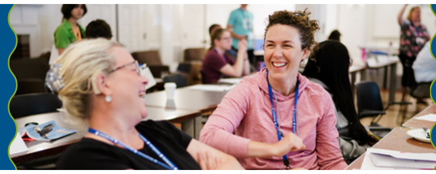
ORIENTATION PACKET



May 22, 2023

Dear EFT Teacher Participant,

Enclosed please find the orientation materials for the Economics for Teachers virtual program being held June 18-23, 2023. This packet should prepare you for the program and answer any questions you may have. Please continue to check your email for further important updates as we get closer to the program start.

We have included the following items:

- Program orientation information with an overview of the program and student goals
- Tentative program schedule
- Information regarding registering for college credit through our university partner, University of Colorado, Colorado Springs.

You are required to attend all program hours outlined in the schedule. If there is an anticipated conflict, let us know immediately at 530.757.4630.

We look forward to seeing you virtually this summer!

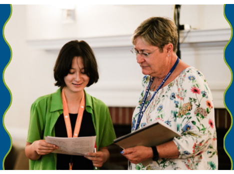
Sincerely,

Mollie Verdoorn

Mollie Verdoorn

Coordinator, Operations + Teacher Programs

Foundation for Teaching Economics



TEACHER ORIENTATION INFORMATION

ECONOMICS FOR TEACHERS (EFT) – June 18-23, 2023

EFT Virtual 1 - Online Course

Delivery Format: The Economics for Teachers (formally Economics for Leaders – EFL) virtual program is a synchronous online course, wherein lectures and activities are delivered "live." Economics professors and mentor teachers will teach content instruction through Zoom with economics simulations and activities run through Zoom breakout rooms, individually, or on a learning platform, such as MobLab.

All course communications, materials, assignments, and Zoom meeting links will be organized in Canvas, our learning management system. If you do not have a Canvas account, you will be prompted to create an account to access the EFT course.

All lectures and activities will be moderated by multiple instructors to ensure participants can interact with both their instructors and peers.

The first sessions each day will be spent in active student sessions as an observer so teachers can see the economics topics and activities delivered "live". Please note that teachers are silent observers during this part of the program and cameras and microphones should be kept off. Following the economic portions each day, teachers will meet for further discussion and learning in a teacher participant only environment, led by a professor and mentor teacher.

Time: Participants should plan to spend approximately five hours per day, Monday – Friday participating in class and completing homework assignments. Each day will consist of 4 sessions with a 40-minute lunch break. Participants should also plan on attending the Sunday Opening Session from 3:00-5:00pm EDT. All session times will follow Eastern Standard Time (EDT) zone, per the attached schedule; please be sure to adjust accordingly for your time zone.

College Credit: Teachers pursuing the optional graduate credit for this program can expect to spend an additional 8-10 hours on the assigned text readings and assessment. Please be on the lookout for an email with information from the University of Colorado, Colorado Springs (UCCS) regarding the graduate credit program, including how to enroll, deadlines, and course requirements.

Web Applications (required):

- Canvas (Learning Management System)
- Zoom (Web Conferencing)
- MobLab (Education Console)
- Pear Deck (Remote Learning Resource)

<u>Prior to Program Start:</u>

1. FTE staff will email instructions to access the EFT Virtual session in the Canvas course 1-2 weeks prior to the session start.
2. Complete the Getting Started module in Canvas, including introducing yourself on the Welcome Discussion Board. The Getting Started module is located under Courses, then Modules. This module will open 1 week before the class start.
3. Download and create an account on the Zoom platform (or be sure you have the latest version of Zoom downloaded to your computer).
4. Test sufficient Wi-Fi and familiarity with Canvas and Zoom.
5. Read chapters 1 & 4 of The Economics of Public Issues (20th edition) included in this packet. A digital copy of the entire book will also be emailed to you. See the attached Teacher Reading Assignments for more detailed information.

<u>Program Start/Sign-In:</u> Please be ready to join us on Sunday, June 18 at 3:00pm EDT via Zoom. Be sure to download Zoom on your laptop/computer and create a login/password prior to the start of the program.

<u>Course Materials:</u>

- Computer desktop/laptop/tablet with internet capabilities
- Additional mobile communication device such as a phone or tablet
- Paper and pen or other platform for note-taking
- Headphones with microphone

<u>Using Zoom:</u> Teachers will sign on to Zoom by 3:00pm EDT on Sunday, June 18 and 11:30am EDT Monday through Friday. The link to Zoom will be posted in the Canvas course and can only be accessible to participants through a personal login and password.

Participants must use their real name when registering with Zoom – this should match the name on their registration. Teachers will stay in the waiting room until the host starts the meeting. A participant's background may be changed in advance of the meeting, but please do not change backgrounds during EFT sessions. Please have the microphone muted unless directed by the staff. The Raise Your Hand feature in Zoom will enable participants to ask questions during the presentations and breakout sessions.

Please plan to participate in each day's sessions from a quiet room with minimal interruptions or distractions so focus is on the lectures and program.

In addition to Zoom, the following applications will be used for interactive lectures and activities: MobLab, Quizizz, Kahoot!, Pear Deck, and Google Docs. Links will be provided to these tools as needed by your instructors.

Program Overview: Economics for Teachers (EFT) represents a unique experience in economics education that brings together two groups: high school rising juniors and seniors selected for their leadership potential who want to study economics and high school economics teachers who wish to enhance their teaching skills in the subject. The program encompasses 5 days of instruction plus small group sessions and workshops. The combination of classroom instruction, question and answer sessions, small group discussion and workshops presents information in a rich and varied format, encouraging active participation. Economics professors selected nationwide for their expertise and teaching effectiveness lead classes using case studies to illustrate economic principles and concepts. Even virtually, teachers will be able to witness first-hand how students respond to these economic concepts.

Program Staff:

Devon Gorry, Assistant Professor of Economics, Clemson University

Robert Whaples, Professor of Economics, Wake Forest University

Nathaniel Smith, Ph.D. Candidate in Economics, George Mason University

Sara Stancliffe, English Teacher, Mehville School District

Maddie Ford, Program Coordinator, Taylor, TX

Nick Martin-Bourne, Program Coordinator, Los Angeles, CA

Teacher Goals:

1. Improve classroom effectiveness in the teaching of economics.
2. Exploration of an economic way of thinking, with numerous classroom applications.
3. Introduction to effective instructional materials and methods for use in the secondary school classroom.
4. Foster an environment for teacher to share ideas with their peers.

Pre-program Assignment: To prepare for the EFT Session, please read chapters 1 and 4 of The Economics of Public Issues (20th edition) before the program start. The first two chapters are included in this packet and FTE is also providing participants with an electronic copy of the entire book. Watch for a separate email from Mollie Verdoorn (mverdoorn@fte.org) with instructions and a unique code to redeem your e-book.

UCCS Credit: Registration for graduate credit is optional and is completed directly through UCCS online. Please be on the lookout for an email with UCCS course information once their summer course calendar opens in late May/early June.

Schedule: The virtual teacher schedule is included on the following page. While the timing of individual sessions might be altered, the start and finish times of the program will not change.

Program Expectations: All EFT virtual teacher participants are asked to follow the rules listed below as they participate in the program:

1. Attendance and participation:
   a. FTE expects each participant to virtually attend every academic class meeting, complete all out-of-class assignments, and participate actively in class discussions.
   b. The discussion/break out area is reserved for postings and conversations related to course work only. Postings of a personal or non-academic nature are not permitted and may be removed by the instructor should they appear. Grades and personal issues should be handled by private email or chat to the instructors.
   c. Participants agree not to record the sessions.
   d. Participants will not falsify information about themselves or impersonate others online.
   e. Participants need to be conscious of sound for everyone's benefit; they should join the course in a quiet place, turn on their video, and mute the microphone unless invited to unmute.

Questions: Prior to the start of the program, contact the FTE directly at information@fte.org or 530.757.4630 with any questions. Please note that FTE staff are not available on weekends, so if you reach out on Friday after 5:00pm you may not receive an answer until Monday morning. If you are unexpectedly unable to join us on the start date of the program, or are having trouble joining the group on Zoom, please reach out immediately.

ECONOMICS FOR TEACHERS - Virtual
June 18-23, 2023
(All times EDT)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
To be completed in Canvas before opening session: Getting Started Module (Approx time: 1 hour)	**11:30am - 12:00pm** Sign-On Introductions **12:00 - 12:45pm** Poverty, Economic Growth, and Scarcity	**11:45am - 12:00pm** Sign-On Raffle Drawing **12:00 - 12:45pm** Economic Activity 2: *Orange Market*	**11:45am - 12:00pm** Sign-On Raffle Drawing **11:50am - 12:30pm** Labor Markets	**11:45am - 12:00pm** Sign-On Raffle Drawing **12:00 - 12:20pm** Economic Activity 4: *Fish Activity* **12:20 - 1:10** Property Rights	**11:45am - 12:00pm** Sign-On Raffle Drawing **12:00 - 12:45pm** Money & Inflation
BREAK					
	12:55 - 1:40pm Economic Activity 1: *Ultimatum Game*	**12:50 - 1:40pm** Open Markets	**12:40 - 1:30pm** Economic Activity 3: *Cartels & Competition*	**1:20 - 2:10pm** Economic Activity 5: *Farmers & Fishers*	**12:55 - 1:35pm** Economic Activity: 6 *Global Orange Market*
LUNCH BREAK (Teachers' Lounge - breakout room open during lunch)					
	2:20 - 3:05pm Opprotunity Cost	**2:20 - 3:25pm** Markets in Action (Team Competition)	**2:10 - 2:50pm** Incentives, Innovation and the Role of Institutions	**2:50 - 3:40pm** Government	**2:15 - 3:05pm** International Markets
BREAK					
3:00 - 5:00pm **Opening Session** Welcome & Intros Program Overview & Expectations Schedule/Mtng Links Reading & Discussion Assignments Mic/Cam/App Checks	**3:15 - 3:45pm** Q&A with Profs & MT **3:45 - 4:30pm** PPF: Modeling Scarcity, Opp Cost & Econ Growth **4:45 - 5:30pm** Activity: *Magic of Markets*	**3:35 - 4:05pm** Q&A with Profs & MT **4:05 - 4:45pm** Supply, Demand, MC & MB **4:55 - 5:30pm** Orange Market & Price Controls	**3:00 - 3:30pm** Q&A with Profs & MT **3:30 - 4:15pm** Productivity & Economic Growth **4:30 - 5:30pm** Activity: *Job Jungle* *Cartels & Competition*	**3:50 - 4:20 pm** Q&A with Profs & MT **4:20 - 4:50pm** Activity: To The Penny **4:50 - 5:30pm** Debt, Deficit & The Federal Budget	**3:15 - 3:45pm** Q&A with Profs & MT **3:45 - 4:35pm** Monetary Policy and/ or Intl. Econ Assns. **4:45 - 5:30pm** Activity: *Foreign Currency & Exchange* Wrap-up & Evals
Adjourn 5:30pm					
On your own time: Evening Reading & Discussion Assignments (Required for Graduate Credit)					

REQUIRED MATERIALS
Laptop/Computer with Microphone & WebCam
Additional Mobile Device (Phone/Tablet)

COURSE PLATFORMS
Zoom (Web Conferencing)
Canvas (Learning Management System)

APPLICATIONS FOR INTERACTIVE LECTURES/ACTIVITIES
Moblab, Pear Deck, Google Docs, etc.

UCCS LAS Extended Studies

UNIVERSITY OF COLORADO **COLORADO SPRINGS**

LAS Extended Studies	
Office:	719-255-4071
Toll free:	800-990-8227 x4071
E-mail:	lases@uccs.edu
https://lases.uccs.edu/programs-a-l/fte	

Foundation for Teaching Economics (FTE)
Graduate Credit Registration Instructions: Summer 2023

Economics For Teachers (EFT) *Credit Sections for Teachers Only*	Course number: ECON 6330-701	3 credit hrs	Tuition: $360	5-Digit Class#: 21178
Credit Registration Deadline: July 31, 2023				

IMPORTANT NOTES:

- ✓ Please use this packet to enroll for credit if you are attending any of the following EFT courses:
  - **VIRTUAL:** EFT-Virtual (June 18-23); EFT-Virtual (July 2-7).
  - **IN-PERSON:** UC Berkeley-Berkeley, CA (June 19-24); Boston College-Boston, MA (July 10-15); University of Washington-Seattle, WA (July 17-22); Vanderbilt University-Nashville, TN (July 24-29).
- ✓ If you wish to enroll after the published registration deadline, you must contact LAS Extended Studies at lases@uccs.edu to request an Extended Studies late add form. You will be charged a $25 late registration fee by the University to register late – no exceptions. The best way to avoid this is to register early! Last day to register late for the Summer 2023 semester is August 4, 2023, which is the last day the UCCS Summer 2023 application will be available.
- ✓ Approximately six weeks after the conclusion of the course, you may request your official UCCS transcript: please see https://registrar.uccs.edu/transcripts

STOP

Have you enrolled in a graduate-level course at UCCS in the past 3 semesters?

- ➢ If yes, you already have an active myUCCS Student Portal Account and can skip to STEP 3.
- ➢ **If you have not been active for the past 3 semesters, you must re-apply to UCCS per the instructions below and your account will re-activate.**
- ➢ Forgot your myUCCS Student Portal username/password? Proceed to: https://accounts.uccs.edu or call 719-255-4357

STEP 1 ---Apply: Academic Outreach/Extended Studies

Access the "UCCS Academic Outreach Application":

- Go to https://outreach.uccs.edu/apply

Completing the Application:

- Provide your personal information; select **"Save & Next"**
- From the drop down menus:
  - Select an Admit Term: <u>**SUMMER 2023**</u>
  - Select Desired Program: **Graduate Non-Degree**
- Provide answers to the education and eligibility questions; select **"Save & Next"**
- Verify that the information you provided is correct, select **"Submit"**

(go to next page)

STEP 2 ---Claim Your Account

Within 24 hours of submitting your application, you will receive an automated e-mail when your myUCCS student portal account is ready. You can then proceed to https://accounts.uccs.edu to claim your account to access your student portal --- where you can register, pay your bill, request transcripts, and the like.

- Keep this username and password for future access into your myUCCS Student Portal
- Please note: our automated e-mails may go to "junk mail," depending upon your e-mail filter set-up.

STEP 3 ---Register and Pay

Log In to your myUCCS student portal: www.uccs.edu/portal

Registration:

- Select **"Register for Classes"** from the Quick Links box; or, select **"Records and Registration"** from the menu at the top right, then select **"Register for Classes"**
  - ✓ Pre-registration verifications: address *('Home' address marked as 'Local')*, phone numbers, emergency contact
  - ✓ Tuition and Fee Agreement and Disclosure
- **Enter the 5-Digit Class Number "21178"** under "Search by Class Number". Click **"Submit Class Number"**
- Confirm the details of the course and click **"Next"**
- **Check the box** of the course you would like to enroll, under the **"Select"** column in the shopping cart
- Click **"add selected classes"**
- Confirm the course and click **"Finish Enrolling"**

Payment:

- Select **"View/Pay My Bill"** from the Quick Links box; or, select **"Student Financials (Bursars)"** from the menu at the top right, then select **"View/Pay My Bill"**
- Enter the **payment amount** and **payment method** and click on **"Continue"**
- Provide **payment information** for the selected method and click **"Continue"**
- Confirm the payment information and click **"Confirm"** *---Print a copy for your records, if needed*

Economics for Teachers – Reading Assignments

The Economics of Public Issues

20^{th} ed., by Roger L. Miller, Daniel K. Benjamin, and Douglas C. North.
(Boston: Pearson Education, Inc., 2018)

Please read the assigned chapter(s) before the afternoon session in preparation for small and large group discussions and text analysis.

Pre-program Reading Assignment – For Sunday Evening & Monday Afternoon Sessions

- Chapter 1: Death by Bureaucrat
- Chapter 4: The Mystery of Wealth

Monday Night – for Tuesday afternoon session

- Chapter 3: Flying the Friendly Skies?
- Chapter 9: Are We Running Out of Water?
- Chapter 28: The Death of Recycling

Tuesday Night – for Wednesday afternoon session

- Chapter 8: Kidneys for Sale
- Chapter 16: Contracts, Combinations and Conspiracies
- Chapter 18: Keeping the Competition Out

Wednesday Night – for Thursday afternoon session

- Chapter 11: Das Kapital in the Twenty-First Century
- Chapter 13: The Effects of the Minimum Wage
- Chapter 23: The Graying of America

Thursday Night – for Friday afternoon session

- Chapter 5: The Economics of Exclusion
- Chapter 22: Student Loans
- Chapter 26: Save That Species

Friday Night – for Saturday

- Chapter 30: Globalization and the Wealth of America
- Chapter 31: The $750,000 Steelworker

Chapter 1

Death by Bureaucrat

How would you rather die? From a lethal reaction to a drug prescribed by your doctor? Or because your doctor failed to prescribe a drug that could have saved your life? If this choice sounds like one you would rather not make, consider this: Employees of the U.S. Food and Drug Administration (FDA) make that decision on behalf of millions of Americans many times each year. More precisely, FDA bureaucrats decide whether or not new medicines (prescription drugs) should be allowed to go on sale in the United States. If the FDA rules against a drug, physicians in America may not legally prescribe it, even if the drug is saving thousands of lives each year in other countries.

A Brief History of the FDA

The FDA's authority to make such decisions dates back to the passage of the Food and Drug Safety Act of 1906. This law required that medicines be correctly labeled as to their contents and that they not contain any substances harmful to consumers' health. Due to this legislation, Dr. Hostatter's Stomach Bitters and Kickapoo Indian Sagwa—along with numerous rum-laden concoctions, cocaine-based potions, and supposed anticancer remedies—disappeared from druggists' shelves. In 1938, the law was expanded with the passage of the Food, Drug, and Cosmetic Act, which forced manufacturers to demonstrate the safety of new drugs before being allowed to offer them for sale. (This law was prompted by the deaths of 107 people who had taken Elixir Sulfanilamide, an antibiotic that had been errantly mixed with poisonous diethylene glycol, a chemical cousin of antifreeze.)

The next step in U.S. drug regulation came after a spate of severe birth defects among infants whose mothers during pregnancy had taken a sleep aid known as thalidomide. By the time these birth defects first became apparent, the drug was already widely used in Europe and Canada, and the FDA was nearing approval for its use in the United States. In fact, about 2.5 million thalidomide tablets were already in the hands of U.S. physicians as samples, though none had been distributed. The FDA ordered the samples destroyed and prohibited the drug's sale in the United States. This incident led to the 1962 Kefauver–Harris Amendments to the 1938 Act, radically altering the drug-approval process in the United States.

The Impact of the 1962 Amendments

Before the 1962 amendments, the FDA was expected to approve a new drug application within 180 days, unless the application failed to show that the drug was safe. The 1962 amendments added a "proof of efficacy" requirement and also removed the time constraint on the FDA. The FDA was given free rein to determine how much and what type of evidence it would demand before approving a drug for sale, and thus could take as long as it wanted before either granting or refusing approval.

The 1962 amendments drastically increased the costs of introducing a new drug and markedly slowed the approval process. Before 1962, for example, the average time between the filing and approval of a new drug application was seven months. By 1967, it was thirty months, and by the late 1970s, it had risen to eight to ten years. The protracted approval process involved costly testing by the drug companies—now more than \$2.5 billion for each new drug—and delayed the receipt of any potential revenue from new drugs. Because the delays and the higher costs reduced the expected profitability of new drugs, fewer of them were brought onto the market.

Debate continues over how much FDA regulation is needed to ensure that drugs are both safe and efficacious, but there is little doubt that the 1962 amendments resulted in a U.S. "drug lag." In short order, drugs took far longer to reach the market in the United States than they did in Europe, a lag that grew and then persisted for more than three decades. Admittedly, it takes time to ensure that patients benefit from, rather than are harmed by, new drugs, but regulation-induced drug lag can itself be life threatening. Dr. George Hitchings, a winner of the Nobel Prize in Medicine, estimated that the five-year lag in introducing Septra (an antibiotic) to the United States killed 80,000 people. Similarly, the introduction of a class of drugs called beta blockers—a drug used to treat

heart attack victims and people with high blood pressure—was delayed nearly a decade in America relative to its approval in Europe. According to several researchers, the lag in the FDA approval of these beta-blocker drugs cost the lives of at least 250,000 Americans.

Terrible Trade-Off

In effect, the law requires FDA bureaucrats to make what is truly a terrible trade-off. One the one hand, lives can be saved because unsafe or ineffective drugs are kept off the market. On the other hand, the regulatory process delays (or even prevents) the introduction of some safe and efficacious drugs, thereby forfeiting lives. Let us now take a more systematic look at this trade-off.

Every time a new drug is introduced, there is a chance that it should not have been—either because it has adverse side effects that outweigh the therapeutic benefits (it is not safe) or because it really does little to help the individuals who take it (it is not effective). When such a drug is introduced, we say that a **Type I error** has been committed. Since 1962, the incidence of Type I error—the thalidomide possibility—has been reduced by the added testing required by the FDA. Other people, however, have been the victims of what is called a **Type II error.** Their cost is the pain, suffering, and death that occur because the 1962 amendments have prevented or delayed the introduction of safe, efficacious drugs. A Type II error—as with Septra or beta blockers—occurs when a drug *should* be introduced but is held back by FDA regulation.

Eventually, outcries over the harm caused by the drug lag brought about important policy changes. For example, the FDA moved to accelerate approvals when the costs of Type I errors are small relative to the damages due to Type II errors—as with terminally ill patients. One famous example involved azidothymidine (AZT), which emerged as a possible treatment for AIDS. Gay men, among whom AIDS was most prevalent at the time, took the lead in pressuring the FDA to approve the drug quickly. As a result, the agency approved AZT after only eighteen months of testing. Similarly, Taxol, an important drug used to treat breast cancer, received an expedited review by the FDA because of pressure applied by women who had a family history of breast cancer.

The User Fee Revolution

The most important change to U.S. drug regulation came in 1992, with the passage of the Prescription Drug User Fee Acts. These laws mandated FDA performance goals in reviewing and acting on drug applications within set time periods, in return for charging fees on drug manufacturers' submissions. The FDA has used these fees to expand its drug review staff and facilities, and the fees now comprise more than half of the agency's drug review budget.

The results have been stunning. Approval times for new drugs have been cut to ten months and the drug lag has been reversed. In the 1980s, less than 10 percent of new drugs were introduced first in the United States before anywhere else in the world. Today, more than two-thirds of new drugs are approved in the United States first. Indeed, for the last decade, the FDA has approved drugs more quickly than any other regulator in the world.

The acceleration in the drug review process has stimulated a major increase in pharmaceutical research and development, along with a consequent increase in pharmaceutical innovation. There has been an outpouring of new drugs, most notably for the treatment of cancer and the prevention and treatment of heart disease, but also extending across the board to many other diseases. Despite having to pay for FDA review, pharmaceutical firms have earned higher profits. Most importantly, the lives of many thousands of people have been saved or extended. In addition, because drug approval elsewhere is likely to come sooner once the FDA has approved a drug, people in other nations have benefitted, too.

LESSONS FROM THE FDA STORY

What can we learn from the FDA regulation of new drugs that will guide us in thinking about other public issues of our time? There are several key principles:

1. *There is no free lunch.* Every choice, and thus every policy, entails a **cost**—something must be given up. In a world of **scarcity,** we cannot have more of everything; so to get more of some things, we must give up other things. Although the FDA review of drugs saves lives by preventing the introduction of unsafe or ineffective drugs, the cost is delayed availability of safe and efficacious drugs, resulting in the deaths of other people.

2. *The cost of an action is the alternative that is sacrificed.* Economists often express costs (and benefits) in dollars because this is a simple means of accounting for and measuring them. But costs need not be monetary, and economics is capable of analyzing costs and benefits that are quite human. The costs that led to the 1938 and 1962 amendments were the very visible deaths caused by sulfanilamide and the terrible birth defects due to thalidomide. Subsequent revisions to the FDA process for reviewing drugs, as with the user fee acts, have been in response to the deaths and other adverse health effects caused by the regulation-induced drug lag.

3. *The relevant costs and benefits are the marginal (incremental) ones.* The relevant question is not whether safety is good or bad; rather, it is *how much* safety we want—which can only be answered by looking at the added (marginal) benefits of more safety compared to the added (marginal) costs, a topic fully explored in Chapter 3. One possible response to the sulfanilamide poisonings or thalidomide birth defects was to have outlawed new drugs altogether. Such a response would have guaranteed that no harm would ever occur to anyone because of a new drug. But surely this "solution" would not be sensible, because the marginal cost (more Type II errors) would exceed the marginal benefit (fewer Type I errors).

4. *People respond to incentives.* This is true for consumers, suppliers, and even government bureaucrats. Here, the incentive to amend the law in 1938 and 1962 was the very visible death and disfigurement of individuals. The passage of the 1992 user fee acts resulted from intense lobbying by individuals and firms who believed (correctly, as it turned out) that many thousands of people could benefit from a speedier drug review process.

5. *Things are not always as they seem.* Many analyses of the effects of government policies fail to account for the actions that people would otherwise have taken. Pharmaceutical manufacturers, for example, have strong incentives to avoid introducing drugs that are unsafe or ineffective because the companies are subject to loss of reputation and to lawsuits. For similar reasons, physicians have strong incentives to avoid prescribing such drugs for their patients. Even without FDA regulation, there would thus be extensive testing of new drugs before their introduction. Hence, it is incorrect to ascribe the generally safe and effective nature of modern drugs entirely to FDA protection. The flip side, however, is that the drug development process is inherently long, complicated, and costly. Even without FDA oversight, some people would die waiting for new drugs because self-interested manufacturers would insist on some testing and cautious physicians would proceed slowly in prescribing new drugs.

   FDA employees are publicly castigated when they "allow" a Type I error to occur—especially when it is a drug that kills people. Thus, FDA bureaucrats have a strong incentive to avoid such errors.

But when testing delays cause a Type II error, as with Septra, it is almost impossible to point to specific people who died because the drug was delayed. Hence, officials at the FDA are rarely attacked directly for such delays. Because the costs of Type II errors are much more difficult to discern than the costs of Type I errors, there is an inherent bias at the FDA in favor of being "safe rather than sorry"—in other words, excessive testing.

6. *Policies always have unintended consequences, so their net benefits are almost always less than anticipated.* In the case of government regulations, balancing incremental costs and benefits (see Principle 3) fails to make good headlines. Instead, what gets politicians reelected and regulators promoted are *absolute* notions such as safety (and motherhood and apple pie). Thus, if a little safety is good, more must be better, so why not simply mandate that drug testing "guarantee" that everyone is free of risk from dangerous drugs? Eventually, the reality of Principle 3 sinks in, but in this instance, not before the drug lag has killed many people.

As is often true with important public issues, our story has one more interesting twist. Thalidomide is back on the market. In 1998, the FDA approved its use in treating Hansen's disease (leprosy), and in 2006, the FDA gave physicians the OK to use it in treating bone marrow cancer. In each instance, there are strong protections to prevent pregnant women from taking the drug. So ironically, perhaps the very drug that brought us the deadly drug lag will turn out to be a lifesaver for a new generation of patients.

Discussion Questions

1. Why don't individuals simply force the FDA to do what is best for consumers of prescription drugs?
2. Why don't FDA employees accurately balance the marginal benefits to drug consumers against the marginal costs to those consumers?
3. Does the structure of the drug industry have any bearing on the types of errors that drug firms are likely to make? That is, would a drug industry made up of numerous highly competitive firms be more or less likely to introduce unsafe drugs than an industry consisting of a few large firms?
4. How could the incentives provided to the FDA be changed to reduce the incidence of Type II errors? (*Hint:* Is it possible to compare the FDA approval process with the drug-approval process in other nations?)
5. What would be the advantages and disadvantages of a regulatory system in which, rather than having the FDA permit or prohibit new drugs, the FDA merely published its opinions about the safety and efficacy of drugs and then allowed physicians to make their own decisions about whether or not to prescribe the drugs for their patients?
6. Suppose for simplicity that both Type I and Type II errors resulted in deaths only. Keeping in mind that too little caution produces Type I errors and too much caution produces Type II errors, what would be the best mix of Type I and Type II errors?

DISCUSSION QUESTIONS

1. Is it possible to be too safe? Explain what you mean by "too safe."
2. Suppose it is possible to observe (or measure) four attributes of airlines: (i) the size of their planes (measured in passenger-carrying capacity), (ii) the experience levels of their pilots, (iii) the age of their planes, and (iv) the length of the typical route they fly. Which airlines would be likely to have the fewest fatal accidents? Which would be expected to have the most?
3. Is safety likely to be a "normal" good (i.e., something people want to consume more of as they get richer)? Use your answer to this question to predict likely safety records of airlines based in North America and Europe, compared to those based in South America and Africa. Then go to www.airsafe.com to see if your prediction is confirmed or refuted by the facts.
4. Many automobile manufacturers routinely advertise the safety of their cars, yet airlines generally do not mention safety in their advertising. Can you suggest an explanation for this difference?
5. Many economists would argue that private companies are likely to be more efficient than the government at operating airlines. Yet many economists would also argue that there is a valid reason for the government to regulate the safety of those same airlines. Can you explain why the government might be good at ensuring safety, even though it might not be good at operating the airlines?
6. Professional football teams sometimes charter airplanes to take them to their away games. Would you feel safer on a United Airlines plane that had been chartered by the Washington Redskins than on a regularly scheduled United Airlines flight?

CHAPTER 4

The Mystery of Wealth

Why are the citizens of some nations rich while the inhabitants of others are poor? Your initial answer might be, "because of differences in the **natural resource endowments** of the nations." It is true that ample endowments of energy, timber, and fertile land all help raise wealth. But natural resources can be only a very small part of the answer, as witnessed by many counterexamples. Switzerland and Luxembourg, for example, are nearly devoid of key natural resources, yet the real incomes of citizens of those countries are among the world's highest. Similarly, Hong Kong, which consists of a few square miles of rock and hillside, is one of the economic miracles of modern times, while in Russia, a land amply endowed with vast quantities of virtually every important resource, most people remain mired in economic misery.

A number of studies have begun to unravel the mystery of **economic growth.** Repeatedly, they have found that it is the fundamental political and legal **institutions** of society that are conducive to growth. Of these, political stability, secure private property rights, and legal systems based on the **rule of law** are among the most important. Such institutions encourage people to make long-term investments in improving land and in all forms of **physical capital** and **human capital.** These investments raise the **capital stock,** which in turn provides for more growth long into the future. Also, the cumulative effects of this growth over time eventually yield much higher standards of living.

THE IMPORTANCE OF LEGAL SYSTEMS

Consider first the contrasting effects of different legal systems on economic growth. Many legal systems around the world today are based on

Table 4–1 Differing Legal Systems

Common Law Nations	*Civil Law Nations*
Australia	Brazil
Canada	Egypt
India	France
Israel	Greece
New Zealand	Italy
United Kingdom	Mexico
United States	Sweden

one of two models: the English **common law system** and the French **civil law system.** Common law systems reflect a conscious decision in favor of a limited role for government and emphasize the importance of the judiciary in constraining the power of the executive and legislative branches of government. In contrast, civil law systems favor the creation of a strong centralized government in which the legislature and the executive branches have the power to grant preferential treatment to special interests. Table 4–1 shows a sampling of common law and civil law countries.

Research reveals that the security of **property rights** is much stronger in common law systems, such as those observed in Britain and its former colonies, including the United States. In nations such as France and its former colonies, the civil law systems are much more likely to yield unpredictable changes in the rules of the game—the structure of **property and contract rights.** This unpredictability makes people reluctant to make long-term fixed investments, which ultimately slows the economic growth of these nations and lowers the standard of living for their citizens.

The reasoning is simple. If you know that the police will not help you protect your rights to a home or a car, you are less likely to acquire those assets. Similarly, if you cannot easily enforce business or employment contracts that you make, you are less likely to make those contracts—and hence less likely to produce as many goods or services. If you cannot plan for the future because you don't know what the rules of the game will be in ten years or perhaps even one year from now, you are less likely to make the productive long-term investments that take years to pay off. And if you cannot be assured of the rewards from developing successful new goods and services, innovation will be stifled (see Chapter 2). Common law systems seem to do a better job at enforcing contracts and securing property rights and so would be expected to promote economic activity now and economic growth over time.

The Economic Impact of Institutions

Research into the economic performance of nations around the world from 1960 to the 1990s found that economic growth was one-third higher in the common law nations, with their strong property rights, than in civil law nations. Over the more than three decades covered, the standard of living—measured by real **per capita income**—increased more than 20 percent in common law nations compared to civil law nations. If such a pattern persisted over the span of a century, it would produce a staggering 80 percent real per capita income difference in favor of nations with secure property rights.

Other research has taken a much broader view, both across time and across institutions, in assessing economic growth. Institutions, such as political stability, protection against violence or theft, security of contracts, and freedom from regulatory burdens, all contribute to sustained economic growth. Indeed, it is key institutions such as these, rather than natural resource endowments, that explain long-term differences in economic growth and thus present-day differences in levels of real income. To illustrate the powerful effect of institutions, consider the contrast between Mexico, with per capita real income of about $18,000 today, and the United States, with per capita real income of about $56,000. Had Mexico developed with the same political and legal institutions that the United States has enjoyed, per capita income in Mexico would today be equal to that in the United States.

The Origins of Institutions

Given the great importance of such institutions in determining long-term growth, one might ask another important question: How have countries acquired the political and legal institutions they have today? The answer has to do with disease, of all things. An examination of more than seventy former European colonies reveals that a variety of strategies were pursued. In Australia, New Zealand, and North America, the colonists found geography and climates that were conducive to good health. Permanent settlement was attractive, so colonists created institutions to protect private property and curb the power of the state. When Europeans arrived in Africa and South America, however, they encountered tropical diseases, such as malaria and yellow fever, that produced high mortality rates. This discouraged permanent settlement and encouraged a mentality focused on extracting metals, cash crops, and other resources. As a result, there were few **incentives** to promote democratic institutions or stable long-term property rights systems.

The differing initial institutions helped shape economic growth over the years and, because of the broad persistence of those institutions, continue to shape the political and legal character and the standard of living in these nations today.

INSTITUTIONAL CHANGE TODAY

Recent events also illustrate that the effects of political and legal institutions can be drastically accelerated—in either direction. Consider China, which in 1979 began to change its institutions in two key ways. First, China began to experiment with private property rights for a few of its citizens, under narrow circumstances. Second, the Chinese government began to clear away obstacles to foreign investment, making China a more secure place for Western companies to do business. Although the institutional changes have been modest, their combined effects have been substantial. Over the years since, economic growth in China has accelerated, averaging almost 7 percent per year. If that doesn't sound like much, keep in mind that it has been enough over that period to raise real per capita income in China by a factor of 10.

For an example of the potential *destructive* impact of institutional change, we need to look no further than Zimbabwe. When that country won its independence from Britain in 1980, it was one of the most prosperous nations in Africa. Soon after taking power as Zimbabwe's first (and so far only) president, Robert Mugabe began disassembling that nation's rule of law, tearing apart the institutions that had helped it grow rich. He reduced the security of property rights in land and eventually confiscated those rights altogether. The Mugabe government also gradually took control of the prices of most goods and services in the nation, and confiscated large stocks of food and much of anything of value that might be exported out of or imported into Zimbabwe. In short, anything that is produced or saved became subject to confiscation, so the incentives to do either are—to put it mildly—reduced.

As a result, between 1980 and 1996, real per capita income in Zimbabwe fell by one-third, and since 1996, it has fallen by an additional third. Eighty percent of the workforce is unemployed, investment is nonexistent, and the annual inflation rate reached an astonishing 231 million percent. (In 2009, Zimbabwe gave up on having its own currency, and began using several foreign currencies as **legal tender,** including the American dollar.) The fruit of decades of labor and capital investment has been destroyed because the institutions that made that progress possible have been eliminated. It is a lesson we ignore at our peril.

DISCUSSION QUESTIONS

1. Go to a source, such as the CIA *World Factbook* or the World Bank, and collect per capita income and population data for each of the nations listed in Table 4–1. Compare the average per capita income of the common law countries with the average per capita income of the civil law countries. Based on the discussion in the chapter, identify at least two other factors that you think are important to take into account when assessing whether the differences you observe are likely to be the result of the systems of the countries.

2. Most international attempts to aid people living in low-income nations have come in one of two forms: (i) gifts of consumer goods (such as food) and (ii) assistance in constructing or obtaining capital goods (such as tractors, dams, or roads). Based on what you have learned in this chapter, how likely are such efforts to *permanently* raise the standard of living in such countries? Explain.

3. Both Louisiana and Quebec have systems of local law (state and provincial, respectively) that are heavily influenced by their common French heritage, which includes civil law. What do you predict is true about per capita income in Louisiana compared to the other U.S. states, and per capita income in Quebec compared to the other Canadian provinces? Is this prediction confirmed by the facts (which can be readily ascertained with a few quick Web searches)? Identify at least two other factors that you think are important to take into account when assessing whether the differences you observe are likely due to the influence of civil law institutions.

4. Consider two countries, A and B, that have identical *physical* endowments of a key natural resource. In country A, any profits made from extracting that resource are subject to confiscation by the government, while in country B, there is no such risk. How does the risk of expropriation affect the *economic* endowment of the two nations? In which nation are people richer?

5. In light of your answer to question 4, how do you explain that in some countries there is widespread political support for government policies that expropriate resources from some groups for the purpose of handing them out to other groups?

6. If the crucial factor determining a country's low standard of living is the adverse set of legal and cultural institutions it possesses, can you offer suggestions for how the other nations of the world might help in permanently raising that country's standard of living?