

# Health: Low hanging fruit?

14.73 lecture 8

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# Preventive care: the Low Hanging Fruit

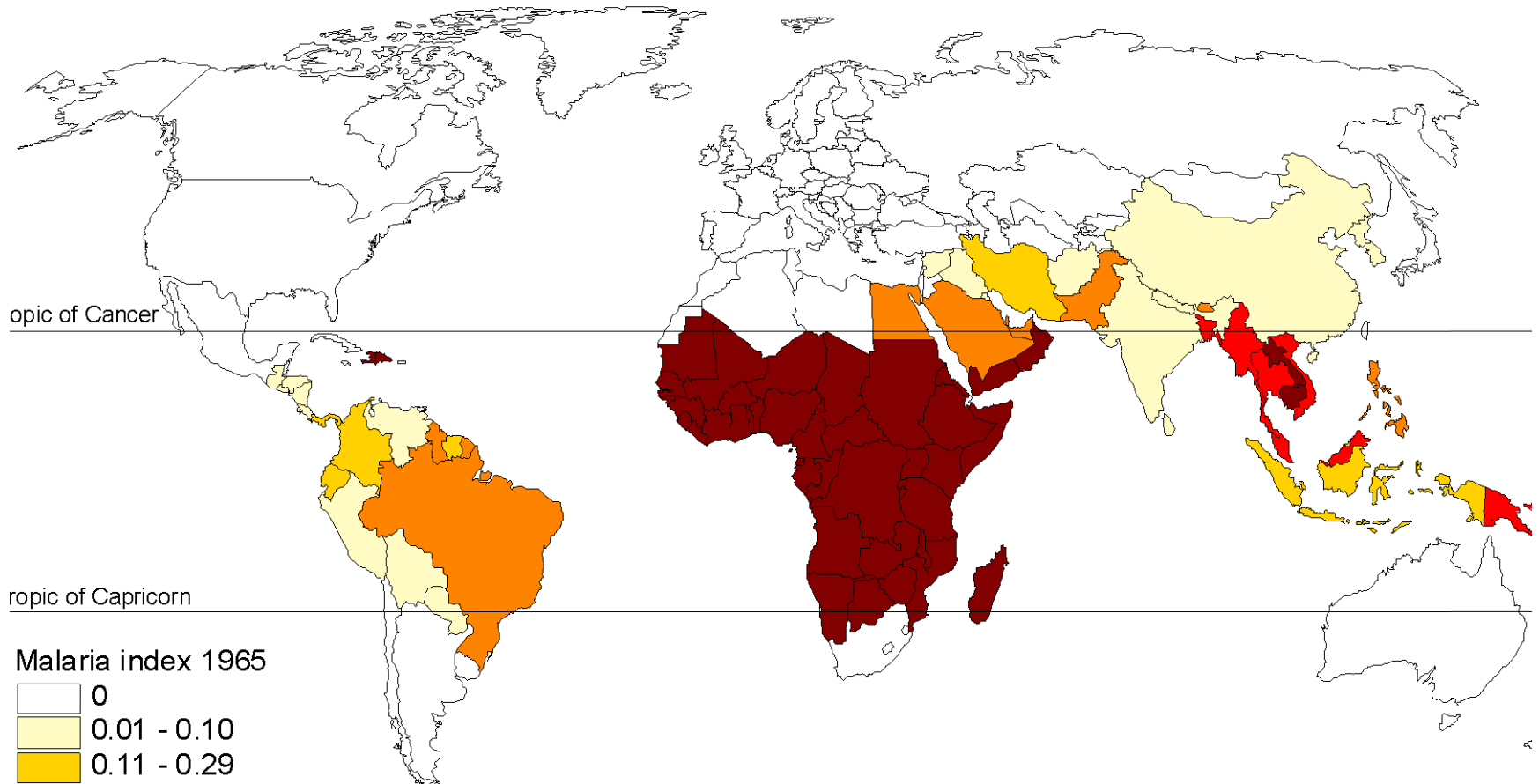
- There are some technologies that are known to be effective and cheap ways to promote good health:
  - Bed nets for malaria
  - Immunization
  - Breast feeding
  - ORS
  - Bleach

# High returns ?

- These health interventions have high financial returns:
  - We have already seen the high financial returns to deworming in a previous lecture
  - Same argument has been made about preventing malaria.
    - Jeff Sachs: countries which have lots of malaria are poor.
    - Controlling for other factors, malarial countries GDP is 30% lower than non-malarial countries

# Malaria, 1965

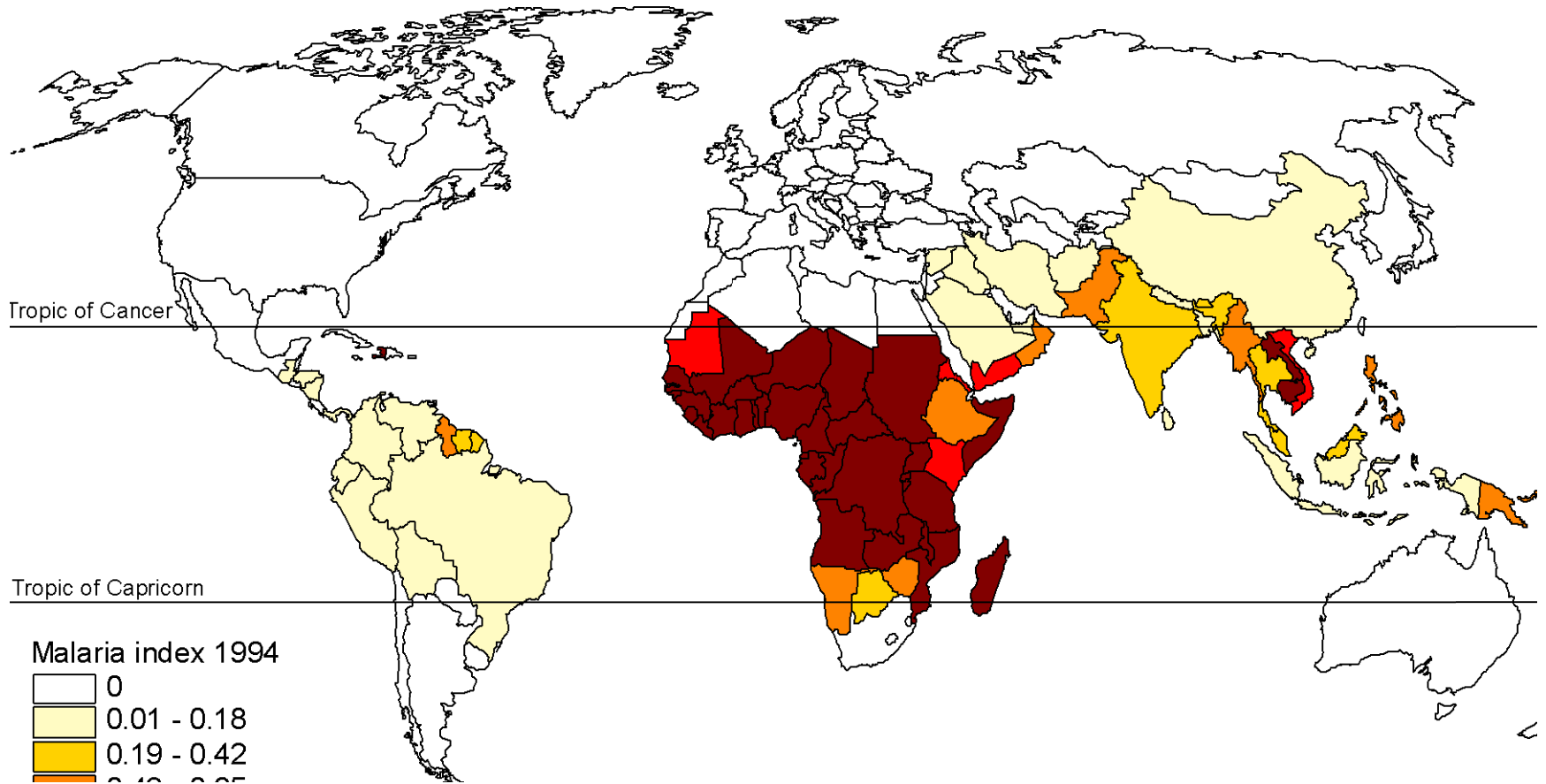
## Malaria Index 1965



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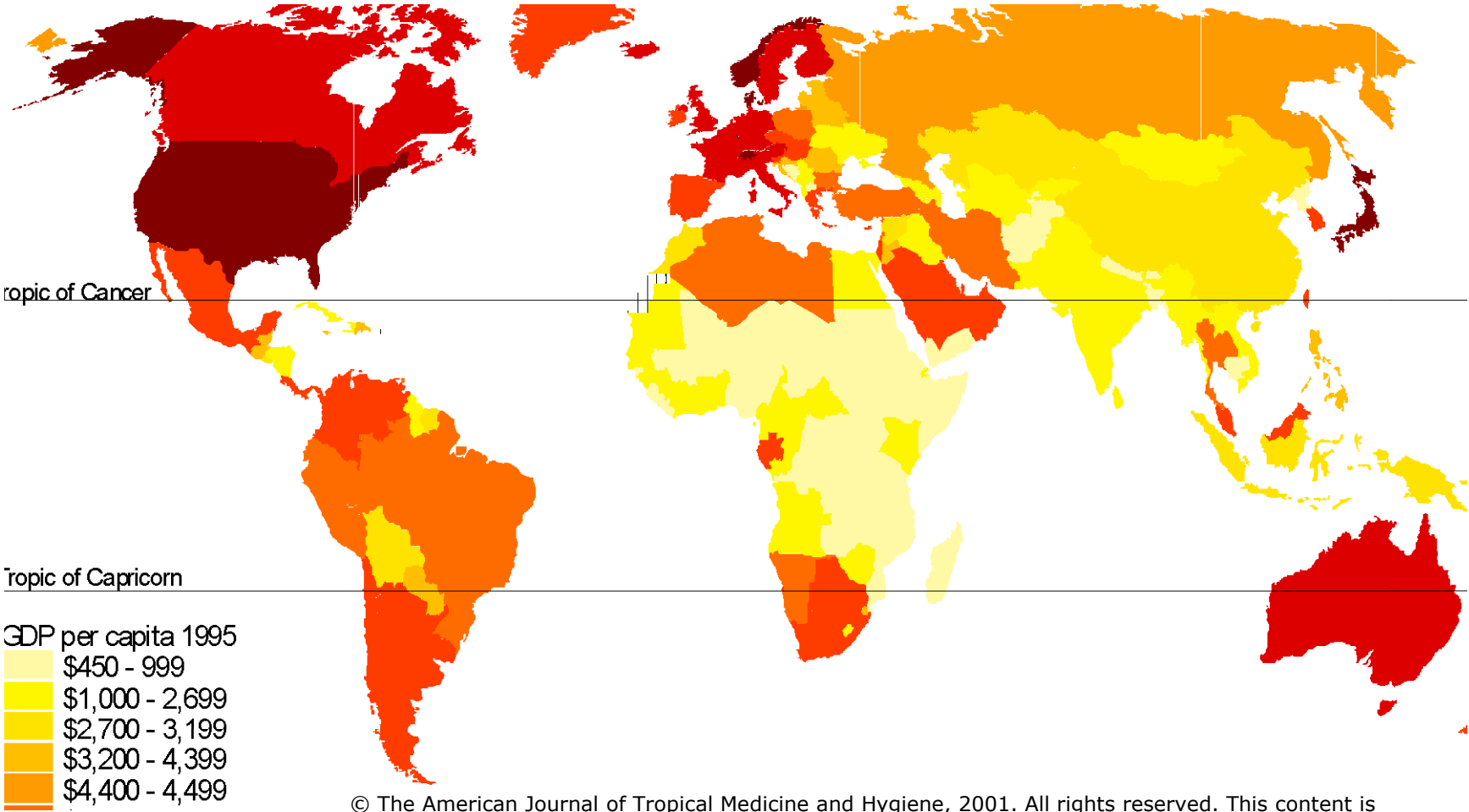
# Malaria, 1994

## Malaria Index 1994



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# GDP per capita



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# Does malaria cause poverty or the other way around?

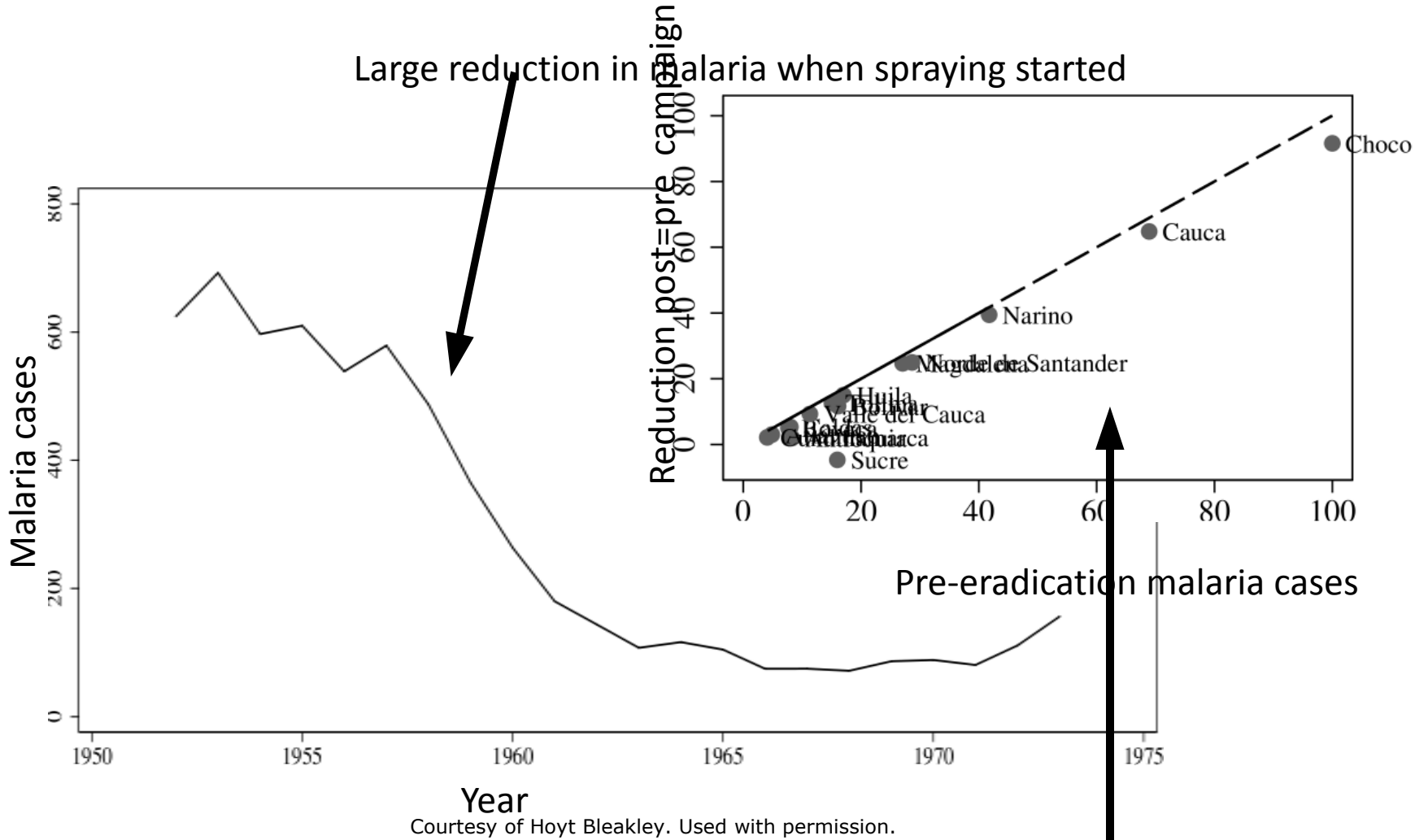
- Sachs conclude that malaria cause poverty
- However one could argue the opposite:
  - Why did Latin America largely eradicated malaria but not Africa?
  - Why did malaria index increased in India but not Sri Lanka?
  - Countries which have not eradicated malaria may also have other problems

# Evidence from the Eradication Campaigns

- Hoyt Bleakley: exploits decrease in malaria due to DDT spraying campaign in several countries in the Americas (US South, and several Latin American Countries).
- Campaign started around 1955 in latin america
- Regions that had the largest prevalence of malaria had the largest reduction in malaria
- ... and the largest increases in income across cohorts



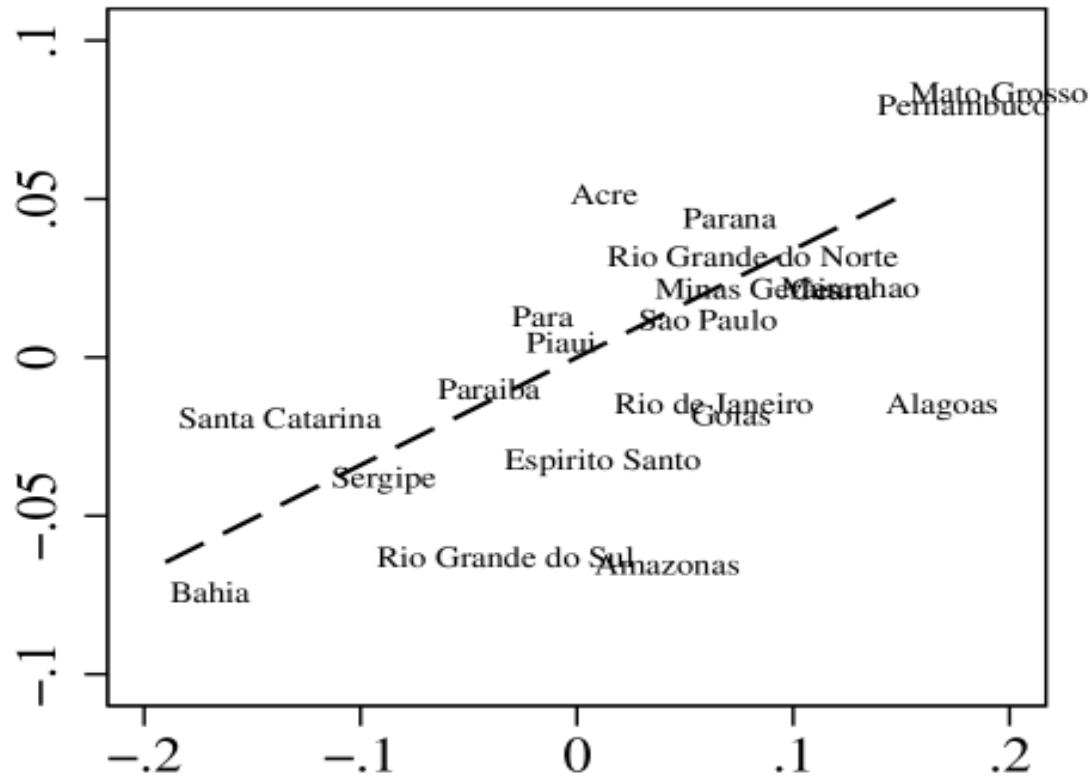
# Example: Malaria in Colombia



The reduction was largest in places that had more malaria to start with

# Example: Malaria and income in Brazil

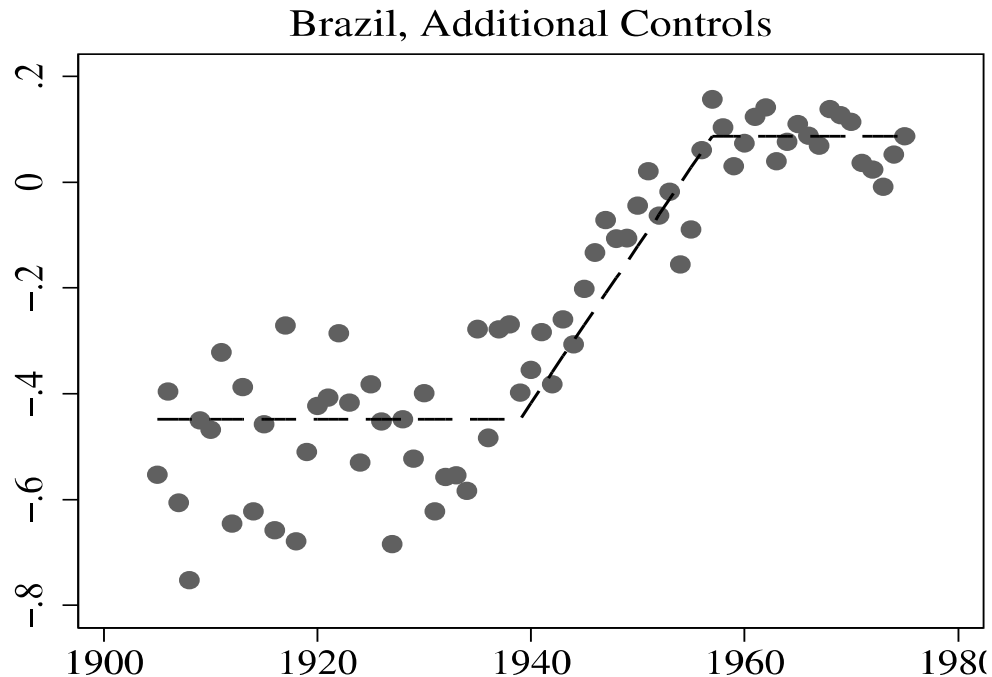
Income change: income of those born in 1960  
- income of those born in 1935



Courtesy of Hoyt Bleakley. Used with permission.

Pre-campaign malaria intensity

# Brazil: Do younger cohorts show larger gains in malaria infected region



Courtesy of Hoyt Bleakley and American Economic Association. Used with permission.

Each dot indicates the strength relationship between pre-campaign malaria index in region of birth and income, for those born in various cohorts: for pre-campaign cohorts, malaria is associated with lower income. The relationship become less and less strong for younger cohorts, and is about zero for the youngest cohorts

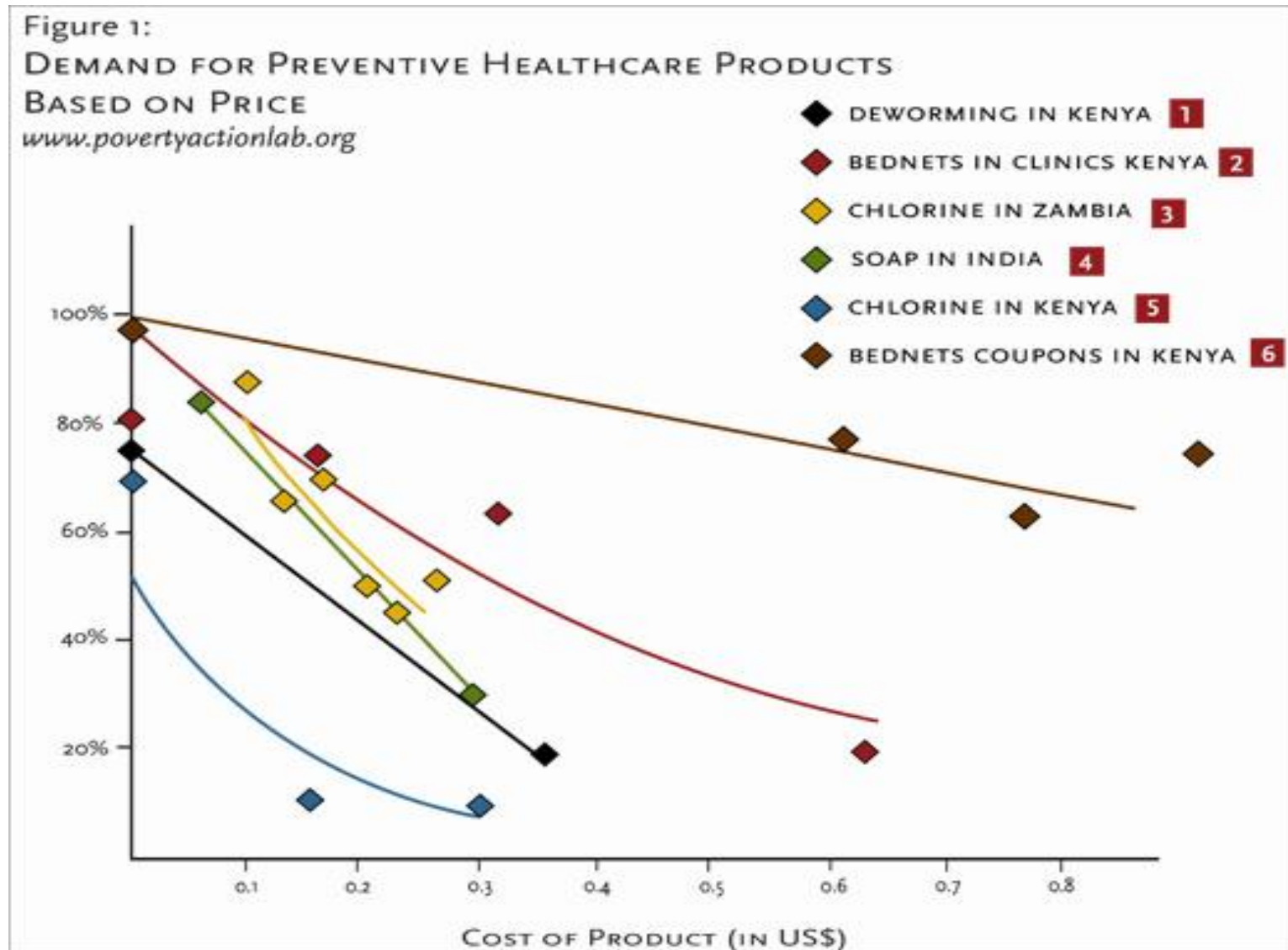
# The Bottom Line

- A child not exposed to malaria in Childhood would have an income 50% higher for all their life-time than a child exposed to malaria
- High but not absurdly high if you consider the effect of deworming.
- Investments in malaria control measures seem highly cost effective:
  - Why are countries not doing it?
  - Why are people not doing it?

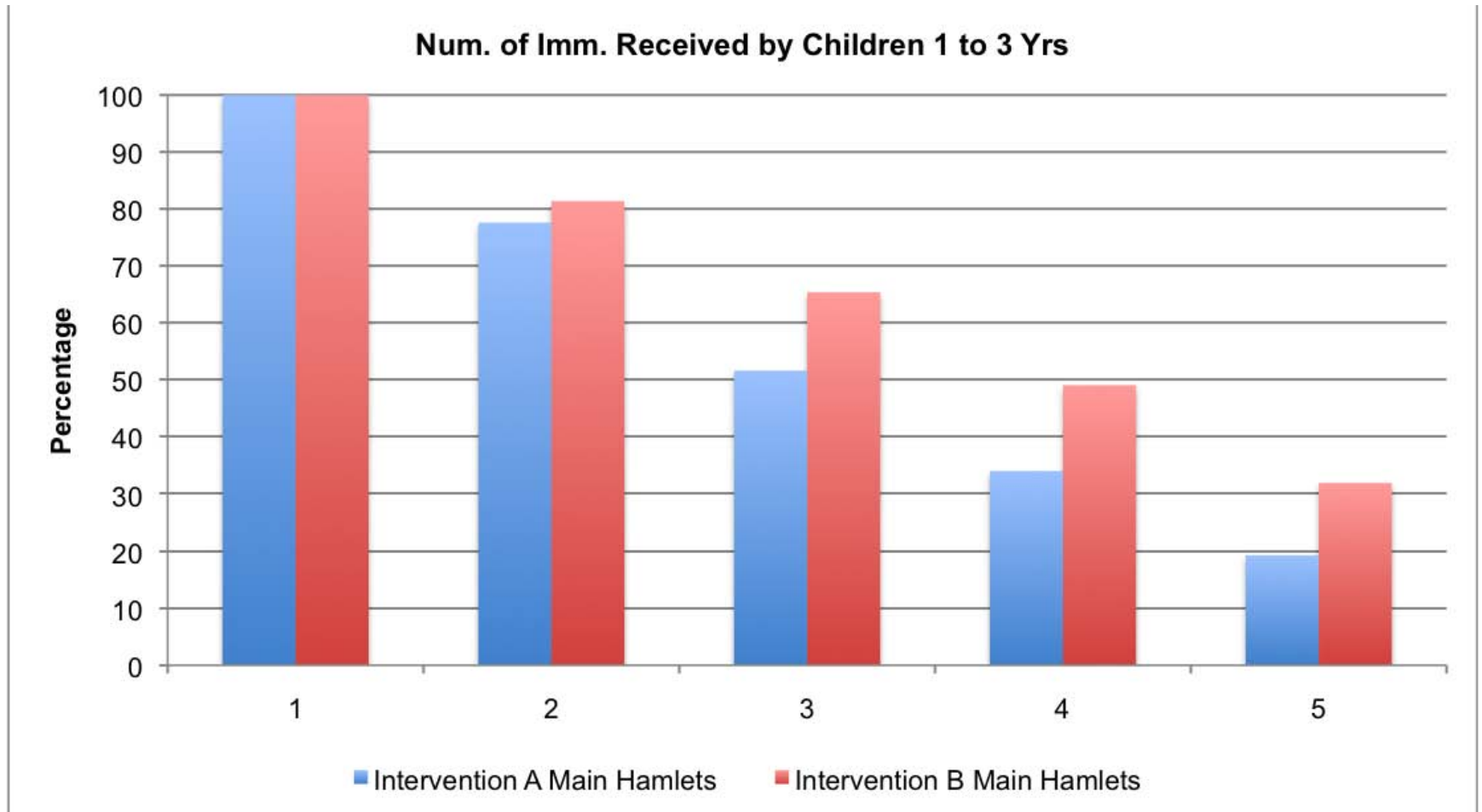
# Low Demand for preventive Care

- We have already seen that preventive care seems to exhibit:
  - Low level of demand
    - See graphs from various price experiment
  - High sensitivity to prices, either positive... or negative (small incentives).
    - See graph from an experiment in udaipur offering a kilo of lentil for each immunization received in a camp (compared to just the camp).

Figure 1: Demand for Health Products | Figure 2: Demand for Uniforms



# Effect of a small incentive for immunization



# Why is this surprising?

- These technologies have very high benefits.
- So if people do not want to pay for them, is it because they think there is something bad with these technologies (the “culture” argument)?
- But in this case, we would not see such high response to prices... So what can it be?



# Do people care about their health?

- Yes, they do:
  - Large amount of money spent on health care (up to 7% per month in the Udaipur survey)
- But most of these is spent on curative care.
  - Large expenses
  - Often for care that is very invasive and of poor quality: too much treatment.

# Are governments to blame?

- In a certain measure, yes:
  - Nurses are often absent: 35% on average in a survey conducted by the world bank.
  - Even when they are there, governments doctors and nurses do not treat patient very well
    - 3 minutes, 3 questions, 3 medicines!
- But even when services are good, people do not always get them: for example in the immunization camps, only 12% of people got all the shots: there is something about demand, not only about supply!

# Why the low demand

- Two difficulties with preventive care:
  - It is difficult to learn what works
  - Benefits are in the future, and the cost is now.

# Learning about Health Care

- Most diseases are self-limiting: they get better after being worst.
- If you start from the theory that a shot is needed, and someone is willing to give you that shot, then you will usually feel better, and attribute it to the shot.
- It will be harder to attribute it to nothing... tendency to overmedicate is always present (in rich and poor countries), and needs to be regulated away.

# Preventive care is worst

- You take an action that *prevents* something from happening.... A long time after the fact. Drawing the link is difficult
- If this is against a contagious disease, you may see many non-immunized children who are not falling sick either (same effect as with the deworming).
- You need to trust what you are told, and this trust is fragile:
  - MMR vaccine and autism in the US
  - Polio vaccine and sterilization in India

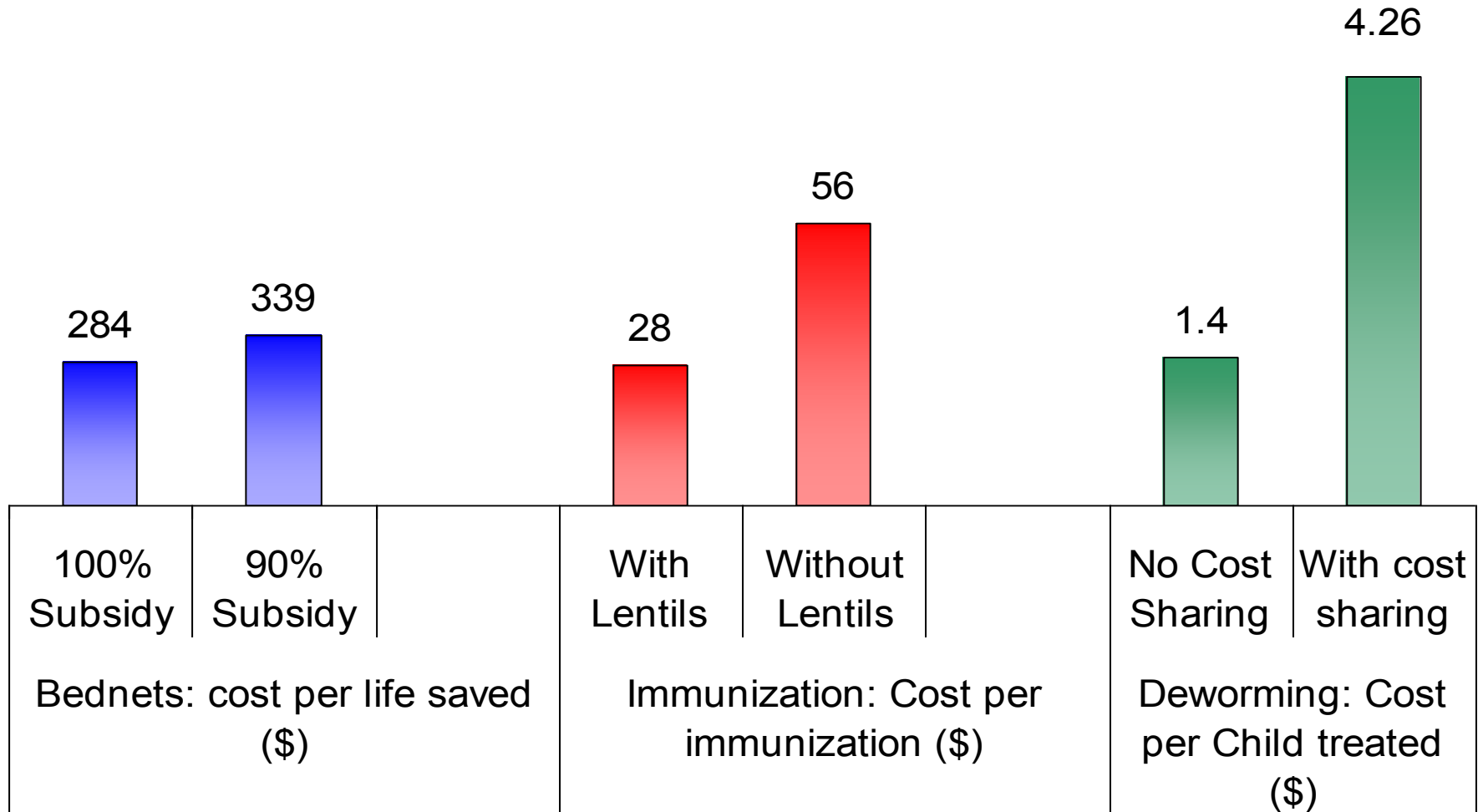
# Now or later

- Another problem is that preventive health care costs are incurred today, but benefits are in the future.
- Human beings tend to put too much weight on the present, relative to the entire future:
  - You have no time to do your essay for this deadline
  - .... But you will (surely) have time later in the semester
  - Same thing for exercising, savings, etc.
- Same problem with preventive care: parents may feel every month that they will get the immunization next month.... But something else comes up, and they don't end up doing it.

# What this means for policy

- Large benefits from making things easy/automatic for people:
  - Free Chlorin dispenser right where you collect your water
  - Small incentives for immunization/compulsory immunization if you can pull it off...
  - In many cases, the superficial cost benefit analysis gives you the wrong answer.
    - Charging a small amount may be counter-productive
    - Giving people small incentives may save you money

# Sustainability is not what you think it is





# What this means for policy

- The role of learning and trust is key
  - There can be further benefit to early subsidies, if this leads to learning about benefits.
  - For example bednets (Dupas, 2010)
    - People who got them were more likely to pay for a second one in the future
    - Neighbors of people who got one for free were more likely to pay for one if they had to pay.
  - Because preventive care is hard to teach, need to maintain trust: important for governments to choose their battles. India lost credibility by lying to people about sterilization, and recovering from this is very difficult.

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## 14.73 The Challenge of World Poverty

Spring 2011

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