

Transforming economics education: the CORE project is turning the tanker

Wendy Carlin, UCL and CORE
Friends Provident Foundation Workshop
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Belinda Archibong, CORE-USA Barnard College, Columbia University

What needs was CORE developed to meet?

Natalie
Grisales
Student at
Universidad de
los Andes



I hoped economics would give me a way to describe and predict human behaviour through mathematical tools; ... after semesters of study, I had mathematical tools; but all the people whose behaviour I wanted to study had disappeared from the scene

Students

Economics is hard, boring and unrelated to the questions we want to answer

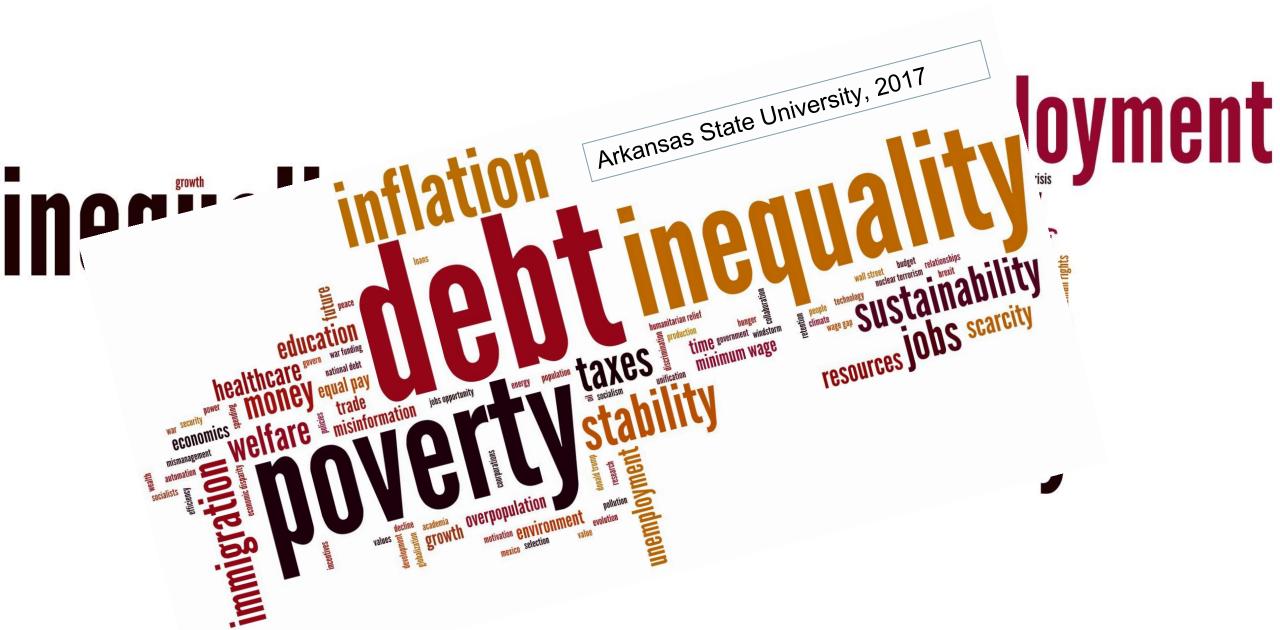


What is the most pressing issue that economists today should address?



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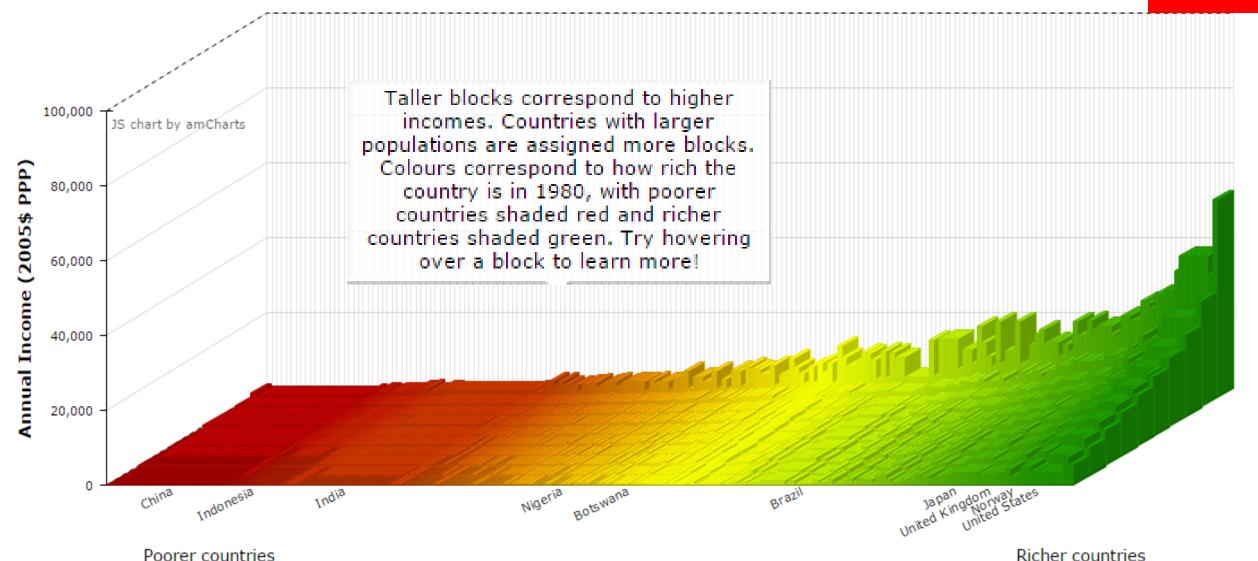
Nova School of Business, Lisbon, 2017

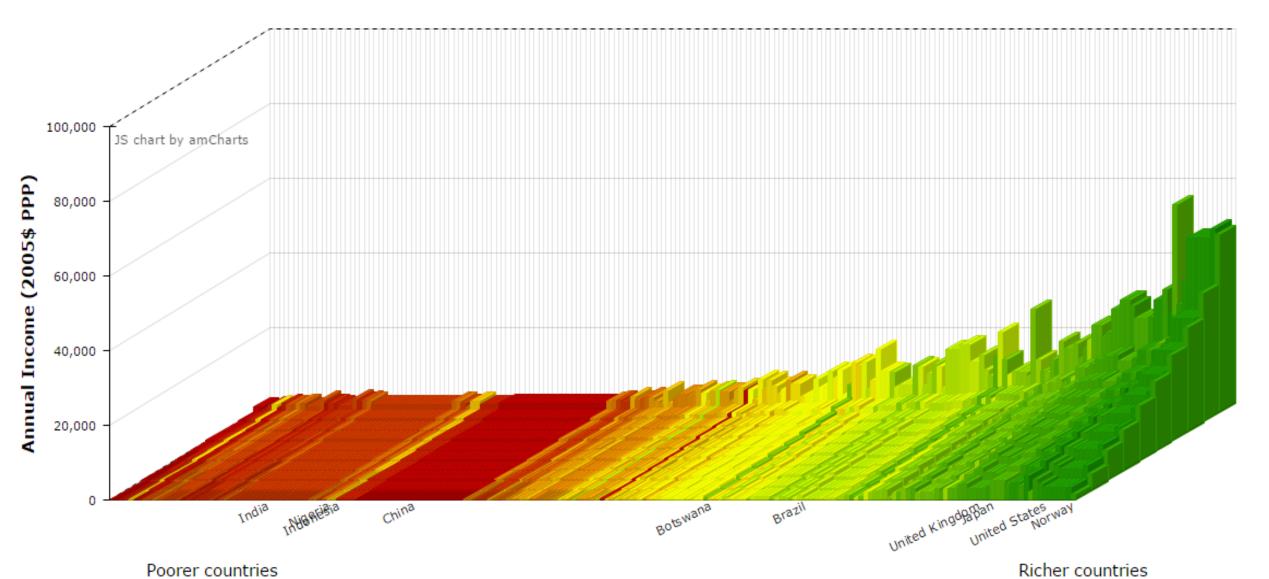


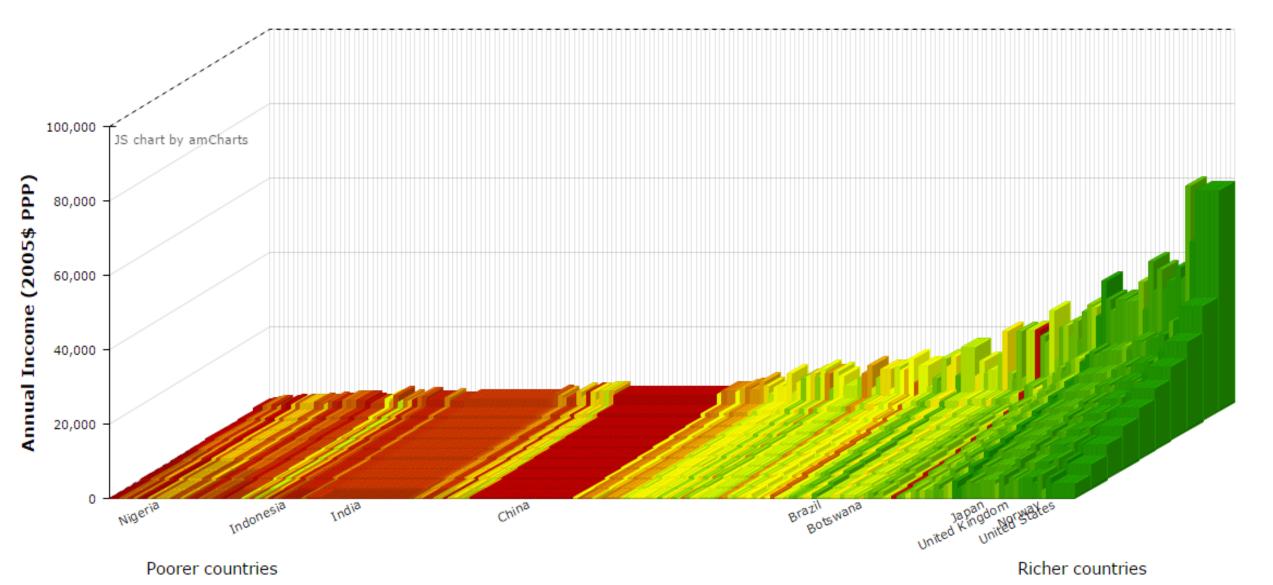


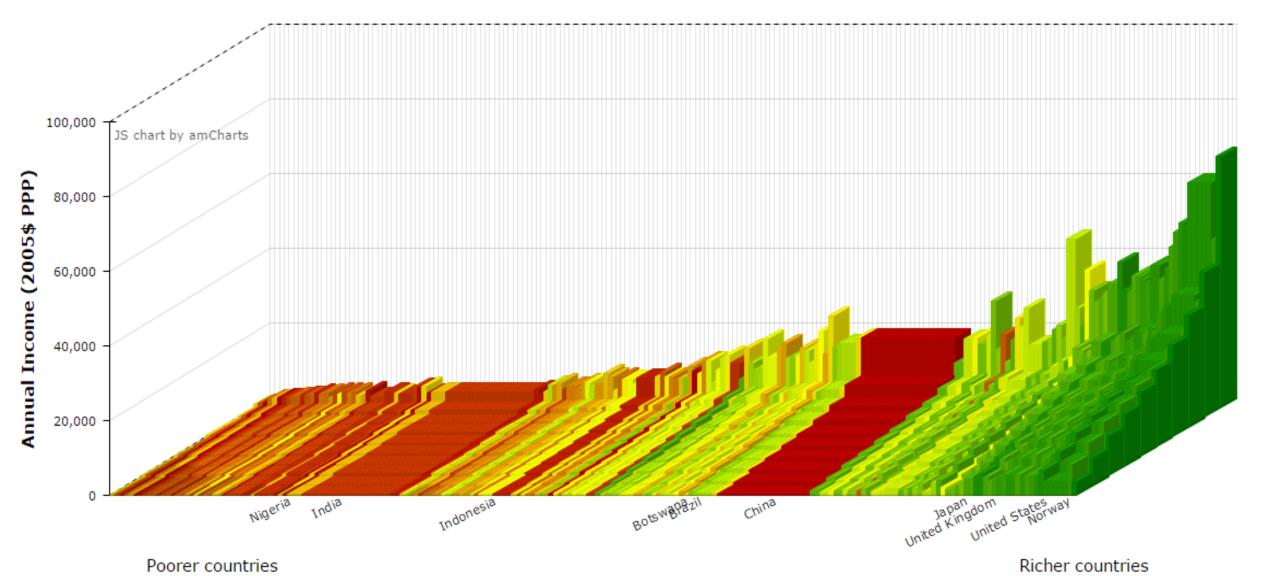
Visualizing inequality

One of the first figures the student sees in CORE (and can manipulate)









The problems students want to study require concepts new to Intro

Problems

Inequality

Instability

Unemployment, fluctuations & the future of work

• Wealth creation & growth

Environmental problems

Key concepts new to Intro

• Rents, bargaining power, institutions

Prices as information & dynamics of price-setting

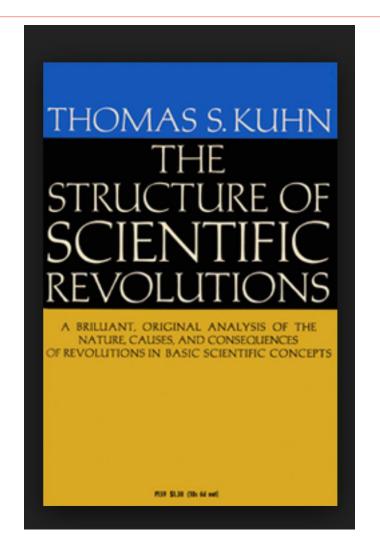
Incomplete contracts in labour & credit markets

• Schumpeterian rents, disequilibrium

Social interactions / other-regarding preferences

Problems, paradigms and texts

- New problems sometimes instigate new paradigms in economics (Kuhn: a paradigm is what good undergraduates learn)
 - e.g. the Great Depression and the "Keynesian revolution"
- And these new paradigms are eventually codified in a new textbook.
 - e.g. the "Keynesian revolution" and Samuelson 1948
- Earlier paradigm setting texts: Marshall 1890, Mill 1848
- The basic content and method of the top intro economics textbooks has changed little in the half century since Samuelson: Marshall + Keynes.



In what sense is the CORE project revolutionizing the curriculum?

The new problems require replacing the old Samuelsonian paradigm in textbooks since *Economics* (1948)





with the best of contemporary economics using the insights of other great economists

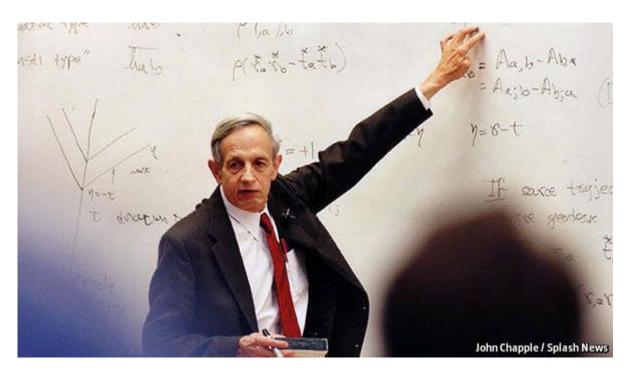




Aggregate demand John Maynard Keynes



F.A. Papels (1899; 1992) Missel Surmone, Care Institute Honorary Desorgatived Desire Milita



Strategic interaction John Nash

Information is scarce and local Friedrich Hayek



The entrepreneur, creative destruction Joseph Schumpeter The Economy Units 2, 16, 21



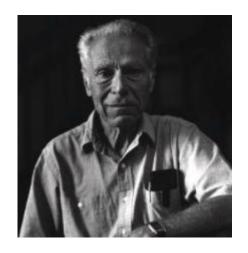
Instability and risk

Hyman Minsky

The Economy Units 10, 17



Power, human motivation and organizations Herbert Simon The Economy Units 4, 5, 6, 20, 22



Exit, voice, and loyalty in the economy, society & politics Albert Hirschman The Economy Unit 22



Social norms and managing common property Elinor Ostrom

The Economy Units 4, 12, 20

Samuelsonian benchmark model	Economics	Contemporary economics & CORE
Far-sighted, self-interested	People	Also cognitively limited; have motives in addition to self-interest, respond to social norms of fairness and punishment.
Price-taking markets	Interactions	A new paradigm
Complete	Information	-ew bara
Complete	Contracts	Biosphere Society
Markets	Institutions	
Largely ignored	History	
Preferences and budget constraints differ among buyers and sellers	Differences among people	Economy
In monopoly, governmental powers	Power	
'Rent-seeking' creates inefficiencies	Economic rents	
The economy is self-stabilizing	Stability	
Are there unexploited mutual gains?	Evaluation	

In what sense is the CORE project revolutionizing the curriculum?

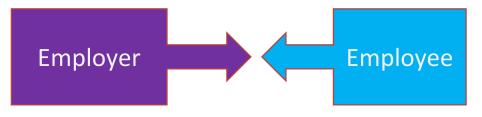
Samuelsonian benchmark model	Economics	Contemporary economics & CORE
Far-sighted, self-interested	People	Also cognitively limited; have motives in addition to self- interest, respond to social norms of fairness and punishment.
A different arkets conception of	Interactions	include price-making markets and strategic interactions including in setting wages, interest rates, prices.
human behaviour,	Information	is incomplete and asymmetric
interaction and	Contracts	are incomplete for effort and diligence in labour and credit markets and for other external effects
information are	Institutions	include informal rules (norms), firms, unions, banks, governments
central to understanding the	History	provides data about alternative rules of the game and the process of change
economy – and d budget constraints designing policy d budget constraints uyers and sellers	Differences among people	people also differ in the positions in the economy that they occupy as employers and employees; lenders and borrowers
In monopoly, governmental powers	Power	principals' power over agents e.g. in labour, credit markets
'Rent-seeking' creates inefficiencies	<i>Economic rents</i>	are also endemic in a well-functioning private economy providing incentives to innovate, work hard
The economy is self-stabilizing	Stability	and instability are characteristics of the economy.
Are there unexploited mutual gains?	Evaluation	also includes fairness.

Actors & their interactions – a foundation for understanding the economy

A principal agent problem ...

- entails exercise of power and conflicts of interest
- arises when information is asymmetric because actions are hidden from principal / not verifiable in court
 - → incomplete contracts
 - → market failures are ubiquitous
 - → institutions and social norms matter

In the labour market, ... it means there is *always* involuntary unemployment



What is the conflict of interest over? What is left out of the contract?



In the firm, conflicts of interest and power

WHEN ECONOMISTS AGREE

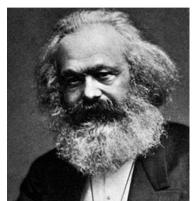
Coase and Marx on the firm and its employees

The writer George Bernard Shaw (1856–1950) joked that 'if all economists were laid end to end, they would not reach a conclusion.'

This is funny, but not entirely true.

Even more striking is that two economists from different centuries and political orientations came up with similar ways of understanding the firm and its employees.





Recall that Coase had also defined the firm by its political structure: 'If a workman moves from department Y to department X, he does not go because of a change in prices but because he is ordered to do so.' He sought to understand why firms exist at all, quoting his contemporary D. H. Robertson's description of them as 'islands of conscious power in this ocean of unconscious cooperation'.

Wage-setting and involuntary unemployment in equilibrium

Firms set wages; an identical unemployed worker cannot get a job by offering to work for less (no way to ensure effort) → involuntary unemployment ... structural unemployment

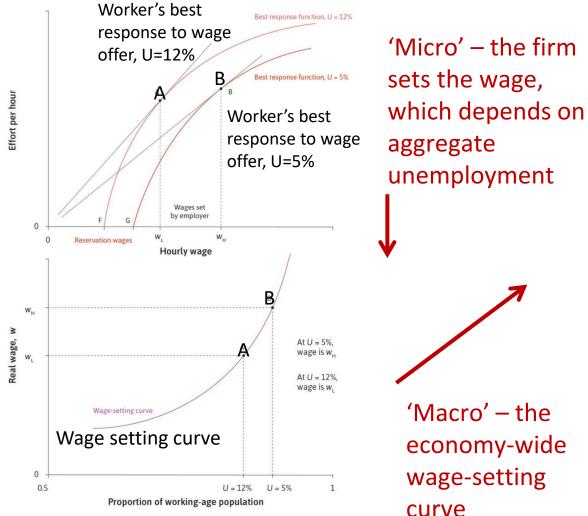
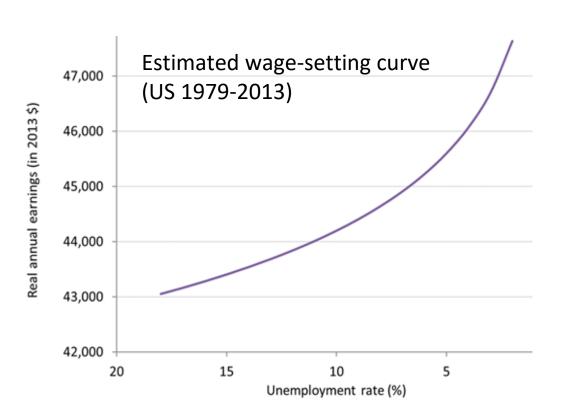


Figure 9.5 Deriving the wage-setting curve: Varying the unemployment rate in the

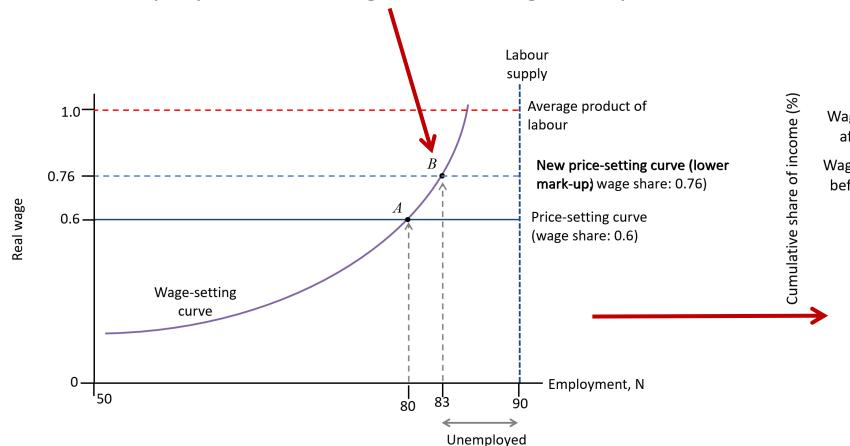
'Macro' – the economy-wide wage-setting curve



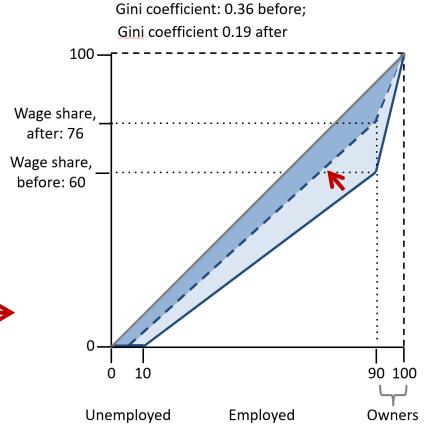
Data – estimated wage-setting curve, US

Economics helps explain the effects of a policy to increase competition on wages (go up), unemployment (goes down) & inequality (goes down)





Lower inequality – the Gini coefficient falls



Cumulative share of the population from lowest to highest income (%)

Aggregate demand and fluctuations – a second principal-agent problem

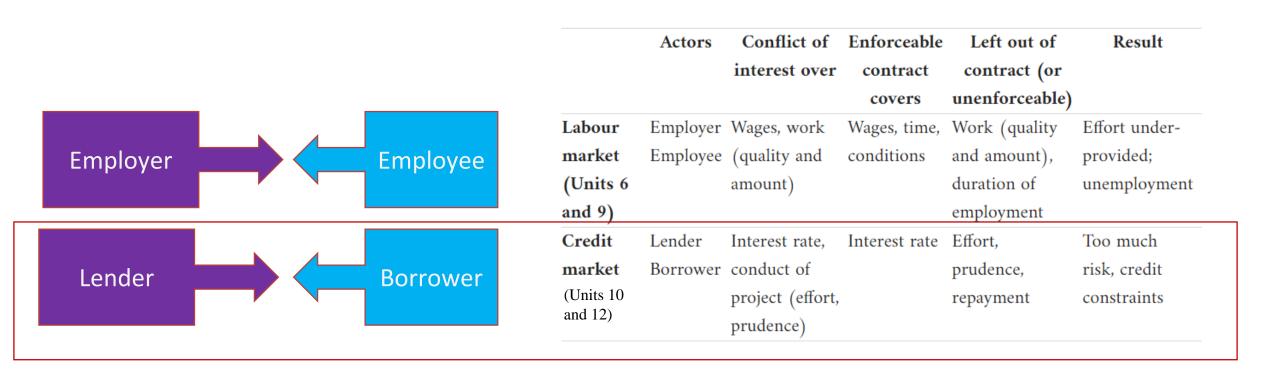
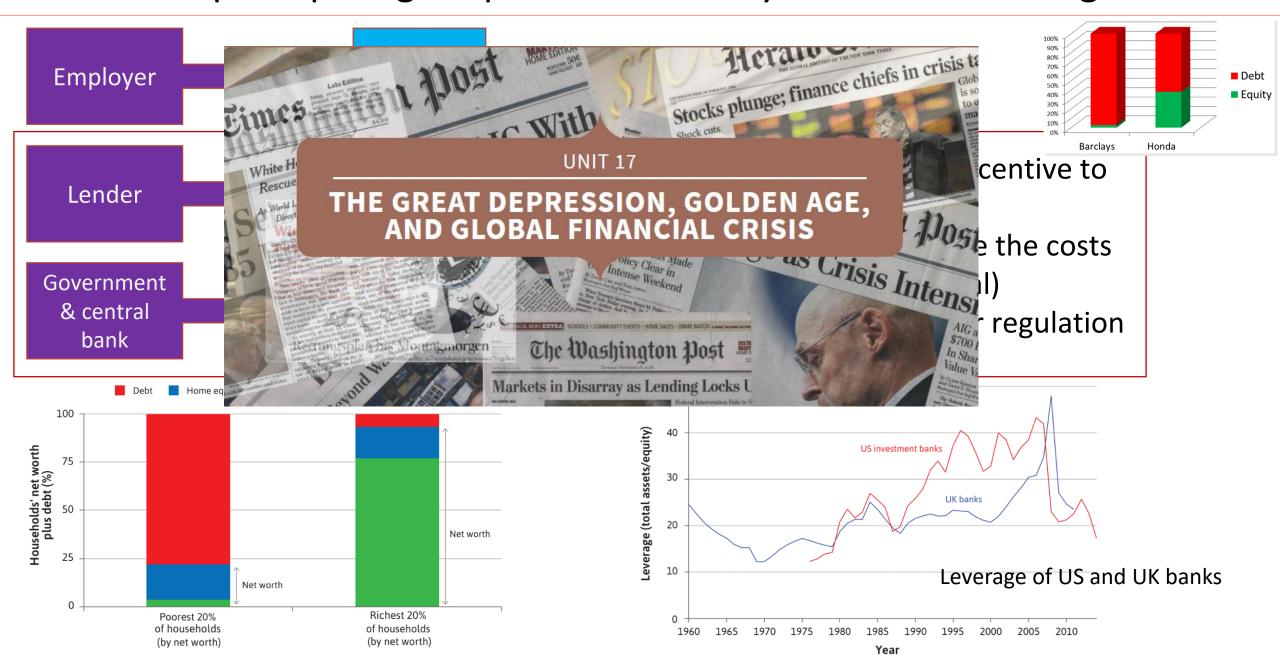


Figure 10.19 Principal-agent problems: The credit market and the labour market.

→ Again, power plays a role; there are credit-constrained households, and multiplier effects in the aggregate economy

And a third principal-agent problem to analyze bank risk-taking



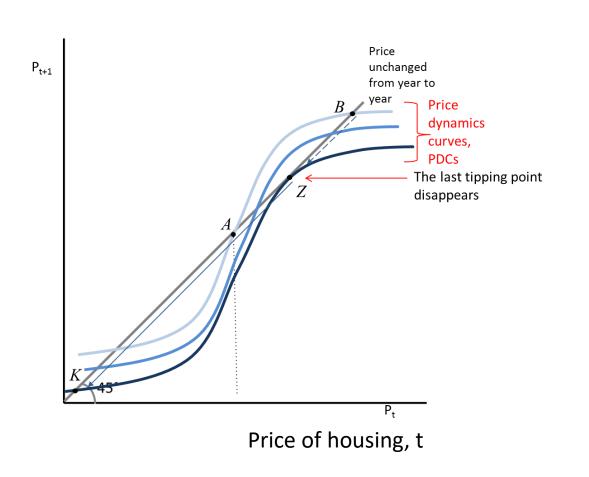
Learn tools that can be applied to different problems in the real world

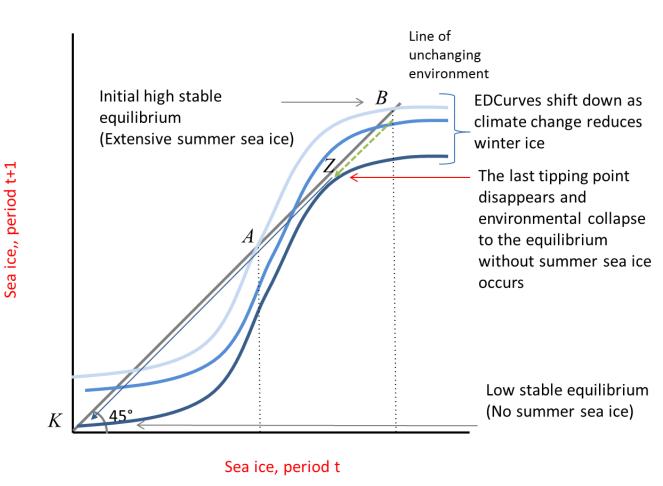
A bubble in the housing market

An environmental tipping point

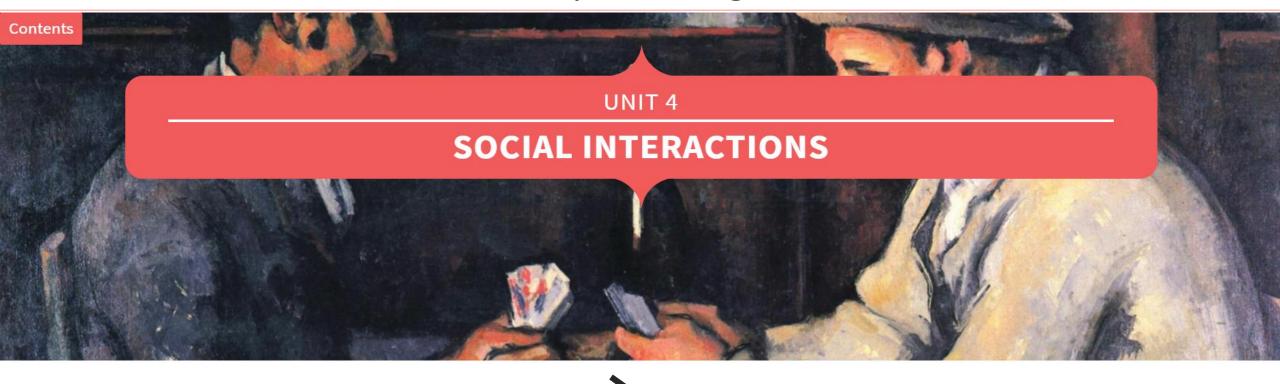
Figure 20.24. Climate change and irreversible loss of summer Arctic sea ice.

A tipping point in the housing market.





Economics is the study of how people interact with one another and with the natural environment in producing our livelihoods

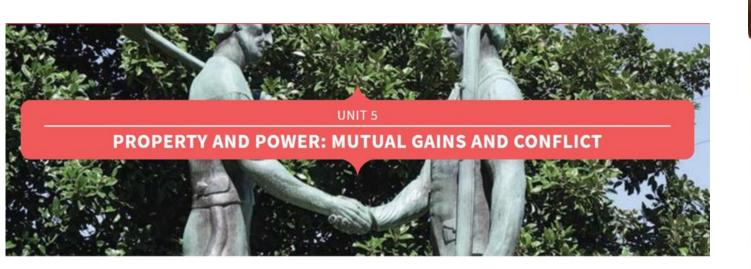


A combination of self-interest, a regard for the wellbeing of others, and appropriate institutions can yield desirable social outcomes when people interact

THEMES AND
CAPSTONE UNITS

Global economy
Inequality
Environment
Innovation
Politics and
policy

Teaching inequality, power and the rules of the game



Economic institutions are the rules of the game – who does what and who gets what on a pirate ship

THE ROBER'S ARTICLES

ARTICLE I

Every Man has a Vote in the Affairs of the Moment; has equal title to fresh Provisions...

ARTICLE III

No person to Game at Cards or Dice for Money.

ARTICLE IV

The Lights and Candles to be put out at eight a-Clock at Night; If any of the Crew after that Hour still remained enclined for drinking, they are to do so on the open Deck...

ARTICLE X

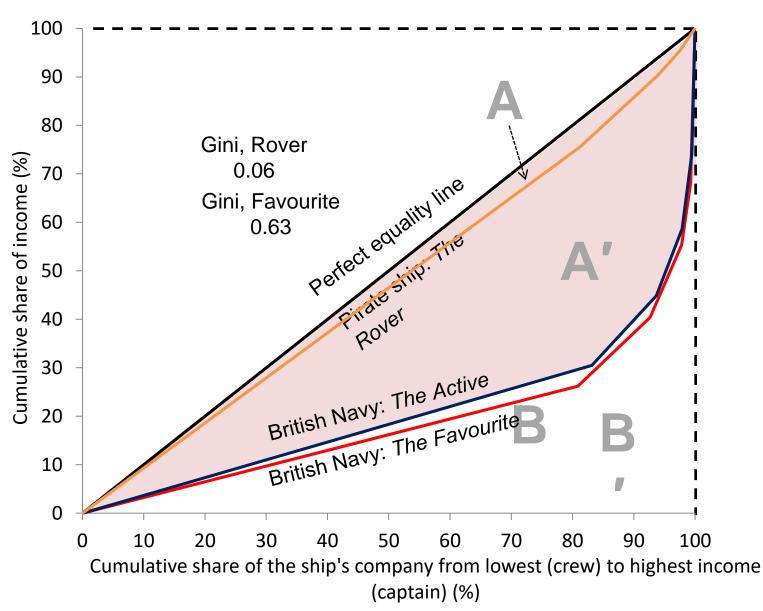
The Captain and Quarter Master to receive two Shares of a Prize (the booty from a captured ship); the Master, Boatswain, and Gunner one Share and a half, and other Officers one and a Quarter (everyone else to receive one share, called his Dividend.)

ARTICLE XI

The Musicians to have Rest on the Sabbath Day but the other six Days and Nights none without special Favour.

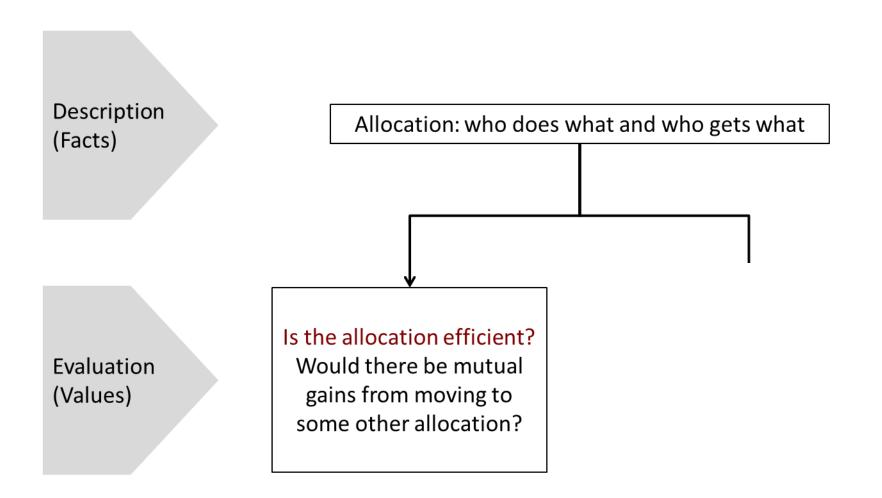
Empowering students to quantify inequality

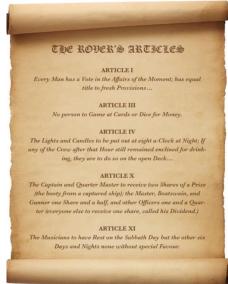
Constitutions and contracts
Inequality in the division of the spoils:
pirates and the Royal Navy



Fairness as well as efficiency

Every economic transaction involves both mutual gains & conflicts of interest







Developing moral intuitions

When is inequality unfair?

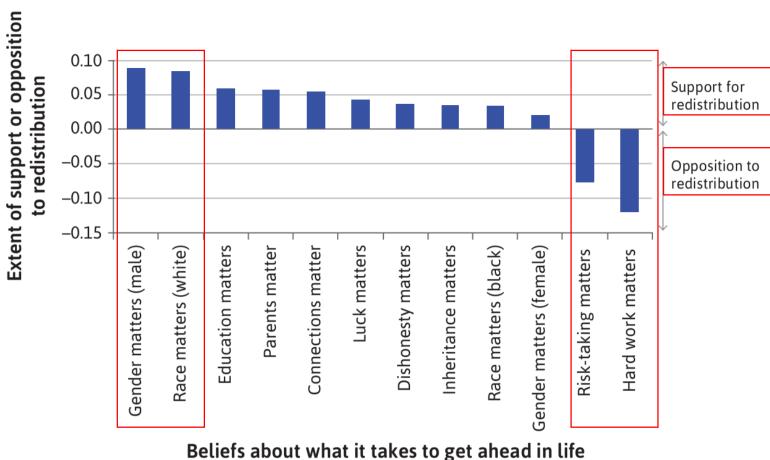


Figure 19.14 How beliefs about what it takes to get ahead predict whether people in the US support or oppose government programs to redistribute income to the poor.



Economics as empowerment



As an economic actor, a democratic government in a capitalist economy can promote improved living standards, with gains fairly shared. Often, though, this does not happen

Economics can help to adequately address the problems of inefficiency and unfairness in our economies, by designing policies that are both economically and administratively feasible. Economics can also play a role in making good policies politically possible: economic reasoning can have a powerful effect on public understanding of what can be done in the economy, and even on what ought to be done.

CORE: A global collaboration of researchers



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CORE: A global collaboration of researchers



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Begüm Özkaynak Boğaziçi University



Paul Segal King's College London

- Researchers and teachers from around the world from Colombia to Bangalore, from Sciences Po to Columbia University, including 100s of students, teachers and other social scientists
- United by the goal of creating high quality open access resources to bring to students the best of economics
- Enabling them to engage in evaluation and debates on the pressing public policy issues of today



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What's available from the CORE team?

A free fully interactive ebook at www.core-econ.org

- 22 units including 6 capstone units
- Interactive slidelines for understanding data and models
- Multiple choice questions with immediate feedback on correct and incorrect answers



Table of contents

1—The capitalist revolution

Introduction

- 1.1 Income inequality
- 1.2 Measuring income and living standards
- 1.3 History's hockey stick: Growth in income
- 1.4 The permanent technological revolution
- 1.5 The economy and the environment
- 1.6 Capitalism defined: Private property, markets, and
- 1.7 Capitalism as an economic system
- 1.8 The gains from specialization
- 1.9 Capitalism, causation and history's hockey stick
- 1.10 Varieties of capitalism: Institutions, government, a
- 1.11 Economics and the economy
- 1.12 Conclusion
- 1.13 References

2—Technology, population, and growth

Introduction

2.1 Economists, historians, and the Industrial Revolution

THEMES AND CAPSTONE UNITS

(2005 \$ PPP)

80,000

60,000

40,000

- History, instability, and growth
- Global economy Inequality
- Environment
- Innovation
- Politics and policy

World income distribution in 2014

Poorer countries

By 2014, many countries have changed their ranking. China has grown rapidly since 1990. But the countries that were richest in 1980 (darkest green) are still near the top in 2014.

2014

Brazil

Richer countries

OUESTION 16.4 CHOOSE THE CORRECT ANSWER(S)

Figure 16.8 depicts the graphs of the long-run price-setting curve and the markup at which firm entry and exit are both zero.

Based on this information, which of the following statements is correct?

- An increase in the degree of competition in the economy will lower the price-setting
- A lower interest rate leads to a lower price-setting curve.
- Lower worker productivity leads to a higher price-setting curve for a given markup μ*.
- Higher risk of expropriation of businesses overseas results in a higher price-setting

Check my answers

√ CORRECT!

This will lower the expected return on investments abroad, lowering equilibrium profits at home and therefore lowering the markup. This leads to a higher pricesetting curve.

Content

EINSTEIN

Ratio scales and logarithms

In Unit 1, we made frequent use of a ratio or log scale on the vertical axis to display long-run data. For example, we used ratio scales with the units doubling in Figure 1.1b and rising tenfold in Figure 1.2. The ratio scale is also called a logarithmic (or log) scale. We can write a scale where the tick marks on the vertical axis double like this:

$$2^0, 2^1, 2^2, \dots$$

Or a scale where they rise tenfold, like this:

$$10^0, 10^1, 10^2, \dots$$

The first is called a logarithmic scale in base 2; the second is in base 10.

GREAT ECONOMISTS

Herbert Simon

Imagine a visitor approaching Earth from Mars, Herbert 'Herb' Simon (1916–2001) urged his readers. Looking at Earth through a telescope that revealed social structure, what would our visitor see? Companies might appear as green fields, he suggested, divisions and departments as faint contours within. Connecting these fields, red lines of buying and selling. Within these



HOW ECONOMISTS LEARN FROM FACTS

Do institutions matter for growth in income?

We can observe that capitalism emerged at the same time as, or just before, both the Industrial Revolution and the upward turn in our hockey sticks. This would be consistent with the hypothesis that capitalist institutions were among the causes of the era of continuous productivity growth. But the emergence of a free-thinking

cultural environment known as "The Enlightenment" also the upturn in the hockey sticks. So was it institutions, or other set of causes? Economists and historians disagree, a when we ask 'What were the causes of the Industrial Rev



WHEN ECONOMISTS DISAGREE

The discounting dilemma: How shot and benefits?

When considering policies, economists seek to compare the benefits and costs of alternative approaches. Doing this presents especially great challenges when the policy problem is climate change. The reason is that the costs will be borne by the present generation but the benefits of a successful abatement policy will be enjoyed by people in the future, many of whom are not yet alive.

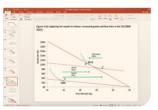
Put yourself in the shoes of the impartial policymaker we studied earlier and ask yourself: are there any reasons why, in summing up the benefits and costs of an

What's available from the CORE team?

A low-priced book (1100 pages) from Oxford University Press A large and growing set of free resources for teachers and students Coming soon – an app for off-line use and online quizzes







Slides of figures













Data files for charts Data and graphs in excel for charts from each unit; suitable for setting data exercises.



Answers to exercises A set of model answers to all the exercises from the



Additional MCQs with answers

Use these additional MCQs in lectures, tutorials or tests to check students' understanding.



Teaching guides

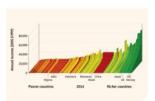


Guides on how to set up the games and

experiments, and what they can teach your

Economist in Action videos

Watch prominent economists explain how they use research to answer questions.



Global inequality resource

Use the interactive version of Figure 1.2 to explore global income inequality since 1980.



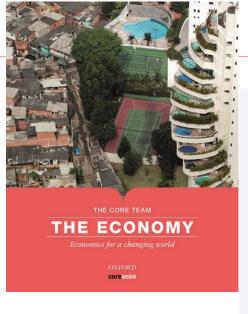
Climate policy: discount rate simulation

An interactive table displaying the effect of your chosen discount rate.



The Economy beta version

The previous version of The Economy in pdf format





core-econ app









So far ... since 2013,

Produced free on-line ebook + rich teaching & learning materials, digital delivery, creative commons open access license

Engagement

Total registered on website 56k+ from 186 countries

Verified teachers from 86 countries given access 5.6k+

In use in high schools, undergraduate, masters' courses across the globe

>60 universities are using CORE in instruction, from 16 different countries.

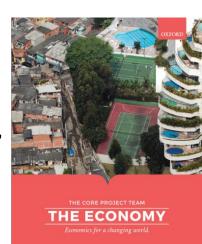
High school video competition (UK, US, Australia)



Replaced the standard principles course at:

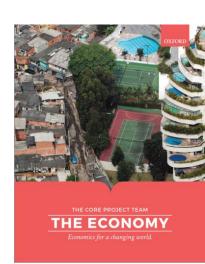
UCL, Bristol, Toulouse School of Economics, Sciences Po, Humboldt University, Bangor Business School, Azim Premji University Bangalore, La Reunion, Birkbeck College, King's College London, Pontificia Universidad Javeriana, Bogotá, Colombia, Siena College, New York, University of San Francisco, University of Siena, and more

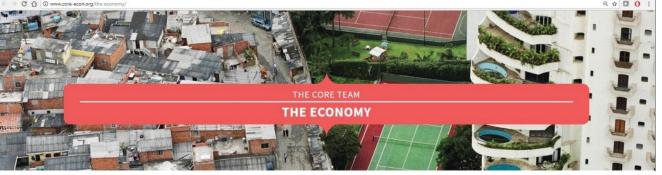
Published new 1.0 free ebook & identical print book, Oxford University Press



In progress...

- CORE EQuSS A new ebook *Economy, Society, and Public Policy* for non-specialist students beta will be in use in autumn 2018 (e.g. Bristol Futures, University of Northampton, ULB Brussels, ...)
- CORE USA pioneering a new model of community-building for those wanting to teach The Economy
- Translations French on-line ebook next month; Italian print book spring; Farsi, Spanish, ...
- Regional adaptations South Asia 2018; group forming for CORE Africa
- High school French project will take the lead in an adaptation
- In the planning stage, online courses including short courses 'for anyone'









CÓMO EL CAPITALISMO HA REVOLUCIONADO LA FORMA EN QUE VIVIMOS, Y CÓMO LA ECONOMÍA INTENTA ENTENDER ESTE Y OTROS SISTEMAS ECONÓMICOS

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Wendy Carlin, UCL and CORE Friends Provident Foundation Workshop November 2017



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