

# The Demand for Health care

Esther Duflo

14.74

Lecture 8

# Why Is the Demand for Preventive Care So Sensitive to Prices?

- ▶ The high sensitivity to (even small) prices on the demand for financial care is surprising. In a standard model of investment in health, the individual compares the costs and the benefits. Given the very high returns of those investment in terms of health, the demand should be high.
- ▶ There could be fear, or lack of trust: But in that case small changes in prices should not have any effect (e.g. immunization, HIV-test).
- ▶ Two explanations have been proposed:
  1. Time inconsistent preferences.
  2. The perceived benefits of those actions is low (even if the real benefits are high): Parents are largely indifferent between immunizing their children or not immunizing them.

# Time Inconsistent Preferences

- ▶ Today, cost of immunizing the child is time taken, child discomfort, potential side effects.
- ▶ Benefits are in the future (at some unknown time).
- ▶ Human beings think of the present and the future differently (O'Donoghue and Rabin, Laibson).
  - ▶ In the present, we are impulsive: Costs incurred today appear very large relative to benefits.
  - ▶ In the future, we are more rational: Costs to be incurred next month appear small relative to benefits.
  - ▶ Example: Hyperbolic discounting : entire future discounted at rate  $\beta$ .

$$V(c) = u(c_0) + \beta \sum_{t=1}^T \delta^t u(c_t)$$

- ▶ We have a tendency to postpone small costs to a future period.
- ▶ But when the future comes, it is now the present, and the costs again seem large.

# Time Inconsistent Preferences and Preventive Care

- ▶ This could explain why getting an immunization is always postponed until next month while people are willing to spend large sums of money on a dubious curative care treatment for the same disease for their child.
- ▶ In this case, a small benefit that offset the small cost and is obtained today (e.g. a bag of lentils) can convince parents to take the step today.
- ▶ In most developed countries, there is a compulsory schedule of immunization: it plays the same role.
- ▶ In this world, subsidy, incentives, making some behavior compulsory, can be justified for two reasons:
  - ▶ Externalities: They convince us to undertake behavior that have positive spillovers on others.
  - ▶ “Internalities”: They help us undertake behavior that are optimal from our own point of view.

# The Role of Commitment Devices

- ▶ If time inconsistency is the main problem, there can be other ways to help individuals in taking the right steps:
  - ▶ “Nudging,” in the words of Richard Thaler and Cass Sunstein: Marketing techniques used to stir individuals to a choice that would be right from their rational’s self point of view (e.g. “good” default choices).
  - ▶ Helping them to commit in advance to behave in a certain way in the future: commitment devices.

# Smoking: The Role of Commitment Devices

- ▶ Smoking is a public health epidemic in developing countries.
- ▶ Self-aware individuals with time inconsistent preferences may want to commit to stop smoking.
- ▶ A microcredit bank in the Philippines proposed the CARES program, a commitment contract to smokers:
  - ▶ They open a (interest free) savings account.
  - ▶ They make regular deposits in the account.
  - ▶ After 6 months, they have to pass a surprise smoking test.
  - ▶ If they fail the test, they forfeit their money.
- ▶ No one would take this product if they were not looking to force themselves to stop smoking.
- ▶ The CARES program was evaluated by Dean Karlan and Jon Zinman.

# The Impact of the CARES Program

- ▶ CARES randomly offered to 781 out of 2000 smokers (randomly selected). 83 out of 781 (11%) accepted to take up the program.
- ▶ After 6 months, everyone performs a smoking test.
- ▶ Smoking cessation rates:
  - ▶ 11% in the treatment group (*all* those offered CARES)
  - ▶ 8% in the control group
- ▶ 29 out of 83 who took CARES stopped smoking (35%). But note that we cannot compare those who took up CARES and those who did not: Those who took-up may be those who are the most (or the least!) likely to stop smoking.
- ▶ Impact of being *offered* CARES: 3 percentage points.
- ▶ If we assume that being offered CARES has no effect on those who do not take it up, these extra 3% are due to the 11% of people who took up the program. Effect of the program:  $\frac{0.03}{0.11}$ : 30%.

# Can this be all?

- ▶ Thus, there is evidence that time inconsistency plays a role.
- ▶ However, constantly postponing preventive care, if we are fully aware of its benefits, requires to be both time inconsistent and very naive.
- ▶ May be it is not the entire explanation, and part of the problem has to do with low perceived benefits: how we learn about health.



# Preventive versus curative care

- ▶ The Low demand for preventive care contrasts with high expenditure on health
- ▶ Udaipur: 7% of budget is spent on health.
- ▶ Type of health care received:
  - ▶ Traditional medicine for some things
  - ▶ When modern medicine is used: shots, drips, etc.
- ▶ What is the difference between preventive and curative care?

# Learning about Health

- ▶ Suppose that your prior belief that antibiotics help is very strong
- ▶ Then in a unregulated market you will always get antibiotic
- ▶ Now if most diseases get well by themselves anyway, each new experience will reinforce your belief that indeed antibiotic works.
- ▶ The diseases for which you will *not* seek treatment are the diseases that do not get away by themselves, and for which you should get treatment: chronic diseases.
- ▶ Some evidence in favor of this model is provided by Das and Sanchez: They found that poor people are more likely to see doctors than rich people for short duration morbidity (1 in 2 SDM leads to a visit for the poor, 1 out of 2.7 for the rich).
- ▶ You are more likely to see bhopas for those, perhaps because that gives you some hope.

# The policy implications

- ▶ Large benefits to make things as easy as possible for people: use of default options, compulsory behavior, etc.
- ▶ In developing countries, things are almost the opposite: everything is a little harder (the nurse is not here, etc.): Why not compensate by making things cheap/free/even cheaper than free?
- ▶ This has brought two questions:
  - ▶ Will people mis-use a good they got for free?
  - ▶ Will people get use to handouts (or: alternatively, will they learn?)
  - ▶ Will others be discouraged from buying the goods (or, alternatively, will they learn?)

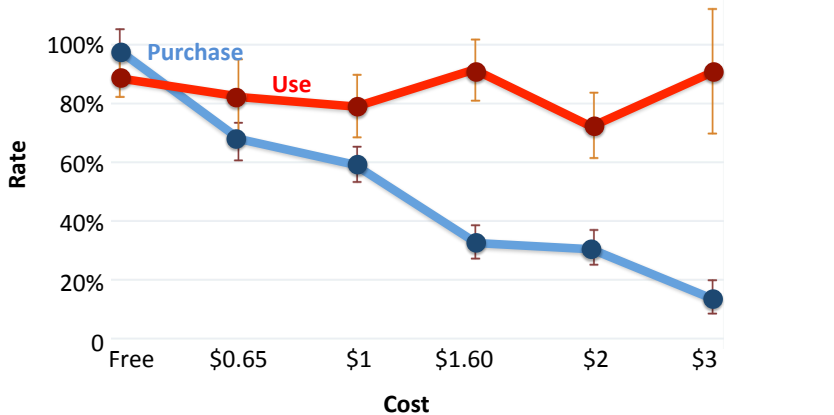
# The effect of price on usage, learning, and social effects

- ▶ A study by Pascaline Dupas in Kenya answer all 3 questions
- ▶ Design:
  - ▶ Round 1: People get a voucher for a bednet at reduced price (from free to a few dollars)
  - ▶ Round 2: A few months later, second vouchers, all at the same price (mid-point)
- ▶ Questions
  1. What is the price elasticity?
  2. What is the elasticity of price on usage?
  3. What is the elasticity of price on future purchase?
  4. Are the neighbors of people who got it for free more or less likely to purchase the new one?

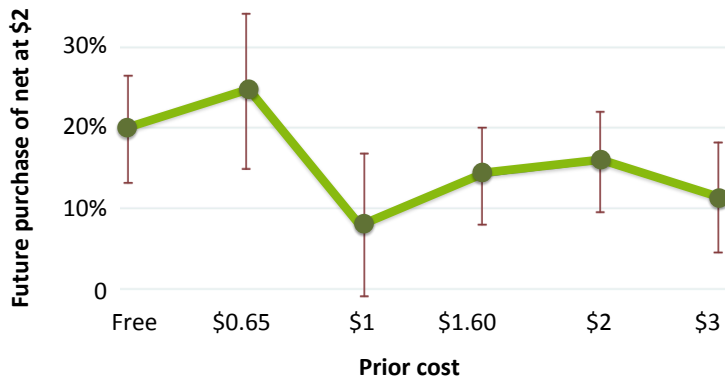
## If people must pay for bednets, will they purchase them?



## When people get bednets for free, will they **use** it?



## Do free nets discourage future purchases?



## Do **neighbors** buy nets if other got it for free?

