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Can Economic Incentives Drive Environmental Sustainability and Healthier Diets?

IOM Food Forum (May, 2013)

Parke Wilde

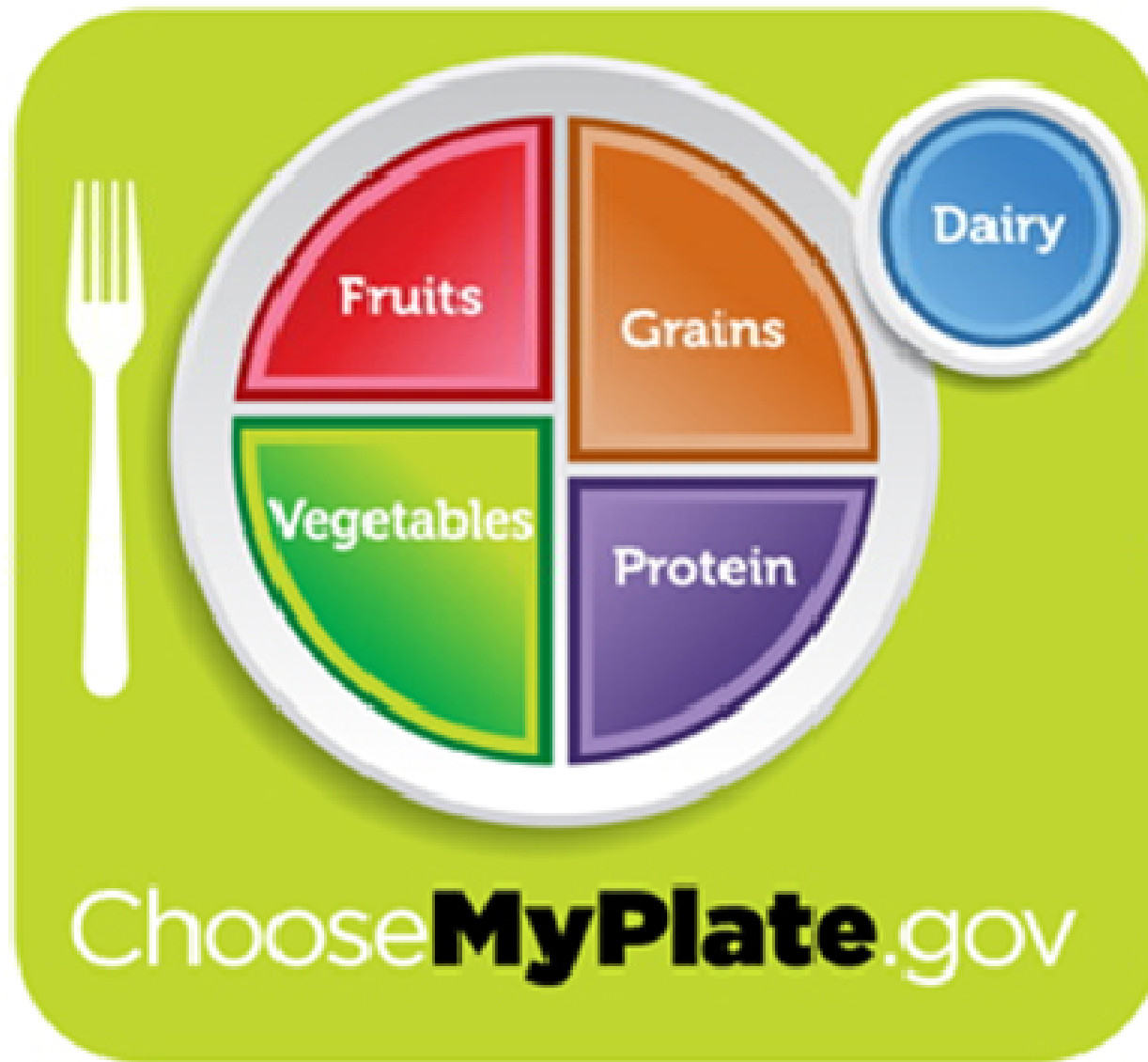
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Outline

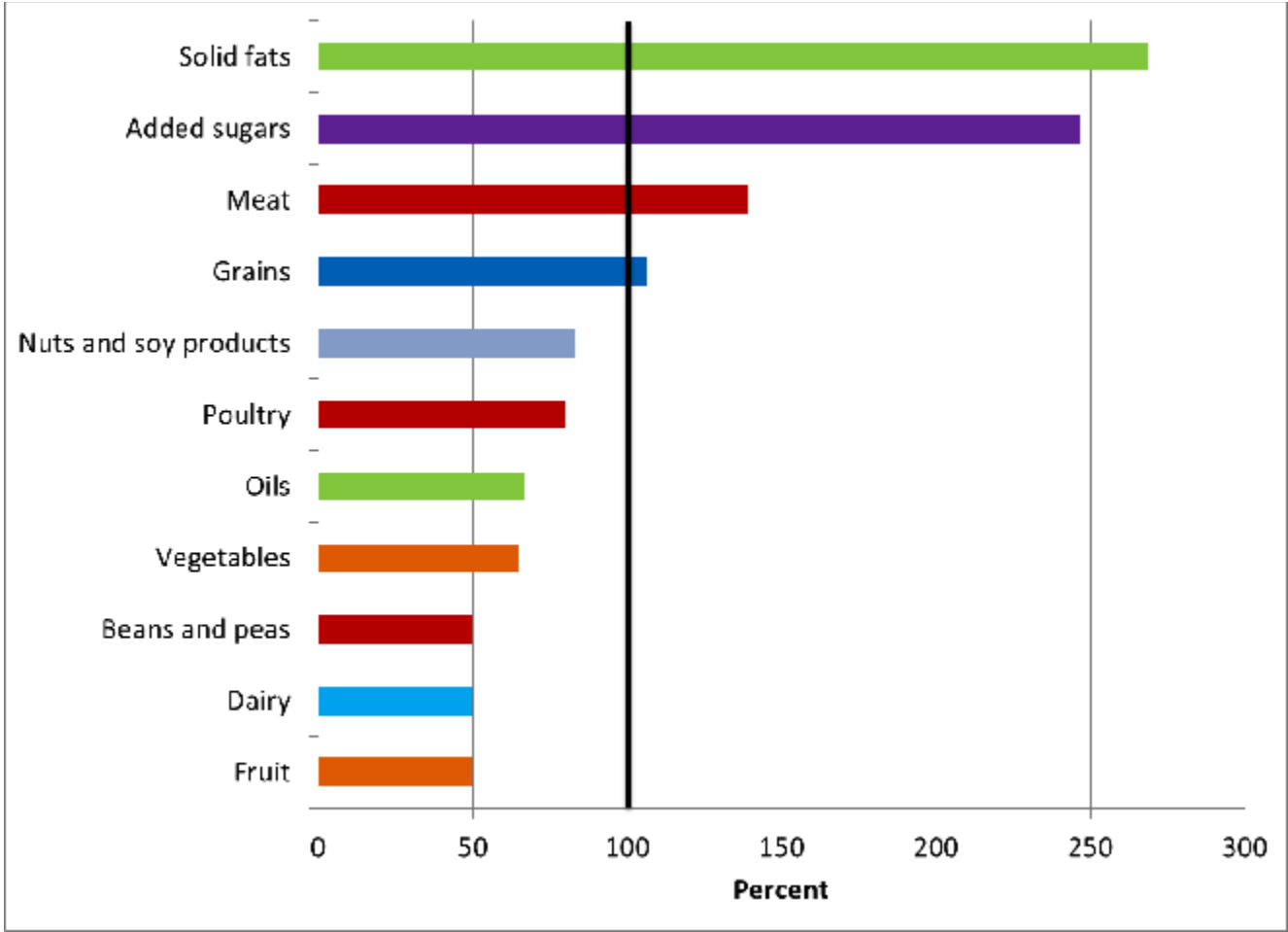
- Incentives for healthy choices
 - General population
 - Low-income population
- Incentives for environmental choices
 - Similarities with health issues
 - Distinctive features of environmental issues
- Interactions between economic incentives for health and the environment

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Eating Pattern Comparison: Usual U.S. Intake for Adults (Adjusted to a 2,000 Calorie Level) as a Percentage of the Corresponding Recommendation in the USDA Food Pattern.



Source: U.S. Department of Agriculture and U.S. Department of Health and Human Services, 2011, Table 5-1.


What is an elasticity?

- An **own-price elasticity** is the % change in quantity purchased (of good A), in response to a 1% change in the price (of good A).
- A **cross-price elasticity** is the % change in quantity purchased (of good A), in response to a 1% change in the price (of good B).

What size elasticity is good?

- If you want to use a tax on good A to **reduce consumption**, then a **large** (negative) elasticity is good.
- If you want to use a tax on good A to **generate tax revenue**, then a **small** (negative) elasticity is good.

Where can I find elasticities?






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TABLE 1—US Price Elasticity Estimates, by Food and Beverage Category, from 1938–2007

Food and Beverage Category ^a	Absolute Value of Mean Price Elasticity Estimate (95% CI)	Range	No. of Estimates
Food away from home	0.81 (0.56, 1.07)	0.23–1.76	13
Soft drinks	0.79 (0.33, 1.24)	0.13–3.18	14
Juice	0.76 (0.55, 0.98)	0.33–1.77	14
Beef	0.75 (0.67, 0.83)	0.29–1.42	51
Pork	0.72 (0.66, 0.78)	0.17–1.23	49
Fruit	0.70 (0.41, 0.98)	0.16–3.02	20

Source: Andreyeva et al. (2010), *American Journal of Public Health*.

Elasticities show how beverage quantities respond to changes in prices and total beverage spending

	In response to a 1% change in ...				
	<u>price of</u>				<u>amount of</u>
<u>outcome</u> (% change)	<u>caloric</u> sweetened beverages	<u>price of</u> diet beverages	<u>price of</u> juices	<u>price of</u> bottled water	<u>total</u> beverage spending
<u>caloric sweet'd</u> beverages	-1.26	-0.19	0.23	0.13	1.05
<u>diet</u> beverages	-0.46	-0.75	0.10	-0.04	1.24
<u>juices</u>	0.56	0.16	-1.01	-0.09	0.88
<u>bottled</u> water	0.75	-0.09	-0.26	-0.97	1.03

Source: adapted from Smith, Lin, and Lee (2010), Appendix Table 4. Note: own-price elasticities are in bold.

Policy implications (1)

- Tax less healthful products?
- Lower market prices of healthful products?
- Subsidize healthful products?
- Work to end related counter-productive agricultural policies and food policies?

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Differences for poor populations

- Different elasticities
- Concern about hunger and food insecurity
- Nutrition assistance programs

Policy implications (2)

- WIC package changes
- Proposed SNAP restrictions
- Healthy Incentives Pilot (HIP) for SNAP

Healthy Incentives Pilot



Fresh. Canned. Dried. Frozen.
It's **HIP** to be healthy!

**3 easy steps to
eating better and
saving money**

Questions? 1-888-987-4487

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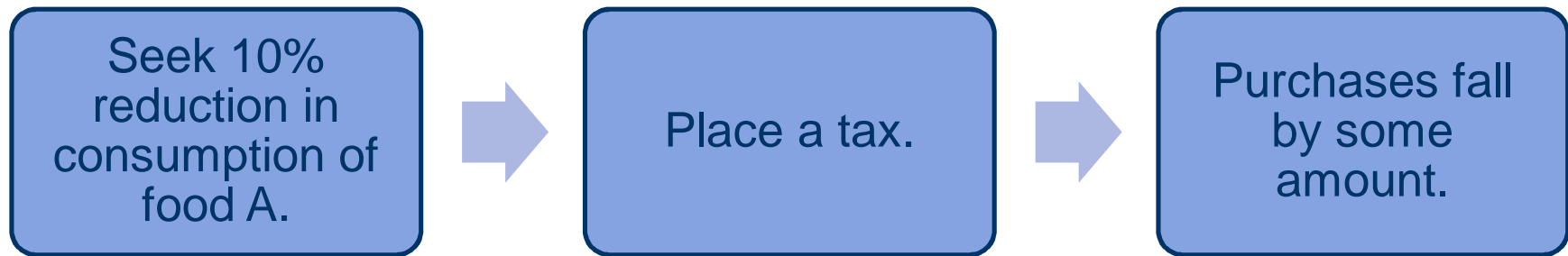
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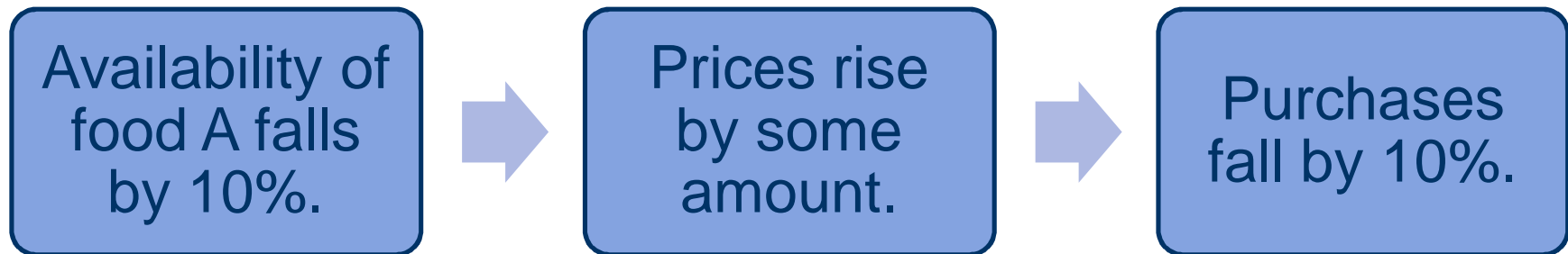
Distinctions between environment and health

- Different food groups may be incentivized.
- Price incentives for producers are more central to the discussion for environmental issues.
- It is physically possible to consume unhealthy food and beverages indefinitely.

Tax for health purposes



Price increase for environmental purposes



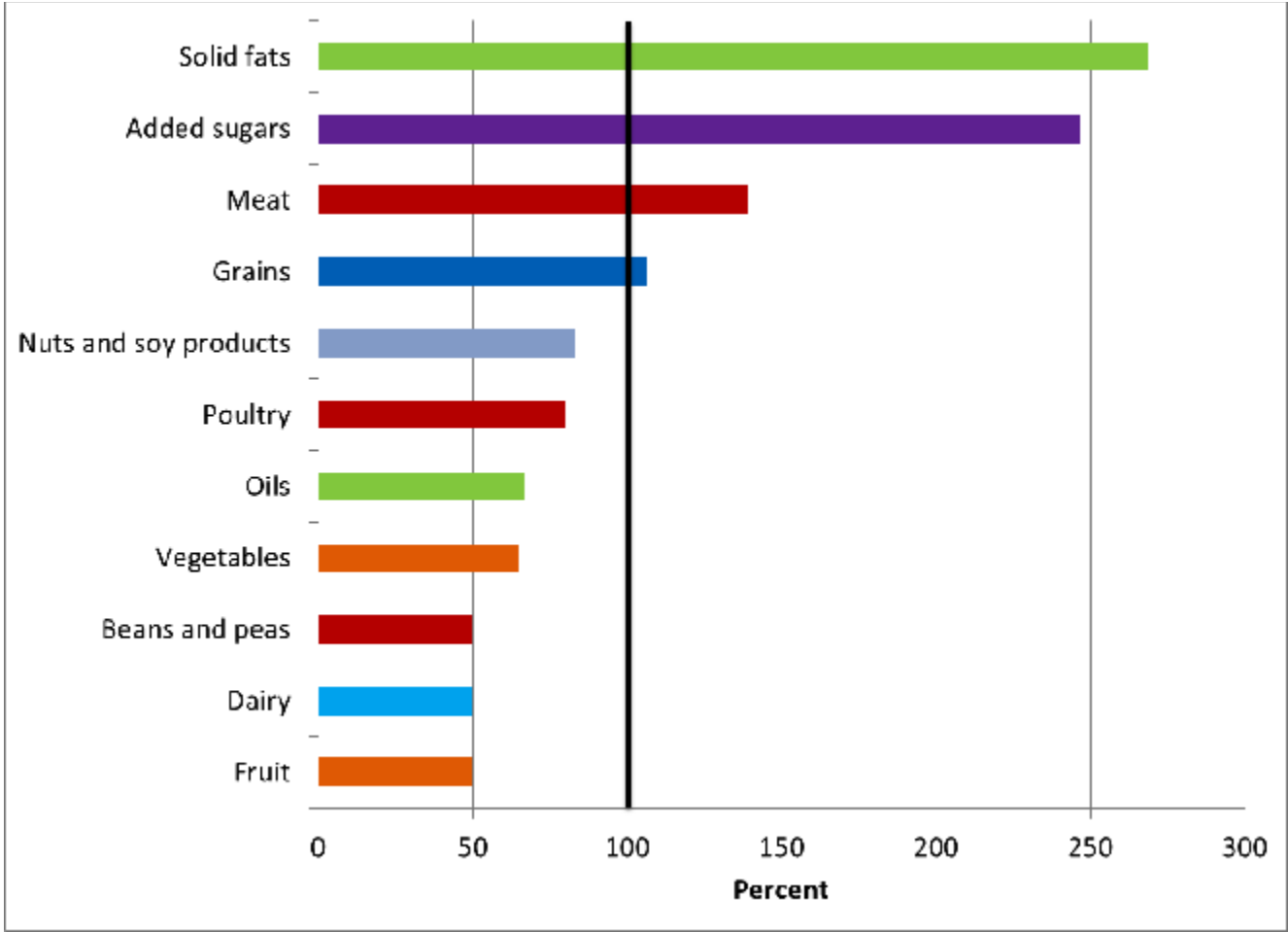
Distinct environmental motivations

- Scarcity (fish)
- Externalities (water pollution)
- Food safety (pesticides)

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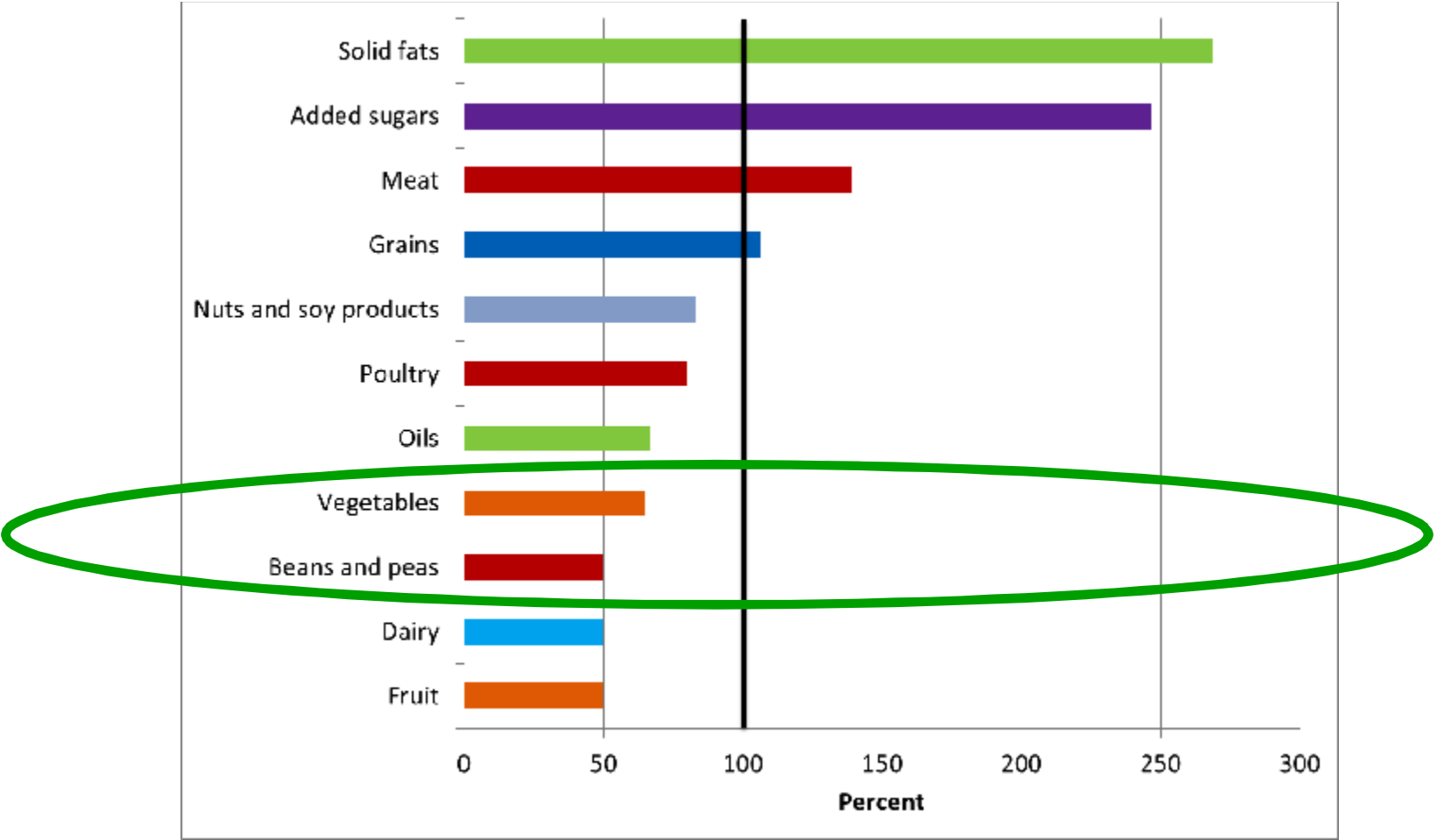
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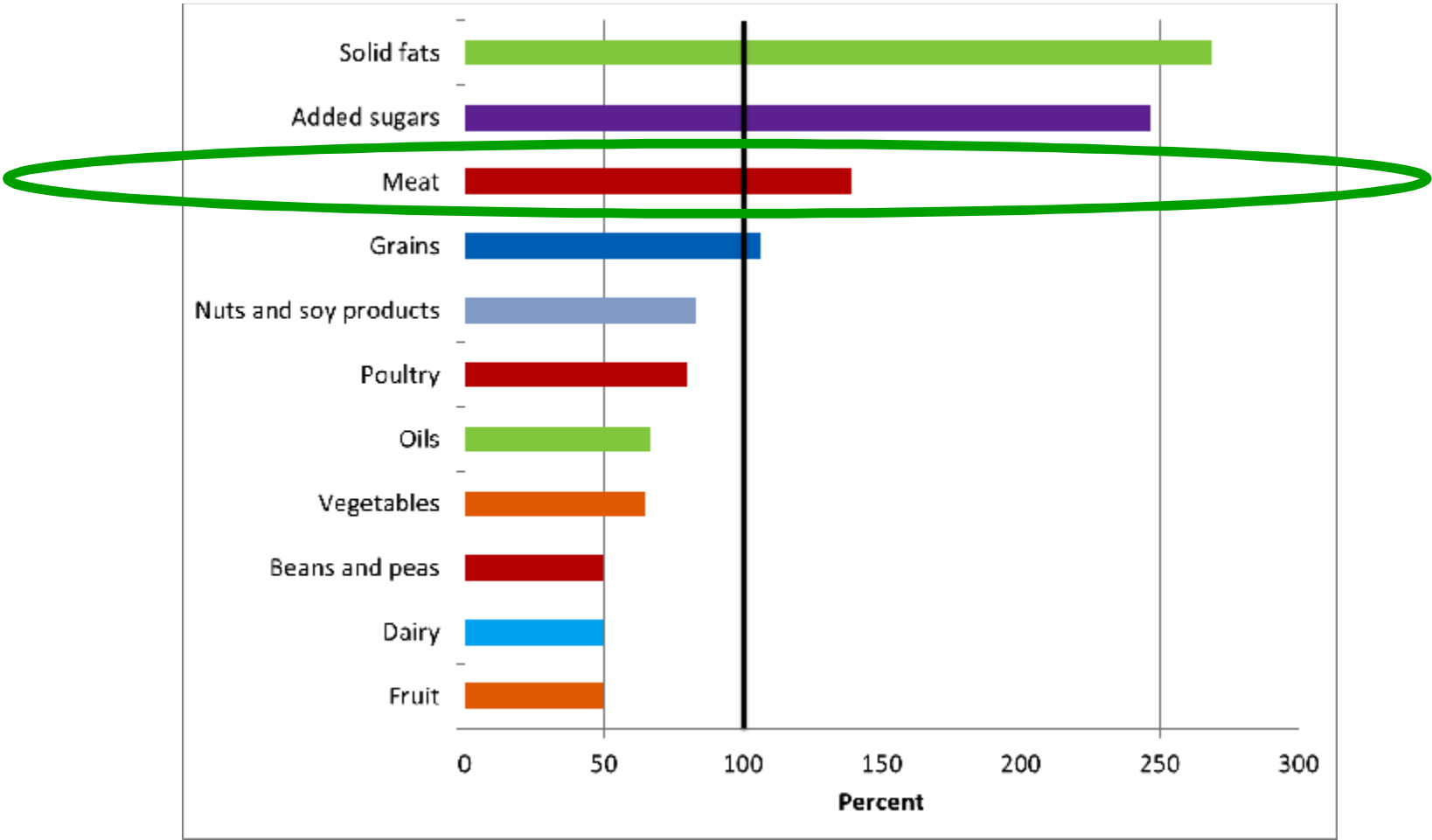
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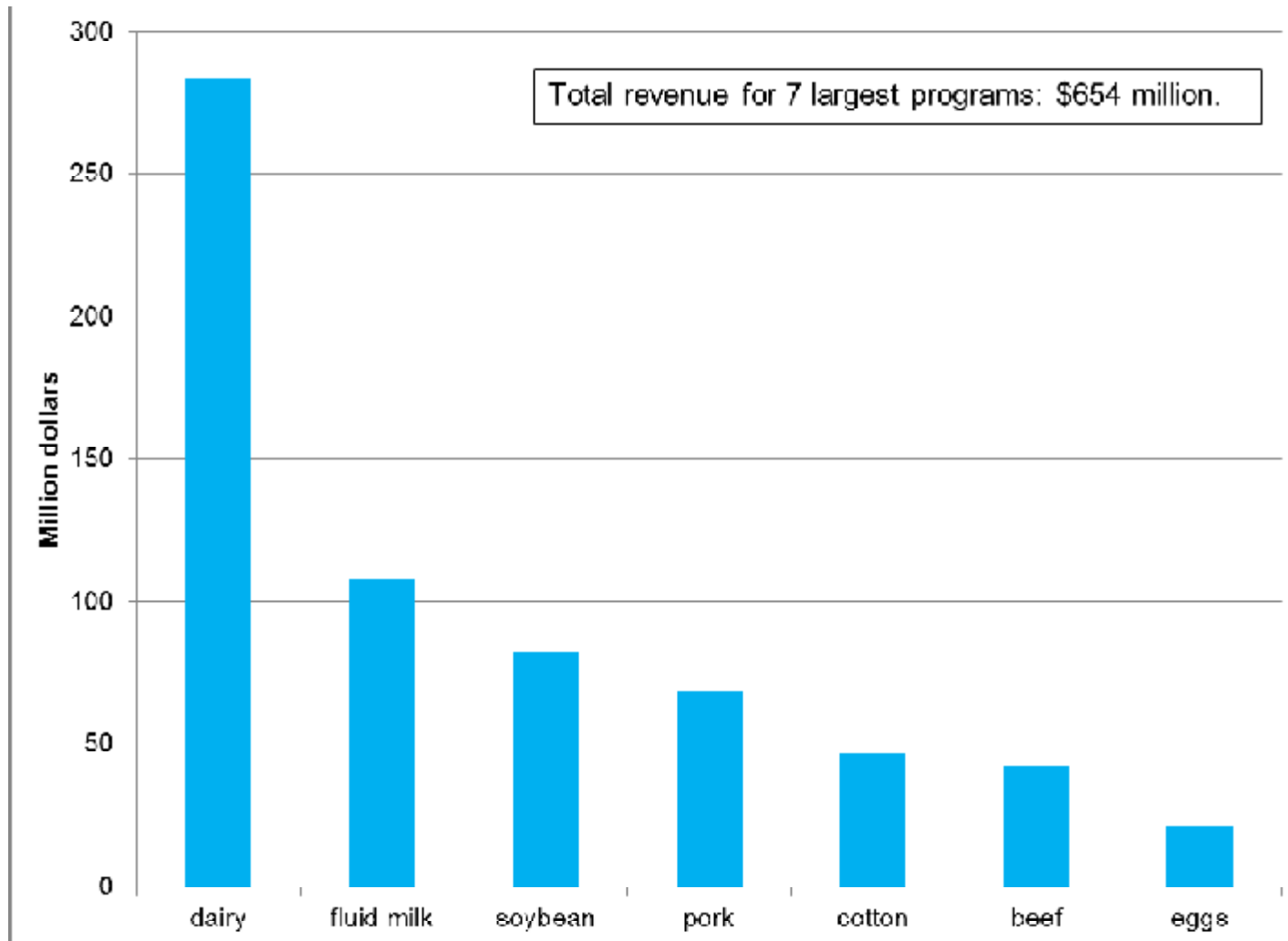
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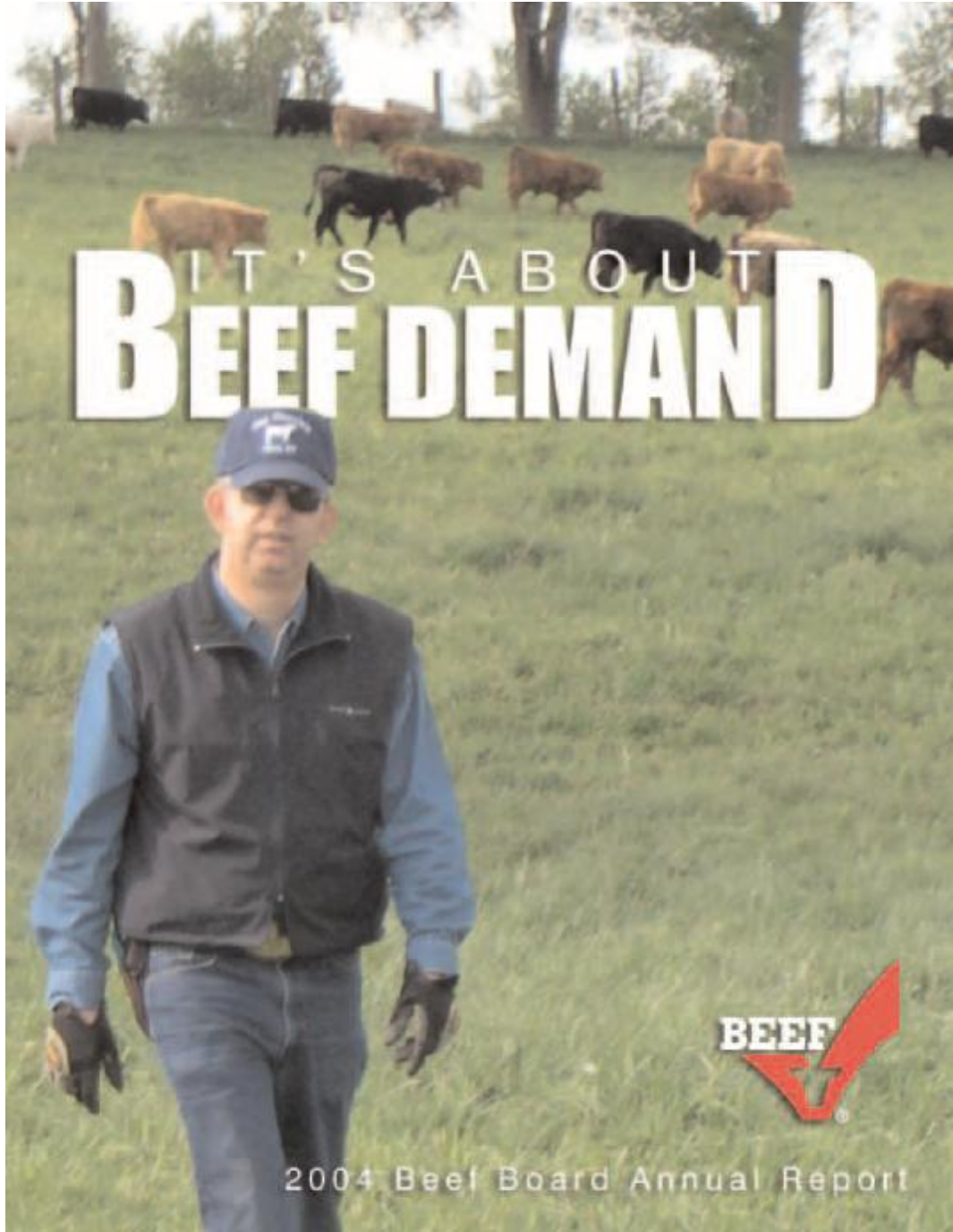
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Checkoff program annual revenue, 2010





IT'S ABOUT
BEEF DEMAND



2004 Beef Board Annual Report

Policy implications (3)

- Taxes to discourage consumption of foods with heavy environmental impact (dubious)
- Reconsider policies that incentivize consumption of foods with heavy impact
- Anticipate demand responses to policies that directly address environmental issues
- Use nutrition assistance policy to protect household food security in the face of environmentally sound price increases