

Economics 1: Introduction to Economics

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Administrivia

February 29, 2016 8-9 AM
Wheeler Auditorium, U.C. Berkeley

Meta-Announcement

- We are moving announcements and administrivia out of lecture time and onto the “announcements” bCourses page...
- That is all...

Webtools

- Problem Set 4 is now out: due Mar 2/3. Both problem set and sample exam...
 - Link off of:
 - <http://www.bradford-delong.com/course-syllabus-econ-1-spring-2016-uc-berkeley.html>
 - <https://bcourses.berkeley.edu/courses/1411451/assignments/syllabus>
 - Direct link at: <http://delong.typepad.com/files/2016-02-24-econ-1-s-2016-problem-set-4.pdf>
- Paper Assignment is now out: due first section after spring break. Link off of:
 - <http://www.bradford-delong.com/course-syllabus-econ-1-spring-2016-uc-berkeley.html>
 - <https://bcourses.berkeley.edu/courses/1411451/assignments/syllabus>
 - Direct Link at: <http://delong.typepad.com/files/2016-02-23-econ-1-essay-question.pdf>

Paper Assignment

- Due at the start of the first section after spring vacation
- Write a short (700-1000 words) essay answering one of the four following topics.
- Citations... Not a research paper... No need to use outside sources... Hard copies... Double spaced, reasonable margins... 12-point... word count at end... Page numbers... Stapled... Name on pages...
- Four options—well, seven options—Dasgupta, Friedman and Director Friedman, Slee, any two, or all three

Where We Are...

- For the midterm
- We are going to march through chapter 11 and then chapter 13
- That will mean leaving chapters 12 and 14 for the week between the midterm and spring break
- And starting macroeconomics after spring vacation

Orientation

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The Market Balance Sheet: Con

- Markets can go wrong: we are marching through the “how can markets go wrong?” part of the course:
 1. Out-of-equilibrium
 2. Rigidified by government quotas and price ceilings/floors
 3. Uncompetitive
 4. Non-rival (increasing returns to scale)
 5. Externalities (in production and in consumption, positive and negative)
 - 6. Information and its asymmetries**
 7. Non-excludible (public goods etc.)
 8. Maldistributions
 9. Miscalculations...
- That makes nine kinds of things that can, do, and have gone wrong
 - (Of course, governments and other alternatives can go wrong too)
- Last week we did externalities...
- Today we do the economics of information—specifically, “adverse selection”



THE MARKET FOR “LEMONS”: QUALITY UNCERTAINTY AND THE MARKET MECHANISM *

GEORGE A. AKERLOF

I. Introduction, 488. — II. The model with automobiles as an example, 489. — III. Examples and applications, 492. — IV. Counteracting institutions, 499. — V. Conclusion, 500.

I. INTRODUCTION

This paper relates quality and uncertainty. The existence of goods of many grades poses interesting and important problems for the theory of markets. On the one hand, the interaction of quality differences and uncertainty may explain important institutions of

The Market Balance Sheet: Pro

- The competitive market in equilibrium, from the perspective of a utilitarian seeking to achieve the greatest-good-of-the-greatest-number:
 1. Allocates the roles of producers and sellers to those who can make and sell in a way least costly to society's resources, those with the lowest *opportunity cost*.
 2. Produces at a scale that exhausts all possible *win-win exchanges*
 3. Allocates the goods produced to those with the greatest *willingness-to-pay*—those who, by the money standard, need and want it the most

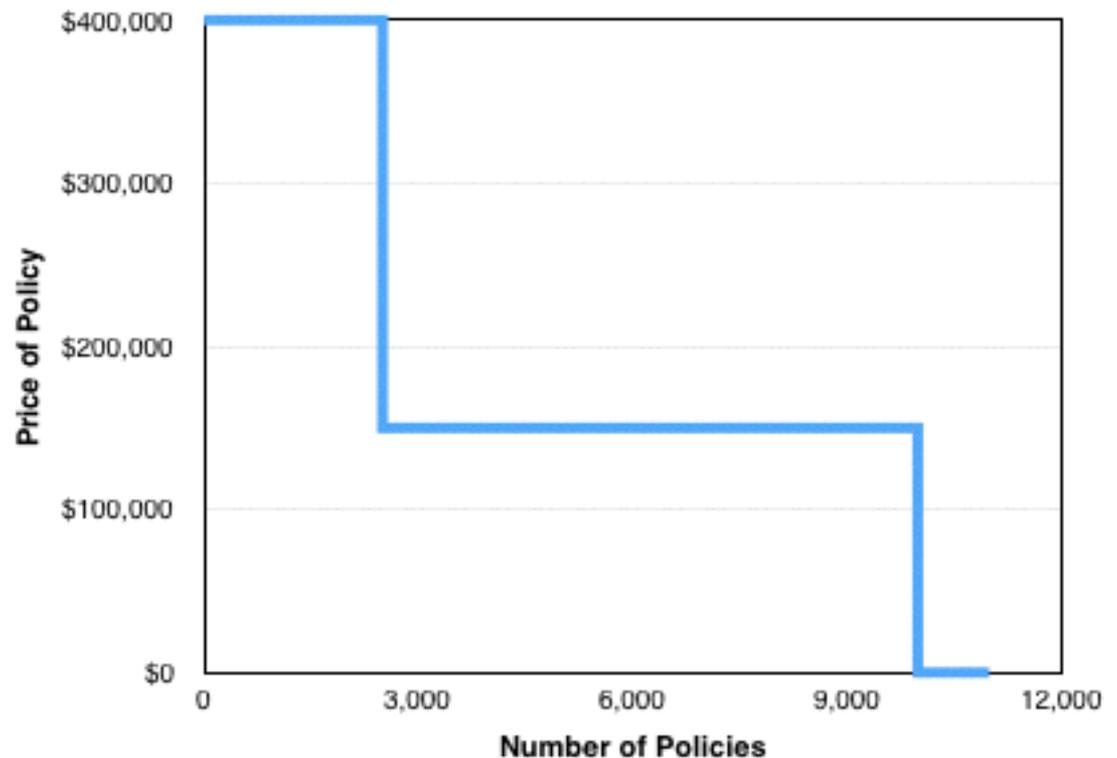
Adverse Selection

February 29, 2016 8-9 AM
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The Market for Health Insurance in Old Stick

- 10,000 customers
- 1000 will get **Sick**, and cost \$1,000,000 each to treat—which not even the rich can pay out-of-pocket
- 7500 **Not-rich**
 - Can only afford to pay \$150,000 for health insurance
- 2500 **Rich**:
 - Value their lives at \$4,000,000

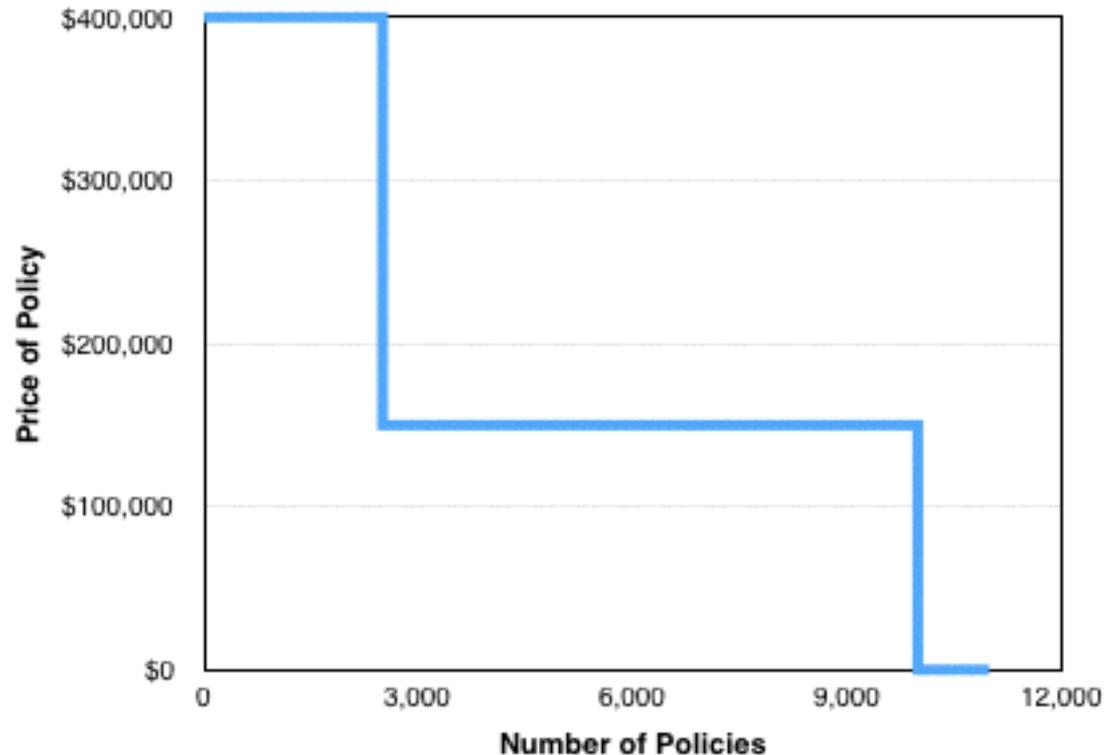
Demand for Health Insurance in Old Stick



To Your i>Clickers...

- 2500 Rich:
 - Value their lives at \$4,000,000
 - 10% chance of getting sick
- What will the rich be willing to pay for health insurance?
 - A. Everything they have got
 - B. \$400,000
 - C. More than \$400,000
 - D. They will choose to “go naked”
 - E. \$150,000

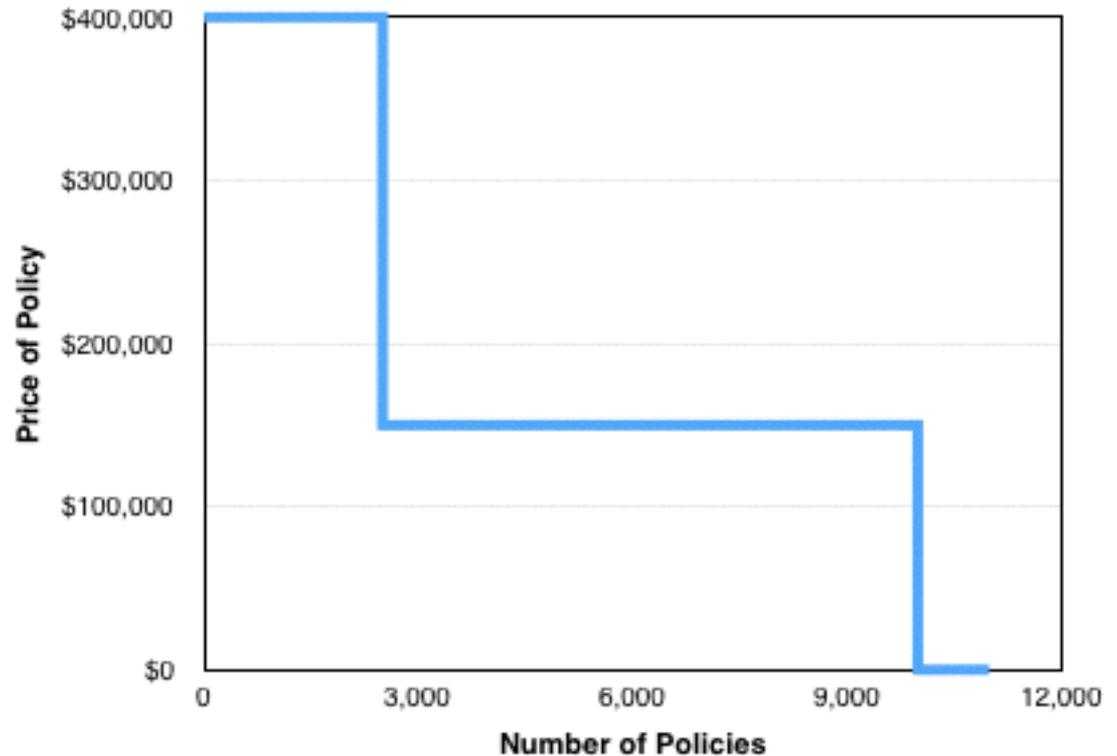
Demand for Health Insurance in Old Stick



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 - 10% chance of getting sick
- What will the rich be willing to pay for health insurance?
 - A. Everything they have got
 - B. \$400,000
 - C. More than \$400,000
 - D. They will choose to “go naked”
 - E. None of the above
- **No right answer here...**
- **But for this lecture we will go with (B): risk-neutrality**

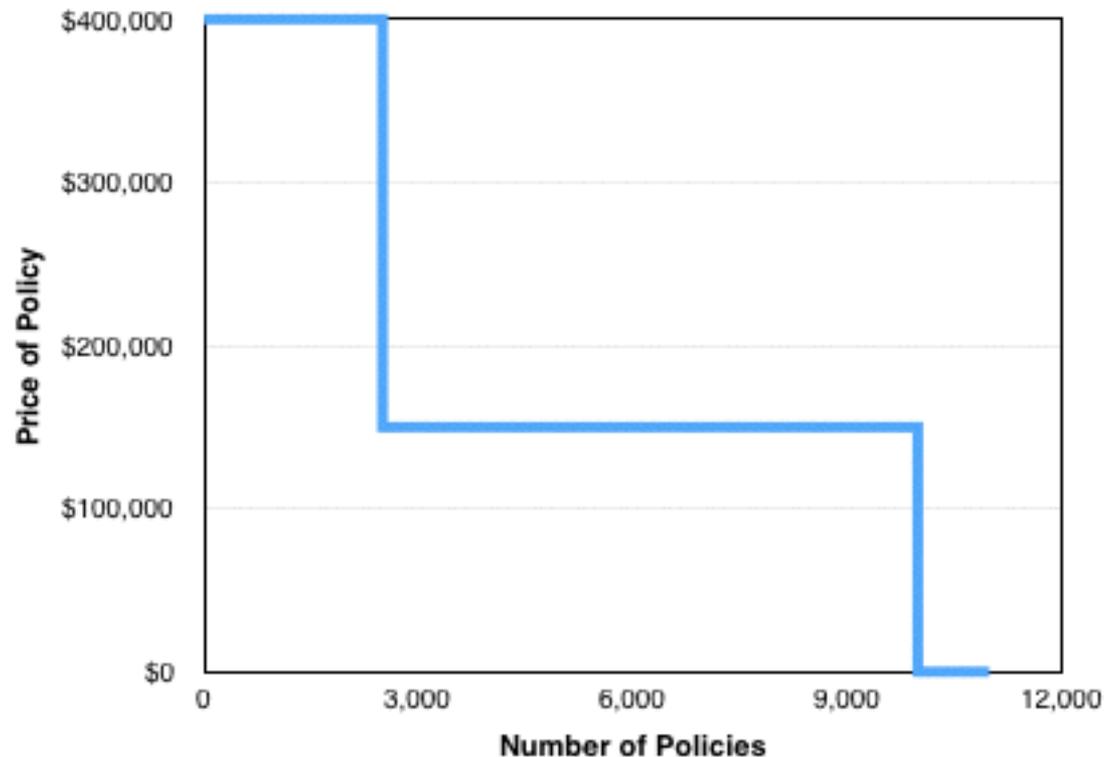
Demand for Health Insurance in Old Stick



Health Insurance in Old Stick

- 10,000 customers
- 1000 will get **Sick**, cost \$1,000,000 to treat
- 7500 **N**: WTP \$150,000 —that is all they can afford
 - Implicit value of life of \$1.5M
- 2500 **R**: WTP \$400,000 —risk-neutral as an assumption gives an implicit value of life of \$4M
- What will supply be?

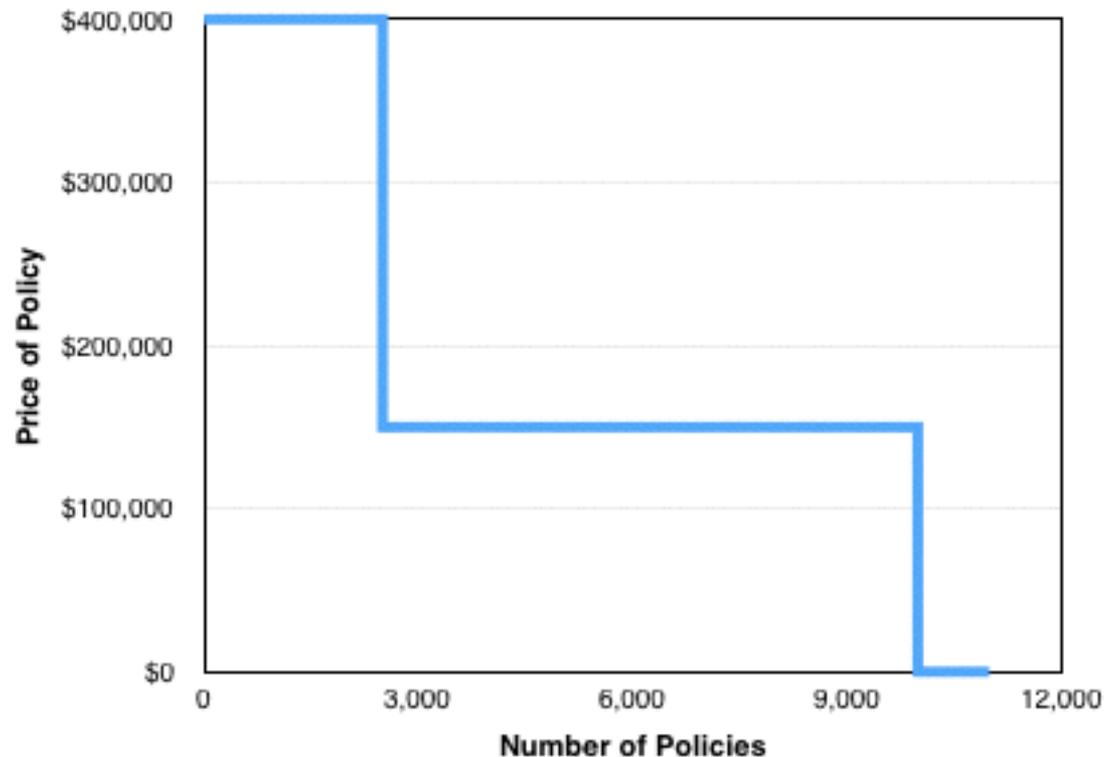
Demand for Health Insurance in Old Stick



To Your i>Clickers

- 10,000 customers
- 1000 will get **Sick**, cost \$1,000,000 to treat
- How much will health insurance companies charge for a policy if the market is competitive?
 - A. \$400,000—the WTP of the **R**
 - B. \$150,000—to make profits
 - C. \$100,000
 - D. None of the above

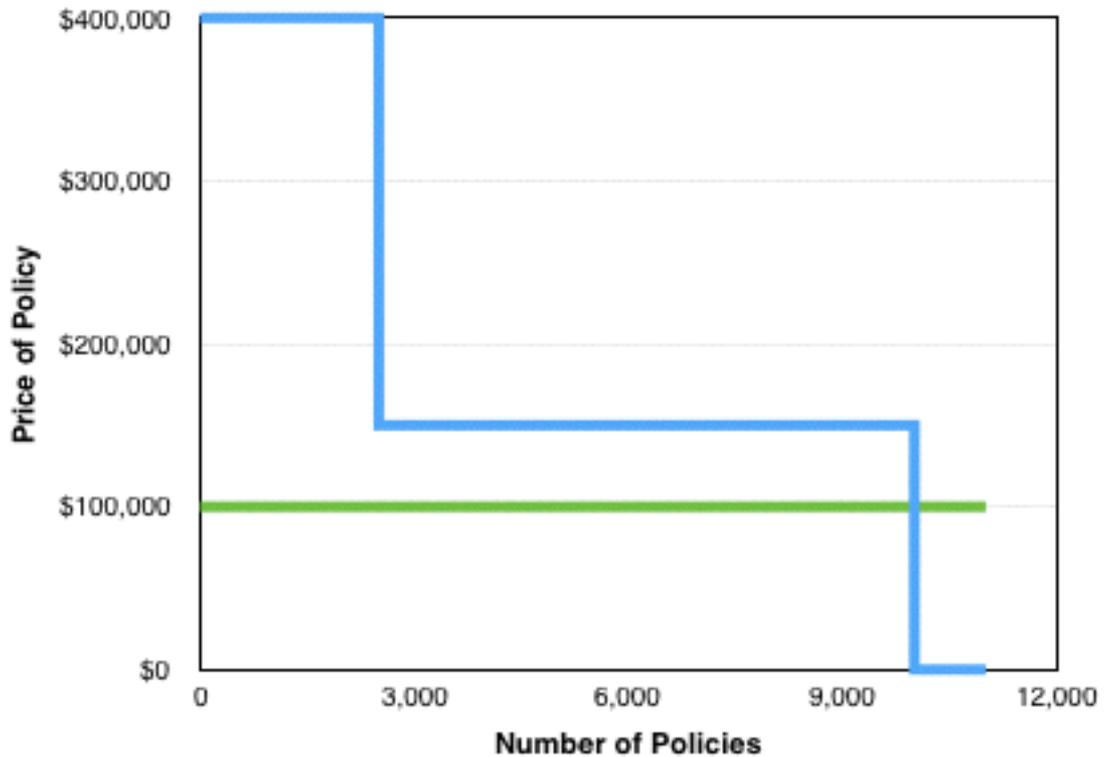
Demand for Health Insurance in Old Stick



To Your i>Clickers

- 10,000 customers
- 1000 will get **Sick**, cost \$1,000,000 to treat
- How much will health insurance companies charge for a policy if the industry is competitive?
 - A. \$400,000—the WTP of the rich
 - B. \$150,000—to make profits**
 - C. \$100,000 <<**
 - D. None of the above
- Supply is perfectly responsive at a cost of \$100,000
- Perfectly-competitive industry with no fixed factors of production

Demand for Health Insurance in Old Stick

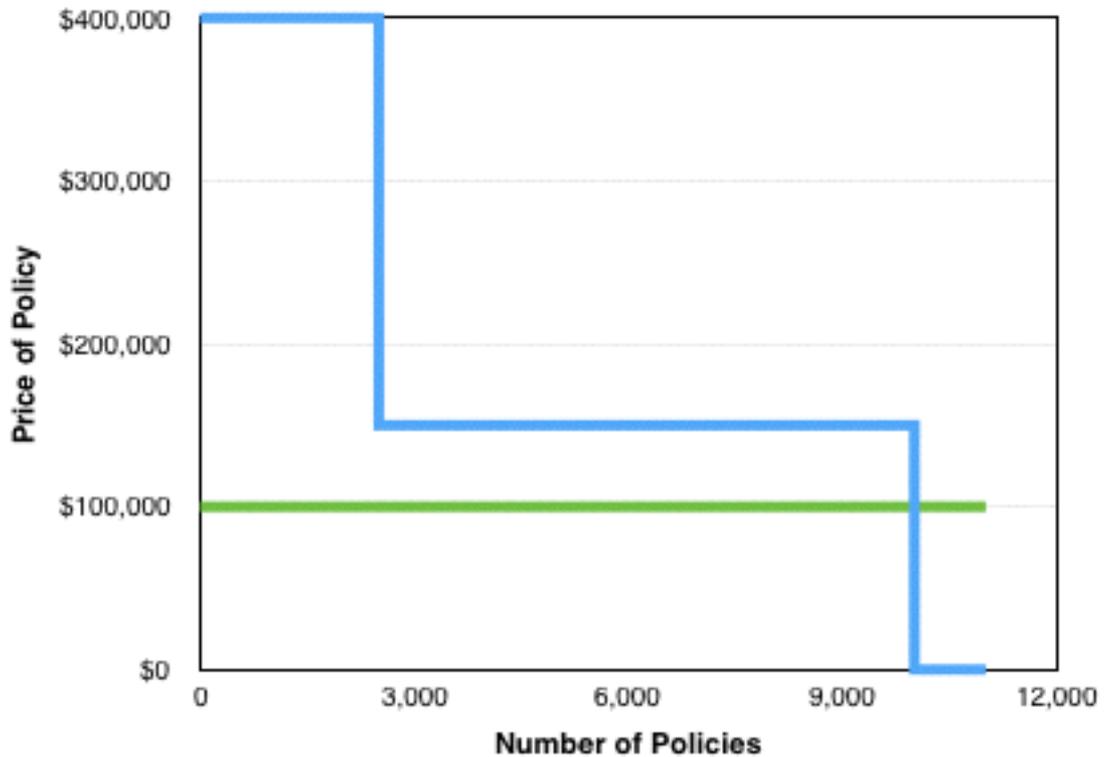


Equilibrium

- 10,000 customers—
1000 will get **Sick**, cost \$1,000,000 to treat
- 2500 **R**: WTP \$400,000
- 7500 **N**: WTP \$150,000
- Supply perfectly responsive at a cost of \$100,000/policy

- What will the market equilibrium look like here?

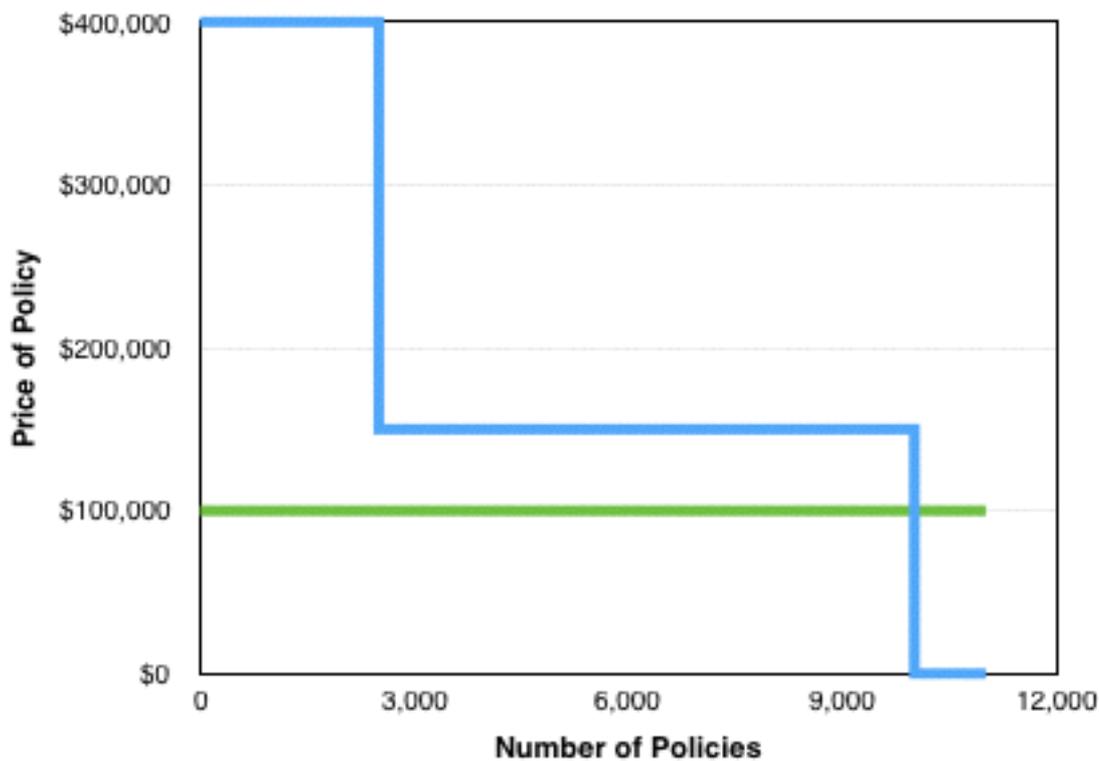
Demand for Health Insurance in Old Stick



To Your i>Clickers

- 10,000 customers—1000 will get **Sick**, cost \$1,000,000 to treat
- 2500 **R**: WTP \$400,000
- 7500 **N**: WTP \$150,000
- Supply perfectly responsive at \$100,000/policy
- What will the market equilibrium price and quantity be?
 - A. $P=\$400K, Q=2500$
 - B. $P=\$100K, Q=10000$
 - C. $P=\$0, Q=10000$
 - D. $P=\$150K, Q=10000$
 - E. $P=\$150K, Q=2500$

Demand for Health Insurance in Old Stick



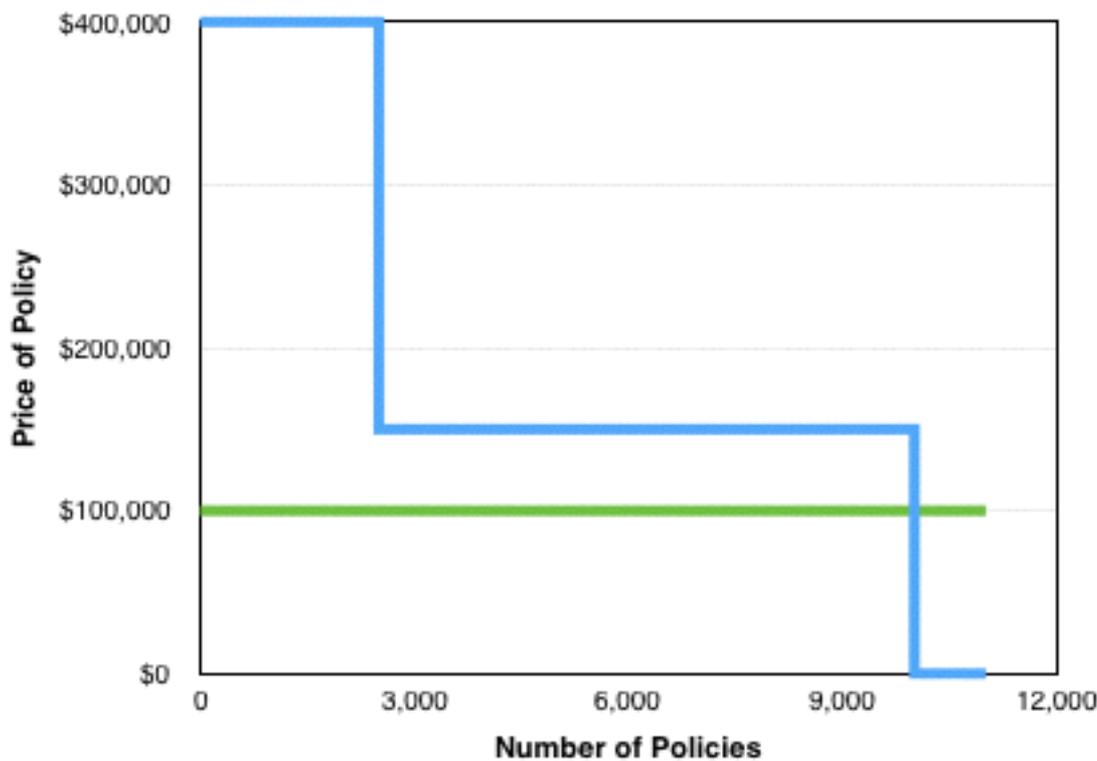
To Your i>Clickers

- 10,000 customers—1000 will get Sick, cost \$1,000,000 to treat
- 2500 R: WTP \$400,000
- 7500 N: WTP \$150,000
- Supply perfectly responsive at a price of \$100,000/policy

- What will the market equilibrium price and quantity be?
 - A. P=\$400K, Q=2500
 - B. P=\$100K, Q=10000<<**
 - C. P=\$0, Q=10000
 - D. P=\$150K, Q=10000
 - E. P=\$150K, Q=2500

- At a price of \$150K and a quantity of 10,000, firms will be trying to enter...

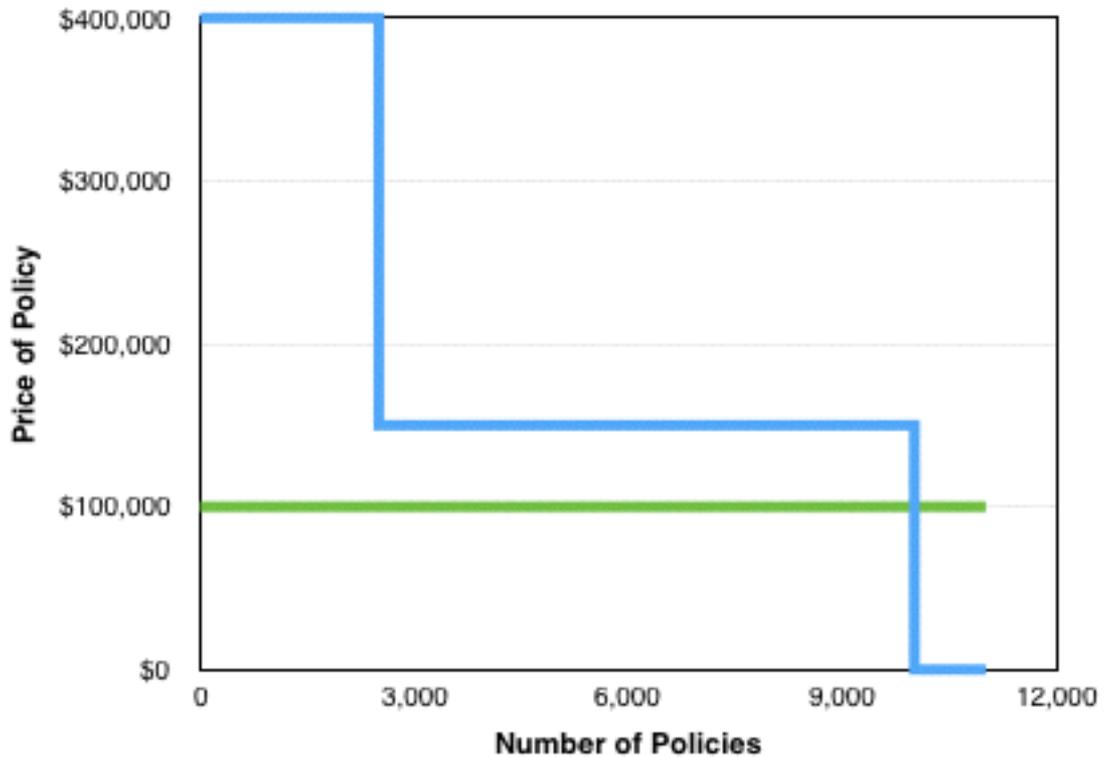
Demand for Health Insurance in Old Stick



Market Equilibrium

- 10,000 customers—1000 will get **Sick**, cost \$1,000,000 to treat
- 2500 **R**: WTP \$400,000
- 7500 **N**: WTP \$150,000
- Supply perfectly responsive at a price of \$100,000/policy
- $P = \$100K, Q=10000$
- Everybody gets insured
- Everybody gets treated
- We collectively purchase health for everyone at a cost of \$1B
- The market works fine!

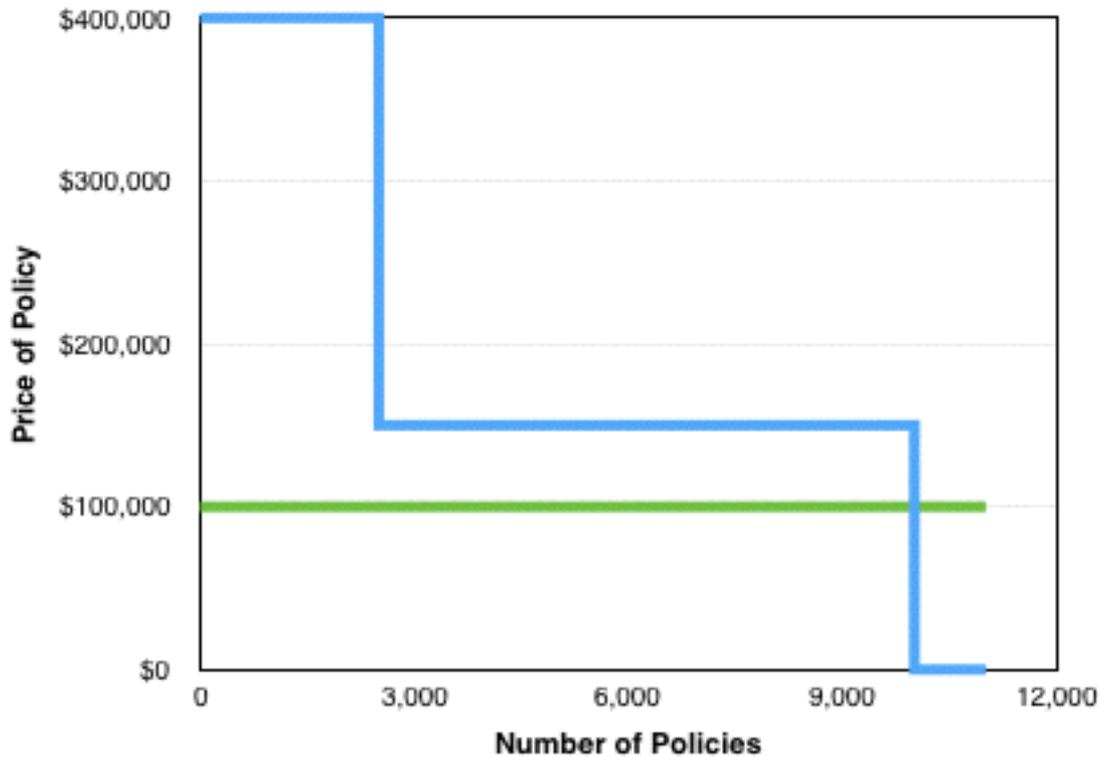
Demand for Health Insurance in Old Stick



To Your i>Clickers

- 10,000 customers—1000 will get Sick, cost \$1,000,000 to treat
 - 2500 R: WTP \$400,000
 - 7500 N: WTP \$150,000
 - Market equilibrium: P= \$100K, Q=10000
- What is the consumer surplus here?
- A. $\$300\text{K} \times 2500 = \750M
 - B. $\$50\text{K} \times 10000 = \500M
 - C. $\$300\text{K} \times 2500 + \$50\text{K} \times 7500 = \1.125B
 - D. $\$400\text{K} \times 10000 = \5B
 - E. None of the above

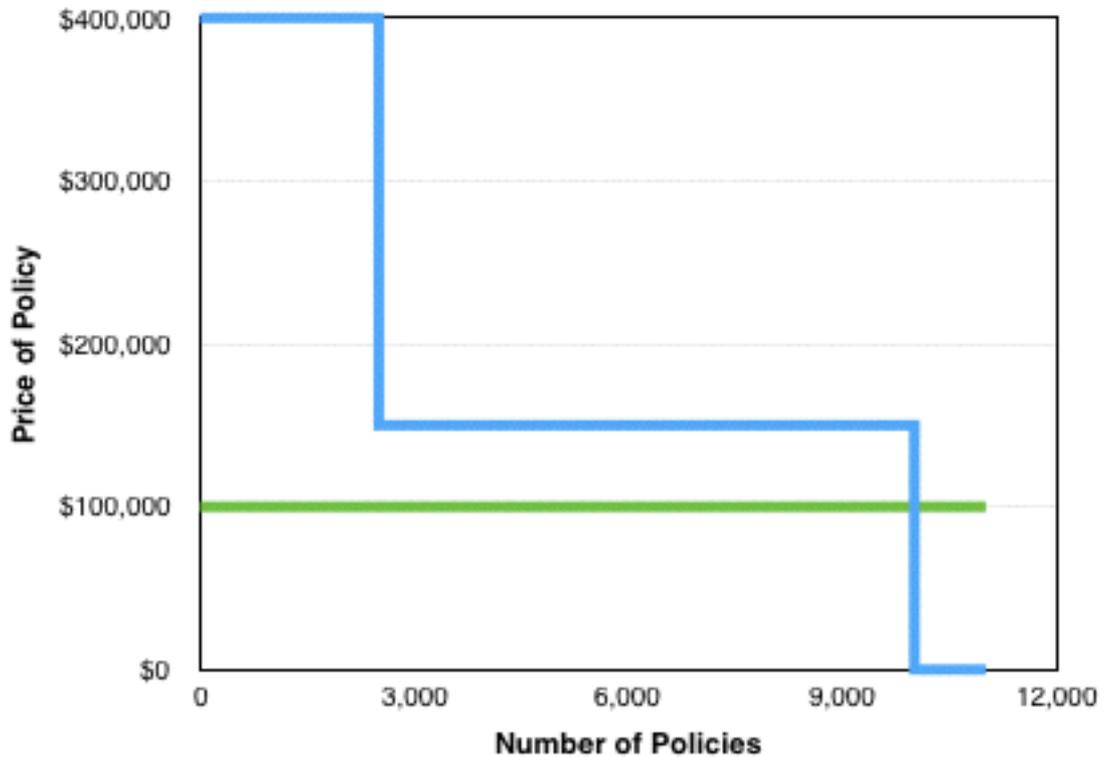
Demand for Health Insurance in Old Stick



How Much Consumer Surplus Here?

- 10,000 customers—1000 will get Sick, cost \$1,000,000 to treat
- 2500 R: WTP \$400,000
- 7500 Not: WTP \$150,000
- Market equilibrium: P= \$100K, Q=10000
- What is the consumer surplus here?
 - A. \$300K x 2500 = \$750M
 - B. \$50K x 10000 = \$500M
 - C. \$300K x 2500 + \$50K x 7500 = \$1.125B<<**
 - D. \$300K x 10000 = \$3B
 - E. None of the above
- But think about this: it may be a harder problem

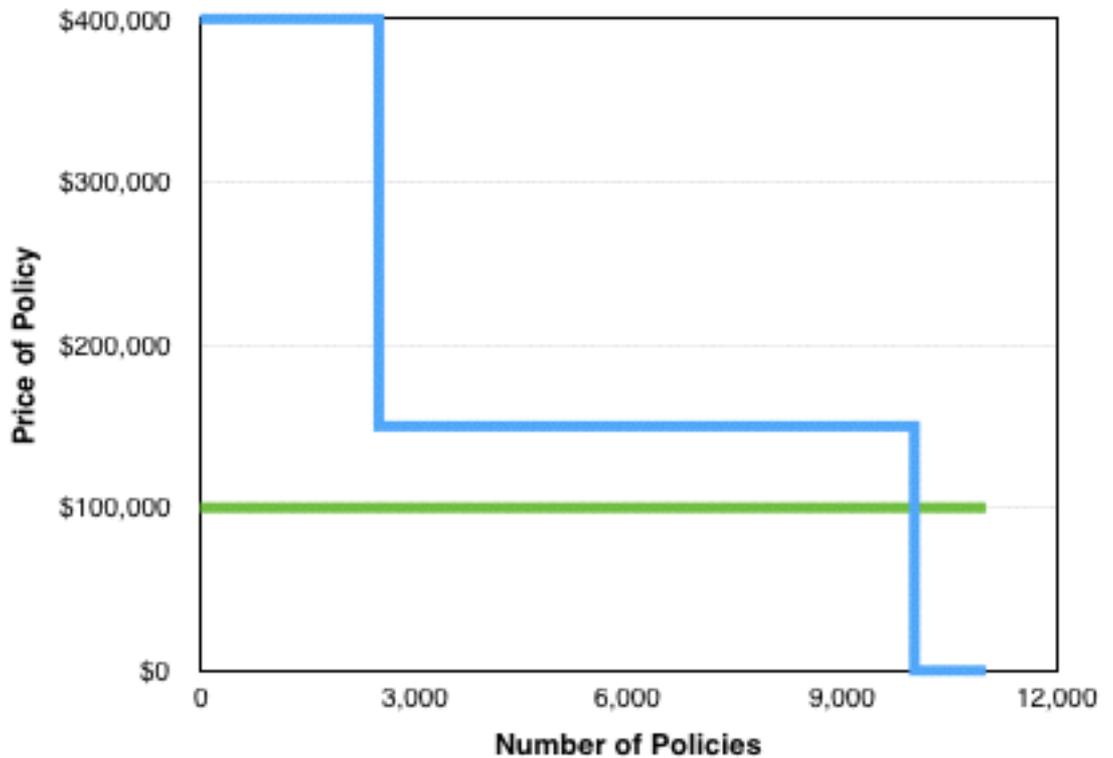
Demand for Health Insurance in Old Stick



Health Insurance: A Diagnostic Test Is Invented

- A free test
- Half of the people learn that they are not going to get sick
- Half of the people learn that their odds of getting sick are not 10% but 20%
- What happens?

Demand for Health Insurance in Old Stick



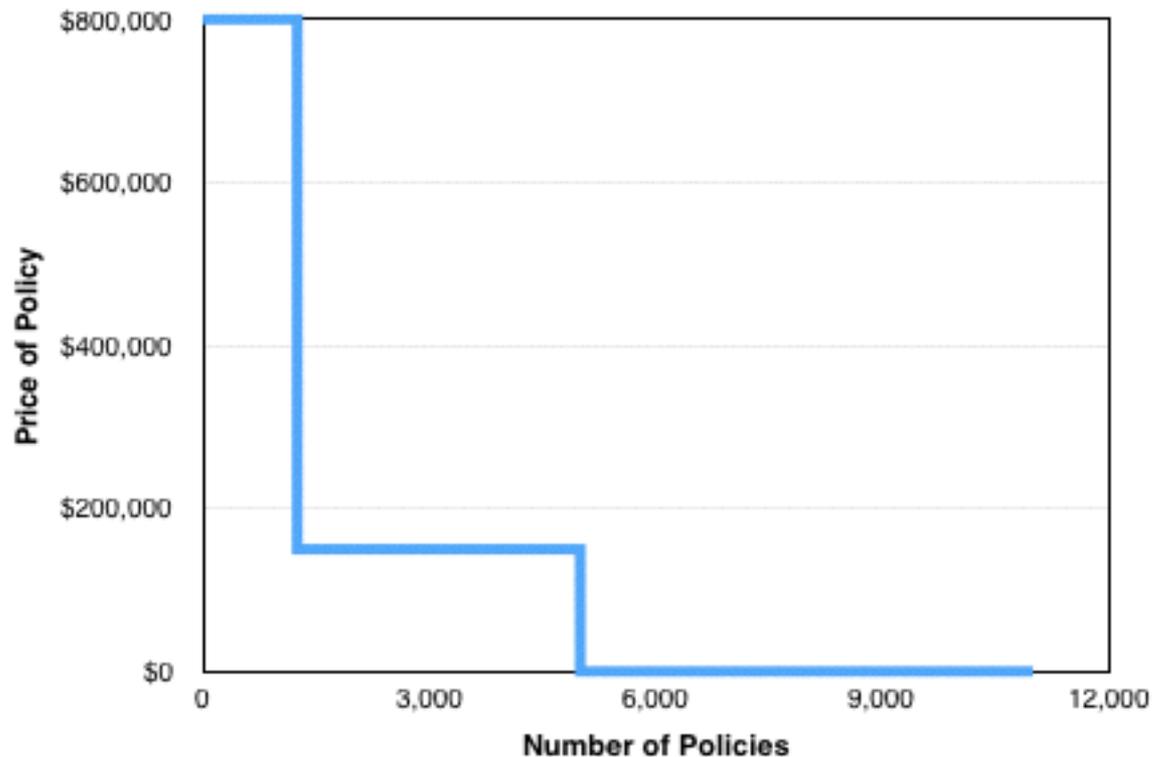
What Does the Market Equilibrium Look Like Now?

- 1250 R+:
 - $WTP = \$800,000$ —they're more eager to get insurance
- 3750 N+:
 - $WTP = \$150,000$ —they still can only afford to pay their limit
- 5000 people (-):
 - $WTP = \$0$ —they know that getting insurance really not a priority
- The market has *separated* based on *information*
- What does demand look like?

What Does the Market Equilibrium Look Like Now?

- 1250 R+:
 - WTP \$800,000
- 3750 N+:
 - WTP \$150,000
- 5000 people (-):
 - WTP=\$0
- Here's what demand looks like
- What does supply look like?

Health Insurance: with Diagnostic Test



To Your iClickers

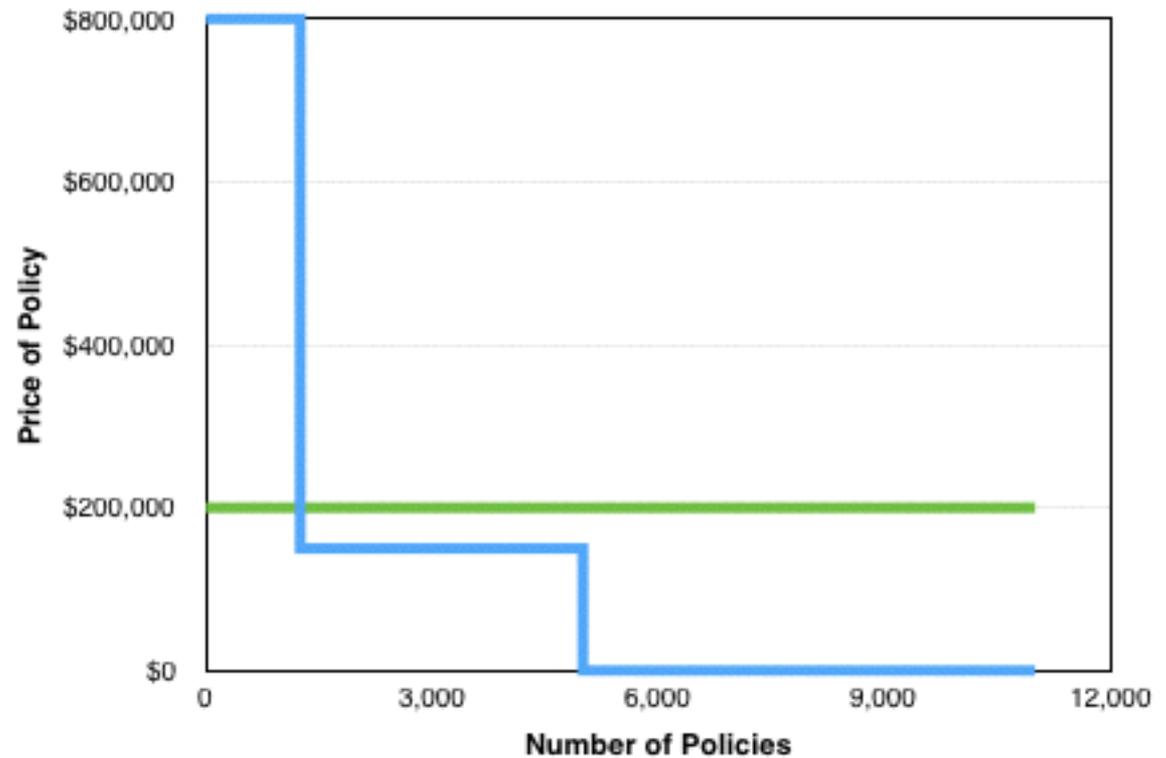
- 1250 **R+**: WTP = \$800,000
- 3750 **N+**: WTP = \$150,000
- 5000 people (-): WTP=\$0
- Sick people cost \$1M to treat; 1/10 of people get sick
- Half of people are reassured by the test that they won't get sick

- What does supply look like?
 - A. Same as before: since 1/10 of people get sick, you can cover your costs by charging \$100,000/policy
 - B. There is now too much uncertainty for it to be profitable to sell health insurance policies at any price
 - C. \$800K/policy—you want to make sure that only the **R+** buy your policies
 - D. \$200K/policy—only those with positive test results will be policies, and each of them has a 20% chance of getting sick
 - E. None of the above

To Your iClickers

- 1250 **R+**: WTP = \$800,000
- 3750 **N+**: WTP = \$150,000
- 5000 people **(-)**: WTP=\$0
- Sick people cost \$1M to treat; 1/10 of people get sick
- Half of people are reassured by the test that they won't get sick
- What does supply look like?
 - A. Same as before: since 1/10 of people get sick, you can cover your costs by charging \$100,000
 - B. There is now too much uncertainty for it to be profitable to sell health insurance policies at any price
 - C. \$800K—you want to make sure that only the rich buy your policies
 - D. \$200K—only those with positive test results will be policies, and each of them has a 20% chance of getting sick<<**
 - E. None of the above<<**

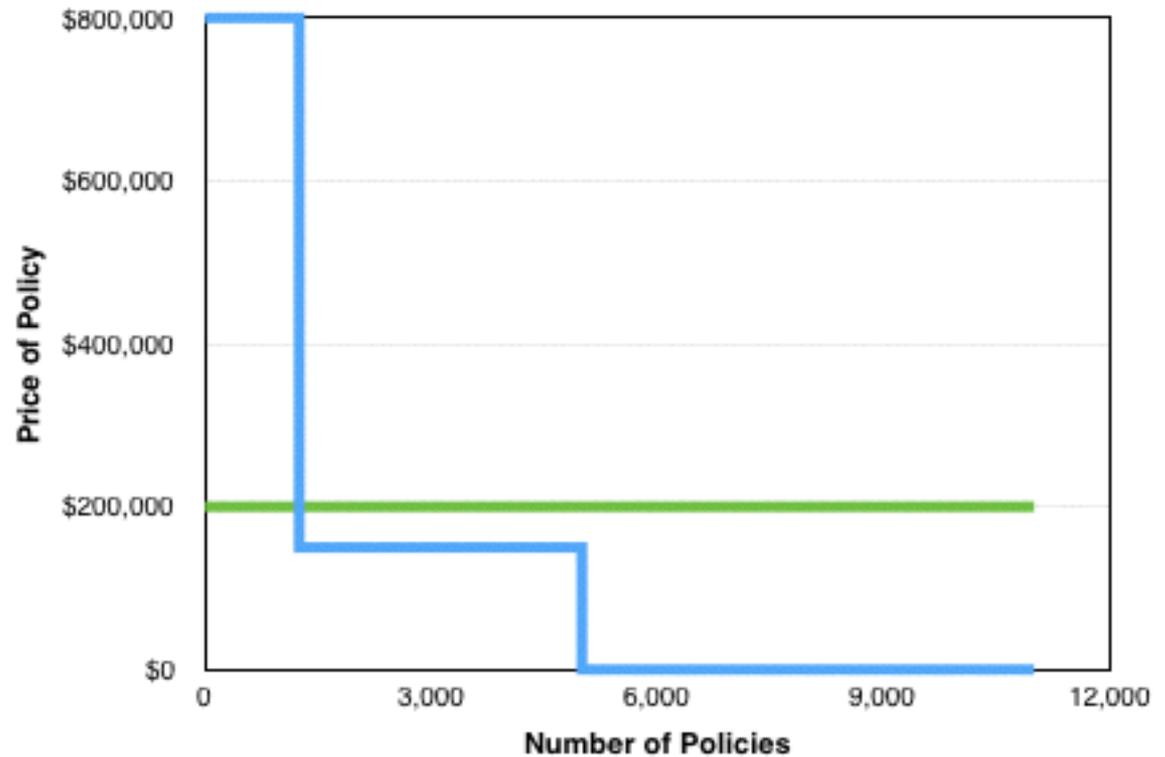
Health Insurance with Diagnostic Test



To Your i>Clickers...

- 1250 R+: WTP = \$800,000
 - 3750 N+: WTP = \$150,000
 - 5000 people-: WTP=\$0
 - Sick people cost \$1M to treat
 - 1/10 of people get sick
 - Half of people are reassured by the test that they won't get sick
- What does equilibrium look like?
- A. Same as before: P= \$100K, Q=10K
 - B. P=\$200K, Q=1250
 - C. P=\$200K, Q=10K
 - D. P=\$800K, Q=1250
 - E. None of the above

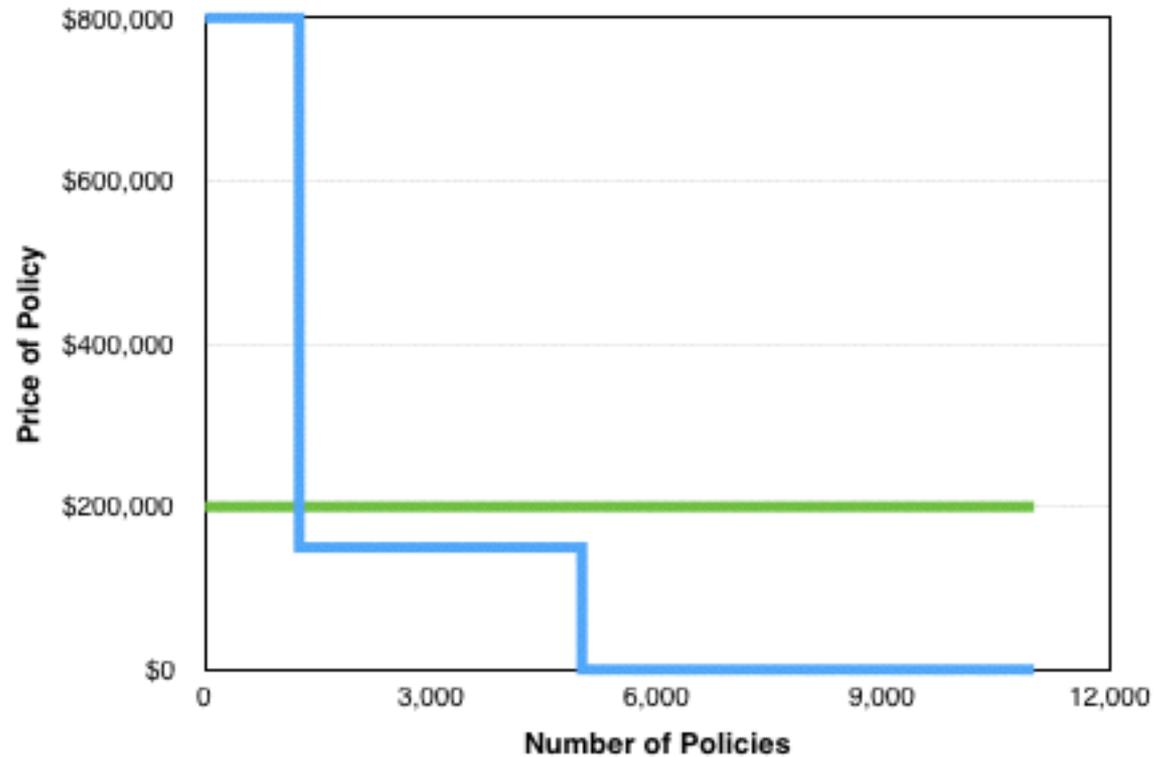
Health Insurance with Diagnostic Test



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- What does equilibrium look like?
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 - B. P=\$200K, Q=1250<<**
 - C. P=\$200K, Q=10K
 - D. P=\$800K, Q=1250
 - E. None of the above

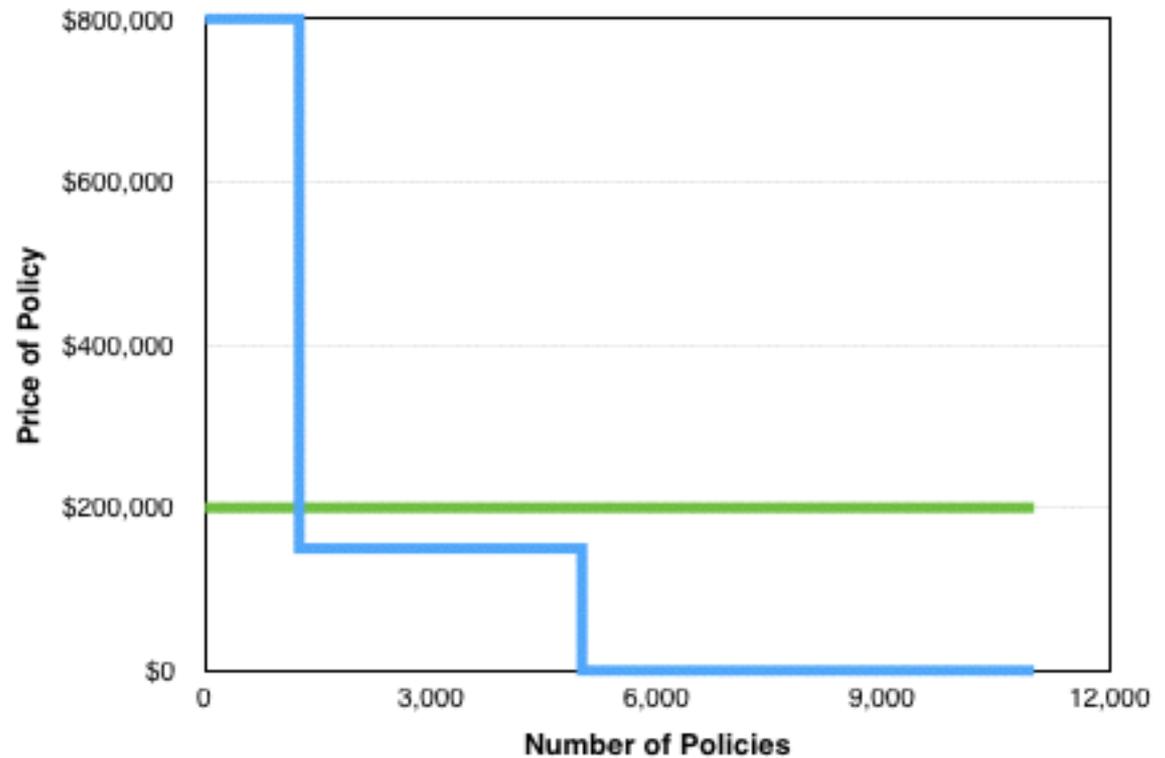
Health Insurance with Diagnostic Test



Why Is This the Equilibrium?

- Suppose you say:
 - “Only 1/10 of people will get sick—that’s \$100K.
 - “I can sell policies for \$150K and make a good profit.”
- Suppose you say that: what happens?

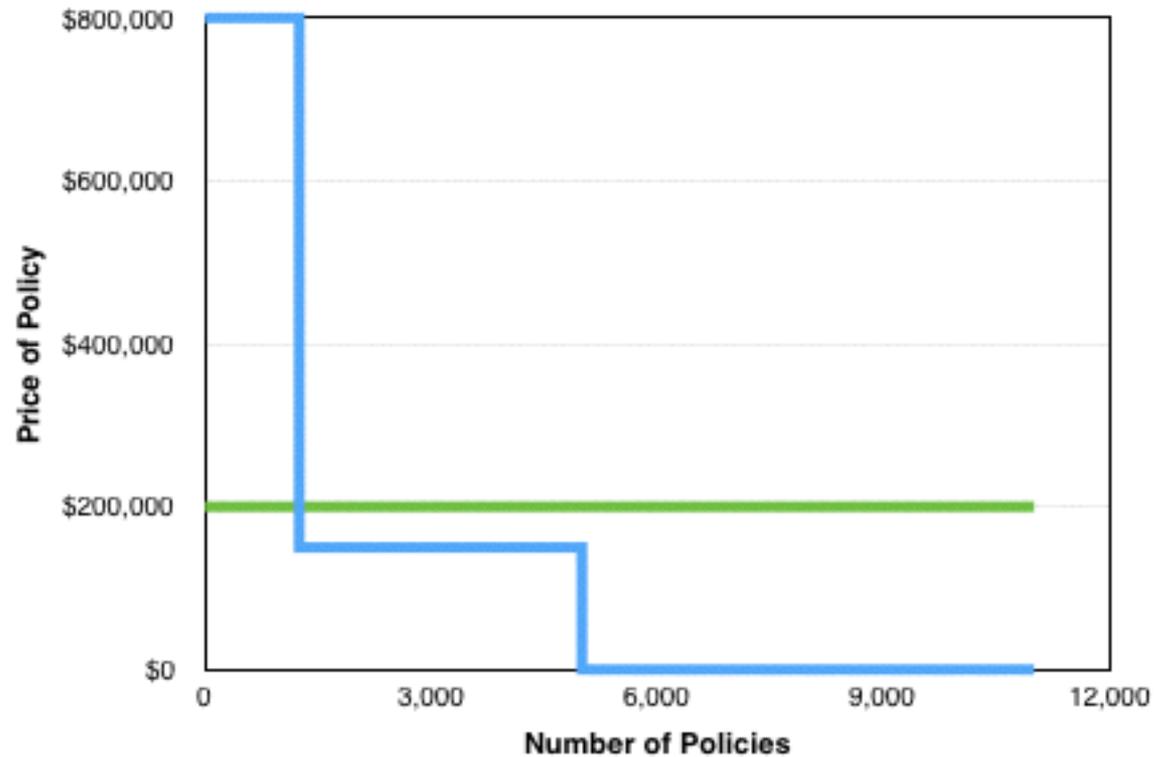
Health Insurance with Diagnostic Test



Why Is This the Equilibrium?

- Suppose you say:
 - “Only 1/10 of people will get sick—that’s \$100K.
 - “I can sell policies for \$150K and make a good profit”
- Who shows up to buy if you sell policies for \$100K?
- The (-) people simply don’t show up to buy
- Only **R+** and **N+** people show up
- And they cost \$200K/policy

Health Insurance with Diagnostic Test

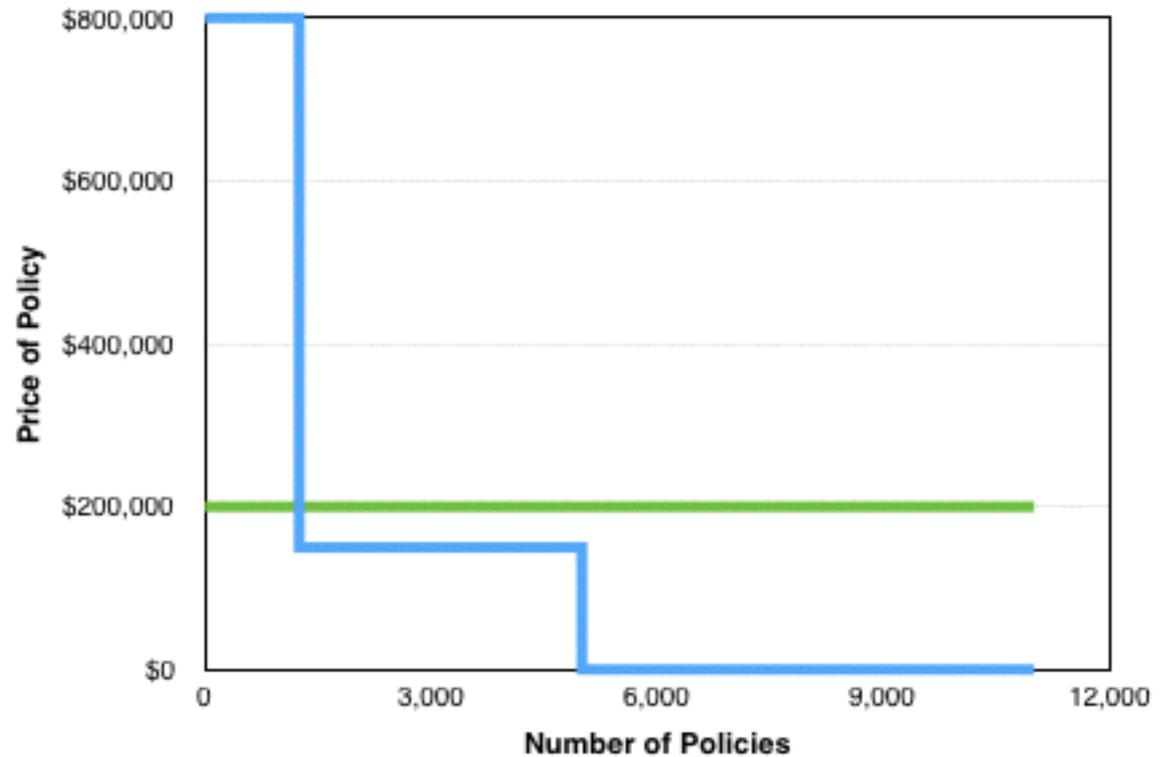


Why Is This the Equilibrium?

- Who shows up to buy if you sell policies for \$100?
- Only people who tested positive show up to buy

- *The fact that they show up to buy tells you that they are expensive to serve*
- *When you price, you have to take into account the fact that they know more about how expensive insuring them will be than you do*
- *Your consumers **select** themselves into and out of the market in a way **adverse** to you*

Health Insurance with Diagnostic Test



To Your i>Clickers

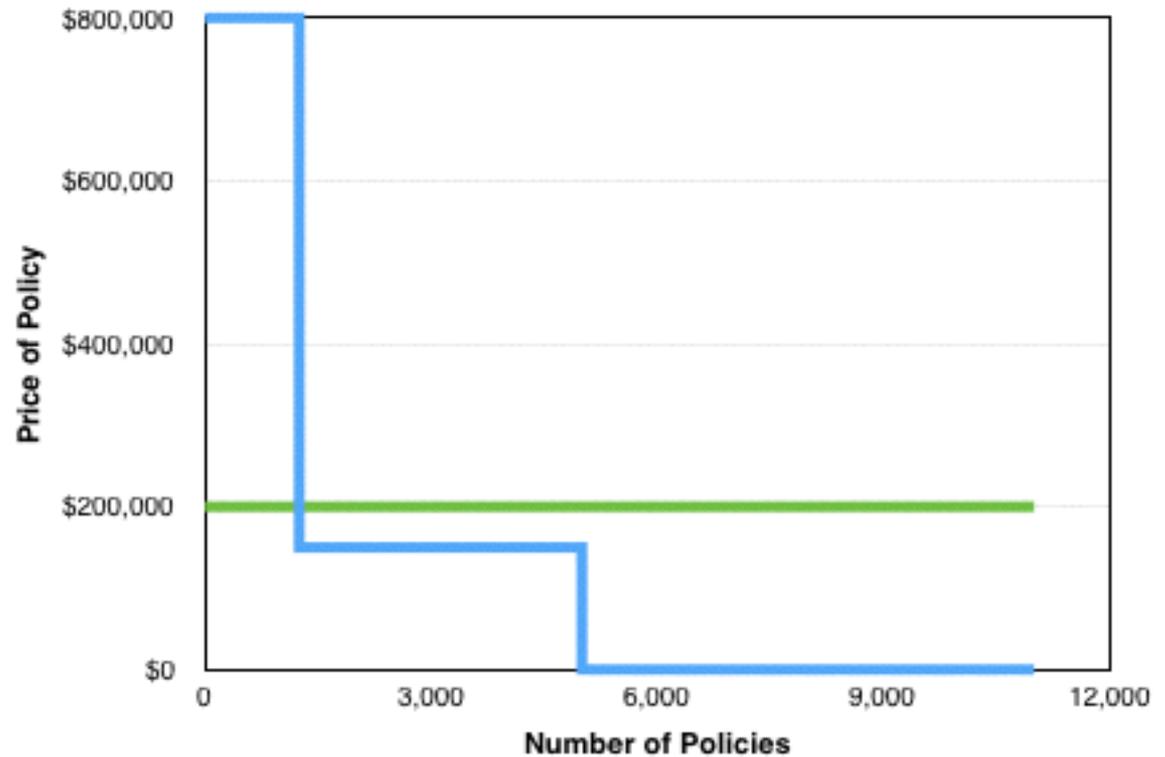
- A “separating” equilibrium
- Let’s do a standard analysis of it:

- $P = \$200\text{K}, Q = 1250$

- How much consumer surplus here?

- A. $\$600\text{K} \times 1250 = \750M
- B. $\$50\text{K} \times 5000 = \250M
- C. $\$600\text{K} \times 1250 + \$50\text{K} \times 5000 = \1B
- D. None: the market collapses
- E. None of the above

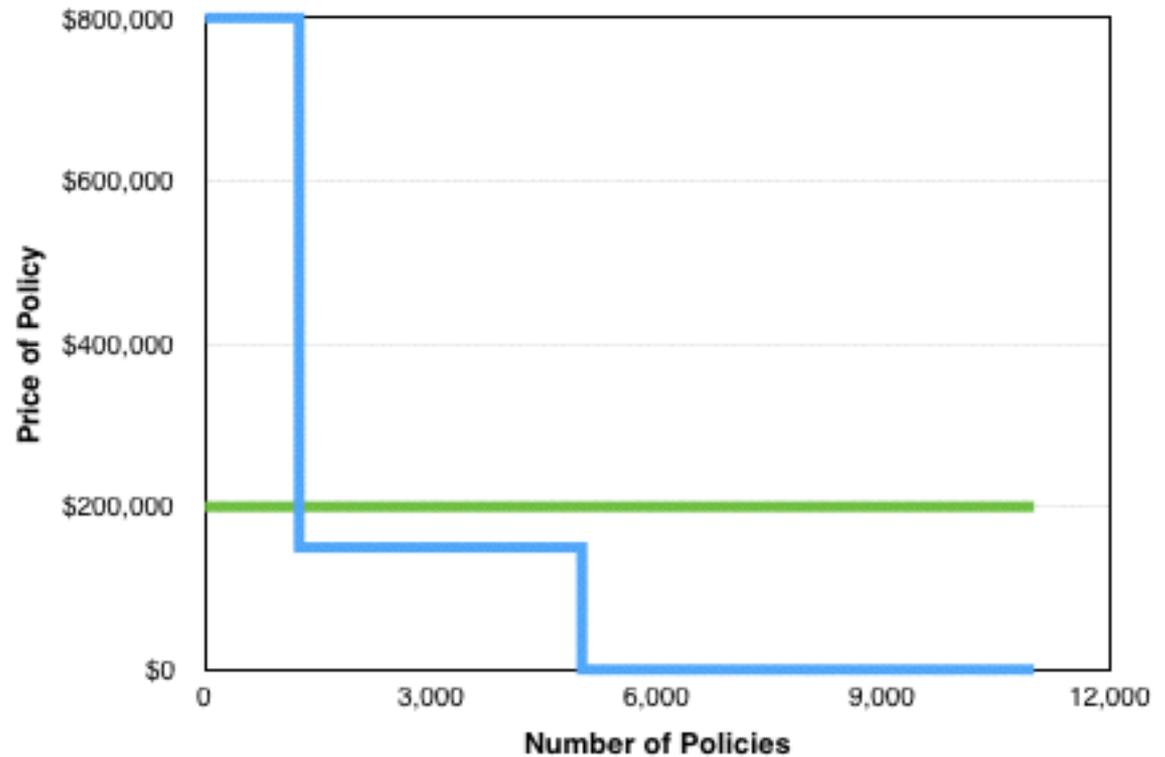
Health Insurance with Diagnostic Test



To Your i>Clickers

- A “separating” equilibrium
- $P=\$200K, Q=1250$
- How much consumer surplus here?
 - A. $\$600K \times 1250 = \$750M \ll$**
 - B. $\$50K \times 5000 = \$250M$
 - C. $\$600K \times 1250 + \$50K \times 5000 = \$1B$
 - D. None: the market collapses
 - E. None of the above
- The rich get the same \$750M of consumer surplus as they did before — they get their health, and they pay \$100K on average for it (half pay \$200K, half pay zero)
- The Not-rich... get nothing (except favorable test results for 3750 of them)

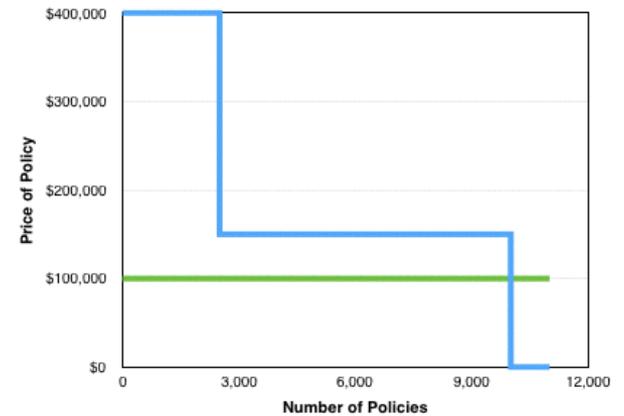
Health Insurance with Diagnostic Test



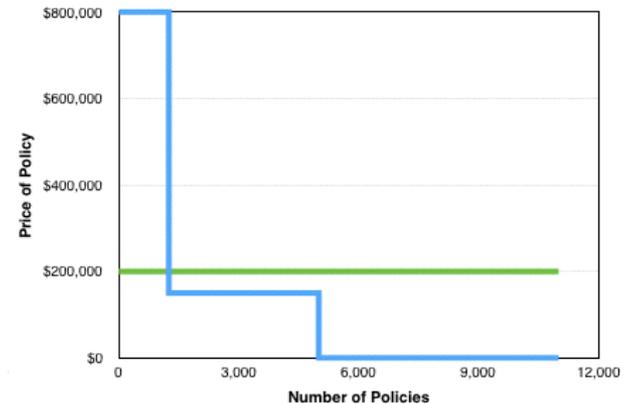
Recap

- No-test equilibrium:
 - $P=\$100\text{K}$, $Q=10\text{K}$, $CS=\$1.125\text{B}$
- Test equilibrium
 - $P=\$200\text{K}$, $Q=1250$, $CS=\$750\text{M}$
- Hold it! More information is supposed to be a good thing, isn't it?
- Where did the $\$375\text{M}$ of consumer surplus go?
- And is that an adequate assessment of the situation?

Demand for Health Insurance in Old Stick



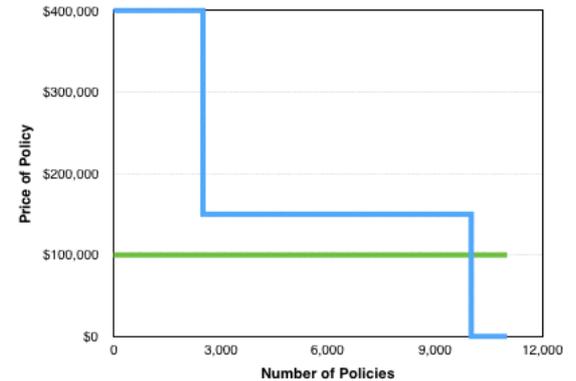
Health Insurance with Diagnostic Test



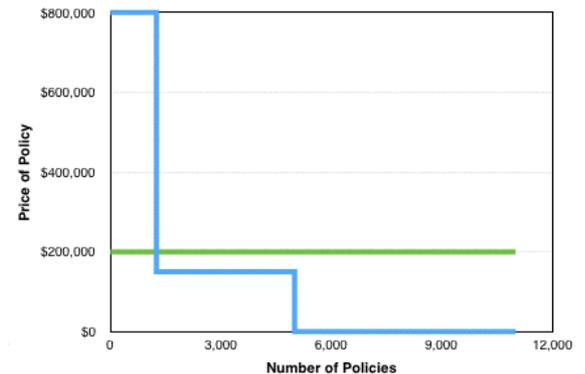
Look Deeper

- What is going on here?
- Our old no-test market delivered health to the entire population for a total opportunity cost of $\$100\text{K} \times 10,000 = \1B —you treat all 1000 sick
- Our new diagnostic-test market delivers health or insurance to 6,250 people for a total cost of $\$250\text{M}$ —you treat 250 of the 1000 sick
- And leaves 3750 people facing a 20% chance of death—and 750 die
- That's $\$1,000,000$ saved per life lost
- But even the Not-rich “valued” their lives at $\$1.5\text{M}$ —were willing to pay $\$150\text{K}$ to insure against a 10% risk

Demand for Health Insurance in Old Stick

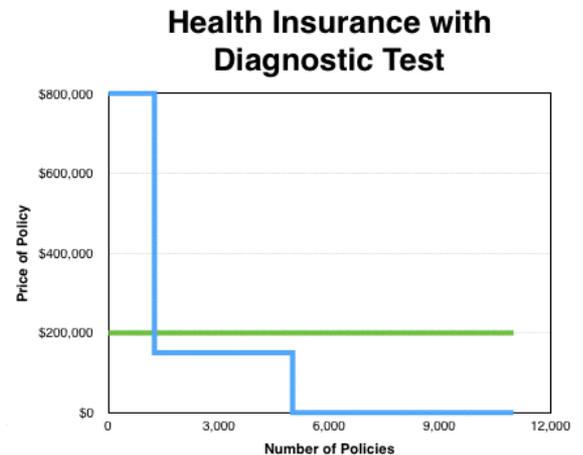
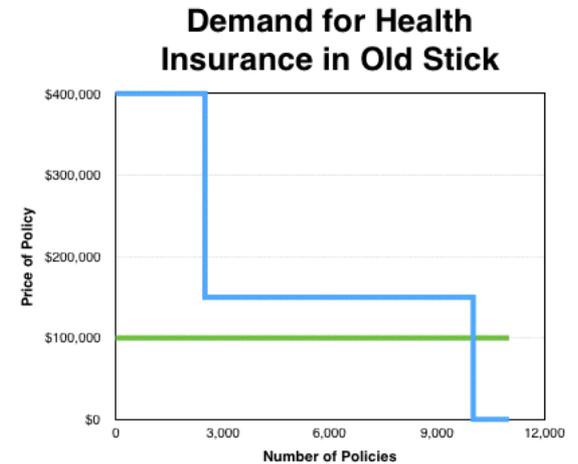


Health Insurance with Diagnostic Test



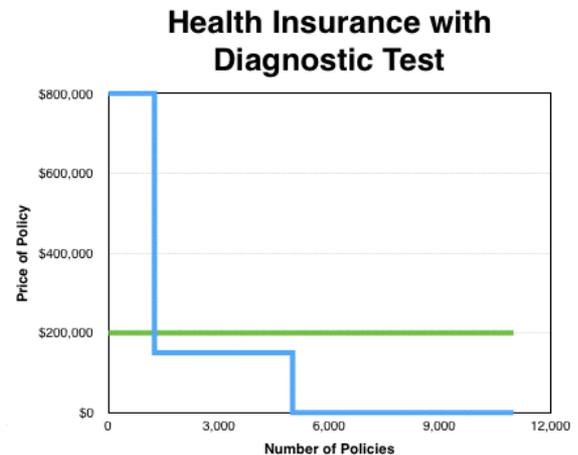
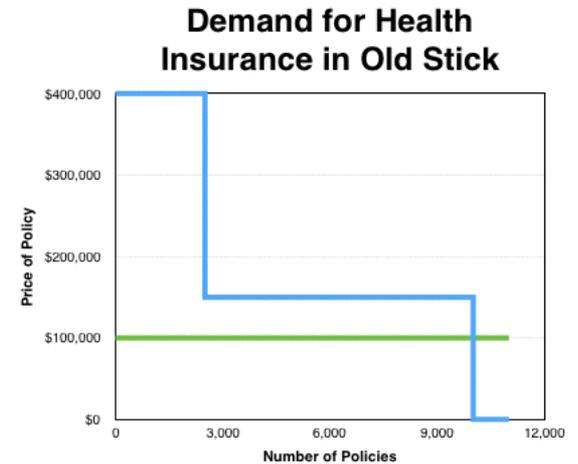
How to Solve This?

- RomneyCare!
- The Responsibility Principle:
Require that people purchase insurance
- Our old \$100K policy equilibrium reemerges...



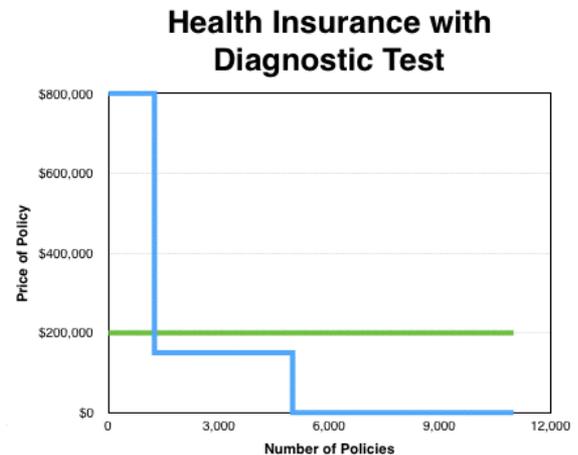
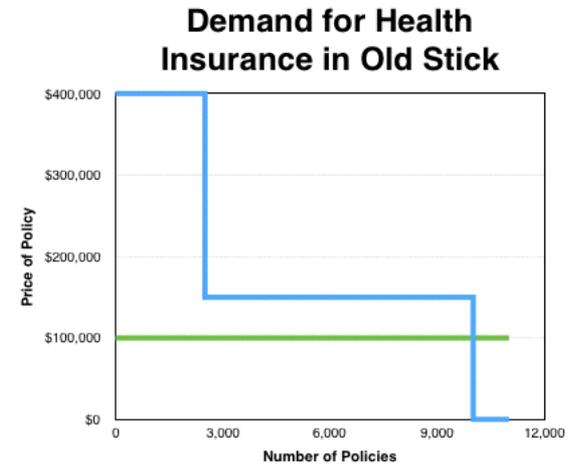
Evaluating This...

- RomneyCare!
- The Responsibility Principle: Require that people purchase insurance
- Our old \$100K policy equilibrium reemerges...
- Consumer-surplus balance sheet
 - **R-** and **N-** have to pay \$500M in total for something worthless to them...
 - **N+** get something for \$100K each that they value at... what? \$150K each? \$300K each? More?
 - +\$187.5M? +\$750M? More?
 - **R+** get something for \$100K that they would be willing to pay \$800K for...
 - +\$875M



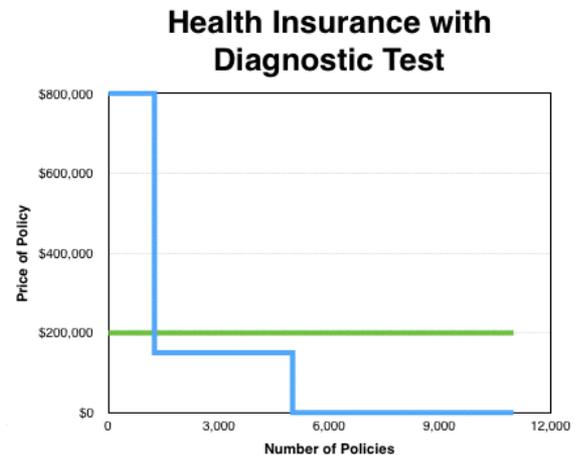
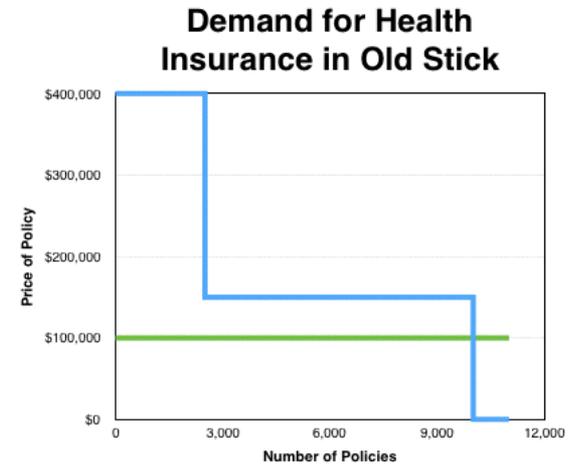
Our Consumer Surplus Tools Have Broken in Our Hands...

- RomneyCare!
- The Responsibility Principle: Require that people purchase insurance
- Our old \$100K policy equilibrium reemerges...
- Consumer Surplus balance sheet
 - Rich- and Not-Rich- have to pay \$500M in total for something worthless to them...
 - Not-Rich+ get something for \$100K each that they value at... what? \$150K each? \$300K each? More?
 - +\$187.5M? +\$750M? More?
 - Rich+ get something for \$100K that they would be willing to pay \$800K for...
 - +\$875M
- Consumer Surplus analysis says: \$562.5M
- That is less than the \$750M of consumer surplus that was generated by the market that provided only the 1250 **R+** with insurance
- But is that “right”?



What Is Going on Here?

- (1) Our old no-test free competitive market delivered health to the entire population for a total opportunity cost of $\$100\text{K} \times 10,000 = \1B —you treat all 1000 sick
- (2) Our new diagnostic-test free competitive market delivers knowledge of health or insurance to 6,250 people for a total cost of $\$250\text{M}$ —you treat 250 of the 1000 sick
- And leaves 3750 people facing a 20% chance of death—and 750 die
 - That's $\$1,166,666$ saved per life lost
 - But even the Not-rich “valued” their lives at $\$1.5\text{M}$
- (3) Our individual-mandate not-so-free market delivers health to the entire population for a total opportunity cost of $\$100\text{K} \times 10,000 = \1B —you treat all 1000 sick
- RomneyCare!



Market Makers

February 29, 2016 8-9 AM
Wheeler Auditorium, U.C. Berkeley

Market Makers

- The price as an information channel...
- But what is “the price”?
- And what do you want to buy?
- Almost always whenever we go do something we have not done many times before, we are uncertain:
 - Both uncertain about what “the price” really is
 - And uncertain about what commodity we really want to buy

CHAPTER 11

The Economics of Information

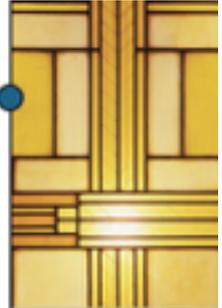


MATCHING THE RIGHT BUYERS WITH THE RIGHT SELLERS CREATES ECONOMIC VALUE THAT IS JUST AS REAL AS THE VALUE CREATED BY THE ACTUAL PRODUCTION OF GOODS AND SERVICES

Years ago, a naive young economist spent a week in Kashmir on a houseboat on scenic Dal Lake, outside the capital city of Srinagar. Kashmir is renowned for its woodcarvings, and one afternoon a man in a gondola stopped by to show the economist some of his wooden bowls. When the economist expressed interest in one of them, the woodcarver quoted a price of 200 rupees. The economist had lived in that part of Asia long enough to realize that the price was more than the woodcarver expected to get, so he made a counteroffer of 100 rupees.

The woodcarver appeared to take offense, saying that he couldn't possibly get with the bowl for less than 175 rupees. Suspecting that the woodcarver was merely flouting anger, the young economist held firm. The woodcarver appeared to become even angrier, but quickly retreated to 150 rupees. The economist publicly rotated his jaw 180 degrees to pay more than 100 rupees. The woodcarver then tried 120 rupees, and again the economist replied that 100 was his final offer. Finally, they struck a deal at 100 rupees, and with cash in hand, the woodcarver left in a huff.

Frustrated with his purchase, the economist showed it to the houseboat's owner later that evening. "It's a lovely bowl!" he agreed, and asked how much the economist had paid for it. The economist told him, expecting praise for his negotiating prowess. The host's failed attempt at suppressing a laugh was the economist's first clue that he had paid too much. When asked how much such a bowl would normally sell for, the houseboat owner was reluctant to respond. But the economist pressed him, and the host speculated that the seller had probably hoped for 30 rupees at most.



LEARNING OBJECTIVES

After reading this chapter, you should be able to:

- LO1 Explain how middlemen add value to market transactions.
- LO2 Use the concept of rational search to find the optimal amount of information market participants should obtain.
- LO3 Define asymmetric information and describe how it leads to the lemons problem.
- LO4 Discuss how advertising, conspicuous consumption, statistical discrimination, and other devices are responses to asymmetric information problems.

Variety and Well-Being

- Henry Ford and the Model T
- Alfred P. Sloan and General Motors
- Behavioral economics con game?
 - Should we all wear identical blue overalls?
 - Or Mao jackets?
 - Or blue Berkeley hoodies?
 - Or Lululemon yoga pants?
- No! We have different needs and tastes, and it's good:
 - As long as we can satisfy them cheaply
 - As long as we can figure out what we might be able to buy

CHAPTER 11

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Years ago, a naive young economist spent a week in Kashmir on a houseboat on scenic Dal Lake, outside the capital city of Srinagar. Kashmir is renowned for its woodcarvings, and one afternoon a man in a gondola stopped by to show the economist some of his wooden bowls. When the economist expressed interest in one of them, the woodcarver quoted a price of 200 rupees. The economist had lived in that part of Asia long enough to realize that the price was more than the woodcarver expected to get, so he made a counteroffer of 100 rupees.

The woodcarver appeared to take offense, saying that he couldn't possibly part with the bowl for less than 175 rupees. Suspecting that the woodcarver was merely trying to anger the young economist and hold firm, the woodcarver appeared to become even angrier, but quickly retreated to 150 rupees. The economist politely restated his own 100 rupees to pay more than 100 rupees. The woodcarver then tried 125 rupees, and again the economist replied that 100 was his final offer. Finally, they struck a deal at 100 rupees, and with cash in hand, the woodcarver left in a huff.

Flustered with his purchase, the economist showed it to the houseboat's owner later that evening. "It's a lovely bowl!" he agreed, and asked how much the economist had paid for it. The economist told him, expecting praise for his negotiating prowess. The boat's failed attempt at suppressing a laugh was the economist's first clue that he had paid too much. When asked how much such a bowl would normally sell for, the houseboat owner was reluctant to respond. But the economist pressed him, and the boat operator said that the seller had probably hoped for 30 rupees at most.

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Variety and Well-Being

- Paul Baran and Paul Sweezy, *Monopoly Capital* (New York: Monthly Review Press, 1966). pp. 138-39:
 - One need not have a specific idea of a reasonably constructed automobile, a well planned neighborhood, a beautiful musical composition, to recognize that the model changes that are incessantly imposed upon us, the slums that surround us, and the rock-and-roll that blares at us exemplify a pattern of utilization of human and material resources which is inimical to human welfare...

Variety and Well-Being

- Alan Greenspan
- The declining *weight* of GDP
- Implications....

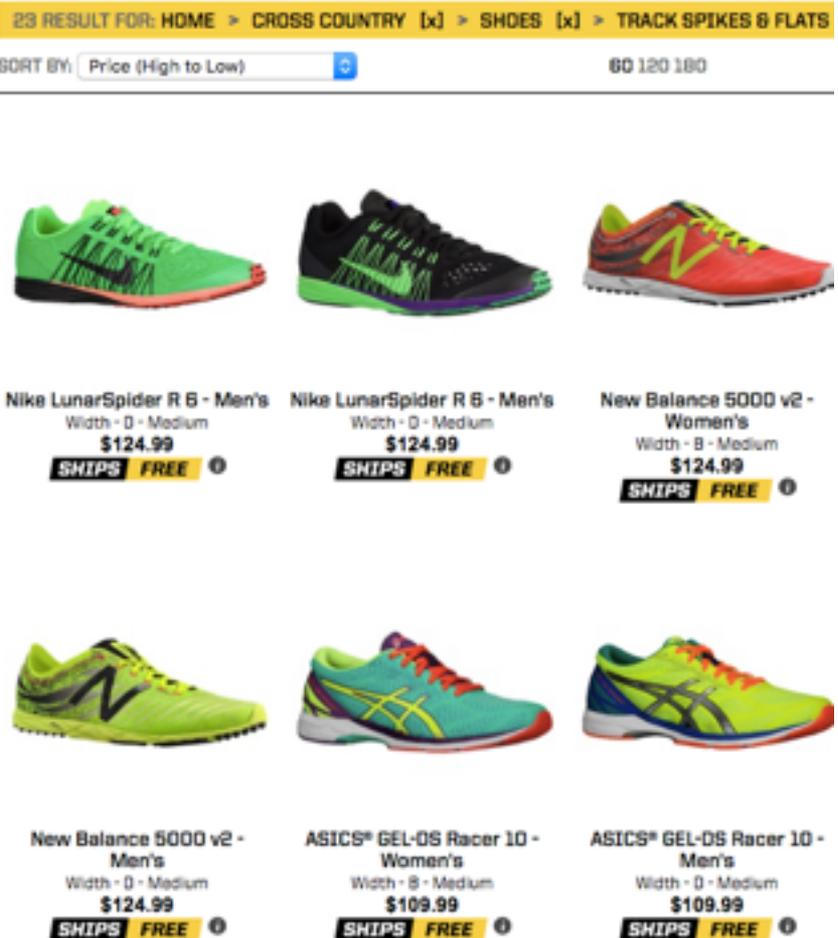


The Value Chain for Cross-Country Racing Flats

- Components of value
 - Materials: \$14
 - Assembly in Shenzhen: \$10
 - FOB Oakland: \$1
 - Design: \$20
 - Marketing: \$10
 - Transportation to Walnut Creek: \$15
 - Fitting by wild-eyed marathoner in WC: \$50
 - California sales taxes: \$10
- Retail cost: \$135

23 RESULT FOR: HOME > CROSS COUNTRY [x] > SHOES [x] > TRACK SPIKES & FLATS

SORT BY: Price (High to Low) 60 120 180



		
Nike LunarSpider R 6 - Men's Width - D - Medium \$124.99 SHIPS FREE	Nike LunarSpider R 6 - Men's Width - D - Medium \$124.99 SHIPS FREE	New Balance 5000 v2 - Women's Width - B - Medium \$124.99 SHIPS FREE
		
New Balance 5000 v2 - Men's Width - D - Medium \$124.99 SHIPS FREE	ASICS® GEL-DS Racer 10 - Women's Width - B - Medium \$109.99 SHIPS FREE	ASICS® GEL-DS Racer 10 - Men's Width - D - Medium \$109.99 SHIPS FREE

But What About the Next Time?

- FBAH:
 - “The market would provide the optimal level of retail service except for one practical problem, namely, that consumers can make use of the services offered by retail stores without paying for them. After benefiting from the advice of informed salespersons and after inspecting the merchandise, the consumer can return home and buy the same item from an Internet retailer or mail-order house. Not all consumers do so, of course. But the fact that customers can benefit from the information provided by retail stores without paying for it is an example of the free-rider problem , an incentive problem that results in too little of a good or service being produced. Because retail stores have difficulty recovering the cost of providing information, private incentives are likely to yield less than the socially optimal level of retail service.”
- Non-excludability
- Information: both non-rival, and (ex post) non-excludable

23 RESULT FOR: HOME > CROSS COUNTRY [x] > SHOES [x] > TRACK SPIKES & FLATS

SORT BY: Price (High to Low) 60 120 180

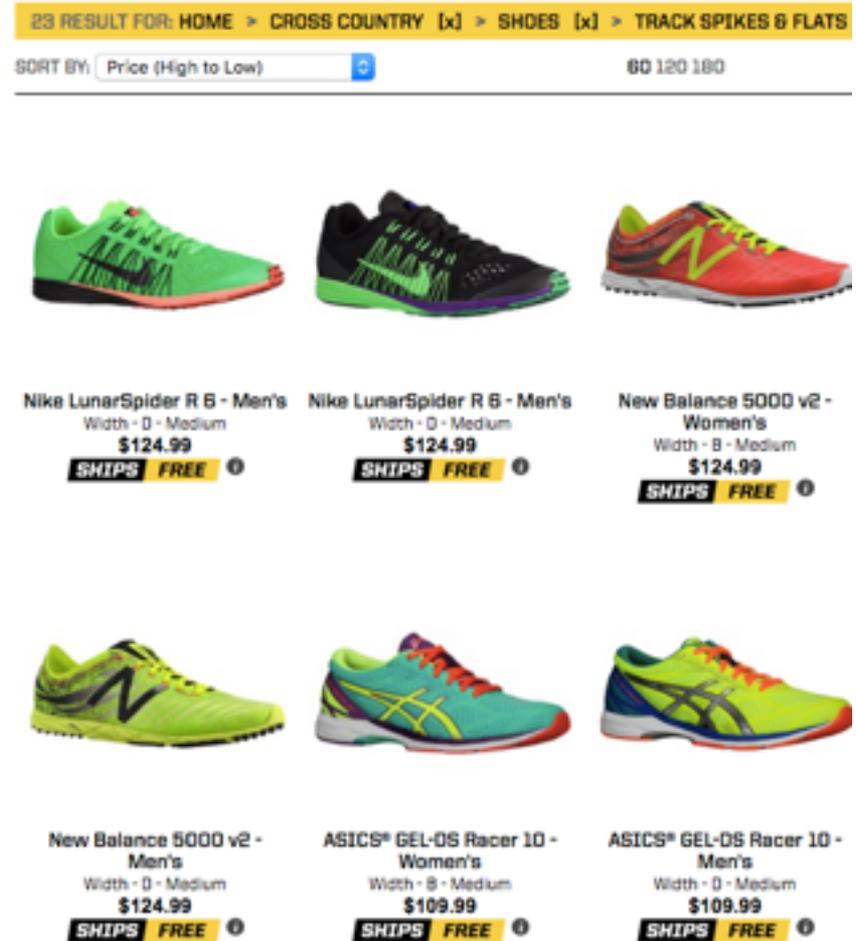
		
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“The Market for Information”

- Moreover: one side of the market knows a lot more about what is being bought and sold...
- No reason to think that this is going to work well at all...
- An increasing problem in our economy as the variety of things we might want to spend our money on grows...

23 RESULT FOR: HOME > CROSS COUNTRY [x] > SHOES [x] > TRACK SPIKES & FLATS

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Review: The Market: The Logic of Our Understanding

February 29, 2016 8-9 AM
Wheeler Auditorium, U.C. Berkeley

What Are We Trying to Do Here?

- The key to understanding how to deal with externalities is to back up to first principles of societal organization
- What should a good set of societal arrangements for managing our collective division of labor do?.
- It would manage the collective prices of deciding:
 - who is to produce what,
 - who is to consume what, and
 - at what scale production should take place.

What Are We Trying to Do Here? II

- It would accomplish these goals by somehow carrying out some analysis of costs and benefits of different ways of organizing things.
- It would try to get as many benefits while incurring as few costs as possible.
- It calculate the benefits of producing at any number of possible scales.
- It would calculate the cost of producing at any bunch of possible scales.

What Are We Trying to Do Here? III

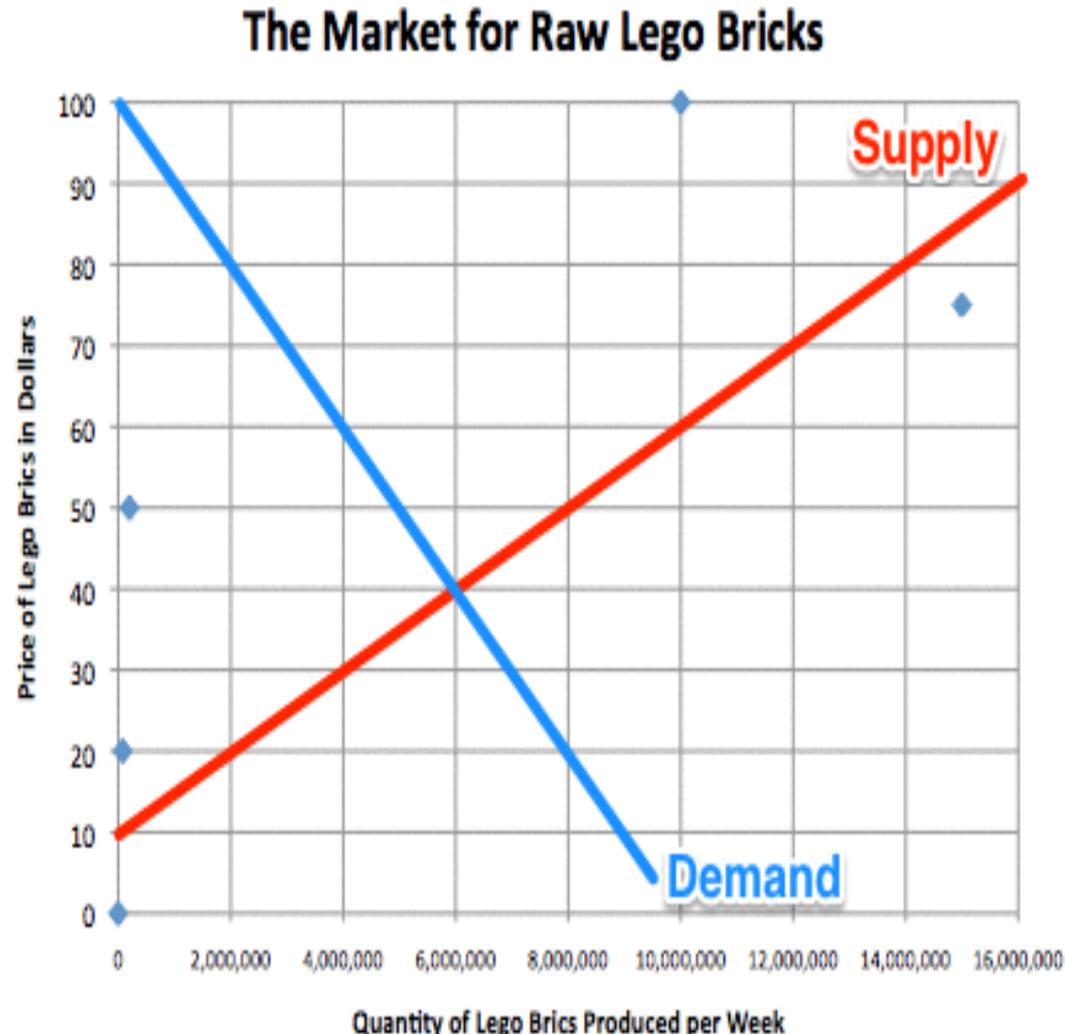
- But if only there were some way of avoiding the bureaucratic busywork of calculation!
- And if only there were some way of getting people who actually tell the truth
 - The truth about what their capabilities are
 - The truth about what resources they need to produce
 - The truth about what they really want, and how much they want it

But There Is Such a Way!

- It's called the competitive market in equilibrium

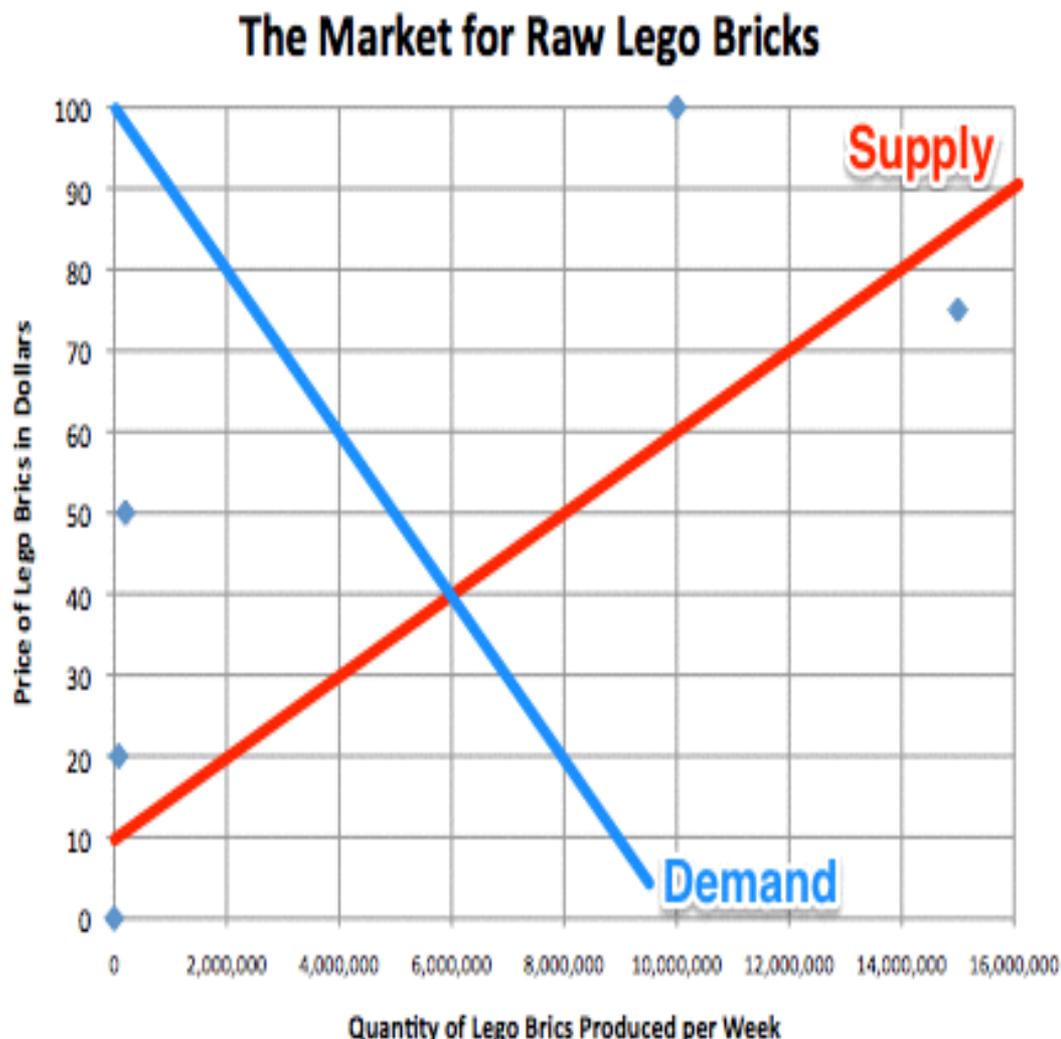
The Market Does It For Us

- Supply:
 - $P_s = 10 + 0.000005Q$
- Demand:
 - $P_d = 100 - 0.00001Q$
- Equilibrium
 - $P = \$40$
 - $Q = 6M$
 - $CS = (\$70 - \$40) \times 6M = \$180M$
 - $PS = (\$40 - \$25) \times 6M = \$90M$



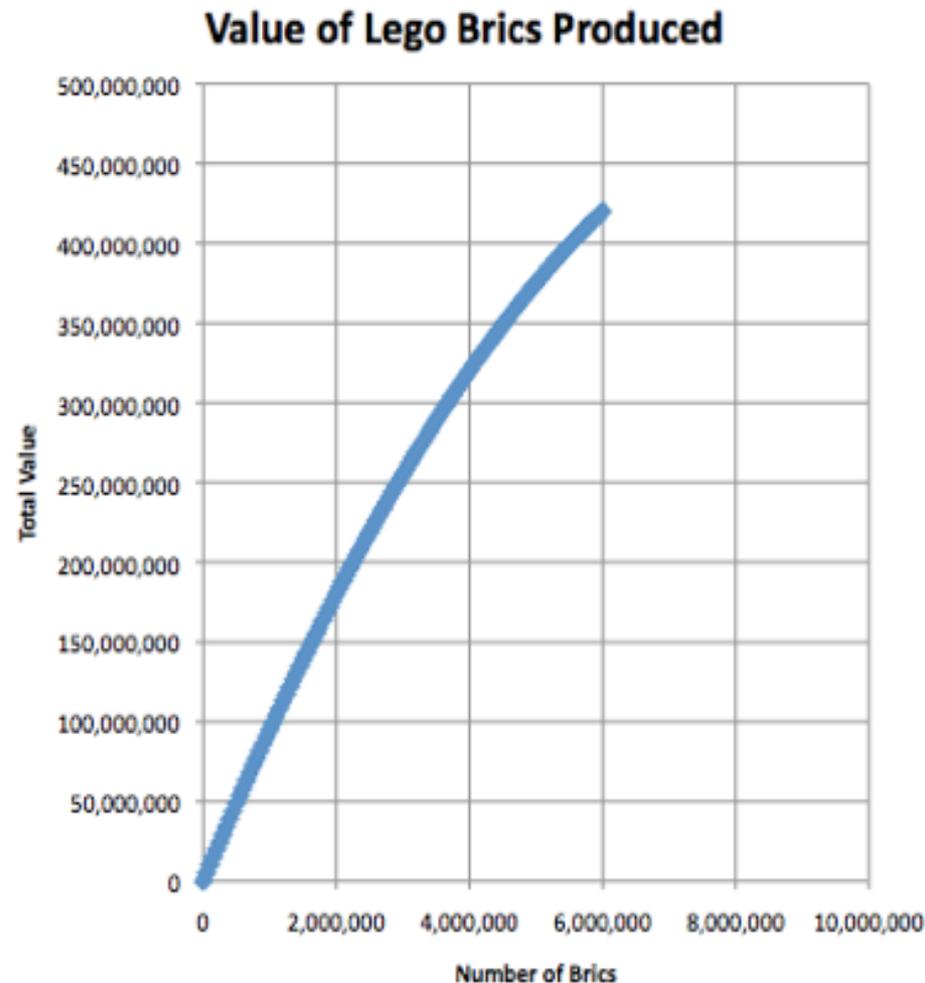
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 - $PS = (\$40 - \$25) \times 6M = \$90M$
- But suppose we looked at it from a top-down perspective...



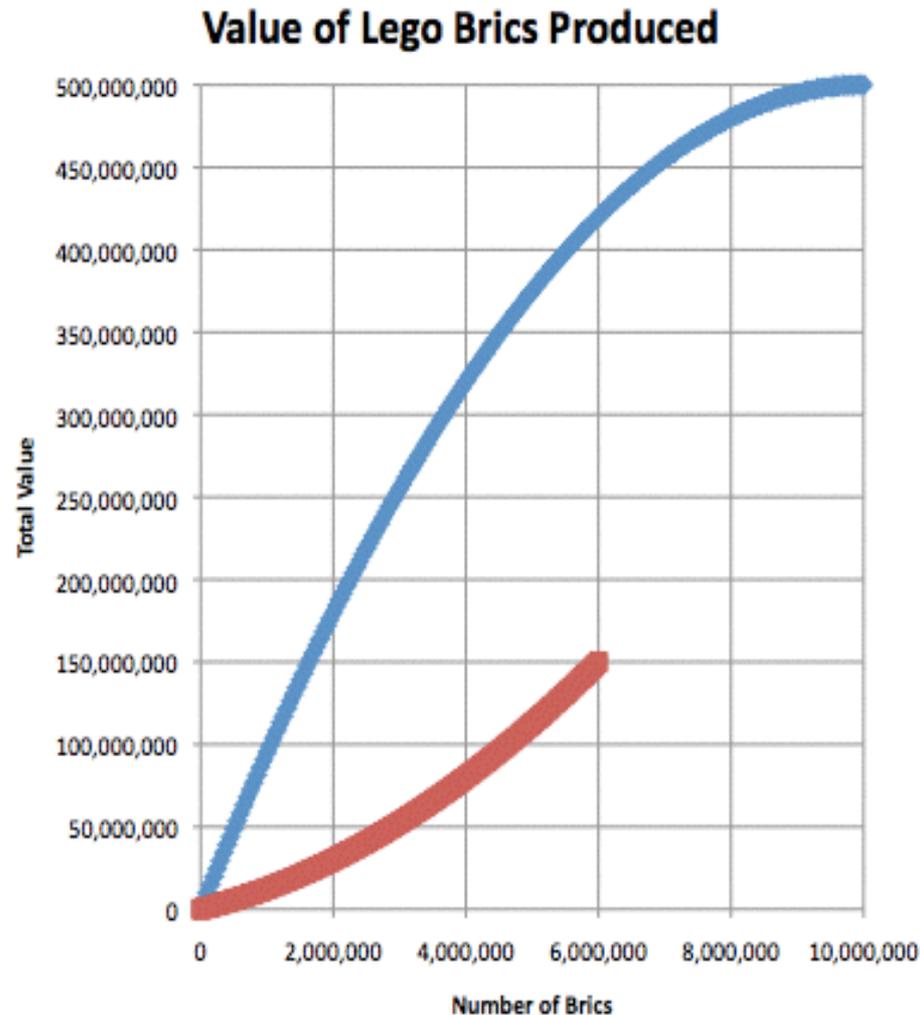
A Visual Representation of Total Value

- The total for the first 1,000,000 brics is up to 95,000,000...
- As we keep on (hypothetically) adding more and more brics, and seeing what they are worth to the master builders who want them...
- By the time we reach 6,000,000 brics...
- The willingness-to-pay of the master builder who purchases the 6,000,000th bric is down to \$40...
- And our total value is at \$420,000,000—growing less than half as fast with each bric as it grew at the beginning...



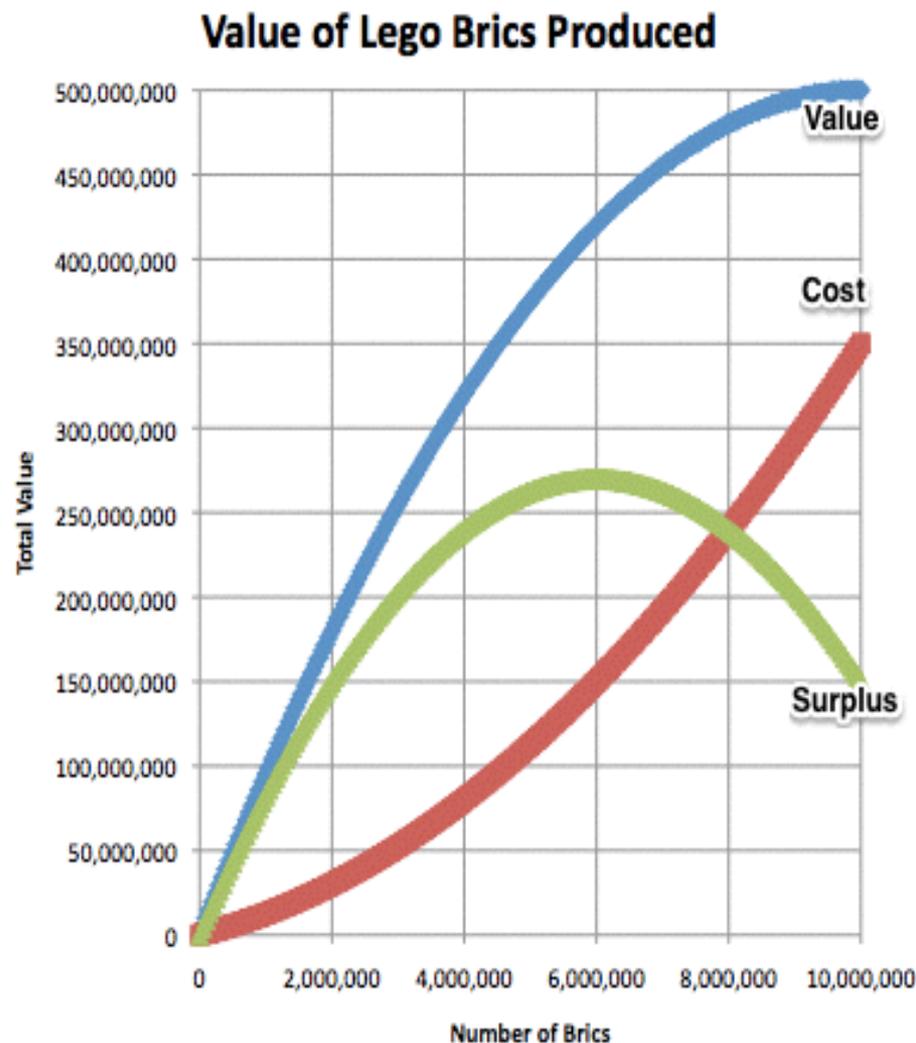
A Visual Representation of Total Cost

- Looking first at the \$10 cost of producing the first bric...
- On up to the \$15 cost of producing the millionth. with the total cost of the first million brics at \$12,500,000...
- And the 6,000,000 bric requires \$40 in resources to call it forth, with a total cost of \$150,000,000



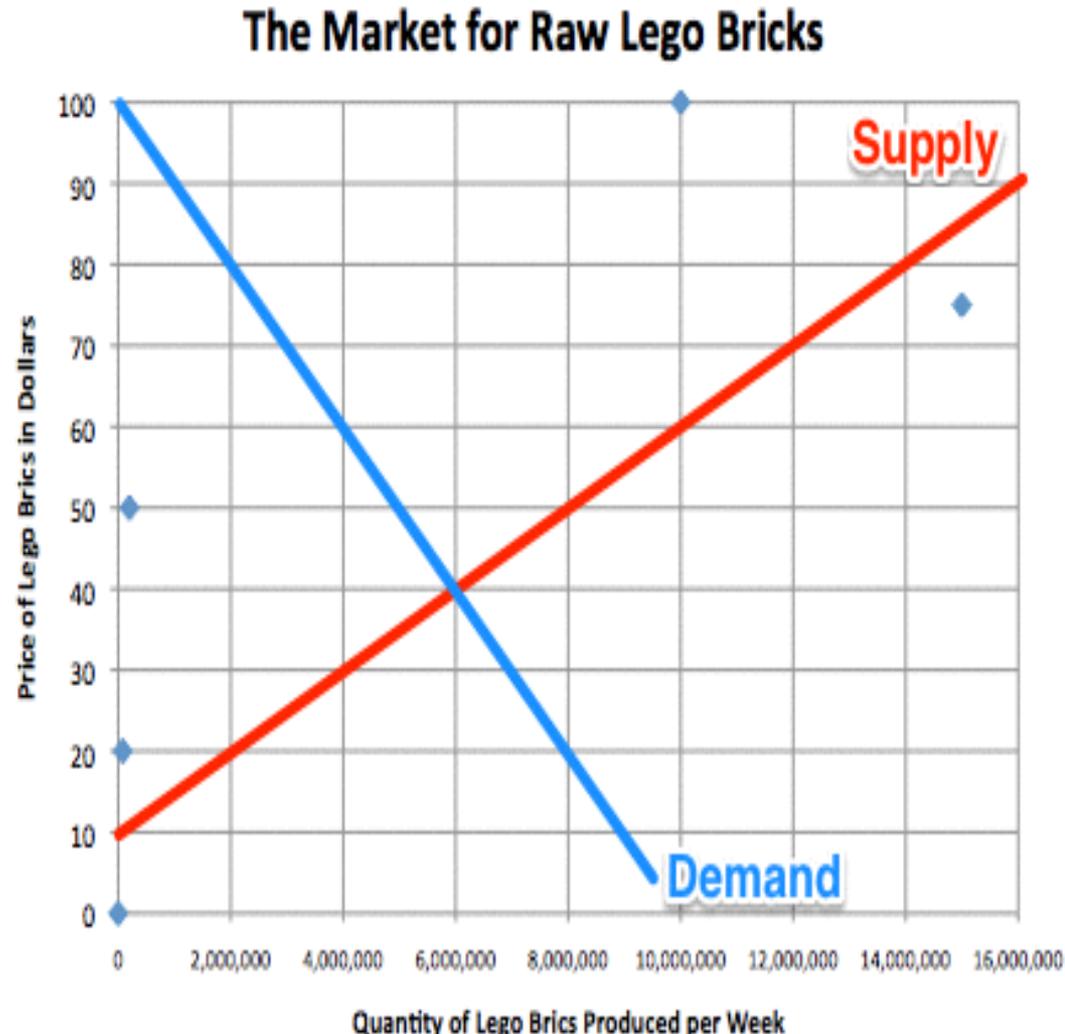
Value, Cost, and Surplus

- All this is encapsulated in the three equations:
 - $TV=Q(100-0.00001Q/2)$
 - $TC=Q(10+0.000005Q/2)$
 - $TS=90Q-0.0000075Q^2$
- There is a lot of information packed into these few symbols, isn't there?
- To convey the same information would require a huge table, or oceans and oceans of words.
- But assembling a bureaucracy to calculate all that would be expensive and cumbersome



The Market Does It For Us

- Planning:
 - $TV=Q(100-0.00001Q/2)$
 - $TC=Q(10+0.000005Q/2)$
 - $TS=90Q-0.0000075Q^2$
- Is the same thing as market:
- Supply:
 - $P_s=10+0.000005Q$
- Demand:
 - $P_d=100-0.00001Q$



Review: Externalities: The Logic of Our Understanding

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But What If There Is an Externality?

- The effect on those who suffer (or benefit) from the externality shows up nowhere in the marketplace...
- But if we could only somehow make the effect of them show up in the marketplace...
- That is what a Pigovian tax (or bounty) does...

What Would Our Benevolent, Omniscient Central Planner Want to Do?

- Now we have three things happening in this marketplace:
 - Value to consumers:
 - $TV = Q \times (100 - 0.000005Q) = 100Q - 0.000005(Q^2)$
 - Cost to producers:
 - $TC = Q \times (10 + 0.0000025Q) = 10Q + 0.0000025(Q^2)$
 - Externality cost to Cloud-Cuckoo Landers:
 - $XC = -30Q$
 - Net value to consumers and producers:
 - $NV = 60Q - 0.0000075(Q^2)$

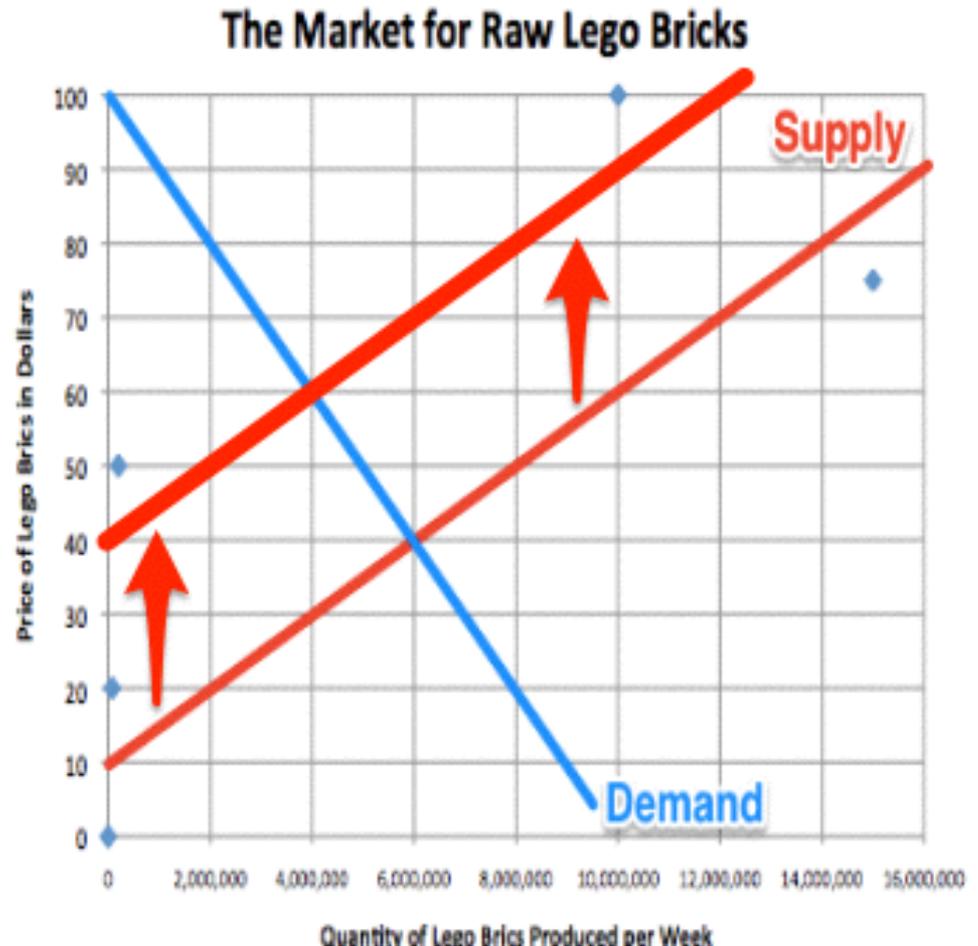
What Would Our Benevolent, Omniscient Central Planner Want to Do? II

- Net value to consumers and producers:
 - $NV = 60Q - 0.0000075(Q^2)$
- Maximized at a quantity of 4,000,000 lego brics produced
 - Compare to 6,000,000 produced by competitive market

Brics	Value
0	\$0
1,000,000	\$52,500,000
2,000,000	\$90,000,000
3,000,000	\$112,500,000
4,000,000	\$120,000,000
5,000,000	\$112,500,000
6,000,000	\$90,000,000
7,000,000	\$52,500,000
8,000,000	\$0
9,000,000	-\$67,500,000
10,000,000	-\$150,000,000

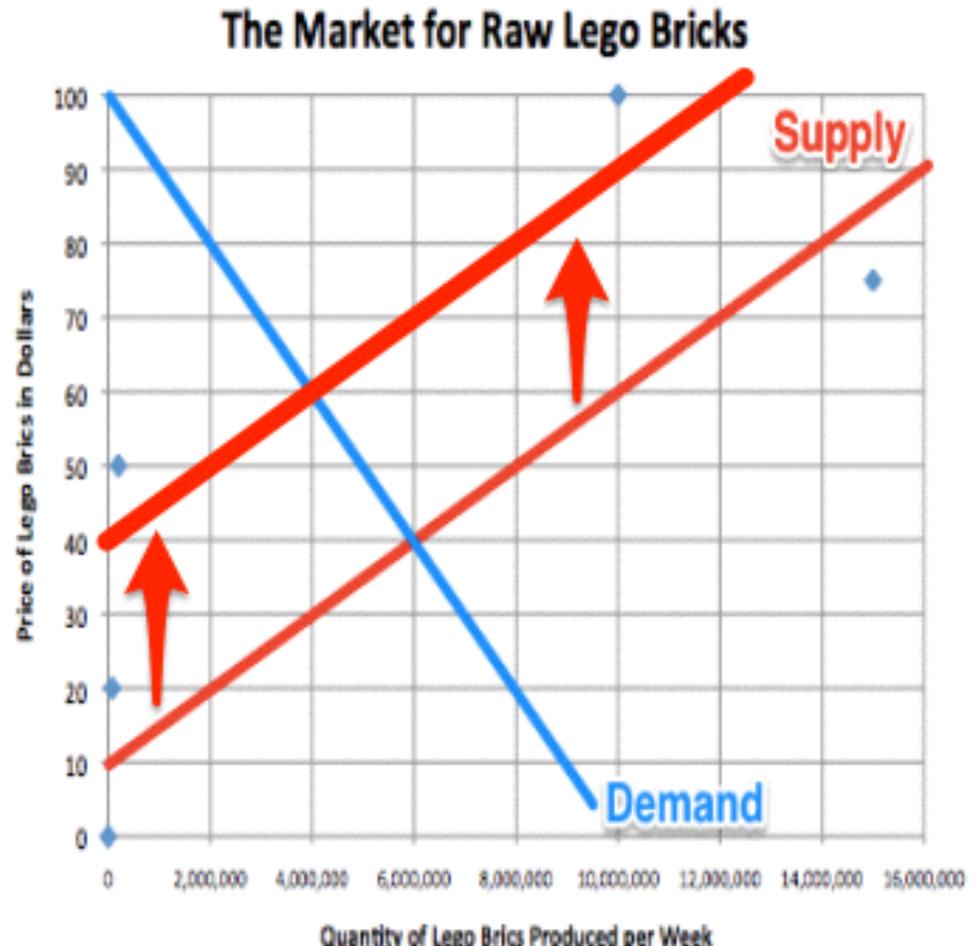
Impose the Pigovian Tax, and the Market Does It For Us

- Planning:
 - $TV=Q(100-0.00001Q/2)$
 - $TC=Q(10+0.000005Q/2)$
 - $XC = -30Q$
 - $TS=60Q-0.0000075Q^2$
- Is the same thing as market:
- Supply:
 - $P_s=10 + 0.000005Q$
- Demand:
 - $P_d=100-0.00001Q$



Impose the Pigovian Tax, and the Market Does It For Us

- Planning:
 - $TV=Q(100-0.00001Q/2)$
 - $TC=Q(10+0.000005Q/2)$
 - $TS=90Q-0.0000075Q^2$
- Is the same thing as market:
- Supply:
 - $P_s=10 + 0.000005Q$
- Demand:
 - $P_d=100-0.00001Q$
- $Q = 4,000,000$; $P_d = \$60$, $P_s = \$30$
- $CS = \$8M$
- $PS = \$4M$
- $TR = \$12M$
- $TS = \$24M$



The Market System: Balance Sheet

February 29, 2016 8-9 AM
Wheeler Auditorium, U.C. Berkeley

The Market Balance Sheet: Pro

- The competitive market in equilibrium, from the perspective of a utilitarian seeking to achieve the greatest-good-of-the-greatest-number:
 1. Allocates the roles of producers and sellers to those who can make and sell in a way least costly to society's resources, those with the lowest *opportunity cost*.
 2. Produces at a scale that exhausts all possible *win-win exchanges*
 3. Allocates the goods produced to those with the greatest *willingness-to-pay*—those who, by the money standard, need and want it the most

The Market Balance Sheet: Con

- Markets can go wrong: we are marching through the “how can markets go wrong?” part of the course:
 1. Out-of-equilibrium
 2. Rigidified by government quotas and price ceilings/floors
 3. Uncompetitive
 4. Non-rival (increasing returns to scale)
 5. Externalities (in production and in consumption, positive and negative)
 - 6. Information and its asymmetries**
 7. Non-excludible (public goods etc.)
 8. Maldistributions
 9. Miscalculations...
- That makes nine kinds of things that can, do, and have gone wrong
 - (Of course, governments and other alternatives can go wrong too)
- Last week we did externalities...
- Today we do the economics of information—specifically, “adverse selection”



THE MARKET FOR “LEMONS”: QUALITY UNCERTAINTY AND THE MARKET MECHANISM *

GEORGE A. AKERLOF

I. Introduction, 488. — II. The model with automobiles as an example, 489. — III. Examples and applications, 492. — IV. Counteracting institutions, 499. — V. Conclusion, 500.

I. INTRODUCTION

This paper relates quality and uncertainty. The existence of goods of many grades poses interesting and important problems for the theory of markets. On the one hand, the interaction of quality differences and uncertainty may explain important institutions of