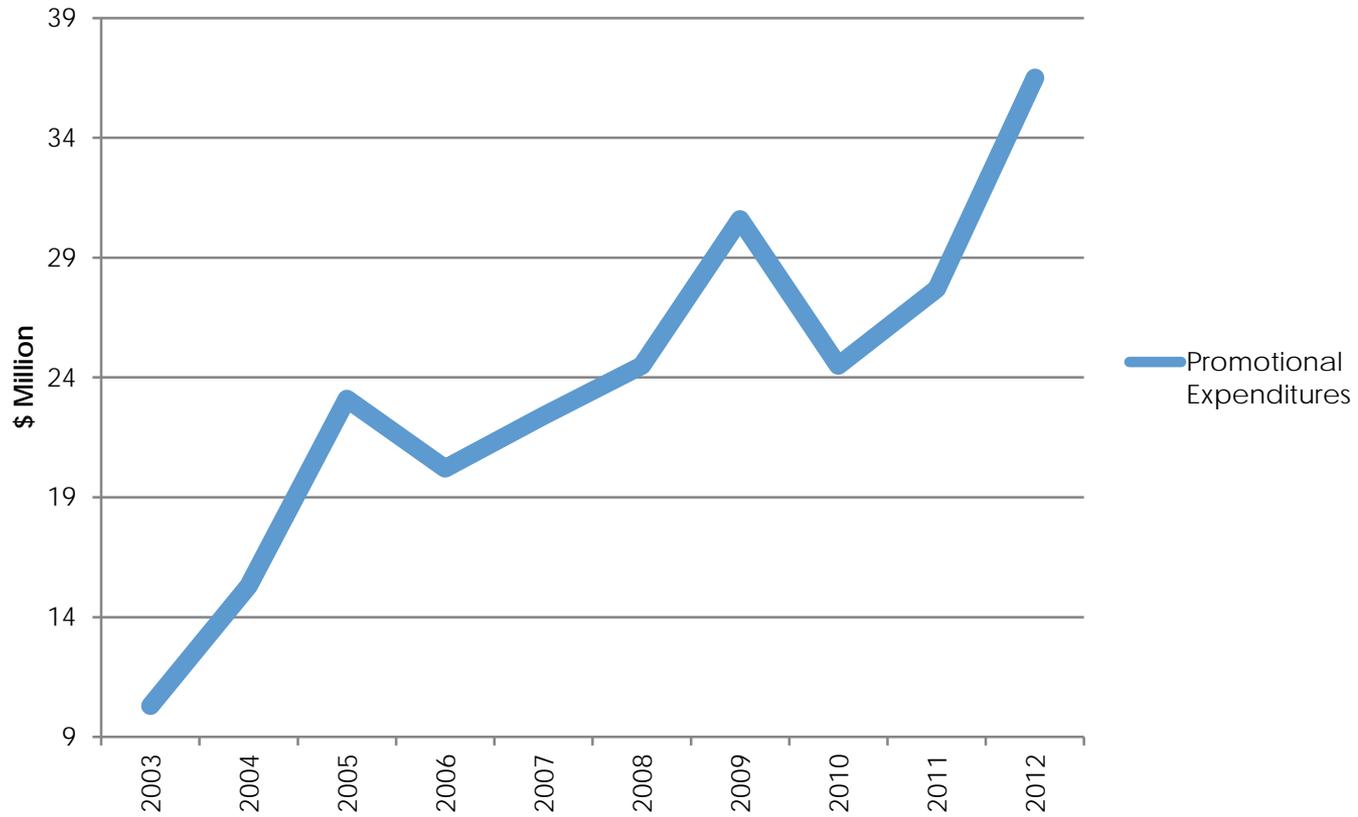
# Commercial Demand



*Avocado*  
CHICKEN SALAD



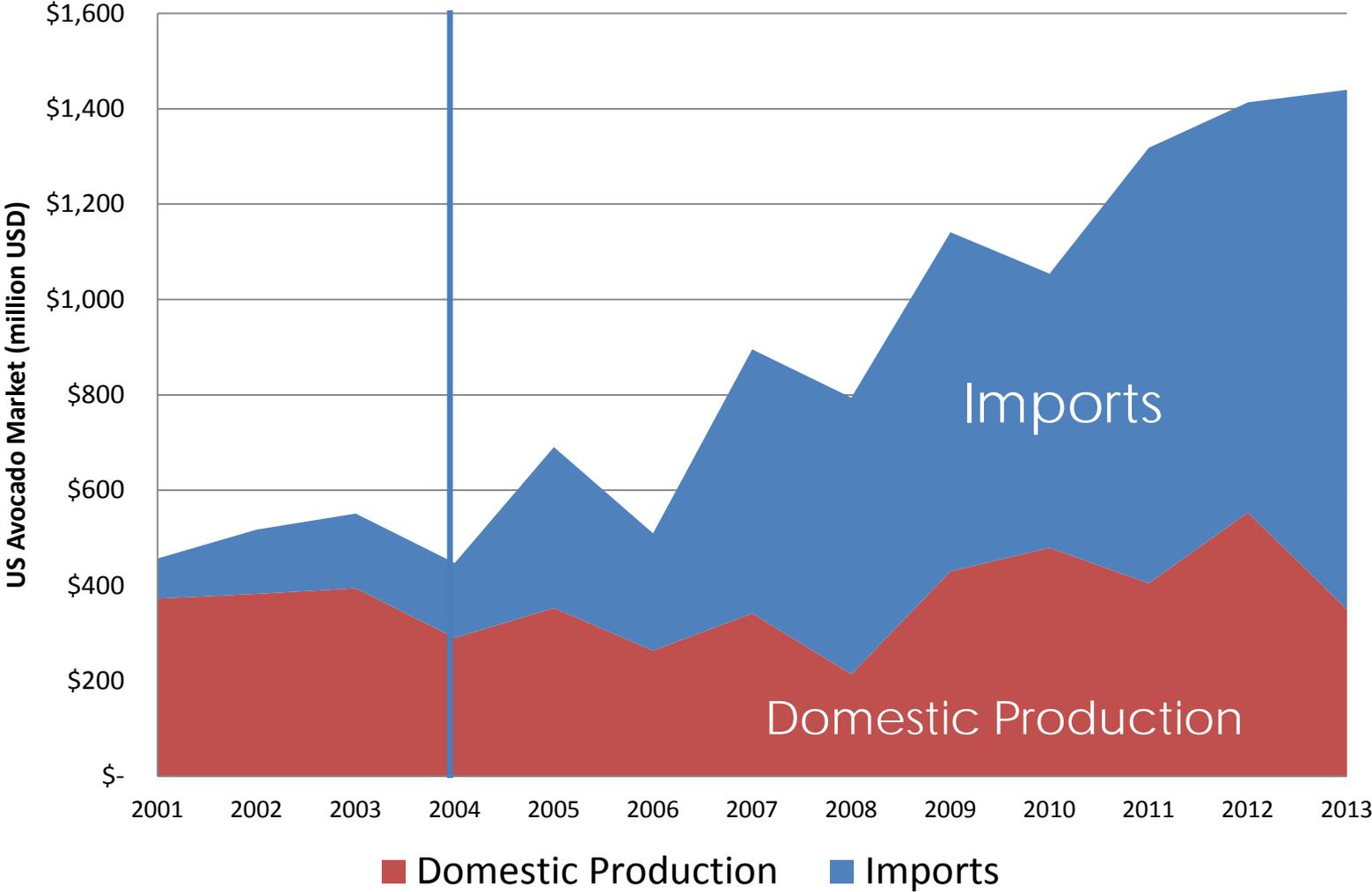
# Avocado Promotion Expenditures, 2003-2012



# Avocado Supply

- Production of avocados in the US has remained basically **consistent** for the entire period before and after the rule.
- Avg. production for 2008-2013 was **216,000** tons, and **212,000** for the prior 6 year average.
- Overall supply has massively increased due to imports.

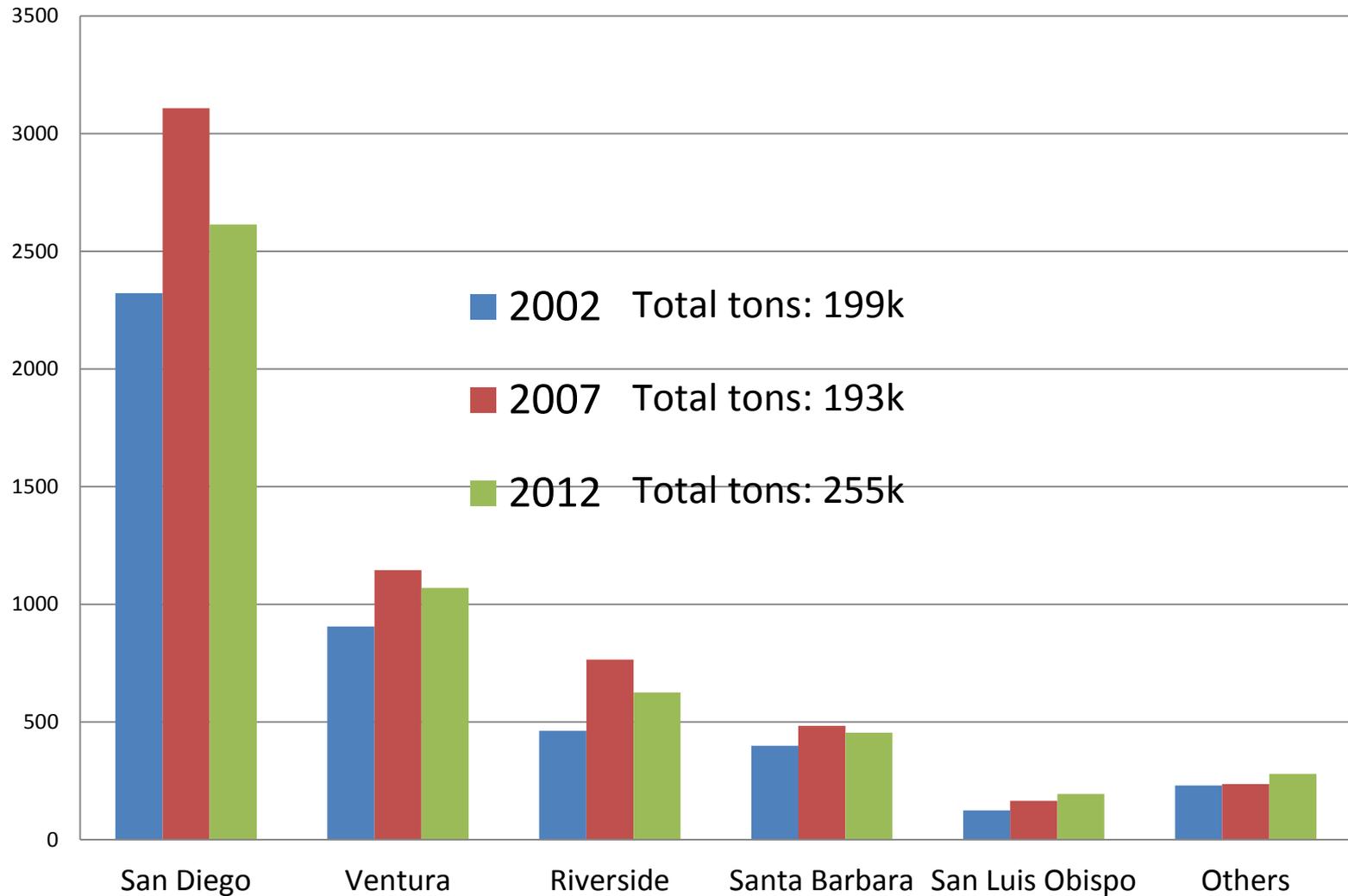
# US Avocado Market Growth 2001 to 2013



# Avocado Supply

- California accounted for 85 percent of production (nearly all Hass)
- Avocado producing operations in California increased from 4,801 in 2002 to 5,602 in 2012.
- Five California counties account for 95% avocado production
  - San Diego
  - Ventura
  - Riverside
  - Santa Barbara
  - San Luis Obispo

## Number of Avocado Operations with Bearing Acres



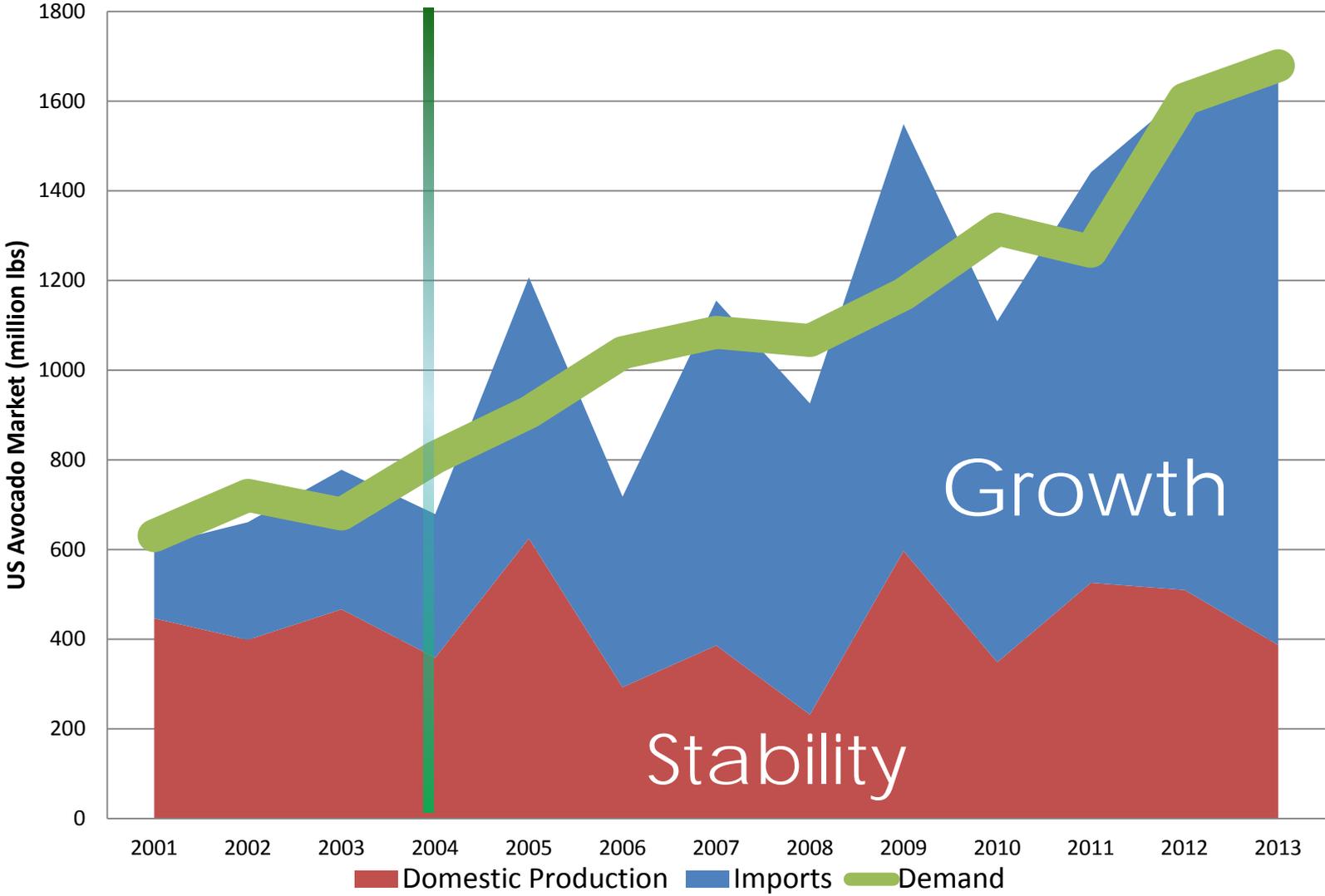
# Growth in the U.S. Market

- Mexico's increased market share reflects an overall increase in the supply of avocados **rather than** displacement of domestically grown avocados.
- Overall, the large increase in avocado imports since 2004 has come almost entirely from Mexico, and it does not appear to have had significant negative effects on the domestic market.

## Avg. Annual U.S Imports 2011-13

	Value (millions)	Pounds (millions)	Price per pound	Percentage of Total Quantity
Mexico	\$842	924	\$0.91	84%
Chile	\$60	98	\$0.61	9%
Dominican Republic	\$18	36	\$0.51	3%
Peru	\$35	34	\$1.02	3%
<b>TOTAL</b>	<b>\$954</b>	<b>1,094</b>	<b>\$0.87</b> (avg.)	

US Avocado Demand and Supply - 2001 to 2013



# Public Comments

- How would we answer the comments now, given the additional data available?

# Key Points of Comments

- Farms will go out of business
- Avocado growing States will experience the most negative impact
- Mexican avocados will flood the market and decrease prices

Comment: USDA's economic analysis estimated that opening all of the United States all year to Mexican imports will reduce the price that California growers receive by about 20 percent. When you consider that avocado growers in the United States make less than a 10 percent margin on their crops, this proposal will mean **an end to avocado production in the United States.**

Comment: •The California avocado industry is made up almost entirely (98 percent) of **small business entities**. Most of these entities are likely to go out of business if the proposed rule is implemented. What now brings \$330 million into the U.S. economy, and provides tens of thousands of jobs, could be **destroyed forever.**

Comment: Specifically, very inelastic supply of avocados by California producers means that while prices fall dramatically, California growers don't reduce production much. Thus, California producer costs do not decrease nearly as much as their revenues, which drop over 30 percent. This undoubtedly will strain profit margins and suggests that there potentially could be **significant business closures among growers**—particularly among very small growers—who may exit the market.

## 2004 Response:

California producers will be economically harmed by the rule, but not as severely as they would be if there were no delayed access of Mexican Hass avocados into California, Florida, and Hawaii. As shown in the analysis for this final rule, **we have no reason to expect the demise of the California avocado industry.**

## Retrospective Perspective:

It is difficult to determine profitability of the avocado growers. **California farm numbers increased from 4,801 to 5,602.** With new entrants in the market we can assume the industry is profitable.

2002	2012
<p><b><u>Avocado farms</u></b>  California --- 4,801  Florida ----- 839  Hawaii ----- 601</p>	<p><b><u>Avocado farms</u></b>  California --- 5,602  Florida -----1,088  Hawaii ----- 781</p>
<p><b><u>Average yields</u></b>  3,000 to 10,000 lbs./acre</p>	<p><b><u>Average yields</u></b>  8,700 to 16,100 lbs./acre</p>
<p><b><u>Prices per ton</u></b>  California --- \$2,170  Florida ----- \$ 808  Hawaii ----- \$1,240</p>	<p><b><u>Prices per ton</u></b>  California --- \$2,000  Florida ----- \$ 756  Hawaii ----- \$2,000</p>
<p><b><u>Quantity Demanded</u></b>  581 million lbs.</p>	<p><b><u>Quantity Demanded</u></b>  1.6 billion lbs.</p>
<p>Very little to no organic production</p>	<p>Many organic farms</p>

# Avocado Projections vs. Actual

- Production
  - Projected: Decrease of 7.3% in CA
  - **Actual: Stable**
- Consumption
  - Projected: Increase by 9.1% in U.S.
  - **Actual: Increase of over 115% in U.S.**
- Prices
  - Projected: Decrease of 21.2%
  - **Actual: Stable**

# Next Steps

- Build a portfolio of retrospective analyses
- Suggestions for additional retrospective analyses

# <https://chipotle.com/guac-recipe>

## **This is all you'll need:**

- 2 ripe Hass avocados (In the restaurant, we use 48 per batch, multiple times per day)
- 2 tsp lime juice
- 2 tbsp. cilantro (chopped)
- 1/4 cup red onion (finely chopped)
- 1/2 jalapeño, including seeds (finely chopped)
- 1/4 tsp kosher salt

## **How to do it:**

1. Choose the right avocado. It should feel squishy yet firm (like the palm of your hand), and be a nice dark green color on the inside.
2. Cut the avocado in half and the remove the pit (carefully!)
3. Scoop the avocados and place in a medium bowl.
4. Toss and coat with lime juice.
5. Add the salt and using a fork or potato masher, mash until a smooth consistency is achieved.
6. Fold in the remaining ingredients and mix well.
7. Taste the guacamole (over and over) and adjust seasoning if necessary.