06 Profit

This chapter explains the three major sources of profit: innovation, uncertainty, and imperfect competition. It uses ideas about profit as a way to move from the static ideal to the dynamic ideal and to describe the bad effects of imperfect competition. Because both good dynamism and bad flaws produce profit, it is hard to tell when we are in a good dynamic situation or in a bad flawed situation. This chapter talks sometimes about costs as if they were fixed. It does not intend to ignore imputation but only takes this stance for convenience.

The static ideal is “determinate” because most questions can be answered and most situations have definite outcomes. This is not true when dynamic relations and imperfect competition appear. They make the real economy “indeterminate”. Sometimes we do not know exactly what will happen. Some questions arise for which there are no clear answers, and in some situations we do not know what to do. This is not the fault of economists but is inherent in the situation. I make guesses when I can. Business firms come in various sizes and types ranging from one person working alone in a shop to a giant corporation with its own bureaucracy and a hundred lobbyists. The various types and sizes do affect sources of profit but this chapter cannot go into that relation.

06 Profit; Synopsis.

Profit is occasional or sustained. Most firms expect to make sustained profit. Occasional profit comes from (1) innovation and (2) uncertainty. Innovation includes both new gadgets like smart phones and new ideas such as the assembly line, double-entry bookkeeping, a new cartoon style, and a new movie character like Iron Man. Everything real in this world is a little uncertain. Sometimes it rains and sometimes not. Sometimes a movie hits unexpectedly and sometimes what looks like a sure hit flops. Innovation and uncertainty usually do not distort the economy too much or in bad ways.

Sustained profit comes from (3) unfair competition. Unfair competition need not be dastardly. It only means that a firm does not have to “take” prices but can, to some extent, “make” prices. It can set prices above production costs. Firms achieve this power in three ways. (3A) One, or a few, firms can be so large that they make most of a kind of good, as Boeing makes most of the commercial airplanes in the United States and Microsoft makes most of the software. (3B) The state can give a firm power to set production and prices as with defense products and home cable TV. Firms seek this kind of power through influencing government officials. (3C) Firms can cut up a large market into small chunks, and become the monopolist of one small chunk. Usually firms do this by fostering brand loyalty, as with frozen dinners, cars, computers, smart phones, cosmetics, kinds of music, motels, clothes, schools, etc. Any market with enough of one of these kinds of control is called “structured” rather than “free” or “unstructured”.

Firms use fear of uncertainty to structure a market. Rather than always check out new brands, consumers will pay more for a particular brand of toothpaste, car, or laptop computer, because they have used it before, and it is “tried and true”. We pay for familiarity with a higher price and less choice.

Firms that cannot structure their markets make no profit in the long run and so die at the hands of firms that can. Banks expect all firms to make a sustained profit, even firms that cannot find a way to control a market. Thus banks inadvertently help kill small firms. Nearly all goods in the United States are made by firms in structured markets, usually type 3C. Family diners have been almost completely replaced by chain franchises.

A structured market does not work as Smith described for ideal capitalism. It does not deliver the most benefit to the most people, use resources most efficiently, and support one price for all. Structured markets distort the economy in bad ways. I do not know how badly and in what ways the American economy is distorted. Accumulated profit increases distortion and bad effects. Firms cannot spend accumulated profit in the normal way that consumers spend salaries. Firms cannot reinvest accumulated profits naturally in their own market so they look for other ways to invest. Their investment usually increases structuring and bad effects. In America recently, firms invested accumulated profits in real estate by investing in other firms that gave bad loans. Firms also invest in politicians. Accumulated profits helped fuel the housing crisis. Accumulated profits probably also accentuate the boom and bust cycle, but how is not clear.

Figuring Profit and Seeking Most Profit. Profit is revenue above costs. What matters is not the amount of profit alone but the amount compared to the value of the capital that generated the profit, and the amount of profit in this venture compared to what profit might be gotten in other ventures. Profit is figured by comparing the amount of return to the value of (amount of) "invested capital". If a firm invests $1,000,000 in a venture and gets a return above costs of $80,000 then it has made 8% percent profit. If a firm invests $2,000,000 and gets a return of $80,000 then it has made a 4% profit.

Firms have to take time into consideration, so profit is figured on an amount invested "spread out" over time periods. Suppose a firm invests $1,000,000 in increments of $200,000 per year for 5 years. The venture yields $212,000 the first year or $12,000 above cost for the first year. The firm made a profit of 6% for that year. When compound interest over time is considered, these calculations get complicated. None of that is done here. Do not worry about the details of time.

Whether a profit is "good" depends not just on the rate itself for this venture but also on the rate for this venture compared to alternative ventures. If a firm made 7% in a pizza venture but could have made 10% in an electronics venture with the same investment, then the firm should have invested in electronics, and the firm effectively made a loss of 3% on this venture. It suffered an opportunity cost of 3%. This idea comes up often.

Types of Profit. It helps to group profit into three types. These three types of profit are not the same as the three sources of profit, although they are related. Two of the types have their own distinct sources while the other type comes from a mixture of sources. The third type causes much of the confusion.

(1) Earned Profit from Innovation and Uncertainty. Business firms use new ideas and the normal fluctuations of life to earn a profit. This kind of profit is the basis for the good dynamic ideal. It is called "earned" profit because it comes from adding to the sum total of utility for the economy as a whole and

because it is not based on taking unfair advantage of a situation. The implementation of innovation increases productivity and leads to growth, so profit from innovation promotes productivity and growth.

(2) Unearned Profit from Imperfect Competition. Some business firms can take advantage of oddities in production or of oddities in the market to earn a profit. This kind of profit is "unearned"; it does not come from an increase in the total utility to the economy as a whole but comes from taking advantage of a situation. It does not necessarily come from taking unfair advantage, but it can come from unfair advantage. It usually comes from a market and/or "structures" the market (see below). It often leads to unfairness. It always leads to distortions.

Rent income (profit) is a kind of profit from imperfect competition, likely the most important kind because worldwide it probably leads to the greatest total profit. I do not go into rent much here because the neoclassical standard account of rent is cumbersome and not intuitive, if accurate. The remarks here about imperfect competition apply to rent. For more details, please see my website.

(3) Normal Profit and Interest. This is the difficult category. All business firms routinely expect to make a certain minimum profit based on their total investment. The expected normal profit varies from about 5% for small business firms to as much as 20% for some large corporations. If a family restaurant is worth about one million dollars, the owners expect to make about $100,000 profit (10%) for the year. This profit is in addition to any salaries the owners might receive as managers of the restaurant.

Likewise, banks expect to make a certain minimum return on all loans, usually no less than 5%, even during recession. Normal interest is related to normal profit and to the other types of profit, but it is not clear how interest is related to profit. The average rate of expected normal interest differs a little from the average rate of expected normal profit but the two are related, so I will not go to much trouble to distinguish them for now. We can treat normal profit, and thus cause (2), as the primary source of normal interest.

We cannot be sure about the relation of interest to profit because we cannot be sure about the origin of all normal profit. If all normal profit were based on the natural increase in productivity then we would expect the average rate of normal profit and interest to be close to the average rate of growth due to increase in productivity, about 2.5% per year. The average rate of expected profit and interest usually is higher than that, so expected normal profit and interest must have other sources. Taking advantage of the normal fluctuations of life (uncertainty) might increase the average rate slightly but not enough to reach the observed sustained rate of about 5%. So somehow unearned profit from imperfect competition by some business firms (cause 2) adds significantly to the expected rate of normal profit for all business firms (cause 3), even for firms that do not gain from imperfect competition; and somehow unearned profit from imperfect competition (cause 2) contributes to the expected rate of normal interest (cause 3). As far as I know, nobody knows exactly how all this happens.

We need to know because, if the normal rate of expected profit exceeds the rate of natural growth due to increase in productivity, then the economy is distorted. The economy does not reach full efficiency and full welfare. Problems arise such as unemployment and poor employment. In fact, this is the case in all real economies.

It is tempting to think the amount of distortion equals the difference between the usual expected rates of normal profit (10%) minus the rate of natural growth due to increased productivity (2.5%) (10% minus 2.5% = 7.5%). This amount matches the rate of persistent unemployment, and so likely this guess is not too far off. But we cannot even say this much for sure.

Marxists make much of these problems about profit and interest but their ideas are too different from the framework used in this book to go into here. Neoclassical economists tend to take the idea of normal profit for granted, and to analyze profit only to the extent of trying to figure out how much profit might be expected in particular cases. They do not think much about the origin of profit and interest, and about relations between various contributing types of profit. Essentially, mainstream economists developed a method that allows them to ignore questions about origins of profit and interest, overall effects of uncertainty and imperfect competition, and implications for flaws and problems. We have to dig a little deeper than that here.

Growth and Productivity. Growth is a lasting increase in average utility, in average benefit. When the average person feels better off for a long enough time, then the economy has grown.

Some growth comes from an increase in material goods. Just as utility differs from money and material goods, so growth is not limited to money or material goods. Any enduring increase in average utility is growth. A good idea can make us all better off, and so a good idea is growth too. All this can be growth: a work of art such as a good TV show; a new scientific idea; a new relation between groups of people who had been suspicious; the better use of a natural resource such as solar power; better institutions such as respect for the rule of law and for the duties of office; and a better understanding of human relations such as came with the study of history and political science.

Most people think of growth in terms of an increase in average material wealth or an increase in average income. We can think of growth this way as long as we keep in mind that real growth might not be limited in this way. Non-material increase in benefit is growth too. Material goods and money make convenient measures of growth.

Because real growth should last, if we want to think of growth in material terms, we need to focus on enduring material goods or long-term increases in income for everybody. We should think of new roads, better forests, safety for animals, the discovery of electricity or atomic energy, new beautiful buildings, and new forces in art such as rock and roll. We can ignore “bubbles” such as the housing boom that began in the 1970s and peaked in middle 2000s.

We could not have growth if we had only the same resources and could only do the same things with those resources that we always have done. For growth, we need more resources such as oil or we need to use better our current resources. Since new resources are not very important now, I focus on using what we already have better. Growth requires that we be more efficient in our use of present resources. This does not only mean conservation. It can mean a better use of electronics in ideas that everybody likes, such as the switch from portable disc players to portable MP3 players. Real growth in material wealth requires an increase in productivity.

Real growth has intrinsic limits. Pushing a trend beyond the intrinsic limits is not real growth but is a kind

of misleading anti-growth that takes away from the benefits of the prior real growth. Increases in productivity have their limits. Pushing productivity beyond its intrinsic limits is anti-productivity that takes away from the benefits of prior real productivity. This idea of intrinsic limits is part of the idea of diminishing returns on which marginality theory rests. It is not possible to have one without the other. A few skyscrapers can be glorious but a lot of skyscrapers ruin it for all of them. Mass transit is better than never-ending traffic jams with everybody each burning gas in his-her private air-conditioned box.

In capitalism, change occurs through business firms responding to consumer desire when firms pursue profit. In pursuing profit, firms often have to implement greater productivity. So growth should occur through business firms being increasingly productive in responding to consumer desires. Together with the idea that increased productivity has intrinsic limits, these ideas lead us to the first source of profit: innovation.

Good natural growth automatically takes productivity to its correct limit and then stops. Bad induced expansion creates investment where there should be none or forces the implementation of productivity beyond its proper limit. Induced expansion is the enemy of natural growth because it sours people on all growth. I like natural growth and very much dislike induced expansion.

The implementation of innovation through free action by individuals and business firms should lead to the maximum practical benefit (utility or welfare) but it does not always lead to the most imaginable. There is another kind of growth that can lead to more wealth. This kind of growth is not relevant to the body of this chapter but it is relevant to policy questions in Chapter Nine, so I describe it in an appendix to this chapter.

(1) Innovation. Innovation includes technical change, changes in organization, and changes in taste. It is easy to see that computer chips changed our lives. We do not always appreciate that these innovations did too: bureaucracy; the assembly line; double-entry bookkeeping; modern offices; and segmented business firms such as General Motors with Chevy, Pontiac, Buick, and Cadillac lines. It is easiest to talk about technical innovation, so most examples are of technical innovation but the ideas apply to all kinds of innovation.

A change in taste might not increase the total amount of wealth - in fact it can decrease the total amount of material wealth as when people prefer services such as lawyers to hard material goods such as a new car. But a change in taste does serve the total amount of utility, and business firms do have to respond to a change in taste as with the switch to mountain bikes or the switch away from SUVs. With a change of taste, the economy does not grow in the usual sense of growth in material goods. If changes in the economy due to changes in taste are carried out by free individuals and business firms, then changes in taste should lead to an increase in utility (welfare) even if they do not lead to an increase in material wealth. If we prefer lawyers to cars, then more lawyers increase the total sum of utility (welfare). I do not know of total utility goes up when one “boy band” falls out of favor and another rises or if hip hop replaces R&B. I do not dwell on taste because we can understand changes in well enough if we understand changes in technology or organization.

Not all innovation is good, and most innovation has both good and bad aspects, as for example bureaucracy. Genetic research is a two-edged sword. With it, we will both cure disease and

experiment on bottle babies.

I focus on the good aspects of innovation because I assume people usually adopt innovation because it increases their utility; they judge its good aspects to outweigh its bad aspects. People do not adopt innovations that do not increase their utility – a valid use of circular subjective reasoning. People adopted cell phones because they judged them to be better than worse. Sometimes people do have innovation forced on them, and sometimes innovation is a net good for some people but a net bad for others. I do not like cell phones and texting but have had to make my peace with them. I love music, but I would gladly ban speakers in cars if that edict would get rid of rolling boom boxes.

Implementing Innovation. In Chapter Two on Classical economics, we saw intuitively how innovations are implemented. Restating that story in terms of strict marginality theory is not useful as long as you get the basic ideas. It is enough to state the major themes here and to go through some details in later sections.

-An innovation increases the normal cost effectiveness of some resource.

-An innovation reduces the cost of at least some input factor.

-In contrast to the static ideal where the sum of the costs of input factors equals the price of the final good, with an innovation, the sum of the costs of input factors is temporarily lower than the price of the good on the market.

-For a while, firms can make a profit from the difference between reduced cost and standard price.

-Eventually due to increasing implementation, and to competition from other firms entering the market, cost increases.

-At the same time, the price for goods made through the innovation decreases.

-The combination of rising cost of inputs with reducing cost of output (price of the final good) causes profit to disappear again.

-At that point the innovation has been completely absorbed into the economy.

As a result of an innovation, consumers can use a good more than they might otherwise, or people can use the good in the same amount but can also use some other goods more. When TVs got cheaper, people bought more TVs or they replaced their old TV and bought better stereo equipment too. A firm can use a resource more than previously to make more goods than it would have, or it can reduce the price of goods, or it can make other goods more cheaply. As plastics got cheaper, firms used more plastic, they reduced the price of some things made of plastic such as furniture, and they could make quality wooden furniture because they no longer needed wood for such things as floors and bathroom cabinets.

Albert runs a factory that makes all kinds of small-wheeled vehicles for an entire region: bicycles,

motorcycles, tricycles, wagons, etc. Like any adept firm, Albert uses rubber to make tires most cost effectively. Albert makes tires of the proper quality and the proper thickness. He gives the customers what he has to give them but he cannot give them more.

Albert's rubber supplier has developed a new rubber that is stronger and more durable. The new rubber costs slightly more per ounce (it does not matter how much) but with it Albert can make some tires thinner and can make some treads deeper. The tires run better and last longer.

It does not pay to use the new rubber in all applications and on all vehicles. Albert would not use the new rubber for handlebar grips or for mud flaps. It does not pay to use the new rubber for the tires of tricycles or most wagons. It does pay to use the new rubber on the tires of most bicycles and most motorcycles.

"It does not pay" here means that it is not cost effective, that the marginal revenue productivity is negative, or that the cost per marginal unit is greater than the revenue per tricycle or wagon. "It does pay" here means that it is cost effective, that the marginal revenue productivity is positive, or that the cost per marginal unit is less than the revenue per bicycle or motorcycle.

"It would be cost effective" here means that Albert makes a profit when he uses the new rubber on the tires of some bicycles and motorcycles. The cost of the new rubber is less than the price of the bicycles or motorcycles, especially if Albert can raise the price slightly by appealing to the better performance and greater durability of the new tires. Whenever marginal revenue exceeds marginal cost, then a firm makes a profit.

Productivity and Growth Reminder. As firms implement innovation, the economy becomes more productive. People get more goods from the same amount of resources, or the same goods for fewer resources, or entirely new goods, or some combination. The total utility in the economy goes up.

At any time, more than one innovation is working its way through the economy. We now have advances in computers and in bio-technology at the same time. The increase in productivity for the economy as a whole is an average of the increase due to all innovations being implemented.

The natural growth rate is the same as the rate of increase in productivity, which is the same as the rate of implementation of all innovation in general.

When economies first switch to capitalism, they grow quickly because they have many innovations to implement, innovations in organization (rule of law) as much as in technology (electrical power). The most dramatic recent example is the Chinese switch to state capitalism. As capitalist economies mature, they grow more slowly. The United States has been a mature capitalist economy at least since World War II. In the decades since then, productivity has grown at an average of about 2.5%. People have seen an average increase in welfare (utility), as indicated by income, by about 2.5% per year. We have been getting steadily better off. Of course, some people do not feel the improvement because they are poor while a lot of other people do not feel it because they are caught up in a game of comparative competition.

Profit and Interest. While an innovation works its way through the economy, firms make a profit, such as

Albert the wagon maker above. As an innovation works its way through the economy, the usual price war between firms happens. Capital flows into the business. The price decreases and some costs go up. Eventually firms make no more profit through the innovation even though everybody is permanently better off.

While firms were implementing an innovation, any profit they made might give rise to interest as well. To take advantage of innovation, firms would be willing to borrow money. The rate that they would be willing to pay would pretty nearly equal the rate of profit they might expect. In near-perfect competition, the general rate of interest due to the implementation of an innovation would about equal the rate of profit from the average of all innovations, or about equal the rate of increase in productivity, or about equal the rate of natural growth.

Whenever the general rate of profit or of interest does not equal the rate of natural growth then something else is going on. Most business firms expect to make a profit of about 5% to 15%. The background rate of interest is around 5% to 10%. The general expectation of profit, and the background rate of interest, both exceed the rate of natural growth (2.5%), so something else is going on too.

A Long Time. We tend to think of innovations as gadgets we see on TV, or as the latest pop culture craze, and so we think they work their way through the economy pretty quickly. The standard time for a patent is 17 years, and we tend to think that most innovations have worked their magic by that time. In fact, many innovations take much longer to work their way through the system and have much deeper effects than we realize. One primary innovation can spawn a host of consequent innovations. An innovation in one type of business directly changes other types of business and spawns consequent innovations in other places too. The modern form of alternating current for the delivery of electricity was developed around 1900 but it still profoundly changes our lives in new ways every year. It allowed for mass communication such as radio, the movies, and TV. Biotechnology will literally change lives for hundreds of years to come. On a lighter note, the bikini was invented in the early 1950s, and its descendants still affect our lives today. The same is true of rock and roll.

(2) Uncertainty. Uncertainty is the second major factor contributing to profit and interest. The previous chapter defined “risk” in terms of an outcome for which we can calculate the probability (the “odds”), such as the chance of rain today; and it defined “uncertainty” in terms of an outcome about which we cannot calculate the probability but can only make a decent guess, such as whether Johnny has an aptitude for music. Outcomes about which we cannot even make a decent guess, such as a major tsunami, can affect the economy but cannot figure into any analysis, so I do not discuss them.

Uncertainty is like playing “whack-a-mole”. We know that the head will come up somewhere. We even have a good idea about how many heads will come up over a five-minute period. But we do not know exactly where the head will come up, and that is what counts in our score. Uncertainty is like trying to predict the location of the next particular bubble that comes up in a pot of gently boiling water, or trying to predict the next direction of a particular dust mote that is floating through the air.

Uncertainty provides both opportunity for gain and danger of loss. If the orange crop is poor this year, the price of oranges will go up (see the movie “Trading Places”). Anybody that buys shares in a juice company is likely to make money. If a war breaks out, the people that supply materials are likely to make

money, such as Daddy Warbucks from Little Orphan Annie or the Bechtel Corporation of ex-Vice President Dick Cheney. If the government inflates the currency to pay for the war, then the price of gold will go up. People who foresee a rise in the price of gold can make a good profit from that rise. People who bought Google stock when it first went public made a lot of money. People who bought Apple stock when the first iPod came out made a lot of money. Of course, if the orange crop is really bad, or really good, then orange farmers are likely to lose money. If the war goes badly, then the bonds of the new government are not worth much. If a new shopping center catches the public eye, it makes money. But if a planned off-ramp from a nearby highway does not go in, then the shopping center loses money instead.

An important part of business activity is guessing about uncertainty and trying to take advantage of it. Business people that are good at this have "good business sense". They are good at "whack-a-mole". They are business Jedi or business Sith. They can make a lot of money. If they work in a firm, they can make a lot of money for the firm. When business people say they are "assuming a risk" or "taking a risk", economists would say that really they are "assuming an uncertainty" or "taking an uncertainty".

Just because uncertainty cannot be calculated precisely, it is hard to say how much money astute that "uncertainty takers" should earn. Business people that use uncertainty to make profit get the rewards or punishments of their skill automatically. If their guesses make money, then they are paid. If their guesses lose money, then they are punished. We don't have to devise a formula for how much they should earn because the market figures that automatically.

Sometimes it can seem as if the reward is out of all proportion to the skill, and that luck plays a huge role. Original investors in Google or Microsoft did well as much out of luck as out of skill. This is true. Even so, it is necessary. It is not possible to make the economy certain, and some people have to deal with the uncertainty. If some people did not deal with the uncertainty, then the economy would halt and we would all suffer. The reward that some people get from dealing with uncertainty is how the public pays those people to deal with our uncertainty for us.

Sometimes people that deal with uncertainty also make income from imperfect competition, as when they control a large firm. Then it is almost impossible to distinguish how much of their income comes from good business sense and how much comes from taking advantage of a situation. I think most of the very large salaries that we read about for corporate executives (CEO) are from imperfect competition rather than from their skill in dealing with uncertainty but I cannot argue the point here.

People that deal with uncertainty manage uncertainty. They control it, tame it, weaken it, and make it less scary. They put it to work. They do other people a service when they make money for themselves, just as bakers do other people a service when they bake bread. "Uncertainty takers" help limit the unavoidable weirdness of the world, and so make the world more manageable for the rest of us. People that buy wetlands because they think wetlands might someday make money from duck hunters do everybody a big conservation service. People that are willing to take on uncertainty cause good events that otherwise would never happen such as the development of cable TV and high-speed internet services.

People that deal with uncertainty are an important force in helping us to cope with natural changes, especially natural problems and disasters. Even in the static ideal, people cope with natural changes

because they respond to risk, to different availability of resources, and to different costs. In contrast, people that deal with uncertainty respond more aggressively and decisively. They rebuild after floods, tornadoes, and hurricanes. They do medical research. They do leading-edge science and engineering.

Acting on uncertainty is the major way that innovation is implemented. In the beginning stages, innovations are uncertain, and are subject to considerable loss. When personal computers first came out in the early 1980s, the best brand on the market probably was the Commodore - now unheard of. When video games moved from handheld devices to the PC, the move was tremendously uncertain and actually lost some money.

An inevitable part of uncertainty is some loss somewhere sometimes. It cannot be all gain. When some investors gain, some lose. This gives the familiar "risk" element to capitalism. People mistakenly think that all investments in pension funds, bonds, or stocks can be made entirely secure but they cannot. If investments could all be made secure, we would not have capitalism.

As with risk, there is a relation between uncertainty and return: the greater the gain the greater the uncertainty. If people wish a high level of security then they have to accept a modest return; if they wish a higher return then they have to accept failure and pain at least sometimes, even with pension funds.

Most people fear uncertainty. People do many things to protect themselves and their families from uncertainty, including calling upon the state. We have the police, Food and Drug Administration (FDA), Consumer Reports, American Medical Association, labor unions, business associations, and legions of lawyers, all to protect us from uncertainty. Uncertainty can induce imperfect competition directly, as when a big insurance company can handle hurricanes while a small insurance company cannot; or imperfect competition can develop as a response to reduce uncertainty, as when we turn to big corporations such as Wendy's to make sure our dinner will not poison us. It is hard to stress enough how much people fear uncertainty, and how much firms and people will do to lessen uncertainty. The study of responses to lessen uncertainty is a large and fascinating topic within economics. We need to keep this in mind when we look at labor and wages in the next chapter.

A person who routinely deals with uncertainty so as to gain from uncertainty is an "entrepreneur". Entrepreneurs are the human means by which we all implement innovations and manage uncertainty.

We tend to romanticize entrepreneurs; we tend to see entrepreneurs as "captains of industry" or as Captain Kirk on the Enterprise. We should appreciate all the good that entrepreneurs do but we should not to take them all as heroes. Some entrepreneurs are good guys but many of them are more like the Jack Black character (Carl Denham) in the movie "King Kong" than like any of the obvious good guys.

Managers are not entrepreneurs, and the types of people get different rewards. Entrepreneurs get profit while managers get a salary. A manager often deals with risk, and a manager takes care of affairs, but a manager does not often deal with uncertainty, and a manager does not share in profits from uncertainty. A manager makes a salary based on his-her cost effectiveness (marginal revenue productivity) in taking care of affairs and in dealing with risk; a manager does not make a return based on profit. Especially a manager does not make a return based on profit from uncertainty. Only an

entrepreneur makes profit from dealing with uncertainty. Often business people blend both characters somewhat in their jobs, and business people like to think of themselves as entrepreneurs if any part of their job calls for guesswork and decisions; business people are prone to self-romanticizing too; but really most business people are more managers than entrepreneurs.

Profit and Interest So Far. To understand the effects of uncertainty on the economy, we need to know if the total sum of profits from uncertainty in the entire economy about equals the total sum of losses, or if gains are more, or if losses are more. Just because uncertainty is uncertain, we cannot be sure either way. Even so, in any large arena such as modern capitalism, it is likely that the profits and losses about equal. Any excess of profits over losses likely comes from the role uncertainty plays in implementing innovation, and so those profits are best attributed to innovation. With that warning, it is fair to say that, if overall profits and losses from uncertainty do not equal, then likely considerable distortion occurs in the economy. But it is hard to say much about the distortion. Even if profits and losses are about equal, they do not just cancel each other out and distortion does not disappear. To see the distortion even when profit and loss from uncertainty are about equal, we need to look at profit and interest.

In the early 1900s, economists debated if the static barter ideal would have interest. Static barter likely would not give rise to the kind of pervasive interest that we know, in which the value of all goods can be assessed according to how much interest they yield, and in which interest has to be taken into account in nearly all transactions.

Interest does arise in a real economy with innovation, uncertainty, and imperfect competition. The problems are: (1) How much of the interest rate arises from each source? (2) What are the effects of interest from each source? In particular, which sources of profit and interest distort the economy? There are no clear answers.

Innovation creates profit and some interest but innovation does not cause distortion because innovation also increases productivity, and any interest that arises from implementing innovation can be paid out of profits from the increase in productivity. No resources from other parts of the economy have to be used to pay back the interest on loans taken out to implement innovation. If a wagon maker borrows money to use new sources of rubber, he-she can pay back the interest from the profit on the new wagons.

Leave innovation out of the picture and suppose the economy is static except for uncertainty. In this case, even if profits equal losses, interest will arise because people might be able to make a profit from some uncertain event, and so they are willing to borrow money and to pay interest in the hope that they might make a profit. If they actually do make a profit, they can pay back the interest out of the profit. If they do not make a profit, either they do not pay back the interest on the loan, or they pay back out of resources taken from other parts of the economy. The potential for gain from uncertainty moves resources around the economy even if the total gains and losses cancel out. The potential for gain from uncertainty creates interest even if there is no underlying increase in productivity as with innovation.

Even if losses exceed profits, interest will arise due to uncertainty. If people think they can make some gain in some venture despite losses elsewhere, they are willing to borrow money and pay interest to try. In the 1800s in America, people gave up steady jobs by the droves, and their families went into debt, so the people could go seek gold in California, the Dakotas, and Alaska.

When entrepreneurs make a profit from uncertainty, they look for ways to invest the profit. Unlike as with innovation, the profit from uncertainty usually cannot be invested back into the original market but has to be invested somewhere else. Investing somewhere else distorts the economy. When a currency speculator "makes a killing" in Greek drachmas, he-she has to invest the profit in some other market. The somewhere else gets an infusion of resources that unbalances the effects of cost efficiency and market equilibrium. Unfortunately, too often adept speculators use their profits to induce imperfect competition in other markets so as to make continued profits there. Profit from uncertainty can be invested back into the original market if the intent is to make the original market imperfect. For example, a person makes a killing in Greek drachmas and then uses the profits to buy Greek politicians so as to continue to make profit in Greek currency. In the computer and IT industries, I believe some firms have used their profits to structure their market, even through "buying" politicians, but I cannot be more specific without risking a lawsuit.

We do not know how much interest arises from uncertainty, and how much the interest due to uncertainty contributes to the background rates of expected profit and interest. We do not know how much the pursuit of profit from uncertainty, or the interest that arises from uncertainty, or the profit that arises from uncertainty, distorts the economy, and how.

The Dynamic Ideal. Now we have the full dynamic ideal. Adding innovation and uncertainty to the static ideal allows for change and allows for the economy to constantly get better. It allows the static ideal to respond to natural change and to problems, to self-regulate. We have identified the agent of progress and change as the entrepreneur, and identified profit as the logical payment for willingness to take on uncertainty. These changes seem small but they mark a different and much better kind of system. This is really what Adam Smith had in mind, and what many hopeful business people and economists have in mind. It is a good ideal.

We have to be clear. The static ideal always lies behind the dynamic ideal; the dynamic ideal cannot be understood without the static ideal for reference. A healthy dynamic ideal should always tend to move toward the static ideal as when the implementation of innovation eventually comes to saturation, and firms no longer make a profit from the innovation. We understand the dynamic ideal primarily in terms of how it is different from the static ideal rather than as an entirely different thing in its own right.

Along with innovation and uncertainty come problems with profit and interest, in where to put the profit, and in where to remove the losses. We can mistakenly think there are no flaws or problems, or that dynamic actions can cope with all flaws and problems easily. This mistake is typical of people that romanticize capitalism and romanticize entrepreneurs, or of idealistic proponents of the free market. We cannot just trust entrepreneurs to manage the world for everybody's better welfare. People are strategic all the time in every type of economy, including economies without free markets and free action, but that does not necessarily lead to the benefits of the static ideal and dynamic ideal. We have to take the flaws and problems seriously; we have to have the proper institutions within which the activity of entrepreneurs really does add to the general good, such as the free market, respect for law, and the desire to take care of nature; and we have to make decisions sometimes in problem cases about how to preserve the benefits of the dynamic ideal.

Imperfect Competition Prelude: Free Trade and Not Free Trade. Imperfect competition is the third source of profit and interest. Imperfect competition is called "imperfect" because it interferes in Smithian free unstructured fair markets. We need to recall what happens when we interfere in any free market.

Under near-perfect competition, a public price system prevails. The price of a good reflects its average marginal utility. The price is set when the amount supplied matches the amount demanded. Demand is determined by subjective average marginal utility. Supply is determined by average substitution ratios (average marginal productivity).

Free trade happens naturally when individuals are comfortable that their property is secure, feel they can dispose of property as they see fit, can pursue their own interests, and when flaws do not seriously distort the situation. Free trade happens naturally when business firms can pursue greatest profit. Free trade does not just refer to international trade but also refers to trade inside the country. Under free trade, the relation between price and quantity develops naturally. It leads to the greatest supply and to the greatest practical welfare of consumers at the lowest practical price. It uses resources efficiently. Interfering with free trade distorts the relation between price and quantity. Usually interference reduces supply, raises price, and reduces benefit. We should interfere with free trade only to right an obvious wrong.

If we change one part of this balance, we necessarily change the other part. If we change price, then we change quantity; and if we change quantity, then we change price. From the point of view of consumers and demand, generally: (1) Reducing quantity raises the average marginal utility for consumers and thereby raises price for the goods that are still for sale. (2) Raising price increases cost for consumers, reduces average marginal utility, and thereby reduces the quantity demanded. From the point of view of firms and supply, generally: (1) Reducing quantity allows firms to produce at less than cost, so firms make a profit. (2) Raising price allows for the same outcome. Firms might wish to produce more at the increased price but that is not allowed in this imaginary scenario, so firms do make a profit. Firms in an imperfect market generally are able to restrict quantity so they can raise price above costs, and thereby make a profit. The opposite happens on both sides if we increase quantity or reduce price but that is rare enough so there is no need to go through the steps. (It can become relevant in case the state forcibly reduces price, in which case a black market usually develops.)

From Chapter Four, recall the results of moving resources from one market (business) to another in a free market, not done automatically through free consumer demand. Moving resources into one business also necessarily removes resources from other businesses. It raises prices and reduces the output in other markets, reduces the total output of the economy, and reduces the total utility (benefit or welfare) that everybody gets from the economy. Forcibly moving resources shrinks the economy. Changing investment moves resources to some businesses from others. Changing interest so as to change investment also moves resources to some businesses from others. Giving tax breaks or incentives forcibly moves resources from some markets into others. Even if any of this is done in the name of growth or creating jobs, the net result is to shrink the economy, reduce total utility, and reduce the total number of jobs.

Interference in free trade can help particular subgroups even if it hurts the public, so subgroups try to interfere when it might benefit them. Usually they need help from the state to interfere, as when the state favors a subgroup through a tariff, restrictions on imports, or tax breaks.

Firm View and Market View. We can see most imperfect competition as a variation on monopoly, which I describe as the first case of imperfect competition in sections below. Before that, we have to review markets from the points of view both of the small firm and the large market. We have been looking at markets as if the magic of big and small were already at work, and we have been looking from the point of view of a particular small firm. We need to look at the market before the magic of big and small takes effect, and we need to do this from the point of view of the market.

In the static ideal under perfect competition, after the magic of big and small, the following holds true for a firm:

(1) No matter how much the firm sells, the price of the product on the market is the same.

(2) No matter how much a firm buys of any resource, the cost is the same.

(3) In pursuit of profit, the firm uses all resources so that all resources are equally cost effective.

(4) At that point, all profit disappears.

(5) The sum of values-costs-prices of input factors (resources, ingredients, or components) equals the value-cost-price of the final good.

(6) No matter how much of a good that consumers buy, the price to them is the same for all units of the good.

(7) If the quantity is reduced then the price goes up.

(8) If the price goes up then the quantity is reduced.

Now look at a market before the magic of big and small, the market for bicycles. Suppose the market usually has 100 firms. We will start with 0 firms, and add firms in groups of 10 at a time. If the market were in equilibrium under the static ideal in perfect competition, 1 million bicycles would be made and sold (10,000 bicycles per firm), and the price would be $100 per bicycle.

All the markets for resources (input factors) are near perfect competition, so that bicycle firms still pay the same in costs per bicycle no matter how many bicycles they make. Assume that the cost per bicycle remains the same throughout this example. If the bicycle market were perfect, the cost of making a bicycle would equal the price of a bicycle, so a bicycle in a perfect market would also have a price to the consumer of $100. Cost eats up any potential profit. In contrast, in an imperfect market, the price of a bicycle can be higher than the cost to make the bicycle, which is where the profit comes from.

With only the first 10 firms in the market, only 100,000 bicycles get made and sold. With so few bicycles, the marginal utility of the 100,000th bicycle is much higher than it would be if the full 1,000,000 bicycles were made. Price depends on marginal utility, so consumers will pay a much higher price per bicycle, as

much as $2000 per bicycle. The shortage creates a higher price but it does not create higher costs to make the bicycle. At a cost of $100 apiece, but with a price of $2000 per bike, the first 10 firms in the market make a profit of $1900 per bicycle on a total of 100,000 bikes. The reader can see why more firms would want to enter the market.

When the next 10 firms enter the market, for a total of 20 firms making a total of 200,000 bikes, the price per bike has to fall because there are more bikes and thus the marginal utility of the last bike has declined. The decline in marginal utility at 200,000 bikes affects the price of ALL the bikes, even the first 100,000 bikes, so that ALL 200,000 bikes now sell according to the average marginal utility of the 200,000th bike. Say that the price now falls to $1600 per bike for all bikes. Even so, the cost of making a bike remains the same at $100 per bicycle, and bike firms make $1500 profit per bicycle. Things still look good for bicycle firms.

Now the next 10 firms enter the market, for a total of 30 firms making a total of 300,000 bikes. The price falls according to the average marginal utility of the 300,000th bicycle, to about $1100 per bike. The cost per bike is still constant, so that a firm still makes $1000 profit per bike.

Now the next 10 firms enter the market, for a total of 40 firms making a total of 400,000 bikes. The price falls according to the average marginal utility of the 400,000th bicycle, to about $700 per bike. The cost per bike is still constant, so that a firm still makes $600 profit per bike.

Now the next 10 firms enter the market, for a total of 50 firms making a total of 500,000 bikes. The price falls according to the average marginal utility of the 500,000th bicycle, to about $500 per bike. The cost per bike is still constant, so that a firm still makes $400 profit per bike.

We continue until we have all 100 firms producing a total of 1,000,000 bicycles. At that point, the market will be the same as in perfect competition. The price of ALL bikes is set by the average marginal utility of the 1,000,000th bicycle at $100 per bike. The cost is still $100 per bike, so that there is no profit at all.

The first few tens of firms in the market would like to keep out the rest of the firms. If the first 30 firms in the market kept out the 70 firms that eventually enter the market, the first 30 firms could make a profit of $1000 per bike. Not as many bikes would be made as in perfect competition, consumers would pay a lot more per bicycle, and society would not receive as much total utility; but the 30 privileged firms would make real profit rather than just chase an elusive promise of profit. In the ideal world of perfect competition, the first 30 firms could not keep out the last 70. In the real world, sometimes they can.

I cannot make it clear without a lot more cumbersome arithmetic, but there is a relation between profit per bike, the number of bikes made, and total profit; and total profit usually peaks somewhere at a production level of more than a few units yet less than the full production of perfect competition. Total profit starts out modestly at low production levels, increases with increasing production up to a point, and then declines again well before reaching the quantity that would have been made under perfect competition. There is a quantity of production in an imperfect market that yields maximum total profits. This quantity is well below what would have been produced under imperfect competition.

The first 10 firms make 100,000 bikes, with a profit of $1900 per bike, for a total profit of $190,000,000. With 30 firms, there are 300,000 bikes with a profit of $1000 each, for a total profit of $300,000,000. Of course, with all 100 firms in the market, there is 0 total profit. The total profit does not peak at the beginning of production with few units, or at the end of production with as many units as we would find under perfect competition, but somewhere in the middle. In this example it comes at around 300,000 bikes. I could provide a precise level of production where peak profit occurs by juggling the figures but there is no real use in going through that kind of game as long as the reader can see the trend. Firms can make real profit, not just potential profit, by limiting production, causing a rise in price above costs.

If total profit peaks somewhere around 30 firms, that is even more incentive for the first 30 firms to keep out the remaining 70.

In this example, I exaggerated the number of firms so as to approach ideal perfect competition. Few real world markets have this number of firms, perhaps only agriculture. More commonly, a real market might have 10 firms in total. If a real market had only 10 firms, we can think of each step above as taken by 1 firm at a time. Then, the first 3 firms would wish to control the market, exclude the last 7 firms, and limit production between 300,000 to 600,000 bicycles so as to reap the greatest profit while still being able to exclude the other 7 firms. Even if the first 3 firms cannot fully exclude the last 7 firms, they can still control the market so that consumers buy their bicycles at higher-than-perfect prices. These numbers are, in fact, pretty close to imperfect competition in the real world.

(3) Imperfect Competition. Imperfect competition occurs when one firm or a few firms control a market, so they can seek the greatest amount of real profit (not just potential profit), usually by limiting production. Usually the firms that control the market can exclude other firms. Imperfect competition leads to higher prices, less total goods in the economy, less total welfare (utility) for everybody, less use of resources, and/or less efficient use of resources. Imperfect competition uses resources inefficiently because resources do not produce the greatest practical total utility.

A market under perfect competition is called “unstructured” because the only structure in the market develops spontaneously out of the interaction of firms and consumers. The market might have considerable order but no particular actors can impose the order. Markets under imperfect competition are “structured” because some firms in the market can impose order on the market. The type of structuring depends on the type of imperfect competition.

Market Fairness. Perfect competition, even with innovation and uncertainty, is fair to business firms. Imperfect competition and unfairness are connected but it is not true that imperfect competition arises from unfairness, imperfect competition requires unfairness, or unfairness is found only under imperfect competition. One does not just cause the other. Even in perfect competition, people and business firms try to compete unfairly, and can even succeed briefly; but the conditions of the perfect market force them back to fairness. Imperfect competition can arise for reasons that have nothing to do with unfairness, usually through bigness that comes from technology, through bigness as a response to uncertainty, or brand loyalty as a response to uncertainty. Executives of firms in imperfect competition are not more ruthless or more conniving than executives of firms in perfect competition. All firms strategically pursue profit, and any imperfection arises out of that rational strategy. We just have to accept that sometimes rational pursuit of self-interest does not lead to a nice Smithian fair and perfect outcome, and can even

lead to overall harm. Once established, imperfect firms often do act more unfairly than perfect firms because they can get away with it. They have money and power, they can bully other firms, and they can buy political favors. When firms in perfect markets temporarily make a lot of profit, they often abuse their power in the same unfair ways.

Imperfect competition does become unfair when it often involves restrictions, collusions, and direct interference with other firms. Then it can look like gang warfare, or to the lasting tension of gang pseudo-peace.

(3A) Monopoly. "Monopoly" comes from the Greek, meaning "one seller". In it, one firm controls an entire market. That firm seeks the level of production at which it makes the most profit and at which it can exclude all other firms. In the case above, if one firm could make about 300,000 bikes, and could keep out all other firms, it would be a monopolist.

Sometimes a monopolist has to increase production slightly above what would yield peak profits so as to be able to exclude other firms. If a monopolist made 600,000 bikes per year it would not make as much total profit as at 300,000 bikes per year but it might be able to satisfy consumers enough so that no small firm could successfully invade the market to compete.

True monopolies with only one firm are rare. In the past, they have come about mostly because the government granted a license to produce a good or to control a market, and because the state used force to exclude other firms as a service to the monopolist. States have granted monopolies for salt production, mining, liquor, fur pelts, minting money, and shipping. States do this because they know that a monopoly can make a profit from which the state can take a tax, or take its "cut" of the profit. In contrast, many small firms in the same market would make little or no profit, and would be harder to tax. Sometimes the tax revenue comes not through an official tax but in the form of "donations" to a political party. States also support monopolies so that they can control a key good, such as salt, and thereby influence the economy and the people.

Sometimes monopolies arise for technical reasons out of "economies of scale". Bigness is more efficient than smallness, at least up to the point where bigness interferes with itself or has other problems. A farm of 400 acres is more efficient than a farm of 40 acres because the larger farm can use machines that the small farm cannot, it can use larger machines of the same type, and it can install improvements such as irrigation and methods to deliver chemicals. The larger farm can usually be harvested more efficiently than the smaller farm. Yet a farm of 4000 acres is probably not more efficient than a farm of 400 acres, and it has administrative problems of its own. There is an optimum "plant" size for most businesses, and most plants approach the optimum plant size as new plants replace old plants. The average farm size in the United States has grown to over 400 acres since World War I after machines prevailed in farming, and, in some places such as the Dakotas, average farm size exceeds 1000 acres; but average farm size has not grown to 4000 acres yet.

When the optimum size for one plant approaches the production for a total market, then the one firm that owns the plant can control a market no other firms can reasonably start competitive plants. The Boeing Company can efficiently produce nearly all the commercial jetliners needed in the United States, and so it has a near monopoly. That is not the fault of Boeing, and Boeing is not necessarily unfair or bad; it is just

a result of how large a facility is needed to make modern jet planes. The availability of large amounts of electricity from hydroelectric dams revolutionized the production of aluminum After World War II, forced plants to locate not far from major dams, and vastly increased optimum plant size. The Aluminum Company of America (ALCOA) jumped in with very large plants near major dams in the U.S., and nearly monopolized aluminum production.

Some production-or-distribution situations call for one system under the control of one central authority. Additional providers would only result in useless duplication and a waste of resources. The classic examples are utilities such as water, electric power, natural gas, roadways, and telephones. Similar situations are air routes and bus routes between major hubs. Another variation in the modern world is computer operating systems, such as the ubiquitous "Windows" from Microsoft. It makes little sense to force software manufacturers to adapt their products to several different operating systems, and to make users learn several different operating systems. That is almost like having several different rules of automobile driving in effect at the same time. It makes more sense to standardize the rules of driving and to standardize computer operating systems. The standardization opens the door to monopoly.

When the optimum plant size is large enough to support a monopoly, or when a single system is called for, then trying to force perfect competition with many small firms and plants, by forcibly breaking up the monopoly, can cause more harm than leaving the monopoly in place. Breaking up a monopoly is a form of state intrusion to correct a flaw, but it is a form that can cause more harm than good. Before the 1970s, American Telephone and Telegraph (AT&T or "Ma Bell") ran the American telephone system, largely for the benefit of the public, and did a good job. The break up of "Ma Bell" was probably a mistake, and probably resulted in higher rates and worse service. Now, the original monopoly is slowly re-constituting as the regional parts acquire one another. The regional monopolies do not always offer good service at low rates. The best way to deal with monopoly is not always easy to see. I defer offering more comments on what to do until the end of this chapter when we have seen other types of imperfect competition.

Effects. Monopoly has the same effect as all imperfect competition in reducing total production, increasing price, reducing total welfare, leading to inefficient use of resources, and distorting the economy. Monopoly creates real profit. We should find out where the profit goes to, and how it affects the economy; but this is not clear. Because true monopoly is rare, these comments really apply more to oligopoly, when a few firms control a market (see below). I make them here because economics uses monopoly as the model of all imperfect competition, and I want to get across the idea that the problems come with all imperfect competition. For technical reasons, monopoly profit, and sometimes all profit from imperfect competition, is called "rent". It would be too confusing to do that here, so I avoid it, but be prepared in case you see it in another book.

Because monopolists make a profit and can pay interest, banks get the idea that all firms should make a similar profit and should pay a rate of interest similar to what the monopolist can pay.

Banks do not give loans to firms that are not likely to make enough profit and are not able to pay enough in interest. Firms that should not be able to make a profit or to pay interest because they are in perfect markets, such as the local family-owned restaurant, or the family farm, now expect to make a profit and to pay interest. A normal rate of profit prevails, and a normal rate of interest prevails.

Small firms in more perfect markets do a lot of things to try to make a profit and pay the interest on their loans, into which efforts I cannot go much here. I think the most common strategy is to use the family as "slave" labor. The family puts a lot of time and effort into the business but does not get paid an official salary or gets paid much less than their cost effectiveness. Under-paying labor allows the family business to make a profit "on paper". If labor were paid correctly, then the family business would only break even most of the time. In effect, the family gives its wages to the bank so the bank can charge the same rate of interest as the monopolist can pay. The efforts of small business firms actually result in further uncertainty and further opportunities for monopoly take-over (see below), that is, in more distortion.

It is very hard to tell apart the profit and interest that arise from monopoly versus the profit and interest that arise out innovation and out of uncertainty.

Monopolists do not need to advertise because they do not compete with anybody and do not have to fear competition. Monopolists cannot invest their profits "back into the business" as would firms in a perfect market because monopolists do not wish to increase production. They already have what they need in their markets.

So monopolists (all controlling firms) look for opportunities to invest in other markets. They try to take over other markets, to convert unstructured markets into structured markets. This is what happens when a chain store or chain motel moves in on local "mom and pop" operations or on local small department stores. When Microsoft had finally consolidated its hold on the market for computer operating systems with the success of Windows 98, it moved aggressively into other software markets such as for word processing and spreadsheets. It effectively eliminated such pioneers and long-time competitors as Quattro Pro and Word Perfect. It tried to compete with eBay, but eBay itself is a near monopoly and so was able to keep out Microsoft for now. Because the firms in perfect markets are trying hard to make a profit and to pay interest when they should not be able to do either, they are more vulnerable to take-over than otherwise. Mom and pop grocery stores and motels were vulnerable to elimination because they had to advertise or to cut rates. Small colleges almost disappeared from America because they had to compete with universities to pump out degrees, and they could not make a profit through doing research as did the universities.

Markets into which monopolies invest have an over-abundance of capital. Firms in those markets are able to bid away resources from other markets. When Wal-Mart moves into a small city, it raises all real estate prices, prices on rental units, and prices on some kinds of entertainment like bowling, above what they would be otherwise. These rises might sit well with the industries that benefit but they do not sit well with the consumers that have to pay the higher prices, and with other industries that might suffer such as bowling allies that have to pay the increased rents on local properties.

Monopolies invest in politics. There is no point in saying more about this without going into more detail than is possible here.

Monopolies can also invest their profits in innovation. Sometimes they can help the economy to grow. Whether they actually have this effect depends on how well they understand innovation, how quickly

they act to invest, how much they invest, and how they invest; the details are too much for here. Generally, they help no more than firms in perfect markets. Microsoft did not invent the GUI (graphic user interface) on which Windows is based. Nike pioneered modern running shoes in a garage.

Monopolies might be able to help in case the economy slides into depression. From their profits, monopolies have reserves that can be applied to maintaining demand for some goods. Monopolies tend to have more steady revenues and profits even in recessions than do firms in more perfect markets just because they produce less than they should and thus demand for their goods remains strong and steady. Even in recessions, people need to heat their houses and buy gasoline for their cars. By having reserve from their profits, and by having almost a guaranteed market except in all but the worst depressions, monopolies can help keep parts of the economy going, and that helps keep other parts of the economy going. It is not clear how strong this effect is. It depends on what benefits the monopolist. In the near-depression of 2007 and afterwards, large financial institutions such as banks sat on huge reserves of cash but were notorious for NOT making loans to small business and NOT helping the recovery.

It is not clear if some markets cannot balance (find particular equilibrium) because of monopoly profits and because of pervasive interest; but probably some cannot. I think many cannot. I think the presence of some large producers in forestry products keep the world forestry industry from finding a healthy balance, but to make the case would take us too far off course. The same imbalance might come to be in the future as some large firms move into all aspects of farming, food production, and food delivery. It is not clear if the economy as a whole cannot balance (be in general equilibrium); but probably it cannot. I am fairly sure it cannot. The benefits of the ideal static balance no longer hold but we are not sure how far off we are and what that means. The benefits of the dynamic ideal no longer hold but we are not sure how far off we are and what that means.

The three mutual conditions for a beneficial balance are:

(1) The rate of interest causes savings to equal investment.

(2) Total demand equals total supply.

(3) The economy is at full capacity.

Monopolies and imperfect competition mean that these conditions cannot hold, but we cannot be sure how the economy deviates, what interactions deviation sets up between the conditions, what the overall result is, and whether the end result is an alternative system like the static ideal or the dynamic ideal. As far as I know, economists just cannot be sure, although they do offer many complex models.

Monopolies are like the landlords that Malthus described. We are not sure if their profits (rents) are in the system or out of it. We are not sure if the normal spending of their profits unbalances the system or balances the system. We are not sure if the spending of their profits can help the system when it is in trouble. We are not sure what role they play in the business cycle, or what role they might be able to play in the business cycle. What actually happens varies from case to case. See remarks in later chapters on money and on macroeconomics.

(3B) Oligopoly. “Oligopoly” also comes from Greek, and means “several sellers”. It refers to a market that is controlled not by one seller but by a small group. This situation is much more common than real monopoly, as, for example, K-Mart, Wal-Mart, and now Target often split the retail market between them rather than that one alone controls. According to widely accepted guidelines, a market is under oligopolistic control when it has six or fewer major firms, when one firm controls at least 40% of the market, or when four or fewer firms control at least 50% of the market. A “cartel” is a kind of oligopoly, usually an openly declared association, often for the control of a natural resource in an international market. The Organization of Petroleum Exporting Countries (OPEC) is a cartel that tries to control the supply and price of oil in the world for the declared benefit of its member nations. An “oligopolist” is a firm in a market characterized by oligopoly.

Bigness (economies of scale) can help create and sustain oligopolies, as with car factories or with firms that make farm equipment. Usually the bigness is not so efficient that one firm can totally drive out rivals but enough so that a few firms together can exclude rivals.

Oligopolies control a large part of modern life. General Mills, Post, and Kellogg’s control nearly all the breakfast cereal in the United States. Only three major credit cards dominate that market: American Express, MasterCard, and Visa (although they are administered by a host of banks and other institutions). Before the entry of international firms into the American market, three carmakers almost totally controlled: Chrysler, Ford, and General Motors. Coke and Pepsi control nearly all the market for soft drinks.

Sometimes bigness alone is enough so that a few firms can control a market. Sometimes firms consolidate control of a market after they get large, and are able to exclude competitors after they get large; it seems that this is what Coke and Pepsi were able to do, and what Microsoft did.

Usually oligopolistic firms have to cooperate in some way. They have to stop the price war that drives perfect markets. They have to agree to limit production at a level where price remains well above cost. Ideally for them, they would like to limit production to the point of maximum profit. They also have to limit production so that they can exclude other firms or control other firms. Sometimes they have to allow more production than would yield maximum profits so that they can exclude other firms. Maximum profit would be ideal for them, but without some exclusion there might be no profit at all.

Cooperation can be a big problem. Cooperation used to be done openly as with the railroad cartels and steel cartels of the 1800s, but now it has to be done tacitly because it is against the law. Firms have developed many ways to start and to maintain tacit cooperation but this book cannot go into them. As with the study of uncertainty, the study of cooperation is a large and fascinating sub-field within economics. Oligopolists and government regulators often fight an intriguing, never-ending battle of hide-and-seek, like “spy versus spy”.

Most oligopolies do not like to admit they are oligopolies but instead try to pretend they are fair competitors by allowing a host of very small firms to remain in the market as camouflage. This is part of tacit self-protection and part of fending off the regulators. Within the credit card market, several small cards still hang on such as Discover and Diner’s Club. At any given time, the domestic airline market is dominated by a few airlines such as Northwest and Delta but many small carriers fly alongside them. Gypsy cabs run alongside the approved firms in most major cities. Coke and Pepsi allow store brands

from Kroger and Wal-Mart, and allow small specialty brands such as IBC and Knudsen's.

Oligopolies have all the same effects on the economy as do monopolies. In fact, the effects are due more to oligopolies than to monopolies.

(3C) Differentiated Sellers. "Differentiated sellers" is another type of imperfect competition. This type is probably the most common form of imperfect competition in the daily experience of most consumers. This type has other names such as "monopolistic competition" or "oligopolistic competition" that reflect that this type is similar to oligopoly or monopoly but not exactly like them.

Basically, firms cut up a big market into many small "niche" markets. Each firm is a monopolist or is an oligopolist within its own smaller niche market. Within that smaller but surer space, it avoids competition with other firms, and can reap near-monopoly benefits. Firms cut up the market by distinguishing themselves in some way in the eyes of consumers, and they keep the market cut up primarily through brand loyalty. They foster brand loyalty through advertising. Each niche is like a monopolized market but the whole market is like an oligopolized market, hence confusion about the name.

Examples explain best. When I grew up on the West Coast, teenage boys used to argue vigorously over Ford versus Chevy. They never seemed that different to me. Until recently, the major active ingredient in nearly all over-the-counter (OTC) headache medicines was acetaminophen; all acetaminophen is exactly alike; yet nearly all OTC medicines claim that their product is faster and more effective than competitors. People are loyal to a particular brand such as Tylenol for reasons that have nothing to do with the chemistry of pain but that have a lot to do with the chemistry of human nature. There is almost no practical difference between any brands of toothpaste yet people tend to be amazingly loyal to their brand. Any parent that has tried to talk a child out of a favorite breakfast cereal into the cheap nearly-identical store brand knows how fanatical brand loyalty can be, and knows how much of a price difference it can generate.

Nearly all cosmetics have the same key ingredients (read the labels) yet some women (sorry for the sexism) would rather hide in a convent than appear in public without having first applied their favorite brand. The cosmetic industry makes many billions a year in profit. Lawyers, dentists, and colleges advertise on TV as a way to differentiate and to attract customers. Loyalty to an alma mater is legendary, as financial officers from Oregon, Harvard, Michigan, Ohio, Ohio State, Auburn, Alabama, and Notre Dame know. When cigarette ads were still allowed on TV, Kent advertised that its smokers "would rather fight than switch", and showed people smoking Kent with black eyes to prove their loyalty. Everybody has his-her favorite rock band, hip-hop band, or pop singer. Brand loyalty, rather than talent, is the basis for most profit in the music business, even the classical music business.

Differentiating a product is probably the most widespread tactic that firms and workers use to fight against uncertainty. When a firm has an identity and has brand loyalty, then its market share is much more secure, and its profits are much more certain. Workers seek jobs with tenure. Consumers buy familiar products so that they know what they are getting. Keep this fact in mind for the next chapter on labor and wages.

Advertising. Perhaps the most interesting aspect of differentiation as distinct from other kinds of

imperfect competition is the relation between differentiation and advertising, and how that relation can lock firms into a “runaway game”. Differentiated firms advertise heavily. They make profit, and they use their profit to advertise. They are the major supporters of ads. Without them, we would live in a different kind of world, one with far fewer ads.

I am not a good judge of the effects of advertising because I like advertising. I enjoy the year-end TV roundups of “world’s best ads”. I would rather that differentiated firms spend their profits on advertising than to invade other markets or to invade politics. I like the creativity of modern ads; am glad we have at least one way to support some creative people through the market rather than through state subsidies; and do not think ads have a mysterious power to control people, at least over the long run. So I do not mind too much that differentiated firms use their profits this way. This use of profits is a loss to public welfare, and a waste of resources, but one that we have to live with because the alternative could be worse. On the other hand, advertising often lies, and smart people disagree with me on all the points above, so we have to be careful too. At the least we have to be on guard against lies.

Once advertising gets established in a business, then a firm has no choice but to advertise at the same level as other firms. Differentiated firms compete primarily through advertising rather than through price or through product quality, and they escalate the level of advertising to as much as possible. They use all available profits for advertising. After they reach that level, they cannot back off.

Any firm that cannot sustain the standard level of advertising cannot break into the market and cannot stay in the market. This is the chief modern way that imperfect firms block entry into the market, and block the competitive price war that would allow new firms to enter and to drive down prices. Any beer company that cannot compete with Budweiser and Miller cannot hope to even enter the beer market. Even Sam Adams has had to advertise after it first succeeded as a specialty niche brewer.

The cost of advertising can be the major cost of production. Coke and Pepsi spend about half their total production budgets on advertising. Cosmetic manufacturers and OTC drug makers spend comparable amounts. Carmakers spend at least 10% of costs on advertising, often much more on a new line. If Ford did not advertise its pickup trucks, it would soon lose out entirely to GMC, Dodge, and Toyota – so much for macho decisions being made on the basis of pure manly practicality.

Biologists call this kind of situation a “runaway game”. Once in the game, a player has to devote resources to the game rather than to other kinds of competition or to other kinds of development, and a player cannot leave the game without total failure regardless of his-her merits in other regards. This kind of game results in peacock feathers or in gigantic impractical antlers on deer. It is comparative competition. The most familiar version of this game is “keeping up with the Joneses”. Keep this in mind for the next chapter on labor as well.

Advertising explains the fact that differentiated firms appear to compete even when they are not really as competitive as firms in perfect markets. It explains the fact that a modern imperfect firm tries to sell as much as possible when it seems as if imperfect competition should be all about limiting production. Differentiated firms compete for market share. They do not expand the total amount of product that is sold by all firms in the market together by lowering prices for the product in general. Coke and Pepsi do not lower prices. They do not provide consumers with a lot more soda for a lower price. Instead, they

maintain price, which maintains limits on production for the total market; but they compete with each other to sell a greater share out of that limited market. The same was true of carmakers until firms from overseas upset the insulation.

(3D) Franchises. Franchises are only an extension of oligopoly and differentiation but they are probably the most important extension in the modern world and so deserve a few words on their own.

A franchise is a local storefront for a larger parent corporation, such as one local Burger King or one local Dominoes Pizza. A local franchise owner pays the parent corporation for the rights to use the name recognition, and thereby for a way to attract customers. The parent corporation enforces standards on the local franchise and the parent provides the local franchise with much of its operating inputs such as soda mixes and meat for hamburgers. The parent corporation might, or might not, get a share of the local profits. Usually it gets a big share.

A "buffer" intervenes between a danger and something that we wish to protect; a buffer lessens the danger to what we wish to protect. Bogs, bayous, and other wetlands serve as a buffer between flooding rivers and the dry lands further in. Sand islands buffer between ocean storms and the dry lands further inland. One parent often buffers between children and the other parent.

Franchises buffer their parent corporations from uncertainty so that the parent corporation usually benefits from uncertainty but rarely suffers from uncertainty. The franchises take on the uncertainty for the parent corporation. Franchises are willing to do this because they, in turn, are able to push the uncertainty off on independent local firms.

If a local franchise goes out of business due to uncertainty, the parent almost never goes out of business and rarely suffers much of a loss. One local Burger King might die but the chain lives on forever. Yet whenever a local franchise makes a profit, the parent corporation makes money from selling approved supplies and perhaps out of profit sharing. Local franchises tolerate this relation because the name recognition gives them a competitive advantage over local mom and pop stores. The local Red Lobster often does a steadier business than the local Mary's Seafood Shack, regardless of prices and quality of food. Why this might be true has to do with how consumers respond to uncertainty, most readers have a good intuitive sense of why, and the details are tedious, so I do not go into it here.

The end result on mom and pop local stores is that they suffer even more from uncertainty than before the proliferation of franchises, and are even more likely to go out of business. Once a franchise moves in, mom and pop stores have to get much of their clientele from poor people, unreliable people, or other customers that cause problems, and they often have to give credit. When supermarkets such as Kroger, Piggly Wiggly, and Safeway moved into neighborhoods in the 1950s, they forced mom and pop groceries to shift into the convenience market and to give credit, both of which moves lead to considerable uncertainty and loss. When franchises, such as 7-11, then moved into the convenience market, they all but wiped out the mom and pop.

Once a local business person sees that franchises are more certain than free independent ownership, he-she then prefers going into a franchise rather than opening his-her own small business firm. Once introduced, franchises start a self-propelling process that drives out mom and pop. We lose free perfect

competition and we are left shopping only at storefronts for major imperfect corporations.

Is this fair? Is this good? American politicians fuss about helping small business firms but they do not attack the franchises that drive out small business firms and that are owned by powerful imperfect corporations. This result is not ideal but I doubt there is much we can do about it that would not be worse than the trend itself.

This is one kind of directionality in the economy (see Chapter One). Many little decisions lead to a pattern that goes in a certain way and that is hard to reverse. The directed pattern leads to differences not only in the kinds of goods that we have but to differences in the basic form of our economy and to our basic way of life.

(3E) Rent. In near-perfect competition, the buyer can substitute one good for another, and the amount of the good responds pretty well to the demand and the price. If consumers want twice as many apples, then the price of apples about doubles and the supply about doubles. Farmers switch land from peaches to apples. If the price of apples doubles, then consumers can always switch to oranges and peaches. The same is true in reverse in case consumers want less.

In contrast, under imperfect competition, consumers cannot easily substitute another good for the one they want, and the supply does not respond well to demand or price. The supply is limited, and the supply is usually is much less than what consumers ideally would like. An imperfect market is not "Smithian". There are only so many apartments in the core of a city near where most people work. You cannot have too many people live in one apartment. You cannot add more apartments, not even with more high-rise buildings. You cannot build houses, or live on the streets, in tents, or trees. You have to bid against other consumers for the limited apartments that are available. The owners of apartments are able to charge more for the apartments than it originally cost to acquire the land and build the structure, and they are able to do this for a long time. The situation with rent is like with bicycles except the owners of apartments do not have to contrive to limit the number of apartments, it just happens because space is naturally limited.

Some unusual incomes are best considered as kinds of rent. At any given time, by nature, there are only a few star athletes or movie actors. You cannot easily find more of the highest quality, although you can easily find more of second rate or third rate quality. You cannot substitute for stars of the highest quality. Consumers really want the highest quality, and are willing to pay more to see star athletes and movie actors. So stars are able to demand a high salary (rent) for their services.

A lot of income is generated by rent worldwide. As water, land, air, food, and some people get more limited and crowded in the future, rent is likely to become more important, likely to generate more unearned income, and to be a bigger source of distortion to an ideal Smithian economy. The general theory of rent is fairly clear but there are competing variations, and these variations can be important to understanding economic points of view and future situations. Please see my website for more details about rent.

Zero Sum Game: Scary Feeling. Imperfect markets, especially differentiated markets, have a different feel than near-perfect markets. They are scarier and tenser.

Because of the magic of big and small, in a near-perfect market, one firm more or less does not make any difference to the total quantity produced or to the price of the good. A gain by one firm does not require a loss by other firms. All firms are pretty much in the same condition. Although they compete, they do not feel the competition as cutthroat. Your rival firms are your rivals, not your enemies. In fact, the owners of firms in near-perfect markets often feel a kind of friendliness from being in the same trade. Farming is a near-perfect market, and small farmers are held up as the ideal in family life and as good neighbors.
In contrast, in an imperfect market, where exclusion is a part of life, each firm makes a big difference. A gain by one firm almost inevitably means a loss of customers and profit by other firms. Established firms feel that, if a new firm makes a foothold in the market, an old firm has to die out. In the cola market, if a new large firm succeeded, it would seriously cut into the business of Coke or Pepsi. The giants tolerate small firms on the fringe, especially small, differentiated firms such as Knudsen's or IBC; but large firms would not tolerate a firm making a try to become a giant. Even in a city neighborhood where the restaurant market is differentiated and limited, a new Chinese restaurant means that an old Chinese restaurant is likely to fail, and, along with it, a family.

Near-perfect markets reflect the situation of free trade in which traders mutually benefit from trade. Imperfect markets are like a "zero sum" game in which any one player gains only when at least one other player loses, such as poker or Monopoly. In contrast to exchange where both traders benefit and feel good, zero sum games are tense, and players act accordingly. Players are more likely to compete not by doing better themselves but by hurting their opponents. They are often hostile and suspicious, or they band into subgroups so as to capture the game for their subgroup. They tend to act like gangs. Political campaigns are zero sum games because only one person can win, and all other candidates have to lose. Lately, American political campaigns have become notorious for their obnoxious negative ad campaigns rather than for giving us a real choice between qualitatively different candidates.

We will see in Chapter Seven on labor that the labor market is structured, differentiated, and ranked, and that it excludes some people from jobs. It is less like a near-perfect market than like a zero sum game where the results of losing can be severe and can last for generations.

What To Do. The first thing we have to do is accept the logic of the situation. The same logic that showed us the benefits of capitalism and the public price system now clearly shows us that the system has inevitable flaws, and that the flaws cause real problems. If we deny the flaws and problems, or we glibly say the dynamic ideal can take care of the flaws and problems without any need for deep thinking and personal responsibility, that is the same as denying the logic that showed us the benefits of capitalism and the public price system. We cannot throw out the bathwater without also throwing out the baby. We need to see if we can make the bathwater cleaner. We might have to accept a baby that is not perfectly clean, along with some dirty bathwater.

In the mid-1800s, the Republican Party, under President Lincoln, helped create a system of railroads in the U.S. by granting generous rights in land to large financiers. The grants were unfair and might have been illegal. Yet the railroads vastly increased the markets for all goods, in particular goods from farms and forests, and spurred the American economy into an international force. At the same time, the railroads came to dominate the freight business. They became a near monopoly under ruthless financiers such as Jay Gould. The railroads charged huge fees and made huge profits. Those fortunes

still support powerful families today. Abuse by railroads, steel makers, oil firms, and others led to the anti-trust (anti-imperfect competition) laws of the late 1800s under Teddy Roosevelt. Those laws persist now but railroad empires do not. Eventually railroads were undone not by so much by state prosecutors as by another technical innovation: cheap cars and cheap trucks.

Imperfect competition succeeds by not allowing consumers much of a choice. If the state gives the right to make salt to only one firm, and people need salt, then people have to go to that firm. Large imperfect firms can exclude other firms. The strategy of differentiated firms depends on making people believe they must have that particular brand of toothpaste, face cream, car, or whatever, and thereby leading people not to choose any alternative.

In an undeveloped economy such as the American West of the 1800s, limiting choice works. As economies develop, limiting choice does not work as well, and some imperfect competition breaks down. In America now, we have enough choices so that imperfect competition is not as scary as railroads were to farmers in the 1800s. Innovation gives us substitutes. It helps to widen alternatives and thus to break down the power of imperfect competition. Even if we do not have a choice between different brands of the same good, we have a choice of similar goods that are good enough. These similar goods are called "substitute goods". We really do have a choice between kinds of salt or kinds of headache tablet. If we do not like salt, we can use "Mrs. Dash" or some other condiment. If we do not like acetaminophen (Tylenol), we can use ibuprofen (Advil). If we do not like one kind of car, we can buy another kind. If we do not like cars at all, we can take the bus, ride a bicycle, take a taxi, ride a motorcycle, or walk. If we do not like licensed physicians from the American Medical Association, then we can seek an alternative such as faith healing or herbs, or we can go on the Internet to diagnose ourselves. The greater the scope of markets, the more there are viable substitutes. In the 1970s, with only three carmakers, all of them domestic, Americans did not have much choice, price was not low, cars were not good, and gas consumption was high. When making cars became a worldwide enterprise in the 1980s, people had a choice between a dozen major brands, the market was much more nearly perfect, the quality improved, the price dropped for cars of reasonable quality, and even fuel efficiency got better. With the rise of large corporations and their franchises, we still have to fear imperfect competition, but things have gotten better too.

When people first find out about imperfect competition, often their impulse is to "kill the beast": use the power of the state to counter the power of imperfect firms. Break up the monopolies. Force a market into perfect competition. If we cannot break them up then force monopolies to produce more and to thereby lower the price. If we cannot do that, then tax away their unearned profits and use the tax revenue for the public good. In effect, run all monopolies as public utilities such as electricity. This response is perfectly natural, especially if a small near-perfect firm suffers by competition with a large imperfect firm, or if a consumer seeking a good software system feels how imperfect competition erodes the benefits of the free market. But this approach is very hard to carry out in practice and this approach is not the best response in the long run.

The Libertarian-Austrian response is the opposite: do nothing. Suffer over the short run, and let the free market provide innovations, choices, and substitutes over the long run. Imperfect competition is bad, but anything the state does to help is worse. The state often causes imperfect competition by interfering with the free market in the first place, as with the railroads. Interference is more likely to induce more

imperfect competition and to help big firms rather than to help perfect competition and to help small firms. So stop all interference in the free market. If we were somehow absolutely sure the market never would help enough, not even over the long term, not even through innovation, then we might have to endure state interference; but the market will help enough, and so we should trust it. The history of innovations, choices, and substitutes bears all this out. The Libertarian-Austrian response is typical of people that romanticize the free market, mistakenly think the dynamic ideal can take care of any problems, overlook real problems and flaws in their lust for entrepreneurs and the dynamic ideal, or provide ideologies to rationalize the power of large business firms. Even though this response is ideologically tinged and it is not perfect, this response still is better than "kill the beast".

I think the best response is pretty much what we do now. Legally our response seems to lean heavily on state interference but in practice our response is more like the Libertarians. We have laws in place against imperfect competition but we rarely use them directly to attack firms. (I do not explain the laws, how they developed, how they have been used in the past, or how they are used now.) Instead of using the laws often to go directly after clearly imperfect firms such as Microsoft or Wal-Mart, we use the laws as a threat to control the firms so that the firms do not cause too much damage, allow innovation to undermine the bad effects of the imperfect firms, and allow substitution to undermine the bad effects. Sometimes the state does have to prosecute obvious cases or bad cases. Sometimes the state has to go after cases of unfair competition where a large imperfect firm clearly has abused its power to hurt small firms through dumping goods, unfair price wars, or price fixing, or where a rich firm has bought political influence. I do not give examples here but some are in the suggested readings. Of course, having the laws in place means that politicians abuse the laws to help clients such as big firms, but, in this case, not having the laws at all would be worse.

Kodak pretty much invented the electronic (digital) camera about 1975. It did not implement the innovation for decades, probably because it correctly understood that the innovation would completely undermine the film business that Kodak dominated. But in the end, Kodak's patents expired and digital cameras did come to dominate photography, without any state intervention. Because Kodak was late into that game, it nearly lost the photography market to rivals such as Canon and Nikon – poetic justice. Kodak declared in 2004 that it was switching over massively to digital and has begun to make some good cameras. The world lost a couple decades in which it might have benefited from crude digital photography, and Kodak gained some unearned profits until it was almost undermined by its own tardiness. We could have used the state to force the earlier development of digital cameras but then we would have had to live with state control. We lost some, and we gained some, by not inviting the state. I think we gained more than we lost even if we did really lose some.

I do not give up entirely to imperfect competitors and I favor some state action, even in cases where the state does nothing now. I would break up Microsoft into at least three distinct firms: operating system (Windows); Internet browser (Internet Explorer); and other related software such as Word, PowerPoint, and Excel. I would break up any other firm along similar lines, perhaps separating Adobe into distinct firms. I would not let any firm that markets Linux develop other software to go along intrinsically with it. I strongly favor "truth in advertising" and "truth in lending laws". Maybe fortunately, though, I do not set policy or enforce policy.

Unfortunately the state does not follow all the Libertarian advice: do not interfere in the free market to

begin with, and stop current interference as much as possible. The state interferes supposedly to help all business in general, such as by giving tax breaks to corporations and to wealthy people, and, by doing so, actually promotes big firms and imperfect competition more than it helps small firms and perfect competition.