The Wealth of Nations: a Primer

Introduction
Imagine living on a dollar a day. According to the World Bank, more than one fifth of all the world's population does just that, and half live on less than $2. Per capita income in the highest-income countries is more than 60 times the per capita income of the lowest income countries.

But why are the United States and other developed nations so wealthy while many other nations are destitute? This is among the oldest and most central questions of economics. Adam Smith, who many consider the father of economics, titled his most famous book "An Inquiry into the Nature and Causes of the Wealth of Nations."

There are many perspectives on this issue and trying to come up with a quick answer is daunting. Nonetheless, it is one of the most important issues facing humanity. The question is central to determining the quality of life for current and future generations, and in some cases it can be a matter of life or death. It is for these reasons that the Federal Reserve Bank of Minneapolis has chosen to ask the following question for its 2004-2005 student essay contest:

"Why are some countries rich and some countries poor?"

In approaching this question, it will be helpful to use economic concepts. Essays will be judged in part by how well they adhere to the economic concepts listed in <u>Economic Principles to Keep in Mind</u>. These reflect some of the general points on which practically all economists agree.

While economists agree on these points, they approach the issue of the wealth of nations in different ways. For example, Robert Solow and others focus on technology as the key factor in economic growth and may consider most of the differences in national incomes to be accounted for by differences in productivity. Economists like Jeffrey Sachs and Paul Krugman, however, may focus more on geography and trade in accounting for these differences.

These differing perspectives are not in necessarily opposition, as academics tend to specialize in narrow fields so they can better understand the issues at hand. Economists studying this issue focus on different aspects. These different approaches can be complementary and should be understood together. The rest of this primer introduces four perspectives and the ways in which they can help explain why some nations are wealthier than others.

Technology and Productivity
One important factor contributing to the material wealth of a society is its productivity. Imagine two nations that were exactly identical in every respect—resources, population, culture, etc—except that one society had higher productivity. We would expect the more productive society to produce a greater output of goods. Productivity is not an aggregate

number (like output), but a rate (like output per capita). Higher productivity means more can be produced for a given amount of people, raising the wealth of a typical person. For most of human history, productivity has changed very little. While history has seen important advances like the compass and the printing press, it wasn't until the industrial revolution, beginning in the late 1700s, that productivity really began to grow.

The source of productivity is technology. Advances in technology, like automation or telecommunications, make it possible to produce more with less. However, some elements in society resist adopting new technologies. Examples span from management at large companies that want to prevent competition, to labor unions that fear losing members to automation, to nations that prevent the spread of modern farming practices because they fear a threat to traditional culture. In these cases, groups can use their power to impede change. Doing so may be good for those groups in the short-run, but it can harm the long-run well-being of the society. We expect societies that are less resistant to change to end up being more productive, and therefore wealthier.

Institutions and Culture

Technology is as much about the way tools are used as it is about the tools themselves. The way we use tools is a consequence of our institutions, which effect how we organize our activity. The earliest advances of the industrial revolution were specialization and the division of labor. These developments are not mechanical, but organizational. Institutions—businesses, governments and other organizations—are another important factor in explaining why some nations are richer than others.

Governments play many roles in ensuring economic growth, the most prominent of which is protecting property rights. Political stability is also important for a healthy economy; crime, poverty, income disparity and armed conflicts can be both a cause and result of poor economic growth. Governments can help mitigate these problems. Government can also play a role in the economy by correcting for market failures: dealing with unwanted side effects of economic activity like pollution, and providing important public services like roads and other infrastructure. Countries that support research and development, education and scientific research are likely to improve their supply of technology.

There are many opinions an how large and what kind of a role government should play in an economy. What is uncontroversial is that government has the ability to help society by addressing market failures and by providing essential services that facilitate economic activity, but governments that are corrupt or overly bureaucratic often end up impoverishing their citizens. Beyond government and business, there are other institutions that shape economies. These include labor unions, civic organizations and schools. At an even more abstract level are what economist Kenneth Arrow called the "invisible institutions" of morals, customs and social norms.

Geography and Natural Resources

Even a nation that is open to trade and technological change, one that has strong institutions and growth-friendly policies, might have a hard time reaching the standard of living of wealthier nations, because not all nations are created equal in terms of geography and natural resources.

Consider the world's wealthiest country, the United States. There are many historical and social factors leading to this success, but the U.S. also has two large coastlines, thousands of miles of navigable rivers, millions of acres of fertile soil and huge deposits of minerals and other natural resources. All of these factors increased the potential for the U.S. to become the economic powerhouse it is today.

As importantly, the U.S. and Europe have temperate climates. Tropical countries must deal with diseases that flourish in their climates, soil and ecosystems that are less ideal for agriculture, and other problems like extreme heat and long rainy seasons. However, this point is tempered by the success of a number of nations with warmer climates, particularly those in Southeast Asia. Since there are other factors to growth, a country's fate is not sealed by its geography. This is a reminder that differing perspectives should be considered together.

Freedoms and Capabilities

Although freedom is an abstract concept that can be difficult to measure, it is hardly worth disputing that historically freer nations have also developed into wealthier nations. The "freedom" to which economists often refer is free enterprise. Freedom also refers to the many political and civil liberties that are central in modern democracies, and these too have economic benefits. A free press, for example, helps spread information vital to economic decision making, and makes government activity transparent.

Freedom can also be defined in terms of capabilities. A person may have freedom to pursue the creative end in which they are most interested or to which they are best suited. In this sense, public policy can enhance freedom through education, literacy campaigns, public health and poverty reduction programs. By promoting the capabilities of individuals, society as a whole can benefit from what that individual then produces.

Conclusion

This introduction has discussed a number of factors that influence economic growth. Now it is your turn to use resources available on the Internet, in libraries and your school and community to research and write this year's essay. Remember to consider the various elements that influence growth, and how they work together, or don't work at all, to determine whether a nation will be prosperous or impoverished. Don't forget, your essay will be judged partly by how well you apply economic concepts described in Economic Principles to Keep in Mind. You can join the ranks of economists around the world and throughout history who have spent centuries trying to answer the question: Why are some countries rich and some countries poor?

Awards, Rules and Forms

Eligibility Requirements

All 11th- and 12th-grade students residing in the Ninth Federal Reserve District are eligible for the essay contest. The Ninth District includes Minnesota, Montana, North Dakota, South Dakota, northwestern Wisconsin and the Upper Peninsula of Michigan.

Each entrant must be under the supervision and direction of a teacher.

The supervising teachers or students must submit all essays and student entry forms on or before the contest due date, March 18, 2004.

Students who have family members employed by the Federal Reserve Bank of Minneapolis or serving as contest judges are not eligible to participate.

Awards

Awards are offered in two divisions: Standard and Advanced Economics.

Fifteen students in each division will receive a $100 U.S. savings bond. In addition, from each division a first- and second-place winner will be selected. The two second-place winners will each receive an additional $200 savings bond and the two first-place winners will each receive an additional $400 savings bond. One first-place winner will be selected as the overall winner of a paid summer internship at the Minneapolis Fed. The essay will also be published in *The Region* magazine.

Students are placed in the Advanced Economics Division if they have taken or are currently enrolled in an Advanced Placement, College-in-the-Schools, International Baccalaureate or university/college-sponsored economics class. All other students are placed in the Standard Economics Division. *Enrollment in an economics class is* ***not*** *required to participate in the contest.*

Contest winners and their teachers will be invited to a culminating workshop, luncheon and awards program at the Minneapolis Fed. A parent or guardian is welcome to attend the awards program. Although winners are encouraged to participate, attendance is not mandatory to receive awards.

Scholarships covering travel – based on automobile mileage and one night's lodging – will be provided for winners and teachers attending from outside the Minneapolis-St. Paul metropolitan area.

Classroom Visits by a Minneapolis Fed Economist

From a pool of teachers who assign the essay contest as a class requirement and submit essays for the contest, eight schools will be selected for a classroom visit by an economist. If travel precludes a visit, a conference call will be scheduled. Check the box on the online registration form.

Contest Regulations

All essays must comply with the following contest rules before submission:

- No literary form other than an essay will be accepted.
- Each essay must reflect the contestant's own research, writing and original thinking.
- Only one (1) essay may be submitted by each contestant.
- Each teacher may submit no more than 15 essays per classroom. (Submissions from more than one classroom will be accepted.)
- Each contestant must complete and attach a student entry form.
- Teachers must verify and sign the verification of authenticity on the student entry form.
- Essays must be typed.
- **The essay text is limited to three (3) double-spaced, single-sided, numbered pages with one-inch margins.** The title page and bibliography are not included in the three pages.
- Each essay must include a title page, not considered text, with the following information:

    essay title
    author's name
    school name
    school address
    school telephone number
    total number of pages of essay
    name of supervising teacher

- The title of the essay, but NOT the author's name, MUST appear on the top of the first page of essay text.
- References should be included and clearly identified.
- Send two (2) copies of the essay to:

    Essay Contest
    Public Affairs
    Federal Reserve Bank of Minneapolis
    Public Affairs Department
    P.O. Box 291
    Minneapolis, MN 55480-0291

- If you wish to send your essay via e-mail, contact Rob Grunewald at Rob.Grunewald@mpls.frb.org to make arrangements.

- Entries must be postmarked on or before March 18, 2004.
- Essays will not be returned to the author; they become property of the Federal Reserve Bank of Minneapolis. The Bank may reprint the essays in educational publications and use them at economic education workshops. Appropriate citations will be given to the writers.

Judging

College economics faculty and Federal Reserve staff will judge the essays using five criteria. A sample scoring sheet follows.

Essay Scoring Sheets

Rate each of the five categories 1 through 20, with 20 as the highest score. Add the five categories to reach the essay's final score.

Essay Number _______

I. Comprehension. (1-20 pts.) _____

- How well does the essay reflect a thorough comprehension of the issues involved with the essay topic?

II. Organization. (1-20 pts.) _____

- Does the argument follow a logical and easily understood progression?
- Does corroborating evidence support the essay's main points?

III. Conclusions. (1-20 pts.) _____

- Do the conclusions follow logically from the argument?
- How compelling are the conclusions?

IV. Creativity. (1-20 pts.) _____

- Use of diverse resources.
- Creative angle on the issue.

V. Writing. (1-20 pts.) _____

- Correct grammar, spelling, punctuation.
- Concise language.

Final Score _____

Economic Principles to Keep in Mind

The following six concepts are key to evaluate trade-offs and reason economically. Students participating in the essay contest are encouraged to review these concepts and incorporate at least one into their essays.

1. Opportunity Cost: There is No Such Thing as a Free Lunch

People and societies face trade-offs. To obtain something they want, people have to give up something in return, and what they give up is known as the opportunity cost. Individuals face numerous trade-offs, from such mundane choices as whether to attend a ballgame or a movie, to more important choices, such as how much income to spend vs. how much to save. An important trade-off a high school senior faces is whether to go on to college. The opportunity cost of pursuing a college degree is not only the expenses for books and tuition but also the income the student would forego while attending college.

Societies or nations also face important choices. Markets on their own may have undesired outcomes or result in misallocated resources. For example, governments must decide how to redistribute income to alleviate poverty, as well as determine the level and mix of public goods, such as national defense, education, public safety and other programs. Thus, nations must decide the method in which scarce resources are allocated and each method has costs and benefits. The costs and benefits often relate to efficiency (is the nation producing the most given its limited resources) and distributive (is the allocation of resources to individuals “fair”).

2. Marginal Analysis: Thinking Incrementally

Recognizing trade-offs does not in itself tell us what choice to make. Assuming (as economists do) that people behave in their own best interests, then incremental thinking—that is, marginal analysis—leads to the right decision. For example, you and two friends pay $10 to attend a movie on Friday evening that the critics gave five stars. Forty-five minutes into the movie you all agree that the film doesn't even rate one star. One friend wants to leave and go to your house and play pool, but other friends argue that you should see the rest of the film because you have paid for it. They turn to you to resolve their dispute, and it's an easy decision—you favor going to play pool.

On the way to your house, you explain to your friends how marginal analysis led to your decision. In this situation, it was how to spend the rest of Friday evening after you had already started watching the movie. Once you started watching the movie, the cost of a ticket was what economists call a sunk cost; that is, it's an outlay that once made cannot be recovered. The trade-off you faced was spending another hour and one-half watching a boring movie or playing pool.

In addition to keeping sunk costs from distorting your decision, you explain that marginal analysis means that decisions are reached by weighing additional costs against additional benefits. In this case, the benefit of playing pool is greater than the benefit of watching the rest of the movie. So, despite the fact that you had spent money and time watching the movie, your best choice was to play pool. If you had let sunk costs (that is, the money and time spent watching the movie) dictate your decision, you would have spent the hour and one-half in a less gratifying activity.

While marginal analysis can be used to salvage an evening on the town, it also guides businesses to maximize profits. A business will continue to expand sales and output to the point that the incremental cost of providing the particular good or service equals the price of that good or service.

Marginal analysis can also be used by societies and nations. The decisions policy makers choose regarding national affairs should also factor in the concepts of sunk costs. So leaders must decide how policies will effect the country at the margin and also think about the opportunity costs. For example, if program A will cost the nation $100 million in taxes but provide the nation with $110 million in societal benefits, the marginal benefit is a positive $10 million. However, if program B costs the same but provides more benefits, the marginal benefit may be greater with program B. Another wrinkle to this analysis is that the cost may be greater than the tax dollars collected, because the taxpayers may have invested those tax dollars in endeavors that would yield an even larger benefit.

3. Markets: Coordinating Consumption and Production

Market-determined prices—that is, prices determined by producers and consumers acting in their own best interest—are the signals that help define the trade-offs we face and that ultimately lead society as a whole to allocate resources efficiently. Understanding how changes in supply and demand affect prices is an important component of economic literacy. When a prospective college student, for example, contemplates majors, she might speculate about where demand for workers is increasing fastest, because wages and job opportunities will probably be greatest in those occupations.

When prices change then trade-offs change, and people's decisions change. Our college student might discover, for example, that the demand for software engineers has increased and, subsequently, that wages for those jobs have also risen. Also, many public policy decisions, such as changes in the tax code, involve changing incentives with the hope of changing behavior.

Many times people are unhappy with the prices that markets produce, but an economically literate person realizes that prices are important signals that reflect underlying changes in supply and demand. Consumers and producers respond to these signals in ways that make society better off. For example, as gasoline prices rose dramatically in the 1970s due to supply disruptions in the Middle East, consumers reacted by driving fewer miles, and U.S. oil producers had an incentive to increase production.

Subsequently, oil prices declined over time. When governments interfere with these market adjustments, society is usually worse off. Recall that as gasoline prices first rose in the 1970s, the U.S. government attempted to control prices. So instead of energy conservation and increased production, we got shortages, long lines at gas stations and a more serious disruption in economic activity than otherwise.

Nations not only decide through the rule of law how much free market activity is allowed, they also decide how much to use the market in the provision of government services. Should the government hire and manage government services directly, or should the government decide what services are needed and then use market forces to provide these services.

4. Prices

For prices to play this coordinating role, people must be able to distinguish relative price changes from changes in the overall price level. To examine how a particular price change alters the trade-offs, it must be abstracted from an overall change in prices. Suppose cost of a college education has risen from $5,000 to $10,000 during the last five years. The nominal increase would be 100 percent. But if overall prices had risen 50 percent, the purchasing power of the dollar would have dropped. Thus, inflation accounts for half of the $5,000 increase, and the other half would represent a real increase in the cost of a college education.

Price stability—that is, an economy without inflation or deflation—gives people the ability to distinguish between relative and overall price changes. Price instability hurts economic growth because it is harder for decision makers to distinguish between real and relative price changes. Price stability and instability is generally determined by the money supply. Given that central banks control the money supply, part of a nations economic growth is determined by how governments set up there central banks. Central banks that are given a lot of autonomy and are free from political pressure may have an easier job of providing price stability literacy is understanding how, and to what end, central banks control the money supply.

5. Trade and Specialization

Trade is an engine for economic growth because it enables an economy to take advantage of specialization, and increases and improves the trade-offs confronting society. Along with the "invisible hand," Adam Smith saw how the division of labor, that is, specialization, increases the wealth of nations. He visited a pin factory and found:

One man draws out the wire, another straights it, a third cuts it, a fourth points it, a fifth grinds at the top for receiving the head; to make the head requires two or three distinct operations; to put it on, is a peculiar business, to whiten the pins is another; it is even a trade by itself to put them into the paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which, in some manufactories, are all performed by distinct hands ... I have seen a small manufactory of *this kind where ten men only were employed, and where ... each person ...(averaged) four thousand eight hundred pins a day. But if they had all wrought separately and independently, and without any of them having been educated to this peculiar business, they certainly could not each them make twenty, perhaps not one pin in a day.*

Having established a specialty in the manufacture of pins, a nation would then have to establish a trading relationship with another country that specialized in some other product; without trade, the benefits of specialization cannot be realized. It may be to the advantage of that country to specialize in pins even if other countries can produce pins at a lower cost, if the first country can produce pins more efficiently than it can produce other goods; that is, it has a comparative advantage. Quite simply: "Each producer has a 'comparative advantage' in doing what it does best—and trading for the rest," wrote Leonard Silk, former *New York Times* business writer.

Specialization allows a person, business or nation to specialize in those endeavors that they do best, instead of striving for self-sufficiency. This benefits us in two ways: First, a greater variety of goods and services are available; and second, they are available at a lower cost. Between 1960 and 1995 world exports rose at a 6.1 percent annual rate and world output advanced 3.8 percent. "This growth of trade has led to wider competition, allowing countries to benefit from their comparative advantage and raising living standards everywhere," according to the 1997 *Economic Report of the President.*

In addition to specialization, trade also promotes technology transfer, cultural awareness and increases social capital all of which can increase economic growth.

6. Market Failure

Although many decisions in a market economy occur in private markets, government has a role, and being able to evaluate whether or not government should intervene in the economy is another element of economic literacy. For markets to function properly, governments must define property rights and make contracts enforceable.

But it may also be necessary for government to intervene if markets are allocating goods and services inefficiently, in other words, if there is a market failure. In some markets, either the buyer or the seller may have incomplete information that distorts the trade-offs confronting them; for example, the government may require certain labeling disclosures on food products to help consumers make choices. Antitrust laws are intended to keep producers from restricting output and charging higher prices than would be set in perfectly competitive markets.

Left alone, markets may produce too few or too many particular goods. The justification for many of the goods and services that government provides is that provisions would be inadequate if left to the markets alone. That's why the government provides public goods and services ranging from provision of national defense and police protection to roads, education and health care. In other instances, markets may fail to consider the cost imposed on third parties; for example, market prices may not reflect the costs imposed by air pollution (when the affected parties cannot easily negotiate an agreement), and it may be necessary for the government to intervene.

Besides correcting market failures, governments have a role in guaranteeing a socially acceptable distribution of income. Markets compensate people according to their ability to produce goods and service that others will purchase. They do not secure for everyone adequate food, clothing, shelter, health care and so on, thus the justification for a progressive income tax and government assistance programs.

Moreover, because of government's large relative share of economic activity, it has a big impact on overall economic performance. Therefore, another aspect of economic literacy is to understand government's role in dealing with economic fluctuations and growth.

To acknowledge that government in some instances can improve market outcomes does not necessarily imply that government always does improve them. Public policy is often far from perfect—as noted in the above example regarding 1970s gasoline prices. Sometimes policy is made with incomplete knowledge or to reward the politically influential. Thus, an aim of economic literacy is to teach people how to ascertain when a government policy will improve market outcomes. That doesn't mean that economically literate people will necessarily agree on outcomes or policy, but at least they will understand the choices and trade-offs they are making.

Underlying these six concepts are the 20 Voluntary National Contents Standards in Economics that were prepared under the leadership of the National Council on Economic Education.

Adapted from the *Region*

Why Johnny Can't Choose

And what Johnny (and Jane) needs to know to understand the economy
by: David S. Dahl

Glossary

balance of trade
The part of a nation's balance of payments regarding the import and export of merchandise goods. If exports exceed imports, the trade balance is in a surplus; if imports exceed exports, the trade balance is in a deficit.

confidence in currency
When a medium of exchange is widely accepted, available and holds its value over time.

credit availability
The value of funds available for loans. Readily available credit allows entrepreneurs to invest in capital and innovations.

demographics
Characteristics of a population. Economists and sociologists use demographics to study patterns of a group within a population that has similar traits. For example, if country X has an increase in the number of women in the labor force, more labor hours are available to produce goods and services. This may boost country X's productive capacity and consequently its GDP. Another example is income distribution. Some economists argue that countries with a more equal income distribution tend to grow faster than those with large disparities in income. When studying demographics, it is important to consider whether demographics are a cause or result of economic growth.

externality
A type of market failure that occurs when an economic transaction generates a cost that is not paid by the buyer or seller, but by someone outside the transaction, or society as a whole. Examples include pollution and traffic congestion. There are also positive externalities, such as a technological advance discovered by one business, which other business can then use.

fiscal policy
Government policy regarding taxation and spending. Fiscal policy is made by Congress and the Administration.

globalization
The generalized expansion of international economic activity which includes increased international trade, growth of international investment (foreign investment) and international migration, and increased creation of technology among countries. Globalization is the increasing world-wide integration of markets for goods, services, labor, and capital.

Gross Domestic Product (GDP)
Total value of goods and services produced in a country.

inflation
A rise, over time, in the average level of prices.

infrastructure
The physical base on which productive activity takes place. Infrastructure includes schools, roads, energy plants, street lights and sewer systems.

intellectual property rights
The right of an individual or a group to patent, copyright or in some other manner to claim ideas, creations, inventions or discoveries as one's own. Such protection provides an environment for entrepreneurs to safely market their products and services.

monetary policy
Central Bank actions to influence the availability and cost of money and credit, as a means of helping to promote economic growth and price stability. Tools of monetary policy include open market operations, the discount rate and reserve requirements.

price stability
An economy with relatively consistent values of goods and services from year to year, all things being equal. When price levels are rapidly fluctuating, businesses and consumers don't receive clear signals about the buying power of the currency or the relative value of products available to purchase.

property rights
Provide the rules of ownership and trade so consumers and businesses know what they can and can't do in the marketplace.

public good
A good that generates a social benefit that everyone can enjoy and that no one can be deprived of. Examples include national defense and clean air.

real GDP
GDP (gross domestic product) adjusted for inflation. Real GDP provides the value of GDP in constant dollars, which is used as an indicator of the volume of the nation's output.

regulation
The limitations and guidelines that governments place on industry and individuals.

savings and consumption rates
The amount of an individual's income that one saves vs. the amount that one spends on goods and services.

taxes
The means by which governments raise revenue. Different methods of taxation affect the

market in varying degrees. For example, a progressive income tax has a different effect on the economy than a gas or capital gains tax.

trade policy
Indicates a country's level of freedom in trading with other countries. Tariffs may be added to goods and services to collect government revenue or to encourage purchases of one product over another (typically a domestically produced one over an imported one).

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