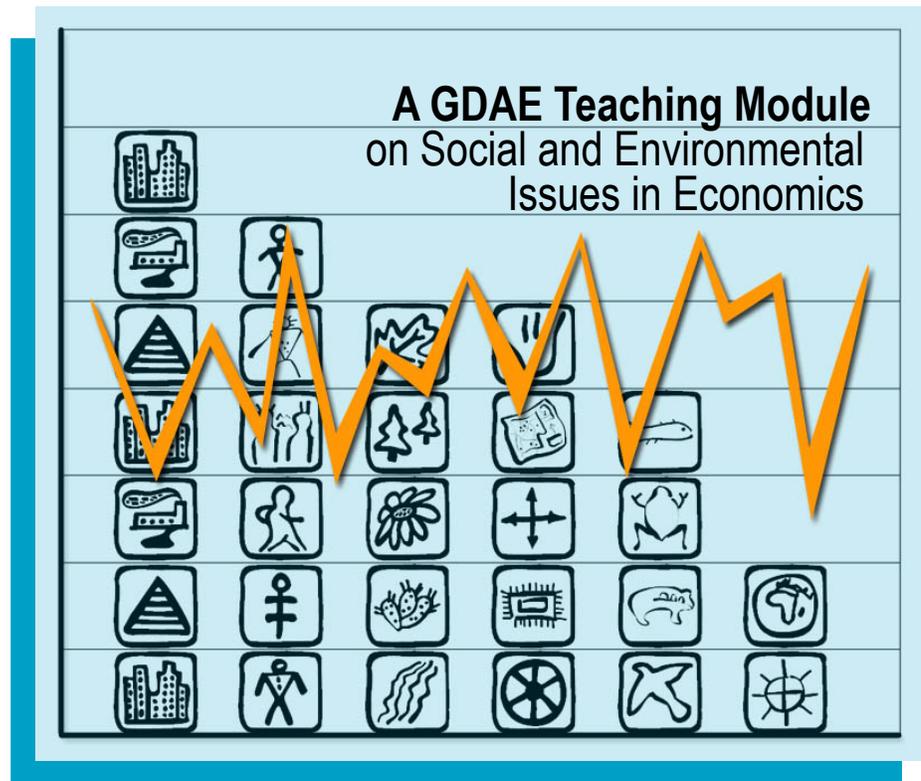


Macroeconomic Activity in Context

by Neva Goodwin, Julie A. Nelson,
and Jonathan M. Harris



Global Development And Environment Institute
Tufts University
Medford, MA 02155
<http://ase.tufts.edu/gdae>



This module is based on Chapter 1 from:
Macroeconomics in Context, First Edition
Copyright M.E. Sharpe, 2008.

See <http://www.mesharpe.com> or
<http://www.ase.tufts.edu/gdae/publications/textbooks/microeconomics.html> for more
information about the textbook and instructor resources.

Reproduced by permission. Copyright release is hereby granted for instructors to copy
this module for instructional purposes.

Students may also download the reading directly from <http://ase.tufts.edu/gdae>

Comments and feedback from course use are welcomed:

Tufts University Global Development and Environment Institute
44 Teele Ave., Tufts University
Medford, MA 02155
<http://ase.tufts.edu/gdae>

E-mail: gdae@tufts.edu

Macroeconomic Activity in Context

What do you expect—and what do you want—from the macroeconomic system in which you live? Our country’s Declaration of Independence implies that you can expect the state to protect your life, liberty and pursuit of happiness. Goals for the country that are cited in our Constitution include justice, peace, national security, liberty, and general welfare. Are those different from the economic functions that the macroeconomic system of a nation should provide? Do you, for example, also feel that you have a right to access to a job when you need or want one? Is a job essential for general welfare, or the pursuit of happiness? And will you feel satisfied with access to just any job, or do you hope for one that will use your knowledge and talents, will provide you with some minimum level of income, and will earn respect from others? What does the macroeconomy have to do with these questions? And what other questions should we be asking about it?

Macroeconomics is about how economies work. This is not only interesting as an intellectual puzzle. It matters because when the economy works well people have more opportunities to achieve their goals than when it is working badly. Depending on what your goals are, there are a variety of ways in which you could interpret what it means for an economy to be working “well” or “badly.” As you study macroeconomics you will have plenty of opportunities to consider this idea, and to think about how an understanding of basic economic principles can be used to judge, or even to make, economic policies.

1. What is Macroeconomics About?

Economics is the study of the way people organize themselves to sustain life and enhance its quality. Individuals engage in four essential economic activities: resource maintenance, production of goods and services, distribution of goods and services, and consumption of goods and services. Resource maintenance means tending to, preserving, or improving the natural, produced, human, and social resources that form the basis for the preservation and quality of life. Production is the conversion of some of these resources into usable products. Distribution refers to the sharing of products and resources among people, while consumption refers to their final use. Economists study how individuals engage in these activities and how their social coordination is achieved. “Social organization” and “social coordination” are used here in the broad sense to mean “involving a number of people.”

economics: the study of the way people organize themselves to sustain life and enhance its quality

The four essential economic activities are resource maintenance and the production, distribution and consumption of goods and services.

Often, for the convenience of organizing curricula, the study of economics is broken down into two parts: Micro- and macro-economics. Where **microeconomics** emphasizes the economic activities and interactions of individuals and particular organizations (such as businesses, households, community groups, non-profits, and government agencies), **macroeconomics** looks at how all of these activities join together to create an overall economic environment at the national—and often the global—level.

microeconomics: the study of the economic activities and interactions of individuals, households, businesses, and other groups at the sub-national level

macroeconomics: the study of how economic activities at all levels create a national (and global) economic environment

Economic conditions at the aggregate level, such as rates of unemployment and inflation, create the environment in which individual economic actors make their decisions.

For example, when you seek paid work in your chosen field, your success will depend in part on both micro and macro-economic factors. On the microeconomic side, you will need to have prepared yourself for the work—invested in your own “human capital,” an economist would say. You will need to find a particular business or other agency that can use your skills—or find direct buyers for your services, if you decide to strike out on your own. You will want to find work that gives you a combination of job satisfaction, income, and benefits that you like.

But will employers in general be hiring? Some graduating classes are unlucky, and flood the job market just as the national economy is “going sour”—that is, entering a recession. No matter how well-prepared you are, finding a job can be tough in that economic environment. And if you do find a job, how far will your paycheck go to meet your standard-of-living desires? If you start working during a period of high inflation, rising prices will quickly erode the purchasing power of a fixed paycheck. Macroeconomic conditions also affect personal debt. If you are like most students these days, you will be paying back loans for a number of years. The higher the prevailing real interest rates in the economy, the more costly this borrowing will be. Your own economic well-being will also be tied to global issues such as trade flows and currency exchange rates—especially if you go to work for a business that does a lot of importing or exporting, or you send money back to relatives in a home country. If you are lucky, all these factors will fall in your favor. If you are not...well, then you can join the chorus blaming “the economy” for your troubles.

Such macroeconomic issues are considered “short run,” – economists refer to these issues as having to do with macroeconomic “fluctuations.” Sometimes unemployment is high and sometimes it is low, and the same goes for inflation, interest rates, trade deficits and exchange rates.

Other macroeconomic issues have to do with the long run. Can you expect your standard of living 50 years from now, or the standard of living of your children, to be

higher or lower than what you enjoy now? Are you living in a society where everyone has a chance to develop themselves, or are extremes of wealth and poverty getting more pronounced over time?

Macroeconomics seeks to explain an especially interesting phenomenon: The fact that bad things can often happen on a national or global level even though virtually no individual or microeconomic-level organization *wants* or *intends* them to happen. People generally agree that high unemployment, persistent high inflation, and destruction of the natural environment, for example, are bad things. Yet they occur nonetheless.

Microeconomics and macroeconomics are terms that are applied rather loosely, covering or emphasizing different topics as times and circumstances change. Many issues have both macroeconomic and microeconomic aspects. For example, imposition of a sales tax will affect microeconomic behavior – people may consume less, or shift their patterns of consumption towards untaxed items – but it also affects government revenues, which, as we will see, are an important element of macroeconomic analysis. No one speaks of “the microeconomy” because there are too many sub-national economic systems of varied sizes that are studied in the field of microeconomics. However the term **macroeconomy** is used to refer to a national economic system. People also speak of the **global economy**, meaning the system of economic rules, norms, and interactions by which economic actors and actions in different parts of the world are connected to one another. **Economic actors** (or **economic agents**) include all individuals, groups, and organizations that engage in or influence economic activity. As the global economy has become an increasingly important part of the experience of more and more people, it has become appropriate and important to include its study within introductory economics courses. By default, it falls into the field of macroeconomics. Given contemporary realities, and the importance of global economic issues for most people’s lives, perhaps macroeconomics would be more appropriately titled “macro and global Economics.”

| **macroeconomy:** an economic system whose boundaries are normally understood to be the boundaries of a nation

| **global economy:** the system of economic rules, norms and interactions by which economic actors and actions in different parts of the world are connected to one another

| **economic actor (economic agent):** an individual, group, or organization that is involved in economic activities

Discussion Questions

1. You have evidently made a decision to dedicate some of your personal resources of time and money to studying college economics. Why? What do you hope to learn in this course that will be helpful for you in reaching your goals?
2. Are you familiar with the following terms? While you will study them in detail in this course, see how well you can come up with a definition for them just from your previous knowledge.

unemployment	recession
inflation	economic boom
economic growth	money
development	fiscal policy
GDP	monetary policy
Investment	sustainability

2. Macroeconomic Goals

We have introduced the idea of an economy working “well” or “badly,” and have referred to high unemployment, persistent high inflation, and destruction of the natural environment as bad things that virtually no one wants. “Bad” and “good” are value-laden terms: Do they belong in a reading for an economics course?

Social scientists often make a distinction between **positive questions**, which concern issues of fact, or “what is,” and **normative questions**, which have to do with goals and values, or “what should be.” For example, “What is the level of production in our country?” is a positive question, requiring descriptive facts as an answer. “What level of production would be most desirable?” is a normative question, requiring analysis of what it is we value and what goals should be set. However, both of these questions require a definition of production; positive and normative issues are inevitably intertwined in efforts to reach such a definition.

| **Positive questions** are about how things are

| **Normative questions** are about how things should be

Much of macroeconomics is concerned with positive issues. Using both empirical evidence and various theories, macroeconomists try to describe how an economy functions at the macro level. Yet, while perhaps a few people enjoy studying economic principles for their own sake, the main reason anyone would study macroeconomics is to try to understand how we—as a society, nation, and world—can reach the goals we desire. Thus we cannot avoid the normative question of what goals the macroeconomy *should* achieve.

Not everyone has the same goals, on a personal level, or in their idea of a “good” society. However, agreement becomes easier at a more general level. Therefore, we will start with the term **well-being** as a way of referring to the broad goal of promoting the sustenance and flourishing of life.

| **well-being:** a shorthand term for the broad goal of promoting the sustenance and flourishing of life

In the context of macroeconomics, we can say that three especially important components of well-being are: good living standards; stability and security; and sustainability.

| The three major macroeconomic goals are the achievement of good living standards, stability and security, and sustainability.

2.1 Living Standards

One macroeconomic goal is to get and keep people's living standards high enough that their lives can be long, healthy, enjoyable, and offer them the opportunity to accomplish the things they believe give their lives meaning.

The most basic living standard issues relate to the quality of people's diets and housing, their access to means of transportation and communication, and the quality of medical attention they receive. Taking a somewhat broader view, we might also include less tangible aspects of life such as the quality of education people receive and the variety of entertainments they can enjoy. In addition, the way in which people participate in producing goods and services—as well as their consumption of them—has important implications for their health and happiness. So, for working-age people, the quality of their working lives is part of their standard of living. On the other hand, for many people who cannot do much work because they are too young, old, ill or handicapped, the quality of the hands-on care they receive is a major component of living standards. We could add even more categories to broaden our notion of well-being, going beyond economic issues to include things like political freedom and social inclusion. Economics has traditionally, however, taken the goods-and-services or provisioning aspect of life as its central focus, and **living standards growth** has been a top concern.

| **living standards growth:** improvements in people's diet, housing, medical attention, education, working conditions and access to care, transportation, communication, entertainment and the like, that can allow people to have long and enjoyable lives and have the opportunity to accomplish the things that give their lives meaning.

How can living standards be maintained or improved? For a long time, “raising living standards” was considered to be nearly synonymous with “achieving economic growth.” By **economic growth** we mean growth in the level of production or output. Traditionally, this has been measured within a country by the growth of its gross domestic product (GDP)--a measure you will hear much more about later.

| **economic growth:** increases in the level of production in a country or region

Global economic growth has been impressive in recent decades. Figure 1 plots the sum of GDP for all countries from 1960 to 2006. The data from which this chart has been plotted is far from perfect – different countries have at different times used a variety of methods (some approaching guess-work) to calculate their GDP. The conceptual definition of GDP is also controversial, especially in regard to how it treats the natural environment and unpaid household work. Nevertheless, we can view as a reasonable approximation the conclusion from this picture: that global production has increased greatly over the last few decades. By this measure, the value of global production in 2006 was about 5.2 times the value in 1960.

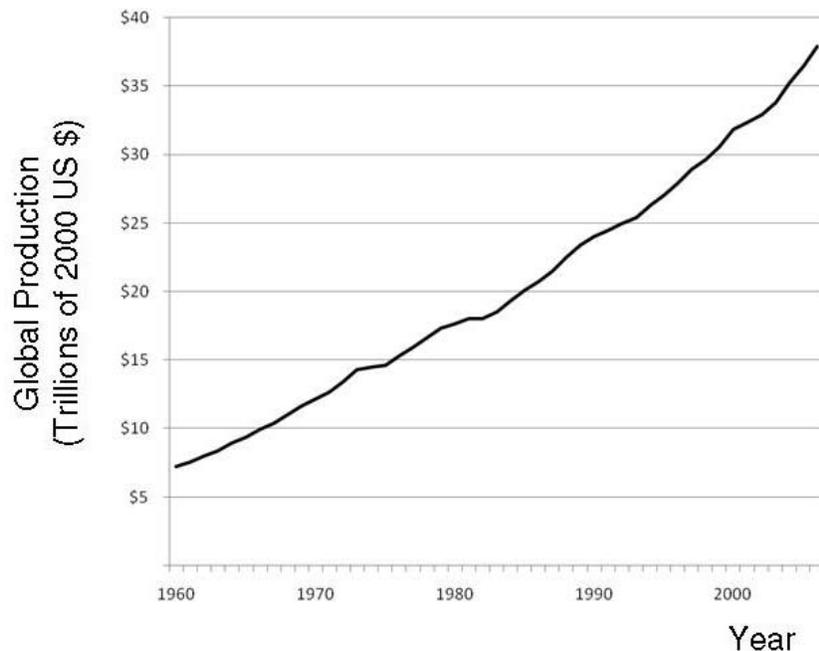


Figure 1. Global Production, 1960-2006, in trillions of 2000 U.S. dollars. *As measured by summing up the GDP of all countries, global production has more than quintupled in the last several decades.*

Source: The World Bank Group, World Development Indicators Online

But the growth in economic production has not been equal in all countries, and living standards are still very low in much of the world. This fact has important meaning for people's enjoyments and options in life. Poverty in the modern world can mean that people crowded together in unsanitary urban slums or isolated in rural huts, have barely enough to eat, no education, and never see a doctor. Worldwide, extreme poverty is still a major concern. The United Nations estimates that about 1.2 billion people—or about 20% of the world's population—live in absolute poverty, subsisting on the equivalent of U.S. \$1 per day or less. The production of more and better housing, better roads, more grain, more schooling, and more medical care—*more goods and services*—is necessary to raise living standards in such situations.

It is because of such an underlying concern with living standards that for many decades economists focused very strongly on measures of economic growth, and the question of how it could be maintained and even speeded up. The process of moving from a general situation of poverty and deprivation towards one of increased production and plenty is what has traditionally been referred to as **economic development**. Generally, the process of economic development has been thought of as a process of increasing agricultural productivity, investing in machinery and technology, and making changes in the organization of work (from home-based shops to factories, for example),

so that **labor productivity** rises. That is, people can produce more in each hour that they work.

economic development: the process of moving from a situation of poverty and deprivation to a situation of increased production and plenty, through investments and changes in the organization of work

labor productivity: the level of output that can be produced per worker

Of course, while increased production is *necessary* in such a situation, it is not *sufficient* on its own to improve living standards for the people living in a poor country. For one thing, the increase in production may not be enough to keep pace with a growing population. Improvement in general living standards can only result if production *per person* (GDP *per capita*) on average rises. Some of the increase in global production shown in Figure 1 is simply a result of more people producing goods and services. When we adjust for the growth in the world's population, we see that production per capita, as measured by dividing global production by global population, has also grown over the last several decades, but not by as much. Figure 2 shows that global production per capita has increased by about a factor of 2.4 between 1960 and 2006, according to this measure.

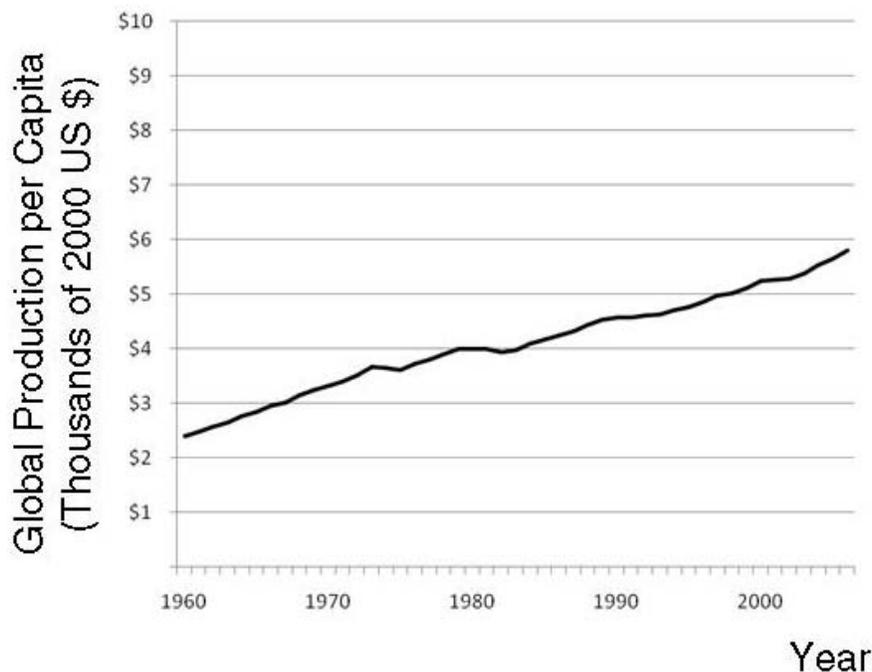


Figure 2. Global Production Per Capita, 1960-2006, in 1000's of 2000 U.S. dollars. *Global production per person has more than doubled in the last several decades.*

Source: The World Bank Group, World Development Indicators Online

If we were to disaggregate from the global figures we would see that changes in economic production over these years vary significantly across different regions and countries. In East Asian countries, GDP per capita has increased by over seven times between 1960 and 2006. In Sub-Saharan Africa, however, GDP per capita is actually *lower* now than it was in the 1970s.

Even if GDP *per capita* is rising, other factors are still important in ensuring that economic growth benefits the world's and each country's population as a whole:

- First, it matters *what* is produced. An economy may experience “economic growth” by increasing its production of military hardware or large public monuments, for example, but these kinds of production are much less likely to raise living standards than growth in production of nutritious food, widely available health care, or the quality of basic education.
- Second, it matters *how* it is produced. In some poorer countries today, many workers—including young children—work 14 to 16 hour days in unsafe, badly ventilated mines and factories; many suffered severe illnesses and early death.
- Third, it matters *for whom* economic growth occurs. How are the increases in production, or incomes arising from production, distributed among the population? Do some regions, or some groups of people as defined by income class, race, ethnicity, gender, or other factors, receive more of the gains from growth than others? If the benefits of economic growth only go to a tiny global or national elite, the bulk of the population may remain desperately poor.

Sometimes these queries about “what, how, and for whom?” are referred to as the “three basic economic questions.” Even given these qualifications raised by these questions, you can still see that some economic growth is necessary in regions that are very poor.

In richer regions, the situation may be different. In a country that is already rich, is economic growth still the key to improving living standards and increasing overall well-being? In most highly industrialized countries, populations are growing very slowly—or even declining. When the population isn't growing, and when the majority of families already enjoy decent housing, safe water, plenty of food, easily washed and dried clothing, readily available heating and refrigeration, a car or two (or more), airline travel, TV sets, DVD players and the like, do we really need *more* in general? Some people would say that we do, but others believe that we should instead switch our national priorities into making sure that production is designed to increase well-being. In countries that already have a high level of production, *living standards growth* may be achievable even in the absence of *economic growth*, by improving cultural, educational, and environmental conditions, raising the quality of work-life, and promoting an equitable allocation of the economic rewards of production among workers, non-workers, managers, and owners. Another possible shift in priorities would be to put less emphasis on economic growth, and more emphasis on other elements of well-being, such as long-term environmental and social sustainability (discussed below).

2.2 Stability and Security

While closely linked to living standards goals, the goal of stability and security brings in a time dimension that we have not yet discussed.

Imagine that you are an old person, and looking back over your life you can say that *on average*, you enjoyed a good standard of living. This might arise from two quite different scenarios. In one scenario, you enjoyed a fairly steady, or gently rising, living standard and were always able to plan confidently for your financial future. In the other scenario, you were quite successful at some points in your life, but also had to periodically face the real possibility of “losing it all.” You did well and bought a house, but then you became unemployed and had to face the fear that your house would be foreclosed on because you wouldn’t be able to make the payments. You did well and believed you were on a solid path to a pleasant retirement, and then high inflation or a jumpy stock market wiped out the value of your savings and pensions, and you had to start over. Even if, after the fact and “over the long run,” you can say that *on average* you did OK in terms of your living standards, the uncertainty and anxiety of living with economic fluctuations in the second scenario would have taken a toll on your overall well-being, relative to the more stable case.

High rates of unemployment are associated with many indicators of individual and social stress, such as suicide, domestic violence, stress-related illnesses, and crime. Unpredictable fluctuations in rates of inflation, interest rates and foreign exchange rates make it difficult—and in the worst cases, impossible—for individuals and organizations to make productive and economically sensible plans for the future.

One common pattern is for fluctuations in the level of production to occur as a cycle in which recessions (or “contractions” or “slumps”) and their attendant problem of high unemployment alternate with booms (also called “expansions” or “recoveries”) which often bring with them the problem of more rapidly rising prices. This is called the **business cycle** or **trade cycle**. Even if these problems are “short-run” and do not last long—people eventually find jobs or inflation slows down—fluctuations cause considerable “ill-being” while they last. So creating a stable, secure economic environment is a separate important macroeconomic goal.

| **business (trade) cycle:** recurrent fluctuations in the level of national production, with alternating periods of recession and contraction

Figure 3 shows GDP for the United States going back all the way to 1800. You can see that while the general trend is upwards, the curve on the graph does not indicate *steady* growth. The curve is somewhat wavy. There are periods in which GDP fell as the country experienced economic contractions, and other periods of rapid expansion during which GDP rose very steeply.

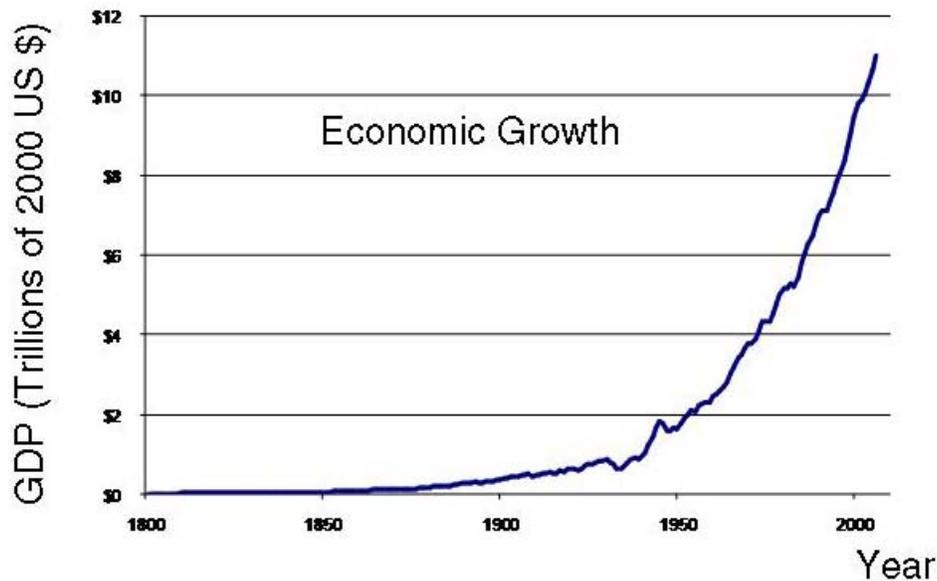


Figure 3. Real GDP in the United States, 1800-2006, in trillions of 2000 U.S. Dollars. *GDP in the United States has grown over time, but it has not grown steadily. The economy has experienced alternating periods of expansion and contraction.*

Sources: Louis Johnston and Samuel H. Williamson, "The Annual Real and Nominal GDP for the United States, 1789 - Present." Economic History Services, March 2004; U.S. Bureau of Economic Analysis, U.S. Economic Accounts.

A widely accepted macroeconomic goal is the achievement of sufficient economic stability to enable individuals and families to enjoy economic security and to be able to make reasonable predictions about their future. In the light of new knowledge about our dependence on the natural world, which is undergoing radical alterations due to human economic activity, the goal of security now must also include a much longer time horizon, recognizing a serious responsibility to future generations. This leads us to our third goal: sustainability.

2.3 Sustainability

We want good living standards and stability not only for ourselves right now, but also for ourselves later in our lives, and for our children, grandchildren, and other generations to come. That is, we would like a macroeconomic environment that is not only good now, but sustainable into the future. In particular, the goal of sustainability requires that we address the questions:

- Are economic activities *financially* sustainable into the future? Or is a nation incurring a high amount of debt that may create a heavy burden on a country's future workers?

- Are economic activities *socially* sustainable into the future? Are disparities between the “haves” and the “have nots” diminishing or based on justifiable causes? Is the next generation receiving the upbringing and education required to enable them to contribute to a healthy economy and society? Or is the current structure of economic activity setting the stage for future social disruption and political strife?
- Are economic activities *ecologically* sustainable into the future? Is the natural environment that supports life being treated in a way that will sustain its quality into the future? Or is it becoming depleted or degraded?

Financial, social and ecological sustainability are important macroeconomic goals.

For many generations, it seemed that technological progress and economic growth were magical keys that unlocked the door to unlimited improvements in the standard of living. In 1970, for example, real output per person in the United States was about ten times what it had been in 1840. “Developed” countries in North America, Western Europe, and elsewhere experienced long-run rising standards of living through industrialization, improvements in agricultural technology, and the development of service industries.

Some observers believe that this process can continue forever, and that any sustainability problems can be remedied by *more* GDP growth. For example, the issue of financial sustainability includes both concerns about the levels of government debt (which accumulates whenever governments spend more than they take in) and national debt (what all people and organizations in a country owe to foreigners). Too much debt is a problem since it means that a large proportion of a country’s income may in the future need to go to into servicing the debt rather than into other, more socially beneficial, uses. Indebtedness, however, is usually considered manageable as long as GDP grows at least as fast as the level of debt. Regarding social sustainability, some people believe that economic growth is also the way to relieve social ills and political strife. They reason that the bigger the pie, the bigger everyone’s share can be, and that rising personal incomes will naturally lead to a peaceful and productive population. Concerning ecological issues, some economists think that any current negative effects of economic growth on the environment can be remedied by additional economic growth, since higher incomes give countries the wherewithal to invest in new exploration for resources and new pollution-controlling technologies. So, to the most growth-oriented economists, “sustainable growth” simply means making sure that the growth rate of GDP stays high well into the future.

As against those who continue to believe that economic growth and development, as traditionally defined, hold out the best answers to financial, social, and environmental problems, by the end of the 20th century many other economists have started asking whether these might instead *contribute to* these problems.

Financial, social, and environmental concerns have many people worried that the traditional macroeconomic emphasis on economic

growth and development might actually be *contributing* to the creation of severe problems for the future of human society, rather than helping to solve them.

To the extent that a country's economic prosperity depends on short-sighted or unrealistic financial planning, prosperity may be unsustainable. For decades, for example, many poorer countries were encouraged to borrow heavily from richer countries in order to progress in economic development. However, many of them did not achieve the high rate of economic growth that was supposed to result from the borrowing, and a severe "debt crisis" has resulted. Some very poor countries currently send more funds *out* of their countries simply to pay the interest on their debt than they pay for health care for their own populations; many also pay more in interest than they currently receive in grants and loans.

Meanwhile, in some industrialized countries including the U.S., governments have recently cut taxes in order to "spur economic growth." But this means that governments instead borrow heavily to fund their activities. Many fear that such borrowing may already have become so excessive that dramatically higher taxes will be required in the future in order to pay interest on the debt. Those called on to pay these higher taxes—and hence suffer lower living standards—would be future workers like you. Setting good priorities about how we borrow is important to long-run sustainability.

Turning to social sustainability, many economists and other observers have come to question whether "development" as traditionally defined will solve the problem of global disparities in living standards. Some economists suggest that historical factors such as the legacy of colonization, and political factors such as rich country protection of their own industries within the system of global trade, mean that it is impossible to expect poorer countries to "develop" in the same way as countries that industrialized earlier. Analysts have also estimated that giving everyone in the world a U.S. life-style, including a meat-rich diet, multiple cars per family, etc., would require an extra two to four planets to supply resources and absorb waste.

Traditional goals of unlimited material affluence have also been called into question within richer countries, to the extent that social scientists have noticed that consumerist and more-is-better values may actually contribute to personal and social discontent and the weakening of social norms of trust and reciprocity. Societies that suffer bitter divisions between "haves" and "have nots," or a general sense that everybody is just out for themselves, are more likely to suffer social and political breakdown—perhaps to the point of violence—than societies where people enjoy a greater sense of social cohesion.

Regarding environmental issues, increased urban concentration and certain agricultural practices have caused extinction of some species and notable decreases in genetic diversity in others. Contemporary "developed" economies are presently heavily dependent on the consumption of fossil fuels. Yet these fuels are not in unlimited supply, and high-level scientific panels concur their burning contributes to global climate change.

Because of these and other problems, ecologists emphasize the complexity of natural systems and our relative ignorance about long-term, irreversible, or potentially catastrophic effects of economic behavior on the natural systems that support us. They suggest that, instead of placing blind faith in technological progress and economic growth, society should adopt a **precautionary principle**. This principle says that we should err on the cautious side, preferring to cooperate with natural systems rather than assuming we can safely replace them. Or, as stated by one group of experts, “When an activity raises threats of harm to the environment or human health, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically.”¹ Such attention to environmental sustainability need not preclude also giving attention to the goals of living standards improvement and stability, but it does clearly call into question the idea that economic growth, in itself, is always the only, or the best goal.

precautionary principle: the principle that we should err on the cautious side when dealing with natural systems or human health

Traditionally, many economists did not recognize a separate goal of sustainability, since they believed that achieving economic growth would naturally contribute to the achievement of any other goals that we might choose. Another view suggests that environmental, social, and financial sustainability need to be considered as goals in their own right, perhaps requiring a dramatic shift in how we think about economic growth.

Discussion Questions

1. Which of the macroeconomic goals just discussed do you think should have the highest priority? Why? Are there other major goals you think are missing from the above discussion?
2. No one would argue that the goal of macroeconomics is to make people *worse* off! Yet the above outline of macroeconomic goals suggests that trying too hard to achieve some narrowly-defined goals may lead to such a result. Why do you think some economists would view economic growth as the major goal, while others view it as potentially in conflict with other goals such as sustainability?

3. Macroeconomics in Context

Macroeconomics, as a field of study, is not a set of principles that is set in stone. Rather, the field has developed and changed over time as new empirical and theoretical techniques have been invented and as historical events have raised new questions for which people have urgently desired answers. To give you an idea about how the various macroeconomic principles fit into social and historical context, we end this reading with a

¹ This well-known formulation of the precautionary principle, sometimes called “the Wingspread statement,” was spelled out in a January 1998 meeting of scientists, lawyers, policymakers, and environmentalists at Wingspread, the headquarters of the Johnson Foundation in Racine, Wisconsin.

short overview of the major historical developments in macroeconomics. This is not just dusty history; you will see as you progress in studying macroeconomics that many themes keep arising in just slightly new forms, while other challenges are unique to our 21st century world.

3.1 The Classical Period

Centuries ago, most people in Europe were involved in agriculture or in home production, such as when a family would work together to card, spin and weave raw wool into cloth. Merchants were a minority, and industrial production and large-scale trade were unknown. All this changed with the coming of the Industrial Revolution, which began in England in the mid-18th century. In many countries technological progress led to new methods of production, and more productive economies both increased and diversified their output. Necessities like food and clothing used up a decreasing proportion of the average family income, while a growing fraction of the population was able to acquire more comforts and luxuries – better bedding, plumbing, housing, and transportation, to name just a few of the improvements to living standards. Academic thinkers started to try to understand and explain how these changes came about – and **classical economics** was born.

classical economics: the school of economics which originated in the 18th century and which stressed issues of growth and distribution, based on an image of smoothly-functioning markets

During this period macroeconomic study focused on economic growth and distribution. The most famous Classical economist was Scottish philosopher Adam Smith (1723–1790) whose 1776 book *An Inquiry into the Nature and Causes of the Wealth of Nations* set the terms of discussion for centuries to come. Smith attributed the growing “wealth of nations” to various factors. One was changes in the organization of work, particularly the **division of labor** that assigned workers to **specialized**, narrowly defined tasks. Whereas in family-based production each individual had usually performed a variety of tasks, in industrial production a person would repeat one very specific task over and over, presumably becoming more proficient with increased practice. Another factor was technological progress, such as the invention of new machines powered by burning coal. The third was the accumulation of funds to invest in plants and machinery (“capital accumulation”). Classical economists were also particularly concerned with theorizing about how the funds generated by selling output would come to be distributed between the people who worked in factories and the capitalists who owned the factories.

division of labor: an approach to production in which a process is broken down into smaller tasks, with each worker assigned only one or a few tasks

specialization: in production, a system of organization in which each worker performs only one type of task

Classical economists, from Adam Smith through Karl Marx, were interested in several questions that are still among the most important

issues for macroeconomics: How is the total wealth generated by a society divided between those who own the means of production and those who work for them? Is the existing division optimal? What are the forces that determine how society's wealth will be divided?

Smith is particularly known for promulgating the idea that market systems could coordinate the self-interested actions of individuals so that they would ultimately serve the social good. While Smith himself supported a number of government interventions and discussed the moral basis for social and economic behavior at length in others of his works, the school of classical economics has been popularly identified with the idea that individual self-interest is a positive force and that governments should let markets function without interference—that economies should be **laissez-faire**.

| **laissez-faire economy:** an economy with little government regulation

The classical economists did not much address the problem of economic fluctuations. A smoothly functioning market system, a number of them thought, should be entirely self-regulating. At the macroeconomic level, full employment should generally prevail. This view was summarized in **Say's Law**, named after French classical economist Jean-Baptiste Say (1767-1832), which was said to prove that “supply creates its own demand.” The example Say gave was of a tradesman, for example a shoemaker, who sold \$100 worth of shoes. Say argued that the shoemaker would naturally want to spend the \$100 on other goods, thereby creating a demand which was exactly equal in money value to the supply he had provided. If this example is extended to the whole economy, it suggests that the quantities demanded and quantities supplied of goods will exactly balance, meaning that employment – producing shoes or something else – will be available for anyone willing to work. Classical economists discussed issues related to a country's monetary system, but tended to assume that monetary issues affected only the price levels, and not the level of production, in a country.

| **Say's Law:** the classical belief that “supply creates its own demand.”

3.2 The Great Depression, Keynes, and Monetarism

Yet economies did not seem to be working so smoothly, in practice. Some periods, like 1904-1906 and the 1920's in the United States, were boom years where everyone seemed eager to invest and spend. People with extra funds would buy stocks (ownership shares in companies) or deposit their funds in banks (to be lent to others) with great confidence and optimism. On the other hand, these booms seemed to frequently end in painful recessions. Suddenly the tide would turn and everyone would want to sell—not buy—and stock prices would plummet. A lack of confidence in banks would lead to “bank runs” or “banking panics,” such as occurred in 1907 and 1930-1933 in the United States, when everyone tried to pull out their deposits all at once. With financial markets in tatters, businesses and individuals would be unable or unwilling to maintain or expand their activities. With people cutting back on spending, produced goods would go unsold. Industries would cut back on production. People would become unemployed.

A great many people in the United States (and much of the rest of the industrialized world) suffered considerable hardship during the Great Depression, touched off by the 1929 stock market crash. Production dropped by about 30% between 1929 and 1933. At its worst, the unemployment rate during the Great Depression topped 25%—one in four workers could not find a job. High unemployment persisted throughout the 1930's, and classical economic theory did not seem to be of much help in either explaining or correcting the situation.

The publication of the British economist John Maynard Keynes' *The General Theory of Employment, Interest, and Money* in 1936 was a watershed event. In this book, Keynes (pronounced "canes") argued that Say's Law was wrong. It is possible for an economy to have a level of demand for goods that is insufficient to meet the supply from production, he said. In such a case, producers, unable to sell their goods, will cut back on production, laying off workers, and thus creating economic slumps. The key to getting out of such a slump, Keynes argued, is to increase **aggregate demand**—the total demand for goods and services in the national economy as a whole.

| **aggregate demand:** the total demand for all goods and services in a national economy

Keynes suggested a number of ways to achieve this. People could be encouraged to consume more, the government could buy more goods and services, or businesses could be encouraged to spend more. Some economists thought that the best way to encourage business spending was to keep interest rates low, so that businesses could borrow easily to invest in their enterprises. But, while Keynes believed that increasing investment spending would be the key to getting out of a depression, he thought that low interest rates alone would be insufficient to tempt discouraged and uncertain business leaders to start investing again. He wrote in *The General Theory* that the solution to business cycles lay in the government taking more direct control of the level of national investment. In his view capitalist economies were inherently unstable, and only a more socially-oriented direction of investment could cure this instability.² This policy, however, was not generally adopted and the Great Depression continued for the remainder of the 1930's.

In actuality, it was the high government spending associated with national mobilization for World War II that finally brought the Great Depression to an end. Perhaps this is one reason why the followers of what came to be known as **Keynesian economics** did not follow Keynes on all points. While they retained his emphasis on deficiencies in aggregate demand, they tended to emphasize the use of fiscal policy to keep employment rates up. **Fiscal policy** is the manipulation of levels of government spending and taxation to raise or lower the level of aggregate demand.

² "It is the return of confidence, so to speak in ordinary language, which is so insusceptible to control in an economy of individualistic capitalism...I conclude that the duty of ordering the current volume of investment cannot safely be left in private hands" *The General Theory* (NY: Harcourt Brace Jovanovich, [1936] 1964), p. 317, 320.

Keynesian economics: the school of thought, named after John Maynard Keynes, that argued for the active use of fiscal policy to keep aggregate demand high and employment rates up

fiscal policy: the manipulation of levels of government spending and taxation to raise or lower the level of aggregate demand

Other economists in these post-WWII years—most notably University of Chicago economist Milton Friedman—took a different tack. While the Keynesians argued that active government fiscal policies were the way to get *out* of a recession, the **monetarists** argued that bad government **monetary policies** were how economies tend to get *into* bad situations in the first place. It was primarily the United States government’s poor use of its monetary policy tools, such as banking regulations and the issuance of currency (most often understood as “printing money”), that led to the Great Depression, they said. They blamed government policies encouraging overly “loose” money (that is, easy credit, low interest rates, and high levels of money supply) for the overspending of the late 1920’s. Then, they claimed, “tight” money policies (tight credit, higher-than-optimal interest rates, and low money supply) during the early 1930’s turned what could have been a more minor slump into a major depression. They argued that governments should focus on keeping the money supply steady, and not try to take an active role in directing the economy, even when unemployment is high. Like the classical economists, they believed that the economy should best be left to adjust on its own.

monetary policy: the use of tools controlled by the government, such as banking regulations and the issuance of currency, to try to affect the levels of money supply, interest rates, and credit.

monetarist economics: the school that focused on the effects of monetary policy, and argued that governments should aim for steadiness in the money supply rather than play an active role

As time went on, the Keynesian approach was expanded to also include a role for monetary policy. This approach had a strong influence on macroeconomic policy making in the United States and many other countries up through the 1960s. The idea became popular that the government might even be able to “fine tune” the economy, counteracting any tendencies to slump with expansionary (high spending and/or loose money) policies, and any excessive expansion with contractionary (low spending and/or tight money) policies, thereby largely eliminating business cycles. A related idea was that the government could choose to “trade off” unemployment and inflation—letting the economy suffer a little more inflation to get the unemployment rate down, or vice versa.

3.3 Synthesizing Classical and Keynesian Economics

In the early 1970s this rosy picture was shattered, however, as many industrialized countries began to experience both rising unemployment *and* rising inflation. To explain this, many macroeconomists began combining elements of both classical and Keynesian economics, making a distinction between the long-run and the short-run as follows:

- Classical theories assert first, that economies should naturally settle at full employment levels of output and, second, that the primary outcome of changes in money supply are changes in the price level or rate of inflation. In an idealized smoothly functioning market system, any unemployment (that is, surplus of labor) should be corrected by a drop in the (equilibrium) wage. In the emerging synthesis, full employment and purely inflationary effects came to be thought of as *long-run* outcomes, which occur only after all markets have had sufficient time to adjust.
- Keynesian economists after World War II had come to accept the idea that their theories should be explainable in terms of market models, but explained unemployment as being due to the fact that markets for labor do not adjust quite as quickly as classical theory implies. Keynesian economists argued that wages are “sticky” in real-world markets and will not fall fast enough during a slump for full employment to be quickly restored. Fiscal and monetary policies were thought, in this emerging synthesis, to be effective mechanisms for coping with this *short-run* phenomenon.

Thus the dominant macroeconomic theory that emerged argued that in the short run—a period of some months or years—we are in a primarily Keynesian world where fiscal and monetary policies can be effective. In the long run, however—after such a period of time that even “sticky” markets are able to adjust—we are in a classical world, where markets adjustments assure full employment and money only affects prices.

Economists thus explained the inflation that occurred in the first few years of the 1970’s (in spite of the simultaneous presence of unemployment) as the long-run outcome of expansionary monetary policies of the previous years. It appeared that short run active (Keynesian) government policies could have unintended negative long-term (classical) consequences.

While many economists have come to agree on this general theoretical picture, debates have continued, now centered around the question of whether the short-run benefits of active government policies are worth their long-run, presumably mostly negative, consequences.

Macroeconomists at the more classical end of the spectrum tend to emphasize market efficiency and a small role for government. They are suspicious about the use of monetary policy because of the possible negative effects we just discussed. They are suspicious about the use of fiscal policy, as well, arguing (in line with the classical emphasis on economic growth) that excessive government spending or taxation can decrease future growth by “crowding out” private activities.

Economists on the more Keynesian end of the spectrum, meanwhile, tend to emphasize the way in which unemployment can cause severe human suffering and be

very persistent. Waiting for markets to adjust on their own, they believe, may mean waiting too long. And, as Keynes himself put in, “In the long run, we are all dead.”

While it might seem that many economists have finally come to at least a general agreement about how the macroeconomy works, real-world developments have brought still new issues to public attention.

3.4 Subsequent Challenges

In 1973-74 the macroeconomic environment of the United States and most other industrialized economies took a sharp hit when countries belonging to the Organization of Petroleum Exporting Countries (OPEC) cut production, drastically increased the price at which they would sell crude oil, and even for several months completely stopped shipping oil to certain nations. The price of oil, a key input to many production and consumption activities, suddenly quadrupled. Stock markets fell, inflation rose, and unemployment shot up as people struggled to adjust. People waited in long lines at gas stations, or were even limited to buying gas only on certain days. The price of crude oil in the United States continued to rise until at its peak in 1979 a barrel of crude oil cost over ten times as much as it had in 1973.

This crisis brought increased attention to two areas. First, the oil price shock made it clear how closely national economies are tied to each other. While many previous theories had neglected to take into account international linkages, these now became more prominent in macroeconomic thinking. Second, while Keynes had led the field into paying attention to aggregate *demand*, this “supply shock” encouraged economists to think more about the *supply* side of the economy—the resources and technology that allow production to occur.

3.5 Macroeconomics for the 21st Century

While issues of economic growth and the business cycle preoccupied macroeconomic thinking for generations, once again, in the 21st century, new developments are demanding new ways of looking at the economic world.

First, the environmental impact of long-term, fossil-fuel based economic growth is becoming increasingly a topic of economic, social, and political concern. Most previous theories assumed that resources and the capacity of the environment to absorb the by-products of economic growth were essentially unlimited—or at least that continued developments in technology would keep problems of depletion and pollution at bay. This is increasingly questioned as the scale of human economic activity grows larger.

The growth in global GDP shown in Figure 1 illustrates an impressive human ability to increase production. The growth in global atmospheric carbon dioxide illustrated in Figure 4 is equally impressive, but more sobering, as it shows the human ability to affect our environment significantly – sometimes in dangerous ways. Carbon

dioxide is released in fossil-fuel-burning industrial production, transportation, and heating, and more is released the more such production takes place. Deforestation also contributes to increases in atmospheric CO₂. Carbon dioxide is the main gas involved in global climate change, a problem that scientists say is already starting to cause floods and droughts and irreversible disturbances to ecosystems.

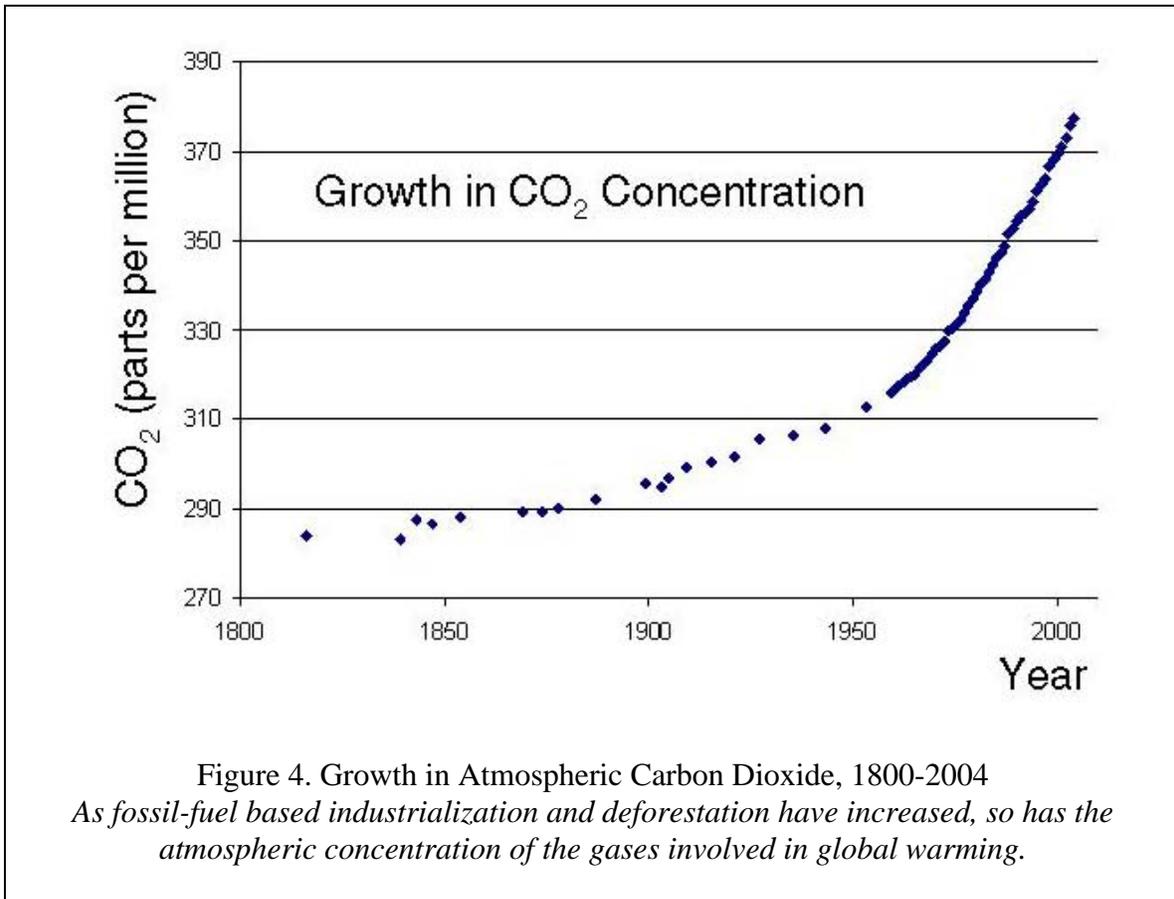


Figure 4. Growth in Atmospheric Carbon Dioxide, 1800-2004
As fossil-fuel based industrialization and deforestation have increased, so has the atmospheric concentration of the gases involved in global warming.

Source: Carbon Dioxide Information Analysis Center.

Unless slowed or reversed, within the next 20 years we can expect to see increasingly dramatic disturbances to agriculture, disruptions in water supply, and an expansion of the reach of tropical diseases. How national and international economic environments can be made ecologically sustainable, while keeping employment and standards of living high, is rising in prominence as a macroeconomic issue. New thinking about the relation between production and living standards, and about the quality of our working lives, will likely be central to these discussions.

Second, the persistence of substantial global poverty, as mentioned in the earlier discussion of social sustainability, has called into question the appropriateness of traditional ideas about economic development. Questions of *what, how* and *for whom*—rather than just “how much”—are becoming increasingly important in evaluating the effect of economic activity on human well-being. The lopsided global distribution of resources, disparities in power, war and peace, and global institutions of trade and finance

will become increasingly important issues as economists continue to participate in the humanitarian attempt to increase human well-being on a global scale.

Discussion Questions

1. What were some of the major historical events that influenced the development of macroeconomics as a field of study? In addition to the problems listed in the reading, do you think there are other current problems that macroeconomics should be addressing?
2. It might be confusing to you to realize that there are a number of alternative “schools” of macroeconomic thought, and that the field continues to develop. It may help to think about, or discuss in a group, how economics compares to other subjects you or your classmates have studied. Do you think that physics or biology are the same now as they were 100 years ago? Have you found that all psychologists, sociologists, and political scientists have settled on explaining things the same way? Or are there disagreements and new developments in those fields as well?

Review Questions

1. What is economics?
2. How does macroeconomics differ from microeconomics?
3. What is the difference between positive and normative questions?
4. What is meant by “living standards growth”? Is this the same as “economic growth”?
5. What is economic development? What factors are important in ensuring that economic growth benefits a country’s population as a whole?
6. Why are macroeconomic fluctuations a cause for concern?
7. What global developments have caused financial, social, and ecological sustainability to become increasingly prominent as macroeconomic concerns?
8. What historical developments and concerns motivated—and what beliefs characterized—the classical economists? The work of John Maynard Keynes? The school of Keynesian economics? The work of the monetarists? The synthesis of Keynesian and classical thought?
9. What historical development took place in 1973-74, and what ongoing macroeconomic issues did it bring into focus?
10. What are two recent developments that will likely shape the development of macroeconomics in the 21st century?

Exercises

1. This class will be more meaningful to you, the more you pay attention to what is going on in the macroeconomy around you. Find an article in a newspaper or newsmagazine (hardcopy or on-line) that deals with a macroeconomic topic. Make a list of terms, concepts, people, organizations, or historical events mentioned in the article that are also mentioned in this reading.
2. Classify each of the following as to whether it is an example of a positive question or a normative question.
 - a. “What is the level of U.S. foreign debt?”
 - b. “How low should the unemployment rate be?”
 - c. “What policies can lower the unemployment rate?”
 - d. “What kinds of production should be counted in measuring gross domestic product?”
 - e. “Is it better to have low unemployment or low inflation?”
3. State whether the following statements are true or false. If false, also write a corrected statement.
 - a. Macroeconomics is about the activities of governmental agencies.
 - b. Economic growth always leads to living standards growth.
 - c. The three areas to consider in thinking about sustainability are financial, monetary, and ecological.
 - d. About 20% of the world’s population lives in absolute poverty.
 - e. Poor countries were offered many foreign loans for economic development over the last several decades; now all of them are paying back the loans easily.
4. State whether the following statements are true or false. If false, also write a corrected statement.
 - a. Fiscal policy refers to government influences on credit and interest rates.
 - b. Specialization and the division of labor are characteristics of industrial production.
 - c. Classical economists believe that the Great Depression was caused by aggregate demand being too low.
 - d. During “bank runs” and stock market crashes, people lose confidence in the financial system and tend to cut back on their spending.
 - e. Keynesian economists believe that an economy that experiences a high rate of unemployment will quickly self-correct.

5. Match each concept in Column A with a definition or example in Column B.

Column A

- a. Keynesian economics
- b. classical economics
- c. monetary policy
- d. fiscal policy
- e. living standards growth
- f. business cycle
- g. monetarism
- h. macroeconomics
- i. Say's law
- j. microeconomics
- k. economic growth

Column B

- i. lowering the tax rate on corporations
- ii. studies how economics applies at the national and global level
- iii. "It is not possible, at a national level, for there to be more goods and services supplied than people want to buy."
- iv. GDP rises as a heavily polluting factory begins production
- v. a school that focuses on aggregate demand and encourages government action
- vi. government encouragement of easy credit
- vii. the short-run fluctuations of a national economy
- viii. the school of economic thought originally associated with the idea of laissez-faire economics
- ix. more of the population gets access to basic health care
- x. studies how economics applies at the level of households, businesses, and other organizations
- xi. a school that argues that active government monetary policies usually make economic fluctuations worse