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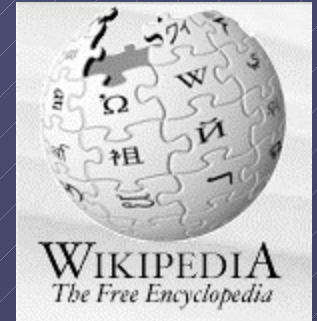
SI 646

Information Economics

Jeff Mackie-Mason

The economics of information goods

The **economics** of information goods



Source: <http://www.wikipedia.org/>

The economics of information goods

The economics of information goods
will help you answer...

- Autos
- Finance
- Games
- GeoCities
- Groups
- HotJobs
- Local
- Maps
- Movies
- Music
- My Web

Featured

Entertainment

Sports

Life

Jan 12, 2007



First female beefeater

The Tower of London will be guarded by a woman for the first time in its history. »

Meet Moira Cameron

- Her background View photos
- Tower of London • Travel guide

First female beefeater at the Tower of London

'Rings' director banned from making prequel

Is Beckham worth a \$250 million contract?

Dante's nose job, 700 years later

- Blast at U.S. embassy called 'terrorism'
- Pentagon abandons active-duty time limit
- Govt: Somali warlords agree to disarm
- China facing major gender imbalance
- FDNY says firefighters can display flags on lockers
- Educator urges use of video games as teaching tools
- Woman claims pet monkey eases anxiety disorder
- NCAA Hoops · NFL · NBA · NCAA Football · NHL · Soccer

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Markets: Dow: +0.6% Nasdaq: +1.0% Sponsored by: **Scottrade**

Marketplace



Netflix - only \$5.99/month
There's a movie waiting for you at home. No late fees, free shipping, 70,000+ titles. Try Netflix for free.

Rates near historic lows - Refinance \$200k loan for only \$660/ month - Details here.

Hi, [jmackiemason](#)

Sign Out



Mail



Messenger



Radio



Weather
41°F



Local



Horoscopes

CHOOSE YOUR MOTORAZR!
WITH SELECT SERVICE PLANS



WIREFLY

YOU HAVE 16 HOURS LEFT!

TO GET THE LOWEST PRICE

ON YOUR RAZR

FIND OUT MORE!

24 Hour RAZR Sale - Ad Feedback

Inside Yahoo! Search



Popular Searches

Justin Timberlake NFL Playoffs 24
Brian Nichols Alpha Dog UFOs

Search Web:

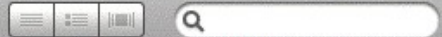
Pulse - What Yahoos Are Into

Reel Time: Most Watched Movie Trailers



- [Fantastic Four: Rise of...](#)
- [Transformers](#)
- [Hot Fuzz](#)
- [Stomp the Yard](#)
- [Primeval](#)

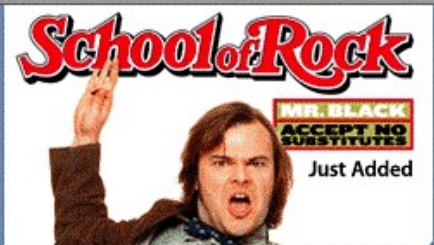
How can free information increase profits?
How can free information increase profits?
How can free information increase profits?
How can free information increase profits?
How can free information increase profits?



View Search iTunes Store

\$0.04 jmm+shop@si.umich.edu

- LIBRARY**
 - Music
 - Movies
 - TV Shows
 - Podcasts
 - Radio
- STORE**
 - iTunes Store**
 - Shopping Cart
 - Purchased
- PLAYLISTS**
 - Party Shuffle
 - Top 25 Most Played
 - A Midsummer Night's ...
 - Bach to consider
 - Current practice
 - Damien Rice - B-Sides
 - Everybody Hurts
 - Macbeth music
 - No. 8 Pathetique, II...
 - Recent practice
 - Robert Smith
 - Tori DC 6 April 05



iTunes STORE

- Music
- Movies **NEW**
- TV Shows
- Podcasts
- Music Videos
- iPod Games **NEW**
- iTunes U **NEW**

NEW RELEASES See All

- Music
- Movies
- TV Shows
- Rock
- Classical
- Folk

TOP MOVIES

1. **Jackass: The Movie**
Comedy
2. **Zoolander**
Comedy
3. **Pirates of the Caribb...**
Action & Adventure
4. **School of Rock**
Comedy
5. **Step Up**
Drama
6. **Mean Girls**
Comedy

- Mendelssohn & ...
Janine Jansen, Lei...
- Jump In
Various Artists
- He Said She Said ...
Ashley Tisdale
- Paralyzer - Single
Finger Eleven

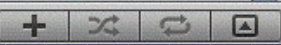


- QUICK LINKS**
- Browse
 - Power Search
 - Account
 - Redeem
 - Support
 - My Alerts **NEW**

- TOP SONGS**
1. Irreplaceable
Beyoncé
 2. Say It Right
Nelly Furtado
 3. How to Save a Life
The Fray
 4. Fergalicious
Fergie
 5. It Ends Tonight
The All-American Rejects
 6. Welcome to the Black...
My Chemical Romance

How can free information increase profits?

How can free information increase profits?



Zoom Lends Program (\$1 a book, 4 weeks)

Books away from Borders

MATERIAL	DAILY FINE	MAX. FINE
Books, Compact Discs, Kits, Audio books, Art Prints & CD-Roms	\$0.25	\$10.00
Paperback Books	\$0.25	\$5.00
Magazines, Pamphlets, Maps, Pictures (Per Envelope), Sheet Music	\$0.10	\$5.00
Videos	\$1.00	\$10.00
Zoom Lends	\$0.25	\$15.00
Replacement Library Card	\$1.00 charge	
Library Card Renewal	No charge	
Hold (Reserve) Card	No charge	
Zoom Lends	\$1.00/wk.	

Source: <http://www.aadl.org/>

Source: <http://www.redhat.com/>

How should you package and sell information?

How can strategic product design increase barriers to entry?

Red Hat

Nextstep

OS/2

Mac OS X Leopard

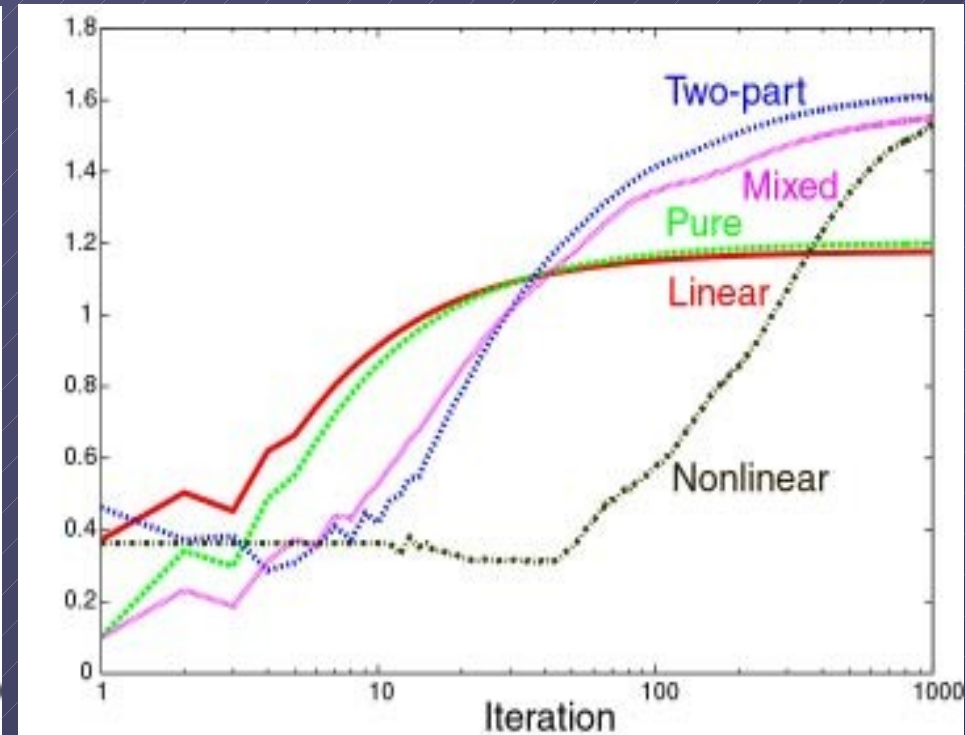
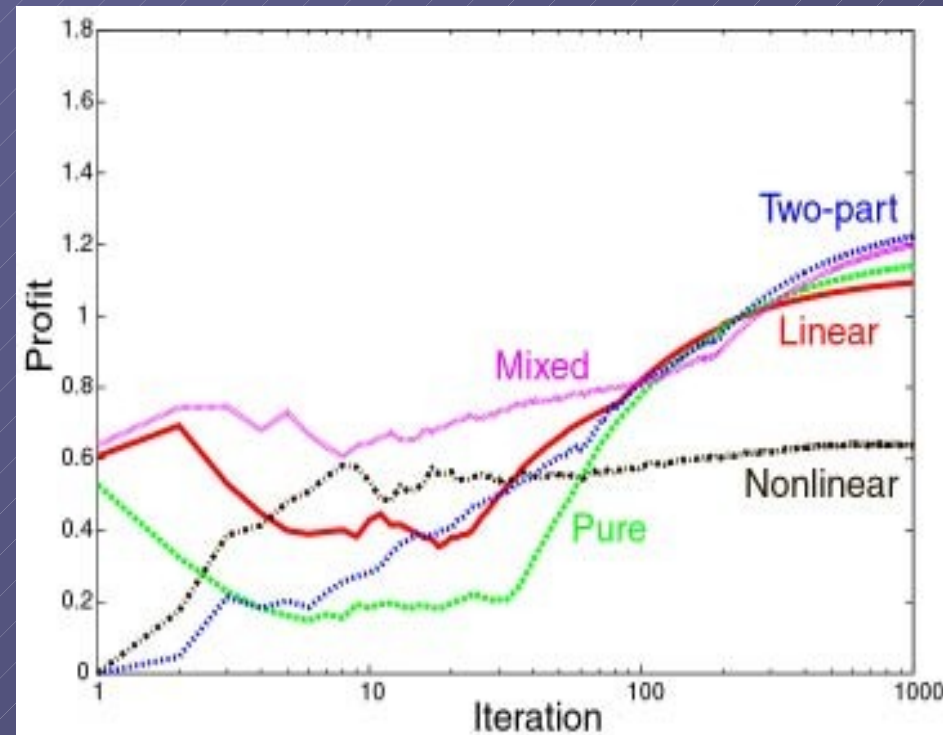
BeOS

Windows Vista

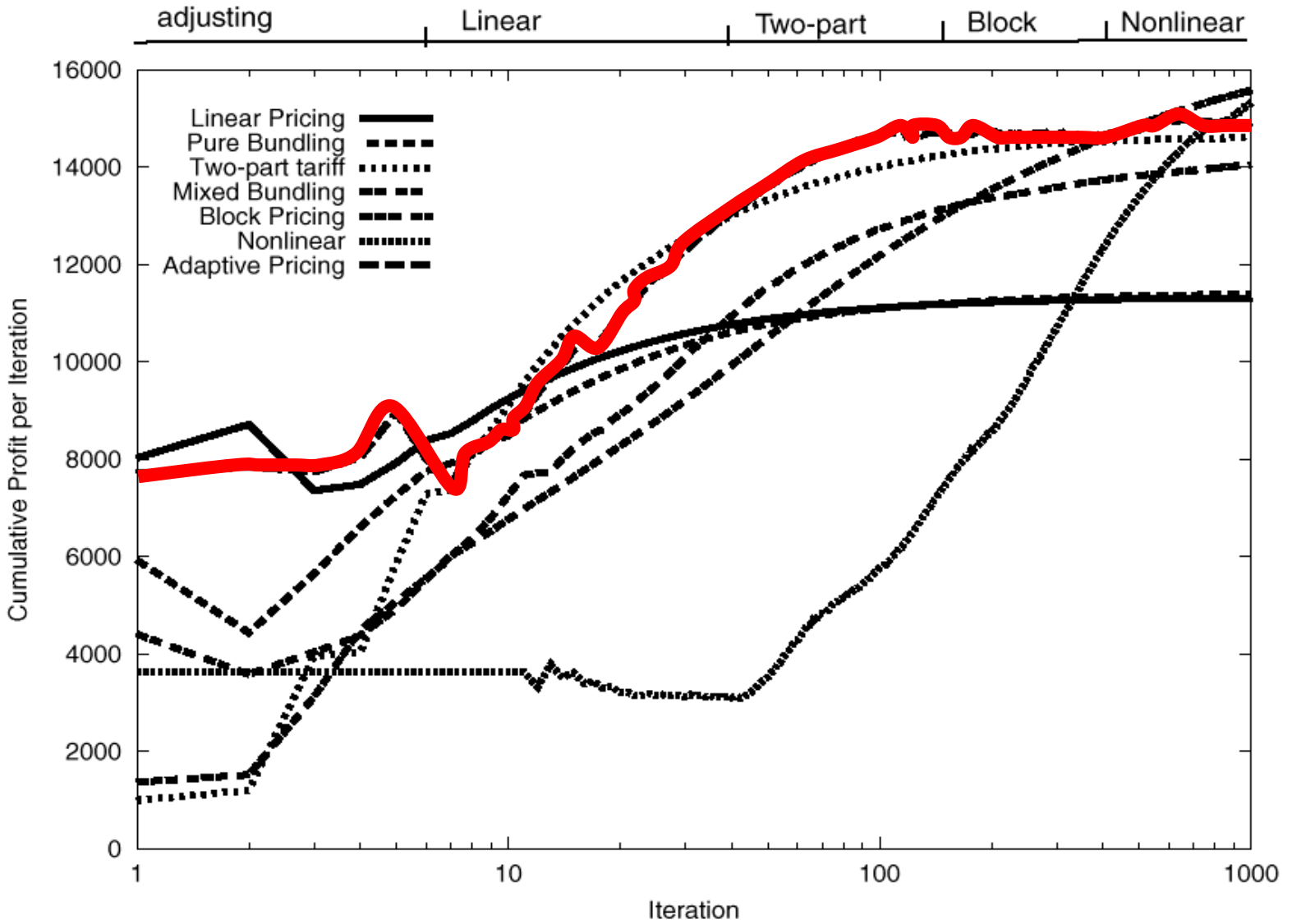
How can software agents learn about consumer preferences?

Neural network

Amoeba



Adaptive pricing



Who cares?

Anyone interested in why
information organizations are
successful (or not)

Who cares about “personalized pricing”?

Do book authors care?

Do book publishers care?

Do book sellers care?

Do book readers care?

Does selling used books help or
hurt...

authors?

publishers?

sellers?

readers?

iTunes pricing vs. rheostat?

Did Microsoft harm consumers
by destroying Netscape?

Should Microsoft be forced to
carry Java?

So...how many technical design decisions should gov't make?

Schedule and course policies
are on CTools

Grading

• Class Participation	20%
• Assignments	50%
• Exam	30%

Class participation

- All readings in advance
- Mixture of lecture and discussion
 - I'll cold call unless there is active participation by all
- I'm looking for
 - *regular* participation, but also
 - *quality* (thoughtful comments or questions)

Assignments

- Two:
 - due dates on schedule
 - available about two weeks in advance
- Mixture of short essay applications and problem solving
- Hard and long: get started early
- Working in groups encouraged, but all written submissions must be your own

Exams

- One in-class
- Mixture of multiple choice, short answer, problem solving

Student evaluations conclude:

Difficulty...
Value...

HIGH

Past Students Have

- Joined Scient Corporation before the IPO
- Joined think tanks such as the Aspen Institute
- Published their term paper in *Management Science*
- Presented research started here at professional conferences
- Launched companies (e.g. Boxbe, funded last week for \$1.7 million)
- Earned starting salaries way above those of their professors
- Gone on to be doctoral studies

For economic problems, what is information?

Hayek (1945): What is info?

Fundamental economic problem: how can a group utilize relevant information not held by any individual in its totality?

A: Assign central authority to make allocation decisions?

**A: Constitute loosely-linked
distributed teams to coordinate?**

A: Organize market of individual agents?

Hayek: The "market" allocates efficiently, not because all information is given to any one mind but because "limited fields of vision sufficiently overlap"

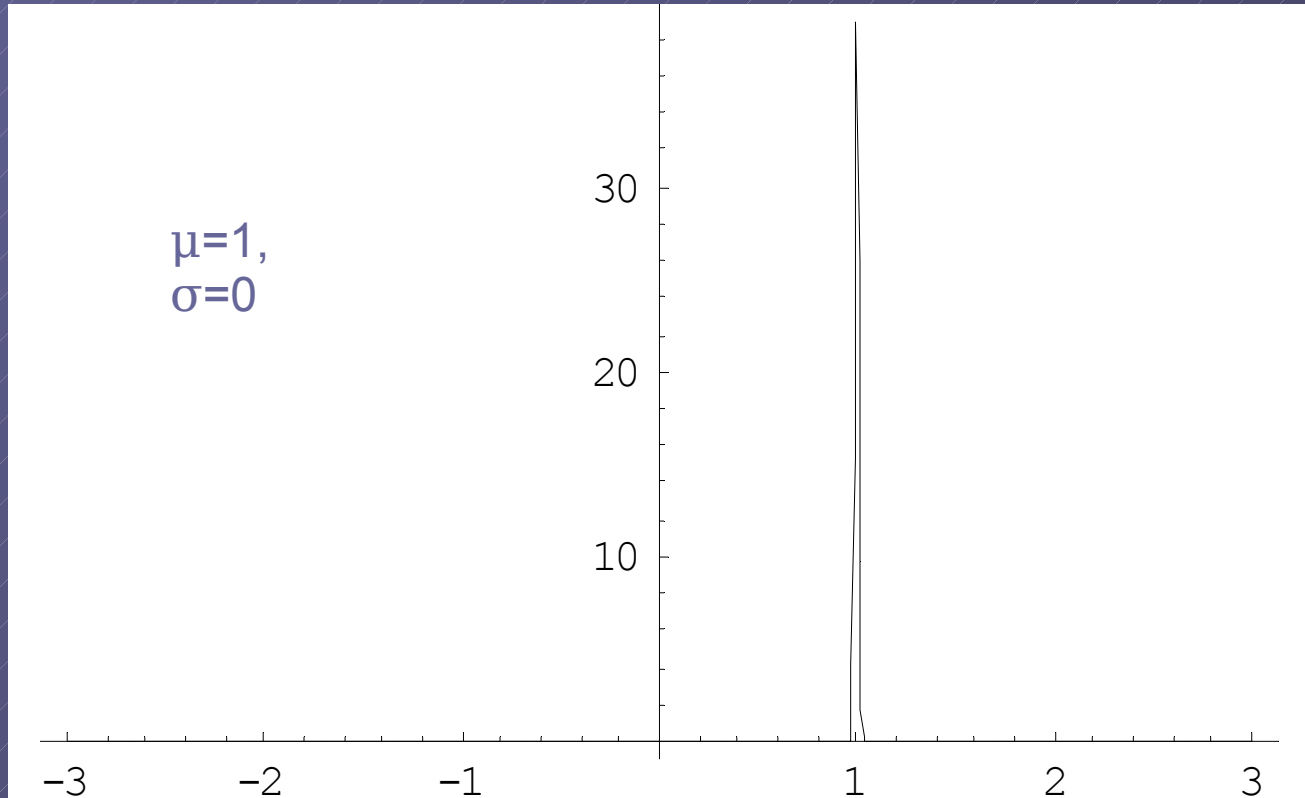
Market efficiency requires: The marginal rates of substitution between two goods must be the same in all their different uses

Achieved by prices: prices are critical economic information!

Prices as information: What do we need to know to make good decisions?

Hayek: Critique?

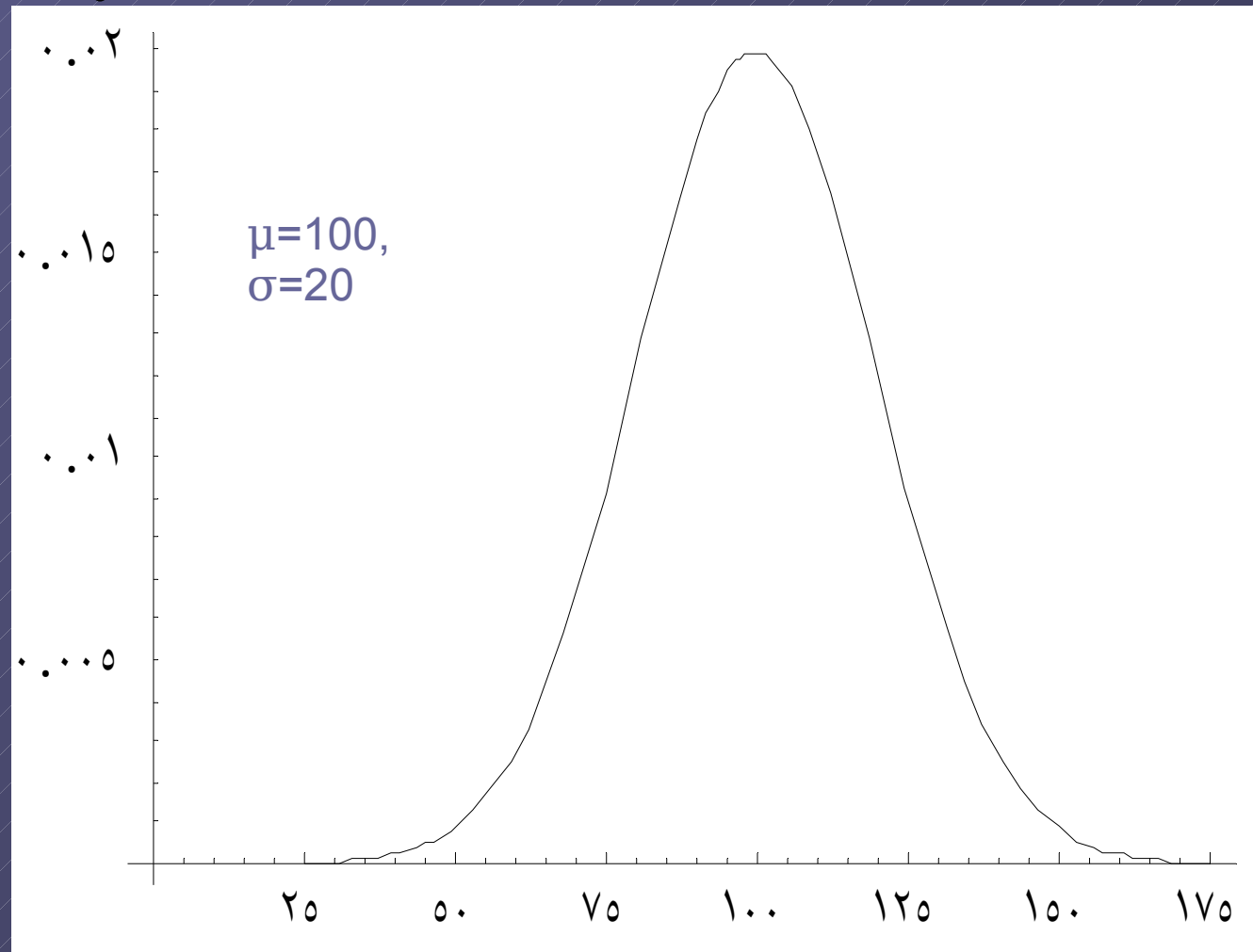
Hirshleifer (1973): Beliefs are probability distributions over states of nature



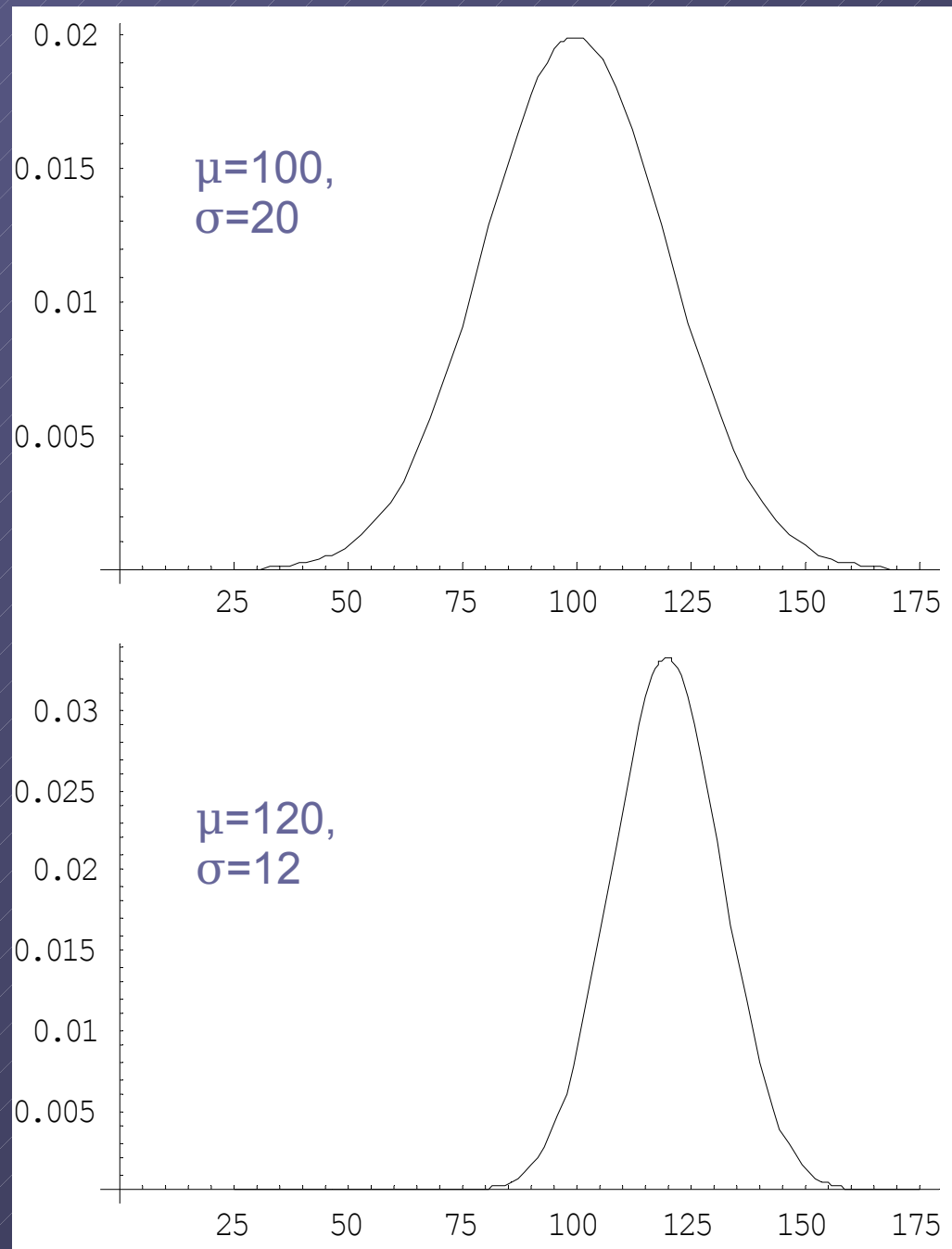
“Ann Arbor is in Michigan”

Info is an event that changes
beliefs

“Our best guess is that we will have 100 patrons”



“New marketing study makes us much more confident that we should expect 120 patrons”



**Economics of uncertainty is passive
(the belief state)**

Economics of info is active (info is
change in beliefs)

Info-involved actions

Info possessor	Info seeker
1. Own use	1. Production (research, creation)
2. Sale	2. Purchase (“pull”)
3. Gratuitous dissemination (“push”)	3. Monitoring (attention)
4. Deception – authentication	4. Evaluation

Is higher demand for information
always good for society?

What types of information are demanded?

Should we expect law of one price
to usually hold?

Hirshleifer: Critique?

Stiglitz (2000): What is info?

characteristics

behavior

Stiglitz: Information is different

People want to know about
characteristics to make *selections*

**Actions, at best, are imperfectly
observed**

Stiglitz: Critique?

Shapiro and Varian apply the old economic principles to new digital information questions

"You must price your information goods according to consumer value, not according to your production cost." (SV p. 3)

"When managing intellectual property, your goal should be to choose the terms and conditions that maximize the *value* of your intellectual property, not the terms and conditions that maximize the protection." (SV p. 5)

"Information is an experience good every time it's consumed. How do you know whether today's *Wall Street Journal* is worth 75 cents until you've read it? Answer: you don't."

"The real value produced by an information provider comes in locating, filtering, and communicating what is useful to the consumer." (SV p. 6)

Why are you here?

Information economics is important for anyone who cares whether and why organizations are successful (or not)

Information economics is important for anyone who cares how much and what quality of information is produced

Studying information economics will
prepare you for every professional
career