



Topic
Business
& Economics

Subtopic
Economics

Unexpected Economics

Course Guidebook

Professor Timothy Taylor
Macalester College



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Timothy Taylor, M.A.

Managing Editor
Journal of Economic Perspectives
Macalester College

Professor Timothy Taylor is Managing Editor of the *Journal of Economic Perspectives*, a position he has held since 1986. The journal is produced at Macalester College and published by the American Economic Association, and it is the most widely distributed and read journal of academic economics in the world. Professor Taylor graduated from Haverford College, where he majored in Economics and Political Science. He holds a master's degree in Economics from Stanford University.

Professor Taylor has produced several courses for The Great Courses, including *Economics* (now in its third edition), *History of the U.S. Economy in the 20th Century*, *Legacies of Great Economists*, and *America and the New Global Economy*. In 2011, Professor Taylor published the second edition of his comprehensive textbook *Principles of Economics*. His forthcoming book *The Instant Economist* is a joint project with Plume and The Great Courses.

Professor Taylor has published articles on globalization, the new economy, Medicare reform, and outsourcing. He has edited a wide range of books and reports, including books on school reform, airline deregulation, pensions, and a history of the chemical industry, as well as the World Bank's *World Development Report 1999/2000*. He has consulted with the Social Security Administration and the Federal Reserve on the organization and content of their reports. Professor Taylor's blog can be accessed at <http://conversableeconomist.blogspot.com>.

Professor Taylor received the award for excellent teaching in a class of more than 30 students given by the Associated Students of Stanford University. At the University of Minnesota, he was named a Distinguished Lecturer by the Department of Economics and was voted Teacher of the Year by the master's degree students at the Hubert H. Humphrey Institute of Public Affairs. ■

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Unexpected Economics

Scope:

Economics as a subject is enormously broader than the economy itself. When most people think about the subject of economics, the first topics that come to mind are unemployment, recession, government spending and taxes, international trade, the stock market, gasoline prices, and corporate mergers. However, economists take a far wider view of their area of study. When economists are asked to define the essence of their subject, they don't respond by talking about prices or gross domestic product or interest rates. Instead, they emphasize that economics is about viewing the world as a place where humans face scarcity. At the most basic level, nobody has more than 24 hours per day. Thus, people must make choices about allocating their resources of time, energy, and money.

Economics offers a particular angle on human choice. Other social sciences, such as sociology and psychology, tend to emphasize that people's choices are influenced by their peer groups, culture, or family upbringing. Economists don't disagree with any of that, but they tend to emphasize that choices are also shaped by the costs and benefits of the various alternatives—and those costs and benefits can change over time.

Economists believe it's true that peer groups and culture and upbringing will affect decisions like, for example, whether to get a divorce or commit a crime or donate a kidney. In addition, economists emphasize that when the costs and benefits of a decision shift, then choices will vary as a result. For example, if more women are working outside the home and no-fault divorce laws are enacted, divorce rises. If the chance of being caught and punished for a crime falls, crime rates rise. If people could be compensated in some way for donating a kidney at a time when kidney donations are becoming safer and easier, the number of kidney donations might rise substantially.

When economics is viewed as analyzing how people make choices under shifting conditions of costs and benefits, the true breadth of the subject emerges. The topics in this course wouldn't be shocking to any academic

economist. They are all topics that top-level economists have investigated—and in some cases have won Nobel Prizes for investigating.

After an overview lecture setting the stage for thinking of economics as rooted in scarcity, choices, and tradeoffs, the lectures first use market-oriented thinking in a number of contexts where it isn't familiar: markets for procreation, selling a kidney, traffic congestion, joining a religion, and predicting future events.

The lectures then turn to choices that are usually considered to be issues of morality or upbringing but will argue that the choices people make in such settings are heavily shaped by the evolution of costs, benefits, and details of context. The topics include becoming a criminal or a terrorist, marriage, parenthood, racial discrimination, cooperation, fairness, and charity. In a number of these contexts, people might be tempted to act selfishly in a one-time interaction, but when they recognize that they are in a repeated long-term situation, they have an incentive to seek out cooperation and compromise.

The economic perspective on choices does not require that people have complete knowledge of a situation—or the brainpower and rationality to do a complex analysis. However, people who know that their decision making is imperfect might try to create ways to improve it: If you know you aren't good at saving, for example, you can sign up for automatic payroll deductions and have the government save for you through Social Security. The lectures analyze a number of ways in which decision making can go wrong and what people might try to do about it, including the framing of choices and the analysis of risks, herd behavior, addiction, and obesity.

The lectures then turn to some social contexts in which economic thinking has been usefully employed—natural disasters, voting and politics, and sports. The final lecture focuses on studies of survey data about what makes people “happy”—and, ultimately, whether making purposeful choices and pursuing happiness are really the same thing.

This course will teach painless and even enjoyable lessons about the true core of the subject of economics—while offering a smorgasbord of insights about why people and businesses act in some of the ways that they do. ■

The World of Choices

Lecture 1

The core of economic reasoning is that people face constraints, which means that they must make choices in the face of tradeoffs. This core concept of making decisions in the face of tradeoffs can be applied to many decisions, which is why economics is the imperialist social science, sending tentacles into many aspects of human activity. There are some unexpected directions that economics has reached out to address in recent years, which lead to some unexpected insights.

- For the general public, economists and the subject of **economics** often seem more suspicious than illuminating. Of course, to an economist, this is inexplicable; some possible reasons include distaste for what is believed to be the subject, the methods, and the likely conclusions of economics.
- In the profession of economics, there are a number of joking stories that are not understood by those outside the profession but that reveal some truths to those inside the profession.
 - According to an old story, 2 economists from the University of Minnesota saw no problem with trying to buy their way ahead in line at a grocery store. However, the others in line, all noneconomists, did not appreciate this maneuver.
 - Up until 1978, if an airline had overbooked a flight and you were one of the last ones to arrive, you were just pushed back to a later flight. However, an article written by an economist, Julian Simon, helped to create a push for the current system where the airlines must offer a voucher for a free ticket, or other compensation, and get someone to voluntarily give up their seat.



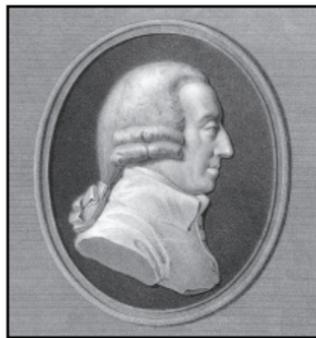
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Economics isn't just about money and business—it seeks to explore the reality that people make purposeful choices that intersect in social institutions like markets and government.

- Potential solutions for inconvenience or time don't have to involve payments of money. They may also involve considering alternative institutional arrangements that seem logical and ridiculous at the same time, as illustrated by a classic joke about a minister, a social worker, and an economist playing golf together—a joke that is both by and about economists—that involved the solution that blind golfers could play at night.
- Economics is an approach to thinking about a fundamental issue of life: People need to make choices.
- One of the most commonly cited definitions of economics, from an essay by Lionel Robbins in 1932, emphasizes that economics is about the inescapable need to make choices in a world of scarcity—that is, a world in which we can't all have everything we want.
- Defining economics as a subject focused on choice in a world of scarcity carries some perhaps surprising implications for the discipline.

- Economics isn't just about working, buying, saving, and the topics you might normally think of as being related to economics. It is also about marrying, having children, committing crimes—or even terrorist acts—giving to charity, deciding whether to donate a kidney, and much more.
- Purposeful choice will react to the available information about costs and benefits, now and in the future. This doesn't need to imply that people will have full information and complete rationality—although, in certain models, economists might make that assumption for simplification. It does mean that people won't make the same mistake over and over again.
- Many of the things that people want are provided in markets; others are provided by government. When institutions enter the picture, the wants and desires of individuals must in some way be brought into harmony. In the institution of the market, prices are one way this can happen. In the institution of government, taxes and spending programs are another way it can happen.

- Economics need not and does not assume that people's motivations are beneficent, nor does it assume that the results of their interactions will be positive.
- Sometimes the force of **self-interest** leads to social benefits, as Adam Smith famously argued in his 1776 classic *The Wealth of Nations*. Sometimes, in the dark side of the force, self-interest leads to negative outcomes.



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In *The Wealth of Nations*, Adam Smith (1723–1790) emphasized the idea that those pursuing their own interests can benefit society as a whole.

- The intellectual approach of economics has been remarkably successful. After all, the White House has a Council of Economic

Advisers, not a Council of Sociology Advisers or a Council of Psychology Advisers.

- In an act of intellectual **imperialism**, economics has, to some extent, colonized other areas of academia—other social sciences, law, business, and public policy.
- An overview of the topics in this course hints at the breadth of topics that many people would not associate with economics but, in fact, are active areas of research. Some examples include organ transplants, traffic congestion, religion, marriage, parenthood, engaging in criminal or terrorist behavior, racism and sexism, charity and gifts, fairness, reciprocity, cooperation, herd behavior, voting, and surveys about happiness.
- Ultimately, is economics just a rhetorical cover for arguing that greed is good? No. It's an argument for a realistic understanding of the human condition.
- Greed is one of the 7 deadly sins, and it is defined by excess. However, self-interest is not only plausible but reasonable and, in many cases, deeply moral.
- Understanding and accepting the pursuit of self-interest may lie close to the root of what is meant by modernity.
- In Albert Hirschman's classic 1977 book, *The Passions and the Interests*, he argues that a transition to accepting self-interest as a legitimate and even praiseworthy motivation is part of the underpinning of economic development over the last 3–4 centuries. ■

Important Terms

economics: Broadly defined, in a way reaching well past issues of business or money or the economy, as the study of how people make choices in situations of scarcity.

imperialism: Extending the rule of a country or empire over others, or in an intellectual sense, choosing the vocabulary and concepts within which a subject will be discussed or understood.

self-interest: Making purposeful choices to get what you desire—to be distinguished from its extreme manifestation of greed.

Suggested Reading

Coyle, *The Soulful Science*.

Hirshleifer, “The Dark Side of the Force.”

Robbins, *An Essay on the Nature and Significance of Economic Science*.

Questions to Consider

1. What is your view of the subject of economics as you begin this course? In what ways does this lecture alter or challenge that preexisting view?
2. Is greed good, at least in certain doses, in certain situations, and at certain times?

A Market for Pregnancy

Lecture 2

Some markets used to be widely acceptable but now are not—such as the market for slavery. Other markets seem repugnant to many people, and continue to seem so, such as the market for consuming horsemeat or dogmeat and the market for selling votes. We will discuss 3 examples of markets that have become more acceptable over time: charging interest for borrowing money, life insurance, and buying sperm and human eggs while hiring a surrogate mother.

- Most of us are used to the kinds of economic transactions that are around us, but some seem reasonable while others don't—although the line is quite fluid.
- For example, slavery, dowries, and the military draft all used to be socially acceptable but are no longer acceptable—at least in high-income economies.
- Conversely, other transactions used to be unacceptable but now are common: the prohibition of alcohol, state lotteries, birth control, and paying professional tennis players.
- **Usury laws**—that is, laws that forbid the payment of interest—are an example of an activity that was prohibited but has become common.
- In the 13th and 14th centuries, laws forbade the payment of usury. However, these rules eroded over time. It was allowable to pay *interesse*, which started out meaning a late payment but evolved into our modern word “interest.”
- By the 16th and 17th centuries, well-known writers such as Francis Bacon and John Locke accept that interest will be paid but argue over the proper rate that should be set.

- Adam Smith, who many regard as the founder of the systematic study of economics, argued for a fixed rate of interest.
- Jeremy Bentham, the founder of utilitarian philosophy and an economist, argued that interest rates were just another price to be set in the market.
- For most of the last 2 centuries, at least in the high-income economies of the world, interest had just been treated as a price set by the market.
- Some Islamic areas of the world still believe that interest is morally unacceptable, but modern financial ingenuity allows constructing contracts that have the same stream of payments as interest—albeit with different labels.
- Life insurance is an example of a market that was socially unacceptable in the early 1800s but, after an aggressive marketing campaign, became ordinary.
- In the late 18th century, the death of the head of household was dealt with mainly by neighbors and friends.
- By the early 19th century, insurance markets had begun to develop in many areas, but life insurance was often viewed as unacceptable because it was considered to be a form of gambling with death.
- Life insurance companies aggressively marketed their product with a focus on ministers and churches.
- Over a period of several decades, the tone of the social discussion changed, and instead of life insurance being unacceptable, it was viewed as part of being a good provider.
- When life insurance became a duty, it still kept a heavy dose of moral flavor—just turned in another direction. The connections

between the marketplace and death, including funerals, often mix in a heavy dose of emotion.

- In the last few decades, socially acceptable markets have emerged for sperm, eggs, **in vitro fertilization**, and **surrogate motherhood**—all the ingredients for the production of babies.
- In October 2010, Robert Edwards won the Nobel Prize in medicine for the development of human in vitro fertilization (IVF) therapy.
- In 1978, Louise Brown, the world's first test-tube baby—a baby born outside the mother's body—was born. The procedure was wildly controversial.



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The market for surrogate motherhood has now gone international, but it is still extraordinarily controversial.

- Some of the necessary ingredients for in vitro fertilization can be donated by the prospective parents, but markets have emerged for these ingredients as well: sperm, eggs, and hormones.
- In 1985, the famous **Baby M** case brought the issue of enforceable contracts for surrogate motherhood to the attention of the media. When the surrogacy contract was upheld and Baby M was not given back to the biological mother, the practice spread.
- It is becoming more common for surrogate mothers to be hired in other countries, especially countries with relatively low incomes as compared to the United States.
- Do we all tend to favor what is currently acceptable and tend to see that as the right standard for the future? Perhaps—but it would

not be wise to turn the clock back on any of the practices that were unacceptable in the past but have now become acceptable.

- The next lecture will consider some cases where there is at least an argument for allowing into the market some practices that are currently unacceptable. ■

Important Terms

Baby M: A 1985 legal case in which a surrogate mother tried to keep the child she had carried to term, but a court held that the child needed to be turned over to the contractual parents.

interesse: A term from the Middle Ages that started out as meaning a fee charged for a late payment but evolved into the modern word “interest.”

in vitro fertilization: Literally, fertilization “in glass,” referring to when an egg is fertilized outside a woman’s body, and then the fertilized egg is implanted in a woman’s uterus.

surrogate motherhood: When a mother is paid to bear a child for another person.

usury law: A law that sets a limit on the rate of interest that can be charged on a loan or, at an extreme, that bans lending in exchange for interest payments.

Suggested Reading

Krawiec, “Show Me the Money.”

Spar, *The Baby Business*.

Zelizer, *The Purchase of Intimacy*.

Questions to Consider

1. If you had the power, would you turn back the clock on any of the examples given in this lecture where something shifted from outside the market to inside the market?
2. Do you think that the baby market will lead to fundamental shifts in what it means to be a parent? Or is this kind of fear (or hope) probably far overstated, and despite the new technology, parenthood won't be dramatically different in the years and decades ahead?

Selling a Kidney

Lecture 3

For many people, including a number of doctors, a market for human kidneys is viewed as too repugnant to permit, but for at least some doctors and many economists, such markets—if properly organized and regulated—can be a reasonable way of encouraging kidney donors and, thus, saving lives. Some other socially unacceptable markets can provoke considerable discussion, including selling other body parts, selling horsemeat for human consumption, and dwarf tossing.

- Kidneys are important to human health. When both kidneys fail, there is a demand for another. Healthy people have 2 kidneys and could provide a supply. Demand and supply make a market.
- If kidneys malfunction, waste products build up in the blood, blood pressure can malfunction, and other problems can arise. Severe kidney disease, if untreated, will be fatal.
- Mild cases of kidney disease can be addressed with diet and drugs. More extreme cases can only be treated with dialysis—or with a transplant.
- On **dialysis**, the patient is hooked up to a machine that cleans his or her blood several times a week for several hours at a time. It keeps him or her alive for a while, but the patient is often not feeling very well.
- The number of people on the official waiting list for a kidney transplant has quadrupled in the last 2 decades; waits of several years are common. An estimated 4500 people die each year while on the waiting list for a kidney transplant.



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Many economists believe that allowing people to buy kidneys from others would help ensure that there would be sufficient kidney transplants for all who need them.

- In recent years, a number of public relations efforts have been created to encourage more people to be organ donors after death by signing a donor card.
- Some have even proposed a controversial rule of presumed consent, in which people would be presumed to give consent to being an organ donor unless they explicitly opted out.
- Kidneys from live and healthy donors through **kidney exchange** would be better than kidneys from cadavers for patients, but efforts to coordinate such donations between strangers have had only limited practical success.
- Under current U.S. law—the National Organ Transplant Act of 1984—paying for kidneys is illegal. But based on the time, inconvenience, and risk involved, it's possible to estimate what a kidney might cost.

- Nobel laureate Gary Becker has offered a calculation that, in a market setting, the cost of paying a live donor for a kidney might be roughly \$15,000, which would raise the cost of a kidney transplant by about 12%. Over a period of several years, this would be considerably less expensive than dialysis and better for health, too.
- There are a number of controversies around the idea of paying for kidney donations: the safety of live donors, the reality of burdening the poor, and the risk that someone would feel pressured to donate.
- The risk for a healthy donor of giving a kidney is quite small and less risky than many other activities that we allow people to do—free or for pay—including motherhood and mining.
- The poor will certainly be more tempted to sell a kidney—and the poor are disproportionately ethnic minorities as well. By the same token, many of the recipients of kidney transplants would be poor, too. In any case, is it terrible to give poor people a chance to earn money?
- Furthermore, why is it acceptable for highly paid doctors and other health-care personnel to make money from kidney transplants but not acceptable for a donor to do so?
- The risk that someone could be pressured into a hasty kidney donation could be mitigated by requirements for a waiting period and counseling.
- Selling body parts seems distasteful in certain ways, but for the sake of saving 4500 lives per year—and improving the health and lives of thousands of others—allowing a market in kidneys is worth it.
- A final fear is that paying for kidneys would discourage people from signing organ donor cards or participating otherwise. This seems improbable but could be addressed in various ways, such as offering an option to give the payment to charity or to use it as a payment for a college fund or life insurance policy.

- Other illustrative controversies about what should be marketed include other body parts, the sale of horsemeat, dwarf tossing, prostitution and pornography, and drugs for experimental or pain-relief purposes.



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In 1998, a law passed in California that made it illegal to sell horsemeat for human consumption in the United States.

- There are ongoing controversies about paying for other body parts. The issues for liver transplants are in many ways similar to those for kidneys.
- In 1998, California passed a ballot prohibiting the sale of horsemeat for human consumption. The degree of deprivation isn't large, but it's still difficult to make a strong case as to why this activity should be banned by law.
- In 1991, the French government announced that dwarf tossing, in which people compete to see how far they can throw a small person, should be banned. This ban was appealed by a French dwarf to the United Nations Human Commission, which upheld the ban in 2002. Again, it's difficult to draw a moral line as to why this should be banned.
- Prostitution and pornography are banned or restricted both because of a dislike of consumption of the activity and a belief that the production of the activity is wrong for those who do it.
- In an Internet-focused world, restrictions on pornography are very difficult to enforce. Prostitution taking place on private property is also very difficult to enforce.
- If someone is dying, should they be able to use an experimental therapy that isn't officially approved by the Food and Drug

Administration? If someone is in pain, and marijuana or some other drug eases that pain, should they be allowed to take it?

- On one side, there is a fear of fraudulent activity. On the other side, pain and suffering is a terrible thing, and sick or dying people should have greater latitude.
- Whenever a market transaction is blocked, a willing seller is denied the possibility of interacting with a willing buyer—and both parties lose.
- It's important to be clear about the reason for blocking such actions and who benefits.
- Many economics regulations are defensible and useful, but there is also a long history of economics regulations that sought to protect the income or social position of those already in power. ■

Important Terms

dialysis: The process of using periodic treatments with a machine to clean the blood of someone with kidney disease.

kidney exchange: A program designed to resolve exchange and resource allocation problems with kidneys by matching kidney donors to those who need them. For example, patient A has a kidney donor, but donor A's kidney isn't a good match. Maybe donor A could give patient B a kidney and donor B could give patient A a kidney. A kidney exchange would organize such swaps.

Suggested Reading

Krawiec, "Show Me the Money."

Roth, "Repugnance as a Constraint on Markets."

Questions to Consider

1. If it were up to you to set appropriate conditions, would you allow purchases of human kidneys for transplantation?
2. Can you name any economics transactions that are currently prohibited that you believe should be allowed? What are the best arguments against the position you believe?

Traffic Congestion—Costs, Pricing, and You

Lecture 4

About 100 million Americans who live in urban areas are regularly caught in traffic jams. Why is traffic congestion so persistent, and why is it so difficult to reduce it with mass transit or additional road building? Economists have considered a range of other options for reducing traffic congestion, including policies that would seek to greatly reduce free parking and that would charge for the use of roads at peak congestion times—as is now in practice in London.

- About 100 million Americans who live in urban areas are regularly caught in traffic jams; for the average driver, about 40 hours per year is spent stuck in traffic. This works out to about 4 billion hours of lost time, not counting wasted gas burned. In addition, many people simply hate congestion—so why is it so difficult to fix?
- Economists place traffic congestion in the same analytical category as pollution, which means that, in terms used by economic theory, the driver is the logical equivalent of a polluter.
- Pollution is a situation in which one party imposes costs on another—but not as part of a market transaction. Economic theory calls this a **negative externality**. Traffic congestion is also such a situation.
- Commuters stuck in traffic don't like thinking of themselves as the economic equivalent of polluters.
- Commuters point out that they are only one car, which is true, but small polluters are still polluters. They point out that they are suffering, too, which is true, but it's always true that those who pollute can still experience pollution from others.

- The traffic congestion you see is only part of the possible traffic on the road. Other traffic could and would be on the road if the congestion were reduced.
- The problem of only seeing the tip of the traffic iceberg is what makes congestion difficult to fix.
- There are 3 options for avoiding congestion: traveling by a different route, at a different time, or by a different mode of transportation (like taking a bus or carpooling). Congestion pushes travelers into these other options.
- Many of the steps commonly proposed to affect traffic congestion falter on the problem of shifting route, time, and mode. Steps that might otherwise ease congestion instead bring some of the travelers who were avoiding congestion back onto the road at peak times.
- A common suggestion is to reduce congestion by building an extra lane or two on the highways, but if the extra lane entices back additional travelers who have shifted their route, time, and mode of travel, the reduction in congestion is minimal.
- Large cities in the United States that have some of the widest highways and most extensive road systems have certainly not managed to build out of congestion.
- Expansions of mass transit attract more people to travel during the rush. Such systems can even contribute to patterns of suburban sprawl when they focus on bringing people into the city rather than helping them to travel around within the city.
- Higher gas prices do discourage driving, but not necessarily driving during congested periods. Gas prices would need to be very high for a sustained time—perhaps permanently above \$4 per gallon—if they were to reduce congestion in a measurable way.



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According to estimates for 2009 made by the Texas Transportation Institute, traffic congestion caused urban Americans to travel 4.8 billion hours more than they otherwise would have.

- There are many traffic-smoothing tricks, including installing ramp meters, coordinating traffic signals, managing freeway incidents, and providing drivers with better information. These practices help, but they don't help enough to fix congestion.
- City planners can sketch out a city where people live and work in high densities, where there is plenty of open space nearby, and where commutes are short and easy. In practice, Americans don't seem to want to live this way.
- These steps to reduce traffic congestion are often not bad things, but they aren't nearly enough. Even with these changes, congestion continues to rise.
- The city of London is the most prominent example of **congestion pricing**. A million people enter central London on a typical workday.

- By the early 2000s, it was slower to cross central London by car than it had been 100 years earlier to cross in a horse and carriage.
- Economists like Nobel laureate William Vickrey had been writing about congestion charges since the 1950s. The concept was to charge extra for traveling during a peak congested time, but the idea was widely thought to be impractical—and given the technology of that time, it may have been.
- London started a congestion-charging plan in 2003. The fee was soon raised to £8 per day in mid-2005, and it was charged for entering an area of inner London that is surrounded by a designated ring road.
- Commuters in London pay in a variety of ways, including over cell phones or Internet, and cameras take pictures of license plates of cars entering the zone and match them to the payments that have been made. At first, detection was a bit sticky, and some wrong fines were sent out.
- The London congestion-pricing system cut car trips and traffic delays in the inner London area by 1/2 to 1/3. The system seems popular, and there is no significant move to eliminate it.
- The money raised by the system was put into bus service, and with more customers, buses were able to run more routes more frequently—which encouraged people to take them.
- In 1975, Singapore was the first to use congestion pricing. A few other cities around the world have used it, including on freeways near San Diego and Minneapolis.
- In a way, any transportation-related price, including parking, that rises substantially during peak hours can be viewed as a congestion price.

- A biology professor named Garret Hardin wrote a 1968 article about a subject called the **tragedy of the commons**. He pointed out that throughout human history, there are examples of resources that are used commonly for a while but that eventually become overcrowded.
- At that point, common usage becomes dysfunctional. The example of city traffic during rush hour fits this argument. ■

Important Terms

congestion pricing: Charging cars to enter a congested zone during peak times of the day, as a way of discouraging traffic congestion.

negative externality: A situation in which one party imposes real costs on another party, and the second party is not compensated for those costs.

tragedy of the commons: When enough people use a common resource, there is an incentive for each to overuse the resource because they personally receive all the benefits from overuse while the costs imposed by overuse are shared by all; of course, if everyone follows this logic, then the common resource is depleted and even ruined for all.

Suggested Reading

Downs, *Still Stuck in Traffic*.

Hardin, “The Tragedy of the Commons.”

Questions to Consider

1. Would you favor widespread use of congestion pricing? Why or why not?
2. Can you think of any market transactions that are currently socially and/or legally unacceptable that you would favor being allowed?

Two-Way Ties between Religion and Economics

Lecture 5

Some countries have a national religion to which most people belong; other countries, like the United States, have many religions. To economists, this is a familiar dichotomy between monopoly and competition. At least as far back as Max Weber's *The Protestant Ethic and the Spirit of Capitalism* in 1905, economists and others have been arguing over the role that religion plays in creating patterns of work, saving, and trust that can form a stronger foundation for a growing economy.

- Many people have a clear—if not fully articulated—belief that the main relationship between religion and economics is one of opposites. Religion is about virtue and spirituality; economics is about moneygrubbing that shades into vice.
- Scottish philosopher Adam Smith wrote about competition and organized religion, a subject that modern economists continue to research.
- Adam Smith raised 2 concerns about religion that was large and centralized: that it would be a monopoly provider of religious services that wouldn't meet the diverse needs of the people and that it could come into destructive conflict with the state. Smith argued that when religion was decentralized, these dangers would be avoided.
- The idea of small religious providers “competing” for “customers” is very much aligned with Smith's reasoning in regards to economics. He used Presbyterianism as a model religion.
- In modern research, the connection between economics and religion works in both directions.
- On one side, the circumstances of economic and political development in a country will affect the willingness of people to

join religious groups. For example, economic development seems to lead to less religious attendance.

- Conversely, if religion changes the behavior of individuals, either in their own lives or in the ways that they treat and trust others, then it can affect economic behavior and perhaps even economic growth.
- One group of theories states that economic development will tend to reduce religious practice. Some data supports this claim, but the claim also depends on how one thinks about what it means to be religious and, in particular, about a potential distinction between believing and belonging.
- Through much of the 20th century, the most prominent argument in the social sciences about the link between economic development and religion was the **secularization hypothesis** that religion would fade over time.
- Global data does show that higher-income countries tend to have lower participation in religious services, but this finding is largely driven by the experience of Western Europe. This is not found in the United States, and it is unclear whether it will be found in other places.
- Economic research finds the general pattern that as an economy develops, religious attendance declines.
- The United States is an exception to the overall pattern of high-income countries having less religious attachment. For example, church membership has grown over the country's history, and church attendance has been stable for decades.
- As the economies of developing countries expand, it is unclear whether they will follow the Western European model of religion becoming less central or the U.S. model of remaining a strong force.

- However, it is clear that religion—evangelical Christianity in particular—is a growing force in many low- and middle-income countries.
- Much of the world is still debating how the state should interact with religion. Almost 70% of the people in the world live in countries with high restrictions—whether government or social—on practicing certain kinds of religion.
- It is certainly possible to be a religious believer without being a church member or regular attendant. This pattern may explain part of what has happened to church attendance in Western Europe, but it is not clear whether those who believe without belonging will interact with religion in the same way.
- Religious commitment may have an effect on individuals or on trust—or both—across communities in a way that facilitates economic growth.
- The philosopher Blaise Pascal famously argued that the risk of not believing in God and being wrong has much worse consequences than the risk of believing in God and being wrong—and that, therefore, rational people should choose to believe. This argument is known as **Pascal’s wager**.
- Whatever the merits of Pascal’s argument, religious commitment can be thought of as an investment—not just in the possibility of a happy afterlife—but also as a way of building virtuous behavior and well-functioning communities on Earth.
- The rhetoric of Max Weber’s *The Protestant Ethic and the Spirit of Capitalism* has a plausible ring to it, but it is not well supported by either historical or contemporary evidence.
- However, more recent economic studies have found some evidence that religious participation does influence a number of positive values.

- Weber argued in 1904 that the Protestant Reformation created a new mindset that emphasized personal diligence and frugality, encouraged risk taking, and viewed personal financial gains as not only acceptable but praiseworthy. His argument of **Protestant work ethic** is that this mindset provides a basis for modern capitalism.
- Modern historians and economists have argued persuasively that Weber was incorrect on his historical timeline: Many institutions of modern capitalism evolved either before or independently of the Protestant Reformation, and even within Europe, Protestant areas did not grow faster than other areas.
- It's difficult to show in a research paper that religious commitment causes productive behaviors. Those who are religious and those who are not differ in many tangible and intangible ways, and it may be these intangible factors that are making a difference.
- Researchers who are fully aware of these difficulties have found that religion does seem to have a causal role in certain behaviors, such as better physical and mental health, more 2-parent families, and work activity.
- However, religion seems to have no overall effect on attitudes about capitalism, markets, or government regulation.
- For centuries, religious ties have played a role as a way of reassuring people that market transactions will be carried out honestly.
- If religion is central to attitudes about economic activity, then when you take someone who belongs to a certain religion and move them from one country to another, their economic patterns shouldn't change—but economic institutions do clearly matter a great deal.
- Most economic transactions are based more on virtue, reinforced by enlightened self-interest, rather than lawsuits.

- In particular, there is a set of bourgeois virtues—prudence, thrift, responsibility for oneself, taking initiative, and treating others as equals—that aren’t always given a high degree of respect.
- To the extent that religion helps to teach and reinforce these bourgeois virtues, it serves—along with its other transcendent and arguably more important functions—to support a market economy. ■

Important Terms

Pascal’s wager: A philosophical argument associated with the philosopher Blaise Pascal that believing in God makes rational sense because if God doesn’t exist, the costs of mistakenly believing are low, but if God does exist, the costs of mistakenly not believing are eternal and high.

Protestant work ethic: A theory associated with the famous sociologist Max Weber that Protestant religious values were a key to early economic development of the western world.

secularization hypothesis: The hypothesis that as economies and technology develop, religious belief will tend to wane.

Suggested Reading

Arrow, “The Economy of Trust.”

Iannaccone, “The Economics of Religion.”

McCleary, *The Oxford Handbook of the Economics of Religion*.

Smith, *The Wealth of Nations*.

Questions to Consider

1. Assuming that economic growth continues in the long run, do you expect religion to grow, fade, or remain the same in the future?

2. What aspects of religion do you think have the greatest affect on economic prosperity and growth?

Prediction Markets—Windows on the Future

Lecture 6

The prediction markets where people can bet on political elections are fairly well known. However, there is actually a wide array of prediction markets—some run inside corporations as a way to get their employees to make better predictions, and others run as offshore Internet-based companies. Such prediction markets have, in some cases, been highly controversial. In June 2003, the U.S. Department of Defense even proposed, for a short time, running a prediction market on the possibility of future terrorist attacks.

- Most people who try to make a prediction either study the topic and make their own prediction or survey a group of experts, but these approaches have problems.
- If you don't know a subject well, did your studying cover all the important facts? Did you ask the right experts, and were they biased in some way in answering?
- Another option is to use a **prediction market**, a market in which people place small wagers on their preferred answer, and those who predict accurately receive a reward or payment. This approach mobilizes people to give their honest opinions and can be remarkably accurate.
- In 2003, the U.S. Department of Defense first proposed and then withdrew a proposal to run a prediction market that was derided as allowing people to bet on terrorism. This example illustrates both the promise and the potential controversy of this approach.
- In 2003, the **Defense Advanced Research Projects Agency (DARPA)** proposed setting up a Policy Analysis Market, in which a group of experts would be able to place bets on the occurrence of certain events in the Middle East. The proposal was widely derided

and withdrawn after a day. Later that year, the admiral partly responsible for the program resigned.

- The actual proposal would have started with a group of 1000 people with expertise in the Middle East. It would have allowed them to make small (up to \$100) bets on whether specific events would occur in the Middle East.
- Ironically, given all the criticism about markets that would try to predict terrorist events, such a market was not part of the actual proposal.
- One common objection to the prediction market was the scenario that terrorists could infiltrate this market, make bets that terrorism was going to occur, and then make money when they committed a terrorist act.
- Given the actual proposal—a limited number of users, small bets, all under government supervision—this was never a likely outcome.
- However, those who wish to make financial bets that will pay off if they commit terrorist acts already have mechanisms for doing so, like the markets in the future price of oil.
- Another common criticism of the proposal was largely aesthetic: that it was distasteful to gather serious information through this seemingly whimsical approach. Upon consideration, however, of all the ways for government to gather information, running a prediction market is probably one of the simplest and most straightforward.
- Prediction markets have shown their worth in a range of uses: the prediction of elections, events involving prizes, company sales and internal decisions, and—of course—horse races and the stock market.
- There are a variety of organizations that let you wager on current events. Some examples include InTrade, Foresight Exchange, and

Hollywood Stock Exchange. Their record for accurate predictions is generally quite good.

- Major companies like Hewlett-Packard and Siemens have used internal prediction markets—that is, markets with their employees as the participants—to gather information about future company revenue or whether projects will be finished on time.
- One new frontier for prediction markets is in the field of market research. Organizing multiple focus groups or administering wide-ranging surveys about a possible new product is time consuming and costly.
- An alternative is to have a panel of people, online, participate in a market in which they predict what types of new varieties or product ideas will be preferred.
- Many of the people who bet on horse races don't know much about the actual horses running, but with some mild exceptions—not enough people bet on extreme favorites, for example—the odds that are determined by betting accurately reflect the actual outcome of the races.
- Stock markets can miss some companies that are headed for success (or for failure) and can experience periods of boom and bust.
- If you're trying to predict how a company will perform in the middle-term future, however, you would almost always start by looking at the stock price. No other method seems systematically more accurate.
- Prediction markets can be designed in various ways, which will reveal different sets of underlying beliefs. With various examples in mind, we can also see more clearly why these markets seem to work so (unexpectedly) well.

- Prediction markets come in 3 main types, each of which reveals a different kind of information about the underlying beliefs.
 - In a **winner-take-all prediction market**, a contract costs some amount and pays off a fixed prize if and only if a specific event occurs, like if a particular candidate wins an election. The price paid for this event will reveal the market's expectation of the probability that the event will occur.
 - In an **index contract**, the amount that the contract pays is based on a number that rises or falls, like the percentage of the vote received by a candidate. The price for such a contract represents the average value that the market assigns to the outcome.
 - In **spread betting**, people bid on the cutoff that determines whether an event occurs, like whether a candidate receives more than a certain percentage of the popular vote. The outcome of this market reveals the median expectation—that is, the expectation where half the people are on one side and half are on the other side.
- These markets work for several reasons. First, when people compete for something, they try harder and reveal more of their true and unvarnished opinions.
- In addition, groups of people—even people with very little experience—turn out to be remarkably good at predicting unexpected facts. The **wisdom of crowds** can be much more intelligent than expected.
- It helps prediction markets if the players aren't all from a single group so that they don't just reflect a preexisting consensus. This is one way in which groups of experts seeking consensus can go astray.
- Finally, prediction markets are phrased to aim at a specific issue, often in a certain time frame. Because prediction markets are

anchored in events and places, they are less susceptible to the problems of bubbles that can plague financial markets.

- The humbling result of prediction markets, perhaps especially humbling when you feel as if you really know something about a subject, is that the group consensus is often smarter than you are. ■

Important Terms

Defense Advanced Research Projects Agency (DARPA): An agency within the Department of Defense that funds research projects in a wide array of areas.

index contract: The amount that the contract pays is based on a number that rises or falls—like the percentage of the vote received by a candidate.

prediction market: A market in which people place small wagers on their preferred answer, and those who predict accurately receive a reward or payment.

spread betting: A bet based on a certain cutoff value determines whether an event occurs—like whether a candidate receives more than a certain percentage of the popular vote.

winner-take-all prediction market: A contract that costs some amount and pays off a fixed prize if and only if a specific event occurs, like if a particular candidate wins an election.

wisdom of crowds: The pattern that, in many situations requiring an estimate, the average of a large number of somewhat informed people is far more likely to be more accurate than any individual or even expert.

Suggested Reading

Looney, “DARPA’s Policy Analysis Market for Intelligence.”

Surowiecki, *The Wisdom of Crowds*.

Wolfers and Zitzewitz, “Prediction Markets.”

Questions to Consider

1. Can you think of some possible prediction markets that could be used at places you have worked?
2. Does it surprise you that prediction markets often outperform experts? Why or why not?

Pathways for Crime and Crime Fighting

Lecture 7

To economists, being a criminal is a career choice with its own distinct set of rewards and risks. Thinking about crime in this way can help explain social puzzles like why the crime rate increased so dramatically in the 1960s and 1970s—and why it declined in the 1990s. Research in these issues helps to illuminate questions of how to reduce crime rates, including issues of policing, imprisonment, and sentencing.

- The great economist Gary Becker, who won the Nobel Prize in Economics in 1992, was the first to apply economic analysis to crime and punishment in a rigorous way, setting off a research literature in economics that has thrived ever since.
- The economic approach to crime has explored topics like how to explain changes in crime rates, what mixture of law enforcement and punishment makes sense, and the need in a world of scarce resources to balance costs and benefits of efforts to reduce crime.
- When most noneconomists talk about why crimes are committed, the discussion tends to be a version of the classic nature-versus-nurture argument.
- Economists often resolve the nature-nurture argument by simply saying that both matter.
- Thus, crime can be affected by the personal traits of criminals, by the characteristics of law enforcement (like the certainty and severity of punishment), and by the broader social context (like the economic opportunities available to low-skilled labor).
- When rates of crime change, the intellectual challenge is then to track what cause or causes might be responsible.

- Law enforcement activities can vary on 2 main dimensions: those that affect the degree of certainty that a lawbreaker will be caught and those that affect the severity of the punishment received. Thinking through the appropriate balance between certainty and severity is a useful task.
- Crime will never be eliminated, and eliminating it is an unrealistic goal because it would cost way too much.
- Instead, public policy about crime needs to consider the tradeoffs: Many steps to reduce crime may have benefits greater than costs if pursued up to a certain point, but costs may become greater than benefits if pursued much further.
- Analyzing to what extent crime-fighting efforts reduce crime poses difficult questions of disentangling cause and effect. Economists and other social scientists have developed ways of doing this, including a search for **natural experiments**.
- One way to sort out cause and effect is to look for changes in crime-fighting efforts that are not linked to whether crime is high or low or rising or falling.
- Some examples include changes in the rate of imprisonment caused by the success of prison-overcrowding lawsuits, changes in the number of police caused by approaching municipal elections, and changes in private crime fighting that arise from changes in local regulations.
- These kinds of factors can be thought of as natural experiments, which allow careful research to decipher the relationship between cause and effect.
- A few of the public policy puzzles in the economics of crime are why the U.S. crime rate increased so dramatically in the 1960s and 1970s and why the crime rate fell so substantially in the 1990s.



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From an economic perspective, potential criminals consider the chance of being caught and the penalty if they're caught while the government determines how much to enforce and what penalties to impose when someone is caught.

- Standard explanations—like lower rates of imprisonment and a higher proportion of young men in the population—can explain only a part of the rise in crime during this time. The search for explanations has turned in some unexpected directions.
- Crime rates shot up in the United States in the late 1950s and into the 1960s, especially in big cities. By about 1970, large cities had homicide rates between 4 and 5 times the national average.
- The 1960s were a time when the chance of being imprisoned for a crime decreased and when the number of young men in the population rose. However, these kinds of factors—the basically standard explanations for crime from an economic viewpoint—don't come close to explaining the rise that occurred.
- Some of the explanations for the rise in crime in the 1960s that are nonstandard from an economic perspective involve more

television, peer effects leading to more crime, and statistical measurement issues.

- The drop in crime in the 1990s was highly unexpected, but at least in retrospect, it seems explainable. From 1991 to 2001, crime rates fell by about 1/3, mimicking the levels of the mid-1950s. At the time, this was highly unexpected by experts in the field.
- Economic research suggests that a combination of 4 factors can largely explain the drop in crime in the 1990s: more police, more imprisonment, the trailing off of the crack cocaine epidemic, and—although this last factor is more controversial—the legalization of abortion in the early 1970s.
- An economic approach to crime will consider rebalancing the certainty of being caught, the severity of punishment, and other factors related to crime.
- The United States imprisons a much larger share of its population than almost any other country in the world. Severity of punishment is high, and imprisonment does reduce crime—both by incapacitating criminals so they can't continue to commit crimes and through deterrence.
- Studies suggest that increasing the number of people in prison from current levels by 10% would reduce crime by about 2%. However, given that it costs about \$50,000 per year to incarcerate people, the calculus of costs and benefits makes it worth considering a smaller prison population.
- The United States has roughly 700,000 police, and increasing that number would deter crime.
- Studies suggest that a 10% increase in police would reduce crime by about 4% by increasing the certainty of being detected. Given plausible estimates of the cost of hiring more police, the

combination of more police and fewer people in prison could save money for the government and lead to a lower crime rate.

- Other parts of an agenda to reduce crime might include finding alternative ways to deal with the issues of certain illegal drugs, widespread DNA testing and records, and a broader economic and social agenda that might include better-paying jobs for low-skilled workers and efforts to reduce teen pregnancy.
- Some of these policy proposals may sound stereotypically liberal, while others may sound stereotypically conservative. However, the point of this overview is not to attempt to provide a fully convincing case but, instead, to suggest that getting beyond these kinds of labels would be a useful step in setting anti-crime policy in a world of scarce public and private resources. ■

Important Term

natural experiment: A situation that arises out of law or events in which a cause is more or less randomly distributed across a group, making it easier for social scientists to draw defensible inferences about cause and effect.

Suggested Reading

Becker, “The Economics of Crime.”

Donahue, “Fighting Crime.”

Levitt, “Understanding Why Crime Fell in the 1990s.”

Questions to Consider

1. Are you uncomfortable, or can you understand why many people are uncomfortable, in thinking about crime as a part of the subject of economics?

2. Are there other factors that you believe are determinants of why crime rises or falls—not why crime exists in the first place—that aren't given sufficient consideration in this lecture?
3. What would be some of your recommendations for reducing America's crime rate?

Terrorism as an Occupational Choice

Lecture 8

Being a terrorist or a suicide bomber can be viewed as an occupational choice. Media reports often make casual statements about what motivates terrorists, but economists have gathered data and studied how income, education, and other factors affect terrorist behavior. There is also a division of labor in terrorist organizations between the planners, who tend to have more education and higher status in the organization, and those who actually carry out the terrorist actions.

- It is often stated by politicians from George W. Bush to Barack Obama—and from leaders ranging from Nobel Prize winners to the head of the World Bank—that terrorism is a reaction to poverty or, similarly, that addressing poverty is a way to reduce terrorism.
- Most people who are poor are not terrorists; terrorists exist in high-income countries as well as low-income countries.
- Almost half of the world’s population lives on a consumption level of less than \$2 per day, according to World Bank statistics, but most are not terrorists. In addition, the trends of terrorism over time don’t seem to track the trends of poverty over time.
- High-income countries have terrorists, too—such as the Red Brigades in Italy, the Baader-Meinhof Gang in Germany, and the Symbionese Liberation Army in the United States. The most prominent members of these organizations were not poor.
- A number of studies have looked at biographical data on terrorists and compared their levels of family income and education with others from their area or country.
- The results of such studies typically find that terrorists are not especially poor and do not have a particularly low level of education.

- For example, the 9/11 terrorists included 4 people with the skills to pilot a commercial airliner and others who came from civil-servant and small-business families.
- Terrorists don't just volunteer; they typically need to be chosen for a mission. This insight—that is, considering what might be viewed as the “hiring” decision for terrorists—helps to explain why those who are chosen often have above-average income and education.
- Some think terrorism should be viewed as a crime, which of course it is. While lower-income and less-educated people are more likely to commit street crimes, terrorists are much more likely to be higher-educated people who are focused on actions that they hope will bring social change. In that admittedly narrow sense, terrorism has some similarities to voting.
- To study terrorism, it's necessary to define it. Several different sources have compiled databases of terrorist incidents, which can then be analyzed by economists and other social scientists.
- It's not uncommon for people to play rhetorical games with the word “terrorism,” trying to define it so that it covers only causes of which they disapprove—not those they find legitimate.
- Social scientists and government officials have offered a number of definitions that at least make some effort to avoid this subjective response.
- In the U.S. Code Title 22, Ch. 38, Para. 2656f(d), **terrorism** is defined as “premeditated, politically motivated violence perpetrated against noncombatant targets by subnational groups or clandestine agents.”
- Several organizations count terrorist actions and collect data about them: who, what, when, and where. Perhaps the broadest such effort is the Global Terrorism Database, which as of 2010 had data on

over 87,000 terrorist attacks from 1970–2009 with 45–120 pieces of information about each attack.

- Other sources of data on terrorism are the National Counterterrorism Center and the ITERATE database.
- The data reveals relationships between domestic and international terrorism, between average incomes in a county and terrorism, between political conditions in a country and terrorism, and between past and current terrorism.
- Much of the research on terrorism emphasizes international terrorism, but in data that includes both domestic and international terrorism, more than 80% of the incidents are domestic. Many countries deal with terrorism year-round as a domestic occurrence.
- In general, the chance of terrorism originating from a certain country rises with gross domestic product (GDP) per capita. Of course, this is an overall or average pattern that doesn't necessarily hold true for every country at all times.
- Many of the lowest-income countries in the world experience relatively little terrorism while some countries that have middle incomes by world standards—Latin America or the Middle East, for example—experience a fair amount of terrorism.
- High-income countries are sometimes sources of terrorism, too, as in the cases of the IRA in the United Kingdom, Basque separatists in Spain, and Corsican separatists in France.
- Democracy seems to have potentially conflicting effects on terrorism. It may discourage terrorism by providing an outlet for dissent, but terrorists may not be satisfied with the possibilities of democratic dissent, and democracies may be weaker at repressing terrorism than autocracy.



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When analyzing the 2001 terrorist attack on the World Trade Center, it's difficult to figure out how to weigh the indirect cost of terrorism and to weigh that cost against the costs of taking actions to prevent terrorism.

- Thus, connections between democracy and terrorism are jumbled: Authoritarian countries often repress terrorism fiercely while weak anarchic governments experience high levels of terrorism. Studies conflict on whether more democracy leads to greater terrorism in the remaining countries.
- Analyzing terrorism around the world over the last 4 decades, researchers have found that one predictor of whether a place is likely to have terrorism in the present is whether it has had terrorism in the previous few years. In other words, once terrorism has taken root, it tends to continue for a time.
- Some people have the reaction that it is inappropriate to analyze terrorism in economic terms and that, instead, it should just be condemned and fought.

- However, the purpose in seeking to understand terrorism in these practical economic terms is not to make judgments but to have a better idea of the enemy at hand. Such understanding will require more than just economics.
- The direct costs of terrorism in terms of human life and suffering, along with property damage, are high—but the indirect costs may be much higher.
- Even in considering policies to respond to terrorist attacks or to prevent future ones, the economic logic of analyzing costs and benefits should apply. ■

Important Term

terrorism: In U.S. law, “premeditated, politically motivated violence perpetrated against noncombatant targets by subnational groups or clandestine agents.”

Suggested Reading

“Exploding Misconceptions,” *The Economist*.

Krueger, *What Makes a Terrorist*.

Krueger and Malecková, “Seeking the Roots of Terrorism.”

Questions to Consider

1. Some economists suggest that terrorism is in some ways more akin to voting than to ordinary crime. What are the strengths and weaknesses of this claim?
2. Under U.S. law, terrorism is defined as “premeditated, politically motivated violence perpetrated against noncombatant targets by subnational groups or clandestine agents.” What are the strengths and weaknesses of this definition?

Marriage as a Search Market

Lecture 9

To economists, marriage is both a market and a contract. Economic factors influence marriage rates, the patterns of who marries whom, and also the likelihood of divorce—which can be viewed as an agreement to terminate that contract. One of the most intriguing developments in marriage markets in recent years is a move to assortative mating, which means that people are becoming more likely to marry those who are similar to themselves.

- Most adults have a personal perspective on marriage—whether they have tried it or not. The personal perspective tends to emphasize the idiosyncratic relationship, for better or worse, between 2 people.
- Economists think about marriage in a way that is simpler: Why get married? It seems better than the alternative choice of remaining single. Why get divorced? It seems better than remaining married.
- When this approach is applied to overall trends for marriage or divorce for the population as a whole, it leads to an investigation of what overall factors make marriage seem more or less attractive for certain groups and at certain times.
- The 2010 Nobel Prize in Economics was given to a combination of 3 economists—Peter Diamond, Dale Mortenson, and Christopher Pissarides—for their analysis of marriage as a search market.
- In the United States, marriage rates have been fairly stable, dropping off a bit in the last 30 years. Divorce rates have generally risen, although they have trailed off in recent years.
- A result of these trends, together with longer life expectancies, is that younger adults are less likely to be married than they used to be, but the elderly are more likely to be married than they used to be.

- For those married in the 1970s, only about half of marriages survived their first 25 years, but a much larger share of marriages of those in the 1950s survived.
- Based on current trends, roughly 60% of those married in the 1990s will have marriages that last 25 years or more.
- For much of the 20th century, about 70% of adults between the ages of 30–55 are married. By age 80, only about 1/4 are married.
- By 2000—after lower marriage rates, lower divorce rates, and longer life expectancies—only about 60% of those in the 30–55 age group were married, but about 40% of 80-year-olds were married.
- The gains from marriage can be divided into 3 categories: production complementarities, consumption complementarities, and risk pooling.
- Households need a variety of outputs. Some are often produced directly at home—cooking, cleaning, laundry, child care—while others are purchased in the market.
- **Production complementarity** refers to the splitting up of the tasks of direct home production and earning money in the outside market between the spouses.
- Households consume many things: living space, food, transportation, and vacations. In some of these categories, 2 people can either live



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Overall trends suggest that people are now getting married later in life and less often, but there are also less instances of divorce.

more cheaply or more happily than one person can alone. When this happens, the married couple has **consumption complementarity**.

- In everyday life, things go wrong: You get sick, lose your job, or your car breaks down. Within a married couple, **risk pooling** means that you act as a sort of insurance policy for each other, helping each other out as needed.
- A number of economic shifts over the second half of the 20th century have reduced the potential advantages of production complementarity and increased the advantages of consumption complementarity. The underlying gains from marriage have shifted as a result.
- Many machines that eased the tasks of household production became widely available in the 1950s and 1960s: freezers, washing machines, dryers, and dishwashers. These machines made specializing in household production much less useful.
- With fewer children in families, specializing in this form of household production has also become less valuable as a source of gain in marriage.
- In the 1950s, divorce laws required a showing of “fault,” which meant that except in egregious cases, divorce required consent from both parties.
- By the 1970s and 1980s, divorce laws had become “no fault,” which meant that they required only a desire of one party to divorce. This shift meant that it was harder to agree on a long-term division of household responsibilities.
- Today, women are more likely to be in the paid work force. In addition, work weeks have become shorter since the start of the 20th century. Both of these factors suggest stronger payoffs to consumption complementarity in marriage.

- The average American adult today is vastly better off than the average from several decades ago—not just as a matter of income, but as a matter of all the choices available for leisure time: television, Internet, travel, and food.
- Shifts in education, work, and technology have altered how couples meet in ways that tend to confirm the emphasis on complementary consumption rather than production.
- The factors that have affected and reshaped the benefits of marriage can help to explain patterns of marriage and divorce over time, as well as evolving patterns of sorting in the marriage market.
- The basis for gains from marriage has shifted from production complementarity to consumption complementarity.
- People are sorting themselves in marriage according to different criteria. This pattern has led to marriages occurring later and to slightly more stable marriages, with the divorce rate trending downward and marriages more likely to last 25 years than in the 1970s.
- College-educated men and women have been increasingly likely to marry each other, a phenomenon known as **assortative mating**.
- The eligible bachelor paradox is the issue that when you are looking around at people in the 35–55 age bracket, among those with high levels of education who have active lives and career paths, it often seems that there are more single women than single men.
- A possible explanation for this lies in the economics of asymmetric bidding theory: Women who are highly attractive from a marital point of view tend to postpone marriage, and in the meantime, women who are only moderately attractive from a marital point of view are marrying the men who are highly attractive.

- As a result, later in age, a certain number of the women who would seem like highly attractive candidates for marriage have a difficult time finding enough men at their socioeconomic and educational level. ■

Important Terms

assortative mating: When people with similar characteristics, like income and education, are more likely to marry each other.

consumption complementarity: When consumption can be less expensive or more pleasurable if shared by 2 people.

production complementarity: When production tasks can be done more efficiently or more pleasurable if the tasks are divided between 2 people.

risk pooling: When the risk of negative outcomes—like poor health or loss of income—are shared, whether within a marriage or through an insurance company.

Suggested Reading

Fry, “The Reversal of the College Marriage Gap.”

Fry and Cohn, “Women, Men, and the New Economics of Marriage.”

Taylor, “Symposium on Household Economics.”

Questions to Consider

1. What are some of the ways in which you believe that marriage patterns and motivations have changed most from previous generations? Even if your reasons are not expressed in explicitly economic terms, how do they fit with the economic theories described in the lecture?
2. What are some possible problems and benefits of assortative mating?

Procreation and Parenthood

Lecture 10

In the past, children were an investment: They represented labor for the family business and retirement security for when the parents of children grew old. In today's society, children are a consumption good because parents actually pay to raise their children. Economists have struggled to explain such changes within an economic model of the family, with more success in some cases than in others.

- English economist Thomas Robert Malthus (1766–1834) famously predicted that population would overwhelm subsistence, leading to mass starvation.
- Even in the 19th century, it was becoming clear that declines in fertility rates were linked to growth in income—that is, to being well-off rather than to be starving.
- In his best-remembered work, “An Essay on the Principle of Population as It Affects the Future Improvement of Society,” Malthus explained the reasoning behind why population would outstrip subsistence—now known as the **Malthusian theory**.
- Malthus had a degree from Cambridge and became a minister in the Church of England as well as a professor of history and political economy at East India College. He may have been the first person ever to be an official professor of political economy.
- The central argument of Malthus's famous essay is that subsistence increases arithmetically, but population increases geometrically. Thus, unless population growth is restrained in some way—which Malthus didn't think was likely—population would grow until it was restrained by malnutrition and starvation.

- Even in the 19th century, the United States and other leading economies were entering the **demographic transition**, in which life expectancies rise and fertility rates fall.
- The drop in fertility wasn't related to malnutrition and starvation but, in fact, to the opposite—birthrates declined as incomes rose.
- It's certainly true that population has risen over time, but the Malthusian prediction is about more than that.
- The costs and benefits of fertility include 3 broad areas: immediate costs and benefits of raising children, including opportunity costs of parental time; potential long-term benefits; and the quantity-quality tradeoff.



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- Historically, the out-of-pocket costs of raising children were offset to some extent by the labor of the children themselves. The opportunity costs of raising children in terms of the parent's time—and especially the mother's time—weren't high at a time of low incomes.
- The immediate costs of raising children come in 2 categories: the out-of-pocket money spent raising them and the value of the time spent raising them.**
- In the long term, children offered some protection against poverty in old age. It made more sense under these conditions to have many children than to have only a few.
 - The U.S. Department of Agriculture estimates that the average lifetime cost of raising a child in 2009 was \$222,360—up 22% over the last half century. While this cost is high, it has been growing more slowly than average incomes for the country as a whole.

- Beginning in the 1970s, American women entered the paid labor force in large numbers. They also raised their level of educational achievement, advancing to college and graduate degrees in much larger numbers.
- Therefore, the tradeoff for having children, in terms of foregone wages, has been growing higher.
- The invention and spread of the contraceptive pill also changed the tradeoffs of parenthood, especially for women.
- With the advent of the pill, it was no longer necessary to choose between a sex life—which, in the absence of reliable contraception, was fairly likely to lead to parenthood—and college or a job.
- Compared to the 19th and early 20th centuries, the need for children to support parents in their old age has somewhat diminished.



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Potential long-term benefits of raising children exist if the children look after their parents during sickness or retirement.

- Social Security, Medicare and Medicaid, pension plans, IRAs, and 401(k) plans have taken on much of the role of assuring income for the elderly.
- A dramatic change in labor markets since the late 1970s is that the reward for skills has increased. For example, those in the 25–34 age bracket with college degrees earned about 1.2 times as much as high school graduates in 1980 but now earn about 1.6 times as much.

- The rewards for parents to invest more per child in fewer children, rather than investing less per child in more children, have increased.
- Economists have experimented with viewing children as a sort of home production, or as a sort of luxury consumption, but no theory quite seems to fit the facts.
- Time spent with children seems to be increasing for parents of all education levels, but the rise is especially strong for parents with higher levels of education.
- One study found that mothers with a college education or greater spend roughly 4.5 hours more per week in caring for their children than mothers with a high school degree or less.
- Time spent with children doesn't share the same patterns across education and income levels as household production or leisure but, in some ways, seems similar to a luxury good.
- Households produce many things, including meals, laundry, yard work, and maintenance. However, a general pattern is that those with more education—and, thus, on average with more income—are more likely to pay people to do many of these services.
- Thus, household production doesn't fit with the pattern that those with more education spend more time on it.
- Pleasurable consumption of time is sometimes called leisure time. The opportunity cost of leisure time is the income given up while taking leisure.
- A common pattern is that those with more education and more income face a higher cost of taking leisure time and, in fact, report fewer leisure hours.
- This doesn't fit the pattern of those with more education spending more time with children.

- In economics, a **luxury good** has a specific definition: It is a good that adheres to the pattern that as income rises by a certain percentage, consumption of that good rises by a larger percentage.
- This roughly fits the pattern in which those with more education and income spend more time on child care.
- It also fits, to some extent, with the helicopter parent phenomenon and the pattern of high-income parents spending a lot of money on enrichment activities for their children. ■

Important Terms

demographic transition: The long-term pattern that as a country's income rises, life expectancies rise and birthrates fall.

luxury good: A good that adheres to the pattern that as income rises by a certain percentage, consumption of that good rises by a larger percentage.

Malthusian theory: The set of theories that argues that over time, population growth will outstrip resources and sustenance.

Suggested Reading

Goldin and Katz, "On the Pill."

Longman, "The Global Baby Bust."

Questions to Consider

1. What economic factors do you think have been most important in your own experience, or in the experiences of your friends, in affecting fertility choices?
2. Do you see children as being, in some ways, similar to other forms of household production (like meals and laundry), or like a pleasurable form of leisure, or like a luxury good?

Small Choices and Racial Discrimination

Lecture 11

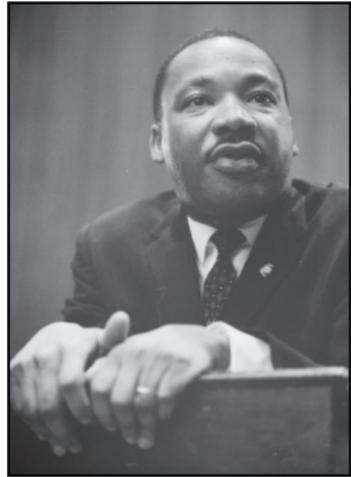
Markets can sometimes help to break down discrimination. Employers who want top performers will bid for them, which can help to break down discrimination. Markets can also sometimes reinforce discrimination. For example, if customers will flee your business if you hire a minority or a woman in a certain role, then you may feel blocked from doing so. The economic theory of racial discrimination spells out how markets and racial discrimination interact—and how legislation like the 1964 Civil Rights Act can shatter existing patterns of discrimination.

- African Americans as a group have long been at a disadvantage in relation to the U.S. average on a wide range of socioeconomic measures: poverty rates, unemployment rates, single-parent families, education levels, and life expectancy.
- As an example, 18% of all U.S. children lived in households below the poverty line in 2008, but 34% of all African American children lived in households below the poverty line.
- At the risk of pointing out the obvious, it's worth noting that while many groups in the United States have experienced **discrimination** from time to time, African Americans are the only U.S. group with a history of systematic slavery.
- After slavery, explicit legal barriers to African Americans remained high until the *Brown v. Board of Education* decision in 1954 and the Civil Rights Act of 1964.
- Economic decisions are intertwined with discrimination. However, economists who have analyzed discrimination point out that markets can either tend to weaken the effects of discrimination or to sustain them. In addition, the theory of statistical discrimination analyzes how discriminatory attitudes can become self-fulfilling prophecies.

- For noneconomists, the issue of discrimination is often phrased in terms of morality and justice.
- While this is certainly true, it is also true that many of the day-to-day manifestations of discrimination play out in the economic arena: that is, discrimination in hiring for certain jobs, in housing, in hotel and restaurant accommodations, in bank loans, and so on. As audit studies and other evidence show, such discrimination continues to exist.
- In 1957, economist Gary Becker wrote a pioneering work on the “Economics of Discrimination.” Among many lessons, he pointed out that in certain cases, markets will act to fight discrimination.
- Becker also pointed out that this conclusion depends on specific characteristics of who is bigoted—for example, whether it is a few people or many people and whether the bigotry lies with the employers, coworkers, customers, or government. He also identified circumstances in which segregated markets can arise.
- Economist Thomas Schelling used the squares of a checkerboard to represent where people live. Coins can represent either the majority (“heads”) or minority (“tails”) group. Each group can be given a preference for discrimination: that is, would they be content in a square with one neighbor from the other group? With all neighbors from the other group? Then, starting from different configurations, it is possible to model how outcomes would evolve as people move.
- A striking finding from this kind of analysis is that a fairly mild taste for discrimination leads to a much higher level of segregation.
- The theory of **statistical discrimination** starts by assuming that a particular pattern holds true.
- For example, assume that 2 groups really do differ in their productivity in the workforce. The underlying cause may be quality

of education, nutrition, quality of parental care, environmental factors—in this theory, the underlying cause doesn't actually matter.

- When employers try to decide who to hire, they cannot observe productivity directly. Thus, they look at factors that are somewhat correlated with productivity and, with this statistical logic, will discriminate against all members of the low-productivity group.
- The worst part of this reasoning is that when a group suffers from statistical discrimination, the incentive of members of that group to make the educational and job-experience investments in higher productivity drops—because those investments are less likely to be rewarded in the market.



Martin Luther King Jr., who led the civil rights movement in the 1950s and 1960s, helped move the United States toward making racial discrimination illegal.

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- Therefore, statistical discrimination, whatever its original cause, can create a vicious circle.
- The Civil Rights Act banned racial discrimination in certain areas, with a focus on employment, voter registration, and places offering public accommodations like hotels, restaurants, and hospitals.
- The earlier U.S. Supreme Court decision in *Brown v. Board of Education* had banned segregation of schools. Later legislation also banned discrimination in housing.
- During the period immediately after the passage of the Civil Rights Act of 1964, there were dramatic gains in a number of areas: relative wages, industries opening up jobs for African Americans,

education, and even life expectancy. These gains were a sharp break with the preexisting trends.

- If you ask people about whether racism has diminished in the United States over the decades, you often get answers that imply that racism hasn't diminished much and that there is still a lot of it. This answer may reflect disappointment that further progress hasn't been made, but it seems incorrect—enormous changes have occurred.
- This lecture is more about understanding the economics of discrimination than about advocating particular policies. However, there is an ongoing argument about whether the most appropriate public policies involve equality of opportunity or equality of result.
- While the United States has now had legal equality for almost a half century, equality of opportunity for all races is clearly not yet present. ■

Important Terms

discrimination: When a factor that should be irrelevant, like race or gender, enters into an economic decision like hiring, selling, or lending.

statistical discrimination: When a discriminatory decision is based on a belief about average characteristics of a group as a whole rather than on a belief that all members of a group necessarily share a trait.

Suggested Reading

Caplan, “Caplan on Discrimination and Labor Markets.”

Maloney, “African Americans in the Twentieth Century.”

Murphy, “The Economics of Discrimination.”

“Symposium on Discrimination,” *Journal of Economic Perspectives*.

Questions to Consider

1. In what ways did the Civil Rights Act affect the extent of discrimination in the United States?
2. How do you think of the connections between equality of opportunity, equality of result, and discrimination?
3. What lessons from the economics of discrimination seem most relevant to the issues the United States faces in the 21st century?

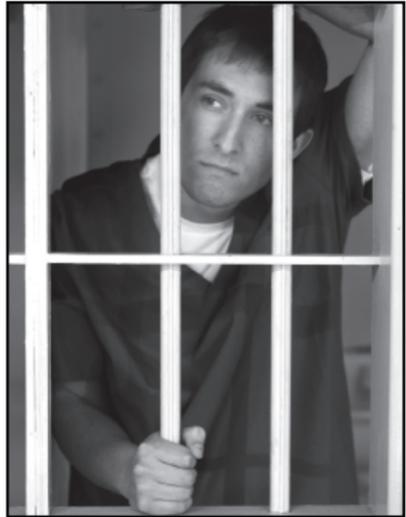
Cooperation and the Prisoner's Dilemma

Lecture 12

The prisoner's dilemma is a famous problem in game theory because it illuminates a situation where cooperation (remaining silent) is better for each participant than following what appears to be narrow self-interest (confessing). Moreover, the underlying logic of this problem illuminates for economists a number of other issues, including price-fixing by firms, paying for public television, and the buildup of nuclear weapons.

- Many people view cooperation as preferable to competition. Economists, on the other hand, have long argued that competition based on self-interest can have beneficial effects for society as a whole.
- Is cooperation always such a good idea? After all, firms can try to “cooperate” to raise prices for consumers. Are competition and cooperation really such opposites as they seem?
- The **prisoner's dilemma** is an approach from game theory that economists use to explore situations in which the pursuit of self-interest doesn't lead to a winner and a loser but, instead, puts all parties in a worse situation—and in which cooperation would put all parties in a better situation.
- In the prisoner's dilemma, 2 thieves—Aaron and Bethany—are captured while escaping from the scene of a crime. Police immediately separate them into 2 different rooms, with no communication possible between them, and then try to get them to confess.
- The police say to Aaron: “In the other room, Bethany is confessing. She's going to get off with 1 year in prison, and you're going to get 8 years. You're already sunk, but we'll cut you a deal. You confess too, and we'll give you only 5 years.” In the other room, Bethany is getting the same treatment.

- An obvious question arises: Are the police telling the truth? Perhaps the other person isn't confessing after all. If the 2 prisoners had a way to cooperate, and to be certain that they both remained silent, maybe they could both get off with lighter sentences.
- However, the logical bite of the prisoner's dilemma doesn't just come from the possibility that the police are lying. The structure of the choice means that if both parties pursue their self-interest, they both end up in a worse situation.



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All of the solutions to the prisoner's dilemma involve a common ingredient: thinking not just about the immediate decision but about interactions in the future as well.

- Consider Aaron: If Bethany confesses, then he should confess so that he's not stuck with the charges. If Bethany doesn't confess, Aaron can get a better deal by confessing.
- The logic for Bethany is similar: Whatever choice Aaron makes, she can do better for herself by confessing.
- However, if they both follow this self-interested logic and both confess, they will both be in a worse situation than if they cooperated to remain silent.
- The original application of the prisoner's dilemma arose in thinking about nuclear deterrence. In this case, the choice is to build or not to build more nuclear weapons.

- A classic example of the prisoner's dilemma is how it applies to economic **cartels**—that is, groups of companies tempted to cooperate so that they can raise the price for consumers.
- In this case, the choice is to cut prices or keep prices high. If other firms cut prices, then you need to cut prices to keep up. If other firms keep prices high, then you can grab a larger market share and profits by cutting prices. However, if all firms follow this logic, they all compete to cut prices, and the cartel fails.
- The prisoner's dilemma has been applied to a very wide range of situations, including climate change, steroid use among athletes, and animal behavior.
- Both practical experiences and theoretical insights show how to avoid the trap of the prisoner's dilemma and reach a cooperative solution. The basic insight is that repeated interactions give an incentive for cooperation.
- In the examples of prisoners, nuclear deterrence, and economic cartels, we observe mechanisms of enforcement and retaliation that can help to preserve cooperation in the context of the prisoner's dilemma.
- Prisoners provide incentives to cooperate, and remain silent, with a combination of trust enforced by threats of retaliation.
- Cartels among firms to keep prices high often survive either because they have government support or through strategies of predatory pricing, in which those who reduce prices face retaliation of even lower prices from other firms.
- A **tit-for-tat strategy** is to do what the other player did in the previous move—that is, if the other player cooperated, you cooperate, and if the other player didn't cooperate, then you don't cooperate.

- This strategy effectively sends a message to the other player that cooperation will be rewarded. However, this strategy can run into problems if both sides use it, and one side doesn't cooperate, because then both sides are locked into not cooperating.
- This strategy can also run into problems if the signals get crossed so that you think someone wasn't cooperating when they were actually trying to do so.
- In tit for 2 tats, you keep cooperating as long as the other party does so. In other words, it begins in the same way that tit for tat does.
- If the other party doesn't cooperate once, you still cooperate once, and then if the other party doesn't cooperate a second time, you stop cooperating.
- If you're stuck in a cycle in which both parties keep retaliating against the other for not cooperating, then it sometimes works best to extend a friendly hand—that is, cooperate a few times in a row even if the other party hasn't been doing so and hope the other party takes the hint.
- However, the other party can take advantage of this strategy, and cooperation can disappear quickly as a result.
- Cooperation and competition need each other; each needs to be judged on its outcomes in specific circumstances—not on its labels.
- Cooperation isn't always good: Price-fixing, systemic racism, organized crime, and war all contain large elements of cooperation. Therefore, context matters.
- The question of whether to participate in the market by following the rules of the legal economy, or by lying and cheating and stealing, can be described as a prisoner's dilemma game.

- The economy only works well when most of its participants compete with each other and pursue their self-interest in a cooperative way—that is, by following the rules.
- Cooperation typically needs to be enforced by some kind of possibility of retaliation. Competition needs to happen inside a set of rules that are agreed upon cooperatively. ■

Important Terms

cartel: A group of companies that act together to keep prices higher by limiting how much they would otherwise compete with each other.

prisoner's dilemma: A scenario of game theory in which both parties have a self-interested incentive not to cooperate, but if they follow the logic of self-interest, they both end up worse off than if they do cooperate.

tit-for-tat strategy: A strategy in game theory (and other settings) in which your move mimics the previous move of the other player.

Suggested Reading

Kuhn, "Prisoner's Dilemma."

Ridley, *The Origins of Virtue*.

Questions to Consider

1. How would you describe the relationship between competition and cooperation?
2. How would you describe the main difficulties in achieving cooperation in a prisoner's dilemma game? How do these difficulties apply in the case of cartels, arms races, and prisoners?

Fairness and the Ultimatum Game

Lecture 13

The ultimatum game is used in laboratory economics settings to measure the preference for fairness among people who interact with one another. Such studies have been carried out for many groups and in different countries and cultures around the world and have shown that there is a preference for fairness—but it is a preference that is stronger in some circumstances than in others.

- It may seem that the basic approach of economics doesn't fit well with fairness. After all, fairness is about how a process or outcome fits with an acceptable standard—whether it is a social rule or a legal rule.
- There are many situations in which self-interested outcomes seem unfair—for example, brutal capitalist behavior or price gouging—yet economics has a broad enough perspective to encompass the idea of fairness in a structured way by assuming that people make self-interested choices in a world of tradeoffs and constraints.
- One of those constraints is that if you behave in a way that is perceived by others as unfair, they are likely to try to impose costs on you.
- The **ultimatum game** is a simple bargaining game that can be quite revealing about the propensity of people to act fairly—and to retaliate against those who do not act fairly.
- The ultimatum game involves 2 players: the proposer and the responder. The experimenter puts some amount of money on the table between them. The proposer makes an offer about how to divide that money.



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When making decisions, you need to recognize that the people you are dealing with have fairness in mind. If you act in a way that seems unfair, they will punish you in some way.

- Then, the responder accepts or rejects the offer. If the responder accepts the offer, the money is divided between the players as the proposer suggested. If the responder rejects the offer, then neither player gets anything.
- The rational and realistic reactions to this game may differ. A purely rational proposer offers the smallest possible amount; a purely rational responder accepts—because it's better than nothing.
- In practice, responders don't like being offered only a small share. When offered much less than half, many responders refuse to accept the offer; they would rather have zero than what they perceive as an unfair division.
- A realistic proposer, recognizing this possibility, will tend to offer half or close to it because it's better to have your offer accepted than rejected.

- A number of researchers have followed up on the ultimatum game by looking at variations in a number of dimensions. The results that fairness considerations matter are fairly robust, although there are some moderate differences by gender and culture.
- Would responders still turn down offers they perceive as unfair if much more money was at stake? Within the financial limitations of what academic researchers can afford, higher stakes don't seem to make much difference.
- There are many different ways to run an ultimatum game, and the many variations have the results you would expect: In particular, making fairness concerns more salient tends to lead to bigger offers from proposers and more willingness to punish uneven offers from responders.
- Many of these experiments are done with groups of students, so there is a natural question as to whether they are representative of the broader population. Although the evidence is limited, experiments with people of other ages don't seem to make much difference.
- There are some differences by gender: Men and women tend to offer women less, but men and women are also more likely to accept a low offer from a woman.
- Research on the ultimatum game has been carried out in a number of countries and in a number of smaller, more isolated societies.
- In general, the pattern of offering around half or a little less holds up well. In Israel and Japan, however, it is common to offer a little less and to be willing to accept a little less.
- In some more isolated societies, there are examples in which offers average only about 30% of the stake and in which offers of 60% of the stake are turned down. These extremes seem to reflect whether the society itself has well-developed norms of fairness and sharing.

- The ultimatum game is just one example of a number of games that economists can ask subjects to play in order to shed light on different aspects of motivations and expectations.
- In the **dictator game**, the proposer splits the money, and the responder has no choice but to accept.
- However, even in this game, about 60% of proposers give some positive amount, although it often averages to be only about 20% of the original stake.
- The punishment game involves 3 players: A, B, and C. A and B play a dictator game, and C is given half as much as A.
- After A has split the money and given some to B (or not), C can punish A under the following rules: If C gives up \$1, then A must give up \$3. Notice that this punishment is costly to C and doesn't help B.
- If A offers less than 50:50 in the dictator game, C often chooses to punish A with an average of about 15% of its stake, thus costing A 3 times that amount.
- In a trust game, there are 2 players: the proposer and the responder. The proposer divides the original amount. However, when that amount is passed to the responder, it triples in size. Then, the responder can give some amount back to the proposer.
- In a rational world, the proposer sends nothing to the responder because the responder won't send anything back.
- In a world of pure trust, the proposer sends everything to the responder, tripling the overall pie, and the responder sends a lot back.
- In reality, the proposer tends to send about 50% to the responder, who sends back enough that the proposer comes out slightly—but only slightly—ahead.

- The ultimatum game and other games are examples of **laboratory economics**, one of many approaches economists use to gain insight into real-world situations.
- It may seem strange to think of economists as sitting in a research center and watching people play these kinds of interactive games, but that is just a branch of laboratory economics.
- Many economic exchanges have the property that both buyer and seller feel as if they are getting a good deal. In the jargon of economics, both sides feel that they are receiving surplus from the transaction.
- There is always a temptation for one side or the other to try to take more—or all—of the surplus. The ultimatum game suggests that we should beware of this temptation because proposers who try to take too much of the surplus will find that responders retaliate against them. ■

Important Terms

dictator game: A 2-person game in which a proposer suggests a division of a sum of money, and the responder must accept whatever division is proposed.

laboratory economics: Structured games between 2 or more people that are set up by economists to study how people react to different sets of incentives.

ultimatum game: A 2-person game in which a proposer suggests a division of a sum of money, and the responder decides whether to accept or not.

Suggested Reading

Bearden, “Ultimatum Bargaining Experiments.”

Clark, “What’s the Ultimatum Game?”

Questions to Consider

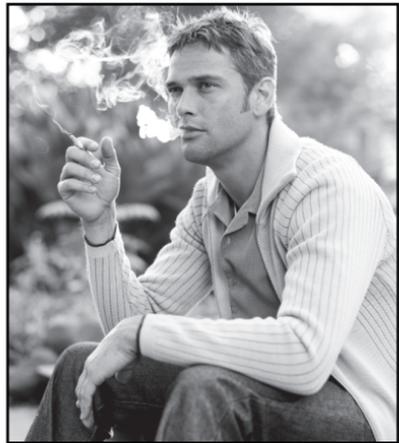
1. If you were playing the proposer role in an ultimatum game, what types of factors would you be considering as you decided how much to offer the other person?
2. What would you offer in a dictator game?
3. In what ways do you trust or distrust findings of laboratory economics as applied to the real world?

Myopic Preferences and Behavioral Economics

Lecture 14

Many people would love to exercise more or save more money, but while we truly do desire these changes in our lives, we don't want to make the change today or tomorrow. Instead, we always want to make the change the day after tomorrow—or 6 months or a year from now. This myopic, or shortsighted, pattern of decision making raises the question of how we might design a set of incentives for the self-control we desire.

- How much money would you need to receive a month in the future to make up for giving up \$15 right now? What about 10 years in the future? Most people require a far higher return—expressed as an annual percentage rate—for giving up the money in the short term than in the longer term.
- Myopia is the term for nearsighted vision. These kinds of preferences are often referred to as myopic by economists and other social scientists because they emphasize what is near in time.
- Someone with myopic preferences, for example, might want to exercise in the long term but never get around to it in the longer term—or perhaps save money in the long term but never get around to it in the short term.



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Someone who is a heavy smoker but spends a lot of time worrying about retirement savings provides an example of myopic preferences.

- **Myopic preferences** actually lead people to have preferences that change as an event draws closer in time. When people make plans in the future, they express one sort of preference, but when the future actually arrives, they act in the opposite way.
- Myopic preferences manifest themselves in many ways that have substantial consequences for society, including saving and borrowing behavior, energy conservation, dealing with chronic disease, and completing high school.
- America has long been a low-saving nation by world standards. This poses difficulties for households when they face either an unexpected event or retirement and find themselves wishing that they had saved more.
- It also poses difficulties for the U.S. economy, which finds itself not saving enough to finance its own investment needs and, thus, becoming dependent on inflows of foreign savings.
- In the housing price bubble of the mid-2000s, one of the central mortgage products was the 2/28 mortgage, which was a 30-year mortgage that had low payments for the first 2 years but much higher payments for the following 28 years.
- The longer-term plan was that borrowers could refinance after the first 2 years with a new 2/28 mortgage, repeating this process after the first 2 years of each new mortgage, which would mean never needing to face the higher payments.
- However, when housing prices plummeted, refinancing these mortgages became impossible.
- Credit cards and payday loans are other examples of short-term borrowing at high interest rates.

- Chronic diseases such as high blood pressure, diabetes, asthma, certain types of cancer, and arthritis impose very high costs on the U.S. health-care system.
- These conditions often have the property that they can either be managed in the short term at fairly low cost, or they can lead to health complications with very high costs.
- Overcoming the myopia that is often encountered in these areas may be a partial answer to America's problem of high and rising health-care costs.
- The United States has an interest in finding ways to conserve energy where it is cost-effective to do so, but conservation often requires an up-front decision to spend money—for example, on insulation or on an energy-efficient appliance—with the rewards coming later.
- With myopic preferences, people have a difficult time doing what they say they want to do. Are there ways, either in the private or public sector, that people can act to lock themselves on the course that they say they prefer?



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High savings rates are part of what drives rapid economic growth because saving provides the capital for investment.

- Rules of thumb may not always make complete logical sense, but they serve as a useful counterbalance to being shortsighted.
- If you know that you are prone to making short-term decisions, is there a way that you can sign up for something in the market to

help? Automatic deductions from income for savings plans and health clubs are 2 examples.

- Public policy in response to myopic preferences can be viewed as helping people act in the way they wanted to act, but found themselves unable to act, in the short term.
- Some examples of policy that can be interpreted in this way include Social Security, cigarette taxes, and rules about energy efficiency.
- **Nudge policies** fall short of outright requirements but would give people a push toward overcoming their short-term biases.
- The notion that our preferences shift depending on the timelines we face is a challenge to our sense of a unitary self. Brain science has also begun to analyze decision making as having different zones—an idea some economists have attempted to borrow as well.
- The fundamental idea of economics, as discussed in the first lecture, is the notion that people analyze the tradeoffs they face and make a decision about what they prefer.
- What if people don't make a single preferred choice but, instead, have choices that vary with their time perspective? In such cases, talking about what people "choose" becomes difficult.
- Modern brain science often emphasizes that the brain has different parts that offer different reactions: for example, some parts react more to emotion, some to logic, some to words, some to numbers.
- Economists have tried to use this idea to model the seeming contradictions of myopic behavior as multiple personalities: for example, perhaps in many economic decisions, people's minds include both a planner and a doer.
- The idea of bringing insights from psychology and brain science into economic theory is known as **behavioral economics**, and it

has been an expanding field in economics since the 1990s—myopic behavior is just one example of this notion. ■

Important Terms

behavioral economics: A branch of economics that seeks to combine insights from psychology about how people actually make decisions with economic reasoning.

myopic preference: A shortsighted preference that favors making a change in the middle-term or long-term future but not making the change immediately or in the short term.

nudge policy: A policy that works by altering the default choice a person faces by not making a decision or not seeking information.

Suggested Reading

Redden, “Hyperbolic Discounting.”

Thaler and Sunstein, *Nudge*.

Questions to Consider

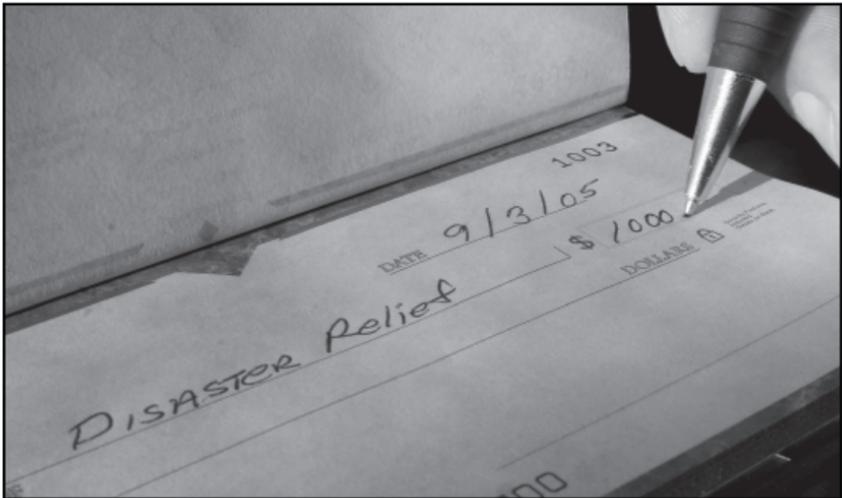
1. Can you think of a situation in which your preferences are myopic? Is there a rule of thumb, a market exchange, or a public policy that would help you act in the way that you say you want?
2. What are the potential gains and losses, in terms of conceptual understanding, from the behavioral economics approach of bringing psychological insights into economics?

Altruism, Charity, and Gifts

Lecture 15

Charity may be given just for the giver to receive a warm glow, but it also can be given in expectation of a reciprocal gift, as part of an effort to achieve social status, or even out of guilt. Important considerations include why charitable contributions are supplied, how they might be encouraged (through tax deductions, for example), and how public policy shapes the environment for charity. The economics of personal gift giving considers how conventional economic reasoning and empirical studies lead to the conclusion that much of the value of gift giving is wasted.

- Altruism and gifts can be given for a number of reasons. Warm-glow **altruism** is giving just because it makes you feel good to do so, but people may also give with an expectation of a gift in return, for social prestige, or out of guilt.
- When most of us think of altruism, the first thought that comes to mind is warm-glow altruism, where what you get in exchange is just a warm glow.
- Indeed, the desire to feel that warm glow is a type of self-interest, and sometimes there is a hope of improving the world through such actions—but this is, in a way, altruism or charity at its most pure.
- In some cases, gifts are given in the expectation that the recipient will feel obligated to respond by offering a gift in return.
- There are extreme examples of this phenomenon in anthropology—such as the Ik tribe in Uganda—but in a milder way, it's a common phenomenon in our culture.
- Few people would continually give gifts to a friend without receiving a gift in return. A couple getting married may calculate



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Donating money to help tsunami victims in Japan or earthquake victims in Haiti is pretty close to pure altruism—you're not building your immediate community or giving to anyone you know.

the per-person cost of their wedding reception and figure that they are owed gifts to make up for that cost.

- Some altruism has the effect of buying social standing or prestige. A classic example from the anthropology literature is the **potlatch** tradition of indigenous people of the Pacific Northwest.
- People who make a charitable donation to have their names on hospitals or college buildings have a motivation only slightly different than companies that pay to have their names on stadiums.
- Some well-meaning person, maybe a child of a neighbor, shows up on your doorstep, soliciting for a cause. If you give money to that person, is it out of the shame due to social pressure that would accompany not giving money?
- A group of 3 economists—John List at the University of Chicago and Stefano DellaVigna and Ulrike Malmendier at the

University of California, Berkeley—did an experiment in door-to-door fundraising for 2 institutions: One was a well-known local children's hospital and the other was an out-of-state charity that few people in the area had heard of.

- These economists sent randomly divided fund-raisers to over 7000 homes and found that the estimated social pressure cost of saying no to a fund-raiser was greater for the in-state charity than for the out-of-state charity, showing that social pressure is a factor in door-to-door giving.
- U.S. charitable giving is about 2% of the GDP, a substantial amount. Charitable giving in the United States on a per-person basis seems markedly larger than in other high-income countries.
- Altruistic giving can take the form of donations to charitable institutions, personal gifts, and donations of time.
- Gifts to charitable organizations amount to about \$300 billion per year.
- While there is no official data on personal gifts, it is certainly hundreds of billions of dollars more.
- About 1/4 of adults over the age of 25 report volunteering time in a given year, and the median amount of volunteer time reported is 50 hours for the year.
- International survey evidence suggests that Americans give on a per-person basis about 3.5 times as much to charities as the French, 7 times as much as the Germans, and 14 times as much as the Italians.
- This difference can probably be explained by different political cultures that lead to higher government provisions for certain goods and services in Europe and higher tax **deductions** for charitable contributions in the United States.

- Whatever the motivation for giving, the fundamental economic logic that people respond to incentives should continue to apply.
- In the U.S. tax code, those who itemize their **deductions** are allowed to deduct from their taxable income their contributions to charitable organizations—that is, they don't have to pay income tax on the amount given to charity.
- The reduction in taxes will thus depend on the taxpayers' tax brackets. In 2011, this deduction reduced tax revenues to the federal government by about \$50 billion.
- Matching grants are another way to make giving effectively cheaper to the donor. There is evidence that offering matching grants does increase giving, but there may also be boundaries for that practice—that is, a small matching grant doesn't help much, and above a certain level, a bigger matching grant doesn't add much, either.
- When someone tries to guess what you would like to receive for a gift, they will often miss the mark, so the gift is worth less to the recipient than what the giver paid for it. Gift cards are a socially acceptable answer to this problem, but they are only a partial answer.
- At the University of Minnesota, Joel Waldfogel has done a series of surveys comparing what gifts cost the giver and what they are worth to the recipient. A common finding is that gifts are on average worth 15% less to the recipient—what economists refer to as **deadweight loss**.
- About \$100 billion per year is now spent on gift cards. To many people, they seem more personal and socially acceptable than just giving someone cash, and they allow the recipient to pick out what that person actually wants.
- However, gift cards are imperfect; they often go into a drawer and end up unused—which is nice for the merchant but defeats the purpose of the gift.

- Maybe there's a way to divide gifts so that the recipient helps to decide on larger purchases but so that givers can still think about thoughtful and even quirky, smaller gifts, in which the pleasure to the recipient is based on their broader relationship.
- Indeed, all altruism—whether charitable contributions or personal gift giving—is best understood in this broader context. ■

Important Terms

altruism: Concern for the welfare of others, but the term is broad enough to include both warm-glow altruism as well as gifts given out of the hope for reciprocity or gaining social status.

deadweight loss: A loss of economic efficiency that arises because a transaction that could have benefited all participating parties, without imposing costs on others, does not occur.

deduction: In a tax code, when certain expenditures can be deducted from the income on which income taxes are owed.

potlatch: A ritual among Native American tribes of the Pacific Northwest in which those with greater wealth give gifts to others in the tribe.

Suggested Reading

Brooks, “A Nation of Givers.”

Randolph, “Tax Topics.”

Surowiecki, “The Gift Right Out.”

Questions to Consider

1. What motivates your own acts of altruism?

2. Would you favor additional incentives for charitable giving, or would you prefer to see government do more to collect taxes and spend money to meet social needs?

3. Can you think of an example of a gift that was worth more to you than the giver paid for it? What about a gift that was worth more to you than the giver paid for it?

Loss Aversion and Reference Point Bias

Lecture 16

Framing lies in how a situation is described, and people react differently depending on how an issue is framed. The theory of liberal paternalism suggests that policy makers could take the biases that exist in decision making into account and, thus, act in a way that while allowing people free choice (liberal) would also nudge them in the direction that most people actually want (paternalism).

- Economists, sociologists, and other social scientists have uncovered a variety of situations in which people face a situation that is objectively the same but have different reactions depending on how the situation is described.
- For example, it's fairly common to see a sign at a gas station or store that offers a modest price discount for using cash instead of a credit card.
- Many people would have a different and negative reaction to a sign that said they had to pay extra for using a credit card—although it's just another way of saying the same thing.
- If a doctor tells you that out of every 100 people who undergo a certain type of therapy, 90 are still alive 5 years later, how do you feel about trying the therapy? Alternatively, the doctor tells you that out of every 100 people who undergo this therapy, 10 die within 5 years. The information is exactly the same, but most people—including experts—react more negatively to the second way of putting it.
- One group is surveyed about their choices in 2 situations. In the first situation, they are given \$1000 and then are offered a choice: either \$500 more for sure or a 50:50 gamble of getting an extra



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Have you ever been pumping gas and seen a sign that says you could save 2% if you pay with cash instead of a credit card? That is because the credit card company takes a slice of the price in exchange for handling the transaction.

\$1000 versus not getting any extra. Most people choose the extra \$500 for sure.

- Then, a second group is surveyed in a situation in which they are given \$2000 and then are offered a choice: either losing \$500 for sure or a 50:50 gamble of losing \$1000 versus not losing anything. In this case, most people choose the gamble—even though these 2 situations are identical.
- In each case, the choice is between having \$1500 for sure and having a 50% chance of \$1000 or a 50% chance of \$2000.
- Daniel Kahneman and Amos Tversky are among the most prominent economists to bring the importance of **framing** effects to economics.
- They proposed **prospect theory**, which offers 2 thoughts about people's preferences: reference dependence, which means that

preferences are related not just to how much you end up with but to looking at some reference point, and loss aversion, which is that people dislike losses more than they like gains of equivalent size.

- **Loss aversion** is the notion that many people have preferences such that if they face a possible gain and a possible loss of equal size, their pleasure in the gain is less than their displeasure in the loss. It manifests itself in the real-world economy in a number of ways, including unwillingness to sell assets at a loss and small-scale insurance contracts.
- Loss aversion suggests that in a situation with an investment, like shares of stock or a house, it will be harder for people to sell when it would involve recognizing a loss.
- This pattern is common in the stock market, and it helps explain one of the reasons why it has been difficult for people and the housing market to adjust in the aftermath of the housing bubble of the mid-2000s.
- People often buy insurance against small risks, which doesn't make much sense from an economic point of view. One example is when people choose very low deductibles on their home insurance, and another is buying service contract insurance against risks of appliances breaking down.
- A **reference point** refers to the fact that many people make comparisons with an implicit starting point. Sometimes it's the average of how much they earn in a day, or maybe it's related to the status quo or what happens as a default if they don't take other actions.
- Studies of workers who have the ability to adjust their effort and earnings during a day, like taxi drivers, suggest that these workers don't respond much to whether demand for their services is high or low on a given day. Instead, they work up to the amount that gets them up to approximately average earnings for that day.

- Status quo bias refers to the situation in which the reference point is the current situation. In many settings, including financial investment options and living together before marriage, the status quo has a considerable effect on future choices—and often not for the best.
- The reference point may be the default option—that is, what happens if you take no further action.
- Evidence from when employers offer an optional savings plan to employees suggests the power of this choice: Whether the default choice is to be in the savings plan or to be out of the savings plan makes a big difference, even if it takes no more than a phone call to switch.
- In some cases, it's possible to design public policy so that it sets up a certain frame for decisions—and then lets people make those choices.
- The existence of framing through loss aversion and reference points poses a problem for the basic approach of economics, which views people as analyzing the tradeoffs they face and making choices.
- What if people aren't making choices based on the actual outcomes but are instead choosing based on the frame presented to them? It seems quite possible that if people have the frame pointed out to them, at least some of them might feel that they had been tricked and would have preferred another choice.
- If people are going to make choices based on how a situation is framed, then who sets the frame? Will some frames end up making people happier than others?
- For example, setting up a default choice so that people enter a savings plan unless they opt out leads to more people participating in retirement savings.

- A recent book by Richard Thaler and Cass Sunstein called these nudge policies. Another phrase to describe such policies is liberal paternalism; there is always a default choice, so avoiding this kind of paternalism is difficult.
- Even in the modern world, where we are all aware of being manipulated by frames, we are still susceptible to that manipulation. Whether it's politics or economics or any other situation, beware of the power of the frame. ■

Important Terms

framing: When a certain outcome can be described in different ways—and how it is described affects how people respond.

loss aversion: When people have a greater preference for avoiding losses of a certain size than they do for achieving gains of the same size.

prospect theory: A theory of how people react in situations of risk in which people react both with loss aversion and the use of reference points.

reference point: When people make decisions based on how the outcome relates to their internal sense of what is appropriate or fair.

Suggested Reading

Kahneman, “The Riddle of Experience vs. Memory.”

Thaler and Sunstein, *Nudge*.

Thaler, Mullainathan, and Kahneman, “A Short Course in Behavioral Economics.”

Questions to Consider

1. Do any of the examples of loss aversion and reference points from the lecture remind you of aspects of your own behavior?

2. What are some potential positives and negatives of policies that seek to practice libertarian paternalism? Do such policies make you feel nervous about being manipulated?

Risk and Uncertainty

Lecture 17

People are often inconsistent in how they view risk. In addition, people are often terrible at understanding the magnitude of risks and responding to those risks, so they can often be fooled in risky situations. In turn, an inability to comprehend risk clearly has implications for the larger economy, including retirement planning strategy, health and safety regulation, energy policy, and the financial crisis that led to the recession of 2007–2009.

- Economists view issues of risk as a matter of probabilities, expected outcomes, and whether someone is averse to greater risk, neutral about it, or seeking it.
- As a simple example of risk, consider making a bet on the flip of a coin. If you bet \$1 on each coin flip and get nothing when you lose but \$2 when you win, it would be an actuarially fair bet.
- Over time, the amount you are betting covers the **expected value** of the bet so that you would neither make nor lose money.
- Attitudes toward risk can be classified. If you are **risk neutral**, you would be indifferent between getting \$1 for sure and having a 50:50 chance of getting \$2.
- If you are **risk averse**, you would rather get \$1 for sure than have a 50:50 chance of getting \$2.
- If you are **risk seeking**, you would rather have a 50:50 chance of getting \$2 than getting \$1 for sure.
- An example of risk averse behavior is buying insurance. An example of risk seeking behavior is gambling or playing the lottery.

- Economists and other social scientists have documented a number of ways in which real people don't follow the basic model of how to think about risk.



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Why do some people seek risk, by playing the lottery or gambling, while other people buy insurance to avoid risk?

- Often, the difficulties stem from bounded rationality, which is the jargon term for the idea that people in the real world don't always have enough information to know the probabilities or enough knowledge in complex situations to resolve the issue.
- Some risks seem especially salient, or especially likely, even though a glance at statistical evidence makes clear that they are not.
- For example, people are more concerned about airplane crashes than car crashes, although the chance of dying in an airplane, per mile traveled, is considerably lower.
- Frank Knight was a prominent economist at the University of Chicago in the 1920s and 1930s. He wrote a famous essay in 1921 that distinguished between risk, in which the outcome is uncertain but the probabilities are fairly well known, and what he called uncertainty—now known as **Knighian uncertainty**—which is risk where the probabilities of what might happen aren't known.
- The Ellsberg paradox is an experimental way of showing that people react differently to what Knight called risk and uncertainty.
- It's very difficult to get a good intuitive feeling for how much to care about a low-probability event—and to act on it. For example,

how much should we prepare for a 50-year flood, an asteroid strike, or a worst-in-75-years financial crisis?

- During the event, it's certainly easy to say that more should be done, but most people have a difficult time sustaining that concern—and motivating politicians to sustain their concern—after something hasn't happened for a few decades.
- When faced with random patterns, people have a tendency to try to impose order on them. One common example is that many basketball players and watchers believe that players sometimes get a “hot hand” and become more likely to make shots for a time, but there is no statistical evidence to support this belief.
- There is a kind of risk where the chance of success is low but the payoff is large. If you take this kind of risk only once or a few times, it doesn't look attractive because the probability of success is low, but if you take it a number of times, then you will get enough big payoffs to make it worthwhile. For example, this is how venture capitalists make their living—with many failed companies but with a few big successes.
- Even seemingly simple questions about probabilities can have counterintuitive answers. For example, if you have 5 people in a room, what are the chances that at least 2 of them have a birthday in the same month? The answer is well over half—62%. If you have 60 people in a room, there is about a 99% chance that 2 of them will share the same birthday.
- People's minds like to take mental shortcuts and simplify problems by throwing out irrelevant information, but in probability problems, you can leave out some key information and reach an incorrect result.
- When risk isn't well understood, it raises difficult questions for public policy. We will focus on issues in 3 areas: health and safety

regulation, energy policy, and the financial crisis that brought on the recession of 2007–2009.

- A researcher named Tammi Tengs led a group at the Harvard Center for Risk Analysis in the 1990s that looked at evidence on 587 health and safety interventions and calculated their cost per year of life saved.
- There was an extremely wide array of results: Some policies cost a few thousand dollars per year of life saved, and some cost tens of millions of dollars per life saved.
- By one calculation, cutting back on the high-cost policies and expanding the low-cost policies could save 60,000 lives per year—with no overall increase in the costs imposed by regulation.
- There are a variety of possible energy choices for the future, including fossil fuels like oil, natural gas, and coal; hydroelectric dams; nuclear power; and renewable sources like solar and wind power.
- All of these approaches pose health and safety risks—and at least on the historical record before the events in Japan in 2011, nuclear power looked much safer than the alternatives.
- Much of the financial crisis that unspooled into recession from 2007–2009 was based on poor management of risk.
- One underlying fact was that the national average price of housing had not fallen since the 1930s, and financial models of risk didn't take into account that it could fall. This failure to understand the risk was widely shared by the financial industry, homebuyers, regulators, and politicians. ■

Important Terms

expected value: In a risky situation, the average outcome that would be expected over a long period of time, when the risk sometimes comes to pass and sometimes does not.

Knighitian uncertainty: The kind of uncertainty in which people have no idea about the probabilities of the possible outcomes.

risk averse: When a person prefers a safe outcome with a certain value over an uncertain or risky outcome with that same expected value.

risk neutral: When a person has no preference between a safe outcome with a certain value over an uncertain or risky outcome with that same expected value.

risk seeking: When a person prefers an uncertain or risky outcome with a given expected value over a certain outcome with that same expected value.

Suggested Reading

Mueller, “A False Sense of Insecurity?”

Questions to Consider

1. Are there some risks that seem especially salient to you, even though you know with your rational mind that they probably aren't large compared to other risks you commonly face?
2. Do you have a suggestion for how society might address the kinds of risks that rarely occur—perhaps only once every few decades—but are very large when they do occur?

Human Herds and Information Cascades

Lecture 18

In general, in situations where you realize that your own information is imperfect or insufficient, following the rest of the crowd rather than relying on your own insight can make sense—even when you know that you will sometimes be wrong in doing so. Human herd behavior arises in financial investment advice, medical decisions, political revolutions, and in many other ways in our society.

- For about a century, most doctors were certain that they knew the causes of stomach ulcers: stress, possibly combined with a nervous temperament, along with consuming things like spicy food or alcohol.
- In 1982, Barry Marshall and Robin Warren found evidence that most peptic ulcers are instead caused by a bacterial infection. Their evidence was ignored and even mocked for a time, but in 2005, they received the Nobel Prize in Medicine for their work.
- In the 19th century, the great philosopher Arthur Schopenhauer wrote about the subject of universal opinion, arguing that it was often originally the result of 2 or 3 people who really analyzed the subject and then, after that point, was just accepted by many others.
- There is a conceptual trap for economics because it is a subject that is based on the notion of people making decisions in a situation of scarcity—after considering the tradeoffs.
- However, the tasks of gathering information and forming beliefs also take time and energy, and it is literally impossible in the modern world to investigate every topic thoroughly. As a result, we all, in many cases, accept the tradeoff of believing the conventional wisdom of others.

- The idea that we follow conventional wisdom because others before us have followed conventional wisdom goes under various names, including herding behavior and **information cascades**. In many cases, the universal wisdom is correct, and this approach works, but it can sometimes be incorrect, too.
- In the early 1990s, 3 economists—Sushil Bikhchandani, David Hirshleifer, and Ivo Welch—wrote a series of papers that offered a model of what they called information cascades and how they could lead to herd behavior.
- Everyone knows that herd behavior exists, but an economic theory seeks to strip down an event to each intermediate step in a chain, showing the information and incentives for each player.
- Models help in figuring out the key assumptions or patterns required to cause a behavior to occur—and to figure out what would tend not to make the behavior occur, too.
- Consider a classroom illustration: In cup A, there are 2 dark marbles and 1 light marble. In cup B, there are 2 light marbles and 1 dark marble. The instructor picks one of these cups, and students must try to guess which one.
- The instructor walks around the room, letting students choose a marble from the cup. Each student does not show the marble to anyone else but only announces whether the student believes that cup A or cup B is correct.
- A pattern that commonly emerges is that after a few draws, several students in a row have named either cup A or cup B. At some point, students start to disregard the actual draw that they personally receive because they see no reason why one piece of information should overrule the consensus that has formed. This is an information cascade.

- An information cascade has limitations. There is the in-born fragility that when people recognize that a cascade is happening, someone may eventually decide to ignore it.
- The cascade doesn't form if everyone can see the private information or if people can express doubts and uncertainty because such doubts will undercut the cascade. Cascades form more easily if it is costly to collect private information and form less easily if collecting private information is cheap.
- Some obvious examples of information cascades include management and diet fads.
- We will focus on 5 other examples of information cascades: financial bubbles, medical treatments, marketing, **strategic imitation**, and uprisings against autocracy.
- In making predictions about the future of financial markets—for example, the price of a stock or how much housing prices will rise—there is a tendency to run with the herd.
- Any individual analyst knows the consensus of the group and knows that their personal information is not necessarily much better than what is available to other members of the group.
- There are modest gains from doing better than the group, but there is a real chance of getting fired if one does much worse than the group.
- Patterns of medical treatment and spending vary a great deal across geographic areas. Some metropolitan areas have many more operations for coronary bypass or prostate cancer while in other areas these conditions are treated with a combination of drugs, diet, and exercise.
- As another example, the amount spent on a Medicare patient in Florida (adjusting for age and illness) is nearly double what is spent on a Medicare patient in Minnesota. Studies of these geographic



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In political campaigns, every candidate wants to create a sense that the herd is moving their way so that people will disregard their own private preferences and go with the herd, which has a chance of winning.

differences typically show little or no effect on health outcomes; instead, these differences are best understood as local information cascades, in which groups of doctors in one area reinforce each other's decisions.

- Some marketing attempts to persuade potential users that they would value purchasing a product, but a substantial share of marketing is also an attempt to create a herd—in which many people watch the TV show or use the product because others do. Political campaigns often attempt to start herds, too.
- When firms make choices about products and investment, they often look at what competitors are doing. The result can be herding behavior in such decisions.

- Under a repressive government, many citizens will hide their private reactions and, instead, will go with the crowd in professing support for the government.
- However, if circumstances disrupt this information cascade, and many citizens begin revealing their private information at once, the result can be an overthrow of a repressive government.
- This pattern helps to explain the overthrow of Communist governments in Russia and Eastern Europe in the 1990s and may apply as well to the demonstrations against autocratic governments in the Middle East in 2011.
- In a world of specialized knowledge, none of us can do everything. There are times when we all need to rely on conventional wisdom or expert wisdom. More often than not, it is correct and useful to do so.
- However, we should also be aware of the possibility that the information cascade has headed off in an incorrect direction. Therefore, you should value the entrepreneurs and dissenters who question conventional wisdom, and nourish a germ of skepticism for yourself. ■

Important Terms

information cascade: Part of the information that people use in making decisions is to look at the decisions made by others, and as a result, it is possible that a misguided decision can spread.

strategic imitation: When business firms decide on a strategy by following the strategy that their competitors seem to have chosen.

Suggested Reading

Hirshleifer, “The Blind Leading the Blind.”

Lemieux, “Following the Herd.”

Questions to Consider

1. Can you think of an information cascade that you take part in that you think is probably correct but is still a case where you are relying on the consensus of others rather than on your own insight?
2. Can you think of an information cascade—either a historical or present-day example—that you believe went in a misguided direction? What factors would lead people to break away from such an information cascade?

Addiction and Choice

Lecture 19

A common view of addiction is that it overrides rational choice—but it is also possible that, for at least some people, addiction is a rational choice in the sense that the pleasure of the behavior is worth being addicted. In addition, even those who are addicted—in either a rational or an irrational sense—respond to economic incentives, as can be seen in patterns of behavior of smoking and illegal drug use.

- It might seem like addiction is the opposite of an economic approach—that is, addiction is about not having choice while economics is about choosing—but it’s possible to quit addictive behaviors, which means that it isn’t identical to a sickness and bears some relationship to choice.
- Most people, and a number of health and medical organizations, think about addiction as an involuntary medical condition—or as a disease.
- Considerable evidence suggests that perhaps 3/4 of people who are addicted to a substance at one point in their lives manage to give it up, and most of those do so without professional assistance.
- Indeed, many give up their addiction when the costs in terms of money, family, or employment become large—that is, they respond to incentives. In contrast, no one manages to “give up” diseases such as Alzheimer’s, Parkinson’s, or cerebral palsy.
- While addiction certainly seems to have an element of compulsive behavior, many addicts also exercise some elements of choice.
- When arguing that addiction is not about choice, a common argument is to point out people with an addiction whose lives seem to be of much lower quality as a result—and then to ask if anyone would make such a “choice.”



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When states announce future increases in cigarette taxes, the consumption of cigarettes drops. Perhaps teens, who presumably aren't addicted yet, consider the higher lifetime price of becoming addicted and try to quit.

- However, cause and effect are not clear in these cases. If someone is depressed and also addicted to drugs, it may be that the addiction is a symptom of depression—not the cause.
- When one observes a drug addict with a terrible life, it would be a logical fallacy to assume that without drugs, their life would have turned out just fine. Moreover, many people make choices that don't turn out well, but they are still choices.
- The theory of **rational addiction** provides a framework for thinking about the conditions under which a rational person might choose a consumption pattern that fits the characteristics of addiction. It also draws out some implications of that framework, which can then be tested against empirical data.
- Psychologists have typically defined addiction as including 3 factors: reinforcement, which means that consuming more in the

present leads to consuming more in the future; tolerance, which means that past consumption is larger so that a given level of current satisfaction is less satisfying; and withdrawal, which means that as consumption is reduced, the person experiences negative physical or psychological reactions.

- In the late 1980s and early 1990s, Gary Becker and several prestigious coauthors formulated the theory of rational addiction. The theory begins with a farsighted person—considering past, present, and future—who weighs the costs and benefits of consuming a good that will (possibly) lead to a pattern of addiction.
- A useful theory should have an implication that can be tested against data. For example, the theory of rational addiction predicts that addicts should respond to expected future changes in prices, not just to present or past prices; that those with lower costs of addiction should be more likely to become addicted; and that episodes of addiction will follow a pattern of alternating heavy use and no use, rather than steady use.
- Consumers of addictive substances react to increases and decreases in price—and also to predictable future changes in price. This pattern suggests that not only are they not acting in response to an involuntary craving or disease, but that their decisions have an element of foresight.
- If addicts are balancing costs and benefits, then those who have lower personal costs of addiction should be more likely to become addicted. Also, if perceptions of the costs shift—for example, when more information became publicly available about the health risks of smoking—then addiction behavior should shift, too.
- The theory of rational addiction predicts an unstable pattern of consumption—that is, past consumption encourages more consumption, but then tolerance builds up, and at some point the costs of addiction are high enough to overcome the pain of withdrawal.

- At other times, the lack of consumption in the past doesn't encourage present consumption, and the cycle never begins. This pattern suggests that people will often quit their addiction behavior completely rather than just moderating it.
- Even a number of researchers in this area are skeptical about the ultimate persuasiveness of this evidence, but an alternative theory needs to take these facts about addiction into account.
- Addiction has an element of choice, but it seems to be a sort of constrained choice. As a result, the public policy response is uncertain whether to treat it as a problem of legality or medicine.
- When someone is sick, they get medical treatment. When someone makes a choice that is wrong, they are punished by the law. When it comes to drug addiction, we do both.
- The 2 main government agencies involved with drug addiction are the Drug Enforcement Administration and the National Institute on Drug Abuse, which is part of National Institutes of Health.
- If drug addiction isn't a choice, then what is it? Genetics? Brain chemistry? Myopic preferences? Some other way of being trapped into doing what you don't want to do? All of these options are plausible to some extent as often being related to addiction, but none of them is a fully plausible explanation of addiction, either.
- Perhaps the binary opposition between rational choice and involuntary disease is too extreme. Is it really all one or all the other? Full choice is part of a process based on a combination of reflection about costs and benefits, self-control to stick to a decision, and probably also reinforcement from a surrounding community.
- With addiction, full choice in this broad sense becomes more difficult—but a fair degree of limited choice remains. After all, groups like Alcoholics Anonymous are about helping people find ways to make better choices. ■

Important Term

rational addiction: The controversial theory that addicts choose to become addicted because, in their view, the long-term benefit of addiction exceeds the long-term costs.

Suggested Reading

Heyman, *Addiction*.

Horford, “The Economics of Addiction.”

Questions to Consider

1. What are the advantages and disadvantages of thinking about addiction, at least metaphorically, as a disease?
2. How are the choices that people make in the context of addiction different from other consumption choices they make—like which groceries to buy or which vacation to take? How are these choices similar? (For example, all of these choices react to prices.)

Obesity—Who Bears the Costs?

Lecture 20

A rise in obesity is the result of a shifting balance between calories consumed and calories burned. By looking at the incentives affecting the costs of food consumption in terms of time and money and the changing conditions for exercise both at home and on the job, the reasons behind the rise in obesity—and possibly policies for dealing with this public health challenge—become clear. Obesity isn't just a U.S. issue, of course, but is quickly becoming one of the world's major health issues.

- The proportion of U.S. adults who fit the technical definition of obesity—that is, measured by something called the Body Mass Index—has tripled in the last half century.
- The average weight of an American male adult was 168 pounds in the early 1960s and about 190 pounds by the early 2000s. The average weight of an American female adult was 143 pounds in the early 1960s and 163 pounds in the early 2000s.
- In the research literature, obesity is typically measured by the **Body Mass Index**, which is calculated as weight, measured in kilograms, divided by height, measured in meters squared. A BMI between 25 and 30 is considered overweight and above 30 is obese. Someone who is 6 feet tall, for example, would have a BMI of 25 at 184 pounds and a BMI of 30 at 221 pounds.
- Rates of obesity have nearly tripled in the United States since the early 1960s. This pattern holds true across gender, age, and education. A pattern of rising obesity also holds true internationally, although the United States is the leader in obesity rates for high-income countries.
- Health costs of obesity can be divided into a drop of perhaps 2–3 years in life expectancy and higher lifetime health-care costs. The

costs of reduced life expectancy are likely to be much greater than the health-care costs.

- It's difficult to sort out cause and effect, but obesity is associated with lower life expectancy. However, the drop in life expectancy will vary across population groups by factors like age and ethnicity.
- The lifetime health-care costs associated with obesity are a mixture of higher costs for the obese in an average year but are combined with living a shorter number of years.
- Overall, the obese do have higher lifetime health-care costs, but the amount is much less than a plausible value for the decline in life expectancy.
- When economists need to put a value on an additional year of life in their calculations, they often end up choosing some number like \$100,000 or \$200,000 for another year of life.
- Thus, several years of life are much more costly than the additional health-care costs of obesity. This matters for policy analysis in part because it implies that the bulk of the costs of obesity are borne by the obese person—not by society as a whole.
- Calories enter the body by eating, and they are burned by physical activity. Thus, rising weight means some



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Eating and exercise are both related to incentives and tradeoffs, so this is a natural area that economists analyze.

combination of eating more or burning less. The most likely explanation is on the eating side.

- The explanation of less exercise faces a substantial problem: The data doesn't actually suggest a drop in exercise in the last 30–40 years, although there may have been such a drop in the first half of the 20th century.
- A typical adult can consume roughly 2000 calories per day without gaining weight. (Of course, the actual number will vary by factors like height, gender, age, and metabolism.)
- Average calorie consumption has risen by about 100–150 calories per day. This isn't much—it's equivalent to a can of sugared soda—but when sustained over time, it explains the rise in weight and obesity that has occurred.
- The human body is conditioned to sense certain things right away—sights, sounds, pain—but the body is conditioned to allow overeating and to not really feel it until later. Because there is no immediate physical sensation of overeating, it can be easy to do.
- One possible theory for the rise in obesity is that over the decades, people have had gradually higher incomes, allowing them to buy more food. Over the long run, however, this pattern didn't seem to increase obesity much up until about 1980.
- Those with high incomes are not more obese than those with lower incomes. It's easy to spend more on food without affecting how many calories are consumed.
- The technology of food preparation has changed dramatically in about the last half century. In the 1960s, most food was prepared at home. Starting in the 1980s and 1990s, technologies for food preparation improved in a way that made it cheaper to do at least partial preparation of food at a different location from where it would actually be consumed.

- Therefore, the cost of food, in terms of preparation time, dropped substantially. This pattern is consistent with many of the specific facts about the rise in obesity, including the timing and the cheap food offered by fast-food restaurants.
- Public policy about obesity needs to confront the difficulty that the costs are primarily borne by the obese themselves.
- A standard argument for why public policy should seek to reduce health-care costs is that we all end up paying the costs through health insurance.
- However, studies of labor markets and insurance suggest that the obese are paid systematically less than the nonobese with the same education and experience—and that, moreover, this bias exists only in the group of companies that offer health insurance to their employees.
- As a result, it seems plausible that the obese end up paying for the costs of obesity—both by being the ones who suffer the health effects and also by receiving lower pay.
- Government policies to reduce obesity can range from persuasion to firmer incentives. Persuasion is, on some level, not too controversial but may also not be especially effective. Other incentives range from adjusting the choices that people face to adjusting prices.
- The weight-loss advice from Marion Nestle—a sociology professor at New York University—is to eat less, move more, eat fruits and vegetables, don't eat too much junk food, and enjoy! ■

Important Term

Body Mass Index: A standard measure of whether people are obese, calculated as weight (measured in kilograms) divided by height (measured in meters squared). As a general rule, a score of over 30 is regarded as obese.

Suggested Reading

Bhattacharya and Sood, “Who Pays for Obesity?”

Cloud, “Why Exercise Won’t Make You Thin.”

Nestle, “Food Politics.”

Sassi, *Obesity and the Economics of Prevention*.

Questions to Consider

1. What would be the easiest way for you personally to arrange your life in such a way as to reduce calorie consumption by, for example, 150 calories per day?
2. Should obesity be an issue only between people and their doctors, or should there be a serious effort at creating public policy to reduce obesity?

The Economics of Natural Disasters

Lecture 21

Natural disasters—such as hurricanes, tidal waves, and earthquakes—are causing more economic damage than ever before in history as the planet becomes more heavily populated. Economic analysis offers a number of lessons about why there is an upward trend and how to act both in advance and after the disaster to reduce the costs of natural disasters when they do occur.

- Nature isn't under human control, but the effects of natural disasters depend on interactions with human decisions that are often driven by economic factors.
- After an enormous earthquake hit Lisbon in 1755, the French philosophers Voltaire and Rousseau debated the extent to which this disaster was a lesson about the tragedies of nature or was, instead, about the interactions of humans and nature.
- In 1755, a huge earthquake occurred with its epicenter about 100 miles off the coast of Lisbon. The quake and resulting **tsunami** killed approximately 60,000 people—1/5 of the city's population.
- The French philosopher Voltaire is perhaps best known today for his character Pangloss from the short novel *Candide*, who likes to say that “all is for the best in this best of all possible worlds,” even when terrible stuff is happening.
- Voltaire took the occasion of the quake as a reason to write a poem meditating on how disasters happen to humanity, whether we deserve it or not.
- Voltaire's poem provoked a response from another French philosopher, Jean-Jacques Rousseau, who argued that the

earthquake wasn't bad in itself but was bad because it occurred in an area where many people were living in apartment buildings.

- Thus, the cause of the disaster could be found both in a natural event but also in the decisions made by people before that event occurred.
- Haiti experienced a major earthquake in January 2010; Chile experienced an even larger quake in February 2010. While the quake was larger in Chile, the human death and suffering was far greater in Haiti.
- The quake in Haiti measured 7.1 on the **Richter scale**; the one in Chile measured 8.8. In Haiti, over 200,000 people died while in Chile, the death toll was measured in hundreds of people.
- Haiti and Chile have many differences, but the ones that matter most in this case have to do with economics and governance.
- Chile has a growing economy and a functioning democracy. It can prepare for earthquakes with building codes and disaster planning. Haiti has corruption, little ability to invest in safety, and little ability to help itself recover after a disaster.
- The broad takeaway for modern economists from natural disasters is that the effects of any natural disaster on humans can be thought of as a combination of 3 factors: the disaster itself, the number of people exposed to the event, and the vulnerability of those people to the disaster. Those last 2 elements are heavily influenced by economic issues.
- Researchers define natural disasters based on their harm to people—not by measuring the size of natural events.
- The Emergency Events Database in Belgium defines an event as a natural “disaster” if at least one of the following criteria is fulfilled: 10 or more people are reported killed; 100 or more people

are reported affected, injured, and/or homeless; the government declares a state of emergency; or the government requests international assistance.

- Over recent decades, the number of natural disasters and the number of people affected by them has been rising, but the number of deaths has been falling.
- The number of natural disasters has been trending upward in recent decades: In the late 1970s, there were about 100–150 per year, and by 2010, there were around 400–450 per year.
- The number of people killed in natural disasters is extremely volatile from year to year and can rise as high as 200,000–300,000 in a year at a time of an especially bad drought, for example.
- However, there is also a generally downward trend over time: In the late 1970s, it was common to have 100,000–150,000 people per year dying in natural disasters, but from 2005 to 2010, it was around 50,000 people per year.
- The total number of people affected by natural disasters is also a volatile number, but it seems to be rising over time. In the late 1970s, the number of people affected was under 100 million per year; by the first decade of the 21st century, it was around 300 million per year.
- Over the last few decades, property damage from natural disasters has often been \$50–100 billion per year and, in a really bad year, up to around \$200 billion. However, disentangling economic damage from costs of rebuilding can be a tricky business.
- A number of cost-effective steps can be taken before natural disasters arrive, including advanced warnings and evacuations, better building codes, and respect for natural buffers.

- Forecasting weather and natural disasters has improved dramatically—thanks in particular to weather satellites.
- After the 2004 tsunami in the Indian Ocean, for example, buoys and sea-level detectors became more prominent.
- Another way to reduce the costs of natural disasters is through building codes. Even with natural disasters that don't offer much warning, like earthquakes, well-designed buildings can help reduce property damage and loss of life.
- However, building codes do have some history of being ignored or subverted, and finding ways to make them function well in low-income countries can be tricky.
- In many cases, the effects of natural disasters can be mitigated with natural buffers.
- If wetlands are not filled in for development, they can help limit floods and buffer cities from weather. If forests are not stripped away, they can help reduce the costs of drought, flood, and earthquakes.
- Reacting to disasters occurs through insurance programs at the national level and through international aid.
- One way to respond after a natural disaster is through insurance. However, insurance markets may not work well for very rare events—that is, people aren't eager to pay for insurance for events that are unlikely to happen, and insurance companies worry about taking on the risks of a huge disaster.
- In many countries, for example, flood insurance is in some way subsidized or encouraged by the government.
- There is some movement toward innovative international insurance programs, including regional insurance efforts by nations and the issue of catastrophe bonds.

- International aid can fill an important role after disasters occur, but it also has shortcomings.
- International aid is typically given according to the “closeness” of the donor and recipient country, which is measured by geography, colonial ties, and common language so that some disasters get more help than others.
- It is also important that as international aid fills short-term needs, it must also consider building long-term capabilities. ■

Important Terms

Richter scale: A measure of the energy contained in an earthquake. It is a logarithmic scale, so a score of 6 is 10 times the power of 5, and a score of 7 is 10 times the power of 6, etc.

tsunami: An enormous, fast-moving wave often caused by an underwater earthquake.

Suggested Reading

Stromberg, “Natural Disasters, Economic Development, and Humanitarian Aid.”

World Bank and United Nations, *Natural Hazards, UnNatural Disasters*.

Questions to Consider

1. What do you see as some of the largest barriers around the world to being better prepared for natural disasters before they occur?
2. Make a list of some of the natural disasters that might occur during approximately the next 100 years—the possible enormous storms, droughts, quakes, tsunamis, volcanoes, etc. What is it worth to reduce their human costs?

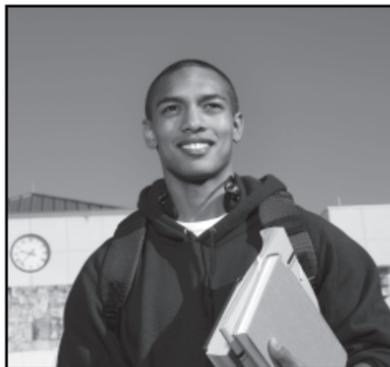
Sports Lessons—Pay, Performance, Tournaments

Lecture 22

Sports involve competition, and while athletes are often reimbursed in some way, the contest itself is not about buying and selling. Nevertheless, the field of sports economics stems from the insight that both individuals and teams are acting purposefully to advance their goal of winning the competition. The actions of sports teams and athletes can offer an illustration of such economic issues as discrimination in labor markets and strategic behavior in situations of risk.

- Measured according to economic output, sports aren't a very important part of the economy, but they can offer a kind of laboratory for looking at decision making in a certain setting and, in that way, illustrate some economic lessons.
- The dollar values of contracts for athletes and broadcast television rights sound like very large numbers—and, of course from an individual perspective, they are—but from the standpoint of the economy as a whole, spectator sports are a relatively small industry.
- This fact helps to explain why most economists believe that building stadiums for sports teams won't do much to stimulate a local economy.
- In many real-world settings, it's difficult to define exactly what job performance looks like or exactly what strategy is followed; it's also difficult to get detailed wage and job information for all the workers at a company.
- On the other hand, in a sports setting, we know a great deal about what participants are paid, their performance is measured with great care, and we discuss at length what strategies are used. Thus, sports settings can serve as laboratories for analyzing certain economic lessons.

- Sports economics offers a number of examples to illustrate the possibility that what labor is paid doesn't always reflect productivity.
- Some examples include discrimination by race, the idea that business management may not understand actual productivity, and the notion that labor contracts can sometimes set up perverse incentives for productivity.



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- Basic economic theory argues that what people are paid should be linked to what they produce. Of course, this relationship will not be precise, and in various settings where employers have a great deal of power or where contracts are negotiated for pay based on seniority, this may not hold true.

Sports economics has found that top college athletes could be paid more if colleges had to bid for their services. It's not shocking, therefore, that professional athletes make more money after they become free agents.

- Discrimination can be defined as being paid less for equal job performance. Among professional basketball players, it appears that black players were paid about 10–20% less in the 1980s for their output than white players.
- However, this effect disappeared in the 1990s—although there is some evidence that teams overpay for the performance of highly paid white players. Baseball and football show no evidence of significant discrimination by race in recent decades.
- Michael Lewis wrote a best-selling book called *Moneyball: The Art of Winning an Unfair Game* in 2003. He pointed out that in baseball, a player who draws walks can be valuable to a team—

and that the Oakland Athletics were loading up on such players and winning games with a relatively low payroll by following this logic.

- Soon after the book was published, teams started paying more to players who drew a large number of walks, and the possibilities for building a winning team with this strategy disappeared.
- Players who sign long-term contracts with guaranteed payments seem to become injured in a way that causes them to miss games more often than those without such contracts.
- One possible interpretation of this finding is that when salary is guaranteed, players find it easier to go on the disabled list.
- Sports often involve making a choice of strategy with uncertainty about what will happen. Should a penalty kick in soccer be aimed left, right, or center? Should a football team go for it on fourth down or kick?
- To oversimplify, a soccer penalty kick can be aimed left, right, or center. For most shooters, kicking across their body is their most powerful shot. The shooter kicks the ball hard enough that the goalie must decide which way to jump before seeing where the ball is headed.
- The appropriate strategy in these cases is for the shooter to take their strongest shot most of the time but sometimes, at random intervals, to try the alternative—just to keep the goalie guessing.
- Similarly, the goalie should guess that the shooter will use the strongest shot most of the time but at random intervals try something different to keep the shooter guessing.
- On fourth down, should a football team go for it or kick—either a punt or a field goal attempt? Punting means giving the other team the ball perhaps about 40 yards down the field. If you go for it and

make it, you keep possession and continue having a chance to score. If you go for it and miss it, the other team gets the ball at that spot.

- Statistical analysis of what happens after all these outcomes suggests that most professional football teams should go for it on fourth down much more often. Coaches of professional football teams are much too risk averse—as are a number of corporate managers, for similar reasons.
- In sports tournaments, like tennis and golf, the winner gets a check that is often twice what is paid for second place and a larger multiple of what is paid to those who finish lower in the ranks.
- In big corporations, the chief executive officer (CEO) typically gets paid twice or more what the second-highest officer is paid and a multiple of what others are paid. Economists have studied this parallel.
- The winner in a sports tournament, like tennis or golf, may be only slightly better than the person who finishes in second place; however, the financial reward is typically much larger.
- The same situation—a little better in performance but much higher in financial rewards—arises at the top of companies.
- For economists, this poses a question: Why is the difference in the reward received so much greater than the difference in skills or ability?
- Tournament pay structures provide an incentive for all who are competing to provide a high level of effort, but these structures can also provide an incentive to avoid teamwork or even to engage in cheating or sabotage.
- Sports tournaments can only be won by the participants, but company executives have some chance to take jobs with other firms.

- When a firm promotes from outside the company, all of its existing executives “lose” the tournament—which helps explain why so many firms promote for top positions from inside.
- Sports are unlikely ever to be a central concern of economics, but lessons from studying sports can help explain economic principals.
- Some other issues of sports economics include how auctions work, how sports leagues operate when they have close competition (and when they don’t), and when teams or athletes choose to cooperate (and when they don’t). ■

Suggested Reading

Engemann and Owyang, “A Winning Combination?”

Journal of Sports Economics.

Kahn, “The Sports Business as a Labor Market Laboratory.”

Questions to Consider

1. Does this lecture make you think about sports topics in different ways? How?
2. Do you find the tournament explanation of why CEOs receive such high pay relative to others in the firm to be a plausible explanation? Can you propose other plausible explanations?

Voting, Money, and Politics

Lecture 23

Economic theories of voting and democracy address the following questions: Why might politicians group in the middle rather than at the extremes? When will voting accurately represent the wishes of society? Why do people vote at all? What factors affect voter turnout? Economists have discovered that, although the costs of voting are not high, the chance that one individual's vote will determine the outcome of an election is essentially zero. Rationally, therefore, people pursuing their self-interest will not vote.

- Public arguments over free-market forces often set up an unfair opposition. On one hand, the real-world economy is considered—with all of its problems, warts, and flaws. On the other hand, a hypothetical vision of government policy is offered in which government is a distilled representation of the pure public interest.
- Voters and government officials are not all-knowing, beneficent angels. The public choice theories of economics analyze how self-interest in a world of tradeoffs expresses itself in voting and politics.
- There is a high level of positive rhetoric that surrounds voting, but in many local elections, well under half of people actually vote.
- Can voting be understood as a rational and self-interested action or as a noneconomic action? Who tends to vote more or less?
- The reality of voting has a romantic power—not in the sense of love, but in the sense of what is adventurous, heroic, and idealized. The notion that votes of average people ultimately control who will be powerful—and, in turn, can evict the powerful people from office—is an intoxicating idea.

- In U.S. presidential elections over the last few decades, about 55–65% of voting-age citizens actually voted.
- In Congressional elections when there is no presidential race, or in local elections, the turnout is typically lower; often less than half of the eligible voters actually vote in these types of elections. Some countries require voting by law.
- For some decades, economists have been pointing out that although the costs of voting are not large—being somewhat informed and making it to the polls on the day of the election—the chance that your vote will determine the outcome of an election is essentially zero.
- Based on this calculation, someone who strictly pursues their self-interest would typically decide not to vote.
- The research on who votes reveals some interesting patterns. First, voting turnout is highest in the extreme cases where the population is very homogeneous, so that the political race is not very close, and where the population is very heterogeneous, so that the political race is very close.
- Those who are older and have higher levels of education tend to vote more. In addition, most of the decline in voting rates over recent decades can be traced to lower turnout of younger voters.
- There are a number of reasons for concern as to whether the outcome of voting leads to the outcome that best represents the will of the people. Some potential issues include voter ignorance, the role of money in politics, special interests, and voting cycles.
- Voting is imperfect in a number of ways, but there is reason to believe that, in many cases, it captures the beliefs of the median voter.
- Many voters don't know many details about the issues or the candidates on which they are voting—many voters are ignorant.

However, as argued in the earlier lecture on prediction markets, large groups of people can make quite accurate decisions even with fairly little information.

- There has been controversy for decades over the role of campaign contributions in politics and the extent to which they can or should be regulated.
- However, many economists who have looked at the issue tend to emphasize how relatively small the money is in political campaigns. Also, campaign contributions are only one way of affecting legislation—and arguably not the most important way.
- What about special interests, earmarks, and **pork-barrel spending**? Perhaps some of this is inevitable, but some of it verges on scandalous—or even crosses that barrier.
- However, the total cost of these features is not what drives the federal budget. The main spending categories in the budget are health care, Social Security, defense, and interest payments on past spending. Looking toward the future, health-care costs in particular are the main driver.
- When there is an election or a legislative coalition with more than 3 participants, votes can be split or coalitions can form in unexpected ways. This occasionally happens in U.S. elections—for example, in states that don't require a runoff between the top 2 candidates in gubernatorial elections.
- The median voter theorem suggests that in an election campaign where each side is trying to attract 50% plus one more vote, the voter right in the middle—the **median voter**—will have considerable power.
- Large political parties will have to appeal to that voter in the middle. This helps to explain why much of American politics doesn't vary

enormously when the party in power changes and why those who would like to see more substantial changes often feel frustrated.

- It's not obvious that much higher **voter turnout** should be a public policy goal. It's also not clear that much higher voter turnout is possible.
- However, the ultimate legitimacy of a democratic government comes from being anointed by the people, and there are some steps that would probably be modestly useful in increasing voter turnout. ■

Important Terms

median voter: The voter that is in the middle of the voting distribution. With half the population on one side and half on the other side, the median voter will determine who has a majority.

pork-barrel spending: The slang term for spending aimed at a particular state or district, for which the elected representative from that area can claim political credit.

voter turnout: The percentage of eligible voters who actually cast a vote.

Suggested Reading

Matsusaka, "The Economic Approach to Democracy."

Milyo, "Campaign Finance."

Shughart II, "Public choice."

Questions to Consider

1. Many people are very optimistic about how well government programs work when they approve of the general purpose of that program but then become very skeptical about government programs of which they do not approve. For example, are you equally skeptical about the competence and efficiency of government in the following areas: national defense,

welfare spending, espionage, health care for the poor, infrastructure spending, and police protection?

2. Do you vote in all elections—not just every 4 years, but in all the elections in between and for all the positions up for election? If so, why do you bother? If not, why don't you bother?

The Pursuit of Happiness

Lecture 24

Both in the United States and around the world, surveys have been conducted that ask people to rate their level of happiness. Social scientists can then determine which people are happiest and trace how changes affect happiness. A common finding is that people in current times don't report being happier than people several decades ago, despite economic growth over that time. In addition, those who have experienced positive or negative events show a sharp change in happiness for a short time—but then revert to their original level.

- The Declaration of Independence refers to people having inalienable rights, and among these are life, liberty, and the pursuit of happiness.
- The pursuit of happiness seems linked to some basic ideas of economics—like the notion that people are pursuing their own self-interest—but the question of what leads to happiness turns out to be a tricky one.
- Happiness is difficult to measure, and measurements of happiness are slippery to interpret. After some false starts in the 19th century to measure happiness with physical tools, happiness in modern social science is measured by surveys.
- In the 19th century, economist Francis Edgeworth held out some hope that the science of psychophysics might find a way to measure happiness with a physical instrument, which he called a hedonimeter.
- Such instruments proved impractical, however, and economics instead began to infer happiness from what people do with the theory of revealed preference rather than focusing on what people say.

- There is survey data on the happiness of Americans going back to more than half a century ago and on the happiness of countries around the world for the last couple of decades.
- The general social survey is a nationally representative survey that is broadly used in social science research. It's conducted by the National Opinion Research Center, a research organization based at the University of Chicago. Since 1972, this survey has been asking happiness questions.
- International data on happiness levels is available through the World Values Survey, the Gallup Poll, and, in some cases, through surveys done by specific countries.
- There are 2 approaches to happiness surveys that try to get more immediate detail about events of the day: one involves carrying around a handheld computer that prompts you several times a day to report what you're doing and how happy it makes you, and another involves filling out a survey at the end of each day with that same information.

- Happiness research began by analyzing the connection between happiness and income but has since expanded to consider many different events—as well as how happiness adapts and changes with different events over time.



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Women report less happiness now than they did in the 1960s and early 1970s. Happiness data suggests that the greater possibilities for women in the workforce have also brought higher levels of stress, which cause happiness to decrease.

- An economist named Richard Easterlin wrote a paper in 1974 in which he pointed out that the average level of happiness was not increasing over time with economic growth.
- This finding raises a question as to whether the happiness from income is only relative to being better off than others or whether economic growth actually raises happiness. This concept is now known as the **Easterlin paradox**.
- However, evidence from a point in time—or across countries—suggests that more income does raise happiness.
- When people's conditions change, their reported happiness often changes for a short time but then returns to its earlier level—more or less. This kind of adaptation can explain why happiness scores don't rise over time.
- People show adaptation in their happiness level even to extreme events—like winning the lottery or becoming a paraplegic.
- The happiness connected with an event can vary according to whether the survey asks about the event before it happens, when it happens, or after it happens. It is not clear which of these measures should be viewed as most important.
- Studies of colonoscopies, for example, suggest that the last few minutes of the procedure are the most important in influencing a happiness score.
- Happiness studies allow researchers to analyze a variety of events, times, and places and to compare the level of happiness for different people.
- For example, people hate commuting but like leisure time and social time. In addition, parents with children tend to report less happiness.

- Women reported lower levels of happiness over the last few decades, and African Americans reported greater happiness over that same period of time.
- In general, many people report greater happiness as they age.
- Perhaps happiness isn't the goal but rather something even less precise—like the opportunity for a full flourishing of one's capabilities.
- When looking at many activities in your life—marriage, parenthood, work—it's not clear that “happiness” is the right description for the goal, unless the definition of happiness is expanded to mean “everything you choose to do.”
- The country of Bhutan has proposed calculating **gross happiness product** to replace gross domestic product. Other countries, such as Great Britain and Australia, have also discussed trying to construct such a measure.
- The notion of government by survey—especially a survey based on the word “happiness”—seems to be teeming with difficulties.
- Happiness, at least as that idea is captured in survey data, is too shallow a concept to represent what most people hope to achieve in their lives.
- Economist and philosopher John Stuart Mill proposed the word “dignity” as an improvement to the notion of happiness.
- Modern economists, however, are more likely to speak in terms of functional capabilities, a concept espoused by Nobel Prize–winning economist Amartya Sen. ■

Important Terms

Easterlin paradox: The finding that although those with high incomes report being happier than those with low incomes at a point in time, average happiness levels do not seem to rise over time with economic growth.

gross happiness product: A proposed statistic that would find a way of measuring the happiness of society—as opposed to gross domestic product, which measures society’s economic output.

Suggested Reading

Bernanke, “The Economics of Happiness.”

Coyle, *The Soulful Science*.

“The U-Bend of Life,” *The Economist*.

Questions to Consider

1. Do you think happiness surveys should be a central tool for public policy, a supplementary tool, or something that should be mainly of narrow interest to researchers?
2. Does the word “happiness” capture what you seek in life? If not, can you suggest a word or combination of words that would do better?

Glossary

altruism: Concern for the welfare of others, but the term is broad enough to include both warm-glow altruism as well as gifts given out of the hope for reciprocity or gaining social status.

assortative mating: When people with similar characteristics, like income and education, are more likely to marry each other.

Baby M: A 1985 legal case in which a surrogate mother tried to keep the child she had carried to term, but a court held that the child needed to be turned over to the contractual parents.

behavioral economics: A branch of economics that seeks to combine insights from psychology about how people actually make decisions with economic reasoning.

Body Mass Index: A standard measure of whether people are obese, calculated as weight (measured in kilograms) divided by height (measured in meters squared). As a general rule, a score of over 30 is regarded as obese.

cartel: A group of companies that act together to keep prices higher by limiting how much they would otherwise compete with each other.

congestion pricing: Charging cars to enter a congested zone during peak times of the day, as a way of discouraging traffic congestion.

consumption complementarity: When consumption can be less expensive or more pleasurable if shared by 2 people.

deadweight loss: A loss of economic efficiency that arises because a transaction that could have benefited all participating parties, without imposing costs on others, does not occur.

deduction: In a tax code, when certain expenditures can be deducted from the income on which income taxes are owed.

Defense Advanced Research Projects Agency (DARPA): An agency within the Department of Defense that funds research projects in a wide array of areas.

demographic transition: The long-term pattern that as a country's income rises, life expectancies rise and birthrates fall.

dialysis: The process of using periodic treatments with a machine to clean the blood of someone with kidney disease.

dictator game: A 2-person game in which a proposer suggests a division of a sum of money, and the responder must accept whatever division is proposed.

discrimination: When a factor that should be irrelevant, like race or gender, enters into an economic decision like hiring, selling, or lending.

Easterlin paradox: The finding that although those with high incomes report being happier than those with low incomes at a point in time, average happiness levels do not seem to rise over time with economic growth.

economics: Broadly defined, in a way reaching well past issues of business or money or the economy, as the study of how people make choices in situations of scarcity.

expected value: In a risky situation, the average outcome that would be expected over a long period of time, when the risk sometimes comes to pass and sometimes does not.

framing: When a certain outcome can be described in different ways—and how it is described affects how people respond.

gross happiness product: A proposed statistic that would find a way of measuring the happiness of society—as opposed to gross domestic product, which measures society's economic output.

imperialism: Extending the rule of a country or empire over others, or in an intellectual sense, choosing the vocabulary and concepts within which a subject will be discussed or understood.

in vitro fertilization: Literally, fertilization “in glass,” referring to when an egg is fertilized outside a woman’s body, and then the fertilized egg is implanted in a woman’s uterus.

index contract: The amount that the contract pays is based on a number that rises or falls—like the percentage of the vote received by a candidate.

information cascade: Part of the information that people use in making decisions is to look at the decisions made by others, and as a result, it is possible that a misguided decision can spread.

interesse: A term from the Middle Ages that started out as meaning a fee charged for a late payment but evolved into the modern word “interest.”

kidney exchange: A program designed to resolve exchange and resource allocation problems with kidneys by matching kidney donors to those who need them. For example, patient A has a kidney donor, but donor A’s kidney isn’t a good match. Maybe donor A could give patient B a kidney and donor B could give patient A a kidney. A kidney exchange would organize such swaps.

Knighitian uncertainty: The kind of uncertainty in which people have no idea about the probabilities of the possible outcomes.

laboratory economics: Structured games between 2 or more people that are set up by economists to study how people react to different sets of incentives.

loss aversion: When people have a greater preference for avoiding losses of a certain size than they do for achieving gains of the same size.

luxury good: A good that adheres to the pattern that as income rises by a certain percentage, consumption of that good rises by a larger percentage.

Malthusian theory: The set of theories that argues that over time, population growth will outstrip resources and sustenance.

median voter: The voter that is in the middle of the voting distribution. With half the population on one side and half on the other side, the median voter will determine who has a majority.

myopic preference: A shortsighted preference that favors making a change in the middle-term or long-term future but not making the change immediately or in the short term.

natural experiment: A situation that arises out of law or events in which a cause is more or less randomly distributed across a group, making it easier for social scientists to draw defensible inferences about cause and effect.

negative externality: A situation in which one party imposes real costs on another party, and the second party is not compensated for those costs.

nudge policy: A policy that works by altering the default choice a person faces by not making a decision or not seeking information.

Pascal's wager: A philosophical argument associated with the philosopher Blaise Pascal that believing in God makes rational sense because if God doesn't exist, the costs of mistakenly believing are low, but if God does exist, the costs of mistakenly not believing are eternal and high.

pork-barrel spending: The slang term for spending aimed at a particular state or district, for which the elected representative from that area can claim political credit.

potlatch: A ritual among Native American tribes of the Pacific Northwest in which those with greater wealth give gifts to others in the tribe.

prediction market: A market in which people place small wagers on their preferred answer, and those who predict accurately receive a reward or payment.

prisoner's dilemma: A scenario of game theory in which both parties have a self-interested incentive not to cooperate, but if they follow the logic of self-interest, they both end up worse off than if they do cooperate.

production complementarity: When production tasks can be done more efficiently or more pleasurably if the tasks are divided between 2 people.

prospect theory: A theory of how people react in situations of risk in which people react both with loss aversion and the use of reference points.

Protestant work ethic: A theory associated with the famous sociologist Max Weber that Protestant religious values were a key to early economic development of the western world.

rational addiction: The controversial theory that addicts choose to become addicted because, in their view, the long-term benefit of addiction exceeds the long-term costs.

reference point: When people make decisions based on how the outcome relates to their internal sense of what is appropriate or fair.

Richter scale: A measure of the energy contained in an earthquake. It is a logarithmic scale, so a score of 6 is 10 times the power of 5, and a score of 7 is 10 times the power of 6, etc.

risk averse: When a person prefers a safe outcome with a certain value over an uncertain or risky outcome with that same expected value.

risk neutral: When a person has no preference between a safe outcome with a certain value over an uncertain or risky outcome with that same expected value.

risk pooling: When the risk of negative outcomes—like poor health or loss of income—are shared, whether within a marriage or through an insurance company.

risk seeking: When a person prefers an uncertain or risky outcome with a given expected value over a certain outcome with that same expected value.

secularization hypothesis: The hypothesis that as economies and technology develop, religious belief will tend to wane.

self-interest: Making purposeful choices to get what you desire—to be distinguished from its extreme manifestation of greed.

spread betting: A bet based on a certain cutoff value determines whether an event occurs—like whether a candidate receives more than a certain percentage of the popular vote.

statistical discrimination: When a discriminatory decision is based on a belief about average characteristics of a group as a whole rather than on a belief that all members of a group necessarily share a trait.

strategic imitation: When business firms decide on a strategy by following the strategy that their competitors seem to have chosen.

surrogate motherhood: When a mother is paid to bear a child for another person.

terrorism: In U.S. law, “premeditated, politically motivated violence perpetrated against noncombatant targets by subnational groups or clandestine agents.”

tit-for-tat strategy: A strategy in game theory (and other settings) in which your move mimics the previous move of the other player.

tragedy of the commons: When enough people use a common resource, there is an incentive for each to overuse the resource because they personally receive all the benefits from overuse while the costs imposed by overuse are shared by all; of course, if everyone follows this logic, then the common resource is depleted and even ruined for all.

tsunami: An enormous, fast-moving wave often caused by an underwater earthquake.

ultimatum game: A 2-person game in which a proposer suggests a division of a sum of money, and the responder decides whether to accept or not.

usury law: A law that sets a limit on the rate of interest that can be charged on a loan or, at an extreme, that bans lending in exchange for interest payments.

voter turnout: The percentage of eligible voters who actually cast a vote.

winner-take-all prediction market: A contract that costs some amount and pays off a fixed prize if and only if a specific event occurs, like if a particular candidate wins an election.

wisdom of crowds: The pattern that, in many situations requiring an estimate, the average of a large number of somewhat informed people is far more likely to be more accurate than any individual or even expert.

Bibliography

Arrow, Kenneth. “The Economy of Trust.” *Religion & Liberty* 16, no. 3 (Summer 2006). <http://www.acton.org/pub/religion-liberty/volume-16-number-3/economy-trust> (accessed August 9, 2011).

Kenneth Arrow is one of the towering figures of 20th-century economics. One of his interests over time has been analyzing the problem of how people act in a world of incomplete information and how they make decisions on when to trust. In this readable essay, he offers some meditations on these themes.

Bearden, J. Neil. “Ultimatum Bargaining Experiments: The State of the Art.” Working paper, Social Science Research Network, November 2001. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=626183 (accessed August 9, 2011).

Bearden wrote this paper as a Ph.D. student in psychology. He’s now Professor of Decision Sciences at the Singapore campus of the INSEAD business school. The paper offers a readable summary of much of the work in ultimatum games. Some later sections of the paper—section 15, for example—have some updates on the mathematics involved, but these sections can be easily skipped.

Becker, Gary S. “The Economics of Crime.” *Cross Sections* (Fall 1995): 8–15. http://www.richmondfed.org/publications/research/special_reports/economics_of_crime/pdf/economics_of_crime.pdf (accessed August 9, 2011).

Becker won a Nobel Prize for extending economic analysis into settings where it previously hadn’t had much traction. In this readable essay, written a few years after he won the prize, he reflects on his earlier thinking about crime and economics as well as what has been learned over time.

Bernanke, Ben S. “The Economics of Happiness.” Speech at the University of South Carolina Commencement Ceremony, Columbia, South Carolina. May 8, 2010. <http://www.federalreserve.gov/newsevents/speech/bernanke20100508a.htm> (accessed August 9, 2011).

What does head of the Federal Reserve Ben Bernanke think about when he’s not trying to help the U.S. economy overcome its financial crisis and post-recession doldrums? In this commencement address, he offers a useful, short overview of happiness economics.

Bhattacharya, Jay, and Neeraj Sood. “Who Pays for Obesity?” *Journal of Economic Perspectives* 25, no. 1 (Winter 2011): 139–158. <http://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.25.1.139> (accessed August 9, 2011).

Bhattacharya is an economist at Stanford; Sood is an economist at USC. They have been among the economists who have thought through most carefully the issues of who benefits from obesity and who pays the costs from a social point of view.

Brooks, Arthur C. “A Nation of Givers.” *The American*, March/April 2008. http://www.american.com/archive/2008/march-april-magazine-contents/a-nation-of-givers/article_print (accessed August 9, 2011).

Brooks has studied philanthropy for a long time. In this informative article, written in a question-and-answer format, he addresses the basic questions about American charitable giving, including how much is given—by whom and to whom—and international comparisons. I don’t fully agree with his argument at the end of the essay that charitable giving can stimulate overall economic growth, but it’s a possibility worth considering.

Caplan, Bryan. “Caplan on Discrimination and Labor Markets.” Interview by Russ Roberts. Library of Economics and Liberty EconTalk, podcast audio, December 4, 2006. http://www.econtalk.org/archives/2006/12/caplan_on_discr.html (accessed August 9, 2011).

In this 1-hour podcast, Caplan and Roberts start off discussing issues like the economics of discrimination, under what conditions markets tend to reduce discrimination, and how government regulations can end up perpetuating discrimination. The discussion then moves to a broader consideration of labor markets. Both interviewer and interviewee are coming from a free-market, libertarian perspective. This website is a very rich source of podcasts with economists on a wide range of topics that are typically stimulating and thoughtful—whether you share their typically free-market, libertarian perspective or not. For a list of all podcasts, visit <http://www.econtalk.org/archives.html#guest>.

Clark, Josh. “What’s the Ultimatum Game?” *HowStuffWorks.com*, February 26, 2008. <http://money.howstuffworks.com/ultimatum-game.htm> (accessed August 9, 2011).

This is a short, readable overview of the ultimatum game and some of its applications. For example, it discusses some applications of the game in evolutionary theory that aren’t included in this course. There are also links to some of the specialized literature.

Cloud, John. “Why Exercise Won’t Make You Thin.” *Time*, August 9, 2001. <http://www.time.com/time/health/article/0,8599,1914857,00.html> (accessed August 9, 2011).

The author provides an overview of how the advice to avoid obesity has shifted over time to a greater emphasis on exercise. The essay also suggests that a focus on exercise is a difficult way to lose weight, in part because of the enormous temptation to offset exercise with caloric treats.

Coyle, Diana. “What’s It All About?” *The Soulful Science: What Economists Really Do and Why It Matters*. Rev. ed. Princeton, NJ: Princeton University Press, 2010.

Coyle is a well-informed, thoughtful viewer of the economics profession. In this intriguing book, she reviews many different developments in the practice of economics over the last few decades, generally defending the proposition that economics has become more relevant and intriguing over this time. This chapter discusses the wave of research in happiness economics with a useful perspective on both its strengths and weaknesses.

———. “Why Economics Has Soul.” *The Soulful Science: What Economists Really Do and Why It Matters*. Rev. ed. Princeton, NJ: Princeton University Press, 2010.

Coyle is a freelance economist and has excellent skills at boiling down specialized economic research to its basic elements and presenting them to the general public. In this book, she discusses a number of recent developments in academic economic research.

Davis, Wayne. “Prisoner’s Dilemma.” Online interactive game. March 22, 2007. <http://www.iterated-prisoners-dilemma.net> (accessed August 9, 2011).

There are a number of websites where you can actually play a prisoner’s dilemma game. This version is a bit complex to play, but the reward is that it lets you build up and select some different strategies and then see how these strategies unfold.

Donahue, John J. “Fighting Crime: An Economist’s View.” *The Milken Institute Review* 46 (March 2005): 46–58.

A leading academic expert on the economics of crime discusses a public policy agenda that he thinks could cut the crime rate in half. Some of his positions you may agree with more than others, but he thinks and writes like an economist throughout, and no one can accuse him of toeing a party line.

Downs, Anthony. *Still Stuck in Traffic: Coping with Peak-Hour Traffic Congestion*. Washington DC: Brookings Institution Press, 2004.

Downs is an eclectic economist who has been affiliated for many years with the Brookings Institution, and traffic congestion has been one of his interests. In this book, he offers a readable overview of the problem of traffic congestion from an economic point of view with a focus on negative externalities. He also offers a point-by-point overview of steps that have been attempted to reduce congestion with his own summary and evaluation of the evidence.

Engemann, Kristie M., and Michael T. Owyang. “A Winning Combination? Economic Theory Meets Sports.” *Regional Economist*, January 2009, 10–13. <http://www.stlouisfed.org/publications/re/articles/?id=1322> (accessed August 9, 2011).

This short and readable article discusses some of the main themes and examples of sports economics, including some of the examples discussed in this course. It also provides citations to the underlying research articles for those who would like to dig deeper.

“Exploding Misconceptions.” *The Economist*, December 16, 2010. <http://www.economist.com/node/17730424> (accessed August 9, 2011).

This 1-page article provides an overview of research on terrorism, including some more recent findings that the skill level of the average terrorist rises when economic conditions are poor—perhaps because the highly skilled have fewer outside options when trapped in a dysfunctional economy.

Fry, Richard. “The Reversal of the College Marriage Gap.” *Pew Research Center*, October 7, 2010. <http://pewsocialtrends.org/2010/10/07/the-reversal-of-the-college-marriage-gap/> (accessed August 9, 2011).

For many decades, it was true that college-educated adults were less likely to be married at age 30 than adults without a college degree. In 2008, this pattern was reversed, mainly because the marriage rate has dropped so dramatically among those with lower education levels. This is part of the overall trend toward assortative mating.

Fry, Richard, and D’Vera Cohn. “Women, Men, and the New Economics of Marriage.” *Pew Research Center*, January 19, 2010. <http://pewsocialtrends.org/2010/01/19/women-men-and-the-new-economics-of-marriage> (accessed August 9, 2011).

This readable report from the Pew Foundation discusses trends in recent decades in education and income for men and women and how they have led both to a decline in marriage rates and a rise in assortative mating—the pattern of people marrying those with similar education levels and career paths. The report doesn’t dig down into the economic theory behind these patterns, but it is straightforward in presenting the trends.

Goldin, Claudia, and Larry Katz. “On the Pill: Changing the Course of Women’s Education.” *The Milken Institute Review* 2 (June 2001): 12–21. <http://www.milkeninstitute.org/publications/publications.taf?function=detail&ID=187&cat=MIR> (accessed August 9, 2011).

Goldin and Katz are Harvard economists who consider the question of how the availability of the birth control pill altered the education, marriage, and career choices of U.S. women around 1970. As they readily admit, the pill was not necessary to the broader trend of the demographic transition, but the availability of the pill changed the calculations.

Hardin, Garrett. “The Tragedy of the Commons.” *Science* 162, no. 3859 (December 13, 1968): 1243–1248. http://www.garretthardinsociety.org/articles/art_tragedy_of_the_commons.htm (accessed August 9, 2011).

This is the classic essay in which Hardin coined the term “tragedy of the commons.” He explains the underlying logic behind the term and offers examples. He is more focused on environmental issues than on traffic congestion, but it should be clear that the same logic applies in many settings.

Heyman, Gene. M. *Addiction: A Disorder of Choice*. Cambridge, MA: Harvard University Press, 2009.

Heyman is a psychologist—and is definitely not an economist. He doesn’t refer in the book to the economics literature on rational addiction, but in a way, this makes his evidence on addiction and choice even more persuasive because he isn’t committed by his professional training to a belief in choice (as economists to some extent are). At least to me, this book has a bit of a slow start, but chapter 3, which describes the personal stories of addicts and how they quit, along with chapter 4—surveying the overall evidence on why a large share of addicts quit—are both quite readable and on point.

Hirshleifer, David. “The Blind Leading the Blind: Social Influence, Fads, and Informational Cascades.” *The New Economics of Human Behavior*. Cambridge, UK: Cambridge University Press, 1995. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1278625 (accessed August 9, 2011).

David Hirshleifer is one of the economists who worked through the logical patterns and implied issues of information cascades in the early 1990s. In this thoughtful and detailed essay, he reviews the logic of information cascades and also offers a wide array of examples and applications.

Hirshleifer, Jack. “The Dark Side of the Force: The Western Economic Association International 1993 Presidential Address.” *Economic Inquiry* 32, no. 1 (January 1994): 1–10. <http://catdir.loc.gov/catdir/samples/cam031/00066708.pdf> (accessed August 9, 2011).

In a verbal play on the *Star Wars* movies, Jack Hirshleifer points out that economists may have too much of a tendency to focus on the social

benefits of the pursuit of self-interest—like when people cleverly seek out new products and more efficient methods of production to the delight of consumers. He points out that a dark side of self-interest is prominent in human affairs as well, including theft, fraud, and violence.

Horford, Tim. “The Economics of Addiction: Is It Possible That Heroin Junkies and Crackheads Are Actually Rational?” *Slate*, August 4, 2007. <http://www.slate.com/id/2171373/pagenum/all/#p2> (accessed August 9, 2011).

Horford is an excellent economics journalist. In this short, readable piece, he offers an overview of rational addiction perspective with links to some of the relevant research. Among other issues, he poses the interesting question of whether choosing to be addicted to caffeine for a time—to finish a certain work project, for example—is a rational addition choice that is, in its consideration of costs and benefits, not fundamentally different from other addiction choices.

Iannaccone, Larry. “The Economics of Religion.” Interview by Russ Roberts. Library of Economics and Liberty EconTalk, podcast audio, October 9, 2006. http://www.econtalk.org/archives/2006/10/the_economics_o_7.html (accessed August 9, 2011).

Iannaccone is a professor of economics at Chapman University. In this interview, he discusses the economic perspective on religion—that is, it’s not about the financing of religion or about the theology of religion, but it is about analyzing what benefits people believe they are deriving when they practice religion and what costs they are incurring. This approach proves remarkably fruitful in understanding trends in religious belief over time as well as some trends within particular religions.

Kahneman, Daniel. “The Riddle of Experience vs. Memory.” Filmed February 2010. TED video, 20:07. Posted March 2010. http://www.ted.com/talks/daniel_kahneman_the_riddle_of_experience_vs_memory.html (accessed August 9, 2011).

This is a 20-minute lecture that Kahneman gave to a conference with a broad, nonspecialist audience in California in 2010. It's not directly about framing but instead considers the issue of looking at our "experiencing selves" and our "remembering selves" and how they can be quite different. In this lecture, Kahneman draws on a broad range of work in psychology and economics.

Kahn, Lawrence M. "The Sports Business as a Labor Market Laboratory." *Journal of Economic Perspectives* 14, no. 3 (Summer 2000): 75–94.

This article, taken from my own journal, focuses on labor market issues in sports economics with discussions of player salaries over time, free agency, the player draft, discrimination, and other issues. There's a bit of economics jargon in this article, but there's no math or statistics.

Krawiec, Kimberly D, ed. "Show Me the Money: Making Markets in Forbidden Exchange." *Journal of Law and Contemporary Problems* 72, no. 3 (Summer 2009). <http://www.law.duke.edu/journals/lcp/lcptoc72summer2009> (accessed August 9, 2011).

The special issue of this law review offers a range of readable essays on a number of topics involving what is known as forbidden exchange. Each of the articles reviews the state of legal history in this area, discusses the public policy issues, and offers the perspective of the author. Whether you agree with the author's perspectives or not, the overview of the topics is thorough and readable.

Krueger, Alan B. *What Makes a Terrorist: Economics and the Roots of Terrorism*. Princeton and Oxford: Princeton University Press, 2007.

In 2006, Krueger gave the prestigious Lionel Robbins lectures at the London School of Economics. This book is a somewhat edited version of those lectures, which is combined with a set of questions from the audience and answers from Krueger at the end. The lectures are quite accessible to

noneconomists—the technical statistical material is confined to appendices and range over much of the existing literature.

Krueger, Alan B., and Jitka Malecková. “Seeking the Roots of Terrorism.” *The Chronicle of Higher Education*, June 6, 2003. <http://chronicle.com/article/Seeking-the-Roots-of-Terrorism/27185> (accessed August 9, 2011).

The Chronicle of Higher Education is aimed at readers across academia—not just economists. Thus, it offers readable articles like this one by Krueger and Malecková, who discuss their research on the roots of terrorism and the lack of a link from poverty to terrorism.

Kuhn, Steven. “Prisoner’s Dilemma.” *Stanford Encyclopedia of Philosophy*, October 22, 2007. <http://plato.stanford.edu/entries/prisoner-dilemma> (accessed August 9, 2011).

This online article offers a detailed overview of the mechanics of a prisoner’s dilemma game in a wide variety of conditions. It’s for the kind of reader who would like to see a bunch of tables and charts and then to trace out the consequences of strategic choices in many different settings. There’s no complicated math, but on the other hand, it’s not an especially easy read.

Lemieux, Pierre. “Following the Herd.” *Regulation* 26, no. 4 (Winter 2003): 16–21. <http://www.cato.org/pubs/regulation/regv26n4/v26n4-2.pdf> (accessed August 9, 2011).

This article is a very readable overview of the theory of information cascades and herding, with a number of useful examples from economics and other areas. One caveat: This magazine is published by the Cato Institute, a libertarian think tank. I think a lot of what Cato does is of quite high quality, but this is just a warning that what they publish does tend to have a distinctive perspective. This author does a very nice job of explaining the theory of information cascades. His interpretation of how and where they apply, however, has a hefty dose of libertarian ideology.

Levitt, Steven D. “Understanding Why Crime Fell in the 1990s: Four Factors That Explain the Decline and Six That Do Not.” *Journal of Economic Perspectives* 18, no. 1 (Winter 2004): 163–190. <http://pubs.aeaweb.org/doi/pdfplus/10.1257/089533004773563485> (accessed August 9, 2011).

Levitt is one of the most prominent economists currently writing about issues of crime. In this essay, he examines the possible explanations for why crime fell in the 1990s and provides the case for the reasons he finds most plausible.

Longman, Philip. “The Global Baby Bust.” *Foreign Affairs*, May/June 2004.

The author provides an overview of the demographic transition—the combination of higher average incomes, longer life expectancies, and lower birthrates—not just in the United States but also in low-income countries around the world. He further argues, provocatively, that the world needs a pro-fertility public policy agenda.

Looney, Robert. “DARPA’s Policy Analysis Market for Intelligence: Outside the Box or Off the Wall?” *Strategic Insights* 2, no. 9 (September 2003). http://www.au.af.mil/au/awc/awcgate/nps/pam/si_pam.pdf (accessed August 9, 2011.)

This article appears in a publication from the Naval Postgraduate School. The author is a Professor of National Security Affairs. It offers sort of a postmortem overview of the DARPA proposal for a Policy Analysis Market.

Maloney, Thomas. “African Americans in the Twentieth Century.” *EH.Net Encyclopedia*, January 14, 2002. <http://eh.net/encyclopedia/article/maloney.african.american> (accessed August 9, 2011).

Maloney offers a readable overview of economic change for African Americans in the 20th century. He emphasizes that while substantial gains have occurred, the gains seemed to happen in certain short periods. In the conclusion, he writes: “The rapid gains are attributable to actions on the part

of black workers (especially migration), broad economic forces (especially tight labor markets and narrowing of the general wage distribution), and specific antidiscrimination policy initiatives (such as the Fair Employment Practice Committee in the 1940s and Title VII and contract compliance policy in the 1960s).” He also emphasizes the gaps that remain.

Matusaka, John G. “The Economic Approach to Democracy.” *The New Economics of Human Behavior*. Cambridge, UK: Cambridge University Press, 1995.

This essay is available through Google Books. For access, visit <http://books.google.com/books> and type in the author’s name and title of the essay. Matusaka has a Ph.D. in economics, but his academic research is focused on questions of voting and political economy. He has done some especially interesting work on direct democracy, which is how some states let people vote directly on constitutional amendments or laws. In this essay, he provides an overview of work on the economic approach to democracy.

McCleary, Rachel. *The Oxford Handbook of the Economics of Religion*. New York: Oxford University Press, 2011.

The handbook volumes collect up-to-date research across a certain field of economics and, thus, help to summarize where a field is at a certain time and to set the stage for the next field of research. Among all the recommended and suggested readings for this course, this book is probably one of the toughest to read for the nonspecialist, but if you want an overview of what economic researchers are currently analyzing in the field of economics and religion, it offers a comprehensive starting point.

Milyo, Jeffrey. “Campaign Finance.” *The Concise Encyclopedia of Economics*. Indianapolis, IN: Liberty Fund, 2008. <http://www.econlib.org/library/Enc/CampaignFinance.html> (accessed August 9, 2011).

In this short essay, Milyo addresses some of the themes from the course. Money in the form of campaign contributions seems far less important in politics than many people believe. Indeed, given the enormously high levels of government spending, it is mildly surprising that so little is spent on campaign finance.

Mueller, John. “A False Sense of Insecurity? How Does the Risk of Terrorism Measure Up against Everyday Dangers?” *Regulation* 27, no. 4 (Fall 2004): 42–46. <http://www.cato.org/pubs/regulation/regv27n3/v27n3-5.pdf> (accessed August 9, 2011).

In this thought-provoking essay, published just 3 years after the terrorist attacks of September 11, 2001, the author argues that for a variety of reasons—ranging from how people perceive risk to the pressures on political figures to look tough—the United States is probably overreacting to terrorism. By spending too much time and energy on the risk of terrorism, in turn, we are underemphasizing other areas where the health and welfare gains could be much larger.

Murphy, Robert P. “The Economics of Discrimination.” *Library of Economics and Liberty*, August 2, 2010. <http://www.econlib.org/library/Columns/y2010/Murphydiscrimination.html> (accessed August 9, 2011).

Murphy reviews the arguments and some examples as to why the operation of free markets will tend to reduce discrimination and, conversely, how government actions are often necessary to sustain discrimination. As explained in the course, I think the argument that markets can reduce discrimination is intriguing and true, but in my own opinion, the author doesn’t give enough weight to the possibility that discriminatory preferences by customers and coworkers can act to sustain economic discrimination.

Nestle, Marion. *Food Politics* (blog). <http://www.foodpolitics.com>.

Nestle is a professor in the Department of Nutrition, Food Studies, and Public Health and also a Professor of Sociology at New York University. Her Ph.D. was in molecular biology, but in recent years, she has become fascinated by food marketing and food issues. She isn't an economist, but I enjoy her website for its trenchant commentary on issues related to food marketing and food policy—which often intertwine in discussions of why Americans are consuming more calories even when they are led to believe that they are eating healthily.

Randolph, William C. “Tax Topics: Charitable Deductions.” *Tax Policy Center*, 2005. <http://taxpolicycenter.org/taxtopics/encyclopedia/Charitable-Deductions.cfm> (accessed August 9, 2011).

The author is an economist who, at the time of this article, was working for the U.S. Department of the Treasury. In this short article, he gives an overview of the history of the deduction for charitable contributions in the tax code and an overview of the evidence on how it affects giving. The website of the Tax Policy Center is an excellent resource for all sorts of tax-related information. Another useful overview of the deduction for charitable contributions on this site, from a briefing book prepared for the 2008 election campaign, starts at <http://www.taxpolicycenter.org/briefing-book/key-elements/exempt/contributions.cfm>.

Redden, Joseph P. “Hyperbolic Discounting.” *Encyclopedia of Social Psychology*. Thousand Oaks, CA: Sage, 2007. <http://www.behaviorlab.org/Papers/Hyperbolic.pdf> (accessed August 9, 2011).

Redden is a Professor of Marketing at the University of Minnesota. “Hyperbolic discounting” is the jargon term for what I call myopia. “Discounting” refers to how much weight people give to the future—typically, somewhat less than they give to the immediate present. “Hyperbolic” refers to the type of discounting in which a decision that makes sense if it's off in the future no longer makes sense when the time to make

that decision actually arrives. In this short essay, Redden lays out the logic behind myopic preferences and offers some examples.

Ridley, Matt. *The Origins of Virtue: Human Instincts and the Evolution of Cooperation*. London: Viking, 1996.

Ridley is a fine writer on many scientific subjects. He's a bit more of a believer in how evolutionary forces explain many aspects of human behavior than I am, but chapters 3 ("The Prisoner's Dilemma") and 4 ("Telling Hawks from Doves") offer an accessible overview of how the prisoner's dilemma game developed and of some of the research around it.

Robbins, Lionel. *An Essay on the Nature and Significance of Economic Science*. London: MacMillan and Company, Ltd., 1932. <http://mises.org/books/robbinsessay2.pdf> (accessed August 9, 2011).

This is the classic essay that defined economics as the science of thinking about the choices that people make when faced with a situation of scarcity—a definition that many economists have embraced ever since.

Roth, Alvin E. "Repugnance as a Constraint on Markets." *Journal of Economic Perspectives* 21, no 3 (Summer 2007): 37–58. <http://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.21.3.37> (accessed August 9, 2011).

Roth is a Professor of Economics at Harvard who has been heavily involved in designing unusual mechanisms for social choice; for example, he has designed a number of the mechanisms used in cities that allow students to choose between schools, and he helped design the medical school "match," which matches graduating medical students to residencies. In this article, he mentions these mechanisms, as well as his work on kidney exchanges, and tackles the broader question of whether it is possible, sometimes, to design exchange arrangements that work when markets would feel repugnant to many people.

Sassi, Franco. *Obesity and the Economics of Prevention: Fit Not Fat*. Organisation for Economic Co-Operation and Development, 2010.

The OECD is a Paris-based research organization that puts out research on many aspects of economic and social life in high-income countries around the world. This report is full of basic facts and trends about obesity around the world, and it offers a useful overview of the causes and policy issues related to obesity.

Serendip. “You Have Found The Prisoners’ Dilemma.” Online interactive game. June 8, 2005. <http://serendip.brynmawr.edu/playground/pd.html> (accessed August 9, 2011).

There are a number of websites where you can actually play a prisoner’s dilemma game. This version of the game is very straightforward to play. As a starting point, try some different strategies, see what happens, and explore the website.

Shughart II, William F. “Public choice.” *The Concise Encyclopedia of Economics*. Indianapolis, IN: Liberty Fund, 2008. <http://www.econlib.org/library/Enc/PublicChoice.html> (accessed August 9, 2011).

This economist was, for some years, the editor of a leading academic journal in the area of public choice. In this article, he offers a brief overview of the field and some of its main insights.

Smith, Adam. “Of the Expense of the Institutions for the Instruction of People of all Ages.” Chap. 1, Part 3, in Book V of *The Wealth of Nations*, 1776.

The 1904 edition of the book, edited by Edwin Cannan, is available online at <http://www.econlib.org/library/Smith/smWN.html>. If you would like a taste of Adam Smith’s writing on religion, this is where to find it.

Spar, Debora L. *The Baby Business: How Money, Science and Politics Drive the Commerce of Conception*. Boston: Harvard Business School Press, 2006.

Spar was a Harvard Business School professor when she wrote this book; since then, she has become president of Barnard College. In this readable book, she reviews the changes in the “commerce of conception” over time, but her main focus is how markets gradually developed in eggs, sperm, hormones, and surrogate motherhood. In true economist fashion, she points out that the question of whether such markets should exist is essentially moot. When there is enormous demand and many sources of supply, markets will exist in one form or another. The question is what guidelines should be set for such markets to operate with a reasonable degree of fairness.

Strömberg, David. “Natural Disasters, Economic Development, and Humanitarian Aid.” *Journal of Economic Perspectives* 21, no. 3 (Summer 2007): 199–222. <http://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.21.3.199> (accessed August 9, 2011).

This article, from my own journal, reviews evidence on the extent of natural disasters, the extent to which harm from such disasters can be diminished, and the response of international aid agencies to natural disasters.

Surowiecki, James. “The Gift Right Out.” *The New Yorker*, December 25, 2006. http://www.newyorker.com/archive/2006/12/25/061225ta_talk_surowiecki (accessed August 9, 2011).

The author is an excellent economics journalist who writes regularly for *The New Yorker*. In this Christmas-day essay from a few years ago, he discusses Joel Waldfogel’s findings about the “deadweight loss of Christmas” and whether we should all switch our giving to gift cards.

———. *The Wisdom of Crowds: Why the Many Are Smarter Than the Few and How Collective Wisdom Shapes Business, Economies, Societies and Nations*. New York: Doubleday, 2004.

This is a delightful book by a skilled economic journalist. It's full of fun and illuminating anecdotes—but those that are well informed by the academic research on the subject. It may change how you think about at least certain kinds of group decision making.

“Symposium on Discrimination in Product, Credit, and Labor Markets.” *Journal of Economic Perspectives*, Spring 1998.

This issue includes 6 articles on discrimination. The first 3 are about the evidence that discrimination continues to exist in various markets. The other 3 are comments from prominent economists: for example, there's a comment from Nobel laureate Kenneth Arrow on statistical discrimination and a critical view from Nobel laureate James Heckman of the evidence on discrimination, in which he argues that early life experiences are the crucial reason for different outcomes—not discrimination by employers in labor markets. The journal is available in just about any college or university library as well as through a JSTOR subscription.

Taylor, Timothy, ed. “Symposium on Household Economics.” *Journal of Economic Perspectives* 21, no. 2 (Spring 2007).

The journal that I edit ran a 5-paper symposium on household economics in this issue. The articles in my journal are written in words—with very little math or statistics—but it's the prose of academic economists, written for other academic economists, and many readers may wish to sample the arguments rather than try to slog straight through.

Thaler, Richard, and Cass Sunstein. *Nudge*. New Haven, CT: Yale University Press, 2008.

The authors are based at the University of Chicago. Thaler is one of the intellectual leaders of the behavioral economics movement, and Sunstein, who is based in the law school, has thought a great deal about regulatory issues. In this highly readable, creative, and thought-provoking book, the 2 authors explain a number of behavioral biases and consider what kinds of policy responses might be useful. For the subject of framing in particular, a useful starting point would be chapter 1 on “Biases and Blunders.” Chapter 6 is the “Save More Tomorrow” plan. For the subject of myopia in particular, a useful starting point would be chapter 2 on “Resisting Temptation.” A word of warning: Once you’re started, it may prove irresistible to read the whole book.

Thaler, Richard, Sendhil Mullainathan, and Daniel Kahneman. “A Short Course in Behavioral Economics.” *Edge Foundation*, 2008. http://www.edge.org/3rd_culture/thaler_sendhil08/thaler_sendhil_index.html (accessed August 9, 2011).

The Edge Foundation posts a wide range of interesting interviews and papers with people from many disciplines. In 2008, Thaler, Mullainathan, and Kahneman participated in a 9-hour course on behavioral economics and libertarian paternalism. Text of the sessions can be found on the website along with video highlights. For an overview of the perspectives of behavioral economics, this is a good place to start.

“The U-Bend of Life: Why, Beyond Middle Age, People Get Happier as They Get Older.” *The Economist*, December 16, 2010. http://www.economist.com/node/17722567?Story_ID=17722567 (accessed August 9, 2011).

Happiness often follows a consistent pattern over adult lifetimes; according to survey data, people become less happy during much of their 20s and 30s, bottom out in their 40s, and then become happier again in their 50s and 60s. This pattern holds for different countries, over different time periods in

the last few decades, and whether or not people have children. This article discusses the pattern and some of the possible reasons behind it.

Wolfers, Justin, and Eric Zitzewitz. "Prediction Markets." *Journal of Economic Perspectives* 18, no. 2 (Spring, 2004): 107–126. <http://pubs.aeaweb.org/doi/pdfplus/10.1257/0895330041371321> (accessed August 9, 2011).

This article, from the journal that I edit, gives a readable overview of how prediction markets work. It was written in the aftermath of the DARPA proposal but covers a number of other angles and applications, as well as explains some of the theory behind how these markets work.

World Bank and United Nations. *Natural Hazards, UnNatural Disasters: The Economics of Effective Prevention*. Washington DC: World Bank, 2010. http://www.gfdr.org/gfdr/sites/gfdr.org/files/nhud/files/NHUD-Report_Full.pdf (accessed August 9, 2011).

From the website: "Earthquakes, droughts, floods, and storms are natural hazards, but unnatural disasters are the deaths and damages that result from human acts of omission and commission. Every disaster is unique, but each exposes actions—by individuals and governments at different levels—that, had they been different, would have resulted in fewer deaths and less damage. Prevention is possible, and this book examines what it takes to do this cost-effectively. *Natural Hazards, UnNatural Disasters* looks at disasters primarily through an economic lens."

Zelizer, Viviana A. *The Purchase of Intimacy*. Princeton, NJ: Princeton University Press, 2007.

Zelizer is an economic sociologist and one of the most interesting thinkers about the nexus of market forces and human emotions. In this book, she draws on a wide range of source material to write about the interaction of money and prices within family relationships, including sexually tinged relationships, health care, and day-to-day spending.

Internet Resources

Global Terrorism Database. National Consortium for the Study of Terrorism and Responses to Terrorism (START) at the University of Maryland. <http://www.start.umd.edu/start>.

This is the most comprehensive source of data on terrorism. It's interesting to check out this website to learn about what they do to collect the data and some basic patterns that emerge from the data.

Journal of Sports Economics. <http://jse.sagepub.com>.

To gain a sense of what kind of research is being done in the field of sports economics, this journal offers a useful starting point. The titles and abstracts of articles are available online at no cost. If you have access to a college or university library, you can probably check out the actual issues either in print or online.

U.S. Bureau of Labor Statistics. "American Time Use Survey Home Page." <http://www.bls.gov/tus/>.

This website offers information about the American Time Use Survey and provides links to articles. It also provides basic survey information on how people spend their time. I find it interesting to compare the averages to my own behavior.

U.S. Department of Agriculture. "Cost of Raising a Child Calculator." <http://www.cnpp.usda.gov/calculatorintro.htm>.

This website categorizes your family by your marital status, how many children you have (and how old they are), where you live, and what your household income is. Then it tells you what similar families spend each year, broken down into categories. If you want to have a sense of what typical

families spend on things like food, housing, and life insurance, this website is an interesting place to check.