



Are Agricultural Policies Making Us Fat?

Likely Links Between Selected Agricultural Policies and Obesity in the U.S., and their Implications



**Agricultural
Issues Center**

USDA (NRI-CSREE # 2006-55215-16720)

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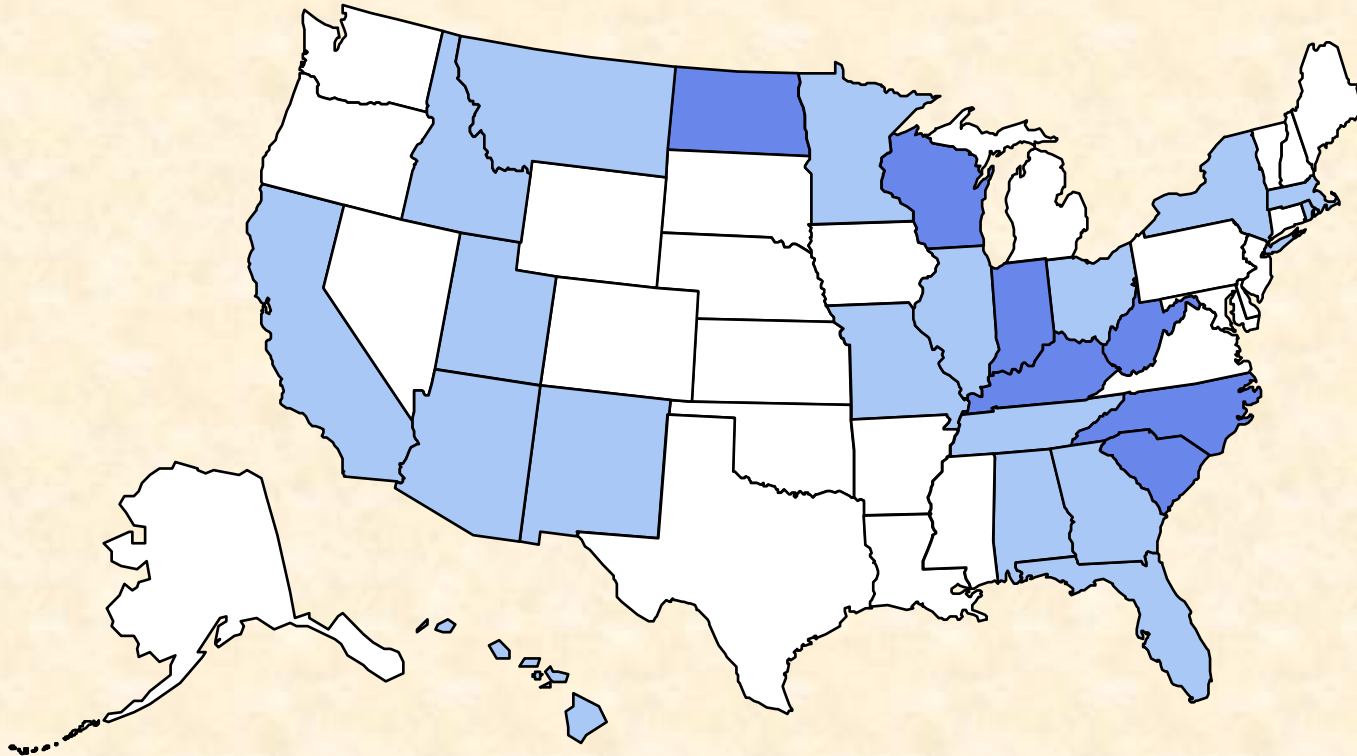
**Department of Agricultural
and Resource Economics**

McGill Health Challenge Think Tank, November, 2007

Vosti UCD/AIC/ARE



Obesity Trends* Among U.S. Adults BRFSS, 1986



□ No Data ■ <10% ■ 10%–14%

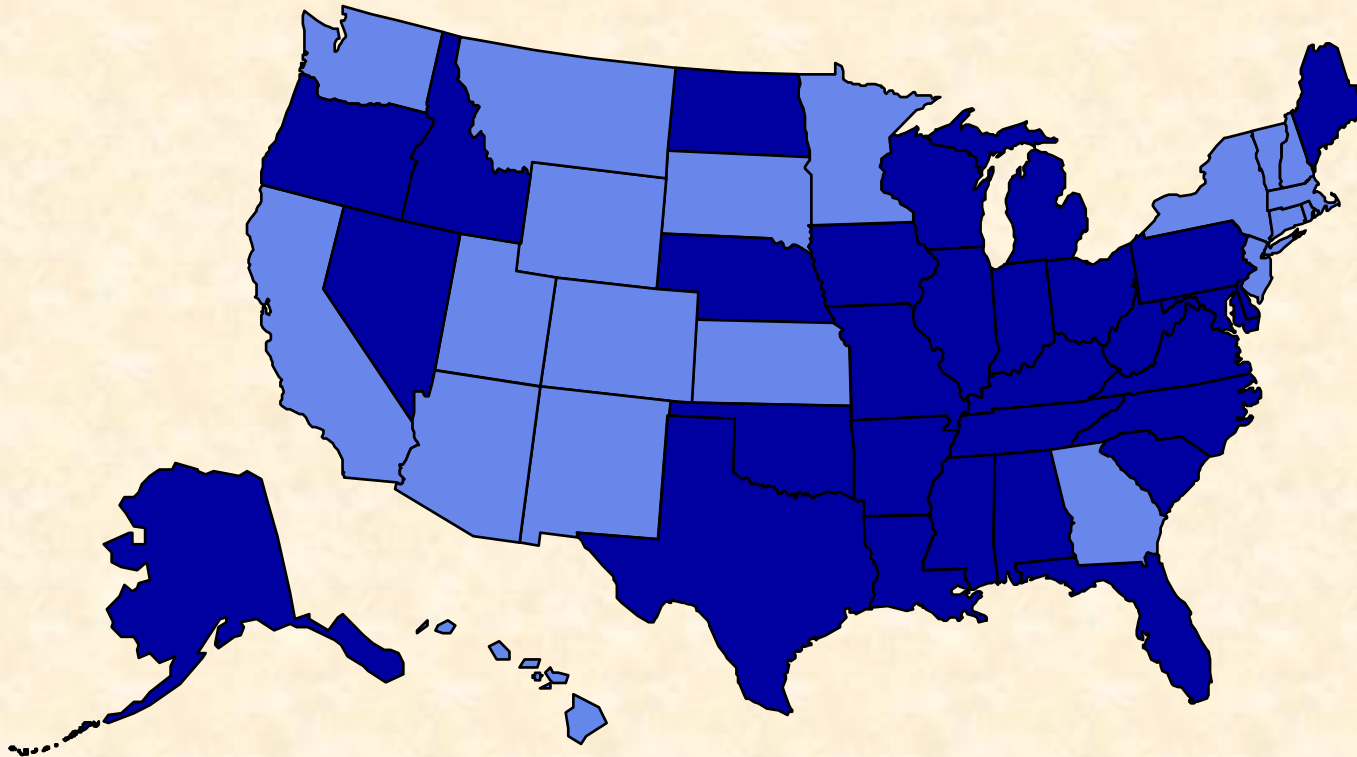
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)

Source: Behavioral Risk Factor Surveillance System, CDC.

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Obesity Trends* Among U.S. Adults BRFSS, 1996



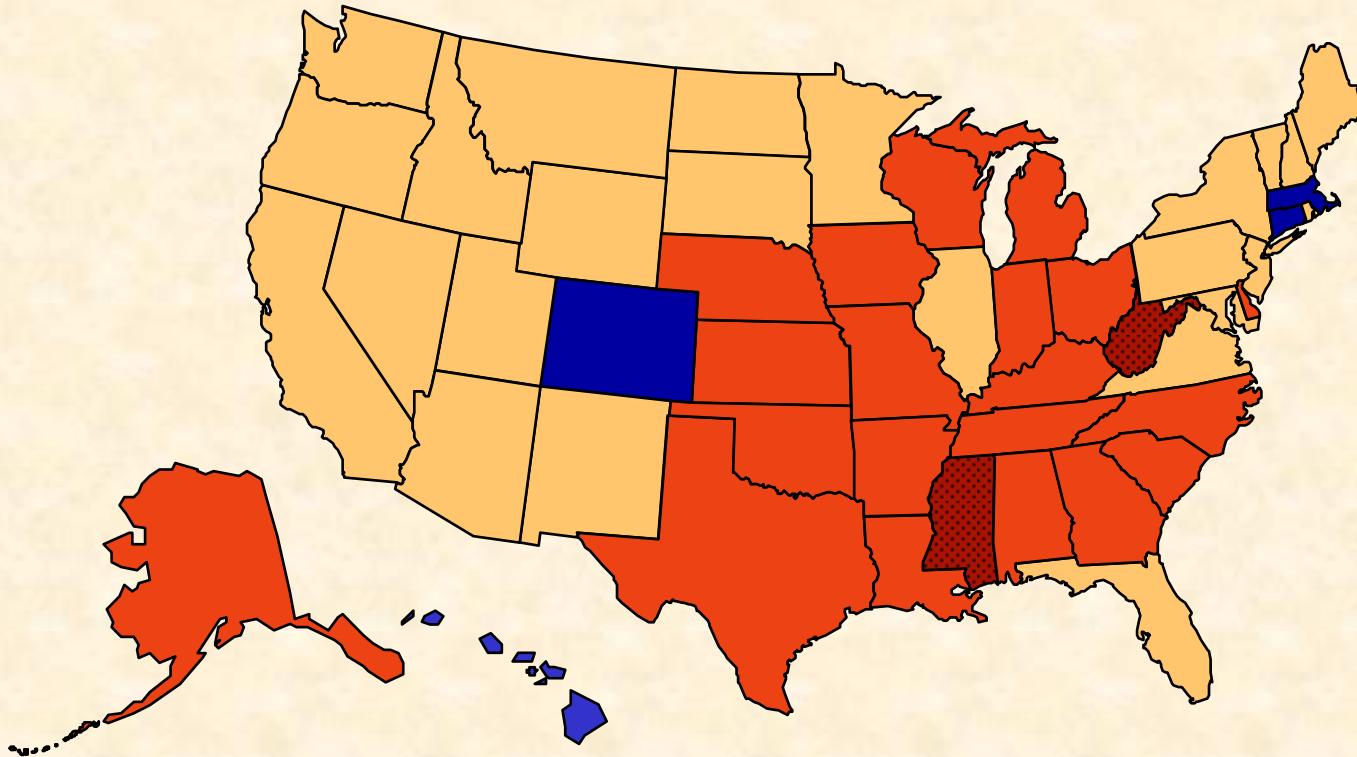
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(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Obesity Trends* Among U.S. Adults

BRFSS, 2006



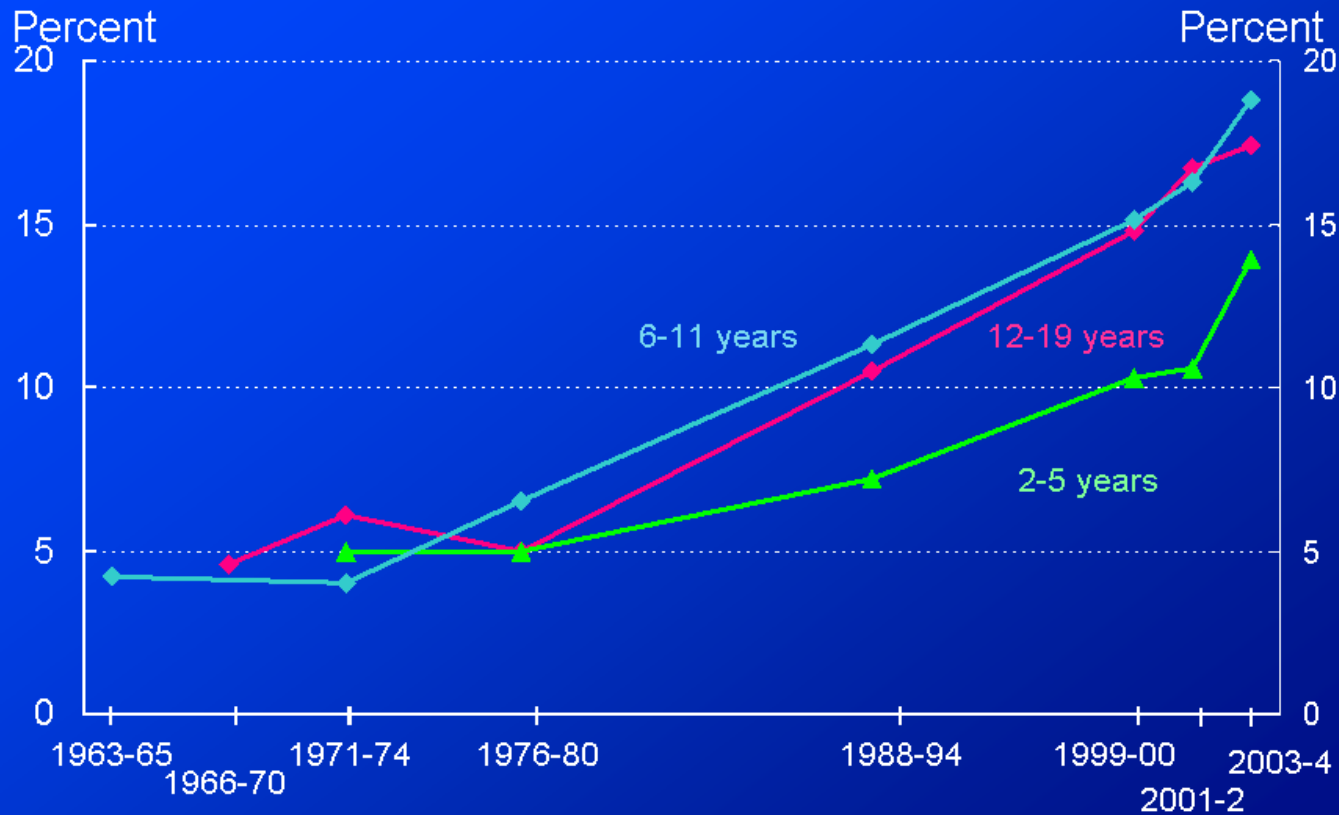
□ No Data □ <10% □ 10%–14% □ 15%–19% □ 20%–24% □ 25%–29% □ ≥30%

(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Trends Among U.S. Children and Adolescents Are Also Troubling

Trends in Child and Adolescent Overweight



Note: Overweight is defined as BMI \geq gender- and weight-specific 95th percentile from the 2000 CDC Growth Charts.
Source: National Health Examination Surveys II (ages 6-11) and III (ages 12-17), National Health and Nutrition Examination Surveys I, II, III and 1999-2004, NCHS, CDC.



Medical Costs of Overweight and Obesity

Medical Costs, by Insurance Category	Overweight and Obesity	Obesity
	<i>Billions of 1998 US \$</i>	
Out-of-pocket	12.8	6.9
Private	28.1	16.1
Medicaid	14.1	10.7
Medicare	23.5	13.8
<u>Total</u>	<u>78.5</u>	<u>47.5</u>

Source: Finkelstein et al. (2003 *Health Affairs*, 22, 219-226).

Morbidity and Mortality Effects Are Large and Increasing

Gregg and Guralnik (JAMA, 2007, Vol 298, No. 17)



Have Some Agricultural Policies Contributed to the Problem?

- **There Is an Increasing Imbalance between Caloric Intake and Caloric Expenditure**
- **Are Certain High-Calorie Foods Made Significantly Cheap by Particular Agricultural Policies?**
 - **If so, which foods, and which policies are responsible?**
 - **If these policies were changed, what would be the implications for food prices, and perhaps nutrition outcomes?**



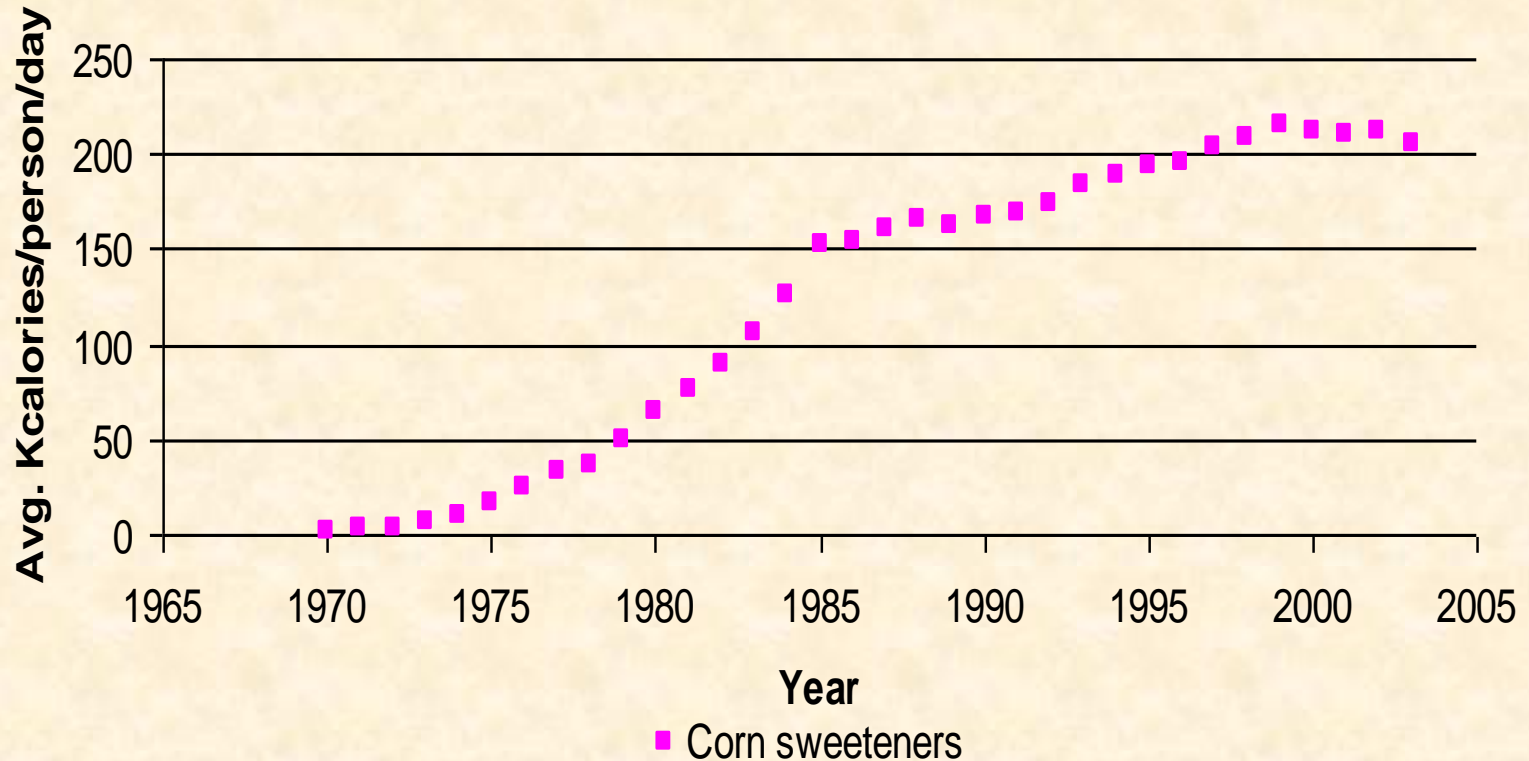
Logical Sequence Linking Farm Subsidies to Obesity

- **First, *farm subsidies* must have made farm commodities that are important ingredients of relatively fattening foods significantly more abundant and cheaper.**
- **Second, the lower commodity prices *caused by farm subsidies* must have resulted in significantly lower costs to the food industry, and cost savings to the food marketing firms must have been passed on to consumers in the form of lower prices of relatively fattening food.**
- **Third, food consumption patterns must have changed significantly in response to these policy-induced changes in the relative prices of more-fattening versus less-fattening foods.**



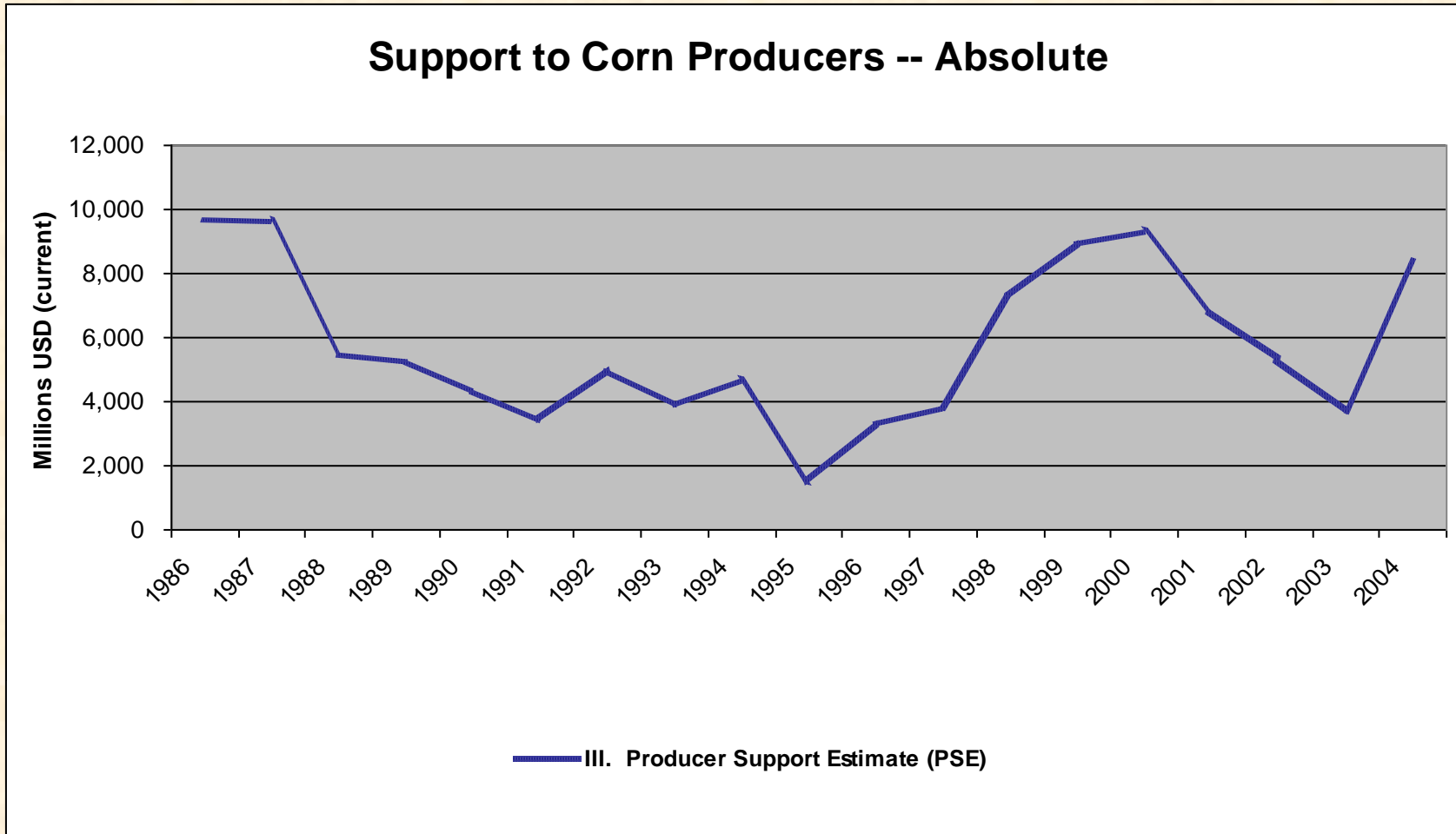
One 'Smoking Gun'?

Trends in Consumption of Corn Sweeteners





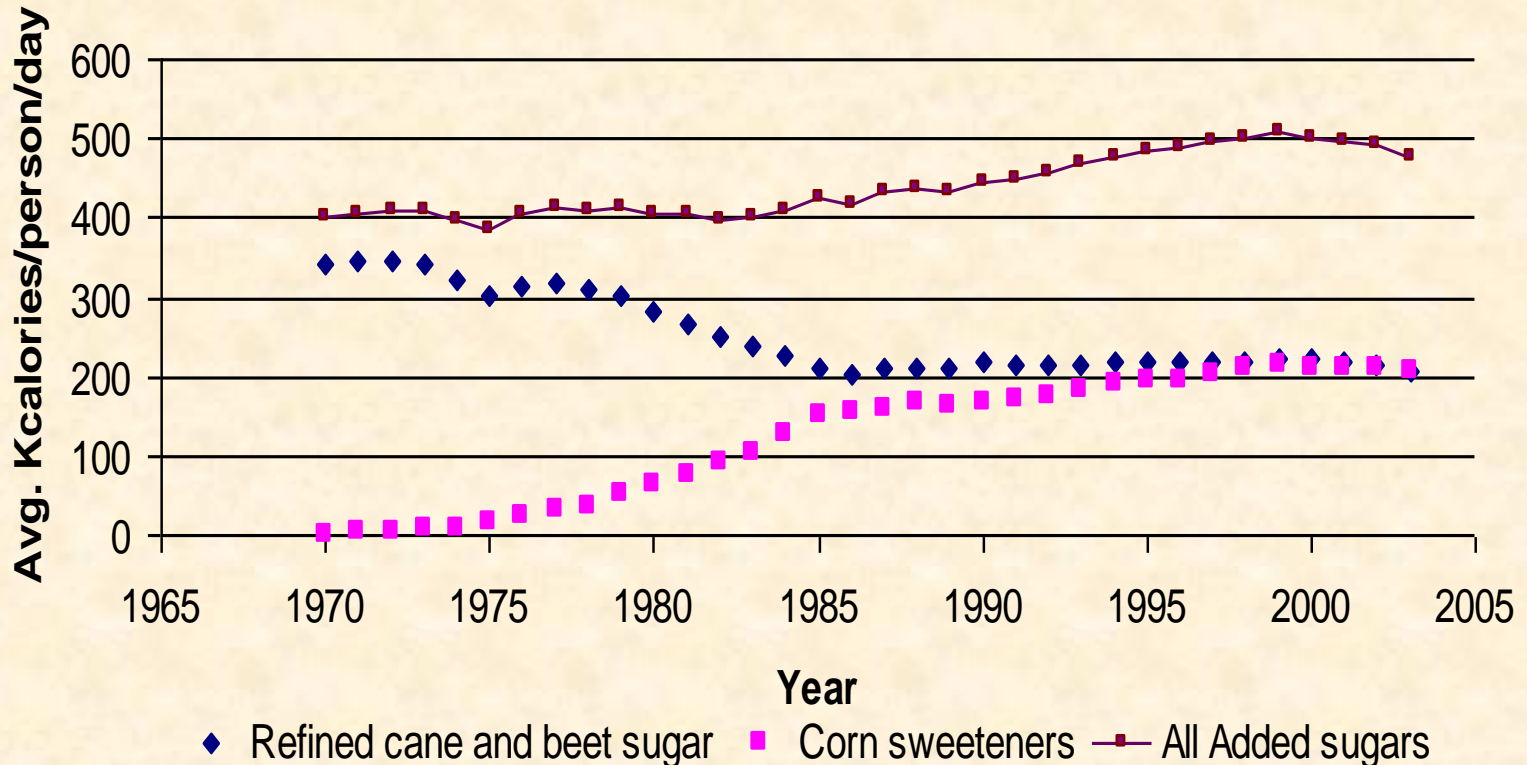
The Suspected Agricultural Policy





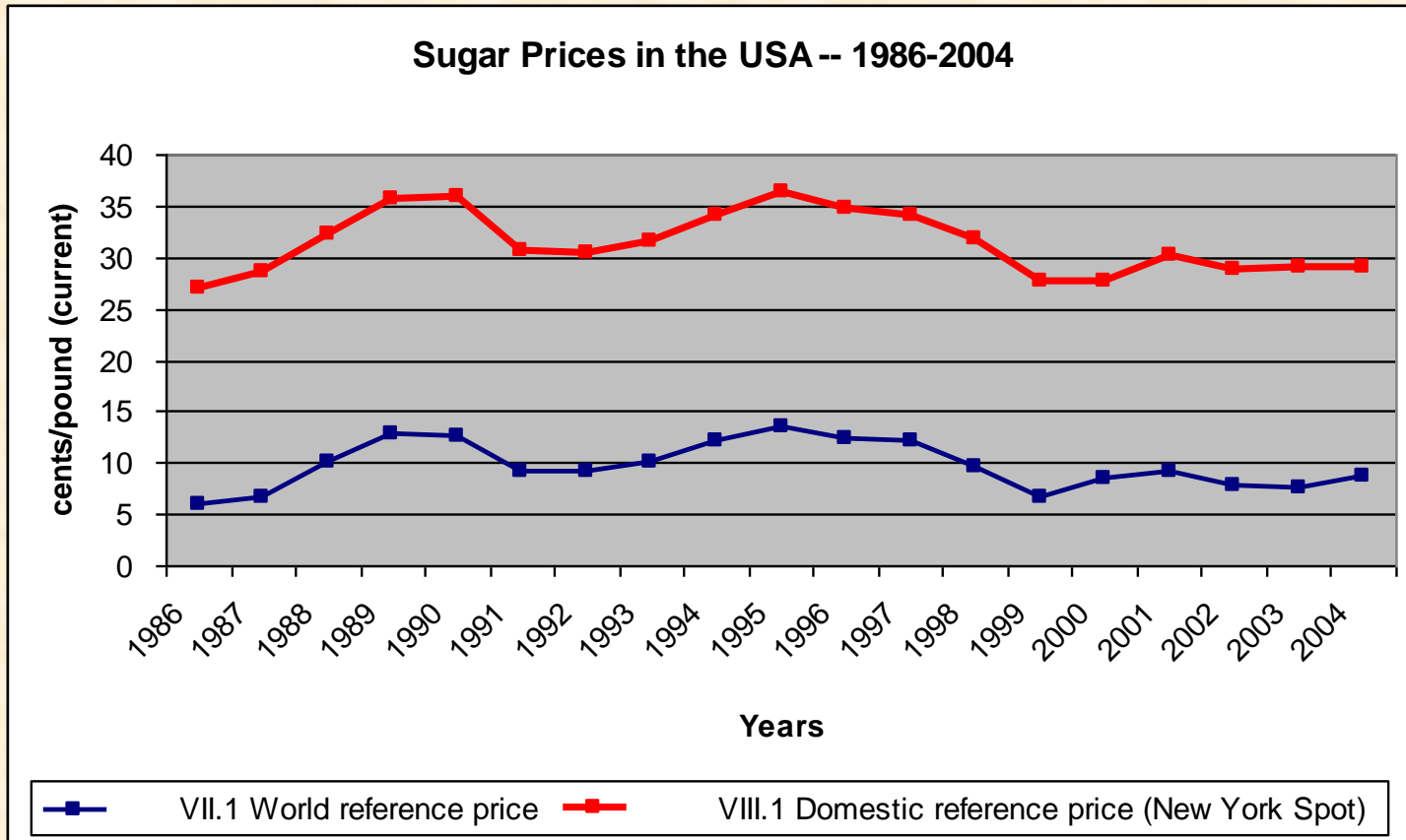
The More Complete Sweetener Story

Trends in Consumption of Selected Sweeteners





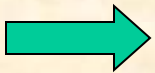
The More Complete Agricultural Policy Story





Types and Magnitudes of U.S. Agricultural Policy Outlays

USDA Program	Outlays in 2006
	<i>billions of 2006 U.S. dollars</i>
Food, Nutrition, and Consumer Services	52.5
Farm and Foreign Agricultural Services (<i>mainly farm commodity programs</i>)	26.1
Natural Resources and Environment	8.3
Marketing and Regulatory Programs	2.7
Research, Education and Economics (<i>mainly ag. R&D</i>)	2.6
Rural Development	2.5
Food Safety	0.8
Other	0.6
TOTAL	96.1





Fundamental Misconceptions Regarding The Effects of Agricultural Policies

- **Directions of Effects on Production and Prices Are Not the Same for All Policies, e.g., ...**
 - Sugar is more expensive due to trade and other policies
 - Corn and soybeans are probably cheaper than they otherwise would be
 - Dairy policies make milk products more expensive, but policies that make animal feed cheap work in the opposite direction
 - Some of these effects might actually help reduce obesity
 - E.g., more expensive sugar and dairy products may reduce calorie and fat consumption
- **Magnitudes of Effects Are Generally Small, e.g., ..**
 - Policy effects on the prices of most field crops (e.g., wheat, corn and soybeans) are small
 - Policy effects on other commodities (e.g., rice, cotton and sugar) are larger



Production and Price Effects of Eliminating U.S. Commodity Programs and Policies

	% Change in Output in 2016*	% Change in Producer Prices in 2016*
Soybeans	-2.86	-1.14
Wheat	-7.58	1.52
Maize	-3.79	0.26
Rice	-11.71	-3.87
Cotton	-13.88	-6.10
Cane and beet	-33.31	-15.30
Fruit and vegetables	4.42	-5.16
Beef cattle	1.44	-3.31
Pigs and poultry	0.41	-0.01
Milk	-0.45	-0.01

Source: McDonald et al. 2006, reported in Alston 2007.

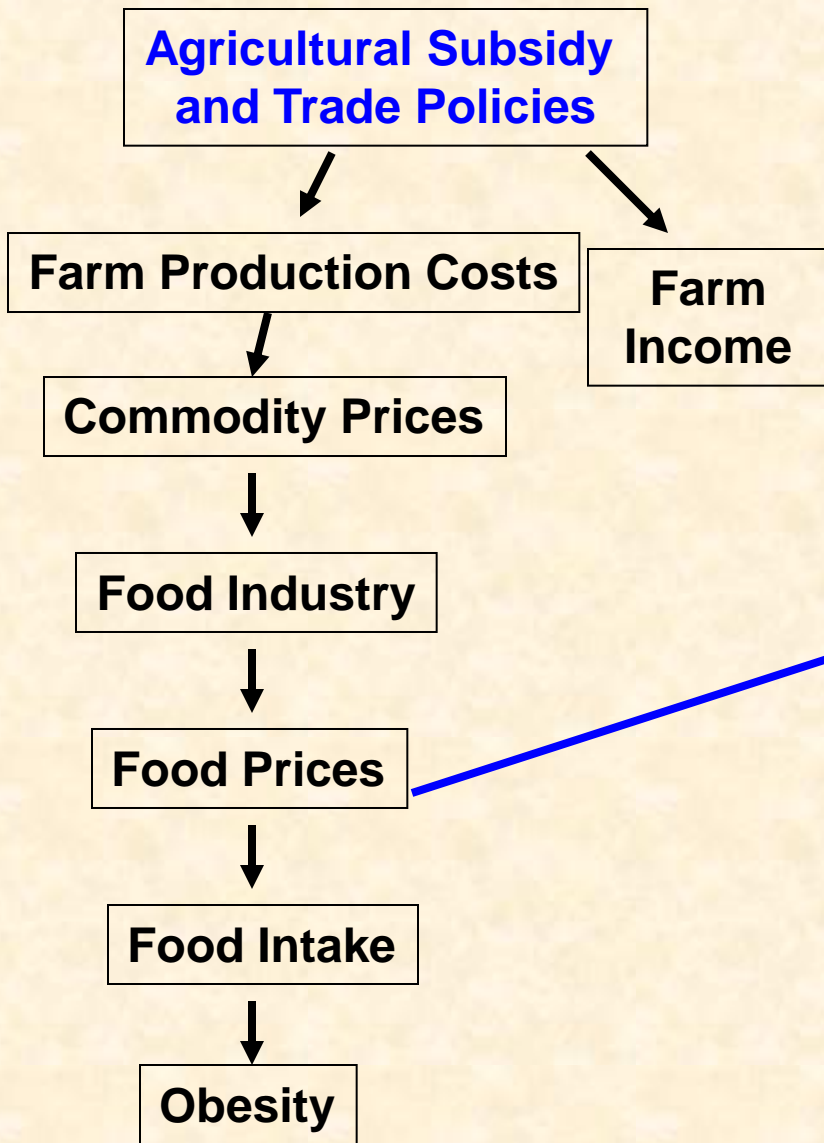
- **Effects on soybeans, wheat, and maize are very small**
- **Effects on rice and cotton are somewhat larger**
- **Effects on sugar commodities are large**
- **Eliminating commodity programs would increase fruit/vegetable production**
 - **much of the expansion in vegetable production would be potatoes**

(*based on the differences in 2016 between the prices and quantities that emerge from a status quo policy scenario and those that emerge from a scenario in which all commodity programs are gradually eliminated over the period 2006-2016)

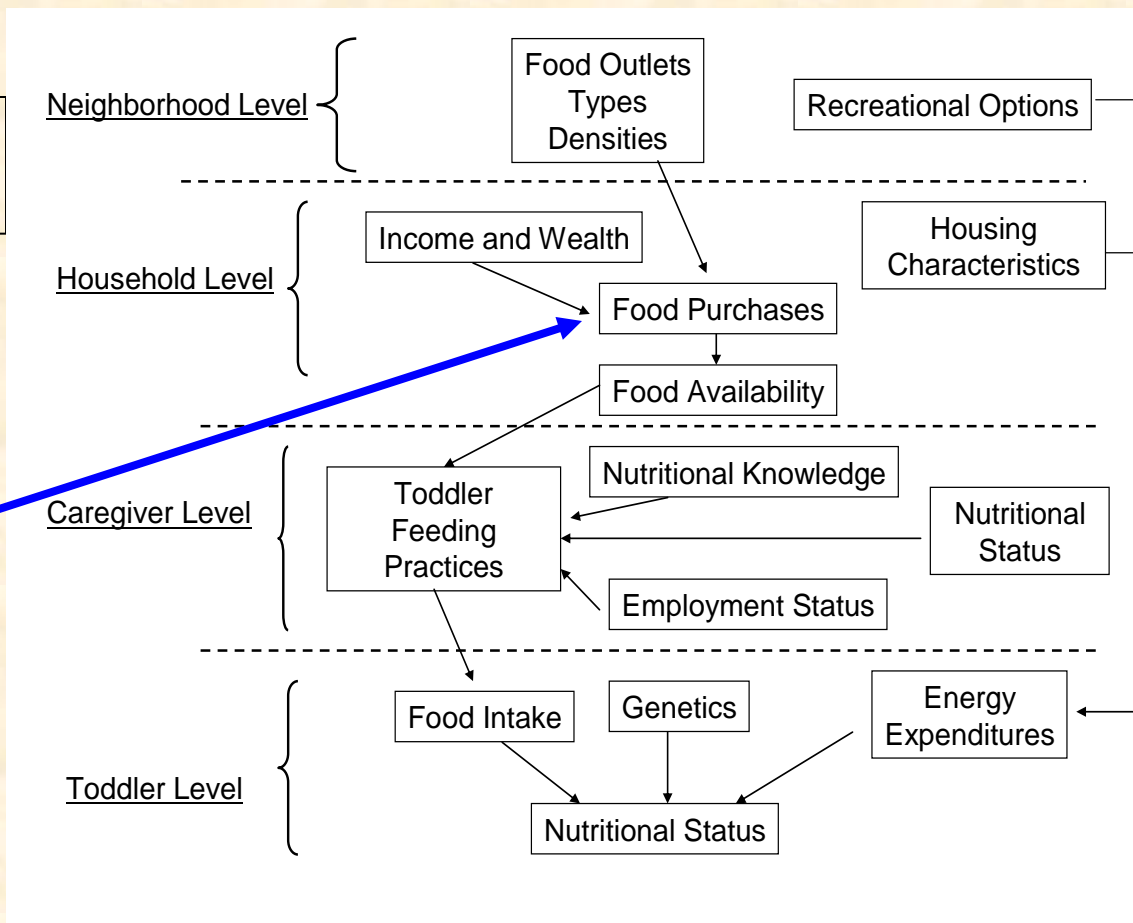


Fundamental Misconceptions Regarding the Links between Ag Policies, Food Prices, and Food Choices

Simple Story



More Complex Story, for Toddlers





Fundamental Misconceptions Lead to False Hopes and Unsound Policy Prescriptions

- **Eliminating Distortionary Agricultural Policies Will Not Contribute Significantly to Solving the Obesity Problem in the U.S.**
 - Effects on most commodity prices will be small
 - Effects on food prices will be even smaller
 - Larger effects on sugar and dairy products may increase obesity
- **Avoiding or Eliminating Similar Agricultural Policies Will Not Significantly Reduce Obesity Problems in the Developing World**



Conclusions for the U.S. and Policy Implications

- **The U.S. Farm Bill's Commodity Programs are Inefficient and Unfair**
 - These are good (and sufficient) reasons to eliminate them
 - But do **NOT** expect that action to affect obesity, because ...
- **Commodity Programs' Effects on Commodity Prices Are Generally Small and Varied**
- **The Effects of Commodity Prices on Food Prices Is Declining**
- **The Responsiveness of Food Demand to Changes in Food Prices Is Generally Low**



Lessons for Developing Countries

- **Decreases in Food Prices Are Necessary to Combat Hunger**
 - Productivity growth in agriculture is essential
 - But ‘over-consumption’ of food may occur
 - Regulation of the food industry may be unavoidable
- **Commodity Prices Fall More Quickly than Food Prices**
 - Structure of food industry and changes in all input costs matter greatly
 - Commodity price policies are poor tool for managing food prices
- **Food Preferences Matter Greatly**
 - Policy based solely on food costs will likely fail



Managing Agricultural Change

- **What Sort of Agricultural Sector Do You Want?**
 - **Efficient, sustainable, and ‘agile’**
 - Expanding array of low-cost, safe products
 - Efficiently respond to demands for healthier foods
 - **Identical objectives for other sectors**
- **What Is the Role of Agricultural Policy in Achieving these Objectives?**
 - **Many places along the farm-to-fork continuum where public policy action will be needed**
 - **Externality effects, incomplete markets, etc., call for public policy action**
 - E.g., increase yields and improve quality of fresh fruits/vegetables (FFV), reduce FFV market fragmentation
 - **Let efficiency be your guide in choosing where/how to intervene**



Many Thanks!



A Few Recent References

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- Alston, J.M., D.A. Sumner, and S.A. Vosti. "Are Agricultural Policies Making Us Fat? Likely Links between Agricultural Policies and Human Nutrition and Obesity, and Their Policy Implications." *Review of Agricultural Economics* 28(3)(Fall 2006): 313-322.