

Discussion: *Who Benefits from New Medical Technologies? Estimates for Consumer and Producer Surpluses for HIV/AIDS Drugs*

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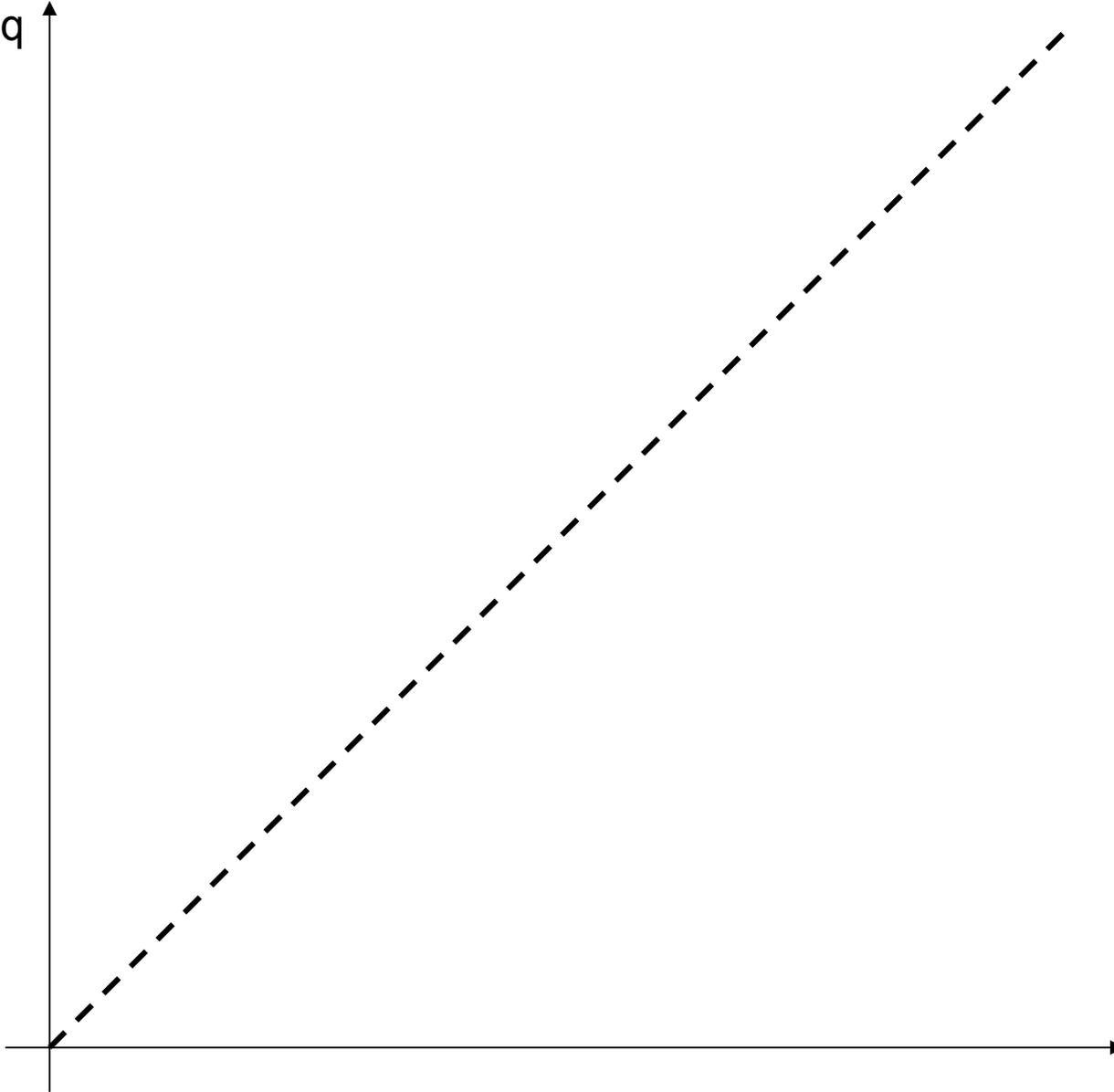
*FTC's Bureau of Economics Roundtable on
the Economics of the Pharmaceutical Industry*

Overview

- Thought-provoking; disconnect between social-welfare based resource allocation and analysis based on economic surplus.
- Criticism of CEA may be slightly off-target:
 - ACER vs. ICER
 - “Where do the WTP thresholds come from?”
- Is “monopoly” a reasonable model?
 - Both R&D and health care expenditures are fungible

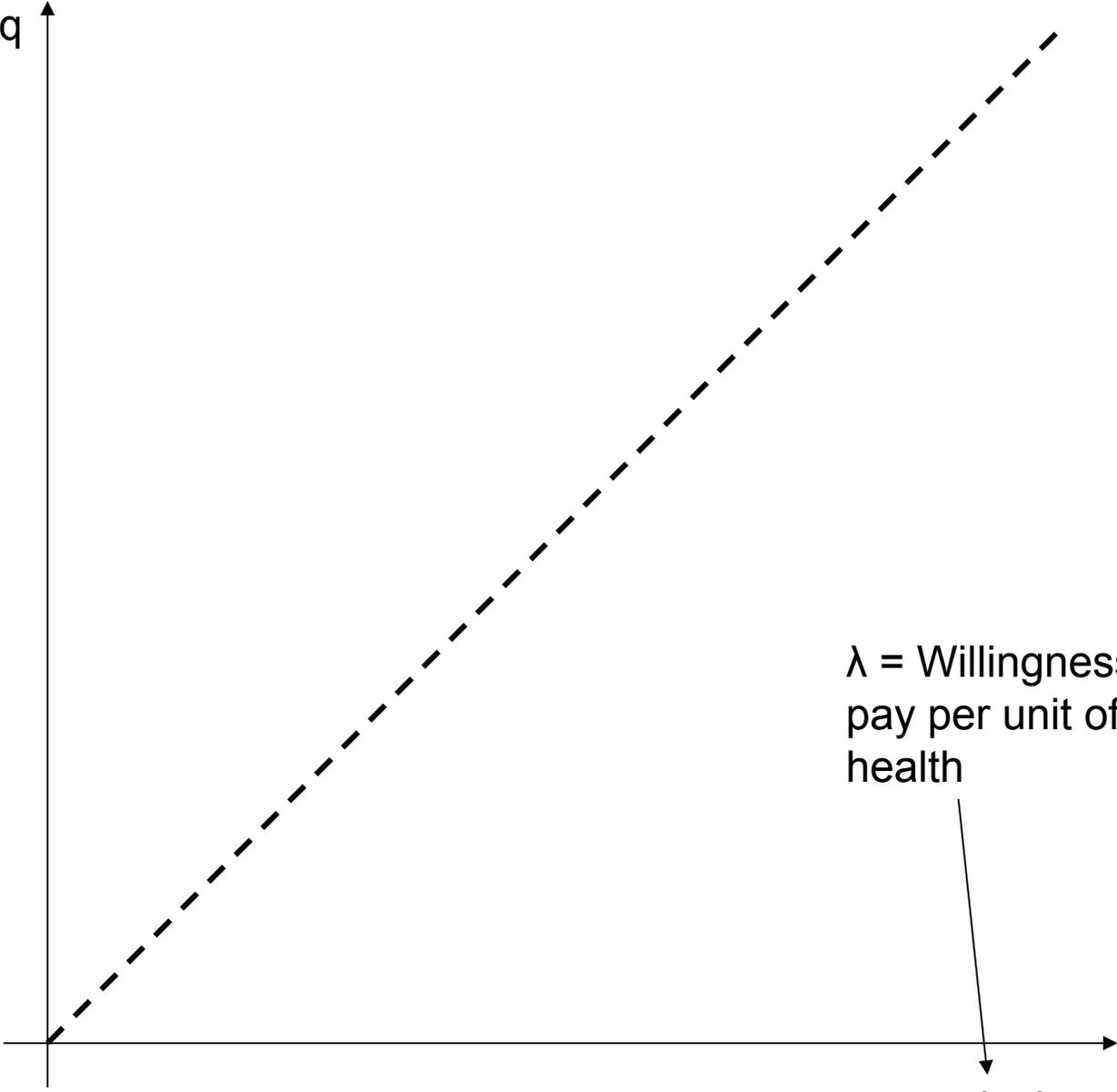
ACER vs. ICER

$$c = p \cdot q$$



$$g = \lambda \cdot h$$

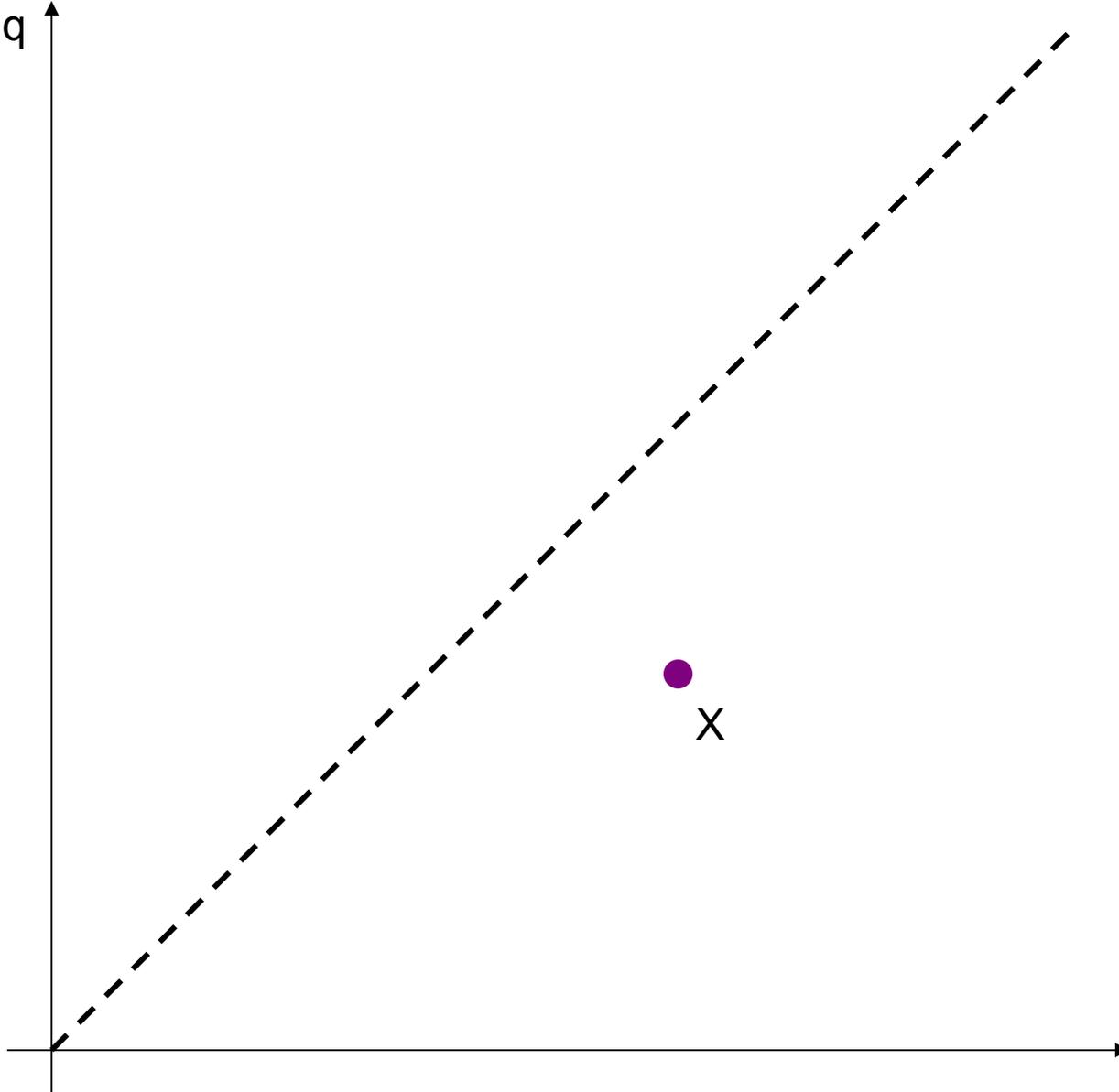
$c = p \cdot q$



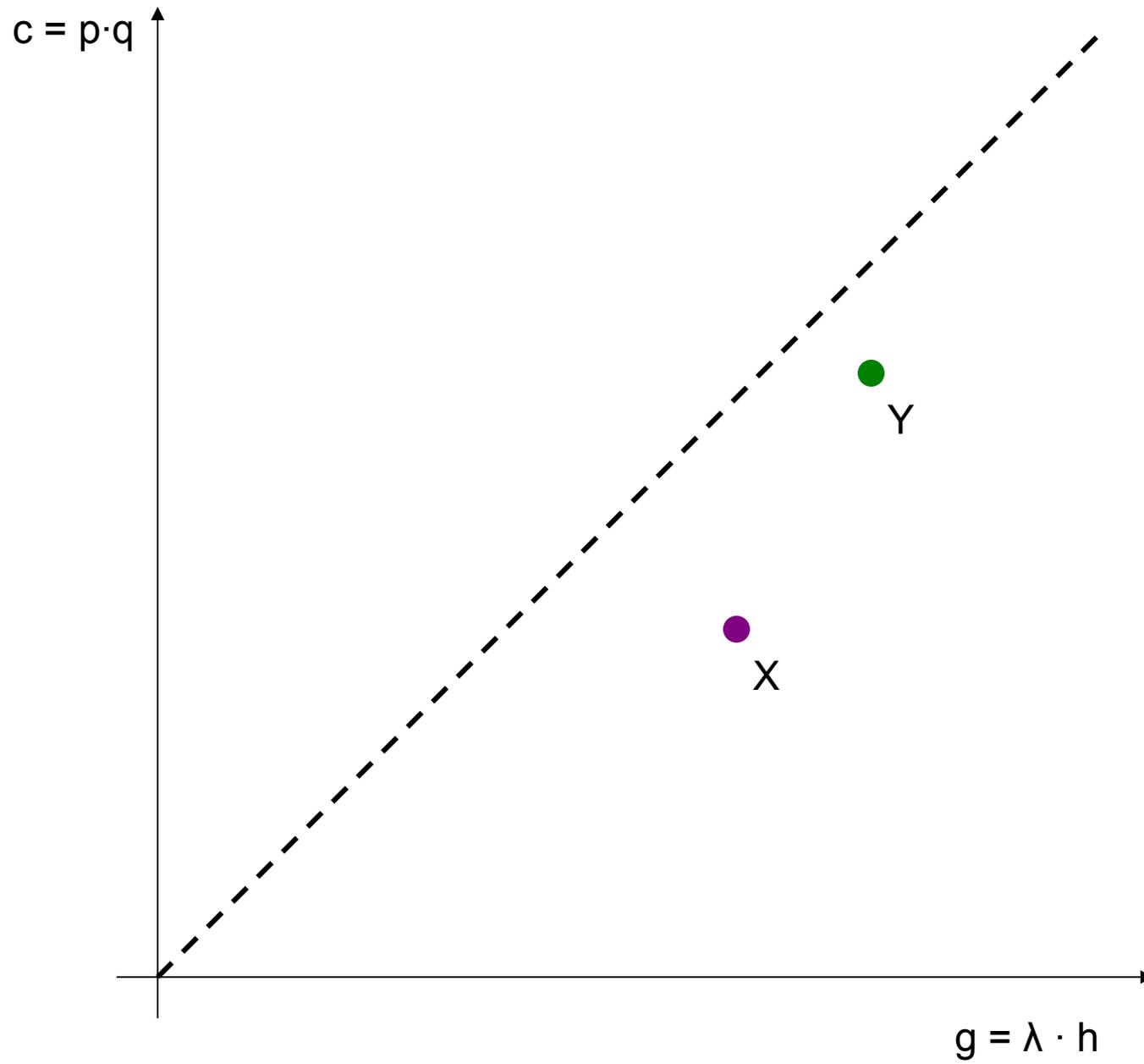
$\lambda =$ Willingness to pay per unit of health

$g = \lambda \cdot h$

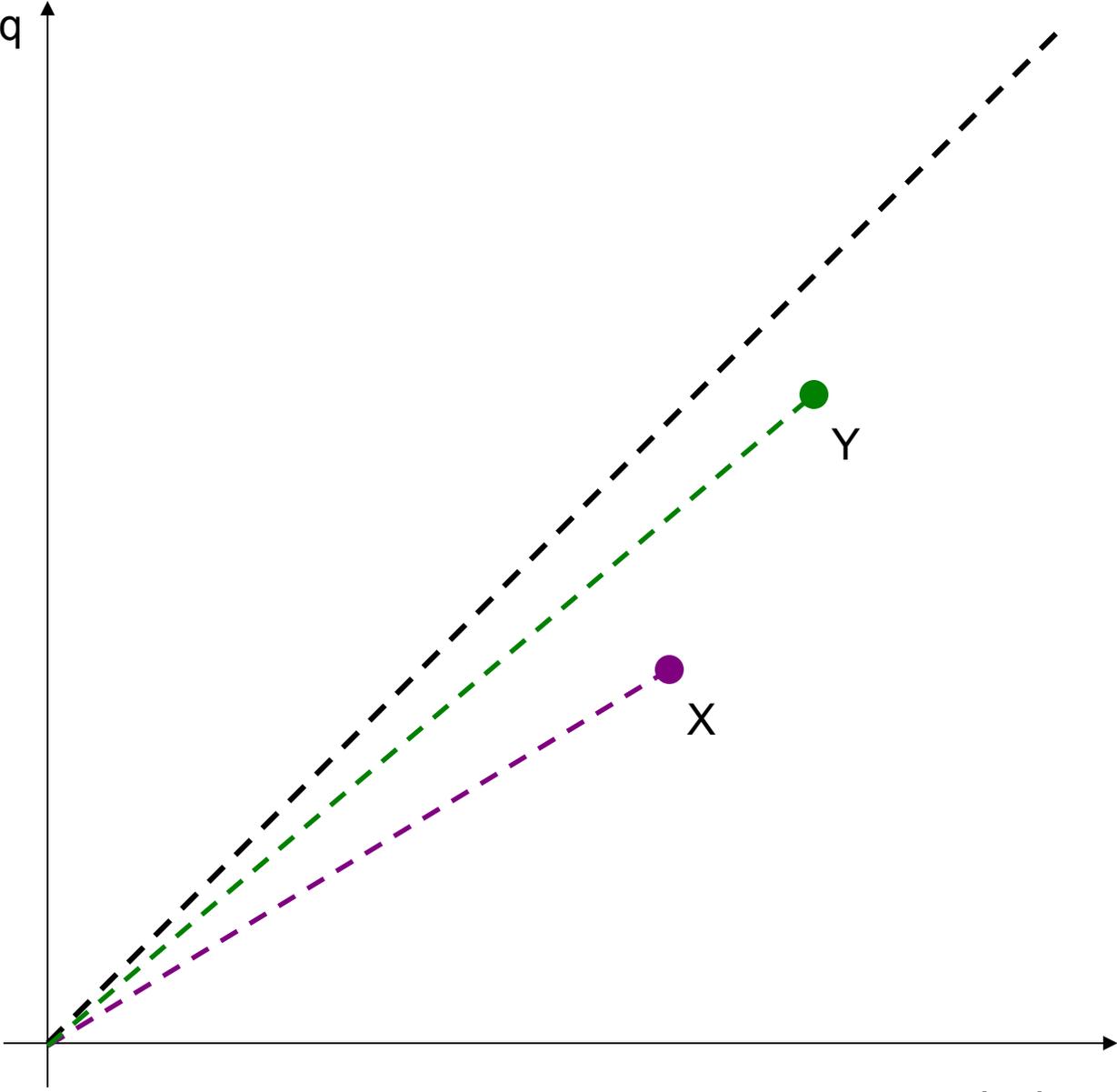
$c = p \cdot q$



$g = \lambda \cdot h$

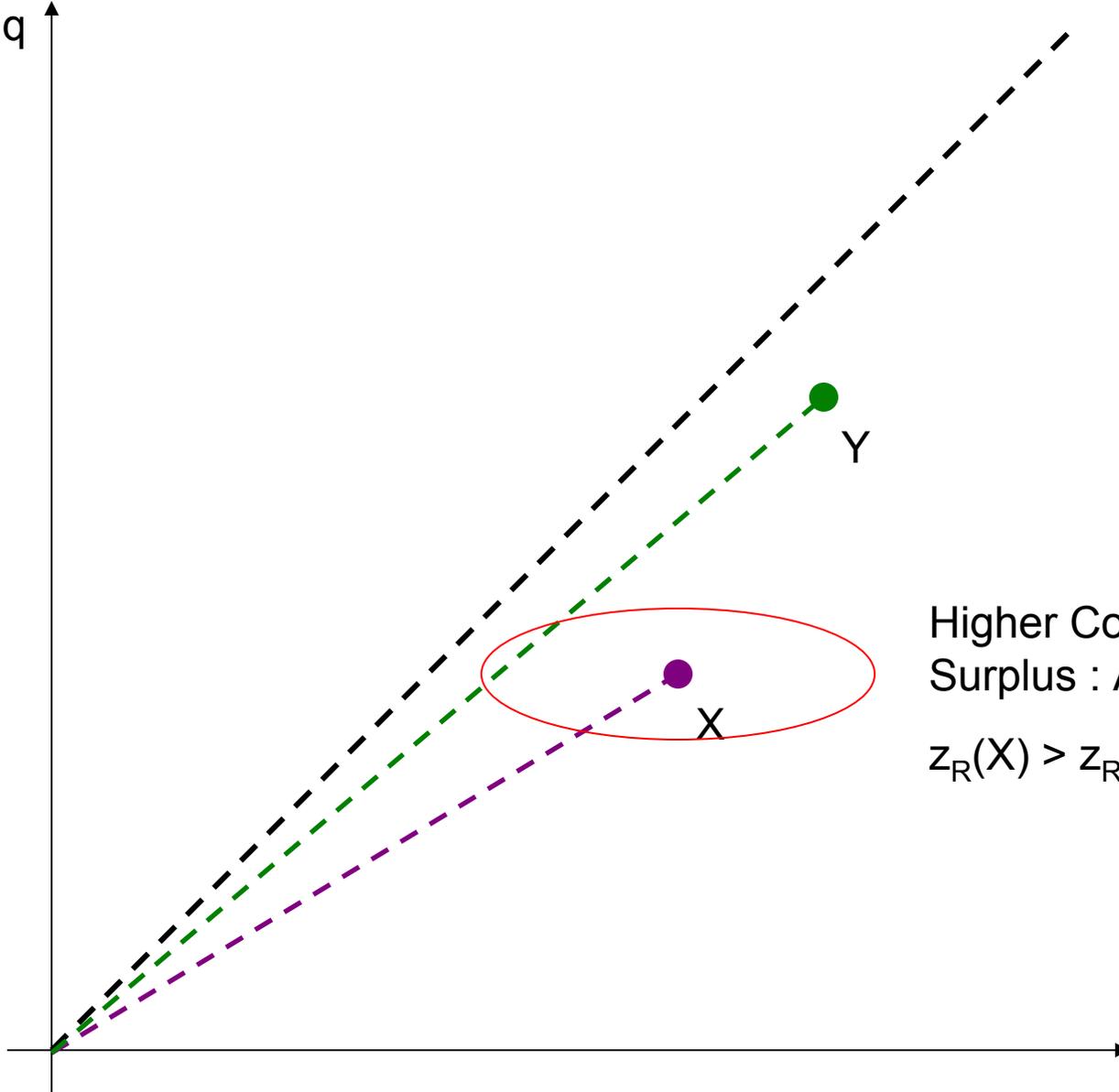


$c = p \cdot q$



$g = \lambda \cdot h$

$c = p \cdot q$



Higher Consumer
Surplus : ACER

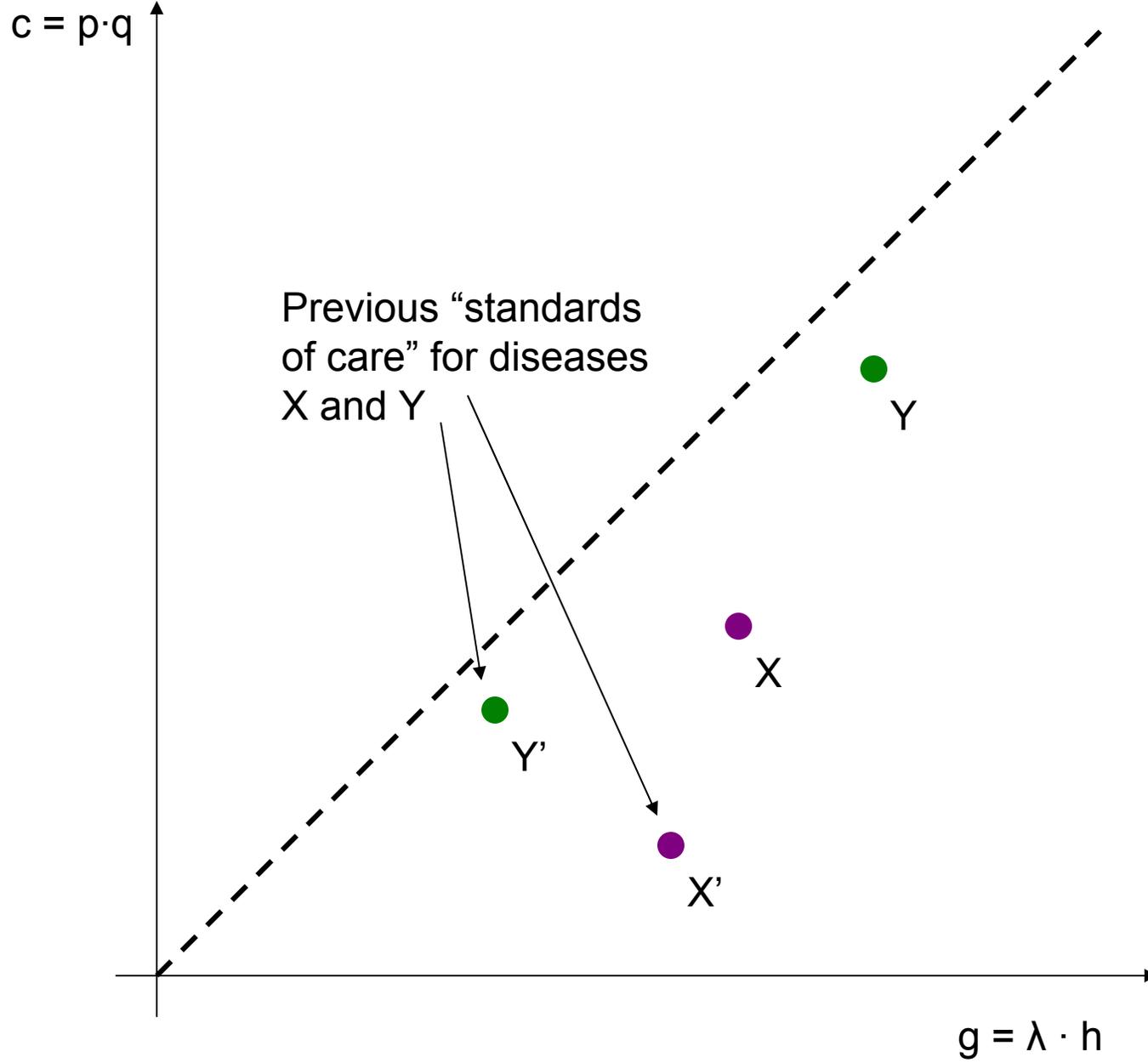
$$z_R(X) > z_R(Y)$$

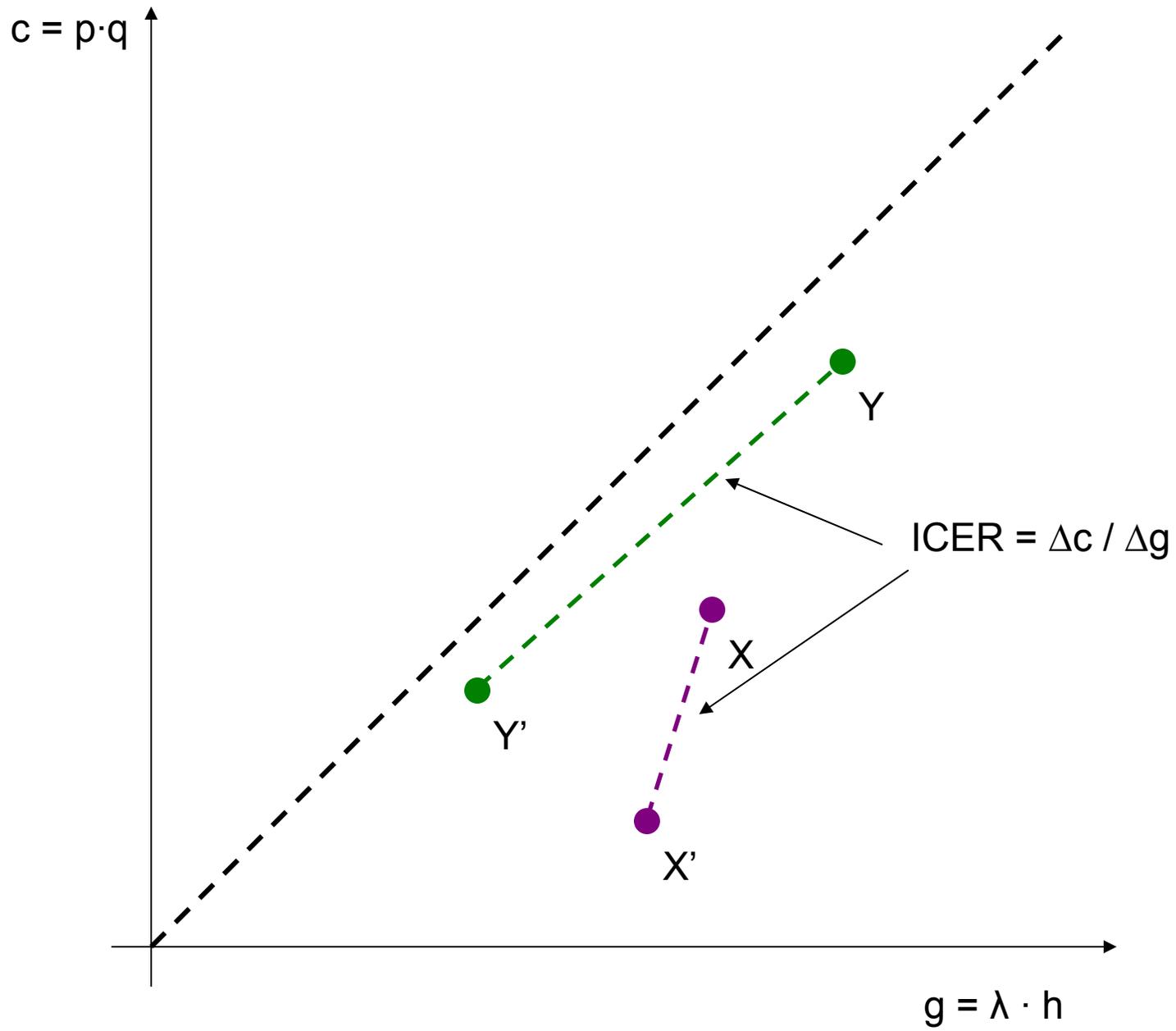
$g = \lambda \cdot h$

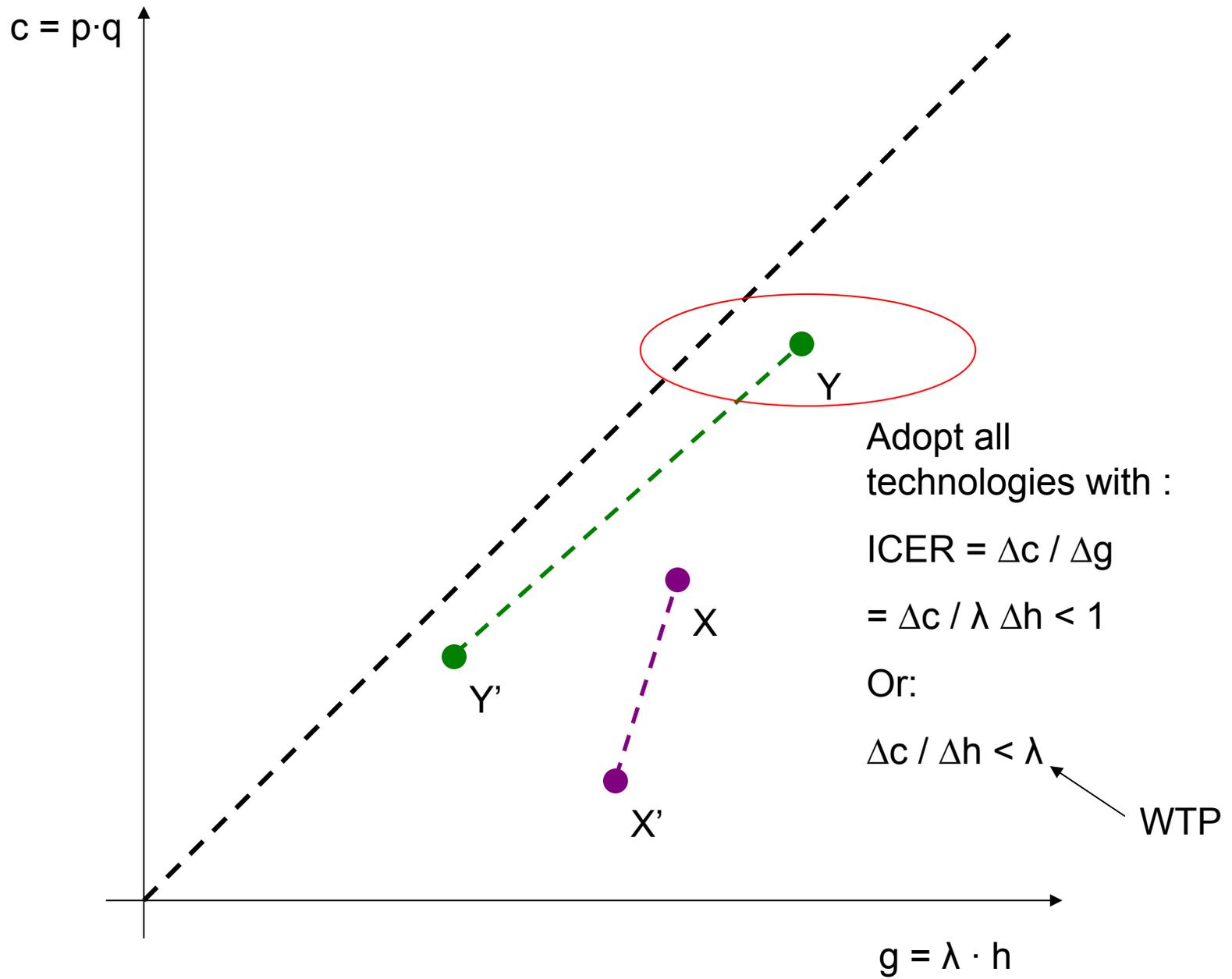
“Cost-effectiveness analysis (CEA) involves estimating the net, or incremental costs and effects of an intervention – its costs and health outcomes compared with some alternative, which might be that the care that would be given if the intervention were not used at all, or a different intensity of the intervention, such as less frequent screening. The cost-effectiveness ratio that compares two alternatives is calculated as the difference in costs between the alternatives (net costs) divided by the difference in health outcomes (net effectiveness).”

U.S. Panel on Cost-Effectiveness in Health and Medicine

(Gold et al., 1996, emphasis added)



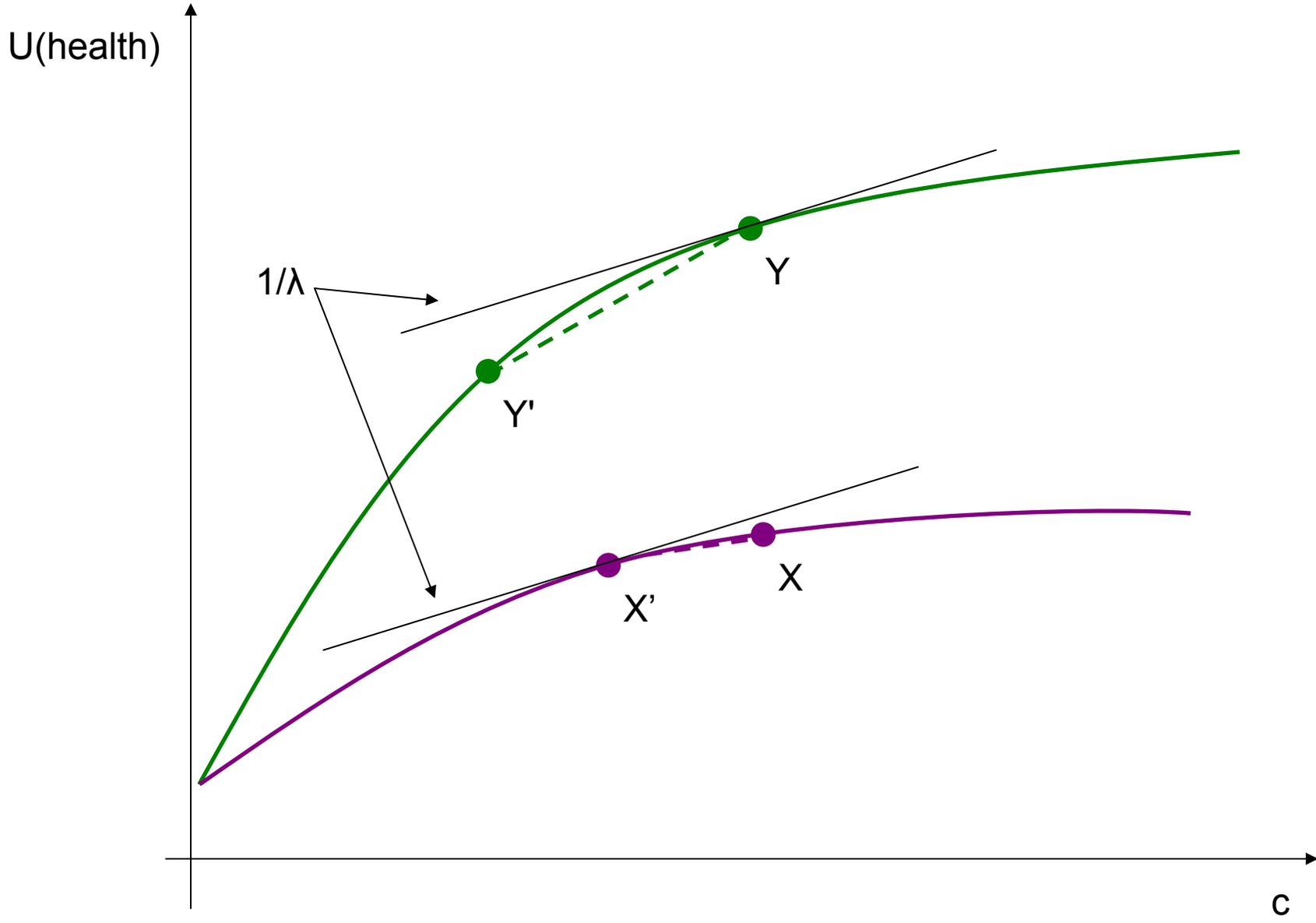


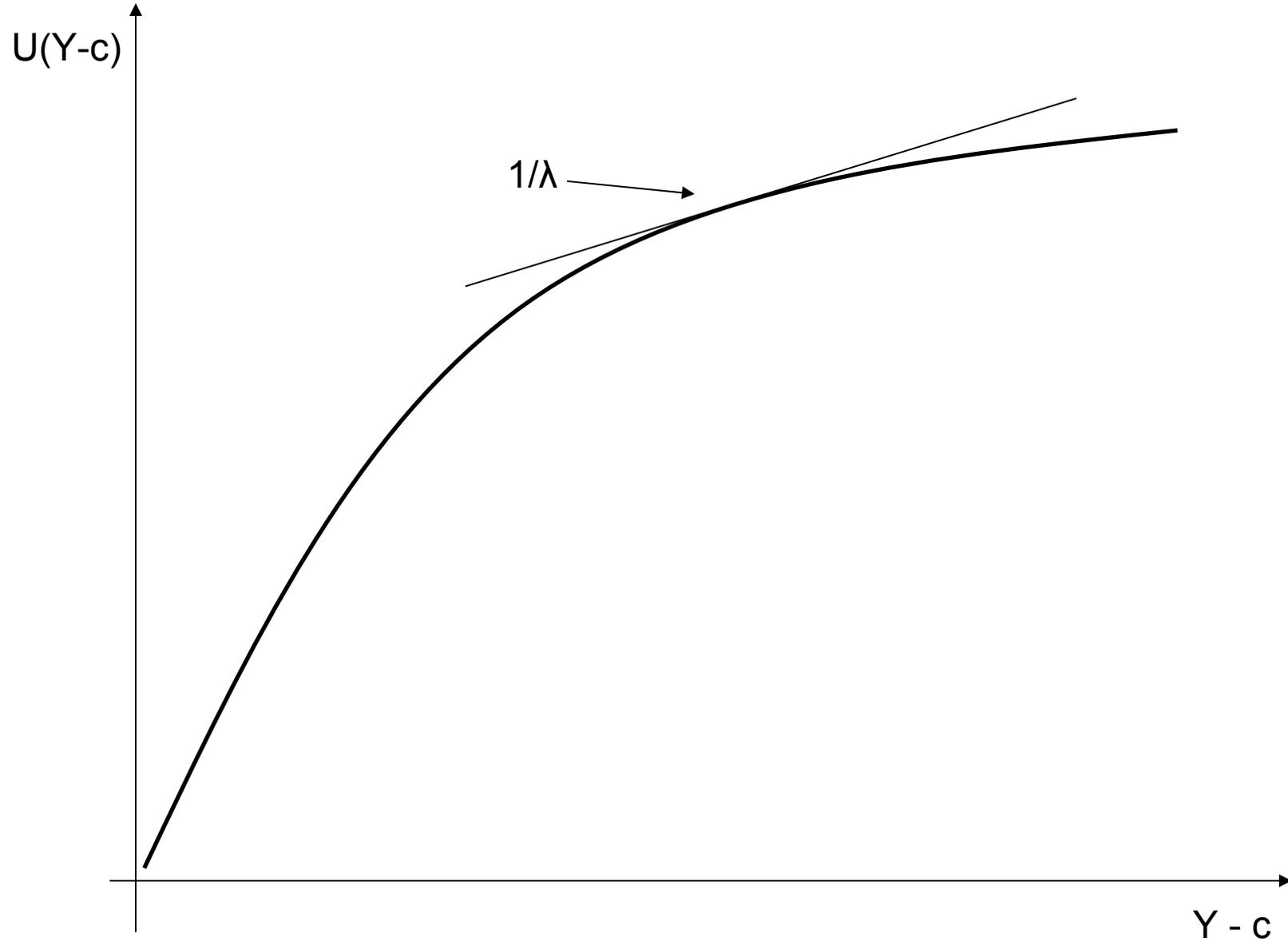


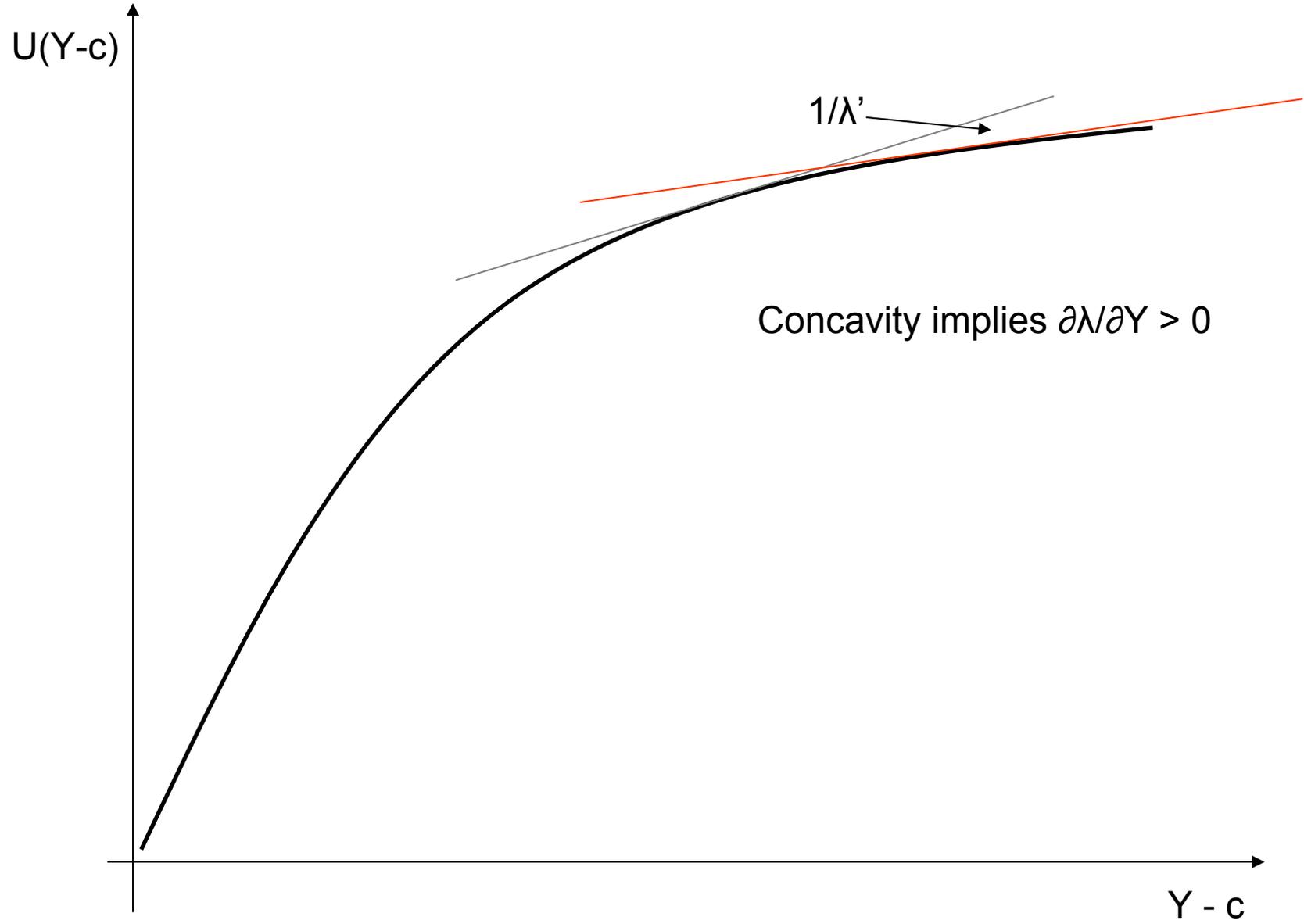
Where does λ come from?

- Pareto optimality and social welfare maximization underlies the CEA decision rules (see, e.g., Garber and Phelps, 1997 *JHE* and Meltzer, 1997 *JHE*)

$$\max U(h_X(q_X) + h_Y(q_Y), Y - p_X q_X - p_Y q_Y)$$







What effect does surplus appropriation have in this framework?

- Theoretically, it should have none.
 - If producer surplus is redistributed as income (to the individual as shareholder, or to society writ large)
 - λ is endogenous: higher profits increase the WTP threshold.

Is Monopoly a Reasonable Model?

- Under monopoly with barriers to entry, demand is downward sloping.
 - For a specific health intervention, barriers are indeed high (e.g., FDA approval; patent exclusivity)
- But, just how inelastic is the demand?
 - Health care by and large is purchased by groups of individuals (risk pooling) with numerous health conditions, demanding thousands of interventions.
 - Manufacturers are not competing just for expenditures within a single drug class, but for health care expenditures across conditions.

Possible Future Direction

- What Would a Monopolistic Competition Model Imply?
 - Greater elasticity (perhaps perfectly elastic at the price implied by the WTP threshold)
 - Product differentiation
 - Advertising
 - Search costs
 - Difficulty in price-based regulation