What is health economics?

ECON 43565
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Two major themes in this class

- What are the economic aspects of health issues?
- What can economists add to the discussion of:
  - The production of health?
  - The markets for health care?
  - The markets for insurance?
- Key results: policy has ignored behavior at their peril

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These themes are easy to motivate

- Health care sector is one of the largest in the economy
  - $3.6 trillion in spending in 2018
  - $11,172/person
  - 17.9% of gross domestic product
  - 42% expenses covered by governments
- Costs are expected to continue to rise
  - Prices rising faster than other sectors
  - Aging population

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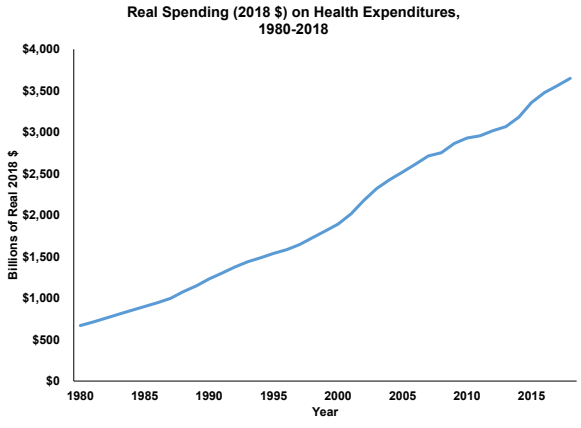
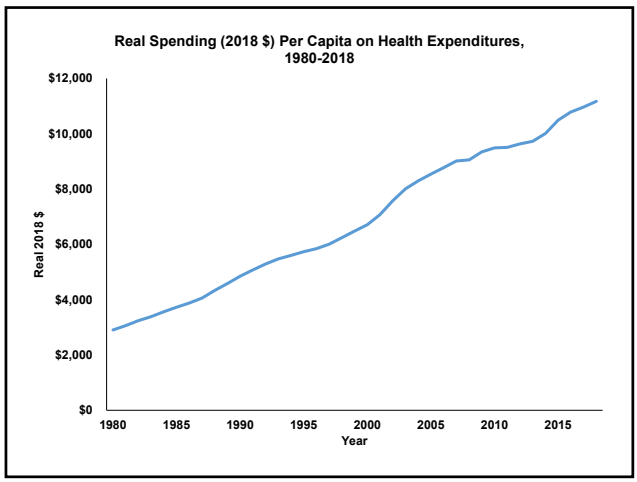
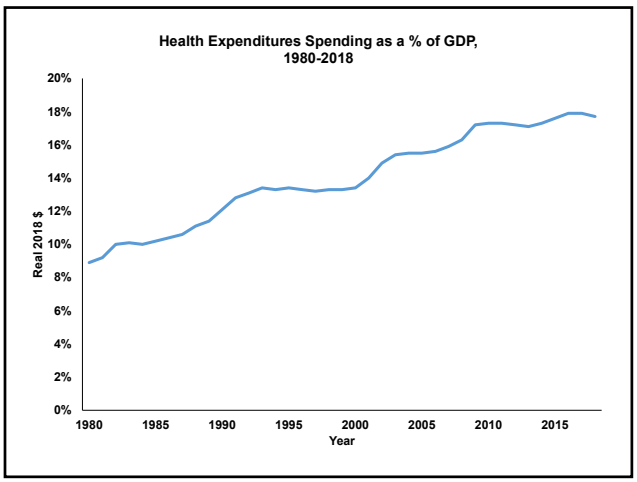
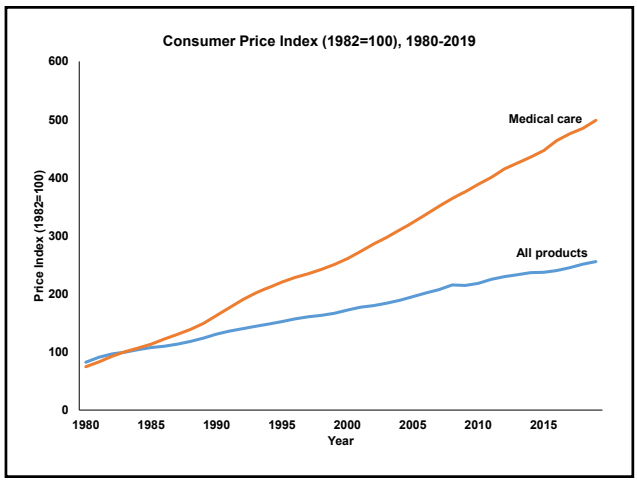
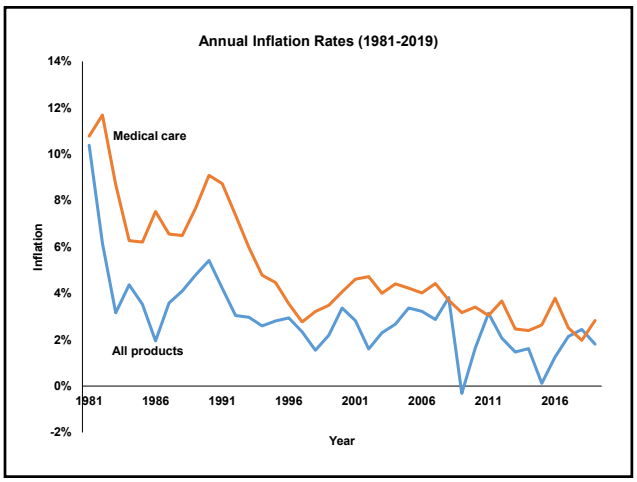



Real Spending (2018 $) Per Capita on Health Expenditures, 1980-2018
$12,000
$10,000
$8,000
$6,000
$4,000
$2,000
$0
Real 2018 $
1980
1985
1990
1995
2000
2005
2010
2015
Year


Health Expenditures Spending as a % of GDP, 1980-2018
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
Real 2018 $
1980
1985
1990
1995
2000
2005
2010
2015
Year


Consumer Price Index (1982=100), 1980-2019
600
500
400
300
200
100
0
Price Index (1982=100)
Medical care
All products
1980
1985
1990
1995
2000
2005
2010
2015
Year


Annual Inflation Rates (1981-2019)
14%
12%
10%
8%
6%
4%
2%
0%
-2%
Inflation
Medical care
All products
1981
1986
1991
1996
2001
2006
2011
2016
Year

What drives spending increases in medical care?

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Despite the spending, some problems

- High uninsurance rates
- US tends to have poor outcomes compared to other countries

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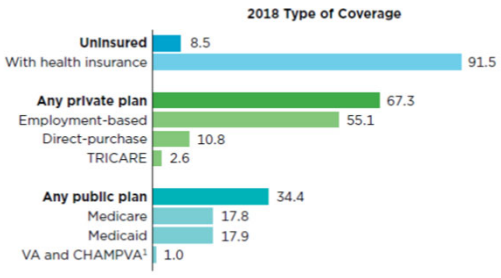
Figure 1.
Percentage of People by Type of Health Insurance Coverage



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Employer sponsored Health Ins.

- How did we get into this system?
- Why do firms provide health insurance?
- Who likes the system?
- Why don't we change?

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Uninsurance Rates, 2018

Ages 15-64	**10.6%**	**By family income, all ages**	
By Education, 26-64		<$25K	13.8%
< HS	26.8%	≥$25K, <$50K	12.3%
HS grad	14.0%	≥$50K, <$75K	10.7%
Some college	10.1%	≥$75K, <$100K	7.1%
College	5.6%	≥$100K, <$125K	5.6%
Grad degree	2.7%	≥$125K, <$150K	4.9%
		≥$150K	3.2%

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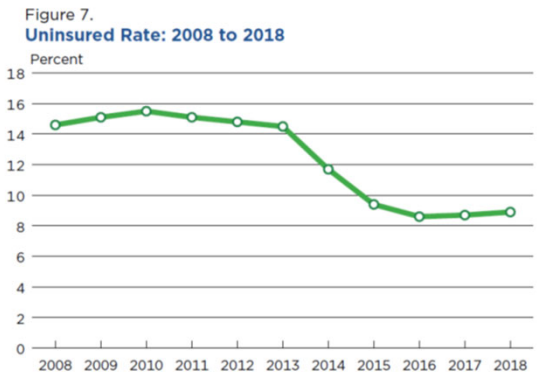

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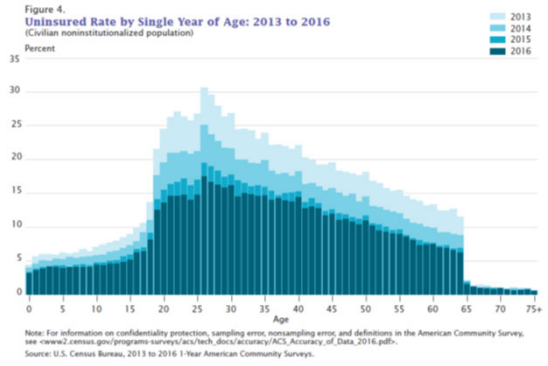

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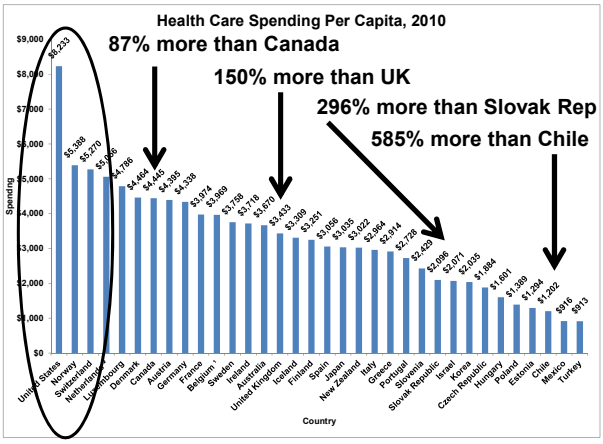

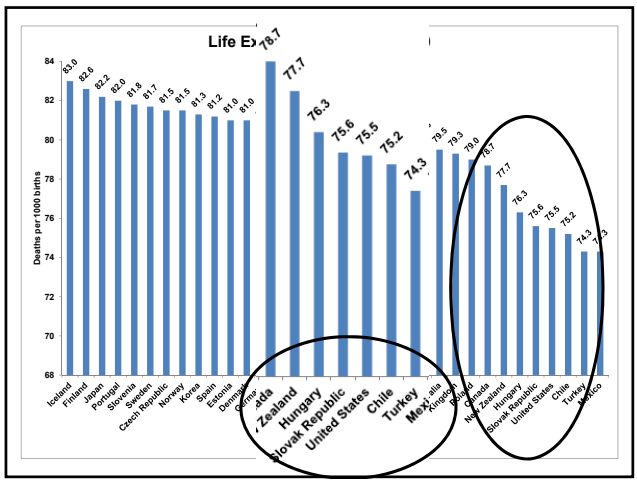

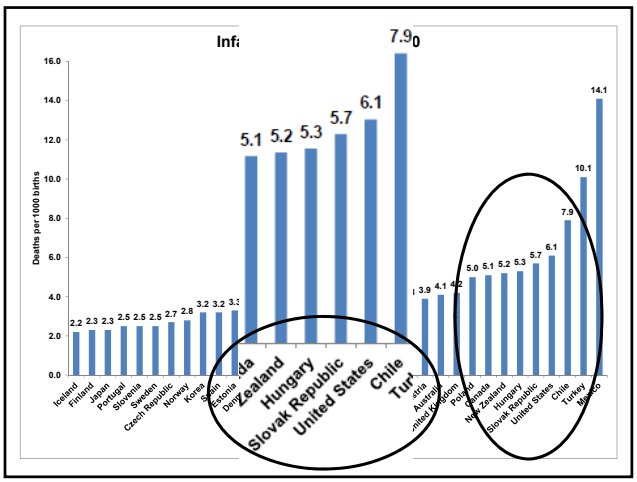

What is economics?

- Behavioral science
- Develop models that can
  - Predict/explain behavioral patterns
  - Can be falsified with data/experimentation
- Starting point – actors are purposeful
  - Firms seek to maximize profits
  - People want to maximize utility
- Important characteristics of economics is its predictive nature – given a change in constraints – how will actors respond?

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What can economics add to the study of health?

- Theoretical – modeling the role of incentives
- Empirical – detecting whether distortions occur and measuring the responses to external events

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What is the primary lesson of economics?

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- Economics is at its best when it demonstrates that incentives matter in seemingly uneconomic settings
- Applied to many non-business settings
  - Families
  - Crime
  - Governments
  - Addictive substances
  - Health care

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Economics in health

- Economists have been successful in demonstrating that incentives matter a great deal in the health sector
- Has altered
  - The way people think about problems
  - The structure of the industry
  - Policy response to certain circumstances
- The problem: Most do not like what economists have to say

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Example 1: Small Group Reform

- Most insurance is provided by employers
- Large firms are "self-insured"
- Smaller firms/self employed must purchase insurance for their workers
- Small groups tend to have
  - Higher prices
  - Prices that are volatile
  - Therefore, smaller firms less likely to provide ins.
- Price also is a function of worker characteristics

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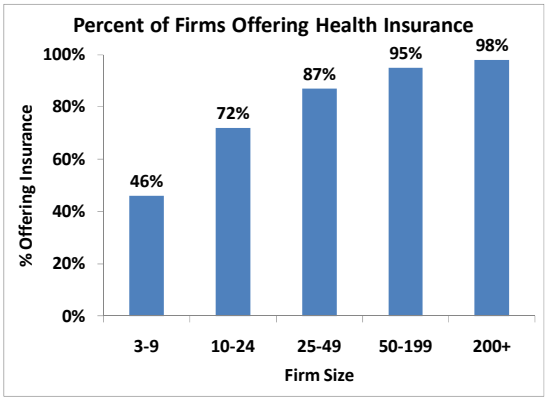

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- Higher priced groups are women, older workers, minorities, chronic health problems
- Concern: prices for some groups too high
- Solution: Reform the small group market by eliminating pricing based on sex/race/age
- Goal: reduce prices and therefore enhance ability to pay for insurance
- Nearly all states have adopted some version of small group reform

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What is the economist's prediction (Rothschild and Stiglitz)

- Policy lowers prices for some by forcing others to pay more for insurance
- What is the natural response of the low priced insured's (e.g., young people)?

- As the low risk exit the market, only higher risk people remain
- These laws increased costs, decreased availability
- How do you maintain the pooling equilibrium?

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Example 2: Modeling the Progression of COVID-19

- Imperial College of London Model of COVID-19
- "Agent-based model" micro simulation
- First estimates for US
  - Kill 2.2 million
  - 81% of population infected
- Results due to high R_0 – the number of other people infected by someone COVID+
- Why were these estimates so high?

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Events in Early March

- March 4 – CA declares states of emergency
- March 6 – SxSW cancelled
- March 7 – NY declares a state of emergency
- March 11 – WHO declares a pandemic
- March 11 – Trump declares foreign travel ban
- March 11 – NBA suspends season
- March 11 – ND cancels in person classes
- March 12 – MLB suspends spring training
- March 12 – NHL suspends season
- March 12 – NCAA cancels M/W basketball tour.

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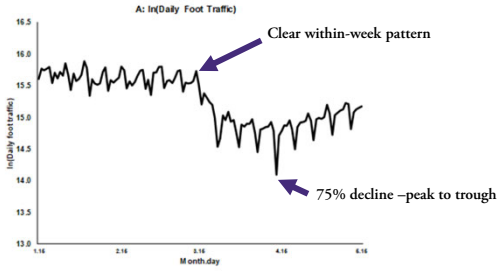
Non-essential retail



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Switch dates in time series

Series	Day switch in March for national series	Switch dates for States
Foot traffic		
Noness. retail	13	32 states, 13-14
Essential retail	14	44 states, 13-14
Entertainment	8	43 states, 7-11
Hotels	13	47 states, 7-14
Restaurants	12	All states, 8-14
Business serv.	13	48 states, 13-14
At home rate	10	All states, 10-14

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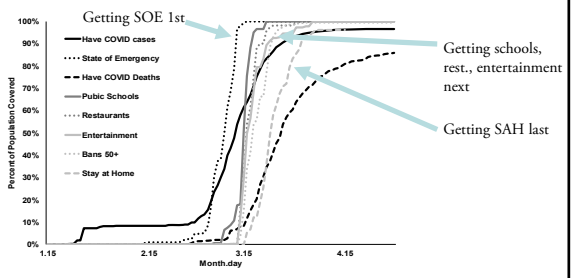
% Population Covered



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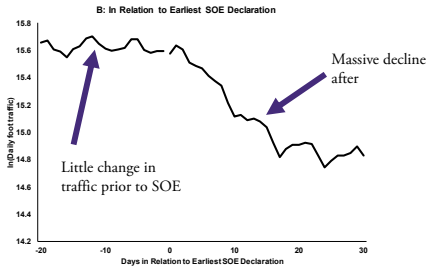

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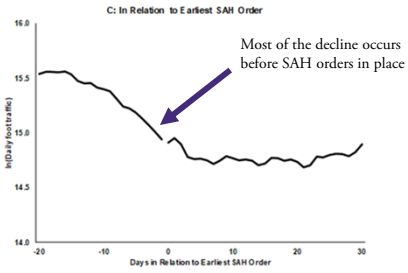

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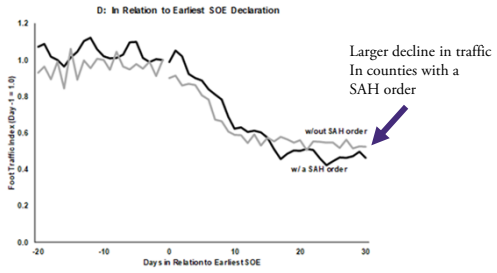

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Decomposition

Outcomes	% Δ or % Point 25 days after SOE (1)	% Reduction in outcome at 25-days explained by: Stay at Home (2)	Other Orders (3)	Private Response (4)
Foot traffic				
Noness. retail	-60.1%	12.5%	13.9%	73.6%
Essential retail	-33.7%	25.8%	23.3%	51.0%
Entertainment	-69.6%	7.3%	11.9%	80.8%
Hotel	-74.7%	3.4%	13.5%	83.2%
Restaurant	-65.5%	6.9%	12.0%	81.1%
Business serv.	-60.1%	12.8%	8.9%	78.4%
At home rate	0.17	23.0%	49.7%	27.3%

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