

# Economic Policy and Biosecurity

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# The Problem

Close proximity between countries and international trade and tourism increases the probability of an incursion and the spread of exotic diseases and pests; ones that can do great harm, and in some cases be potentially devastating to local industry, animal and human health, and the environment.



# Traditional Measures

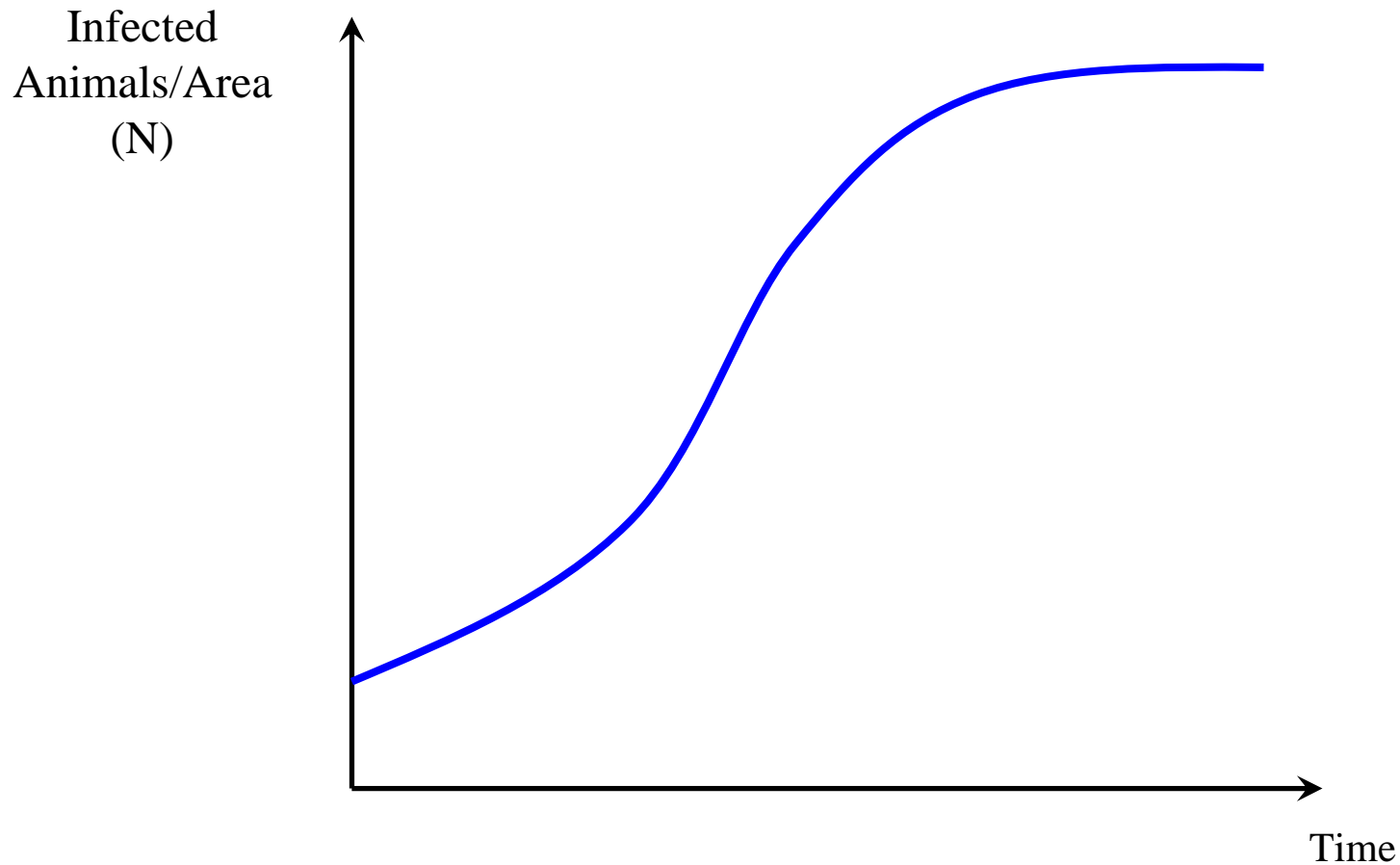
- Pre-border measures and border quarantine (i.e., preventing a potential incursion at the border).
  - Limits on imports
  - Airport inspections, and inspections of shipping containers and contents
- Local surveillance programs (preventing spread in the local environment).
  - Surveillance traps
  - Blood screening and visual inspection
- Containment and eradication programs.

# The Economic Puzzle

How much should be spent, or what costs should be incurred, for pre-border measures and border quarantine, surveillance and eradication activities to protect plant and animal health and the environment? How to allocate resources across various threats?

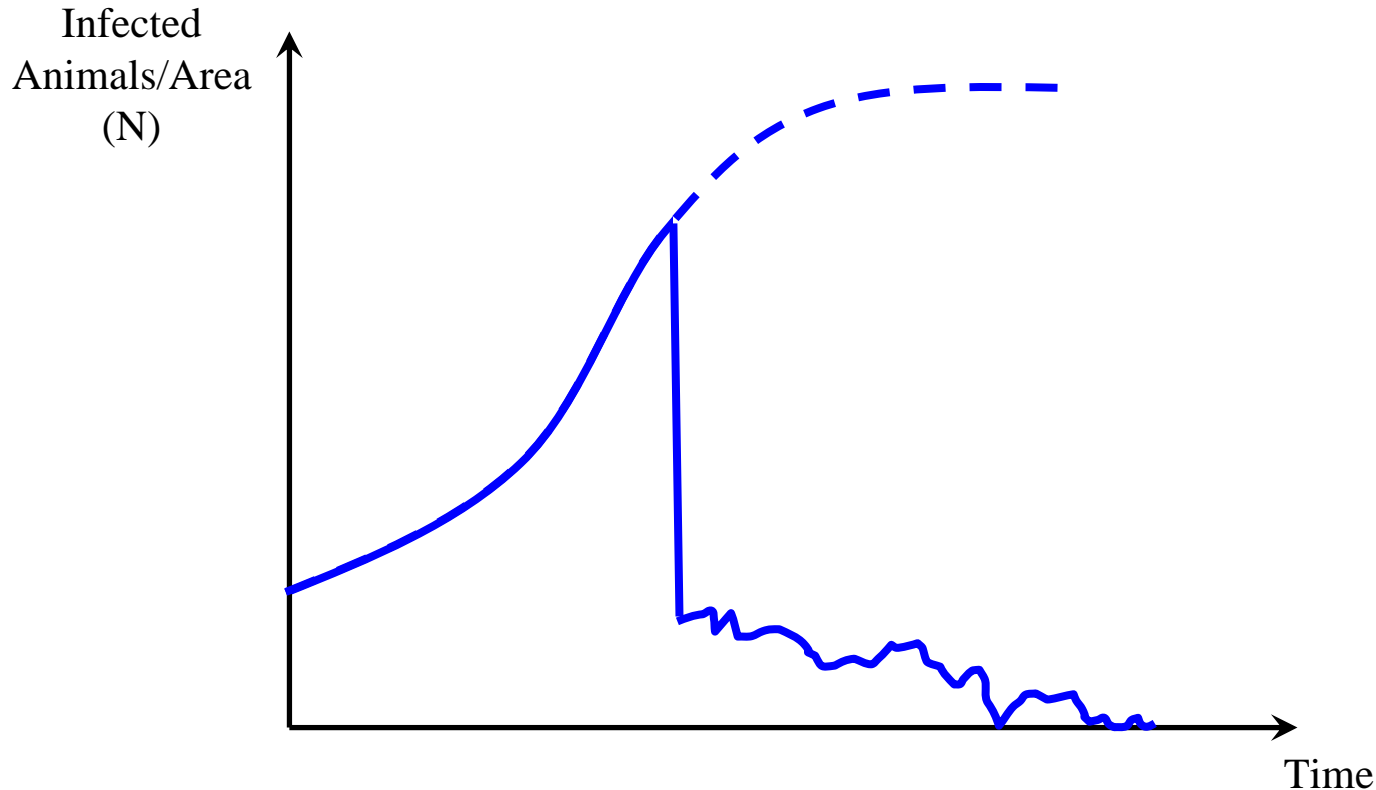
- Ban imports and close airports?
- Spend \$0 on quarantine and surveillance?
- Spend all of GDP on quarantine and surveillance?
- Eradicate? Contain? Neither?
- How to allocate resources across various threats?

# A Simple Spread Model for an Invasive



# Containment and Eradication

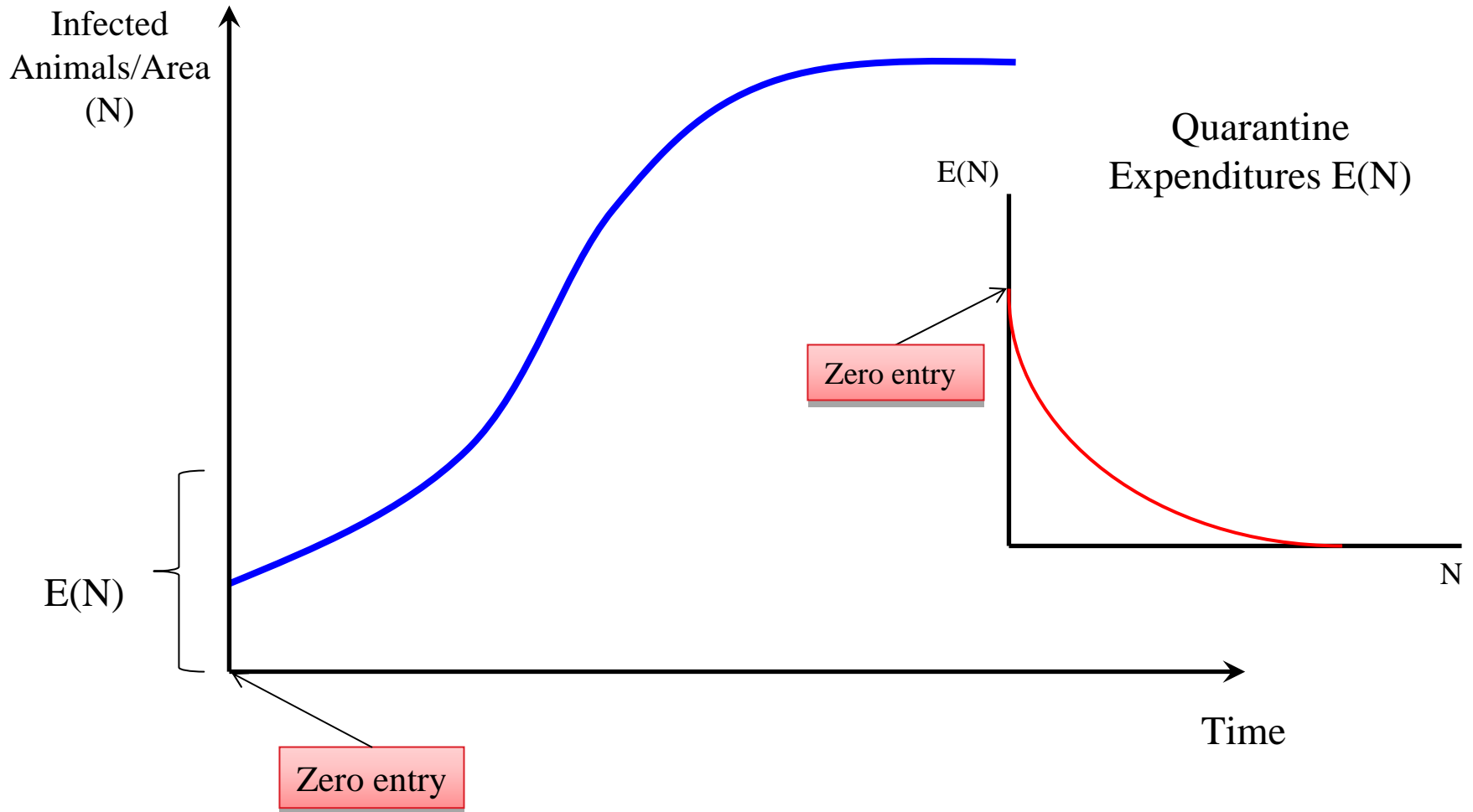
(The role of cost-benefit analysis (CBA) after an incursion, or for a potential incursion.)



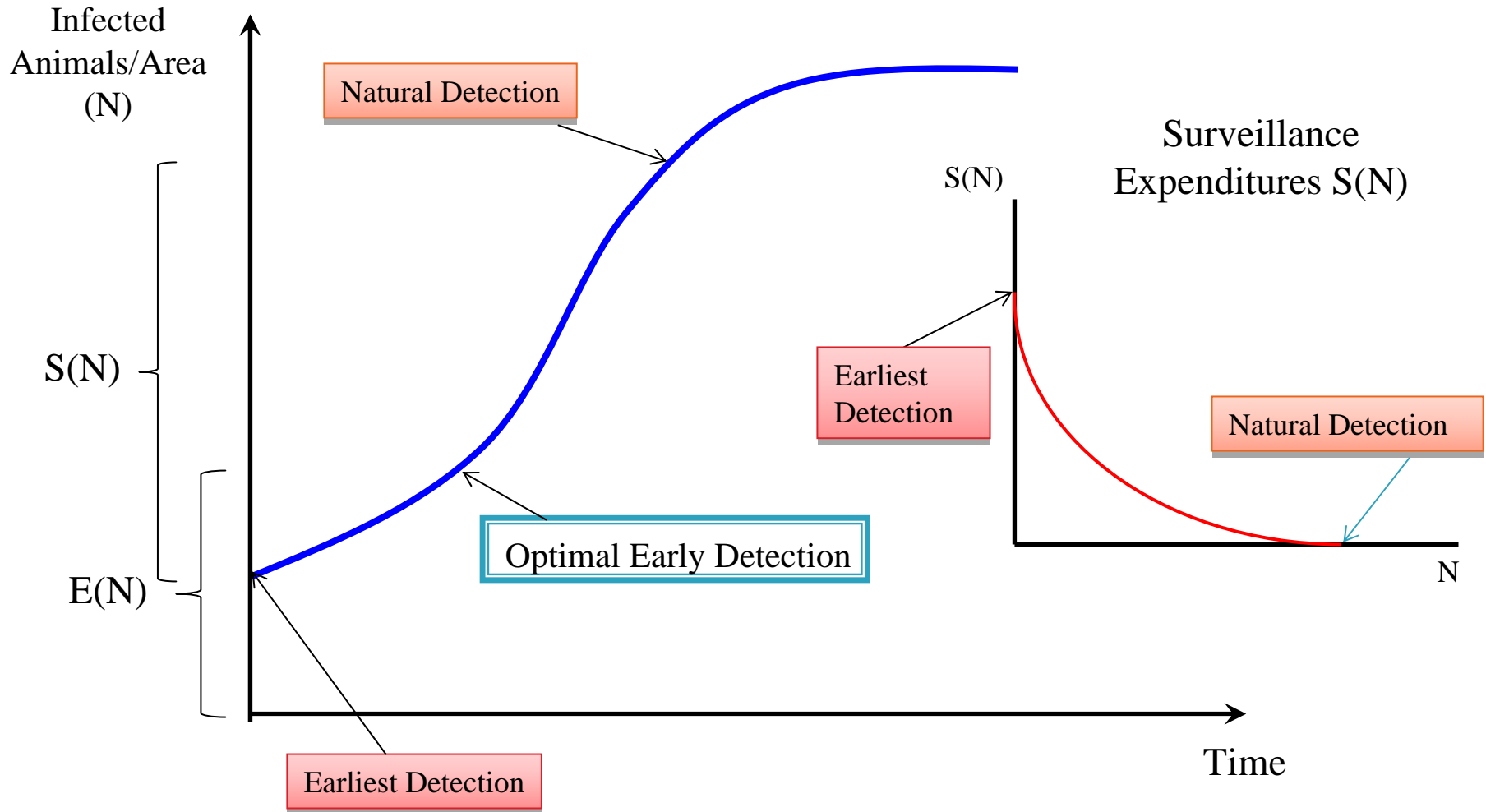
Note: The potential size of benefits depend on size of initial entry and the choice of early detection, for a given eradication/containment exercise.



# Border Quarantine Measures



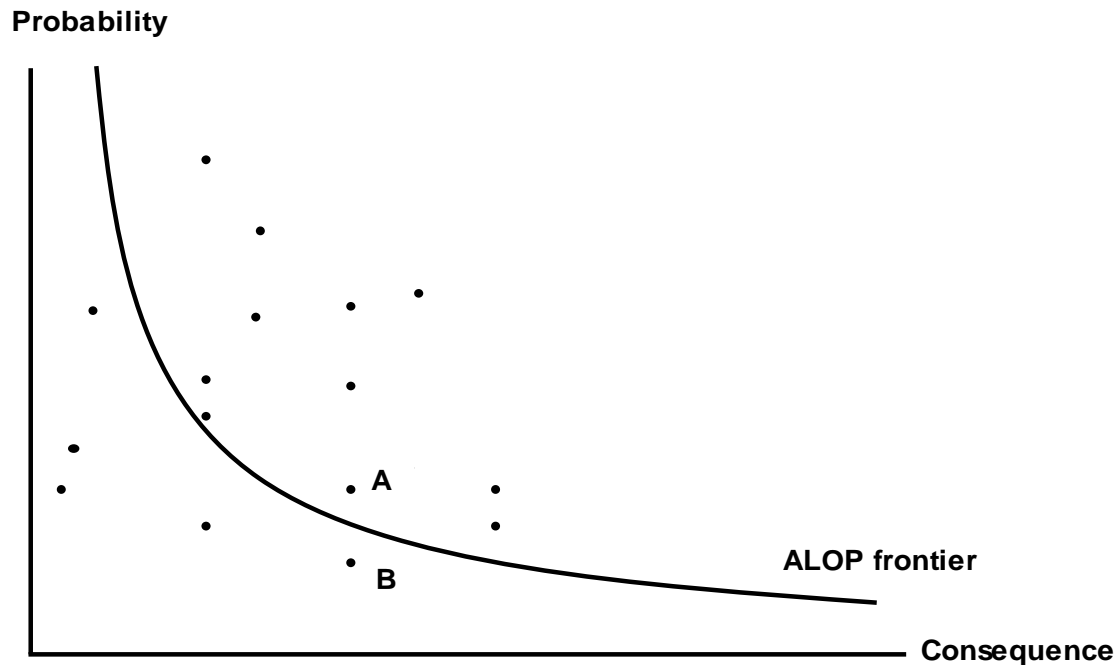
# Local Surveillance Measures





# Pre-Border CBA

- ▶ Measures of ‘Import Risk Analysis’ and ‘Appropriate Level of Protection’





# Thanks for listening!

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