

MACROECONOMICS 201

Spring 2020

NOTES 2

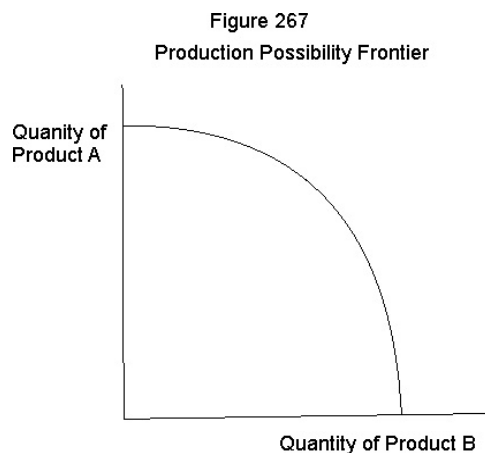
REASONS FOR NATIONAL PROSPERITY AND PRELIMINARY THOUGHTS ON ECONOMIC GROWTH

Readings: Same as Notes 1

1. What is the Production Possibility Frontier?

The Production Possibility Frontier is defined as the maximum amount of goods and services than an economy could produce (i.e. the real economy - remember the distinction between the real economy and the money/nominal economy) if it were utilizing all available resources (remember, land, labor, and capital)- in the most efficient manner. *If* an economy is *at* its production possibility frontier, and there is a public or private decision to increase the amount of a good or services consumed, something will have to be **traded off** (that term again) to free up the resources needed to produce the different item, the trade off is the good or service that must be given up, i.e., the *opportunity cost* of the item. See how these terms interrelate.

If an economy is not producing at its production possibility frontier, then by definition, more could be produced *without* giving up any existing output. For example, if there is unemployment, then by putting the unemployed resources to work, if the politicians and economists could figure out how, output could be increased without reducing the production of any other good or service. Or if a country is *not* using the most efficient technology, then output could be increased by switching to that technology. But if it is producing at its production possibility frontier, then attempts to produce additional goods and services, say by becoming involved in a war and not wishing to reduce consumption or investment by raising taxes, or reducing nonmilitary public spending, the outcome is likely to be inflation. The economy would be trying to utilize *more* goods and services than it could produce. Does a large national deficit mean that we are at the production possibility frontier. NO! It means only that we are spending more than we are receiving in tax revenues - but there can still be unemployment.



The text (p.34) uses a simple graph to illustrate the principles of the production possibility frontier using only two goods. See figure 267. I prefer to use a more complicated (but I think easier to understand) description of the major factors that determine whether the economy is functioning at a point near its production possibility frontier, partly because I believe my approach is more realistic, and partly as background for later discussions.

Two major issues must be distinguished:

- What determines the limits of the production possibility frontier, and later in the course we will discuss what public policies can be established to help the country reach its production possibility frontier, or at least come reasonably close to it; and

- How can we increase the limits of the production possibility frontier, i.e., how can we encourage *economic growth*, and perhaps living standards

2. Why are modern, developed economies so productive, e.g., why is their production possibility curve higher than that of underdeveloped countries? Although no country ever actually attains the full limit of its production possibility frontier, it is generally desirable to come as close to this limit as possible, as this usually means higher living standards.

You may not believe it, particularly in view of the recent great recession, and the discontent which rages among many people, but most (*not all*) people who live in the U.S., Western Europe, Japan and a few other countries today live in a time of almost unbelievable affluence. Most people in developed countries live considerably longer, eat much better, travel more, have more communication with far flung parts of the world, are warmer in winter, and cooler in summer, and in many other ways are much better off than most people who lived as recently as 50 years ago in the same countries, and are far better off than the vast majority of residents of underdeveloped nations. The surge in knowledge/technology, in the production of tangible goods and needed services, and in public health have enabled most people to live in ways that would have been envied by royalty in the not too distant past. Income may be distributed highly unequally, a increasingly important issue, but with the exception of the very poor, residents of these developed economies are very well off indeed as compared with the normal condition of people throughout history. This is largely because the capacity to produce, i.e., the production possibility frontier, has expanded dramatically in the last 200 or so years. Unfortunately, this surge in technology has not benefitted all people, particularly those who lack the skills needed to utilize advancements in technology in producing goods.

In principle, residents in underdeveloped countries could, with effort, duplicate the success of residents in developed countries, and many countries have - consider the remarkable economic development of China since World War 2. Interestingly, some countries (or at least some of the people in underdeveloped countries) may have actually been better off before they encountered European technology. In a few countries, for example, European medicine led to a decrease in mortality and resulted in countries becoming heavily overpopulated and, in consequence, unable to muster the capital resources to develop their economies after providing for food, shelter and clothing for the population, usually in a minimal way. However, this is becoming less and less true as time passes.

What has led to this great, and very recent, growing abundance in developed countries (and later we will ask if it will continue and if it will spread to most of the rest of the world)? Actually, there are many factors which contribute to the productivity of developed modern economies, and the location of their production possibility frontiers. We will discuss the more important of these factors immediately below.

It is important that you realize that these factors are *interdependent*, i.e., it takes *all* of these factors *working together* to achieve high production levels. For example, advancing technology serves little purpose unless adequate capital equipment and trained workers are available to use it.

A. Quantity of Physical Capital: High levels of productivity requires physical capital, i.e., buildings, and machines and other capital equipment needed to produce goods. In general, developed countries have saved a significant amount of what they have produced which has

enabled them to expand their physical capital. We must also include infrastructure, i.e., roads, railways, bridges, schools, telephone lines, satellites, etc. as part of physical capital. Underdeveloped and developing countries typically lack the wherewithal to save enough of what they produce in order to expand the types and amount of capital goods which would enable them to take advantage of new technology and replace depreciated equipment. Poorer countries tend to be capital starved and often must make great sacrifices in order to increase savings and jump start economic development (unless they can entice foreign investment, sometimes a controversial issue). Note that the current developed countries usually made great sacrifices to accumulate their present level of capital, usually by paying very low wages to workers in the early stages of the industrial revolution.

B. Advanced technology, i.e., the Quality of Capital: The *productivity* of capital is being continually enhanced by improvements in technology, i.e., the ability of a given amount of capital to produce increasing amounts of higher quality goods and services. We have gained enormous knowledge, mostly in recent years, about how to combine raw resources in order to create an amazing variety of consumer products. We often make more progress in a single year than humanity as a whole used to make in a century. If anything, the pace seems to be accelerating. All of you, I imagine, expect improvements in your cell phones, automobiles, stereos, tvs, etc. almost on a yearly basis, a vast change from the world that existed 200 years ago. Can you name some recent examples?

Interestingly, knowledge of how to produce different items achieved a surprising level of sophistication during Greco/Roman/Persian times (and even earlier). Unfortunately, after the fall of the Roman empire, during the dark ages, technology progressed little, in fact it regressed in Europe (but continued to advance in the middle east, India, and elsewhere).

However, about 400 years ago, technical progress enabled rapid growth in knowledge of ways to increase the variety of goods and the speed of their fabrication. Among the manifestations of this technical progress were steam and gas engines, railroads, use of heavy machinery, etc. This began primarily in England, setting off the industrial revolution in England, then Europe and America, and finally, in many other parts of the world - a revolution that is still ongoing, and in fact is accelerating.

C. Quantity of Human Resources: Obviously, the more people available for work, the more that an economy will produce. Many countries have substantially increased the *percentage* of the population in the workforce in the last 60 years, partly due to the increase in the percentage of women who work, a significant factor in the growth of the production possibility frontier (particularly since roughly half of the women are smarter than half of the men). As people live to increasingly older ages, we may expect that the percentage of older people working will also rise, particularly as the retirement age inevitably rises and the economy must support an increasing percentage of elderly citizens. Pay particular attention to the fact that most advanced economies have increased the size of their labor forces as a result of both expanding populations and the percentage of the population that works, especially among women and older citizens.

D. Human Skills - the Quality (i.e. productivity) of Labor: Advanced technology and sophisticated production methods require skilled workers. Skills are typically obtained by formal education, on the job training, apprenticeships, experience, etc. Production is greatly inhibited in countries without a workforce capable of operating sophisticated machines. Lack of human skills helps explain why many countries, even though modern technology is available to them, fail to flourish. Even the U.S. is currently hampered by a shortage of skilled workers.

Optional: Somewhere around the middle 1950's, economists at the University of Chicago, began emphasizing the quality (i.e., ability to produce), as well as the quantity, of available resources, particularly workers, an issue raised by Adam Smith in the 1700s, but not often emphasized until the middle of the 1900's. The new emphasis on the quality of workers was largely a result of work carried out by economists in Post WW 2 Germany. The conventional wisdom was that Germany had been so thoroughly destroyed, that it would take many years to recover. Amazingly, Germany recovered fairly quickly. The recovery was considered miraculous. Economists at the University of Chicago posited that the recovery was largely due to the excellent industriousness, education, and health of the German worker. The concept of the importance of the "quality" of labor quickly became of major importance. You received a taste of it when you were told how your earnings would rise (probably) as you went to higher and higher levels of education and higher levels of work skills. That was also part of the basis, unfortunately, of the student loan program.

Economists often use an ill-defined term, the "stock of human capital" as a measure of the quality of labor. Some economists measure the stock of human capital by the number of years of education of workers. Others, more wise, note that health and work habits, which are clearly influenced by earlier expenditures/investments/child raising practices, are also highly important, and some economists include expenditures on re-employment and rehabilitation programs as well as on-the-job training and apprenticeships as part of the stock of human capital. The concept of human capital is clear, but establishing precise cut-off points for what is and what is not human capital is difficult and pointless. How would you classify free breakfast and lunch programs for needy children while attending school? Do you think school should begin at age 3 and should this be classified as day care or an investment in future citizen/workers - or some combination thereof.

Of course, the stock of human capital grows each year due to academic education, vocational training, on-the job learning, employer provided training, etc. These annual expenditures are termed "**investments in people.**" Such investment has grown increasingly important over the years, e.g., the **no child left behind** program. There is a growing emphasis on raising educational levels in *almost* all countries. I wish we had a similar concern about ensuring access to college (and other means of enhancing vocational skills, such as vocational schools and apprenticeships) for all citizens, including adults who wish to return to college. We will almost certainly someday regret the financial obstacles we put in front of youths who are capable of and wish to acquire higher levels of education or participate in other methods of improving vocational skills. One major benefit of skills development should be noted. The increasingly rapid technological change that we are currently experiencing is undoubtedly due to rapidly increasing numbers of engineers and research scientists as compared to the past.

It is worth noting - actually repeating - that eliminating discrimination in the job opportunities available for women and minorities, as well as increasing the opportunities for higher education for these groups has had an important influence on average worker productivity by making better use of their innate talents.¹ It is also worth noting (actually repeating) that lack of human skills, and restrictions placed on subgroups in society to obtain needed skills, helps to explain why many countries, even though modern technology is available to them, fail to flourish.

E. Growth of Specialization: In primitive economies, people tended to be self-reliant.

¹Many people would receive much poorer medical care if it were not for the large number of talented women trained as doctors.

They grew their own food, raised sheep and made their own clothes, even erected their own huts. But early in human history, it was recognized that some people were so skilled in a certain area that the local society would be better off if they specialized in what they do best, e.g., administering medicine, making arrowheads, fishing, etc. and trading what they produce for other goods and services that they need.

In advanced, more complicated economies, specialization is the rule, rather than the exception. There are at least two reasons for this:

- People vary widely in their acquired skills and native abilities. Most of you will specialize in a particular area. You will be more likely to earn a greater salary in that area, say as a business executive, than you would in another area where you are not trained, say dentistry, or an area that does not require particular skills.
- In addition, even when people lack special skills, they are usually more productive, even if bored, if they specialize in carrying out one small task repeatedly, efficiently, and rapidly. Henry Ford, founder of the Ford Motor company, is often given credit for introducing the production line which showed how specialization could produce complicated, high quality cars even though using unskilled labor, which often had recently immigrated from Europe. Ford paid above average wages and achieved much greater productivity from workers than could be obtained by using conventional (for the time) production techniques. Each worker knew little about producing cars, but could be quickly trained to carry out a small part of the task, e.g., install a window wiper, in a very capable manner. By focusing on a small part of the assembly, he or she could repeat the task quickly and efficiently many times. At the end of the Ford production line, high quality cars emerged, at surprisingly low cost. Collectively, the workers became far more productive than they would have been if working independently.

During the 1800's, a great deal of production was carried out by independent skilled craftsmen who produced the entire product, e.g. a carriage. However, in the 1900's, production was increasingly carried out on production lines by workers who knew only a small part of the production process.

This process of specialization is also termed, “the division of labor.” Although, as noted, Ford is often given credit for the development of the production line approach, the principle of the specialization of labor goes far back. Adam Smith, in *The Wealth of Nations* (1776), gave a famous example of a pin factory where he described how dividing up the tasks among workers in a pin factory enabled the factory to achieve a very high level of pin production per worker.

It should be noted that specialization using assembly line methods requires that the factory produce a large number of similar goods which in turn requires a large market. We will discuss the importance of having a large market (which includes both domestic and foreign markets) that will enable large scale production and specialization several times in this course.

F. Automation: Production methods have continued to evolve. After WWII, most producers required *both* skilled and unskilled workers in order to maintain and utilize the complicated and highly efficient machinery that had evolved. In fact, the proportion of skilled workers needed has grown in many types of production, reducing the use of unskilled workers

with important adverse effects on the employability of unskilled workers that we shall shortly discuss. This doesn't mean that the production line has been replaced. It has, however, been substantially altered with the introduction of high tech machinery and automation. Increasing automation is made possible largely by improving technology, but is identified separately because of its great importance in the modern world. It greatly increases output per person, but also causes discontent among some unemployed workers who often complain that they cannot find well paying jobs that do not require a high level of skills. Those days are gone.

Modern economies increasingly use *automation* where machines, requiring energy, produce most items, much more rapidly, and with greater accuracy and fewer problems than existed even a few years ago. Automation enables amazingly high productivity per worker which is why people are able to be paid as much as they are. Imagine, if 3 workers can produce as much as 10 used to produce, they can obviously be individually paid over three times as much, which partly explains why skilled workers make much more than unskilled workers.

Interestingly, specialization, i.e., the division of labor, is partly responsible for the progress of automation. As jobs became more specialized, some jobs became so simple, e.g., fastening two pieces together, that machines were developed to carry out the task. Moreover, the advent of computer technology has enabled production lines to increasingly use computers, robotic arms, and other machinery to carry out complex and precise tasks. You frequently read or hear about the loss of U.S. jobs to cheap foreign labor. This is only partly true. Production of many items is so capital intensive that the real issue is which countries maintain the most effective technology and train and utilize skilled workers able to construct and maintain these advanced machines. The growing use of specialization and automation are manifestations of changing technology. It makes it possible for underdeveloped economies to achieve high per worker productivity much faster than in the past by adopting high technology methods developed by *other* countries.

G. Infrastructure: It takes only a little thought to realize that quality of the infrastructure of a country has a major impact on the level of output. Infrastructure includes the transportation system (road, bridges, railways, etc.), the communication system (TV, telephone, email, radio, internet, etc.), educational system, energy systems (electricity generation and grids for distribution, gas, etc.), water distribution systems, health care, legal systems, police protection, financial system, etc. Producers must have access to power, be able to move goods and supplies, be able to communicate with others quickly, have faith in the integrity of their property and any contracts they make, etc. Much of what is termed infrastructure is also part of physical capital as previously noted, and is sometimes described as social capital.

H. Marketing Area: Generally firms prosper more, the larger the potential market for their goods. It is no accident that the large market area created in the United States helped propel this country to rapid economic gains due to economies of scale in production (which results from a high level of capital equipment, expanding technology, and specialization of workers). In recent years, the markets for many firms have been greatly expanded through international trade enabling small countries to develop large factories that are as efficient as those in large countries. In fact, international trade is the only way in which small countries can reap the benefits of advanced technology.

I. Type of Economic System: Believe it or not, the way that the economic system of a

country is structured will affect the efficiency with which it produces goods, the closeness with which what is produced matches what consumers want, and the level of a nation's output. There are, of course, many variations in the way that different nations organize their economic systems. In what follows, we will consider three broad categories of economic systems, roughly described as decentralized, mixed, and centralized/planned economies. Your text also talks about traditional economic systems which apparently refers to older societies in which people produced most of what they consumed. However, this is not very relevant to the modern world.

ii. Decentralized Economies, generally described as capitalism: If we go back one hundred years, many economists felt that the best way to manage an economy was to leave it alone and it would be self-correcting (an approach termed *laissez-faire*, i.e., French for *leave it alone - do not forget* this term). Usually, this was a policy that government officials were happy to follow although they frequently restricted imports in order to protect domestic jobs and businesses (a policy that almost always causes more harm than good as we will later see). The crisis caused by the devastating depression that savaged the world during the 1930's led to a sharp re-evaluation of the principle of *laissez-faire*, a re-evaluation that is still ongoing (think of the differences in attitudes toward government activity between the democrats and the tea party/republicans. The great depression, which happened much before your time, led to major breakthroughs in macroeconomics, and major, if still controversial, attitudes towards government management of national economies, some of which you will learn about in this course.

A decentralized economy is one in which most decisions about what to produce, how much to produce, methods of production, and what prices to charge for goods and services are made by *private* producers of these goods and services. In addition, decisions about what to buy and from whom to buy are made by the *consumers* of these goods and services. Decentralized economies are typically described as *capitalism or free-market*, terms that you frequently hear.

They are based on the assumption that people made consumption decisions based on what they perceive is in their best interests, i.e., *rational self interest*, a term you previously encountered and must know. Usually (but not always), people believe that the more they can earn, either through profits or wages, the better off they are. In the case of producers, they use their own ingenuity to out-compete their competitors by innovating new and/or improved products, and becoming more efficient so they can sell for less and/or gain a greater share of the market. In fact, *if* there is competition by independent producers of the same types of goods or services, they are **compelled** to produce the goods and services *most* desired by consumers, and are forced to provide these goods at the *lowest* possible price (using the most efficient new technologies). Failure to do so means that they eventually go out of business. This process is often brutal as it causes some business to fail and some people to lose their jobs, but it is what has given you your high standard of living. It forces the economy to become *dynamic*. **Producers** almost always seek a competitive advantage over their rivals by producing *a better product or a cheaper product*. *Never forget these forces in free (competitive) markets.*

Optional: Sometimes you will hear the term "creative destruction," a term invented by Joseph Schumpeter shortly before WWII. It basically is referring to the continual search by entrepreneurs for ways to out compete their rivals by offering lower prices or better products. This usually results in the laggards going out of business.

It is important to emphasize that producers don't seek cheaper or improved products

because they are altruistic. They do it to make higher profits or a higher salary and generally for no other reason - rarely because they are altruistic. Adam Smith, over 200 years ago, described this process as the *invisible hand* which leads the economy to produce those goods that best meet the desires of consumers, at the lowest possible cost. Consumers compel this. They will not buy the goods that are produced unless they are the goods that they most desire, and are offered at the lowest price. If producers fail to keep up with their rivals, they do not survive. However we may regret the plight of failed businesses and unemployed workers, we still buy the goods that we most desire at the lowest possible price. I often hear people bemoan the loss of jobs to other countries while watching TVs made in China, driving cars made in Japan, and eating fruit grown in Mexico. Few would be willing to pay more than the market price for these items in order to maintain the jobs of others in the U.S.

Frequently advocates of decentralized economic systems, or capitalism, emphasize private ownership and the rights of private property. However, this is not the most important aspect of capitalism. What is important is that in decentralized planning (market economies), production decisions are made by *competing* units motivated by profit (or by the remuneration of decision makers within those competing units, which often depends on profits). I must note, however, that private ownership typically is considered important in capitalist countries because it provides an incentive to owners to care for and maintain their property. Ownership means that people have a stake in maintaining their capital. Basically, a market economy utilizes the creative thinking of thousands of citizens in improving types of products and production methods. In contrast, public programs often are dependent on a handful of bureaucrats who often lack financial incentives to improve the quality of what they produce or to produce it at less cost.

Optional: What happens when the people who manage a company are not the ones who own the company (shareholders), a situation not considered by Adam Smith. Hopefully, these decision makers who own little or no part of the business perceive that their earnings and promotion possibilities hinge upon the profitability of the company. Despite this hope (theoretical), one of the major, unsolved economic problems in capitalistic countries arises because of the increasing separation of ownership of companies, as exemplified by many small shareholders, and the management of a company, which is increasingly dominated by a small professional group, often paying themselves inordinate salaries and bonuses, and managing very large companies. How do we ensure that management always looks out for the best interests of the shareholders (which clearly does not always happen)? This is a question that is not yet answered.

Basically, capitalism is successful if it creates conditions that lead producers to try to enhance profits/earnings by **producing products cheaper, or producing products that are superior. Do not forget this.** Unfortunately, capitalism does not always give incentives that lead to such happy results, e.g., the sub-prime mortgage crisis, the collapse of Enron, and monopolies in general. This occurs because salaries and bonuses often depend upon profits which may be enhanced by false advertising, producing inferior products (like sub-prime mortgages), creating monopolies, or just out and out lying. In addition, we should note that businesses sometimes stress short term profits rather than invest resources in capital and research that will contribute to the future prosperity of the business, and ultimately the economic growth of the country. In other words, the incentive to companies is to make profits by any means possible - many of which do not lead to better products or lower costs. Another problem is that private companies will sometimes try to stifle competition so that they can charge higher prices.

Unfortunately, *pure laissez-faire* capitalism will probably self destruct unless these perverse incentives are restrained. Public regulation and oversight is often needed to assure that companies increase profits *only* by improving the product or lowering costs/prices. If profits are increased in any other way, then capitalism is not working properly and is likely to be harmful to the population. Interestingly, public regulation to ensure honest competition, which many condemn as socialistic, may be the only way to preserve capitalism.

Economists often use the term “*consumer sovereignty*” to describe the process by which consumers, by their purchases, inform producers of what goods they wish to buy. Weeding out less efficient, high cost, firms by refusing to buy their products. Remember this term, “*consumer sovereignty*”. I sometimes include it in examinations.

iii. Centralized Planning: By centralized planning, we mean that resource allocation (decisions about what to produce and how to produce) and other economic decisions are made by a central authority. This is sometimes called a *command* economy and is associated with communism and socialism and numerous permutations. It was not too many years ago that there was a great debate between the advocates of socialism/communism and capitalism. The world was split between these two ideologies. Advocates of centralized planning noted the wasteful multiplicity of almost identical products in capitalistic countries, the emphasis on greed, the plight of unemployed and poor workers, the waste incurred in the vast amounts spent on convincing people to buy particular products (advertising), and the deceit practiced by many entrepreneurs. They believed that there must be a better way.

Unfortunately, as good as socialism sounds, in practice it failed, at least in its extreme manifestation. As exemplified by the USSR, it resulted in a failure to produce the goods and services most desired by citizens, low efficiency, limited innovation, a stagnant economy, and stultifying bureaucracies that resisted any change. Eventually, it brought the Soviet Union down. In many ways socialism was a noble, but failed, experiment, further complicated by a harsh dictatorship in the Soviet Union. The problem was that it failed to provide sufficient motivation to innovate and provide the least expensive high quality goods and services.

iii Mixed Economies: Most developed countries, including those that were formerly described as communist or socialist, have moved toward a mixed economy - a combination of a *dominant* market system, almost always with private property, and public oversight (such as assuring truth in advertising, that food and medicines are safe), etc., and/or public operation of some programs (such as the class you are currently taking). It has been recognized that many essential tasks cannot or will not be performed by the private sector, or are performed very poorly, e.g., overcoming unemployment and poverty, providing universal, high quality education, assuring that the food supply is always safe, etc. Basically, the public sector takes over, or promulgates rules, in areas where *laissez faire* capitalism does not perform well. If done properly, this will benefit honest private companies, protect the market system, and help achieve macroeconomic goals. Note the crucial qualifier, “if done properly.” This certainly does not characterize many government activities.

Such mixed economies are often termed “welfare capitalism.” Such mixed economies are, in the opinion of most people, necessary as capitalism, in its purest form, would probably self destruct, in spite of the protestations of free market zealots that it would not.

As we will discuss later, the U.S. is not a purely capitalistic economy. Some essential tasks cannot be performed solely by the private sector, or are done very poorly, e.g., overcoming unemployment and poverty, providing universal education, etc.. By taking corrective action *when laissez faire* capitalism does not perform well, the public sector actually protects the private sector. It is pointless to argue any more about whether we are mostly capitalistic or socialistic. We have elements of both. Most economists would prefer to minimize government activities, but some public activities are needed.

But in considering all the necessary things that public programs do, consider also the generalized contempt often shown toward public employees, other than those in the police and fire departments, and the military, and the widespread belief that government agencies are riddled with waste and inefficiency and that public employees often have little interest in improving services to the people they serve.

Actually, government employees, blessed with almost absolute job security and increasingly high wages, are not faced with the absolute necessity to maintain and improve the product, or to justify their salary. This tends to lead to a system with many dysfunctional employees, rampant inefficiency, and bureaucrats more concerned with following the rules than with taking chances to improve the product. Small wonder that some individuals wish to minimize government programs. Unfortunately, they rarely know which services to reduce or eliminate and end up standing on the sidelines decrying almost all public programs as socialistic.

The main difference between the U.S. and the former Soviet Union, in terms of the way the economies were organized, was that the U.S. had a much smaller portion of its economy run or regulated by public organizations. In consequence, the U.S. was much more dynamic and, due to growing productivity and innovation in the private sector, grew much faster than the Soviet Union.

If you look around the world, you will observe, that some economies have a greater percent of their planning done by the central government than others. In fact, there is great variation in the degree of central planning among countries, including Western European countries, the U.S., Canada, Australia, *etc.* There is continuing debate over the optimal level of central planning with those advocating more central planning usually stressing things like protecting the worker, the environment, etc. Those stressing less central planning usually stress the need for a more dynamic, efficient economy, even if some people will be hurt by it. The Tea Party movement consists of people who believe that there is too much reliance on public services, a matter about which there is much debate. Mixed economies with a great many public programs and substantial oversight are sometimes described by their detractors as socialist economies, e.g., Denmark, Canada, Sweden. There is no agreement on this (although there are many quack opinions, some rendered by professional politicians).

To illustrate a part of the continuing debate on this matter, consider health care. Some individuals wish to create a single national program usually by expanding Medicare. Others wish to require all citizens to purchase health insurance. Still others seem to be perfectly content to simply allow some people to die for lack of health care (although they will strongly deny this).

Summing up: Like it or not, countries with largely competitive markets almost always grow faster than countries that plan significant parts of their economies (and usually end up being

overwhelmed by their bureaucracies with numerous rules placing restrictions on enterprises, and requiring excessive data from them}. Similarly, countries in which peoples' income is determined primarily by their ability to obtain and retain high paying employment do better than countries that maintain extensive social programs to protect their citizens against unemployment, ill health, poverty, etc. Greed, and fear for one's job, distasteful as these motives are, have driven the U.S. to unprecedented economic growth. Socialism, a softer approach, and often favored by young people, often leads to failure, despite its noble objectives.

Incidentally, similar problems occur in middle management (bureaucracies) in large private firms where workers are generally secure in their jobs and rarely have a meaningful measure of what their contribution to production is.

I should qualify the above statements by noting that countries that neglect public areas critical to the private sectors, such as maintaining an adequate infrastructure and assuring that the educational system generates workers with the skills and talents needed by the private sector will almost certainly fall behind countries that assure that these essential needs are met, even if they require higher taxes and a larger public sector. Do you think that this characterizes the U.S. today? What is best for any country at any stage of their development will differ. China has been very successful with more central control than more mature countries. However China's extraordinary economic growth is likely to slow as they increasingly utilize modern technology and increasingly rely on public subsidies to large businesses.

3. What factors create economic growth, or, more precisely, an increase in the capacity to produce?

It should be obvious from our previous discussion that the limits to our production capability are set by our available supplies of resources (land, labor, and capital) and the quality (technology, fertility, skills, etc.) embedded in them, as well as other factors discussed above. Whether or not we actually maximize production will depend upon whether a) we use these resources as efficiently as possible, b) make full use of them, in particular, minimize unemployment and c) have efficient trade relations with the rest of the world. If we make full use of these resources in the most efficient way possible, we are at a point near the production possibility frontier. Does anyone believe that we have reached that happy state today?

Note that the text refers to reaching a point (*any point*) on the productive possibility frontier (or close to it) as *productive efficiency* and the point that is actually reached (of all the possible combinations of goods and services) as *allocative efficiency* i.e., the extent to which the actual production of goods and services best meet the desires of consumers.

To produce more than the limit established by the current production possibility frontier, i.e., to have economic growth by expanding the production possibility frontier, and coincidentally make it possible to increase the pay that each of you receive, it should be obvious that we must do one or more of the following:

- expand the level of resources available (land, labor, capital) -which may not increase per capita income;
- improve their quality (technology, skills);
- attain a greater level of the use of resources (reduce unemployment and unused

- industrial capacity);
- improve efficiency;
- improve the infrastructure (e.g., more efficient energy transmission lines);
- and many other possibilities, such as eliminating *excessive* public regulation.

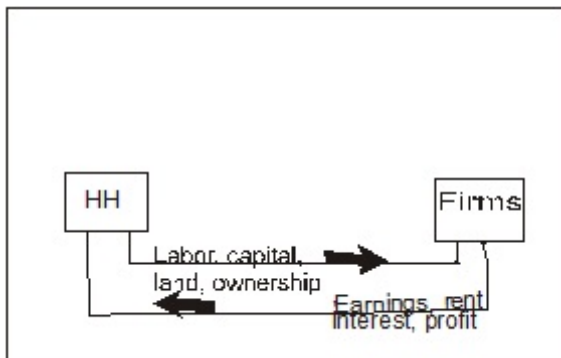
One additional fact needs to be once more stressed. These factors are interdependent. It is usually necessary to have multiple changes in these factors in order to promote economic growth since a change in any one variable invariably will effect another. For example to adopt a higher level of technology in capital usually requires insuring that sufficient workers with the skills to operate and maintain that technology are available.

4. What is the Circular Flow of Resources

The circular flow of resources is best illustrated by a schematic that illustrates the *interdependence* of the economy. Let us begin by constructing a very simple model. Let us divide the economy into just two sectors, *households, and firms*. (**Remember notes 1**)

Now you, as an individual in a household, find work at a firm and provide it with other resources. This leads to a payment from the firm to you (chart 1). Actually, think of four payments from the firm to households: One for **wages**, one for **interest** if you loaned the firm money, one for **rent** if you owned the building, and one for **profit** if you owned a share of the firm).

CHART 1

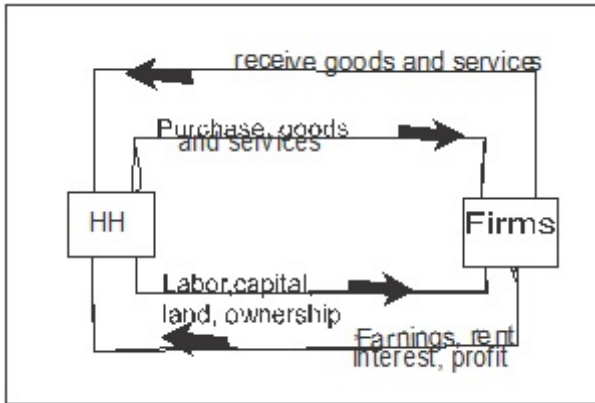


The value of everything produced by the firm in *this simplified* model is paid as wages, rent, interest, or, as a *residual*, profits. Think of this as *income earned*. **Remember** that wages are a return to labor, rents are a return to land, interest and sometimes rent (at least accountants record it as rent) are a return to capital, and profits are a residual which I normally also include as a return to capital.

Part of the income that households receive will be used to purchase goods from producing firms or other enterprises (or pay college tuition, or get haircuts, etc.). This will cause households to make payments to the firms and receive goods and services in return (Chart2).

This is the simplest model of the circular flow of resources, and, a *slightly* more advanced version from the one presented in the text. Note that since the value of all production must be reflected in either wages, rent, interest, or profit, the total values of these income flows (income earned) can also be defined as the **total value of production**. This, of course, is very simplified and will be expanded upon shortly. Let us assume *for the moment* that people spend all of the income they receive on consumption. Then the *value of what is spent* will equal the *value of what is produced*, since income earned represents the total value of output. Later we will learn that the sum total of what is spent is called **aggregate expenditures**. In our simple model, if **CHART**

CHART 2

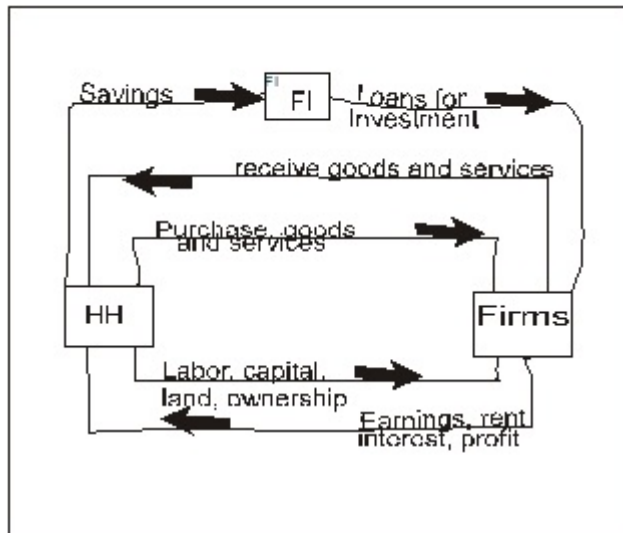


aggregate expenditures equal income earned, i.e., the value of everything produced, the economy is in balance. There is no incentive to expand or contract production.

This is a good point to introduce the concept of *Say's Law*, frequently cited in the text. Say's Law is obvious from the bottom side of the circular flow of resources. The value of everything that is produced is reflected in the costs of its production - wages, rents, interest,

or the residual, profits. Thus, the supply, i.e., production, creates income sufficient to purchase, all production. Or, supply by creating incomes, creates its own demand, i.e., *Say's Law*. However, since not all income may be spent (or spending may exceed income), supply, aggregate earning may not equal aggregate income, creating a need for remedial action which will occupy much of what is taught in this course.

CHART 3



Now back to the circular flow of resources. Of course, some of you, being frugal, will wish to save part of your earnings. Let us assume that savings are prudently put in a financial intermediary for protection or to earn interest (financial intermediaries are identified as commercial banks, credit unions, or one of several varieties of savings banks). However, the financial intermediary would not pay interest or provide checking services or promise to safeguard your money (you need at least one of these services to have an incentive to place the money in a financial intermediary) unless it could, in turn, loan out the funds at interest. Let us assume that these funds are lent, by banks, to firms or individuals for

investment purposes or to purchase consumer durables (automobiles, household appliances) at higher rate of interest than the bank pays you. This is why they are called financial intermediaries. If the amount they lend to firms or individuals for investment is as much as households deposit in financial intermediaries, **income spent** will again equal **income earned** (i.e., the value of production) and the economy will be in equilibrium.

Assume, to keep it simple, that all savings are used to make loans are made to firms or individuals for investment purposes. Then we can expand our circular flow of resources as shown in Chart 3. Note that all loans are represented as being made to firms in Chart 3 although some may be made to individuals.

Now let us add three final complications. First, Suppose Americans import goods from another country and pay for them with the dollars they have earned producing domestic goods. Clearly, if this occurs, some domestic goods will not be sold unless, people in other countries import some American made goods to their country. Later we will show how foreign trade can benefit both countries. Let us assume that the monetary value of imports and exports balance so that *income spent* continues to equal *income earned* and the economy continues to have aggregate spending equal aggregate production.

Second, as you all are aware, perhaps painfully so, people pay a variety of taxes out of their earnings. These taxes will reduce the amount of private goods that people will purchase. However, suppose the government spends all of the taxes they collect on public services. Then the economy will continue its happy balance as total expenditures will continue to equal the total value of income earned, i.e, production. Later, we will discuss the consequences of total expenditures being less than, or more than, the value of total production.

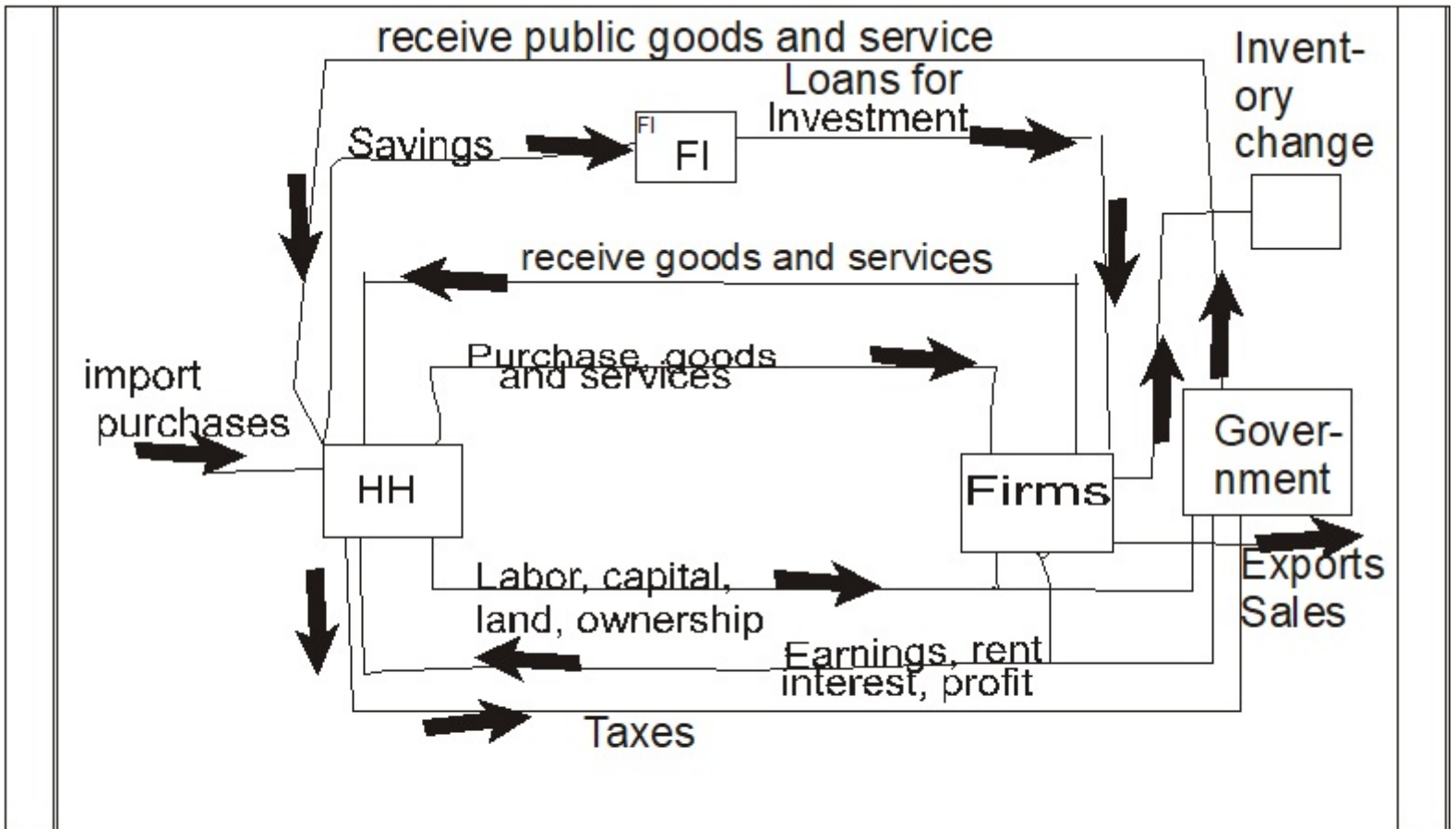
Third, and finally, what happens if aggregate expenditures are greater or less than aggregate production. Obviously, when you think about it, the unsold inventory must be added to inventory stock, or if aggregate expenditure are less than production, the inventories must be reduced, or we may be buying more from other countries than they purchase from us. Let us defer discussion of international trade to a later part of this course (notes 14), and assume that any differences between aggregate expenditures and aggregate production are reflected in inventory change.

See chart 4 for a schematic of these three additional complications in the circular flow of resources. Note that we had to add another producing unit, government and then had to extend the resource line (land, labor, and capital) to include resources employed by government, and the factor payment line (wages, rent, interest, and profit) paid by the government.

5. *What is a model?*

Some of you may think that the circular flow of resources is a simple, and unrealistic way to depict the economy. Absolutely true. The sad fact is that the real world is very complicated and it would be unrealistic to think that any of us, you or me or anyone else, could understand the interrelationship of every variable with all other variables in national economies. As pointed out by Alan Greenspan, former chairman of

CHART 4



the Federal Reserve, the U.S. economy is vast, complicated and imperfectly understood, even by experts (as should be obvious from our floundering efforts to control the effects of the recent great recession and its aftermath, and our rising national debt).

Much of what we will study in this class will be based on simplified models, such as given above. Simple as they may be, these models explain a great deal of what happens in the real world, and are frequently used as a basis for determining government and business policies. The important thing is that models must encompass enough variables to accurately help us understand the real world, but not so many that we spend hours trying to understand all of the interrelationships among variables. You will find that it takes surprisingly few variables to gain a broad understanding of how the economy operates.

As examples of some omissions, our admittedly simple model of the circular flow of resources omits purchases of materials from one business to another, omits loans by financial intermediaries to consumers for current consumption only (vacations, rent, food, etc and many other variables. I could put these variables into the model of the circular flow of resources. But if I did, it would add little to your understanding of the underlying processes of the circular flow of resources, but it would give you a nervous stomach trying to make sense of the many little boxes and arrows that I would have to incorporate.

6. What are the most important categories of business enterprises?

You should be familiar with the following terms used to describe business enterprises.

A. A **sole proprietorship**, which is an individually owned enterprise, e.g., if one of you set up a small business mowing lawns.

B. A **partnership**, which is simply a business owned by two *or more* people, e.g., two of you work together as owners of a lawn mowing business.

C. **An incorporated enterprise.** This is an enterprise that confers limited liability on the owner or owners. Incorporated enterprises are considered to have an identity independent of the owners of the enterprise. The enterprise will continue (if it does not go bankrupt) even though ownership may change. There are enormous advantages to being incorporated. One the most important is that the owners are not liable for any debts of the enterprise if it becomes bankrupt. If they were *not* incorporated, *each* shareholder could be held liable for the full debt of the corporation, regardless of how small of a share that they own or how little they are involved in management. When you see the terms **inc.** and **ltd.** after a firm's name that means that they are incorporated in the U.S. (Inc), or in England (Ltd). Sometimes you will see the

abbreviation LLC which stands for limited liability company and is used to allow businesses to effectively incorporate under less restrictive conditions than fully incorporated companies and usually is done to avoid double taxation, i.e., to avoid having the firm's earnings taxed under the corporate income tax, and then payments by the firm to the owners being taxed under the personal income tax, These LLCs are often referred to as pass through businesses. Note that all of the earnings of a LLC must be allocated to the owners for personal income taxation purposes. In the case of incorporated business that are not LLCs,, retained earnings are not allocated to the owners/shareholders and are not taxable under the Federal Income Tax, but are taxable under Corporation Profits tax.

Still another, and enormous, advantage of incorporation for firms, both large and small, is that it allows an entrepreneur(s) or business to accumulate a large amount of start-up capital from many investors without subjecting the investors to the risk of losing more than they put into the enterprise, which of course makes them more willing to invest (risk their capital). A third advantage of incorporation is that it is often easier for an incorporated enterprise, whether with single or multiple owners, to obtain contracts from firms, and the government. This isn't necessarily sensible, but it happens, and is sometimes required by law when awarding government contracts. The main disadvantage of incorporation, especially for small firms (usually seeking LLC status) is the additional amount of paperwork that is required to incorporate and submit reports to State agencies.

Almost all *large* firms are incorporated among multiple shareholders. Each share of stock usually represents a small share in the company and is usually traded on open markets, which some of you probably already have made use of. Note that *both* sole proprietorships and partnerships can be either incorporated or unincorporated, e.g., a large corporation is basically a massive partnership where each shareholder has a limited liability for the debts of the organization.

Of course, incorporation is a privilege that can be abused. For example, an entrepreneur can entice people to invest in a firm that they set up, but who themselves invest very little money in (although of course keeping a large share of the firm for themselves). In effect, they invest very little money, but receive a large part of the gains. If the firm fails, as is often the case, they just walk away with very little financial loss.- the loss is borne by their investors. Incorporation can benefit even sole proprietorships since the owners can walk away from a debt laden business that is failing, sometimes in order to fleece their creditors (and some do)).

Most business in the U.S. is conducted by incorporated enterprises., although they are greatly outnumbered by unincorporated business (which are usually quite small).

D. An unincorporated enterprise is one in which the owner, or owners, no

matter how little their investment, are fully responsible for all of the liabilities of the corporation, no matter how large these liabilities are.

7. What are multinational firms? What is Globalization?

Multinational firms are firms that do business in more than one country, either as producers, or sellers, or both. In fact, multinational firms, e.g., Ford, GE, Toyota, Nissan, etc. etc. and etc., although a small percent of the total number of enterprises that exist, carry on the great bulk of the world's commerce and sometimes have revenues that exceed those of small and/or underdeveloped countries.

Globalization refers to the fact that world economic activity is increasing dominated by large multinational firms that carry on both production and sales in many countries. As we will see, this sometimes causes controversy. For example, sometimes local jobs are lost which understandably creates resentment until, or if, the displaced workers locate other employment. Consider the ongoing resentment over imports of goods and services in the U.S. However, in general, globalization increases peoples' well being, by increasing output, raising wages, and lowering prices (*regardless* of what some politicians may say) discussed in notes 14.

Most large firms are multinational and participate in the increasing globalization of the world economy. Firms that are not multinational usually aspire to become so.

OPTIONAL: According to the Forbes Corporation, in the U. S. (quoted from the internet)

- 1) *The SBA defines a small business as an enterprise having fewer than 500 employees*
- 2) *There are almost 28 million small businesses and over 22 million are self employed with no additional payroll or employees (these are called nonemployers)*
- 3) *Over 50% of the working population (120 million individuals) works in a small business*
- 4) *Small businesses have generated over 65% of the net new jobs since 1995*
- 5) *Approximately 543,000 new businesses get started each month (but more employer businesses shut down than start up each month)*
- 6) *7 out of 10 new employer firms survive at least 2 years, half at least 5 years, a third at least 10 years and a quarter stay in business 15 years or more*
- 7) *52% of all small businesses are home-based - **Consider small shops operating***

through the internet

- 11) *19.4 million nonemployer businesses are sole proprietorships, 1.6 million are partnerships and 1.4 million are corporations*
- 12) *The fastest growing sector for freelance businesses in 2011 included auto repair shops, beauty salons and dry cleaners*
- 13) *Total revenues from nonemployers hit \$989.6 billion in 2011 (up 4.1% from 2010)*
- 14) *Nonemployers had average revenues of \$44,000*
- 15) *Around 80% of nonemployer businesses for 2011 (or 18 million businesses) reported less than \$50,000 in receipts*

8. What is specialization and comparative advantage? (Repetitious, just do not wish to throw this text away yet)

Unlike an agricultural society, most people do not produce all that they consume. In fact, they produce *very little* of what they consume. Most of you spend a substantial time shopping for the goods you need and want rather than, as might have occurred 100 years ago, making things for yourself (e.g., growing food, making clothes, making home repairs). Generally, as economies advance, people, as pointed out above, increasingly **specialize** in what they do best. Suppose person A is a very good plumber and a lousy accountant. Person B is a good accountant but a bad plumber. Clearly, it pays A to spend his time as a plumber where he makes a great deal of money and hire person B to do his or her accounting and vice versa. Each person pursues the activity in which he or she has a **comparative advantage**. People working *at what they do best* achieve the highest incomes through trading their services. This is another instance of the division of labor and specialization described above.

In our earlier discussion of this topic, we observed that people acquire a comparative advantage because of innate skills (a talented dancer), the acquisitions of skills, or by specializing on one job where they can focus their efforts (the production line) even if they have no clearly superior skills.

Clearly, with specialization, most people produce very little of what they consume. How are they able to obtain the many and varied goods and services that they consume? The answer is simple. **MONEY:** Money is the oil that makes it possible for the economy to function at a high level of efficiency. A barter system would be hopelessly inefficient.

Review questions

1. What is meant by decentralized planning?
2. Why do you think centralized planning failed in the USSR?
3. What role do “profits” play in decentralized planning?
4. Explain what is meant by the term “circular flow of resources?”
6. Distinguish incorporated enterprises from unincorporated enterprises? Is there a major advantage in incorporating to owners and if so, what is it?
7. What is meant by the term, “division of labor?”
8. Why do people specialize in the work that they do?
9. What do we mean by the term, “comparative advantage?”
10. What is the role of “money” in a market economy?
11. What is meant by the term “consumer sovereignty?”
12. What is meant by the term “opportunity cost?”
13. Name two problems that can cause an economy to produce at a point below its capacity
14. Why is it advantageous to incorporate if you are going into business?
15. If the labor force is fully employed, and the government attempts to hire additional workers in order to build roads, what do you think will happen?
16. Why do people specialize?
17. Is Ford Motor Company a multinational Firm? Explain.
18. Why do we employ models of the economy? Should a model predict how the economy operates?

INTERESTING ASIDE THAT I DO NOT KNOW WHAT TO DO WITH

Entrepreneurship should focus on improving efficiency and the quality of the product or service. We cannot help but note, that in organizations, particularly tax financed public agencies, where survival does not depend upon high efficiency or a high quality product, staff becomes wedded to rigid rules and risk avoidance, eventually leading to inefficiency and stagnation. This describes many government bureaucracies, many nonprofit organizations, and is sometimes a problem in very large companies where there are multiple layers of middle management, all of whom devote considerable effort to defending their jobs rather than improving the performance of their organization. Prosperous companies can afford, and sometimes tolerate these mini-bureaucracies. When hard times come, these middle level managers may be turned out in droves.

