



AN ECONOMIC STUDY ON **DIET** IN LOW-INCOME COMMUNITIES

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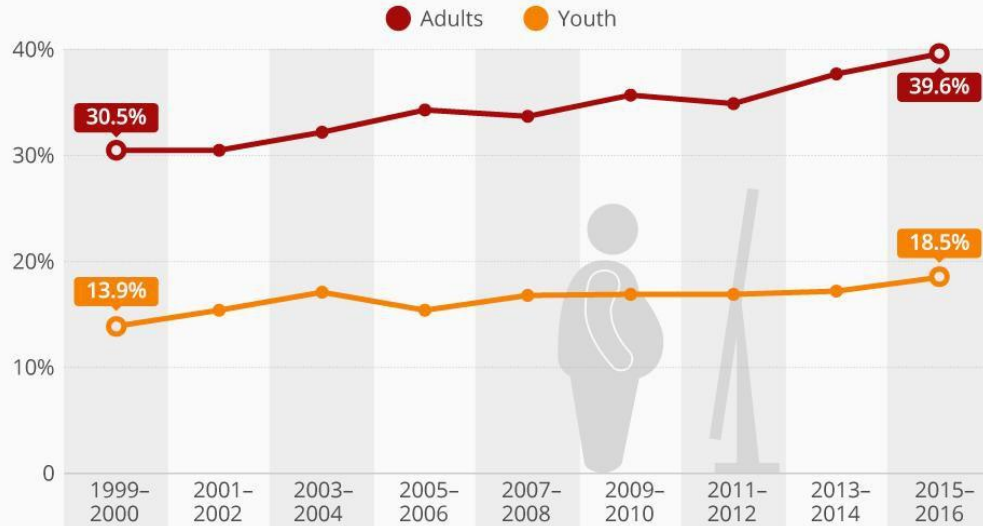
OBESITY IN THE **UNITED STATES**

- 39.6% of adults and 18.5% of youth in the United States were classified as obese in 2015-2016 (Forbes).
- Prevalent in low-income communities
 - Food deserts: “urban neighborhoods and rural towns without ready access to fresh, healthy, and affordable food.”

GROWTH RATE OF OBESITY IN THE U.S.

America Is Fatter Than Ever

Obesity prevalence among adults and youths in the U.S.*



* Adults aged 20 and over and youth aged 2-19 years.

Source: Centers For Disease Control And Prevention

Forbes statista

LOW-INCOME COMMUNITIES



WIDE VARIETY OF UNHEALTHY FOODS AND LIMITED HEALTHY, ORGANIC FOODS



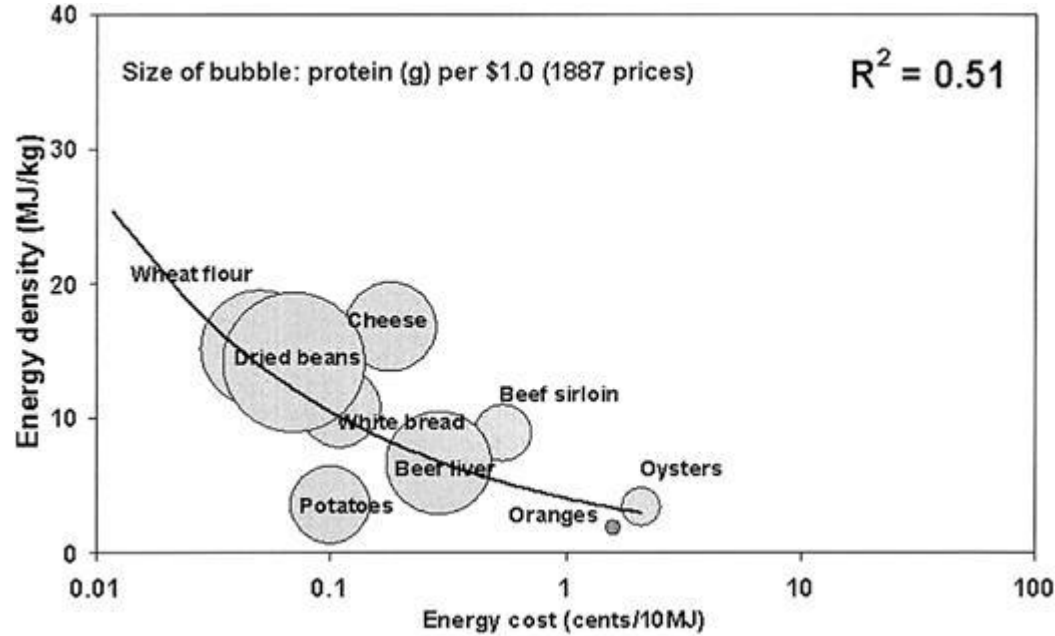


IF UNHEALTHY FOODS ARE
ENERGY-DENSE AND INEXPENSIVE, IS
EATING UNHEALTHY IN POOR
COMMUNITIES **OPTIMAL**?

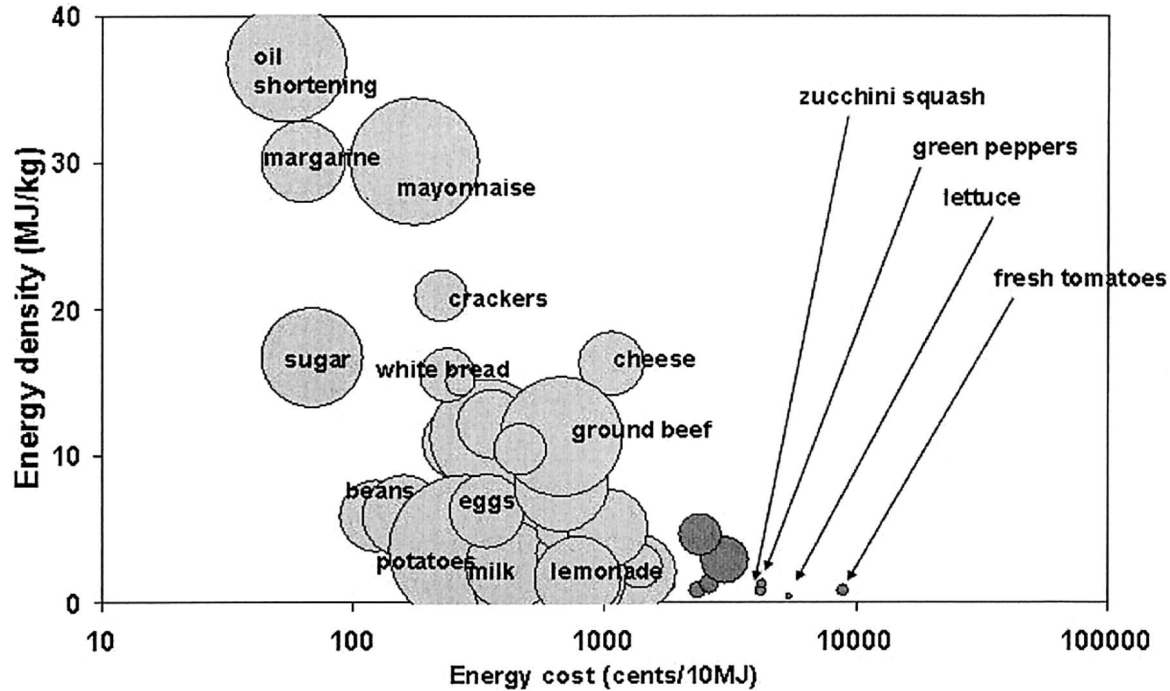
HISTORY

- W.O. Atwater studied the cost of protein
 - Found a negative relationship between energy density (MJ/kg) and energy cost (cents/10 MJ)
- George Stigler
 - Linear programming
- The USDA's Thrifty Food Plan (TFP)
 - Many limitations and lack of variety

COST OF PROTEIN



THRIFTY FOOD PLAN (TFP)



HOW CAN ONE **OPTIMIZE** HIS OR HER DIET?

- Creating an optimal diet that is relatively inexpensive yields diets high in added sugars and fats

DIET TRENDS IN THE U.S.

- Increasing tendency toward inexpensive diets
- 1985-2000: energy intake increased by 300 Calories
- 1970-1995: spending on outside food establishments grew from 25% to 40%
- 1970s-present: consumption of expensive fruits rose by only 0.3 servings

FOOD CONSUMPTION THROUGH AN ECONOMIC SCOPE

- 2 constraints: Energy intake and price
- Individuals want to maximize benefits of food
- Food consumption is constant as long as marginal benefit \geq marginal cost

FLAMIN' HOT CHEETOS VS. BROCCOLI

\$1.06



3.5 oz = 595 Calories

\$1.88/lb



3.5 oz = 35 Calories

ONE WOULD SPEND **\$6.99** ON
BROCCOLI IF THEY WANTED TO
CONSUME **595** CALORIES (THE SAME
AMOUNT OF CALORIES IN A 3.5 OZ
BAG OF CHEETOS THAT COSTS \$1.06)

CONCLUSION

- Choosing foods that have a higher marginal benefit and lower marginal cost = optimization
- Combating obesity is a complicated process that cannot be resolved until healthy foods are more accessible and affordable

CITATIONS

Adam Drewnowski, Nicole Darmon; Food Choices and Diet Costs: an Economic Analysis, *The Journal of Nutrition*, Volume 135, Issue 4, 1 April 2005, Pages 900–904, <https://doi.org/10.1093/jn/135.4.900> (Cited by 767)

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