# ORGANIZATION OF INDUSTRIES

## A Provisional Text

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## CLASSICAL THEORY

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Demand is the relation between consumption of a good and its price. This relation is always negative. Empirically this is without question. When price goes up consumption falls.

Consumers are assumed to behave according to utility maximization. That is, consumers rent their resources out and use the income thereby provided to buy goods. They make these choices in a way that maximizes their happiness.

The stylized description of the economy is expressed in terms of the circular flow of economic activity. The economy is broken into two sectors—consumers and producers. Consumers own the resources (land, labor, and capital are the aggregate categories). Consumers rent these resources to firms on a per unit of resource per instant of time basis. Firms transform the resources into output. The output is then passed back to consumers. This real flow of goods and services is mirrored by a flow of money. Sales of goods and services by firms has to equal the payments for the resources made by firms to the consumers.

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While there may be some dispute about whether crack cocaine users have downward sloping demands or, alternatively, will pay any price for another hit, there is no doubt that the average business is constrained by demand. If it raises its price, fewer people will buy its goods. How do we know? Because if it could raise its price and sell more, it would certainly do it. This is not to say that the theoretical question of when and where demand might be positively sloped is uninteresting. Even so, that question is left to other classes. Those inquiries have led to a fuller understanding of the nature of demand and teach us to look for the \textit{ceteris paribus} factors that make demand slope down.

The production sector is comprised of companies that are assumed to maximize profits. In the classical view, these firms are treated as real economic entities. Indeed, in law, they are too. Firms are assumed to rent resources from consumers and transform these into output.

In a more elaborate, modern view of the firm, individuals come together, joining the resources that they own through detailed contracts that specify the payments that they will receive for their input. This view is called the transactions cost theory of the firm. It attempts to predict the kinds of contracts that will be used to unite resource owners based on the characteristics of the production process.

Whether the classical or transactions cost approach is employed, there is an overarching issue of market structure. The behavior of firms is conditioned on the competitiveness of the market in which they operate. When firms face intense rivalry, it forces them to sell their output to consumers at a price that equals the bare minimum of the cost of production. When firms are insulated from such rivalry, they are able to increase price and enjoy an excess, which in economics is called \textit{excess profits}.

\textbf{LAW OF DEMAND}

The Law of Demand holds subject to certain conditions: Income, the price of other goods, and tastes. Tastes and preferences are assumed to not change. That is, when consumption changes, we look for the economic conditions that might have caused the change. If none are to be found, then we may be forced reluctantly to conclude that tastes have changed. Normally, when income increases the quantity demanded at each price increases. Sometimes the opposite occurs; we call goods that behave in this perverse way inferior. Normally, when the price of other goods go up, demand for the good whose price stays constant increases. In this case the good is called a substitute. There are goods that behave in the opposite fashion. These goods are called complements. For complements, when the price of one goes up, the quantity demanded of the other falls.

Market demand is the aggregate of the demands by individuals. Individuals have downward sloping demands. Some individuals have very steep and large demands. Others have flat, small demands. Steep, big demand is called relatively inelastic. This means that as price goes up, the amount that the consumer cuts back is small. On the other hand, relatively elastic demand (flat and small) means that a small increase in price will substantially reduce consumption. The more substitutes available for a given product, the more elastic is the demand.

A revealing way to think about the Law of Demand is in terms of relative prices. When the relative price of a good goes up, the relative consumption of the good goes down. A good experiment is formed when government imposes a per unit tax on two commodities. Take, for example, beer. If the unit tax on beer is raised from $.10 per can to $.15, the price of Budweiser goes from $.50 to $.55 while the price of Busch goes from $.40 to $.45. This make the relative price of Budweiser to Busch go from 1.25 (=.5/.4) to 1.222 (=.55/.45). The prediction is that the relative consumption of Budweiser compared to Busch will go up. This principle is called the \textit{Alchian & Allen Theorem}. It explains a diversity of things like why people eat in nicer restaurants.
when they go on vacation than they do when they eat out in their home towns and why nicer homes are built on nicer lots.

While the Law of Demand is almost transparent in its simplest form, it is important to understand it in a more complex fashion. Demand is the basis of pricing. Firms are interested in correctly pricing their products so as to maximize revenues for any given level of production. An Atlanta hotel with 200 rooms wants to know how many to sell at discount prices and how many to price at full rates. The same is true for airlines. Intel spends money to make its computer chips work slower in order to be able to sell the faster ones for more money. Hardback books come out before the paperback version. Movies are shown at the theater before they are distributed to video stores. Golf courses like the one at Clemson charge two sets of prices. All of these are examples of differentiation between demanders.

Firms want to find a way to get the relatively inelastic buyers to pay more for their product while they charge the relatively elastic buyers less. This is called price discrimination. There are two main problems the firm faces in achieving this goal. One is the ability to limit competitors. The other is stopping the elastic buyers from buying at a low price and reselling at a higher price to the inelastic demanders.

**LAW OF ONE PRICE**

In a competitive market, sellers are unable to achieve price discrimination because of both of the obstacles noted above. In this situation, price is determined by the intersection of Demand and Supply.

Supply is a function that identifies the quantity that will be brought to the market by producers and stockpilers. Generally, as price increases, more will be brought to market.

At the intersection of supply and demand, quantity demanded equals quantity supplied. If price is below its equilibrium value, the quantity demanded exceeds the quantity supplied and the excess of buyers bid the price up. If price is above the equilibrium, the quantity supplied exceeds the amount demanded. The glut on the market forces suppliers to cut prices. In other words, when price is different from its equilibrium value, competition drives in back.

For instance, when there is excess demand, buyers compete with one another. Sometimes the competition among buyers does not take the form of increasing the money price of the good. This usually happens when government is involved in the distribution. Take the case of queuing to allocate football tickets to students. Competition among buyers for the best tickets causes the waiting line. The line is longer for the best games and shortest for the worst. The line generally has the same people at the front.

The Law of One Price is built on the idea that competition cannot bear to see an unexploited profit opportunity. If goods of a similar nature are selling at very different prices, a profit opportunity exists in arbitraging this differential. If Nike tennis shoes are selling for $100 in Clemson and $50 in Atlanta, a profit opportunity exists in buying a truck load in Atlanta and bring them to Clemson. The market smells out all such profit possibilities and capitalizes on them.

At the intersection of demand and supply, there are a lot of buyers (and sellers) who would have been willing to pay a lot more than they had to for the good. Competition protected them. For instance, I really like coffee. I would be willing to spend more on coffee than I do now, for fewer cups, if forced to. However, the price of coffee is determined by substantial competitive supply among several countries and individual suppliers in those countries and by millions of demanders.

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1 There are member rates and non-member rates. Members typically pay an initiation fee, monthly dues, and a small per-round price. Non-members pay a higher price per round, but no other fees.
Many of the demanders find coffee to be at best an occasional substitute for tea (the British) or Pepsi (my former secretary). Because the sellers can’t tell me from my secretary in terms of coffee, I pay the low price at which she values coffee. I am protected by competition.

Firms in the stylized neoclassical model are assumed to behave according to profit maximization. This is called the neoclassical theory of the firm. It is contrasted to the contracting cost theory. In the neoclassical theory, firms are assumed to be real things; they are economic agents—pseudo people. Firms maximize profits by choosing the optimal mix of resources necessary to produce a given level of output and by choosing the profit maximizing level of output. The optimal mix of resources is chosen based on equating the ratio of input price to input productivity across all resources. The profit maximizing level of output is determined by equating marginal cost and output price. All prices—input and output—are fixed. That is, the behavior of the firm is assumed to not affect the prices that it bases its decisions on. This is one of the assumptions of competition.

The production function that relates the productivity of inputs is also a given to the firm. Production is determined by an engineering, deterministic, unerring relation between inputs and output. The production function allows for choice in the levels of inputs necessary to achieve a target level of output. This choice (along what is called an isoquant) is made in a cost minimizing fashion. As stated above, the firm chooses inputs so that the ratio of marginal product to input price is equal across all inputs. The result of cost minimizing behavior for any target level of output results in a cost function. The cost function is described by the set of average and marginal cost curves.

In the neoclassical setting, the average cost curve is depicted as U-shaped. This is a convenience to the theory—an additional assumption. With U-shaped average cost, marginal cost is rising, cutting AC at its minimum. The profit maximizing behavior of the firm is then well defined. The firm produces the level of output where price is equal to marginal cost. The industry output is also well defined. The market, called an industry, has a short run industry supply curve that is the horizontal sum of the firms’ marginal cost curves. Short run market equilibrium occurs at a price where market demand intersects short run industry supply. At this point, quantity demanded is equal to quantity supplied. Consumers get as much as they want at the going price, and firms are in equilibrium because they are maximizing profits by producing where P=MC.

In the long run, the profitability of the firms in the industry drives entry of new firms or exit of old. While price is always equal to the marginal cost of the firms in the industry, if price is greater than average cost, then the existing firms are making excess profits. These extra earnings entice additional firms to begin production. This increase in the number of firms shifts the short run industry supply to the right, which drives price down along the demand curve. As price falls, so do profits. The equilibrium is reached when price is equal to both marginal and average cost; this occurs at the point of minimum AC. Again, the assumption that average cost is U-shaped has simplified the model.

The model works in similar fashion in the opposite direction. If price is less than AC, existing industry suppliers are taking losses. They exit the industry. This shifts the short run supply to the left and increases price. The process continues until price is equal to AC.

The treatment of profits in the competitive model deserves some consideration. Excess or economic profits that signal the movement of resources into and out of industries are not the payment to any specific resource owner. And, in fact, in the competition paradigm these profits are best considered as only existing as a potential. They loom as market conditions change, but are completely and instantaneously arbitraged to zero by the actions of competing rivals. The example
that I use is the case of the Challenger disaster. In 1986 when the space shuttle *Challenger* blew up, the stock market immediately recognized who was responsible. The stock price of Morton Thiokol went down by an amount that was very close to the ultimate long term costs that the crash imposed on the firm. The prices of other firms involved in the space program were essentially unchanged. (A copy of a manuscript describing this event is available at ‘www.clemson.edu/~maloney’.)

The equilibrating process describes what will happen when 1) demand changes and 2) input prices change. The industry model is cloned and repeated as the model attempts to explain intermediate products in the chain of production that transforms basic resources—iron ore—into the automobile that the individual drives home from the show room. Generally, we depict the long-run industry supply as positively sloped. This slope represents the fact that the underlying supply of the basic resources is limited and that as industry output expands the price of these resources increases.

**BENEFITS OF COMPETITION**

Market forces search out all unexploited profit opportunities and in most circumstances this creates an efficiency. Competition protects the relatively inelastic demanders. In doing so, it creates value that accrues to consumers. This is called *consumers' surplus*. This surplus is graphically depicted as the area above market price and under the demand curve. The mirror image is producers’ surplus, the area below market price and above supply. Producer surplus is the value of the increased wealth to consumers from the resources they own. The combined area of consumer and producer surplus is called the *gains-from-trade*. Competition maximizes the gains from trade because it equates the marginal value of consumption with the marginal cost of production.\(^2\)

Surplus is maximized at the market equilibrium because the marginal value of an addition unit of the good is equal to its cost. The demand curve measures marginal value; the supply curve measures the pain (lost leisure, etc.) associated with producing another unit. Hence, if more units of output were produced, then the value of these in consumption would be smaller than their cost. Welfare would be lost. If fewer units were produced, potential welfare would be foregone. In the background on the production side, competitive firms are buying resources so that costs are minimized. The simple demand and supply picture summarizes production and consumption of a single good. The competitive economy maximizes this area of welfare across all goods. This is called *Pareto optimality*. Pareto optimality means that there is no way to increase the welfare of any one individual without hurting some other individual. The welfare generated by the competitive economy is obviously conditioned on the initial distribution of wealth (basic resources).

We can investigate the welfare generated by competition by examining the effects of a tax. This is called “the incidence of a tax.” Assume that government imposes a unit tax on the gasoline

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\(^2\) Competition fails to maximize surplus, that is, fails to be efficient when property rights are not well defined and in the presence of public goods. An example of ill-defined property rights is the case of oceanic fishing. Ships dragging long fishing lines though the parts of the ocean that are not claimed and protected by any nation are significantly depleting the number of fish. Because this part of the ocean is not owned, fishing is carried on too intensively and too many fish are killed. Similarly, ocean going vessels often dump oil and trash at sea. This pollution is outside of the control of any property owner or nation. As a consequence, it is inefficient.

In the case of public goods, the free-rider problem can result in too little production of the good. Public goods are goods that can be consumed by one person without reducing the availability to others. For some such goods, it is difficult restrict consumption. For instance, when the animal society picks up and cares for stray pets, all animal lovers benefit, even those who do not contribute to the society. Hence, there are too many hungry strays.
market (as they do). This can be depicted as a shift upward in the supply curve by the amount of the tax at each point along the supply. The upward shift in supply moves the competitive market equilibrium back in the quantity dimension and up in the price dimension along the demand curve. The area of consumer surplus is clearly lower. The area of producer surplus is also lower once the amount of the total tax revenues are deducted. The total tax revenues are the unit tax times the new equilibrium quantity.

Let’s make the somewhat heroic assumption that the government does something valuable with the tax revenues. If so, then the net loss is the triangle to the right of the new equilibrium quantity, below demand, above the old supply curve, and to the left of the old equilibrium quantity. This is called the dead-weight loss of a tax.

Another example is the case of transactions costs. Consider the case of termite treatment. Virtually all houses in the South are treated for termites. This is because if they are untreated, termites will very likely infest the house and eat it to the ground, inside out. The homeowner will be sitting around one day and the house will fall down.

Termites are treated by spraying a chemical that repels them. Hence, there are no dead bodies lying around to show that the chemical is working. As a result, it is very difficult to be certain that the termite man has done his job, except in the long run. That is, either the house stands, or the termite man sprayed with cheap perfume and the house falls down. As a consequence, nobody buys termite protection from any company unless the company is bonded. This means that the termite company buys an insurance policy to guarantee its work.

This insurance policy is costly. It is like a tax. It raises the cost to the consumer. As a result, there is a loss of consumer (and producer) surplus. The world would be better off if people were honest (but they cannot be trusted to be) or if there were ways to costlessly verify the claims of others.

Monopoly is just like a tax or a transactions cost like the termite bond. Suppose that all of the production of gasoline was suddenly controlled by a single firm. (Say all of the oil wells or all of the gas stations were taken over by the forces of evil.) That monopoly firm would restrict output and increase price. The market equilibrium price would move up along the demand curve. The area of consumer surplus would be reduced just like in the case of a tax. The area of producer surplus would also change in much the same way. The area below the market price and above the supply curve can in this case be broken into two parts—the area of monopoly profit (or monopoly rent or monopoly income) and the area of producer surplus. In other words, the monopoly profit is similar analytically to the total tax revenues in the case of a tax.

The extra income that is received by the monopolist makes it better off by an amount equal to the loss to consumers and resource suppliers. So, there is no net loss to society, except to the extent that society does not value the welfare of the dirty-dog monopolist. But the dead-weight triangle is a net loss.

Antitrust laws have been enacted to prevent this dead-weight loss from monopolization.

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3 There is great debate in the economics profession about the social value of government spending. A middle-of-the-road approach is that a substantial amount of government spending is good, but that it is nearly always over done at the margin.

4 It is possible that taxes do not have dead weight losses if the government does something extra good with the tax. For instance, if government uses gasoline taxes to build roads and roads are good and gasoline consumption is perfectly matched to road use, then the gasoline demand curve should shift out because of the new roads. This becomes a little tricky to depict graphically. However, the right way to think about it is that the consumption of automobile services is comprised by a demand for roads, cars, gasoline, etc.
AN ASIDE: EFFICIENT ASSET PRICING

Demand and Supply deals with flows of goods and services. For instance, with D&S we analyze the monthly consumption of gasoline or the weekly consumption of milk. Some assets reflect a stock of future consumption or production. Efficient asset pricing says that the price of these assets embodies all information about the future value of the use of the asset. For instance, pasture land on the outskirts of Atlanta sells for a price far above the value of the grass to the cows. This is because soon the land will be used for urban development.

An implication of efficient markets is that price movements in assets that are frequently traded reflect changes in the fundamental value of the future cash flows from these assets. In this sense, changes in prices do not follow patterns predictable from the past, like fads or trends. Assets that are nontradable, however, may follow trends or cycles.

Human resources are not generally freely tradable. There are some forms of indentured servitude, like the Army and ROTC. Sometimes people sign pledges to stay with the same company for an extended period or not to compete with the company if they leave its employ. Most often, though, the only way for an individual to capitalize on potential profits to his own talents is by borrowing money to invest in schooling. Since this is an imperfect option, we expect prices to be systematically incorrect. Consistent with this expectation, it has been shown that medical school enrollments and doctors’ salaries follow a cyclical pattern. When salaries are up, enrollment go up, which causes salaries to go down and enrollments to go down.

This type of cyclical fluctuation in prices is not found in the stock market. There are many questions being raised today about the efficiency of pricing in the stock market. However, it is clear to everyone that there is no profit opportunity available by means of spotting “trends” in stock prices.

Some notes on the operation of the stock market. The most important stock market is the New York Stock Exchange. The NYSE is organized around two groups of traders, floor traders and specialists. Each stock traded on the NYSE is assigned to a particular trader (or trading firm) and that trader makes a market in that stock. The stock is traded at a specific post. All trades of that stock must occur by public outcry in front of that post. The floor traders bring order to the post. If a floor trader has an order to buy “at market” and there are no orders to sell, the market maker must sell the stock out of his own portfolio. The market maker is ordered by exchange rules to not change the price of the stock dramatically. Price must be stepped from one level to another.

A sister market to the stock market is the futures market. The most famous of these is the Chicago Board of Trade. Trade at the CBOT involves contracts to deliver standardized units of the commodities at some future date in exchange for a payment now. Delivery occurs less than 5% of the time. Most of the time, the contract is repurchased by the issuer either at a profit or a loss. Trade in future delivery of commodities reflect the interest of economic agents to reallocate real stocks of those commodities across time. Trade is conducted for each contract in its own pit. At the CBOT if the price of the asset changes dramatically, trade is halted for the day.

The best way to think of these securities markets is that they create prices. People come to the market with private information. All of this information is valuable. That is, all of it would in the absence of other information affect price. However, most of the time the information cancels out. Take the example of a frost in Florida that ruins some of the orange crop. The fact of the frost will cause orange juice prices to go up. How much is the question. Each farmer knows how bad his crop was affected. He does not know how bad his neighbors crop was hit. The farmers go to the futures market and trades orange juice contracts on the basis of the information about their own crop and a guess about their neighbors’. In the pit, this information weighs against itself and the cumulative effect is embodied in price.

In the case of a single piece of information held by one person, the market maker stands to take a loss. That is, the market maker will get “picked off” as he sells to the informed trader at a low price and then must buy back from that trader at the high price when the information is revealed (as happens when takeover attempts occur). However, when information enters the market from multiple sources about the same event, the market maker is in the position to buy low from those whose information is relatively gloomy and sell high to those whose information is on the rosy side.

In this way of looking at security markets, prices fluctuate more than the fundamentals. Similarly, option prices fluctuate more than underlying prices. The terminology here is somewhat misleading. Commentators call “fundamentals” the ultimate cash flows enjoyed by the firm, and it is commonly observed that stock prices do, indeed, fluctuate more than these “fundamentals.” However, consider a hypothetical example concerning an automobile manufacturer, say, Ford. There are two analysts, working for different brokers, following Ford. One is studying Ford’s R&D program and finds out that Ford is about to announce a new motor design that will drastically reduce gas consumption. Since Ford will be able to patent this, it will be able to charge a higher price for its cars (an amount equal to the gas savings unavailable to its competitors). Higher prices mean higher earnings. This analyst’s
broker tells its clients to buy Ford; thus, the price is driven up because of the expectation of higher earnings in the future.

The other analysts is looking into labor problems at Ford and finds out that Ford is about to be hit with a big discrimination complaint. Based on this information, Ford’s earnings are going to be significantly depressed because of the legal fees and damages. This analyst’s firm tells its clients to sell Ford; price is driven down.

Ultimately both things happen: Ford comes out with the new motor and gets hit with the labor problem. The combination of both problems leaves earnings unchanged. Earnings turn out to be flat. However, stock price fluctuated wildly. Stock price fluctuated on the basis of information that was marginally significant. That is, each piece of information had a marginal impact on earnings. However, the margins cancelled each other out.

There is a second aspect of efficient asset pricing that involves the riskiness of assets. In finance this principle is called the Capital Asset Pricing Model or CAPM. CAPM starts with the idea that capital assets are priced based on their cash flows, but it also recognizes the Law of One Price, i.e., capital assets must be prices relative to one another. This relative pricing is achieved by recognizing that the riskiness of cash flows varies systematically across assets.

**COMPETITIVE EQUILIBRIUM**

The competitive equilibrium is described in textbook terms by reference to a picture such as that shown in Figures 1 & 2. There a U-shaped average cost curve is depicted. This is assumed to be the optimized operating alternatives facing all the firms in the industry. That is, all firms are identical. The U-shaped, long-run average cost function represents the planning options of the firm. Scale of production decreases unit cost up to some point and then it begins to increase unit cost. Associated with each point on the long-run average cost function is a specific plant size. There is some particular plant size associated with minimum long-run average cost. The marginal cost associated with that plant size cuts short-run and long-run average cost at their minima, which are identical.

**Figure 1: Constant Cost Competitive Equilibrium**
Market demand is also shown. It is measured in the same \{x, y\} space, that is, output units and price. However, the order of magnitude of output is different. Market output is substantially larger than the output produced by any given firm. This embodies the assumption that the competitive market is composed of a large number of firms. The sum of the output of the competitive firms makes up market output. Since all firms are identical, we can write \( q \cdot n = Q \).

Competitive, short-run supply is the horizontal summation of the short-run marginal cost curves of the firms. Competitive short-run equilibrium is given by the intersection of demand and short-run supply. At this point, quantity demand is equal to quantity supplied. Two things are going on. First, market price allocates the available product among the demanders. Price rations quantity. Second, the firms are maximizing profits by choosing their output levels so that marginal cost is equal to price. Consumers are in equilibrium and so are the firms that are operating in the industry.

Long-run competitive equilibrium occurs when the number of firms adjusts so that no excess profits or losses are received by the firms operating in the industry.\(^{5}\) In terms of the picture described in Figure 1, as the number of firms changes, the short-run supply curve shifts. If the number of firms increases, the supply curve shifts out. If the number of firms contracts, the supply curve shifts to the left. The intersection of short-run supply and market demand defines the market equilibrium price. When this supply curve shifts because of the entry and exit of firms until market equilibrium price is equal to minimum long-run average cost, the market is in long-run equilibrium.

Figure 1 shows the effect of an increase in market demand. The demand shifts out. Initially, market price increases along the short-run supply curve. This keeps the market in equilibrium in terms of the demanders and existing firms. However, the existing firms make profits. This draws new firms into the market. Firms continue to enter the market until price is driven back to minimum average cost.

As shown in Figure 1, the entry (or exit) of firms has no effect on costs. In this case, the long-run industry supply curve is flat. Figure 2 shows the alternative effect. In this picture, an increase in demand draws new firms into the industry. The entry of these new firms drives up the price of some (unnamed) inputs used by the industry. As a result average cost shifts up. As average cost shifts up, the new long-run equilibrium is defined in terms of a higher price. In this case, the long-run supply curve in the industry is positively sloped. Even so, the market equilibrium is still defined by the same characteristics as before. The intersection of demand and short-run supply yields a market price that allocates output among demanders and draws forth supply from profit maximizing firms. The long-run equilibrium is reached when price is equal to minimum average cost.

When the long run industry supply curve is positively sloping, it means that as output in the industry expands, the cost of production increases. This is what the picture shows. Some clear examples are oil and agriculture. If demand increased so that output in the oil industry was doubled, per-unit cost would go up. Oil wells would be drilled deeper which is more costly, and

\(^{5}\) Economic or excess profits are different from accounting or business profits. In the standard business terminology, profit is the residual left over for stockholders. There are before and after tax profits. Economic profit is the residual left over after stockholders get what they expected when the firm was being formed. If economic profits are positive, then there is a surplus to stockholders. Stockholders realize unexpected returns and as a consequence, new firms and new capital will be attracted to the industry. If economic profits are negative, then stockholders receive less than they had expected and to the extent possible capital will move out of the industry.
the drilling sites would be less accessible. Similarly, if production of soy-beans were to increase by a large proportion, land less suited to soy-beans would be used and this would increase the cost of a ton of soy-beans.

Figure 2: Increasing Cost Equilibrium

In other industries, it is less clear that the long run supply need be positively sloping. Take beer for example. The ingredients are simple as is the process. Hence, a substantial increase or decrease in industry production can occur with little affect on cost.

The conclusion is:
• For some industry over small ranges of output, the industry supply curve may be very nearly flat.
• For all industry over large ranges of output, the industry supply curve is positively sloped. As industry output increases by a large margin, the unit cost of production will increase.
• There is a substantial difference between industries in terms of the relative flatness of the long-run industry supply curve.

This simple description of the competitive process needs to be elaborated on in a couple of dimensions. First, we need to consider the effect of technological progress. Along with this, we should recognize the behavioral implications of capital embodied in physical assets that cannot be cheaply salvaged or transformed into other productive endeavors. We can think of technological progress as shifting the supply curve down and out. That is, even with a positively sloped long-run supply, technological progress acts to shift this function down at each quantity. Technological progress means that at the firm level more can be produced more cheaply. The average cost function shifts down and possibly to the right. Because technological progress shifts the average cost function down, the long-run equilibrium price must fall. In other words, lower average cost means that excess profits potentially exist at the old price for firms adopting the new technology. This raises the question of what happens to the firms with the old technology.

To answer this question, it is useful to examine Figure 3. Figure 3 shows long-run average cost, short-run average cost, marginal cost, and average variable cost. The long-run average cost curve represents the alternatives facing the firm in terms of cost and output choices.
across plant sizes. The competitive firm is forced by competition to choose the minimum cost alternative, that is, the plant size associated with minimum long-run average cost. Associated with that plant size is a marginal cost function. In addition, recognize that once constructed, a plant is not easily reconfigured to produce another product. The plant becomes “fixed” capital. Let’s assume that the plant has no salvage value. In other words, assume that it cannot be converted into any other productive enterprise. If this is the case, then the operating margin shifts from minimum average cost (the margin determining the original construction of the facility) to minimum average variable cost. If the capital is fixed, then the firm will continue to produce (at the profit maximizing level of output as determined by the marginal cost function) so long as price is at least as large as minimum average variable cost, that is, \( P_0 \) as labeled in Figure 3. At prices at this level or higher, the firm is covering its operating cost and making something extra to cover the cost of capital invested in the plant.

If price is higher than \( P_1 \) then the firm is making excess profits. (Yea.) Between \( P_0 \) and \( P_1 \) the firm is covering its operating cost, but it is not making enough to full recover the cost of the facility including the normal rate of return on the invested capital. (Too bad.) Even so, the firm continues to operate the facility. If price falls below \( P_0 \), the firm shuts down.

**Figure 3: Covering Variable Costs**

![Diagram showing covering variable costs](image)

In the face of technological progress, a competitive industry may have firms of many different sizes based on the vintage of capital they operate. This technologically dated capital will operate so long as its operating cost can be covered. The long-run competitive equilibrium price will be determined by the minimum of the long-run average cost using the most technologically advanced capital.
Consider the case of a competitive industry with a flat long-run supply curve. Let all the firms be the same; all operate along similar U-shaped average cost functions. The competitive price is equal to minimum average cost.

Now suppose that one firm buys up all the others so that it now controls all of the productive assets in the industry and can somehow prevent the entry of new firms. How will it operate? Simple analysis suggests that this monopolist will reduce output and raise price. Indeed, simple analysis says that the monopolist will restrict output and raise price to the point where the marginal revenue associated with market demand is equal to what was the long-run competitive supply curve. This function represents the marginal cost of production. Profit maximization along a downward sloping demand requires that marginal revenue equal marginal cost.

Let’s draw this picture using a linear demand curve. The assumption of linear demand is not particularly limiting. Linear demand embodies a number of features that are observable. Linear demand depicts the situation where revenue rises and then falls as price is increased. Along the linear demand, revenue is zero where price is zero and revenue is zero where the demand curve intersects the vertical axis; call this point the exclusion price. In between revenue increases and then decreases. There is a unique revenue maximum. Empirically this maps into our worldly observations; i.e., we observe that there are times when firms reduce their revenue by increasing price and there are other times when price increases increase revenue. Thus, the assumption of linear demand captures something real. That it does it in a simplistic, symmetry way just makes our analytical task easier.

The linear demand curve has the characteristic that revenue is maximized at the midpoint along the demand, i.e., half way between zero price and the exclusion price. This is the point where price elasticity is equal to –1. But the thing to remember is that it splits the demand curve.

Associated with the revenue function that derives from the linear demand curve, there is a function called marginal revenue. Marginal revenue is measures the effect on total revenue that would result from a 1 unit increase in output. The important points to remember about marginal revenue drawn from the linear demand is that marginal revenue is twice as steep as demand. Marginal revenue is equal to zero where revenue is at a maximum. Where marginal revenue is equal to zero, demand is unitary elastic. Where marginal revenue is positive, demand is elastic. Where marginal revenue is negative, demand is inelastic. This marginal revenue function starts at the exclusion price, falls at twice the rate of demand, and hits zero at the point where revenue is at a peak. Marginal revenue is less than price because to induce a large quantity to be sold, price must be lowered not just on the additional units, but on all the units. Note that the marginal revenue function discussed here assumes that the monopolist charges a single price to all buyers.

In the monopoly case described above, in order to maximize profit, the monopolistic produces at the mid-point of the demand above the flat supply curve. This is a very simple result and it is easy to remember. Essentially, the monopolist is maximizing the revenue above cost, hence, profit maximizing. In other words, if marginal cost were zero, the monopolist would operate at the point of maximum revenue. When marginal cost is not zero, we can imagine the monopolist as viewing its effective revenue function as the residual of demand minus marginal cost. In this sense, we often talk about monopoly behavior in terms of price-cost margins.

We can also characterize the monopoly pricing rule as one where the firm operates at the point where marginal revenue is equal to the flat supply curve. The mid-point of the demand
curve above the flat supply curve is the same quantity value as where marginal revenue equals marginal cost.

A number of questions immediately arise:

- How is a monopoly position such as this protected?
- Is it necessary to acquire ownership of all the assets in an industry to create a monopoly?
- Why does the monopolist charge only one price?

**REGULATION OF NATURAL MONOPOLIES**

In the foregoing discussion we assumed that a monopoly was created by the aggregation of many firms in an industry setting where, if the firms operated separately, they would act as competitive rivals. In some situations, the nature of the production process is such that one firm can serve the market more cheaply than two. This case is called *natural monopoly*.

Natural monopoly can be figuratively defined as a situation where the market demand intersects the average cost of any firm that considers serving the market in the range where average cost is falling. Declining average cost is called economies of scale. Scale economies result from many causes and we will discuss these soon enough. For now, let's focus on the market equilibrium when market demand is small relative to the economies that can be enjoyed by scale.

If market demand cuts average cost in the falling portion, one firm can always produce more cheaply than two. In the extreme, one firm can produce where demand equals average cost. In so doing, one firm will satisfy the entire market demand at a price that is just sufficient to recover the costs of production. Obviously, no other firm will find it attractive to enter the industry.

However, this single, natural monopolist will not find it expedient to produce at this point of zero profits if left to its own devices. The natural monopolist will correctly recognize that by reducing output and raising price, it can enjoy positive, excess profits and it will still be the case that no firm will find entry attractive. The reason is that even though the monopolist is enjoying excess profits, a second rivaling firm will force price down. The alternative scenarios of the market equilibrium are not pretty. If the rival attempts to enter at a small scale of production, it puts itself at a cost disadvantage. The larger firm can increase output and put the small competitor out of business. Alternatively, if the new firm enters the industry at a large scale, it will create a price war that is likely to bankrupt both firms.

The case of natural monopoly results in a market structure that is a competitive stalemate. The one firm enjoys excess profits, but because of the structure of costs, these profits are not sufficient to induce competitive entry and low prices.

The public response to cases of natural monopoly has historically been rate regulation. Rate regulation is sometimes called average-cost pricing. The attempt is to require that the monopolist charge a price that is equal to the average cost of production. In practice, regulators do not know the shape of either the demand or average cost function. The regulatory approach is to force the firm to serve all customers who demand service and then to allow the firm to charge prices that are just sufficient to cover the costs of production.

Costs of production are defined as out-of-pocket expenditures plus a fair rate of return on invested capital. Hence, rate regulation is in practice rate-of-return regulation.

There are many problems with rate regulation. In fact, the recent trend in public policy has been to deregulate industries that were formerly thought to be natural monopolies and to let competition, albeit imperfect in many cases, work to minimize prices for consumers.
OLIGOPOLY & CARTELS

On the spectrum between Competition where we usually imagine there are a large number of firms and Monopoly which is defined as a single firm, we have Oligopoly. Oligopoly is a few firms serving the market. When there are two firms, we call it a duopoly.

Oligopoly creates a special problem for economic models and theories. When there are a small number of players in a business situation, it is hard to figure out what they will do. They are said to be in a “game” where they may employ a wide variety of strategies against one another. They may act as dyed-in-the-wool rivals and drive the market price “ruinously” low, or they may act as one and perfectly monopolize the market. There are a myriad of possibilities in between.

THEORIES

The oldest and simplest theory of oligopoly behavior is called the Cournot Model. The Cournot model is based on the simplistic assumption that the market participants assume that the other market participants will not change their quantity of production. Start with a monopoly, where the single firm is producing half way up the demand curve between a flat supply curve and the exclusion price. Enter a second firm. The second firm assumes that the first firm will continue to produce at its current level. This leaves the demand curve between the monopolist’s price and the supply for the second firm. It then produces half way down that “remnant” demand. The first firm then readjusts (exactly contrary to the what the second firm anticipated); the second firm readjusts; etc., etc. The ultimate solution has the following characterization:

<table>
<thead>
<tr>
<th>Number of Firms</th>
<th>% of Competitive Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2/3</td>
</tr>
<tr>
<td>3</td>
<td>3/4</td>
</tr>
<tr>
<td>4</td>
<td>4/5</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>n</td>
<td>n/(n+1)</td>
</tr>
</tbody>
</table>

While the behavioral assumption is naive, the solution is conveniently straightforward. Moreover, there is some experimental evidence supporting the hypothesis that this model characterizes the way people actually behave.

The Cournot model is part of what is called game theory. Game theory tries to predict how people will behave when they are faced with a one-on-one situation. A simple game theory that demonstrate the issues involved is the Prisoners’ Dilemma. Assume two murder suspects are arrested. The prosecutor interrogates them separately. He offers the following choice to each: “If you confess and your partner doesn’t, you will get 5 years and he will get life. If he confesses and you don’t, you will get life. If you both confess, you both get 10 years.”

The model can be characterized by the following payoff matrix:

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6 Antoine Augustin Cournot. French mathematician and economist. Born: 28 Aug 1801 in Gray, France Died: 31 March 1877 in Paris, France. We will ignore the other oligopoly models such as the Stackelburg and Kinky Demand models.
The payoffs, 5 years, 10 years, and life, can be adjusted by the prosecutor in order to maximize the probability of the total sentence that can be levied against the two men. The greater is the difference between confession and stonewalling, the greater the probability of confession.

This simple Prisoners’ Dilemma is a one period game. We could imagine a game like the prisoners’ dilemma that was replayed an infinite number of times. Mathematicians and economists have studied this at length. In fact, a computer game has been run where anyone can submit a strategy. The winning strategy has been found to be Tit-for-Tat. Tit-for-Tat means that you play a cooperative game until the other player acts opportunistically. Then you retaliate.

In the context of Boudreaux and Hebert, this means that Boudreaux will stonewall until Hebert confesses. Then, in the next round, Boudreaux confesses. Boudreaux continues to confess until Hebert stonewalls. Then Boudreaux goes back to stonewalling.

The interesting implication of the Tit-for-Tat winning strategy is that in a real market situation, it implies that monopolizing cooperation among the oligopoly may be a dominant pattern. This monopolizing cooperation may take the form of Cournot behavior or it may come closer to perfect monopoly. Monopolizing cooperation is called a cartel.

**CARTELS**

*What?* A cartel is an agreement among firms to act in concert, that is, like a team. In a perfect cartel the firms act as if they were a single firm with multiple plants or facilities.

*Why?* In acting as a single firm, the cartel can monopolize the market, raise price, lower quantity and substantially increase profits. In rare cases, cartels seem to perform other functions such as effective marketing such as the DeBeers diamond cartel or the Cali drug cartel. But even here we expect that the cartel acts to restrict quantity. Cartels in sports, which includes the professional sports leagues as well as the National Collegiate Athletic Association, organize the interaction of the firms on the field. These cartel define play in the sport. Even so, there is ample evidence that they act to monopoly the market on both the output side as well as the input side.

*When?* Firms will cartelize when it is cheap to do so. Most importantly, firms cartelize when there are no government restrictions on doing so.

The Sherman Antitrust Act of 1890 prohibited price fixing or cartelization. Until that time, there was no legal restraint on firms acting as a cartel. As a consequence, nearly every industry in the country in the last half of the 19th century had attempted some form of cartel. The fact that cartels in the US are so uncommon as to be considered rare birds is a testimony to the efficiency of the Sherman Act. The benefits that we derive from this feat of government regulation cause the Sherman Act to rank as one of the most important pieces of legislation to ever have been enacted.

However, government sanction is not the only obstacle to forming an effective cartel. Firms must be able to organize themselves and to stop the entry of new firms. Typically organization costs are low when there are only a few firms in the industry and when for some reason, production is *concentrated* in one or two of these. Effective cartels are usually associated
with natural resource markets where the entry of new firms can be thwarted by restricting the distribution of the raw materials necessary for production. Aluminum is the common example. The natural resource bauxite is concentrated in ownership. Oil and the Arab OPEC cartel is another example.

_How?_: The effectiveness of a cartel depends on its ability to enforce the rules of the cartel on its members. Each member of the cartel has an incentive to cheat because, if all the other members hold the line on price and quantity, any one firm can substantially increase profits by increasing its own output and selling at the now high, monopoly price. Since an individual firm in the cartel does not substantially lower price because its contribution to market output is relatively small, it gets to enjoy the high price and produce at full capacity. Thus, its profits are really big. Even so, since every firm wants to do this, the cartel is always in jeopardy of breaking down. This is what happened to OPEC in the mid 1980s.

The cartel must prevent cheating on the cartel agreement. Cheating is most easily detected when there are only a few firms, where prices don't fluctuate much because of market conditions, where prices are known to all members and where everyone sells the same product to similar buyers. In one of the most famous illegal cartels of all time, several electric equipment manufacturers led by Westinghouse and GE conspired to fix prices especially on government contracts. They were kind of silly in that they agreed to share the market by allowing one firm and then another to win bids. The losers all submitted identical higher bids. Even so, the ability of the cartel to enforce its agreement was enhanced by the fact that they were submitting sealed bids to government who was bound to reveal the amounts of all bids publicly and bound to accept the lowest. Thus, the cartel members could know exactly what everyone else bid and could know who if anyone cheated on the cartel agreement.

The gain to the cartel members is the excess profits created by monopolizing or restricting the quantity supplied to the market. The cartel must decide how these profits are to be shared among the members. One way is for everyone to pay their profits into a pool and then have the cartel manager pay dividends out of the pool. Professional sporting leagues sometimes do this, for instance, in sharing the revenues from television broadcasts of member games. In this instance, the pooling procedure is efficient because the cartel manager (the league office) is the central contracting agent in arranging the television agreement. Generally, however, the cartel members agree on the distribution of the profits based on an allocation of the market. The market is allocated among the cartel members in some way. The members receive shares. Generally speaking it is necessary to divide the market in some way other than just setting a target price. When only a target price is set, cheating will generally become the order of the day and the cartel will fail.

In the Philadelphia electric case mentioned above (so called because the Phil. antitrust office brought the case) the cartel members allocated percentage shares of the contracts that each would be allowed to win. Sometimes cartels allocate the market geographically. In the NCAA case, the right to be shown on TV was allocated by the association. The NCAA said that a team could only be on TV something like four times in two years (not counting bowl games). Ultimately, it was this sharing rule that broke the NCAA cartel.

In the early part of this century, GE and Westinghouse cartelized the light bulb market. GE used a licensing agreement to police cartel cheating by W. GE required that light bulbs only be sold at licensed dealers and the contract that both it and W. signed with these dealers required that they maintain a minimum retail price. This provision is called “resale price maintenance.” By policing the retail price, GE could control the market share allocated to W.
Other cartel control devices include the unlikely candidates of contracts that include “meet the competition’s price,” and most favored nation agreement.

THE NATURE OF COMPETITION

Let’s consider the aspects of the state of the world that will lead to an industry characterized as perfectly competitive. The principal characteristic of a perfectly competitive market is that the market participants cannot affect price. They are price takers. Price is determined by the forces of supply and demand. The market equilibrium price occurs where the marginal firm makes no excess or economic profit.

Most commentators list a number of conditions necessary for perfect competition. These are:

1. homogeneous goods that are perfectly divisible
2. free entry and exit of buyers and sellers
3. perfect knowledge of prices
4. no transactions costs

If these conditions exist, then market participants will not be able to affect price.

In order to put some meat on the bones of this outline, let’s consider an industry that is as nearly perfect as we can imagine. That industry is the Commodity Futures Market. The Chicago Board of Trade (CBOT) is a place where commodity futures are traded. I choose commodity futures because they represent markets in real things (as opposed to financials). Trading on the CBOT occurs in pits where individuals buy and sell the future delivery of goods. The trades by CBOT rule must occur through plainly visible hand signals. Anyone who wants to trade must be allowed to trade. In this way the trading takes the form of a free form auction (Walrasian price formation\(^7\)). The goods being traded are well specified. The CBOT defines a standard contract with precisely defined quality, quantity and delivery terms. There are around 1400 members of the CBOT, of whom around 800 have the right to trade commodities. Anyone with trading rights can enter the pit and trade contracts, on either the buyer or seller side. The knowledge of prices is ensured by CBOT regulations that trading must only occur in the pit and only by plainly vision hand signals. Finally, transactions costs are minimized by sanctioning people who record their trades incorrectly and by capital requirement as a bond against contract default.

One might reasonably ask what the CBOT produces since only a trivial portion of the future contracts on commodities are actually delivered. The answer is—price. The CBOT allows trading in a simulated market for a real good so that participants in the real market can know what the competitive equilibrium price is.

In the world of real production, especially where production involves physical capital we think of the market being formed by a number of firms with U-shaped average cost curves independently supplying the market demanders. The perfectly competitive equilibrium occurs when the market price is equal to minimum average cost. Here, enough firms have entered the market to drive price down to the point where there is no additional profit incentive to bring in

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\(^7\) Marie-Ésprit Léon Walras (1834-1910) was a Frenchman of Dutch ancestry. His name is derived from the Dutch “Walravens” and is thus pronounced (as he himself insisted) "Valrasse" and not "Valra". Major contribution was a description of how individual market linked together to form a combined economy wide market equilibrium. He described the price formation process as if an auctioneer called out prices until the market equilibrating price and quantity were found. More info can be found at: http://www.econ.jhu.edu/People/Fonseca/walras/walrbio.htm.
new suppliers. In addition, the number of firms is large enough so that the effect of the production of even the last firm to enter the market is virtually unnoticed by other participants. On the demand side, the number of buyers and volume of purchases of each has the same characteristic—no noticeable effect on the market price and quantity.

One can imagine that the CBOT services such markets—the agriculture producers—with the information about price so that farmers can make decisions about whether it is possible to cover costs, that is, whether market price is equal to, greater, or less than the minimum long run average cost.

In real production other imperfection arise. There is the quality composition of output. Quality is important, but at the same time it causes each transaction to be idiosyncratic. To what extent does this make the market not perfectly competitive? Transportation is a transaction cost. Even though milk is $2.50 per half gallon at the Hess Mart and only $1.75 at the Bi-Lo, we quite often buy it at the Hess because we simply don’t want to go all the way to Bi-Lo. To what extent do transportation costs make the market less than perfectly competitive? Used-car salesmen are testimony to the fact that people have imperfect knowledge about prices as well as quality.

To get an intuitive understanding of the idea of when markets are competitive and when they are not, let’s consider several in which we transact on a regular basis:

Clothes: There are generic clothes, brand-named clothes, and designer clothes. Some people claim that designer clothes force women to change styles and hence to spend more money than they would care to on expensive clothes. This argument overlooks the obvious fact that there is extreme competition among designers. While there are a number of traditionally successful clothes designers, there is substantial competition. There is also competition across the spectrum from generic to designer items. Consumer make the choice to buy the fancier clothes when they are expected to be more functional, durable, and comfortable.

Food: The food chain includes linen-napkin establishments, fast food places, and the grocery store. The half-life of sit-down places is less than two years by some estimates. It is certainly less than 5 years. While the product served across competing restaurants is heterogeneous, the other conditions of competition hold. There is free entry and exit of firms as evidenced by the rapid turnover. There is full information about prices as evidenced by the fact that restaurants post their menus outside. There is little transactions costs in that competing restaurant commonly locate next to one another. The large turnover is the most convincing evidence that there is perfect competition in the sit-down restaurant business.

In fast food, there is much less turnover. There are major chains of fast food places that have been in business a long time. There is some entry from time to time, but little exit. McDonald’s rarely closes a store. An important issue is whether we should analyze the fast food market at the chain level or the individual store level. My answer is, the chain level because the franchiser has authority to set price and determine the number of stores that will be opened. Of the conditions for competition, here we have a more homogeneous product, but with somewhat less entry and exit of firms. There is good knowledge of prices and little transactions cost because of proximate location of competitors. The behavior that convinces us that the market is competitive is the fact that there is so much price fluctuation. The market participants are always offering competing special deals. (Note that changing prices is different from affecting price. Changing prices occur because of fluctuations in market forces.)

Groceries sell a lot of different products. As noted above, milk sells at large groceries for a substantial discount over the price charged at convenience stores (so-called “Stop-n-Rob”). Is this price differential evidence that convenience stores are price gouging, that is, selling milk at a
price higher than the competitive level. On the one hand, there are at least two reasonable explanations for why costs are expected to be higher at convenience stores. One is the volume of buying. Convenience stores buy much less milk from the dairies. Two, the spoilage rate is expected to be higher at convenience stores than large groceries. On the other hand, we are confident that the milk price differential between large groceries and convenient stores is competitively determined because there is so much competition among convenience stores.

Other items that groceries sell include breakfast cereal, beer, and soft drinks. There is much concern about the competitive nature of these industries. The cereal market is characterized by many brands but dominated by only a few firms. There has been very little turnover in these firms over the years. In spite of the fact that there is much competition across types of breakfast foods, the question remains whether cold cereal manufacturers are charging a competitive price. The concern is based on the small number of firms, minimal turnover, and relative price stability.

Beer is increasingly dominated by a few firms: Anheuser Busch, Miller, Coors, and Heileman. Even so, there has been a long history of declining prices in beer.

Soft drinks are similarly dominated by a few firms: Coca Cola, Pepsi, Royal Crown. However, the soft-drink industry is harder to define because of the many competing types of products: colas, lemon-lime, carbonated/non, pre-mixed or powder.

The bottom line is that we are intuitively comfortable that a competitive market is operating where we see large turnover in firms or a substantial amount of price fluctuation.

CONTESTABILITY & BARRIERS TO ENTRY

BARRIERS TO ENTRY

The competitive equilibrium is based on the idea that entrepreneurs and businesses are naturally attracted to potential profits. What could be more enticing than the actual observed profits of a monopolist? How then can a monopolist stop the competitive force of entry into its monopolized market? The term that we use to explain this is *barriers to entry*.

The most common way for monopolies to protect their turf is by appeal to government. Indeed, most monopoly markets are the creation of government. Historically, governments have granted monopoly franchises in various products in exchange for a cash payment. That is, governments have sold monopolies. The negative aspects of monopolies is well emphasized by this. The monopolist raises price to the monopoly level. In the bidding process, the monopolist ends up paying the government nearly all of the monopoly profit. The monopoly franchise issued by the government is essentially a tax on a specific product. It is a terribly inefficient tax because it is directed at only one good.

An example that emphasizes the problem of monopoly franchises used as taxes is the case of the Boer War. The Boers were Dutch settlers of the southern tip of Africa. Britain took over the colony during the Napoleonic Wars and then decided to keep them. The Dutch didn’t like this and moved north into the Zulu territory called the Transvaal to start their own government. The Brits didn’t like this, but ignored it for a while. Gold was discovered there. After the initial “rush” by individual miners, industrialists moved in and started serious mining operations. However, the Boer government sold a monopoly franchise on dynamite to a group of French and German investors. The high price of dynamite, which was increasingly important

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8 One of these gold bugs was Cecil Rhodes for whom the Rhodes scholarship program is named.
for the gold mining industry as the mines went deeper and deeper, finally precipitated a war between the British in the South African colony and the Boers to the north. In the end, the Brits won. Part of the conclusion was the termination of the dynamite monopoly. However, like most wars, the cost even to the gold bugs was vastly larger than they had imagined when the war was inspired.

Government monopolies used as taxes are bad and over the centuries have been replaced by more general taxes. Today, in the U.S., there are no monopoly franchises used for tax collection. Indeed, there are a declining number of government protected monopolies of any sort except for patents and copyrights.

Patents are government protected monopolies used as method of compensating innovation. If an inventor comes up with a way to lower costs in the textile industry, the idea can be patented. This means that the innovation is granted a exclusive license for 17 years. During this period, the patent holder can use the power of government to stop unauthorized use of the idea. This means that the patent holder can charge an amount for the use of the innovation that is equal to the cost savings that the new device creates. The innovation shifts the supply curve down, but the patent holder charges a few for the device that is exactly equal to the cost savings. This is the value of the monopoly patent right and is the compensation to the inventor for the new idea.

Copyrights last much longer if they are periodically renewed (life of the author plus 50 years). The general view is that patents are good because the patent right eventually ends and the innovation is free to the public. This isn’t true with copyrights, but it does not seem to be bad. We might think of copyrights as the ownership claims to a tournament. Intellectual property, like books and movies, the average stuff is valuable for a relatively short period. The value of the average movie is probably about 5 years after which even though there is an exclusive claim, the movie has no significant market value. However, every so often, a spectacular movie is produced that continues to have value year after year. The copyright claim to this value for a very long period of time gives the incentive to try to make great feats of intellectual effort as opposed to mediocre advances.

The bottom line is that both patents and copyrights are good government protected monopolies.

CONTESTABILITY

An important element of competitive supply is the number of firms serving the industry. In the textbook setting the number of firms in the competitive setting is very large, so large that no one firm can discern its affect on market price. As we look around the world, this condition is often violated and yet we still believe that markets are competitive.

Consider the fast food market. There are a number of firms in the market—McD’s, Burger K., Wendy’s, KFC, etc.—but the number is not so large that the firms are oblivious to the effects of their rivals business on their own. No doubt, Hardee’s is sorry to see a McDonald’s open up across the street, at least, at the margin. However, in spite of the somewhat limited number of firms in the business, competition seems keen enough. With Whoppers currently selling for 99¢, it is hard to imagine much of a gap between price and average cost.

The word that we use to describe this situation is called contestability. We say that a market is contestable when there is the potential for competition even when there are only a small number of firms actually serving the market. The fast food market is contestable because the firms that are serving the market can cheaply expand and contract to fill gaps in competitive
supply. If the fried chicken part of the market has an unexpected increase in demand, a KFC starts making extra money, Hardee’s starts offering chicken in addition to its other lines of food.

The contestability of a market depends on barriers to entry. The fast food industry does not have significant barriers to entry. Fast food is franchised. The franchiser can expand its production units easily. Franchising is based on the notion of brand names. Franchises have reputations. These are information conduits for the consumer. The consumer knows what McDonald’s is like. Brand name reputation is an valuable asset and the franchiser works to protect it. But increasing the number of stores it operates does exactly this.\(^9\) Competitively induced expansion is a natural part of the franchising process. Fast food chains can also stretch their brand names across product lines giving them even more scope for competitive adjustment.

Barriers to entry take many forms but they are usually grouped into three classes: 1) absolute cost advantages resulting from things like patents or trade secrets; 2) economies of scale; and 3) product differentiation. To the extent that barriers to entry are substantial, we expect that a small number of firms in an industry will result in less than perfect competition. However, when the barriers are small, contestability and potential competition will generate the perfectly competitive result even when there is only one firm.

**ECONOMIES OF SCALE AND SCOPE**

We characterize industry structure in terms of the number of firms in the industry and also in terms of the nature of the cost function of those firms. The cost function of the firm is best described by average cost. Average cost has two key points. One is the quantity level at which average cost reaches a minimum. This quantity level is compared to market output, and it called the Minimum Efficient Plant Size (MES). The other is the quantity level at which diseconomies of scale set in.

Four stereotypes can be identified.

1. MES occurs at a low output level (relative to market output) and then diseconomies of scale set in quickly. This is our normal depiction of the competitive market.
2. Average cost is still falling in the range of market output. That is, MES is not reached for the market as a whole. This is call a natural monopoly because one firm can produce more cheaply than two.
3. MES occurs at a relative low output level, but then average cost is flat for a long range of output. Diseconomies set in at very high output levels.
4. Average cost is flat. There are no economies or diseconomies of scale.

Economies of scale result from specialization, pooling, and durability.\(^{10}\) Economies of scale are usually applied to plant or production level facilities. Some engineering studies have been done. It has been found that there is wide variation in the MES across industries. MES in the beer industry occurs at around 3.5% of market output, while MES in refrigerators occurs at

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\(^9\) Franchise contracts are elaborate and the structure of franchise companies is chosen to maximize the value of the brand name reputation that is created. For instance, the franchisor is paid a royalty on the basis of sales in order to encourage the franchisor to closely monitor the production of quality at each site.

\(^{10}\) See Lindsay and Maloney on economies of scale, available at 'http://www.clemson.edu/~maloney'.
14%. This means that there could be around 28 breweries operating at minimum average cost while the refrigerator market will only support around 7 plants.

### Measures of Economies of Scale

<table>
<thead>
<tr>
<th>Industry</th>
<th>MES Plant Capacity as % of Industry Output</th>
<th>Percentage Elevation of Units Costs at One-Third MES, 1967</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beer brewing</td>
<td>3.4</td>
<td>5.0</td>
</tr>
<tr>
<td>Cigarettes</td>
<td>6.6</td>
<td>2.2</td>
</tr>
<tr>
<td>Broad-woven cotton and synthetic fabrics</td>
<td>.2</td>
<td>7.6</td>
</tr>
<tr>
<td>Paints, varnishes, and lacquers</td>
<td>1.4</td>
<td>4.4</td>
</tr>
<tr>
<td>Petroleum</td>
<td>1.9</td>
<td>4.8</td>
</tr>
<tr>
<td>Shoes (except rubber)</td>
<td>.2</td>
<td>1.5</td>
</tr>
<tr>
<td>Glass containers</td>
<td>1.5</td>
<td>11.0</td>
</tr>
<tr>
<td>Cement</td>
<td>1.7</td>
<td>26.0</td>
</tr>
<tr>
<td>Integrated wide-strip steelworks</td>
<td>2.6</td>
<td>11.0</td>
</tr>
<tr>
<td>Ball and roller bearings</td>
<td>1.4</td>
<td>8.0</td>
</tr>
<tr>
<td>Household refrigerators and freezers</td>
<td>14.1</td>
<td>6.5</td>
</tr>
<tr>
<td>Storage batteries</td>
<td>1.9</td>
<td>4.6</td>
</tr>
</tbody>
</table>


We use the term economies of scope to describe the factors that influence cost at the firm level. The firm is not just a production facility. Firms must purchase inputs and market output. Transportation, shipping, and handling may be necessarily undertaken by the firm. They often engage in research and development, and they have administration and accounting functions. We can think of the firm as being composed of many different functions over and above plant-level production. We can think of the firms cost function as the vertical summation of the average cost functions of these various components. If the firm buys some function in the market, that component is flat (assuming that there are no volume discounts).

One of the clearest examples of economies of scope occurred in the electric utility industry. Electricity production occurs in two parts. One is generation; the other is transmission and distribution (T&D). For a long time, electricity was considered a natural monopoly. This was not because the MES in either generation or T&D fell outside the market demand. It was rather that the lowest cost combination of generation and T&D caused average cost to continue to fall across the range of market demand. Electricity has the characteristic that every kilowatt of electricity that is consumed must be instantaneously generated at that exact moment. This means that generation and T&D must be exactly matched. This is called load following. Load following requires system control to match generation output with the consumption (load) of users on the system. Generators must be turned up (ramped) when more electricity is demanded and turned down when people consume less. In the early years of the industry, electricity system were isolated. Each system engaged in its own generation and load following. When they became partially interconnected, it created a threat of load imbalance on one system crashing another system. This happened in the summer of 1965 on the east coast. Since then, however, the system has become full interconnected with system control that reduces the risk of system wide failure.
Because of improvements in system control, there is no required link between generation and T&D, so the industry is no longer a natural monopoly.

Economies of scope may cause the firm to produce with multiple plants. This would occur if the one or more of the functions of the firm had economies of scale that were not exhausted at the plant level MES. For instance, if transportation, R&D, or administrative costs were characterized by large economies, the firm might own and operate multiple production plants in order to exploit the economies in these overhead functions. (Think about Wal-Mart.)

Economies of scope may cause the firm to produce multiple outputs for much the same reason. For instance, Procter & Gamble sells a lot of stuff. It sells the most laundry soap of any firm. Its biggest seller is Tide; second is Cheer. Problem is that the manufacturing facility that achieves MES produces more soap than P&G can sell in either Tide or Cheer. Hence, it has to make both in the same place. Tide is white and Cheer is blue. When they change over, there are blue flecks in the white soap. They market this as Oxydol.

Technology creates economies of scale and scope. Knowledge affects cost at the plant, firm, and industry level. When the firm develops something new, its cost function shifts down. Moreover, there are learning effects at the plant level. When Intel begins production of a new computer chip, the cost of production fall the more they produce. This is not a fixed cost effect. As the plant runs more and more chips, the number of defective ones goes down as the machines are more accurately calibrated.

Technological progress creates obsolescence in capital. However, obsolescence does not necessarily cause old plants to shut down. It just means that they will not be rebuilt when they do shut down. So long as the market price of output is above the operating cost of production, old plants will continue to operate. Obsolescence causes the industry to have many different sized plants in operation at one time.

Economies of scope also involve the degree to which an industry is vertically related. One example is the poultry industry. In raising broiler chickens, there are a number of large firms called integrators. They have familiar names: Perdue, Tyson, Holly Farms. These firms are fully integrated. They owning breeding stock, hatch chicks, and manufacture food. They then supply these to growers to raise the birds to processing size. At that point, the integrators collect the birds, process them, and deliver the product to grocery stores and restaurants. The scope of activity in this industry is not match in other food processing.

Economies of scale and scope are one of the things that may create Barriers to Entry. Certainly, economies of scale present a hurdle that a new entrant must overcome. However, economies of scope sometimes offer avenue for circumventing economies of scale. For instance, producing multiple items in the same facility may allow a firm to achieve minimum efficient scale even though it does not have the market share to accomplish this in any one product.

**STRUCTURE, CONDUCT, PERFORMANCE**

The measure of monopoly power is the difference between price and cost. Monopolies set price above average and marginal cost. Competition drives price down toward minimum average cost.

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11 Interestingly, the growers do not own the birds nor do they pay for the feed. They are responsible for the cost, maintenance, and operation of their chicken houses. They are paid based on the weight of the live birds at harvest relative to the amount of food that they used in raising the birds.
The ability of the firms in an industry to succeed in implementing a collusive agreement and setting price above cost is expected to be inversely related to the number of firms. The question is to what extent can we infer from the structure of an industry, that is, the number and size of the firms, the kind of conduct they will engage in, and thereby, the performance of the industry in comparison to competition.

A convenient measure of industry structure is the Herfindahl-Hirschman Index (HHI). This index is sum of squared market shares of the firms operating in an industry. For instance, in the long distance telephone industry there are around six firms: AT&T, MCI, Sprint, and three small players. Their shares are 60%, 20%, 9%, and 4%, 4%, 3%, respectively. The HHI is computed by squaring the percentage shares treated as whole numbers. For the LD market this gives:

\[ 3600 + 400 + 81 + 16 + 16 + 9 = 4122 \]

This number can be compared across industries. Generally speaking as the number gets smaller, the industry is more competitive. In the limit, the number approaches zero as the market share of each firm becomes trivially small. Consider what the number would look like if there were 1000 firms each with an equal share of the market. The market share of each would be .1%. The Herfindahl-Hirschman index in this situation would be the sum of .1% squared over the thousand firms in the industry, or

\[ 1000 \cdot (0.1)^2 = 10 \]

A more intuitive way of thinking about the HHI is to divide it into the upper boundary value, 10,000. This inverse HHI is a number that can be interpreted as the number of firms in the industry assuming that all firms are the same size.

When the firms are of unequal size, as is the case in the LD industry, the interpretation becomes more interesting. In the LD market the Herfindahl is 4122 as shown above. This value divided into 10,000 gives 2.4. Our interpretation of this number, 2.4, is that the LD market structure is like there are two and one-half, equally sized firms. Even though the industry actually has six firms, since one of them is very large compared to the rest, the market looks much more like an oligopoly than it would if there were six equally sized firms.

The following table gives a list of HHI across industries. Of the industries listed, the one with the highest HHI is breakfast cereals at around 2200. In the following section there is a discussion of the treatment and use of the HHI by antitrust officials. This was taken from some testimony that I gave before the Mississippi Public Service Commission in the matter of electricity deregulation.

As the Herfindahl index increases, we say that the market becomes more concentrated.

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12 Other measures are discussed in your text. These include 4 and 8 firm concentration ratios, which are simply the share of the market served by the four or eight biggest firms.
**Selected Concentration Ratios in Manufacturing (Based on Value of Shipments)**

<table>
<thead>
<tr>
<th>SIC Industry</th>
<th>1947</th>
<th>1967</th>
<th>1987</th>
<th>HHI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat Packing (2011)</td>
<td>41</td>
<td>54</td>
<td>26</td>
<td>38</td>
</tr>
<tr>
<td>Fluid milk (2026)</td>
<td>22</td>
<td>30</td>
<td>21</td>
<td>32</td>
</tr>
<tr>
<td>Cereal breakfast foods (2043)</td>
<td>79</td>
<td>91</td>
<td>88</td>
<td>97</td>
</tr>
<tr>
<td>Distilled liquor, except brandy (2085)</td>
<td>75</td>
<td>86</td>
<td>54</td>
<td>71</td>
</tr>
<tr>
<td>Roasted coffee (2095)</td>
<td>53</td>
<td>71</td>
<td>66</td>
<td>78</td>
</tr>
<tr>
<td>Cigarettes (2111)</td>
<td>90</td>
<td>99</td>
<td>81</td>
<td>100</td>
</tr>
<tr>
<td>Men's and boys' suits and coats (2311)</td>
<td>9</td>
<td>15</td>
<td>17</td>
<td>27</td>
</tr>
<tr>
<td>Women's and misses' dresses (2335)</td>
<td>7</td>
<td>9</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Logging camps and contractors (2411)</td>
<td>14</td>
<td>22</td>
<td>18</td>
<td>24</td>
</tr>
<tr>
<td>Mobil homes (2451)</td>
<td></td>
<td></td>
<td>30</td>
<td>44</td>
</tr>
<tr>
<td>Pulp mills (2611)</td>
<td></td>
<td></td>
<td>45</td>
<td>70</td>
</tr>
<tr>
<td>Book publishing (2731)</td>
<td>18</td>
<td>29</td>
<td>20</td>
<td>32</td>
</tr>
<tr>
<td>Cellulosic man-made fibers (2823)</td>
<td></td>
<td></td>
<td></td>
<td>86</td>
</tr>
<tr>
<td>Pharmaceutical preparations (2843)</td>
<td>28</td>
<td>44</td>
<td>24</td>
<td>40</td>
</tr>
<tr>
<td>Petroleum refining (2911)</td>
<td>37</td>
<td>59</td>
<td>33</td>
<td>57</td>
</tr>
<tr>
<td>Flat glass (3211)</td>
<td></td>
<td></td>
<td>94</td>
<td>98</td>
</tr>
<tr>
<td>Ready-mixed concrete (3273)</td>
<td></td>
<td>6</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Blast furnaces and steel mills (3312)</td>
<td>50</td>
<td>66</td>
<td>48</td>
<td>66</td>
</tr>
<tr>
<td>Metal cans (3411)</td>
<td>78</td>
<td>86</td>
<td>73</td>
<td>84</td>
</tr>
<tr>
<td>Electric lamps (3641)</td>
<td>92</td>
<td>96</td>
<td>91</td>
<td>95</td>
</tr>
<tr>
<td>Radio and TV receiving sets (3651)</td>
<td>49</td>
<td>69</td>
<td>39</td>
<td>59</td>
</tr>
<tr>
<td>Motor vehicles and car bodies (3711)</td>
<td>92</td>
<td>98</td>
<td>90</td>
<td>95</td>
</tr>
<tr>
<td>Jewelry, precious metals (3911)</td>
<td>13</td>
<td>20</td>
<td>23</td>
<td>28</td>
</tr>
<tr>
<td>Pens and mechanical pencils (3951)</td>
<td>46</td>
<td>60</td>
<td>49</td>
<td>65</td>
</tr>
</tbody>
</table>

*Herfindahl-Hirschman index for the 50 largest companies. Not available prior to 1982.*


**CALCULATION OF MARKET CONCENTRATION**

Ever since the U.S. Department of Justice issued revised merger guidelines in 1982, market concentration has been gauged by calculating the Herfindahl-Hirschman Index (HHI).\(^{13}\) The index is the sum of the squares of the market shares of the sellers included within the boundaries of the relevant product and geographic market. A monopolist, by definition, accounts for 100 percent of all of the units sold in its market, and so in this extreme case HHI = 100\(^2\) = 10,000. A market served by two equally sized firms generates an HHI of 5,000, which is 50\(^2\) + 50\(^2\). A market served by ten equally sized firms generates a HHI of 1000 (=10\(^2\) + 10\(^2\) + 10\(^2\) + 10\(^2\) + 10\(^2\) + 10\(^2\) + 10\(^2\) + 10\(^2\) + 10\(^2\) + 10\(^2\)). As the number of equally sized firms becomes very large, HHI approaches its lower limit of zero.

\(^{13}\) The guidelines were first promulgated in 1968, at which time the market concentration measure of choice was the four-firm concentration ratio (CR\(_4\)), calculated by summing the market shares of the four largest firms. CR\(_4\) weights the markets shares of the leading firms equally, whereas HHI includes the shares of all of the firms in the market and gives greater weight to firms with larger market shares.
For public policy purposes, the critical value of HHI is between 1,800 and 2,500.\textsuperscript{14} The lower end of this range has been accepted as the threshold for merger cases. That is, antitrust authorities are likely to challenge mergers where the HHI is 1800 or higher. Other things being the same, a merger that would raise concentration by 50 points in markets where the HHI is 1,800 is likely to be challenged by the antitrust authorities because such a merger would “substantially lessen competition or tend to create a monopoly”.\textsuperscript{15}

The upper end of this range, 2500, has been applied by the Department of Justice in determining whether oil pipeline markets are competitive enough to allow market-based pricing to displace regulated pricing. In particular, the Justice Department has recommended that the Federal Energy Regulatory Commission “consider concentration in the relevant market below this level as sufficient to create a rebuttable presumption that a pipeline does not possess significant market power”.\textsuperscript{16} This same rule has been proposed for electric power generation.\textsuperscript{17}

CONDUCT

Of course, the 64 thousand dollar question\textsuperscript{18} is, how does concentration translate into performance?

The measurement of performance offers its own set of problems. First, we define performance, as noted above, in terms of price and cost. However, it is often times hard to measure price and quite often nearly impossible to measure cost.

Alternatively, we can measure profits directly. This too has pitfalls. Profits are measured as the difference between revenues and costs. If the costs capture the value of the monopoly profits, then measured profits will not depict the monopoly that in fact exists. For instance, suppose that an entrepreneur invents a new product, applies for and receives a patent, and then licenses the production of the good among several competitive manufacturers. The market will be monopolized by definition. The product is patented, and the patent holder will limit production in order to raise price to the monopoly level. However, the income statements of the manufacturers will not show the profits because their costs will include the license fee.

Or consider the case of U.S. Steel when it merged together the lion’s share of the steel industry in the late 19th century. As U.S. Steel was buying up steel manufacturers these firms were selling out at a price that included the expectation of USS achieving a monopoly and raising price. The small firms that were joining together under the umbrella of USS knew that their assets were more valuable than they had been. The price at which they sold out to USS captured their share of the monopoly that was to be. As a consequence, the book value of USS was inflated. The book value of the facilities owned by USS when it reached the zenith of its control of the industry included some of the monopoly value caused by the higher prices it was able to set by controlling the market. The same was true of Standard Oil.

\textsuperscript{14} An HHI of 1,800 is the level of concentration that would be observed in a market served by five to six equally sized firms; a market served by four equally sized firms would produce an HHI of 2,500.
\textsuperscript{15} Clayton Act, section 7.
\textsuperscript{17} Werden, “Identifying Market Power”, p. 20, citing Paul L. Joskow, Horizontal Market Power in Wholesale Power Markets, Appendix A to Initial Comments of Edison Electric Institute, FERC Dkt Nos. RM94-7-001 and RM95-8-000, August 1995.
\textsuperscript{18} This expression comes from an old TV game show that was the center of controversy in the ’60s because it was rigged.
An alternative measure of monopoly power is the stock market reflection of the value of the firms operating in an industry. Stock market measurements are even more expectationally driven than book values.

In order to use the stock market to detect the presence of monopoly, one has to look at the stock market reaction—the stock price fluctuation—at the time investors recognized that a monopoly was going to be created or at the time they recognized that a monopoly was going to be purged. I have investigated two such events. First, monopoly creation

In 1970 the federal government passed the Clean Air Act. This was the first federal legislation that imposed specific clean up standards on firms nation-wide. The standards were process oriented. That is, the standards mandated pollution control machine by machine in the workplace. In this sense they were industry standards.

Interestingly, the standards were two-tiered. One level of pollution control was mandated for existing facilities. Another for facilities constructed after the Act. The new-source standards were substantially more strict than the retrofit requirements. Partly this was because retrofit technology was more costly. But partly the theory was that we had to move toward a cleaner environment and new production facilities had to lead the charge.

The effect of the new-source-old-source bias in the mandated level of pollution control was to raise price and at the same time create a barrier to entry. Market price increased because old facilities had to reduce pollution. In part this meant reducing output; the market price of output was driven up. However, new firms that might otherwise have entered in order to compete away the profits associated with this higher price were thwarted by the more restrictive new-source standards.

One industry that was particularly affected by this was copper smelting. When the EPA standards for copper smelting were proposed, analysts forecast that there would never be a new smelter built in this country. McCormick and I looked at the stock market reaction to the announcements of the proposed pollution abatement rule making. As predicted by a theory of government controlled barriers to entry, the stock prices of the firms in the copper industry actually went up when the pollution control rules were promulgated.

In the second case, the stock market reaction to competitive entry into the local telecommunications industry was examined. From 1911 until 1984, AT&T had a government regulated monopoly in telephone. In 1984, this monopoly was broken into two pieces, long distance and local service (called local loop). AT&T was spun off from the Bell Operating Companies that provided local loop service. As time passed, LD service became fairly competitive while entry into the local loop service was restricted by a labyrinth of rules at both the local and federal level, such as the prohibition of cable companies from selling telephone services.

Technological advances began chipping away at these. Cellular telephony has become highly sophisticated and increasingly effective. While cellular service alone may not compete strongly against regular local service, cellular service linked with long distance may. On November 4, 1992, AT&T announced its intention to acquire McCaw Cellular the largest cellular provider in the country. This announcement sent shock wave throughout the telecommunications industry. Most notably, the announcement was received by stock market investors as an indication that profits for AT&T were going to go up, while profits for the Bell companies were going to fall. The stock price of AT&T went up and the prices of the Bell companies fell.
In a similar move, on January 4, 1994, MCI announced that it was directly entering the local loop market place. This announcement caused the stock prices of the Bell’s to fall dramatically. The stock prices of AT&T and the other LD suppliers also fell. The implication is that analysts and investors think that monopoly power in local telephone services is being eroded.

**Analysis of the Beer Industry**

Micha Gisser\(^{19}\) on the Beer Industry(excerpts)

I have chosen the brewing industry as a case study. This industry, which was basically unconcentrated in the late 1940s, is today one of the most concentrated manufacturing industries in the United States. The real price of beer has been falling almost steadily since the mid 1950s and its Herfindahl index has been rising, very slowly, from the mid 1940s to the mid 1960s, and very rapidly since the sixties. In what follows I utilize historical evidence and econometric analysis relating to the brewing industry in support of the theory of dynamic gains to consumers.

**History of the Brewing Industry**

According to Charles G. Burck [1972], there were 735 beermakers in the United States just after the repeal of prohibition. Table I offers some revealing summary statistics relating to the history of the beer industry from the mid-1940s to date. From 1947 to 1982 the number of beermakers decreased from 404 to 67 but started to increase toward the end of the 1990s. The Convenience ratio is defined as beer shipments in non-returnable bottles and cans divided by total shipments. As I explain later, the process of replacing the one-way glass containers by convenience packages has played the key role in changing the technology of beer production in the United States. This ratio increased steadily from 9.43 percent in 1947 to 80.76 percent in 1987. During this period, as shown by column (3), real prices of beer increased up to the mid-1950s, but then fell 24 percent. (The real price per barrel fell from $82.54 in 1954 to $65.89 in 1987 and $62.67 in 1989). The four-firm concentration ratio, C-4, was 21 percent in 1947, consistent with a competitive but non-atomistic market structure. The geographic scope of the beer market has grown since the 1950s. National concentration ratios probably do not accurately reflect the state of competition in the 1940s and the early 1950s because the market for beer was geographically fragmented. Nevertheless, by 1958 Anheuser-Busch, Schlitz and Pabst were established as national breweries. In 1987 the C-4 ratio rose to 87 percent indicating that the beer industry is currently heavily concentrated. The Herfindahl index (times 10,000) in column (5), has risen from 135 in 1947 to 2,516 in 1987.

Most of the innovation involving changes in aluminum cans and packaging equipment was purchased from firms outside the industry—e.g. aluminum producers. If the beer companies bore heavy development costs of the new canning lines, then high profits would be needed to help them reap the benefits of their fixed cost of innovation. The pioneers who took the first step, by either indigenously investing in new technology or, alternatively, purchasing it outside the industry, were able to lower their marginal costs of delivering beer to consumers. Historically, they initially reaped only Ricardian rents, and later, following the increase in concentration, they also reaped oligopolistic profits. The mergers that occurred in the wake of new technologies accelerated the course of falling prices, they did not cause them.

The early technological innovation introduced by breweries starting in the mid-1870s involved the building of refrigerated rail car systems. Breweries later developed coordinated regional systems of railside ice houses to support their fleet of refrigerated cars. In the early 1870s brewers also adopted Pasteur's discovery. Pasteurization prevented spoilage and extended the scope of the market. Steel cans appeared in the 1930s, and the first six-pack cartons appeared in the late 1950s. The moderate increase in concentration before the 1960s lends limited support to the hypothesis that most of the industry was innovating at the same time. Indeed, the increase in concentration before the 1960s resulted from replication of existing, relatively labor-intensive plants. In those days, some advantages of large scale originated from utilities, such as water processing and refrigeration equipment. The early 1960s ushered in the first aluminum beer cans with the variety of tab and pull tops. The aluminum industry developed new methods of manufacturing cans using smaller amounts of higher-priced metal to be competitive with steel. Later they invented new alloys of aluminum and manganese that permitted a reduction in container wall thickness.

\(^{19}\) Department of Economics, University of New Mexico.
thickening and led to increasingly cheaper containers. According to Burck [1972] technological changes in the late 1960s and the early 1970s significantly increased the rate of operation of closing lines:

In 1965 a typical high-speed canning line filled 800 cans per minute and a good bottling line ran at a rate of just 500 per minute. Today, using the same number of people, efficient canning lines run at 1,200 cans a minute, and the fastest bottling lines are pushing 900. [Page 104].

According to Keithahn [1978] it was not until the early 1960s that technological changes induced an increase in concentration:

The first reason behind the increase in the minimum efficient size of plant is the fact that there have been significant technological improvements in the packaging of beer. The improvements have been in the form of faster canning and bottling machinery. Modern canning lines are capable of running at a rate 1,500 twelve-ounce cans per minute, whereas 12 years ago a typical high-speed canning line filled just 750 cans per minute. [Page 34].

Keithahn also mentions the introduction of automation into brewhouses as a labor saving measure, and the development by Schlitz of a special fermentation method, which shortened the aging time of beer, as a capital-saving measure.

Some evidence is supporting the existence of a coincidence between large-scale demand shifts and technological innovation. Conversations with experts in the industry indicate that the markets in periods 1947-63, 1963-73, 1973-80 and 1980-90 were "poor," "excellent," "good" and "poor," respectively. I estimated the demand shifts for beer for these four periods by calculating the percentage growth in the adult population plus 0.4 times the GNP-per-capita percentage growth, at 1.87, 2.68, 2.47 and 2.04 percent, respectively. The multiplier 0.4 is the income elasticity for beer estimated by Hogarty and Elzinga [1972]. Thus, during the 1963-73 period the beer industry probably achieved the largest scale demand shifts as compared with any of the other three periods. As I later show, during this period cost curves shifted downwards and simultaneously the zone of increasing returns to scale grew ever larger. As noted earlier, replacement of returnable bottles and draught by convenience packages (metal cans and nonreturnable bottles) may be used as an index of technological innovation. According to R.S. Weinberg [1992], beer shipments in convenience packages increased from 9.43 percent in 1947 to 82.24 percent in 1990 of total shipments, and from 1963 to 1973—the era of potential large scale economies—from 43.48 to 70.97 percent. Although technological change has been a continuous process, its impact was the greatest during the decade extending from 1963 to 1973. Frank J. Sellinger, in a statement before a Senate subcommittee of environmental

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<table>
<thead>
<tr>
<th>Period (1)</th>
<th>Percentage Growth of Adult Population (2)</th>
<th>Percentage Growth of Real GNP Per Capita (3)</th>
<th>Demand Shift (2)+0.4(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1947-63</td>
<td>1.14</td>
<td>1.38</td>
<td>1.87</td>
</tr>
<tr>
<td>1963-73</td>
<td>1.59</td>
<td>2.72</td>
<td>2.68</td>
</tr>
<tr>
<td>1973-80</td>
<td>2.02</td>
<td>1.12</td>
<td>2.47*</td>
</tr>
<tr>
<td>1980-90</td>
<td>1.38</td>
<td>1.64</td>
<td>2.04</td>
</tr>
</tbody>
</table>

*The period 1973-80 corresponds roughly to a period in which the drinking age was lowered to 18 in most states. Thus 2.47 percent understates the true demand increase during this period. Note: The data source is the Economic Report of the President. Adults are people 20 years of age and over. The multiplier 0.4 is Hogarty and Elzinga's [1972] estimate for the beer income elasticity.
pollution [1974], explains in detail why the process of replacing the returnable bottles by one-way glass containers and cans has played the key role in creating more efficient production and large-scale distribution systems. Production lines for convenience packages opened the door to automation and costly high-speed equipment that could be justified only by building larger capacity breweries. One observation by Sellinger is particularly enlightening:

Production lines for one-way containers justified the required automation and potential of high speed and high efficiency. High cost required high utilization. High use required large capacity breweries. Large capacity breweries justified sophisticated instrument control investment that reduces labor and results in lower production costs. Higher speed equipment requires containers manufactured with uniform specification and quality. The newer equipment requires a jam-proof environment to operate efficiently. Example: At the former low speed of 120 to 250 bottles per minute, if a returnable bottle broke and jammed a conveyor, an operator had time leisurely to walk over, clear the jam, and return to his station without sacrificing production. At today’s speed of 1,000 per minute for one-way bottles and 1,500 cans, no matter how fast an operator reacts, production is immediately jeopardized. [Page 27].

The evidence provided by Burck [1972], Keithahn [1978] and Sellinger [1974], implies that the most impressive technological change in the beer industry occurred in the late 1960s and the 1970s, and resulted in dramatic price drops in the 1970s.

Is horizontal merger associated with efficiency increases? To answer the question I looked at historical data on shipment of brewers who have had at least one million barrels during any year from 1947 to 1990. The data were compiled by Robert Weinberg [July 15, 1991]. From 1947 to 1959 five firms were acquired and one failed; from 1960 to 1969 six firms were acquired; from 1970 to 1979 one firm was split up, nine firms were acquired and two merged; between 1980 and 1990 six firms were acquired. Not surprisingly, the most intensive process of merger and acquisition occurred between 1970 and 1979, coinciding with two periods of dramatic price drops (1971-3, and 1977-81). If so, merger is a low-cost method of increasing market share in the wake of technological innovations.

In 1969 Phillip Morris acquired 53 percent of the Miller Brewing Company stock. On August 1, 1970, Phillip Morris owned the entire Miller stock. Immediately thereafter, Miller launched bold capacity expansions and introduced to the market a new product—Miller Lite. Although the big price decrease cannot be attributed to that vertical-merger episode, the new product probably contributed to the impressive increase in the demand for beer.

Some success of the national brewers is attributed to multi-plant economies of scale. The emerging national oligopolies had to pursue a multi-plant strategy to reduce transportation costs. These transportation-costs reductions, per se, could not favor the national producers over the regional breweries. However, due to the proliferation of television there were advantages from advertising on a national scale.21

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21 It seems, however, that the advantage from economies of scale in advertising may be somewhat offset by the disadvantage of the resulting less elastic demand curve. The demand curve which is perceived by the large firm becomes less elastic as its market share increases. If the demand curve facing the entire industry is inelastic, when the share of the large firm exceeds a critical level it reduces its level of advertising. For detail see Gisser [1991].
### TABLE I
Summary Statistics
The Beer Industry: 1947-1987

<table>
<thead>
<tr>
<th>Year</th>
<th>Companies (number)</th>
<th>Convenience Ratio</th>
<th>Real Beer Price per Barrel 1982-84 =100</th>
<th>C-4 Index (percent)</th>
<th>Herfindahl Index times 10,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1947</td>
<td>404</td>
<td>9.43</td>
<td>74.18*</td>
<td>21</td>
<td>135</td>
</tr>
<tr>
<td>1954</td>
<td>263</td>
<td>29.12</td>
<td>82.54</td>
<td>27</td>
<td>234</td>
</tr>
<tr>
<td>1958</td>
<td>211</td>
<td>35.60</td>
<td>80.71</td>
<td>28</td>
<td>293</td>
</tr>
<tr>
<td>1963</td>
<td>171</td>
<td>43.48</td>
<td>80.07</td>
<td>34</td>
<td>418</td>
</tr>
<tr>
<td>1967</td>
<td>125</td>
<td>54.66</td>
<td>81.00</td>
<td>40</td>
<td>580</td>
</tr>
<tr>
<td>1972</td>
<td>108</td>
<td>68.46</td>
<td>72.58</td>
<td>52</td>
<td>854</td>
</tr>
<tr>
<td>1977</td>
<td>81</td>
<td>75.78</td>
<td>68.86</td>
<td>64</td>
<td>1,194</td>
</tr>
<tr>
<td>1982</td>
<td>67</td>
<td>79.20</td>
<td>64.62</td>
<td>77</td>
<td>1,902</td>
</tr>
<tr>
<td>1987</td>
<td>101</td>
<td>80.76</td>
<td>65.89</td>
<td>87</td>
<td>2,516</td>
</tr>
</tbody>
</table>

For 1949.

Data Sources: Columns (1) and (4); U.S. Department of Commerce, Bureau of the Census, 1987 Census of Manufactures, Concentration Ratios in Manufacturing, Washington D.C.

Columns (2) and (5); Robert S. Weinberg and Associates, Mimeo 1992. Convenience packages include metal cans and non-returnable bottles. The convenience ratio equals beer shipments in convenience packages divided by total shipment. The Herfindahl index is not truncated.

Column (3); Real value of shipment divided by production. The source for the real value of shipments is the Beer Institute compiled from various issues of the Census of Manufactures. The source for production is Robert S. Weinberg and Associates [mimeos, July 15, 1991 and May 10, 1995].

### PUBLIC POLICY TOWARD COMMERCE AND INDUSTRY

Earliest public policy in America generally included franchises, subsidies, and tax treatment. This extended to such things as ferries, bridges, canals, roads, and then railroad.

About the only service that was provide publicly was public schools. These were provided by the state except in a few cases.

Charles River Bridge case is informative of the way the government became involved in commerce. The Proprietors of Charles River Bridge petitioned the Massachusetts state legislature to build and operate a toll bridge between Charlestown and Boston over the Charles River. In 1785 the legislature granted a forty-year (later extended to 70 years) franchise during which tolls...
could be collected. However, in 1828 the legislature issued another charter for a bridge that would directly compete with the Charles River Bridge. The new Warren Bridge could collect tolls only until the costs of construction and five-percent margin were recouped; thereafter, passage would be free. Because the two bridges provided the same service, free passage on the Warren Bridge made the franchise for the Charles River Bridge worthless. Proprietors of the Charles River Bridge sued the state, claiming an uncompensated taking had occurred.

The case worked its way through the judiciary and was finally decided by the U.S. Supreme Court in 1837. The claim by Proprietors of Charles River Bridge was rejected because exclusive privilege was not expressly stated in the original charter:

The object and end of government is to promote the happiness and prosperity of the community by which it is established, and it can never be assumed that the government intended to diminish its power of accomplishing that for which it was created; and in a country like ours, ... new channels of communication are daily found necessary both for travel, trade, and are essential to the comfort, convenience, and prosperity of the people. A state ought never be presumed to surrender this power because, ... the whole community has an interest in preserving it undiminished; and when a corporation alleges that a State has surrendered, for seventy years, its power of improvement and public accommodation in a great and important line of travel, ... the community have a right to insist that its abandonment ought not be presumed, in a case in which the deliberate purpose of the state to abandon it does not appear.

Thus, without explicit contractual language the state of Massachusetts was under no obligation of contract to ensure the exclusivity of the charter for the Charles River Bridge.

The decision clearly demonstrated that in the Court’s view government granted franchises do not protect regulated companies from the threat of competition, especially when competition affords the opportunity to improve the economic well-being of the community. At the time, this decision was key to the development of the railroad industry in the United States. Canal and bridge owners were threatening to stop expansion of the railway system because it reduced the value of their assets. The Charles River Bridge case which allowed that “charters only grant exclusive privileges when stated directly in the charter, and that exclusivity is not valid if it prevents improvements and increases in public welfare,” put an end to such claims and ensured the rapid growth of the railroad network in the United States.

Towards the end of the 19th century there was a growing movement toward more government involvement. Interstate Commerce Act 1889, Interstate Commerce Commission was formed to regulate railroads. One of the major complaints was pricing and pricing abuses. The short-haul/long-haul rate structure, where it was sometimes the case that short routes paid more than long haulers over the same track on the same train, was especially irksome. (Today, we do not find this so irritating. It happens commonly in air transport. Some times politicos try to make an issue of it.)

Other regulation came along, too.

- telecommunications 1910
- electricity 1910s

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22 The Charles River Bridge competed with a ferry the tolls from which went to Harvard U. When the CRB was authorized, Harvard was pledged some of the tolls.
23 The case was heard by the Marshall Court in 1831 but no decision was reached.
24 Taney for the majority in Charles River Bridge (1837)
Antitrust policy was formulated at about the same time. The Sherman act was passed the year after the ICC. It bore a family resemblance.

History shows us an ebb and flow of public policy in these matters. The economic regulations of the late 19th and early 20th century has almost all gone away in the late part of the century. Rate regulation ended in the various industries like a ebbing out to sea:

- railroads 1970s
- trucking 1970s
- financial securities 1976
- natural gas 1978
- airlines 1978
- telecommunications 1982-84
- electricity 1992

There was a rise in social regulation at the same time:

- Clean Air Act and EPA 1970
- Clean Water Act 1972
- OSHA 1974

Most interestingly from our perspective, along with the decline in public policy interest in rate regulation, there was a return to the idea that the market place is an effective regulator of commerce, and in antitrust policy, this meant a return to the presumption of competition as opposed to a presumption of monopoly power. Antitrust policy softened considerably in the last two decades.

**ANTITRUST LAWS AND ENFORCEMENT**

**ANTITRUST STATUTES**

**THE COMMON LAW AND CONTRACTS IN RESTRAINT OF TRADE**

Earliest common law cases held that any contract in restraint of trade (my agreeing not to compete against you) was void *per se*, i.e., a nullity by definition. You could make the agreement, but you could not run to the court to enforce the agreement. The rule was originally formulated to protect people from themselves from agreeing to not compete thus making them a public charge.

Later common law cases held that certain contracts in restraint of trade were enforceable. Specifically, contracts in restraint of trade would be enforced if they were 1) Ancillary to the core agreement (sale of a bakery); 2) partial (limited as to time, scope, and locality); and 3) reasonable ( in the interest of the public and the parties). The reasonableness requirement is strongly carried over to modern cases. These rules are still enforced today pursuant to the sale of business or employment contracts (i.e., non-compete clauses).
Originally monopolies were granted by the King as an exclusive right to deal in certain goods. Also prevalent were guild restrictions. The first case that squarely dealt with monopolies was *Darcy v. Allein*, 77 Enr. Rep. 1260 (1602) where an English judge held that Queen Elizabeth I’s grant of an exclusive right to import playing cards was held invalid as against the common law. There was a royal grant of an exclusive import franchise to Bowes (who sold to Darcy) and a prohibition against domestic manufacture of cards. Presumably the public interest argument made by Bowes in favor of the franchise and monopoly was that card manufacturing was a waste of resources and the ne’er-do-well French should be allowed to spoil their economy in this exercise. The English court ruled against the franchise and, apparently, against royal monopolies in general. There is some vague reference to acts of Parliament supporting this judicial opinion.

What is important to know is the general background of a long history of common law responses to the tendency to monopolize. Also important to know is that the Statutes when enacted and first interpreted, were done so upon the backdrop of three hundred years of reported cases. Other elements of common law that set this backdrop are that predatory pricing and practices were ok, that is, not tortuous if conducted without force or fraud.

**AMERICAN ANTITRUST STATUTES**

Two factors predominately led to the enactment of the Antitrust statutes—the formation of large national trusts and the actions of the railroads. First, in the late 1800’s America was changing from agrarian to industrial. In addition, farming became more efficient and the cost of transportation was becoming more and more a part of the price of goods. RRs would use the need for transportation of farm products to charge high prices that could subsidize competitive routes. States responded to popular pressure and attempted to regulate RRs. These statutes were quickly trounced by the RRs on Constitutional Law grounds.

In addition to the actions of the RRs, many industries would form trusts in order to allegedly control output and prices. Examples were the Standard Oil Trust, American Cotton Trust, National Linseed Oil Trust, Sugar Trust, National Lead Trust and the Whiskey Trust. These factors combined to create a public swelling of support to protect the poor consumer from the ruthless, greedy capital forces. In the election of 1888, both parties had antimonopoly planks in their platforms.

The main statutes are the Sherman Act (1890) and the Clayton Act (1914).

**SHERMAN ACT (1890)**

Section 1 makes unlawful “every contract, combination, or conspiracy in restraint of trade” in interstate or foreign commerce. Section 2 prohibits monopolizing, attempts to monopolize, and combinations or conspiracies to monopolize any part of interstate or foreign commerce. Basics of a cause of action are: 1) a contract, combination, or conspiracy; 2) in restraint of trade; and 3) affecting interstate commerce. The commerce requirement is largely irrelevant. See, *Wickard v. Filburn*, S.Ct., where the Court held that wheat, grown on a small farm, for personal consumption, affects interstate commerce because the aggregate demand for wheat on a national level is diminished.

The maximum fine in the original Sherman Act was $5000. It was raised to $50,000 in 1955 and to $1,000,000 for corporations and $100,000 for other persons in 1974. The maximum term of imprisonment was set at one year in 1890; it was increased to three years in 1974.

“Sec. 1. Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal.
Every person who shall make any contract or engage in any combination or conspiracy hereby declared to be illegal shall be deemed guilty of a felony, and, on conviction thereof, shall be punished by fine not exceeding one million dollars if a corporation, or, if any other person, one hundred thousand dollars, or by imprisonment not exceeding three years, or by both said punishments, in the discretion of the court.

Sec. 2. Every person who shall monopolize or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a felony, and, on conviction thereof, shall be punished by fine not exceeding one million dollars if a corporation, or, if any other person, one hundred thousand dollars, or by imprisonment not exceeding three years, or by both said punishments, in the discretion of the court.

**CLAYTON ACT (1914)**

The Clayton Act was passed in response to judicial over and under interpretation of the Sherman Act. See, *U.S. v. E.C. Knight*, where the Court held that the Sherman Act did not apply to the manufacture of commodities thus upholding a Sugar Trust; and *U.S. v. Trans-Missouri Freight Association*, where the Court held that every restraint of trade was illegal, regardless of the economic benefits of the arrangement. The Clayton Act and the Federal Trade Commission Act were passed to give businessmen some guidance on what was illegal.

The Clayton Act, together with the Federal Trade Commission Act, was passed in 1914 in the wake of the Supreme Court's decision in the govt.'s case against the Standard Oil Company. Although the Court held that Standard Oil had violated the Sherman Act, the vagueness of the Court's opinion created considerable disquiet (among both supporters and antagonists of anti-trust policy) concerning the scope and application of the Act. The desire for a more precise enumeration of antitrust violations expressed itself in the singling out in the original Clayton Act of four practices for specific regulation (price discrimination, section 2; tying and exclusive-dealing contracts, section 3; stock acquisitions, section 7; and interlocking directorates, section 8) and in the creation of a commission, the Federal Trade Commission, that was expected to enumerate additional specific restraints by interpretation of section 5 of the Federal Trade Commission Act, which forbade "unfair methods of competition."

Section 6 of the Clayton Act, exempting labor from the anti-trust laws, is noteworthy. The main purpose of labor unions is to raise wages by suppressing competition among workers, and before 1914 the Sherman Act had been applied to union activities, notably in connection with the famous Pullman strike of 1894. The precise scope of the labor exemption from the antitrust laws involves difficult questions, but this interesting subject is not developed in detail here.

Section 3 prohibits sales on the condition that the buyer not deal with competitors of the seller where the effect may be substantially lessen competition or tend to create a monopoly in any line of commerce. Includes tie-in sales, exclusive dealing, and requirements contracts.

Section 4 allows private enforcement of the Antitrust laws with treble damages.

Section 7—Mergers—prohibits acquisitions or mergers where the effect “may be to substantially lessen competition or tend to create a monopoly in any line of commerce in any section of the country.

Section 8—Director Restrictions—prohibits one person from being a director of competing businesses.
FTC ACT (1914)

The FTC Act created the FTC, with broad powers to enforce the Antitrust laws. FTC has exclusive jurisdiction to enforce the FTC Act and concurrent jurisdiction to enforce Antitrust laws. Private parties have no standing to enforce the FTC laws. Section 5 of the FTC Act prohibits "unfair methods of competition in or affecting commerce and unfair or deceptive acts or practices in or affecting commerce."

The original Act forbade only "unfair methods of competition." The prohibition of "unfair or deceptive acts or practices" was added by amendment in 1938, after the Commission had long held that the term "unfair methods of competition" included false advertising and other deceptive practices as well as monopolistic practices. The question of the precise scope of the term "unfair methods of competition" as applied to anticompetitive practices will recur from time to time throughout the book. Briefly, the term has been interpreted to forbid practices unlawful under the Sherman and Clayton Acts, and then some.

OTHER STATUTES

There have been two very important substantive amendments to the Clayton Act as well as a handful of minor revisions. The Robinson-Patman Act of 1936 and the Hart-Scott-Rodino Antitrust Improvements Act of 1976. In 1936 the Robinson-Patman Act overhauled the price-discrimination provision of the original act (section 2), creating the complex provision, which is not generally highly regarded by economists. Robinson-Patman Act (1936) prevents sellers from discriminating among buyers based on price in certain circumstances. This is largely unenforced. The prima-facie case is: 1) engaged in commerce; 2) to discriminate in price between different purchasers; 3) of commodities of like grade and quality; 4) where the effect may be to substantially lessen competition; and 5) to injure, destroy or prevent competition. Defenses are that the effect is de minimis, cost differential due to quantity or other factors, changing conditions, or meeting competition.

In 1950 section 7 of the original act was amended to make it reach mergers and other asset acquisitions as well as stock acquisitions.

Hart-Scott-Rodino (1976)—The DOJ’s investigative power is increased, mergers require-clearance, and a waiting period before the mergers in certain circumstances. Sate Attorneys general may sue in parens patriae under the Acts.

Three important procedural changes were made in the Clayton Act during 1976. The first change, which appears as sections 4C-4H, was enacted in response to Hawaii v. Standard Oil Co., 405 U.S. 251, 92 S.Ct. 885, 31 L.Ed.2d 184 (1972). Hawaii held that states could not bring actions on behalf of their residents, either for particular damages suffered by the residents or for harm to the state’s economy. The 1976 amendment establishes an elaborate procedure for the institution of suits and the distribution of any recovery.

The third addition is section 7A, which requires firms that acquire the voting securities of other firms to notify the Gov’t before the acquisition is consummated. The acquiring firm must provide detailed information about the nature and market shares of the enterprises. Regulations have been promulgated that define the submission requirements with great particularity. Although antitrust officials can (and often do) shorten the mandatory wait between notice and consummation, the provision affords time for the Gov’t to bring suit to halt an acquisition before it takes place. This provision grew out of concerns that the remedy of divestiture of assets after acquisition was not satisfactory.

Several more procedural changes were made in September 1980. Congress amended all three damages provisions (sections 4, 4A, and 4C(a)(2)) to allow courts to award prejudgment...
interest against defendants that multiply the issues or act in other dilatory ways. The provisions (which are not reproduced) essentially create a penalty for bad faith litigation. (At the same time Congress amended 28 U.S.C.A. 1927 to allow a court to require attorneys personally to pay the costs and counsel fees created by dilatory or vexatious conduct.)

Finally, the 1980 statute revised section 7 to refer generally to "persons;" it had been limited to acquisitions by (or from) corporations. It also inserted in section 7 an "affecting commerce" jurisdictional provision. The changes to section 7 apply only to mergers after September 1980.

**CASE LAW ON HORIZONTAL MONOPOLY**

**HORIZONTAL RESTRAINTS**

These are characterized as agreements among competitors at the same level or distribution. If Wal-Mart, K-mart, and Target stores were to agree to restrain trade, those would be horizontal restraints. Vertical is like GM-distributor-dealer. Horizontal restraints fall under the Sherman Act, Section 1. Every contract, combination, or conspiracy in restraint of trade is illegal. Elements of a Section 1 claim are that there is a contract, combination, or conspiracy and that this activity is in restraint of trade. Both must be shown although in some cases, merely showing the conduct occurs is enough to show a per se violation. Others are evaluated under the rule of reason (where all the pro competitive effects are considered).

**PRICE FIXING**

**UNITED STATES v. ADDYSTON PIPE**

85 F. 271 (6th Cir. 1898) (Taft, J.)

**TERMS:**

"Proceeding in equity"—suit not for damages but injunction.

"Common law"—judge made law

"void contract"—not enforceable at law

**PARTIES:** Plaintiff is the United States through the Attorney General. Defendant is Addyston Pipe Company as well as many other cast-iron pipe manufacturers.

**FACTS:** Defendants would rig bids for projects. Defendants got together to allocate territories among the U.S., specifically central and western states. For each territory, defendants would run an auction among themselves for the amounts they could fill certain orders for. The prices were designed to be set at levels lower than eastern manufacturers could compete, but higher than free, regional competition would produce. (Allowed due to the high cost of freight). Territories equaled about 30% of the market.

Once the defendants would agree on who would get the bid from the contractor, the chosen firm would make a "low" bid. The other firms would bid above the "chosen" firm's bid in order to give the illusion of competition. The winning firm would then distribute a "bonus" to other defendants to distribute the rents. AG learned of the practice, by a firm that had been frozen out, and sued for injunction. Court granted permanent injunction.

**ANALYSIS:** The Court began by discussing "naked" versus "ancillary" restraints on trade. "Naked" is straight up, actions taken to restrain trade (i.e., fix prices or limit competition). "Ancillary" is a restraint secondary to a legitimate purpose (Partnerships, sales of businesses, etc.) It looked to old common law as discussed in prior classes. Court concluded that this was a "naked" restraint on trade and was therefore illegal. Defendant tried to argue that their price was
reasonable and that they could not affect the entire market (b/c they controlled 30%). Court stated that in this "naked restraint" reasonableness was irrelevant, and even if reasonableness was relevant, the prices here were unreasonable. This was the beginning of the per se versus rule of reason approach. Further, 30% market share was not too little for a violation.

KEY POINTS: 1) difference between "naked and ancillary and impact that has on the analysis; 2) appreciation for the common law interpretation overlaid on the statute.

- **Board of Trade of the City of Chicago v. U.S. (1918)**
  This case involves a rule imposed by the Board of Trade on its members that restricted them from trading after hours at prices other than those announced during a period immediately following the close of trading on the exchange. The court recognized that the Board of Trade was a market and that it was necessary to impose certain rules of conduct on the market members. Hence, this action was ruled to be reasonable and not in violation of the Sherman Act.

**UNITED STATES v. TRENTON POTTERIES, ET AL.,**
273 U.S. 392 (1927)

**TERMS:**
"et al."—and others
"Respondents"—in the Supreme Court, parties are called petitioners or respondents when jurisdiction is under a petition for certiorari.
"Petition for certorari"—mode through which Sup. Ct. exercises jurisdiction. Parties must ask for Sup. Ct. to hear case. Certorari is an order to a lower court to send their record.
"indictment"—The beginning of a criminal case where the grand jury (made up of normal citizens) finds there is probable cause to believe there has been a violation of the law. In Federal court, unless waived, all felonies must proceed under indictment but misdemeanors can proceed under informations where the prosecutor alleges a crime has been committed.
"Jury charge"—the judge's instructions on the law to the jury. Jury's must follow the law as given, and erroneous jury charges are the most common reason for reversal of a verdict.

**FACTS:** Respondents were defendants (including the trade group "Sanitary Potter's Association") at trial. All were criminal defendants accused of fixing prices for toilets. On Appeal there was no question whether they combined to fix prices. Court charged the jury that agreements to fix price were of themselves unreasonable restraints on trade. The government apparently wanted the judge to charge that only undue or unreasonable restraints on trade were illegal and that the focus should be on the injury to the public.

**ANALYSIS:** The Court began by saying that the Sherman Act and the cases interpreting it assume that monopoly and price control are evil to competition. The Defendants tried to assert as a defense that the prices they fixed were reasonable, so there was no Sherman violation. The Court rejected this notion by stating: 1) any price fixing is assumed injurious to competition; and 2) reasonable prices today are unreasonable tomorrow; and 3) Government, to enforce laws, should not be charged with monitoring on a day-to-day basis the reasonableness of prices. Prices must be determined by the market and not a small group of producers.

KEY POINTS: Horizontal Price fixing (specifically the power and intent to fix prices) is per se illegal, i.e., the Court does not care if it is pro-competitive or not.
Appalachian Coals, Inc. et al., v. U.S. (288 U.S. 344 (1933))

**TERMS:** "injunction"—Court order requiring thing be, or not be done.

**FACTS:** Defendants were 137 coal producers in the Appalachians. They formed a selling agent (Appalachian Coals, Inc.) to act as their exclusive agent for sales. Producers owned Appalachian Coals, Inc. in proportion the their production. Sales were likewise apportioned. ACI set all prices.

**ANALYSIS:** Government's Argument—Plan eliminates competition between sellers in the scheme. Producer’s Argument—API provides economies of scale and makes all producers compete as a whole with others. Ultimate effect is to promote competition.

**COURT STATES:** Test is clear "only unreasonable restraints illegal." "A close and objective scrutiny of particular conditions and purposes is necessary in each case." The Court analyzed this case under the rule of reason approach and concluded that API was procompetitive. Compelling was that there was 1) no limit on production of members; 2) a merger of all members would not be illegal; 3) and there was neither the intent nor power to fix prices.

**QUESTION:** Why different than Trenton Potteries? 1) Some claim differences because of depression and deplorable conditions of the industry; 2) no "power or intent to fix prices" and 3) no limits on production by members.

**KEY POINTS:** 1) key is the "power or intent to fix prices" in the per se v. rule of reason analysis. [Generally every time you have a rule of reason analysis, someone can come up with pro-competitive evidence]; 2) rule of reason analysis considers all factors surrounding the arrangement to see if the questioned conduct is pro competitive; 3) this case is seen as a momentary lapse in the judicial interpretation of pricing fixing as a per se violation.

U.S. v. SOCONY-VACUUM OIL CO. ET AL.
310 U.S. 150 (1940)

**FACTS:** Defendants were tried for criminal violations of Sherman §1. They had combined to purchase "distress gas" from independent refiners in order to ultimately stabilize prices in the market. Problem was "ruinous competition" because oil wells have with them an incentive to be pumped even if it costs more to pump than you can sell the oil for because abandoned wells cannot be reopened. Defendants successfully purchased gas from independent refiners and sold the gas at a specific mark-up to retailers. This did raise and stabilize prices.

**ANALYSIS:** Court held this was per se illegal because the defendants had the power and intent to fix prices by buying distress gas from refiners. That the scheme was to stabilize prices, or that the original prices were competitively determined was irrelevant. Power or intent to fix prices, even with competitive inputs is per se illegal.

**KEY POINT:** Power or intent to fix prices is per se illegal.

"The reasonableness of prices has no constancy due to the dynamic quality of the business facts underlying price structures. Those who fixed reasonable prices today would perpetuate unreasonable prices tomorrow, since those prices would not be subject to continuous administrative supervision and readjustment in light of changed conditions. Those who controlled the prices would control or effectively dominate the market. And those who were in that strategic position would have it in their power to destroy or drastically impair the competitive system. But the thrust of the rule is deeper and reaches more than monopoly power. Any combination which tampers with price structures is engaged in an unlawful activity. Even though the members of the price-fixing group were in no position to control the market, to the extent that they raised, lowered, or stabilized prices they would be directly interfering with the free play of market forces. The Act places all such schemes beyond the pale and protects that vital part of our economy against any degree of interference. Congress has not left with us the determination of whether or not particular price-fixing schemes are wise or unwise, healthy or destructive. It has not permitted the age-old cry of ruinous competition and competitive evils to be a defense to price-fixing conspiracies. It has no more allowed genuine or fancied competitive abuses as a legal justification for such schemes than it has the good intentions of the
members of the combination. If such a shift is to be made, it must be done by the Congress. Certainly Congress has not left us with any such choice. Nor has the Act created or authorized the creation of any special exception in favor of the oil industry. Whatever may be its peculiar problems and characteristics, the Sherman Act, so far as price-fixing agreements are concerned, establishes one uniform rule applicable to all industries alike.” (pp. 221-222)

  
  TERMS: "State Bar"—in most states, like SC and GA, attorneys are only allowed to practice law if the Supreme Court of the State allows you to. State Bars are administrative bodies mandated by the Supreme Court of the State to keep track of attorneys, promulgate ethical recommendations, informally recommend adjudications of lawyer grievances, and control Continuing Education requirements. Only the Supreme Court can disbar an attorney, but may do so at the recommendation of the State bar. It is called a bar because in England, the barristers stand near the "bar", a sort of barricade that bifurcates between the gallery and the barristers. Members of the judiciary are "on the bench".

  FACTS: Goldfarb was homeowner who wanted to buy a house in Fairfax County Virginia. The Fairfax County Bar published minimum fee schedules of 1% of property value for a title examination. Goldfarb then contacted many others who would not charge less than the suggested minimum. Goldfarb sued. claiming violation of Sherman §1 for price fixing.

  ANALYSIS: Bar argued that "learned professions" like lawyers were exempt from the Sherman Act, that the fees were merely suggested, and that the State of Virginia was the actor. Court held that Congress intended no exemption from the Sherman Act for learned professions, that title examinations were "commerce" (i.e., service for money), that the fees were effectively mandatory in that 1) everyone charged the fees, and 2) there was prospective discipline for not charging the fees; and since there was no law respecting minimum fees, there was no state action.

  KEY POINTS: Sherman Act applies to everyone.


  In this case there were ethical canons against competitive bidding, or even discussing price in the engineering business, until the customer chose a professional engineer. U.S. sued for price fixing. Engineers defended by claiming the learned profession exception (rejected) and public policy (also rejected). The public policy argument was that allowing engineers to bid would cause low bids to get the contracts. These low bids in turn would give engineers the incentive to cut corners in design and supervision thus leading to increased safety risks for the public at large. The Court decided that the arrangement would be under the Rule of Reason and while not discounting that safety might be affected by competitive bidding, the concerted nature of the canon was illegal. Individual decisions to do the same thing would have been fine. Rule of reason does not recognize a defense that competition itself is unreasonable.

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**Broadcast Music, Inc. v. Columbia Broadcasting System, Inc.**

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FACTS: This case involved a blanket license for music by copyright owners. BMI and ASCAP are the copyright agents for almost 100% of the music you hear. Bars, restaurants, and radio stations must pay a license fee to BMI or ASCAP. The place then has the right to publicly pay the music for their customers. CBS sued under AT law for price fixing. Court said this was rule of reason because blanket license was a new product. Under rule of reason, arrangement efficient. Licenses are cheap, cost about $500 per year.

**TERMS:**

Summary Judgment—a way to get rid of a case before trial. Newscasts call this “getting kicked out of Court. For summary judgment the court assumes all disputed facts are true in favor of the non-movant.

Dissent—in this case, Justices dissented. This is the justices opportunity to say they disagree with the majority’s decision and to explain why. The dissent has no force of law, but it may provide arguments for lower courts, and allow parties to track shifting jurisprudence as the Court changes.

**FACTS:** Doctors got together to fix maximum prices. They created the “Foundation.” 70% of the doctors in the area were members. Members and insurers agreed to accept the maximum scheduled prices as full payment. Members could charge the uninsured any price, and could charge less than the maximum.

**ANALYSIS:** Issue here, as in all Antitrust, is the application of the rule of reason versus the per se approach. Since this is price fixing, albeit maximum prices, the per se rule applies. Foundation claimed argued arrangement subject to rule of reason because: 1) the agreements fix maximum prices (like the stabilization in *Socony*); 2) among members of a profession (like *Goldfarb*); 3) involve an industry with which the judiciary has little experience (goes to rule of reason v. per se application); and 4) are pro-competitive (again so what, this is per se).

Important in this case is the Court’s statement of why we have a per se approach. The Court stated: The costs of judging business practices under the rule of reason, however, have bee reduced by the recognition of per se rules. Once the Court has decided that the rule of reason would condemn a practice, it is then, for the sake of brevity and clarity, per se illegal.

“Conclusive presumption” (i.e., a rule of law). Fit is not perfect. Court then shows gravamen of per se rule’s problems and other bright line tests in law: “For the sake of business certainty and litigation efficiency, we have tolerated the invalidation of some agreement that a full blown inquiry might have proved to be reasonable.” Price restraint is bad because it discourages competition.

**DISSENT:** 1) No decrease in competition–anyone may go anywhere and pay anything, unless subject to the foundation agreement. Everyone free to leave. 2) Insurers represent consumer interests—insured indifferent if all costs covered; insurer is not. Insurers only one who can “restrain medical costs.” Dissent argues that the key inquiry is whether the purpose is to stifle competition. [Is the Court ignoring that competition is stifled, but it is OK in this case?].

**KEY POINTS:** The reason for a *per se* rule (eliminates costly litigation) and the downside of it (bad decisions).

**NCAA v. Board of Regents**


**FACTS:** NCAA negotiated deals with its members and networks to provide a uniform contract for televising football games. The NCAA plan was to spread television and money over many institutions. Big name football schools, formed the CFA in an effort to secure more of the booty from their televised games. CFA negotiated another deal with NBC that provided more revenue for CFA members. NCAA threatened adverse action against CFA members (against football and otherwise) who went along with the CFA deal. CFA members sued under Sherman Act section 1.
ANALYSIS: First, this case was decided under the rule of reason. Per se was not used because college football could not exist without collaborative effort. Without concerted action, rules would not exist, etc. This concerted action is a restraint on trade because schools cannot compete based on, for instance, having the most violent team in town, they are restrained by common rules. This leads to the rule of reason approach.

The Court then went through a thorough rule of reason analysis and concluded that the arrangement was an unreasonable restraint on trade. Decreased the production of televised football. Key of Sherman is to allow consumer preference to determine price and output. This situation limited consumer preference because schools were limited in the number of times they could appear, and television stations were limited because they had to bid on the entire NCAA package.

NCAA responds that it does not have market power, thus any effect is de minimis. Court rejects: 1) Fact—it does; 2) Market power irrelevant in determining naked restriction.

How is like or different than Appalachian Coals? Different because: 1) NCAA would limit total production by having only 82 home games televised; 2) NCAA would fix prices. Appalachian Coals would not limit production, and would try to sell as much as, and at the highest available prices. Data: After NCAA-1983–89 games, $69 million, 195 games, $45 million (excluding regional and local syndication) by 1986–99 games (excluding regional and local), $53 million

PROBLEM: Bank credit cards, such as VISA and MasterCard, are issued by individual banks, and each bank normally sets its own terms: user annual fees, interest rates, and merchant fees. Suppose that all banks that issue VISAs agree with each other that: 1) all VISAs will have a $15.00 annual fee; 2) the interest rate will be 18%; 3) the merchant fee will be 1.5%; 4) they will exchange information about people who do not pay on time; 5) no bank will issue a new card when another bank revoked a card.

Which of these agreements are per se illegal? Rule of Reason? Why? What would be the consequences of each bank determining the merchant fee? Suppose a merchant was willing to accept VISA if it was to pay 1.5% but no more. It would then have to call the issuing bank before it accepted the card. Would that fact justify a Rule of Reason approach? What if there was no AMEX or MasterCard?

EXCHANGE OF PRICE INFORMATION


FACTS: Simple facts. Each competitor in the corrugated container industry would exchange current price information, with specific lists of customers, quantities, and prices changed. The agreement was not mandatory by contract but was a tête à tête. Industry was highly competitive, based almost exclusively on price. One company would try to always beat another’s price to get or keep business. Entry into the industry is easy—it takes only $75k to $50k to start. Capacity exceeds demand.

ANALYSIS: Court concludes “effect is to keep prices within narrow ambit.” “The result . . . was to stabilize prices though at a downward level. Knowledge of a competitor’s price meant matching it.” Further, that there was some price competition is no defense. As in Socony, this was to stabilize prices, so per se illegal. Court concludes that because buyers buy for short run only, shared market information does not produce as intense competition. True price competition would mean sharing in existing business but at a lower price. Thus agreement is to stabilize prices, though at a downward level.

DISSENT: Begins by saying rule of reason is the proper approach. Here, dissent argues price information not bad because still plenty of competition. Only 18 or so producers (though
they hold 90% of the market with the top six producers holding 60%). Industry demand is inelastic—buyers need their boxes. Price changes merely reallocate share among competitors. Main issue of dissent is that all firms not playing, so anticompetitive effect is not clear. “Just as likely competition helped as hurt by exchange” so per se not right rule.

- U.S. v. United States Gypsum Co., et al. (1978)
  FACTS: Like Container, Defendants would exchange prices to certain customers. 8 largest companies produce 94%. “Single plant producers” make up other 6%. Each would call to “verify” prices others were extending. Demand for gypsum board is also inelastic, driven by building. Price, delivery, and credit determined sales between producers. Gypsums claimed price exchanges were “verifications” to avoid Robinson-Patman liability and to “prevent customer fraud.”

  ANALYSIS: “CUSTOMER FRAUD”—The point of this defense is that buyers will lie to potential sellers about the discounts they get from others in order to encourage low balling by the potential seller. The claim is that Gypsums can “verify” these deals with each other so the buyer will not defraud a seller. This argument is meritless. It is, as the Court notes, a normal part of business to “puff” deals from another.” Part of every business deal is a certain amount of bluffing. Exchanging price information to reveal bluffing is a bald attempt to fix prices because sellers will know when a buyer is bluffing, and buyers will not know that the sellers know.

  This case raised an intriguing question not covered in Container Corporation. The defendants in this case justified their practice of telephoning a competing manufacturer to determine the price being currently offered to a specific customer on the grounds that it was necessary to do so in order to meet competition. The meeting-competition defense is contained in section 2(b) of the Clayton Act as amended by the Robinson-Patman Act. Under this law a seller can respond to a price discrimination charge by showing that the lower price was a responsive attempt to meet the equally lower price of a rival. Justice Burger delivered the opinion of the Court and argued that the section 2(b) defense can be satisfied by measures that fall short of interseller price verification, since the most likely consequence of such efforts will be concerted price fixing arrangements.

  Follow up to Price Information Exchange:
  I don’t really buy the court’s opinion on this one. It seems to me that it is very reasonable for sellers to try to figure out when they are being juked by buyers. However, the stricture of the court on this point has had little effect. Third party vendors collect exactly this kind of information and sell it back to the producers. This happens in almost every industry. For instance, in the soft drink industry, there is a newsletter that reports the prices at which Coke and Pepsi are selling syrup to their bottlers. These industry newsletters are expensive, too. They usually cost between $3000-$10,000 per year, depending in part on frequency.

CONSCIOUS PARALLELISM
  FACTS: Interstate operated forty-three first and second run theater in 6 Texas cities. It demanded that film distributors not lease to theaters that cut prices below 40¢ for 1st runs and 25¢ for 2nd runs, and no double features. Before the letter there was only one theater in the relevant area that charged 25 cents, all others charging less. Doubles were also a common practice. After the letter, the price went up, doubles did not exist.
ANALYSIS: The district court found that the restrictions were anticompetitive. It found that distribution of the films to their ultimate consumers was restricted and that more money ended up in the hands of the owners. This case was apparently decided under the rule of reason. Once it was determined that the restraint was unreasonable, the court then had to find a combination or conspiracy. The court found a combination or conspiracy between the distributors. An agreement between an owner and a distributor is OK as part of a business deal.

Court inferred a combination among distributors based on the following facts: 1) the type of proposals from the owners (proposals would not work unless all distributors participated); 2) the manner in which they were made (by letter, carboned to all others); 3) the unanimity of action taken by distributors; and 4) the defendants' failure to proffer a competent, high-level witness.

On these facts, there was enough to infer a conspiracy. The Court then required a shifting of burdens. Once the inference is reached, the defendant must explain away or contradict the evidence. This is a shifting burden of production—very prevalent in other types of cases especially discrimination cases. The shifting burden of production is to aid a Plaintiff in situations where direct proof is difficult to get, such as when it is solely in the hands of the defendant.

- Theater Enterprises, Inc. v. Paramount Film Distributing Corp., et al. (1954)

FACTS: Paramount, Loews, and Warner Bros. were distributing films to subscribing theaters on an exclusive basis. Theaters have exclusive rights for the exhibition of films on their first run, second run, and subsequent showings. Theater Enterprises was a suburban Baltimore theater that wanted to get first run films. The film distributors would not lease films to it because of their arrangements with the downtown theaters.

ANALYSIS: The Court found no evidence that the distributors were working together to restrict distribution. Moreover, the Court found that the restricted distribution maximized the distributor's returns because of the number of people, public transportation, and traffic. It appears that the court assumed an antitrust violation if the Plaintiff could prove a combination or conspiracy. The Plaintiff merely showed parallel behavior, which is not enough.

KEY POINTS: Mere parallelism is not enough. Famous quote: “...‘conscious parallelism’ has not yet read conspiracy out of the Sherman Act entirely.”

EXTENSION: The differential pricing of the first run and subsequent run movies, involved in both Interstate Circuit and Theater Enterprises is an interesting example of price discrimination. The cost of showing a movie is not affected by whether it is shown today or one month from now. But the real movie buff may be willing to pay a higher price than other customers, and the first-run/subsequent-run distinction provides a method for dividing the market so that different prices can be charged. Movies also have time value for some customers. Viewed from today’s perspective, the movie seen tomorrow is worth less than the movie seen today, because it is postponed pleasure. The patron will pay something extra to have his pleasure now. Rather than trying to size the customers at the ticket window and charge a higher price to the customer who looks as if he might be willing to pay more – a costly and inefficient method of price discrimination – the industry first offers the film at a price calculated to attract only those whose demand for movies is relative inelastic. Later it releases the film for more general exhibition at a lower price. The effectiveness of this scheme depends on the willingness of a substantial segment of the market to pay a premium rather than postpone seeing the film.
This is price discrimination, but it is price discrimination in what is arguably a highly competitive industry. The industry is not so much the movie distribution business, but rather the movie production business. The efficiency of this price discrimination is based on the fact that movies are public goods. Public goods are goods that are not rivalrous in consumption. That is, one person’s consumption does not diminish the amount of the good available to others. This is the way movies are. Once a movie is “in the can” it can be shown an infinite number of times without affect on its viability.

The theory of public goods tells us that the optimal amount of the public good is achieved by charging people different prices based on their intensity of the demand. This means charging people different prices based on their willingness to pay, i.e., price discriminating.

Competition in the movie business forces movie makers to get all the revenue that they can from each movie. If a movie is going to make money, it has to collect the appropriate share from first run presentations at a high price, second runs at a lower price, etc., down to some pennies from TV showings.

There was an earlier Paramount case (1948) in which the court held that Paramount’s practice of selling movies in season blocks was illegal. The interesting thing about this practice was that the movies were not yet made. This was the period of the studio stars. After the 1948 case, the movie industry changed fairly dramatically, but the practice of first-run exhibitions continued and is still practiced today.


FACTS: DuPont, Ethyl and two other companies made a lead additive for gasoline that stops “pinging” or pre-mature ignition. EPA outlawed leaded gasoline in 1974. The market was declining as leaded gas was phased out. The FTC thought that because there was a declining market, price should fall. It didn’t so the FTC brought an action. The action was under the auspices of the Federal Trade Act for anticompetitive practices.

The Commissioner held the parties’ behavior unlawful because 1) the industry was highly concentrated; 2) high barriers to entry; 3) homogenous product; 4) inelastic demand 5) highly uniform prices; 5) limited price changes; 6) stable market shares; 7) relatively high profits; 8) prices in excess of marginal cost; and 9) rising prices in the face of sluggish demand and excess capacity.

ANALYSIS: Court found no violation. Industry was highly concentrated, with only four producers in the country of these anti-knock lead compounds. However, nothing would have prevented gasoline producers from backward integrating. Demand started to decrease due to EPA restrictions and due to the nature of this industry, lower prices only meant lower profits. DuPont and Ethyl independently decided to stop offering price discounts. Other competitors continued to offer price discounts. DuPont and Ethyl decided to compete on non-price levels through various ways: including free equipment, education, training, and credit terms. Court held not anti-competitive.

In antitrust cases, the Plaintiff must show a combination or conspiracy and an unreasonable restraint on trade. Without both of these elements, there is no case. A combination or conspiracy need not be shown by direct evidence, it may be shown by indirect, or circumstantial evidence. Once the Plaintiff provides this evidence, the burden then shifts to the defendant to produce some evidence that contradicts the Plaintiff’s.
This case reaffirmed that the court was not going to rule conscious parallelism illegal. The court ruled that the behavior of oligopolistic firms that involves neither collusive nor predatory conduct cannot be enjoined under the rubric of “unfair methods of competition”.

As you read the case notice the significant advance in the analytical sophistication with which the Court applies economic theory to understand and explain the conscious parallelism that often characterizes competition among the few.

**CONCLUSION OF HORIZONTAL PRICE FIXING**

Up to now, we have dealt with clear agreements, with only oblique arguments that the arrangements were not mandatory (Goldfarb and Maricopa) thus tending against a finding of a conspiracy. Remember the elements of the case 1) a contract, combination, or conspiracy 2) in restraint of trade. The main issue has been whether the restraint was "in restraint of trade." Focus is *per se* v. rule of reason. The court has held that price fixing is *per se* illegal. The *per se* and rule of reason approach are still with us today and the preliminary characterizations of the agreements are the key to avoiding antitrust liability.

**MERGERS OF COMPETITORS: ACTUAL AND POTENTIAL**

Merger suits are brought under the Sherman Act §2 that makes monopolies, attempts to monopolize, or conspiracies to monopolize illegal. This section was adopted in 1898. There were many early problems with the Sherman §2. Congress responded with the Clayton Act. The original Clayton act §7 (1914) provides that the acquisition of stock on a company, when the effect may be to substantially lessen competition, or tend to create a monopoly. This original law was unworkable as it only prohibited stock sales. Competitors would merely sell assets to get around the law. In 1950, the Celler-Kefauver Amendment extended Clayton §7 to asset sales as well. This closed a significant loophole.

As part of the legislative history of a law, the intended purposes of a law are frequently published. For the Clayton Act, the intended purposes were to: a) insure better market performance--by impeding certain market structures like oligopoly; b) encourage internal growth and expansion--by impeding purchases of companies; c) preserve local control; and d) protect small businesses.

The tension that has existed, and still exists in the area of merger is whether market structure alone can be illegal. In other words, is it illegal for a firm to grow so large under competitive conditions that it has the power to effect competition—even if there is no exercise, or attempt to exercise any of that power. Or, must there be some overt act—an abuse of power. This tension still arises today.

In its earliest decision on mergers, the Supreme Court found a merger illegal per se where the effect of the merger was to eliminate competition between the competing firms. *Northern Securities Co. v. United States*, 193 U.S. 197 (1904). See also, *U.S. v. Terminal Railroad Association*, 224 U.S. 383 (1912). In this case, *Terminal Railroad* had a natural monopoly due to its lines in the "neck of the bottle." The Court found that Terminal Railroad intended to monopolize and also held that the "mere existence of monopoly power violates the spirit, if not the letter of the Sherman Act."

There were other cases where the Court held that size alone was not enough—there must be some intent to abuse that power. See, *U.S. v. Winslow* (*Shoe Machinery Trust cases*), 227 U.S. 202 (1914); *U.S. v. U.S. Steel Co.*, 251 U.S. 417 (1920) (The law does not make mere size an offense . . . it requires overt acts. Clayton Act)
• *Northern Securities v. U.S.*, 193 U.S. 197 (1904)

    **FACTS:** Two railroads running from Chicago to Washington State decided to merge. Owners of both companies agreed to sell their stock to a holding company, with the previous owners holding interests in, and controlling the holding company. This combination allows one company to control all of the railroad lines throughout the area.

    **ANALYSIS:** Majority says that this is a monopoly, so it is illegal. Size is the only issue, no predatory acts are needed, and no showing of monopoly rents. Notice that this case is under the early days of the Sherman Act. There is some argument that the Court was trying to change policy by under interpreting the statute by applying to, as here, all monopolies, whether the restrain trade or not. Under this opinion, the holding company was divested of its railroad companies.

    *Northern Securities* raised a number of crucial questions in antitrust that continue to surface down to the present. First and foremost, it faced the critical distinction between cartels and mergers. Notice that Justice Harlan dealt with the fusion of the Great Northern Railway Company and the Northern Pacific Railway Company as if the scheme was equivalent to a cartel arrangement. For that reason Harlan treated the fusion as a per se violation of antitrust, falling under the prohibition set forth in cases like *Addyston Pipe* (among others).

    **DISSENT:** Justice Holmes says that this is not ipso facto illegal. Mere size is not enough. Notice Holmes traces prior common law. The Sherman Act was designed to prevent contracts in restraint of trade (the agreement between strangers) and combinations in restraint of trade (the agreement to keep out strangers). Holmes also argues that following the majority, any business, or a partnership for that matter, is both a monopoly and a restraint of trade. This is a precursor to the relevant market inquiry that will be soon coming.

    Holmes’s dissent indicated that he saw the fusion of the two railway companies as involving a merger, not a cartel. For that reason he opposed making it illegal per se. In reaching this position, Holmes made the distinction between a cartel and a merger clearer than anytime before. Also notice that Holmes raised the tricky question of a distinction between size by growth and size by merger when he queried whether a single corporation could lawfully have constructed both lines of the railroads. This question will occur again in antitrust cases, most pointedly in the *Alcoa* opinion.

    **KEY POINTS:** In early merger law, mere size is enough for illegality.

*Standard Oil Company of New Jersey v. U.S.*

221 U.S. 1 (1911)

    **FACTS:** Standard Oil Trust controlled almost 90% of the crude oil refining in the U.S. There were many Standard Oils, including SOCONY, which was involved in another case we have studied. This case was brought under the Sherman act to break up the Standard oil trust.

    **ANALYSIS:** Court held that this case was subjected to the rule of reason approach. Lower Court held that the dealings "operated to destroy the potentiality of competition." Thus there was an attempt to monopolize. This case is like Northern Securities because merely being large is enough without having to show anticompetitive actions. There is also in this case a precursor to the relevant market arguments based on the "Crude production" versus "Crude products" issue. Court ordered Standard Oil Trust dissolved.

    *Standard Oil* is a true landmark opinion in antitrust law. Much of what it established remains controlling to this day. Chief Justice White set forth a “rule of reason” that consisted of a three-part test: First, some practices are illegal per se; the question of intent or the amount of
market power involved does not need to arise. Such restraints are judged by their character and not by their degree of reasonableness. Price fixing agreements among members of a cartel fall under this *rubric*. When a practice is not harmful by its very character, the court makes use of two other tests. As Holmes argued in *Northern Securities*, mergers were not per se illegal. Here the intent of the parties to the agreement must be ascertained. In addition, there is the question of inherent effect, which apparently meant the market share of the parties. The inherent effect test has come to be called the structuralist position that assumes market structure is likely to affect competitive performance. Although widely held, the position is highly controversial. The rule of reason provided antitrust practitioners with a tool of analysis and method of approach in the litigation process. Its major strength is that it built into the Sherman Act a guiding beacon by which to direct decisions.

**DISSENT:** The dissent agrees with the outcome in the case. The dissent's problem, however, is that the majority applied a rule of reason approach. The dissent would apply a per se analysis. This is a well-known argument that the per se rule increases certainty in the business world because of the clear rule. The *Standard Oil* decision is a flip flop on *Northern Securities*.

**KEY POINTS:** Size under Sherman is an evil. Rule of reason v. per se rules were debated. This case set the precedent that for mergers, reason is the rule.

**U.S. v. UNITED STATES STEEL**

251 U.S 417 (1920)

**FACTS:** USS purchased through various agreements a large part of the Steel market. There was no doubt that USS had substantial, and also monopoly power in the steel business. The United States Government sued, alleging violation of Sherman for monopolization.

District case was held before four judge panel. Panels split on reasons, but agreed on outcome. First opinion stated that the mergers were not with the intent to monopolize, and did not, in fact, prejudice the public in a restraint of trade. The first opinion went on to state that the concentration was a derivative of the nature of the industry.

Second opinion stated that the purpose of the concentration was to effect an illegal end. The second went on to state that though they may have had bad purposes, competition was such that after the merger, they were not allowed to collect monopoly profits without the aid of competition. USS leader, Gary, held dinners at which USS met with competitors and conspired to fix prices. However, those ceased and USS was not itself a monopoly and hence should not be broken up. USS did not price in a predatory fashion (as alleged against SO), treat labor poorly, lower quality, etc. Thus, there was no harm from the combination.

Both opinions stated that there never was a monopoly, even though USS controlled between 80 and 90% of production.

**ANALYSIS:** Court held that monopoly is illegal, not mere expectation. Notice how the Court has essentially changed the definition of monopoly from one defined by size (*Standard Oil*) to one defined by abusive practices. The Court also found persuasive that all the evidence was that there was genuine competition. Government maintained throughout that USS had power for evil, which was enough under prior case law. Court rejected this claim. Government also claimed that an evil purpose in addition to size, was is a plus factor. USS was not dissolved.

In refusing to dissolve the United States Steel Corporation which was formed by merger, the Court made explicit use of Justice White’s rule of reason in *Standard Oil* to argue that the Sherman Act was right in dissolving Standard Oil but wrong if used to break up United States Steel.
KEY POINTS: 1) Under Sherman, size is no longer the key issue, and 2) structure of the industry as driving certain results is a good argument.


**FACTS:**

1. Brown Shoe and Kinney were to merge. Government sued under Clayton Act that allowed government to seek to prevent mergers that may lessen competition. Government could seek prospective relief, an unusual remedy. This remedy causes the Court to prognosticate on the ultimate outcome of a merger. Economists are heavily used.

2. Brown and Kinney were to merge both manufacturing and retailing divisions. This is called a conglomerate merger. District Court found that manufacturing merger would not tend to lessen competition as the combined national manufacturing percentage was only 4.5%. Government did not appeal manufacturing's merger. Government had problem with retail outlets.

3. District court found that there was "definite trend" of consolidation the shoe market.

**ANALYSIS:** Court goes through eight reasons for the amendments to the Clayton Act. Then Court discusses that a Clayton Act violation only occurs when the merger creates a monopoly that "will substantially lessen competition within the area of effective competition." Substantiality is an amorphous term defined in the case itself.

1. Area of effective competition is composed of the product market and the geographic market.

2. Product market is determined using the substitutes for the goods. For more specifics, ask your local economist. In this case, however, product market was along three lines—men's, women's and children's shoes.

3. Geographic market was determined by certain city sizes and concentrations. Court held that merger of retail outlets in those cities could bar merger.

4. Defendants could then spin-off these retail outlets in order to settle the case. Court concludes that the merger should be stopped because one of Congress's intentions was to prevent oligopoly industries. But, doesn't oligopoly stem from market structure? See, *FTC v. DuPont* and *United States Steel*, supra.

**KEY POINTS:** 1) effective area of competition is driven by product and geographic markets; 2) government can seek prospective relief; 3) case can be settled with spin-offs in offending regions and other creative strategies employed; and 4) business people need to seriously consider outcomes from an antitrust standpoint before merging.

The horizontal aspect of a merger was declared illegal by the Court even if the resulting firms market share was less than five percent. The *Brown Shoe* case was particularly important because it was the first case tried under the amended Section 7 of the Clayton Act, the Celler-Kefauver bill, which presaged a dramatic shift in the direction of merger law. The amendment extended the coverage of the antitrust laws to corporate asset acquisitions as well as stock acquisitions. Chief Justice Earl Warren’s opinion was thought by some antitrust advocates to come close to making horizontal (and vertical) mergers illegal per se.

*U.S. v. VON'S GROCERY CO.*

384 U.S. 270 (1966)

**FACTS:** Vons and Shopping Bag decided to merge. They were both in the top ten in LA grocery market. Their merger resulted in Von's being second largest in market. LA groceries was
apparently very turbulent. Many competitors died, new ones formed, but the total or independent grocers was decreasing. District Court held that there was no threat of monopoly by the merger, so it was legal. Moreover, the District Court refused to restrain the merger. Von's and Shopping Bag therefore pushed the deal through in order to create the scrambled egg problem.

**ANALYSIS:** Court found that the increasing concentration in the market, as evinced by the decreasing number of independent grocers, along with the apparently successful and aggressive merging companies, this merger is illegal for its potential anticompetitive effects. Court claims main purpose of Clayton § 7 (as amended by Cellar-Kefauver) was to protect small business and stop small businesses from disappearing. Divestiture ordered.

Acquisition was disallowed in part because of the doctrine of “incipiency.” The fear was expressed that, even though the merger might not in itself have any significant anticompetitive effects, the future impact might be a large number of mergers that would lead to a market dominated by a few giants. The interpretation of § 7 by the majority has not carried through up to the present.

The dissent of Justice Potter Stewart should be examined with care because it contains an analysis of competition that will appeal to most economists.

**DISSENT:** Dissent lays into majority for two reasons. 1) Court applied a per se rule instead of going with the clear precedent of applying the rule of reason. 2) Court decided to protect competitors instead of protecting competition. Dissent urges that the rule of reason is the proper approach, both logically and from a historical perspective. Dissent also claims that the competition in the market has not been, and will not be harmed, by the merger. This is due to the specific market structure in the quickly expanding market. Likewise, Dissent states that even according to the DOJ, there would be no loss of competition based on the "10-minute drive time rule." Last, the dissent says that the only thing in common with Clayton § 7 cases is that the Government always wins.

**KEY POINTS:** 1) Mergers are under the rule of reason and 2) Clayton is to protect competition and not competitors. Neither of these doctrines was applied here.

- *Coca-Cola Bottling Company of the Southwest*, FTC Docket 9215 (1994)

**TERMS:**

1. *de novo* review—there are many standards or types of appellate review--de novo review is review as though the first proceeding never took place. Other types are abuse of discretion, clearly erroneous, and substantial evidence. In this case, this means that the full Commission disregarded all of the ALJ's findings.

2. ALJ—short for administrative law judge. They are not Article II judges (they do not have life tenure, salary protection, etc.). ALJ's are typically lawyers who are an ALJ for a number of years and then return to private practice.

**FACTS:** CCSW purchased assets from a prior Dr. Pepper bottler. CCSW was a bottler of branded CSDs. FTC sued to stop merger under Clayton Act. ALJ found no anticompetitive effect. ALJ found relevant product market to be all CSDs as well as specialty drinks and isotonicis. Relevant geographic market was ten-county San Antonio area plus additional cities and areas throughout Texas.

**ANALYSIS:** Commission found relevant product market to only be branded CSDs, such as Coke and Pepsi. Comm. looked to behavior of parties, methods of sales and distribution and feeling in industry in defining relevant product market. Thus, the Comm concluded the
hypothetical monopolist in branded CSDs could raise a price of 5% or more for a significant time profitably.

(1) Comm. found relevant geographic market to be San Antonio. This was due to the sparse outer population and the concentration of population (86%) in one county. Thus, hypo monopolists could raise prices in this area profitably.

(2) Given the relevant product and geographic markets, the Comm. then applied the HHI of the merger guidelines. Under the Guidelines, an HHI of over 1800 was concentrated and an increase due to the merger of over 100 was likely to lead to anticompetitive effects. HHI is the sum of the squares of the market shares. Max is 10,000 (100% squared) to almost zero. Here, HHI and increase in HHI indicated anticompetitive effects. Divestiture ordered.

The necessity for defining relevant product and geographic markets in deciding whether mergers will be permitted is well illustrated in Coca-Cola. For only after these markets are precisely defined can possible violations of Section 7 of the Clayton Act be determined. In this Federal Commission case, valuable for heuristic purposes, the student will see how the Herfindahl-Hirschman index as described in the United States Department of Justice and Federal Trade commission Merger Guidelines is applied in assessing the competitive impact of a corporate acquisition.

KEY POINTS: 1) product market and geo. market are key components of analyses under Clayton. 2) HHI is a tool used to evaluate anticompetitiveness after mergers.

PREDATORY PRICING AND PRICE DISCRIMINATION

Predatory pricing is generally defined as selling goods for less than their marginal cost. Since marginal cost is generally hard to measure, the substitute used is average variable cost, an accounting concept. The Courts have not decided what exactly is the proper standard of cost to determine predation. generally, however, the parties agree that the prices are lower than the variable costs. Frequently this is done as a strategic decision. In a lawsuit, the parties are entitled to all of the other party's documents and data so long as the materials are "reasonably calculated to lead to the discovery of admissible evidence." This is a very liberal standard. Normally all of the other side's data is produced to the other side. If an issue is not in dispute, such as costs, then the data pertaining to costs is not discoverable. This is especially important in price discrimination cases where the litigants are cut-throat competitors.

Predatory pricing is pricing below marginal costs with the intent to harm competition. Generally these actions fail because the scheme as alleged could not be a rational thing to do. Thus, in this area of law, rationality goes a long way.

PRICE DISCRIMINATION

Price discrimination was made illegal under the Robinson-Patman Act. This act made it illegal to price discriminatorily when the effect of that pricing for goods of like kind and quality is to monopolize. Primary line price discrimination is direct price discounting. Secondary is other than price concessions—such as more service, brokerage fee discounts, etc. Primary line concessions are easier to judge. The elements of a prima facie case for price discrimination is that it is unlawful for: 1) a defendant engaged in commerce; 2) to discriminate in price between different purchasers; 3) for goods of like grade and quality; 3) where the effect is to substantially lessen competition or to injure, destroy, or prevent competition.

• FTC v. Morton Salt, 334 U.S. 37 (1948)
FACTS: this was a case of secondary line price discrimination. FTC sued Morton for charging less per case based on the volume of cases purchased. These discounts were available to all theoretically, but not functionally. Only five companies were large enough to buy in such huge quantities. the FTC found against Morton. Ct.App. reversed FTC. Sup.Ct. sided with FTC.

ANALYSIS: Court states that the purpose of the Robinson-Patman Act was to prevent volume discounts that would harm small competitors, unless the discount could be justified due to lower production, delivery, or selling costs. Morton apparently proffered no evidence that the largest contract, as opposed to the next to largest contract had differing costs associated with it. Since there was no such evidence, the Court found against Morton.

KEY POINTS: 1) early purported purpose of Robinson-Patman Act.

QUESTION: Does this make sense? Could Morton just argue that the larger purchases were less costly simply because they reduced the risk of idled capacity. Thus the reduced risk was a cost savings?

Utah Pie v. Continental Baking Co.
386 U.S. 685 (1967)

FACTS: This case involved frozen dessert pies sold in the Salt lake City area. Utah Pie was a local customer with a plant near Salt lake City. The frozen pie market was expanding rapidly during the term. Price was the key weapon of competition. Utah Pie's prices, and the prices of competitors shipped in from other states dropped steadily. Utah noticed that Continental was selling its apple pies in Salt lake City for $2.85 per dozen while selling the same pie closer to the factory at substantially higher prices. Utah Pie sued all competing bakers alleging price discrimination and conspiracy. Significantly, the jury found for the defendants on the conspiracy charge and for Utah pie on the price discrimination charge. The Ct.App. reverses the jury verdict.

ANALYSIS: The Sup.Ct. reverses the Ct.App. and remands to the district Court to reinstate the verdict. The Court states that there was sufficient evidence for a jury to conclude that here was price discrimination.

DISSENT: The dissent argues that the Court has decided to protect competitors and not competition by its instant decision. lower prices are the hallmark of competition, thus merely showing lower prices cannot be enough.

Judging from what we know now, is there any basis to hold defendants liable. Does it make any competitive sense for the defendants, who did not conspire with one another, to try to drive down prices below marginal cost to get rid of Utah Pie, only to be faced with competition with from one another. That is, without a conspiracy, what motive would each defendant have to act this way? I proffer none. If through conscious parallelism all actors behaved similarly, and prices were to rise above competitive levels, then Utah Pie could always reenter the market. Without a conspiracy, there can be no price discrimination in this context because there is no intent to monopolize.

• Texaco v. Rick's Texaco, 496 U.543 (1990)

FACTS: Rick sued Texaco claiming that Texaco was selling gas to Gull and Dompier at discriminatorily low prices. Gull and Dompier were city-wide competitors of Rick. Gull and Dompier would send trucks to Texaco and pick up the gas and then distribute it at their various outlets. Rick proposed to pick up his gas as well, but Texaco denied the proposal. in the face of lower prices by Gull and Dompier, available because of the deeper discounts, Rick filed suit under Robinson Patman.
ANALYSIS: Texaco claimed as defenses that the discounts were justified by cost savings designed to meet competition, thus making them lawful "functional discounts." Court rejected these defenses.

Court rejects the idea that due to the cost savings of hauling and distributing Texaco's gas, the discounts were "reasonable compensation" for the service. That is, the Court implicitly would allow a discount to compensate for the delivery cost savings, but in this case, the savings were too great. Thus, there was no adequate defense here. It seems Court was disturbed by Texaco's acts to discourage Rick while encouraging Gull and Dompier.

CONCURRENCE: Scalia argues that Congress should clarify the law as it does not provide for functional discounts in any way, as those discounts are the product of interpretation of "cost savings" language in the statute.

KEY POINTS: 1) elements of claim; 2) parameters of "cost savings" defense.

QUESTION: Does this make sense? Should Texaco be able to choose who to sell for and at what price? What kept Rick in Texaco's fold? Was there no Exxon, BP, or other supplier of gas?

PREDATORY PRICING

• Northeastern Tele v. AT&T, 651 F.2d 76 (2nd Cir. 1981)

FACTS: Northeastern was a small company that sued ATT claiming that ATT and its subsidiaries were selling phone systems at a predatorily low price in order to drive Northeastern out of business. Once this was done, ATT could then recover for lost system profits on the service.

ANALYSIS: This is a basic predation case. The Court begins that predatory pricing is when a competitor prices goods at below marginal cost. Since marginal cost is hard data to get, average variable cost is the surrogate. The Court also points out that there will be no predation if the competitor is incurring losses that will never be recouped. That is, if the present value of losses exceeds the present value of risk adjusted future gains, then there will no predation. That is, if the allegedly predatory competitor could not recover future monopoly rents, then there is no predation. In this case, there was no evidence of marginal cost sales, thus ipso facto, there is no predation.


FACTS: Matsushita (Sony) was accused, along with other Japanese manufacturers of consumer electronics of conspiring with one another on an individual level and through Japanese governmental agencies of collecting monopoly rents on homeland sales and dumping goods on the U.S. market in an effort to drive U.S. companies out of business. This case was the subject of summary judgment.

Summary Judgment is a procedural act where the Court can enter judgment against a party when there is "no genuine issue of material fact". This judgment is without a trial. In this case, the D.Ct. entered summary judgment for Defendants. The D.Ct. held that there was no evidence of a conspiracy and that in terms of the core of the action, there was no way Defendants could recoup the near term losses through future monopoly rents. Especially in light of the allegation that Sony was a predator for almost 20 years.

The Ct.App. disagreed and found that genuine issues of material fact existed.

ANALYSIS: There were two thrusts of this decision. First, the U.S. antitrust laws, while they do apply to some overseas behavior, does not go to regulate other countries' economies.
That would be a breach of the other states sovereignty. [As a aside, the DeBeers diamond cartel does no business in the U.S. solely to avoid the antitrust laws].

Second, the Sup.Ct. held that if predatory pricing is proved, it is *per se* illegal. In this case, however, there was no evidence that there was predatory behavior. The Court held that if the scheme as alleged just does not make business sense, then there can be no predation. In this case, maintaining a monopoly after the scheme to recover the lost profits would be very difficult. Additionally, group action as alleged would exacerbate this difficulty. Last, since the conspiracy was alleged to have been in effect for 20 years without success urges that there was no conspiracy. The Court last states that if the conspiracy existed as to the "five company rule", then Zenith would have been aided as the "five company rule was in the nature of a horizontal territorial allocation. This arrangement would have tended to raise prices, so it should have been more competitive. Summary judgment was proper.

**Brooke Group v. Brown & Williamson**

113 S.Ct. 2578 (1993)

FACTS: In this case, Brooke (Liggett) introduced generic cigarettes, called black and whites, into the market. The sole basis of competition for these cigarettes was price. Generally they would sell for 30% less than branded smokes. Excess capacity in cigarette manufacturing led to the development of these products. others entered the market with "branded generics." Current examples of "branded generics" are "Bucks" and "Highway". Liggett at one point controlled 97% of the generic market, which was 4% of the total cigarette market. Brown and Williamson and Liggett engaged in a protracted price war. B&W ended up with a significant portion of the generic market. Liggett sued because it claimed that B&W had sold below cost in order to take away Liggett's market power.

The jury found for Liggett, the Ct. App. reversed because there was insufficient evidence of cause between the acts alleged and Liggett's competitive injury.

ANALYSIS: The Court begins by saying that Utah Pie, where liability may be found for primary line price discrimination with only a showing that the defendant intended to harm competition or produced a declining price structure, is not the right standard. There are two requirements for recovery: 1) price must be below an appropriate measure of costs; and 2) there must be a reasonable probability of success in collecting monopoly rents. The first element is relatively easy to show. In this case, the parties agreed that the prices were below marginal cost.

For the second element, the Court must consider all other factors going to the probability of the ultimate goal: stifling competition. You must look to the structure of the industry, the prices, and the manufacturing capacity. As in Matsushita, if there is no proof of a benefit to the Defendant in terms of total discounted revenues, then there is no case. Here, Liggett did not show that B&W was going to recover its early losses through later monopoly rents: the industry was too competitive, even given that there were almost lock-step price increases from the oligopolists. No liability.

DISSENT: Dissent argued that since the Defendant had intent to injure Liggett, that was enough. Remember here that Liggett had an original monopoly and was complaining that its 97% share of the generic market was stolen by price competition from B&W. How much sense does that make?

**SPECIAL DEFENSES OF BUYERS AND SELLERS**

There are two main defenses to Robinson-Patman liability: 1) meeting the competition, and 2) cost savings due to higher volume. Neither of these are as clear as they seem.
• *Standard Oil Co. v. FTC*, 349 U.S. 231 (1951)

   **FACTS:** Standard Oil ("SO") sells gasoline to large "jobbers" at tank car prices which are less than tank wagon prices. Large jobbers had bulk storage capacity and transportation assets. FTC sued based on illegal price discrimination.

   **ANALYSIS:** SO began by stating that the difference in price was attributable to the bulk storage and transportation provided by large jobbers. The Court assumed that this savings did not account for the entire amount. SO then responds that it was meeting the competition, and did not undercut that competition. This is a n absolute defense. The Court bought this explanation. Key to this case is that a price cut to one jobber is OK based on meeting competition and SO does not have to extend that price to all large jobbers. That situations not covered in the Robinson-Patman Act.

   **KEY POINTS:** 1) defenses to R-P liability; and 2) meeting competition need not apply to all.


   **FACTS:** Borden was a dairy. It sold milk to many grocers in Chicago area. It had differing discounts based on volume based on a classification system. A&P and Jewel were large chains and they were in one class. The other classes were populated with independent retailers. Chains received better discounts. U.S. sued under R-P. Borden defended under cost savings defense.

   **ANALYSIS:** Burden is on Borden. Borden claimed that its class system was sufficiently accurate to reflect the cost savings associated with each type of retailer. Borden has the burden to show that the classification systems were accurate to justify the price structure. Court found that the class system was not accurate, thus, without more, the U.S. had shown a R-P violation.

   **KEY POINTS:** Seller may use a class system, but the class system must accurately reflect the cost savings of each class.

*Great Atlantic & Pacific Tea Company v. FTC*

440 U.S. 69 (1979)

   **FACTS:** This was a case arising out of the Borden case just reviewed. A&P was accused of receiving discriminatory prices. A&P was going to offer a private label of milk, or alternately, an exclusive dealership from a particular dairy. A&P solicited bids from dairies. Borden made and bid and so did another. The purchasing agent for A&P told Borden that its bid was way too high. Borden then made another bid, that was much lower than the competitors. A&P accepted this lower bid. FTC brought suit claiming that A&P induced the discriminatory price by lying to Borden to get the lower bid. A&P asserted the meeting competition defense.

   **ANALYSIS:** A&P's defense will work if Borden could assert the same defense against a claim of price discrimination against it. Thus, the analysis is whether Borden had a meeting competition defense. If so, then A&P does as well. Borden was found to have acted reasonably and in good faith in offering the lower price to meet the phantom bid proffered by A&P. Thus, there is no liability for A&P for accepting the bid.

   **KEY POINTS:** Defense for an inducement claim is whether the seller would have had a good meeting competition defense.
MONOPOLIZATION

There is a progression in our treatment of actions that may be considered anticompetitive. It goes from horizontal restraints to mergers, and now to monopoly. The elimination of the application of monopoly power has driven the cases. Now we turn to monopolization.

Sherman § 2 prohibits monopolizing. It does not prohibit monopolies. The mere status of a monopoly is not enough to show a violation of the act. The elements for a Sherman §2 case are:

- The possession of monopoly power in a relevant market; and
- The willful acquisition or maintenance of that power.

Both of these elements must be met. The second element will not be met by a monopoly that results "innocently"; that is, though growth due to skill and perseverance. This element is known as the "purposeful act" requirement.

"Monopoly power" is the power to control prices or exclude competition in the relevant market. "Relevant market" consists of the product and geo. markets. Market share in the relevant market may become "monopoly power." Notice the 90-60-30 rule in ALCOA as a use of market share.

In terms of the acts needed to constitute market power, mergers, predatory pricing, or exclusionary conduct are sufficient. There are some defenses to monopoly charges--"thrust upon" and "Innocently acquired." Thrust Upon is a defense where there is a natural monopoly—railroads, for instance. Innocently acquired monopolies are those acquired through superior skill and business acumen. Examples of facts that support defenses are small town newspapers, where the town is only big enough for one paper, professional football teams, where the town is only big enough for one team, and when a manufacturer has the only facilities to supply a certain product.

Even though a firm may have a defense to the charge, unlawful acts to maintain that monopoly may allow liability. We now turn to some cases to see how they fit onto the basic model.

U.S. v. ALCOA

148 F.2d 416 (2nd Cir. 1945).

FACTS: ALCOA had monopoly in the virgin aluminum market due to a number of patents. This gave ALCOA a head start on the ingot market. ALCOA controlled 90% of the market for ingot. In addition, ALCOA would build new plants in order to pre-empt new competitors. That is, ALCOA would have excess capacity ready to supply new demand. This would chill competitors form entering the market due to the relatively high barrier to entry.

ANALYSIS: The court begins by defining the relevant market. This was the discussion regarding the used and new ingots. Judge Hand then stated his 90-60-30 rule that is still used as a benchmark where 90% of a market is clear monopoly power, 60% might be, and 30% is not.

The Court concluded ALCOA had a monopoly. Since merely having a monopoly is not enough, the court then found an overt act in the form of ALCOA's maintenance of excess capacity as the method to preserve the monopoly. Hand also first enunciated, but did not find, that this was a thrust upon monopoly. A thrust-upon monopoly is where it is not right for society to encourage and demand competition and then penalize a person when they win.

The willful action of maintaining a monopoly by means of strategically expanding capacity was explained in the economics literature as the theory of limit pricing. The argument is that a monopolist can maintain a price above average cost but still low enough so that no potential rival can gain a toehold in the market. This occurs when there are significant economies
of scale that a potential entrant must hurdle. Arguably such scale effects do exist in the aluminum industry.

Even so, the question of harm to the consumer is not fully and satisfactorily answered. ALCOA was and is big. This is at least in some part due to superior business acumen. The remedy imposed by the court on this industry was to sell the war time aluminum production assets of the government to two other companies, Kaiser and Reynolds. These still exist, but ALCOA is still the biggest.

KEY POINTS: 1) Define the market (product and geographic); 2) calculate market shares; and 3) look for acts to get or maintain the monopoly.

ECONOMICS: The Alcoa case is the stereotype of the economic model of limit pricing. In limit pricing, a firm creates a barrier to entry by maintaining production at a level relative to market demand that is insufficient to allow a rival to enter. The amount of demand remaining to a potential entrant, that is, the market quantity demanded at a price equal to the AC at MES less the amount supplied by the monopolist is less than output level of MES. The demand remaining to a potential entrant, called remnant demand, assumes that the monopolist will continue to produce its current level of output.

There are a number of logical problems with the limit pricing model. One is that it assumes that rivals anticipate that the monopolist will not give up market share if they enter the market. Hence, they will only be afforded the remnant demand. Logically, this means that the monopolist must make some credible threat to live up to this expectation. The court record in the Alcoa case suggests that Alcoa may have created this credible threat.

The empirical problem with the limit pricing model is that it does not explain how companies like Wal-Mart and World Comm (now MCI/World Comm) are able to blow down the remnant demand barrier. In both of these fabled commercial stories, an upstart company has taken the lion's share of the market from the lion. One wonders why such didn't happen to Alcoa. Possibly it was because Alcoa was able to produce at a lower cost than potential competitors.

The other issue in the Alcoa case is the question of new versus used markets. Alcoa controlled 90 percent of the primary or “virgin” ingot market. When the secondary or scrap aluminum market was included, Alcoa’s market position fell substantially. Judge Hand stated that Alcoa would not be a monopolist if the secondary market were included. However, Hand ruled that because secondary aluminum was once primary, Alcoa was really in control of all of the aluminum in the market and, hence, the market share in the primary market should be the measure of its monopolization.

While it is true that a monopoly in the primary can be used to extract monopoly rents in the secondary market, as would be the case with certain kinds of copyrighted material, this only works to any degree of efficiency if the primary market consumers can resell the product in the secondary market. In this case the monopolist charges a high price to primary users who then resell in the second period. This is common with consumer durables (like pianos) and with college text books. However, it doesn’t work with beer cans. When I buy Budweiser, I don’t pay more because I recognize that I can sell the can in the scrap market. Hence, Bud can afford to pay more for virgin aluminum because of this.

While Alcoa might be able to restrict output in the primary market in order to restrict output in the secondary market so that a monopoly price prevails in the two jointly, the argument of limit pricing is that Alcoa willfully maintained its market dominance by building capacity so as not to let a competitor get a toe-hold in the market. The market for a competitor would include
both the primary and secondary. If a competitor built (or builds today) an aluminum plant, it can sell into either market.

Nothing about this case makes sense. It is illogical to argue that Alcoa could have been limiting pricing in only the primary market and it didn’t have a monopoly when the market is defined as the primary and the secondary market.

I’m afraid that Judge Learned Hand was not so learned after all.

  (This is district court decision with no authority over other courts except that of persuasion).

  **FACTS:** United supplies shoe machinery. Shoe factories can be created without United machines. United owes its power, at least in part, to a significant number of patents. 75% to 85% of the demand is satisfied by United machines. United only leases machines, as is practice in the industry for a long time. Additionally, United services the machines as part of the lease. There is no objection from customers to these arrangements.

  There are three objections to the arrangement: 1) the long term leases with their capacity requirements, and sinking fund charges; 2) replacement of a United machine with a United machine is cheaper; and 3) there is no independent repair organizations based on United policy of throwing repair in the lease.

  **ANALYSIS:**
  
  (1) The court discusses some prior precedents and concludes that United is in violation of Section 2 because: 1) it has monopoly power; 2) the strength prevents and limits competition; and 3) the situation was not "thrust upon" or inevitable.

  (2) The court considers the first factor by looking at the market percentage, its leasing practices, its strength in patents, facilities and knowledge, and product line. These same factors chill actual and potential competition due to the barrier to entry.

  (3) The barriers, the court urges, are due to the business practice of United, especially their leasing practice. That the policies are not immoral is irrelevant.

  (4) United's claim that monopoly is good to achieve innovation is not well taken. Last, the court concludes that the intent to monopolize is the intent to do the act and not an attempt to monopolize.

  (5) Court concludes that current leases are not barred, but their restrictive covenants are and in the future any machine offered for lease must also be offered for sale.

  **KEY POINTS:** 1) power plus some act is enough for monopolization; 2) intent needed is the intent to do the act; 3) immorality of purpose is irrelevant; and 4) "thrust upon" monopoly is a good defense.

**U.S. v. DuPont (Cellophane)**

351 U.S. 377 (1956)

**FACTS:** DuPont made 75% of all cellophane. Cellophane was less than 20% of flexible wrapping material. D.Ct. held that relevant market was wrapping material, and not cellophane. Issue was the relevant product market.

**ANALYSIS:** reasonable approach key. Cross-elasticity and consumer preferences drive product market definition. Court states cellophane is 17.9% of market by wrapping surface—not money. No monopoly power.
DISSENT: Dissent urges that cellophane is not "selfsame" product as others. Dissent also pointed to price effects in other products (of which there were few), the high profits of DuPont and the low number of new producers (only one). Case should have been remanded for further consideration in light of the relevant market being cellophane.

KEY POINTS: 1) relevant product market is key in monopoly analysis; and 2) industry behavior is evidence of monopoly power.

- *Berkey Photo v. Eastman Kodak*, 603 F.2d 263 (2nd Cir. 1979)

  FACTS: Kodak dominates all aspects of photos-cameras, film, processing, and paper. It has competitors at all stages. Berkey is a competitor for photo finishing. Kodak has a history of successful innovation. Kodak invented the 110 camera, and after a tying instance subject to a consent decree, Berkey had become the largest processor of 110 film. Berkey's beef is that Kodak did not disclose the innovation of the 110 that required new photo finishing techniques. This failure to disclose, Berkey claims, was an extension of the monopoly to the new photo finishing because Kodak had a flying start on processing.

  ANALYSIS: Monopoly power clearly exists here. However, monopoly is not illegal per se; there must be some "willful acquisition or maintenance of that power." The court held that innovation did not bring with it a duty to disclose. Notice Berkey's theme of "starting line when the whistle blew." This is the equivalent of "if it doesn't fit, you must acquit." Every good trial lawyer has sound bite for the case. Court sent back for retrial.

  KEY POINTS: monopoly plus innovation is OK.


  FACTS: This is a case where the elements of attempted monopolization is decided. his case involved sorbothane, a polymer with useful shock-absorbing characteristics to the athletic, medical products, and equestrian market. Hamilton-Kent owned all rights to sorbothane. H-K transferred all right to Sorbothane, Inc. ("IS"). McQuillan was involved in distributing Sorbothane, and was especially involved in designed and marketing a horseshoe pad. SI decided to rearrange distribution network first by making regional exclusive distributorship, of which McQuillan and Spectrum were a part. SI then decided to change distribution again by consolidating medical products under a national distributor. As part of this realignment, SI told McQuillan that she would have to give up her athletic shoe distribution if she wanted to keep the equestrian products. McQuillan was threatened, and refused to give up the shoes. SS then granted another distributor, Spectrum, the exclusive right to equestrian products. Spectrum marketed an identical horseshoe pad. McQuillan finally went out of business. McQuillan sued for monopolization and attempted monopolization. Jury found for McQuillan. Ct. of Appeals affirmed. There was no evidence of market share presented at trial.

  ANALYSIS: Court provided elements of a claim for attempted monopolization: 1) that the defendant has engaged in predatory or anticompetitive conduct with 2) a specific intent to monopolize and 3) a dangerous probability of achieving monopoly power. There was evidence that allowed the inference of specific intent. The problem was that there was no evidence as to the "dangerous probability." of success. This evidence is introduced through market share. Court reversed verdict. Specific intent is the intent to bring about an unlawful result, such as "I want to be a monopolist." General intent is an intent to do an act, such as ALCOA's maintenance of excess capacity.

  KEY POINTS: Elements of attempted monopolization.
Concluding Comments

The court has been fairly thoughtful on the topic of monopolization. The view expressed in the ALCOA case where the market was defined narrowly so that it appeared that the company obviously had a monopoly was not a blind pattern adopted by the court. In the cellophane case, the court chose to define the market broadly. In some ways these rulings make sense. A monopoly in primary aluminum gives the power to control the recycled market. That is restricting the supply of primary aluminum will ultimately restrict the supply of recycled aluminum, albeit with a lag. Similarly, when cellophane hit the market, it was in competition with other, paper wrapping products even though it was clear even in the ‘50s that plastic wrap was the wave of the future.

While I think that the court made reasonable calls on the question of market share, I don’t think that the court’s decision in ALCOA was correct and the error was extended in United Shoe Machinery. In spite of the fact that ALCOA was a monopolist, there is not real evidence in my mind that there was harm to the consumer. The degree to which a monopolist can raise price above cost and still foreclose entry to potential competitors cannot be large. It is unlikely that government can significantly improve welfare by trying to micro-manage competition in these cases.

ECONOMIC ANALYSIS OF ANTITRUST

WAVES OF Mergers IN AMERICAN HISTORY

There have been three or four waves of mergers that have swept over American industry.

1. 1887-1904: Merger for Monopoly
2. 1920s: Merger for Oligopoly
3. 1960s: Merger for Conglomeration
4. 1980-90s: Merger for Vertical Control

Merger is a term common used to refer to a situation where two stock corporations join together and become one by means of a stock swap. Shares of the target company are traded in for shares of the buyer. It does not necessarily make any sense to call these buyers and targets if the two companies are joining together on almost equal terms. The main issue is whether the management of the two companies is integrated or whether most of the management of one is dismissed. More generally, merger can be used to mean any form of corporation acquisition.

In the Merger for Monopoly wave, there was a large amount of corporate consolidation. Somewhere around 15 percent of all the assets of the country were affected in 1900 alone. In many cases 5 or more firms would join together. The explanation does seem to be that monopoly was the motive. In the latter half of the 19th century, there were many price fixing arrangements and trusts entered into by corporations. The Sherman Act passed in 1890 was intended to stop this. It outlawed price fixing. Until the 1904 Northern Securities case, mergers were looked upon as a way around the Sherman Act’s prohibition of price fixing. After 1904, the first merger wave stopped.

The second merger wave is called Merger for Oligopoly somewhat tongue in cheek. The consolidations of this period were more associated with smaller firms across the industries than
the largest. Also there were many mergers in banking and public utilities. The magnitude of the amount of assets involved was much lower.

In the 1960s, a new kind of corporate consolidation occurred. It was called the tender offer. The stock holders of a corporation control the business. Specifically, the stockholders have the power to hire and fire the top manager(s). Tender offers are a way to capture a company by direct appeal to the stockholders.

A tender offer is a contractual solicitation made directly to each shareholder of a corporation. Usually, the solicitation is printed in the newspaper and in many instances, the bidder gets the stock holder list and sends a solicitation directly to each shareholder. The offer is to buy each holder's shares at a stated price. Tender offers are a quick and effective way to acquire all or a large portion of the stock of a corporation. If all or a substantial majority of stock of a company is acquired, then the new owner of the shares has the power to dictate the management of the company.

The tender offer craze of the 1960s led commentators to wonder what was going on. One observer, Henry Manne, suggested that tender offers were a way for the market to purge a corporation of its bad management.

Federal and state laws that significantly restrained the way that tender offers could be executed were passed in the late 60s and the merger wave died out.

In the 1980s and continuing even until today, another wave of mergers and corporate acquisitions have occurred. The early events were called bust up takeovers. They were generally tender offers. They were fueled by the new medium invented by financier Michael Milken called junk bonds. Bust up takeovers were acquisitions by individuals and investment groups in which the object was to take over a corporation and then sell off the parts. Goodyear was a target of this kind of takeover. So was the Singer company.

In spite of the bust up nature of the corporate acquisitions of the early part of this period there was a continued interest in actual corporate consolidation. Mergers continued through the 90s moving from one industry to the next. Banking and telecommunication have been favorites. This is probably because of the advances in computer technologies and changes in government regulation both of which significantly affect the structure of the firms in these industries. The mergers that we have seen in the telecomm industry recently seem most reasonably explained on the basis of integration that is necessary to allow for the efficient bundling of various kinds of telecomm services and pricing these in ways that are attractive to consumers.

CORPORATE CONCENTRATION

The question raised by merger waves is whether the increased consolidation of corporate America causes it to be more monopolized. We need to find a way to measure monopolization. Generally the approach has been to measure profits and then to determine if increased concentration has led to increased profits.

The first measure of profits is called the Lerner Index. The common parlance labels this Price-Cost Margins. PCM is a very bad measure of monopoly profits.

Another measure is Tobin’s q. This is a good index, but very difficult to measure. Tobin’s q is the ratio of the market value of the firm to the replacement cost of the firm’s productive capacity. Tobin’s q should be equal to 1 for competitive firms. If it is greater than 1, it means that the market value of the assets (market value of stock plus the face value of bonds) is greater than the amount necessary to replicate the productive capacity. This means that the firm is either real lucky or it has monopoly power. Tobin’s q can bounce around 1 in the short run, but can only be greater than 1 in the longer term if there are monopoly restrictions on entry of firms into the
business. However, the problem with Tobin’s q is that it is nearly impossible to measure the replacement cost of assets. Often the replacement cost of assets is substituted for by the book value of assets.

The measure of profit that is normally used is Return on Assets (ROA). This called the Bain Index in your book. It is just operating income less taxes divided by the book value of assets (usually the depreciated value of assets). ROA is a flow value that measures much the same thing as the stock concept in the bastard version of Tobin’s q.

The empirical fact to confront is that there is a high correlation between ROA and concentration. Bain was the first to present this result. It has stood up to different measurement.

Brozen and then Peltzman argued that the correlation between concentration and profits was not necessarily causal. That is, efficiency could be causing both concentration and profits such that the relationship between them was not the result of monopolization. Peltzman’s empirical work seems to confirm this.

Demsetz went one step further. He argued that if profits were the result of concentration that allowed for monopoly, then there should be no relationship between profits and firm size. That is, if monopoly, which resulted from concentration, were driving profits, the small firms in the industry should benefit as well as the big firms, indeed, maybe more. On the other hand, if efficiency drives concentration and profits, then the efficient firms are the ones that get big, profitable, and leave the little guys behind. This is latter his what he found.

MONOPOLY BY MERGER
or “The Dominant Firm and the Inverted Umbrella”

One might reasonably ask whether it is possible to create a monopoly by merger. That is what are the gains and how can they be captured by the existing firms and promoters of the monopoly. This question is especially pithy if, in fact, there are no barriers to the entry of other firms.

Barriers to entry is a tricky issue. What is a barrier to entry. Surely, to begin production in any industry takes some amount of investment and along with investment the requisite knowledge to make equipment, resources, and people productive. If nothing else, there is a barrier to entry in the amount of time necessary to build productive facilities and get them up and running smoothly.

One of the requisites of a competitive industry is that there is free entry of new firms. However, it is expected that all firms in all industries face startup costs. To the extent that these retard the entry of new firms at least for some period of time there may be the potential to earn excess profits by merging together the productive capacity of an industry.

This is the claim about the experience of the United States Steel Company. US Steel chartered on February 25, 1901. It was a corporate merger of nine steel companies: Carnegie Steel, National Steel, National Tube, American Steel and Wire, American Sheet Steel, American Hoop Steel, American Tinplate, Federal Steel, and American Bridge Company.

In 1902 it had 168,000 workers, $561 m in sales, $140 m in profits, and $1.4 b in capital value. The capital value of the companies prior to the merger was $700m. US Steel accounted for approximately 6.8% of GNP in 1902.

Two questions are raised by the argument that US Steel was a merger for monopoly:

a) Why merge?

b) Was it successful?
WHY MERGE?

The alternative to merger is collusion. However, merger is superior to collusion on several margins. One is that once the firm is created by merger, there is no problem policing the monopoly behavior of the participants. While collusion is ok in principle, it is hard to effect in fact. Indeed, when the US Sup Ct reviewed the antitrust case against US Steel, it leaned in favor of the argument that US Steel had essentially been unable to cartelize the rest of the industry and thereby inflict significant monopoly prices on the economy.

The other appealing aspect of monopolization by merger is that merger allows two things to happen. First, the monopoly partners are formally joined in their restrictive agreement in a way that the asset owners can be paid their individual shares of the capitalized value of the monopoly. Second, the promoter of the monopoly can also be compensated. In the case of US Steel, this was effected by means of the writing up of the assets of the US Steel components from $700m to $1.4b. Also, the instigator of the merger, J.P. Morgan, got his cut both in terms of shares in US Steel which are said to have amounted to $62m.

WAS MONOPOLY BY MERGER, MERGER FOR PROFIT?

The court didn’t think so. Essentially the court ruled in 1920 that any action against US Steel was unwarranted because it was not a monopoly then and had little success in being a monopoly before then. This view was obviously not held by the prosecutors or by investors.

The book value of the assets combined into US Steel were nearly doubled in the process of the merger and the market value of the merged firm followed this book value fairly closely. Investors perceived the sum, US Steel, to be worth more than its parts.

While one might argue that investors were fooled, a review of the stock market values of US Steel as well as the other companies in the steel industry over the years following the merger shows that US Steel outperformed the fringe firms by a fairly dramatic margin. The only fringe firm that was a better investment was Bethlehem Steel and this only after it was reorganized by the CEO of US Steel in 1905. The 1904 recession was hard on the industry and especially hard on US Steel, but it came back stronger than the others. Returns on ’01 through ’03 were approximately equal for US Steel compared to the rest.

The actual monopolization achieved by US Steel is somewhat more obscure than might be evident at first blush. The main object of the US Steel consolidation was to stop competition in the various finished product lines, such as pipe, wire, nails, tin plate, sheet steel, and the like. For instance, National Tube was itself a merger formed in 1899 by 25 small pipe makers. There was a significant element of vertical integration in US Steel because while National Tube had some steel making capacity, it purchased most of its raw input from Federal and Carnegie. However, this vertical integration aspect was monopoly inspired in the sense that there was a strong threat that both Federal and Carnegie would themselves move into the pipe fabricating business.

American Bridge was a 1900 merger of 27 bridge erection firms. Manufactured 90% of the bridge girders in the US; bought from Carnegie. Am Tin Plate: 1898, 38 companies; Federal and Carnegie. Amer Steel and Wire, 1899. Amer Sheet Steel, 1899; 70% bars, hoops, bands, and cotton ties; bought from National Steel. National Steel was a raw steel ingot supplier organized by W.H. Moore who put together the tin plate merger.

25 Andrew Carnegie was forced out of the industry as part of the US Steel deal.
PREDATORY PRICE CUTTING IN THE STANDARD OIL (NJ) CASE, 1911

Standard Oil Case is a landmark and a legend. SO was portrayed as the archetype of an economic predator. The aura of this case and these events captured the public mind and led to specific provisions in the Clayton (1914) and Robinson-Patman (1936) Acts that proscribed predatory price discrimination. In spite of the fact that many economists and courts have worried that R-P may protect competitors more than competition, the specter of SO lurks in the background.

However, the theory of predatory price cutting is suspect at best, and the evidence is fleeting. The question is, When would price cutting ever be better than merger or purchase of assets? Some points:

1) Predatory pricing might be ok if you already have a monopoly and are simply trying to protect it by keeping other firms out, but to build a monopoly from scratch by predation is not likely to be a profitable venture. The problem is that to drive other firms out and then raise price so as to enjoy the fruits of victory puts losses first and possible profits second. Discounting works strongly against the predator.

2) As an alternative, why not just merge. This allows for immediate enjoyment of profits. True, merge requires paying off the competition. Possibly these competitors will require a share of the profits, but still makes it more profitable than trying to kill them off by price cutting.

3) The same line of argument follows when the alleged predator has gained some large share of the market. Instead of trying to kill off the remaining rivals, buying them out seems the more lucrative alternative.

4) Assume that costs are the same for the monopoly wannabee as for the firms that make up the competitive market at the inception of the alleged price cutting. Otherwise the question is not interesting. If all firms have equal costs and the incipient monopolist attempts to cut price to impose losses on rivals, it must necessarily increase output and increase it in a costly fashion by moving up the rising portion of its cost curve. Hence, it will be incurring more losses than its rivals.

5) Moreover, price cutting will not reasonably drive firms from the industry on a permanent basis. Manufacturing facilities idled because price is below average variable cost do not disappear in the mist. Workers and managers with knowledge of the business do not lose this knowledge because they are laid off. Even if the predator is able to quiet the production of rivals for the short term, when the monopolist attempts to raise price so as to enjoy the fruits of its victory it will likely find the jackals that it thought expelled returning to the feast.

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6) It does not make sense to monopolize at every stage of the vertical chain of production. Hence, if SO had a monopoly in refining, predatory pricing in marketing or in crude would have been a waste.

7) Price differentials are not necessarily a sign of predatory pricing. They can be merely responses to relatively levels of competition in segmented markets.

The evidence is lacking that SO ever engaged in predatory pricing in the refining segment of the oil business, where it is acknowledged to have had a monopoly. Generally the record shows that it bought out its rivals at prices that ranged from modest to handsome. Instances of price cutting are more often attributed to the rivals than SO. The evidence suggests that SO was itself a victim of *frontrunning*, where rivals bought out at one point would start new enterprises only to be bought out again.

The following are excerpts from McGee's paper:

Perhaps the most famous of all of the monopolizing techniques that Standard is supposed to have used is local price cutting. Given the bad repute in which monopoly has long been officially held in this country, and the prominence of predatory pricing in Standard Oil, it is not surprising that the practice received special attention in the law. Monopoly was not new in 1911, but a predatory giant may have seemed novel. The vision of a giant firm that used a brutally scientific, and completely effective, technique for acquiring and maintaining monopoly must have aroused uncommon concern. Standard was invincible. Anything economists could say about the transience of monopoly must have seemed hopeless unrealism in view of the vigor and success with which Standard was said to have prevented entry. p 137

In any case, by 1914, in the Clayton Act, predatory price discrimination was included among a select group of business practices the character or effect of which called for explicit statutory prohibition. The Robinson-Patman amendment of 1936 lengthened the list, but certainly did not weaken the hostility toward local price cutting. Indeed, its legislative history and subsequent interpretation reveal a continuing dread of the device. p 138

... In general, monopolization will not pay if there is no special qualification for entry, or no relatively long gestation period for the facilities that must be committed for successful entry. p. 143

... The voluminous Record in the Standard Oil of NJ dissolution suit furnishes a test of these propositions. The Record shows that Standard established a refining monopoly. Collusion among 100 to 200 different sellers was unstable. Standard achieved its monopoly position through merger and acquisition. Although the Government alleged that Standard employed other techniques as well, it concluded that:

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27 The Transcript of Record consists of over 11,000 printed pages of exhibits and testimony; Appellants' briefs and oral argument covers more than 900 pages; Appellee's briefs and arguments almost 1300 pages. The full record is thus more than 13,500 pages long. Unless otherwise noted, volume references are to the Transcript of Record.

28 In 1879, Standard and those concerns "in harmony" with it, apparently refined from 90 to 95 per cent of the US output. See Vol. 6, at 3303. It is not clear just what these data mean. MR. Archbold testified that in 1870 Standard did about 10 per cent of the refining business in the United States; and that for 1888 Standard's share was probably 75 per cent. Id., at 3246-68. I think that much work remains to be done to determine how Standard's market position really changed over time. See, e.g. Vol. 2, at 783-784.

In any case, Standard's position in crude oil production was relatively small; it did very little retailing and did not perform all of its own wholesaling; several major railroads and the pipeline systems of Pure, Tidewater, Texas Co., Gulf, and others competed in the transportation of crude oil. Its strongest position was evidently in refining.
Unquestionably the principal means used by the defendants to monopolize and restrain trade and commerce in petroleum has been the combination of previously independent concerns…

…Standard acquired 123 refineries (many of which also did a marketing business), 11 lubricating oil works, 24 pipeline concerns, and 64 exclusively marketing concerns; a total number of 223.

Neither did these acquisitions all occur at an early date, about half of them, in number, occurred since 1879, and many important ones between 1890 and 1902…

Of the refineries it acquired, Standard dismantled at least 75, and ultimately produced a greatly increased volume in only 20 separate installations.

MODERN THEORY OF THE FIRM

AN OUTLINE OF PRODUCTION AND EXCHANGE

Production side of the economy made up of firms. Firms buy resources from consumers, transform them into output, and sell this back to consumers.

Simple neo-classical model: 1) The firm is the decision making unit. 2) Firms are organized into industries. 3) Intermediate products are outputs of one industry that are sold to another, all in the chain of production that starts with consumers and ends with consumers. In this simple outline, the organization of the production sector is ambiguous. It can be thought of as a single firm or a series of many firms transacting with each other as intermediate products evolve from the most basic resources into the final items purchased by consumers.

Several real world questions are raised about this simple model: 1) Firms are not really the decision makers. Firms are not people. People make up firms and the people associated with firms make decisions. 2) Industries are characterized by the principle output of firms. However, most firms produce many outputs. (DuPont probably produces over 2000 different goods.) Moreover, there is vast diversity in the degree to which firms engage in multi-line production. 3) Production of intermediate goods is not always formed along a chain. Many times firms buy supplies from numerous independent jobbers that feed into a pipeline of production. Examples are firms hiring cleaning services for their facilities or buying the many components necessary to assemble a car all from different, independent suppliers. However, we see that some firms choose to integrate all of these processes into their own company. Firms are many times associated by elaborate contracts as in the case of chicken farmers or fast food restaurant franchises. Consider the contracts that form the basis of sports leagues.

29 Q. Had you difficulty before you entered into relations with the Standard Oil Company to make money out of the business? A. The competition was always very sharp, and there was always some one that was willing to sell goods for less than they cost, and that made the market price for everything; we got up an association, and took in all the refiners until some of them went back on us, and that would break up the association; we tried that two or three times." Vol. 6, at 3303.

See also Mr. Rockefeller's interesting testimony on the difficulty of effecting stable conspiracies. Vol. 16, especially at 3074-75.


32 Id., at 63-64.
WHY DOES THE FIRM EXIST?

Our quest is to understand the organization of production. We generally think of production being organized around units called firms. The question often posed is, what is a firm? This question can be restated more empirically oriented as, what are the boundaries of the firm?

Neoclassical economic theory defines the concept of efficiency. (The Pareto criterion says that efficiency exists when no one can be made better off without hurting someone else.) Efficiency implies maximized profits and we know that profits are maximized when the marginal profitability of each resource unit divided by its price is equal across all resource units. Neoclassical theory treats the production sector as completely integrated; that is, one firm starts with the most basic resources and transforms these into a product that is delivered to the consumer’s living room. In a technical sense there is nothing wrong with this analysis. Efficiency in the neoclassical sense can be defined and the conditions for achieving it can be mandated. Indeed, in principle, centrally planned economies can work. However, they don’t. We know that; the experiment has been run. Why don’t they work? Simply enough, mandating that resources should go to one sector or another in the economy doesn’t get them there. Communist countries have the termite-man problem everywhere. The market economy evolves in organizational form in order to efficiently enforce contracts.

What we want to do is determine how this neoclassical production sector is broken down into separate business units based on the methods and types, and costs and benefits of organization.

The neoclassical firm’s problem is to determine the answer to three questions: What to produce; how much to produce; and how to produce. These same questions are posed in the organizational context. Moreover, the generic answer to each is the same as in the neoclassical paradigm: The equimarginal principle operates to determine input mix and marginal revenue equals marginal cost determines the level of production. However, the questions become more complicated. What to produce and How much to produce become intertwined with how to produce. The firm’s goal is to capitalize potential economies of scale without incurring overwhelming costs of management. Bigness is better, but bigness creates a coordination problem.

Ronald Coase was one of the first academic writers to form the question in this way. Coase said: Firms exist because of contracting costs. Coase said that the firm is a suspension of the price mechanism. What he meant by this is not exactly clear. My best interpretation is that the resources that the firm brings together are bought in blocks or bundles. That is, the firm is an organization that purchases a bundle of resources and then, for some period, ignores price signals while that bundle of resources is transformed into output.

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33 Scholarly, scientific analysis of communism came to the conclusion in the 40’s and 50’s that there was no technical information problem that prevented central planning from achieving all of the efficiencies of the market economy. Resources could be assigned to the appropriate sectors of the economy by a central planner in exactly the same way as the market would do so. Of course, the information problem that stopped this from happening is not technical.

34 Coase, Ronald. "The Nature of the Firm," *Economica*, November, 1937. It is interesting that Coase posed the question in this way in 1937. His query, stated in this way, is prescient of the scholarly work between 1937 and 1970 that proved that the organizational size of the firm was not determined by technical efficiency in the allocation of resources across sectors or because of efficiency in capital structure.
Coase said that it was the difficulty of knowing all relevant prices that causes the firm to exist. The firm is an entrepreneur/manager of resources that saves on marketing costs. This concerns finding the right price of inputs and outputs. Can also be phrased in terms of buying the right quantity of inputs relative to their prices and productivities, and the price of output—the equimarginal rule. Knowledge of all relevant prices may be a problem because of sequential contracting as in the movie business. However, Coase was more concerned with the standard problem of multiple input production as we discuss in terms of the formula:

\[
\frac{w_1}{MP_1} = \frac{w_2}{MP_2} = \ldots = \frac{w_n}{MP_n}
\]

Coase was primarily concerned with the numerator of the this equation. The fundamental insight offered by Coase is that the management of the firm is concerned with determining the proper mix of inputs, i.e., solving the equi-marginal equation.

In this sense, difficulty in knowing all relevant prices and choosing the right resource mix increases with:

- the number of transactions,
- the lack of detailed information on all uses of each input,
- the difficulty of measuring varied and changing activities.

A hub and spoke analogy is a good way of thinking about the problem that Coase describes. The manager at the hub is efficiently placed to observe production, collect information about productivity and prices, and make decisions about the right mix of inputs.

One of seminal insights made by Coase is that something causes firms to be limited in size. In almost every setting, engineering principles say that bigger is cheaper. That is, cost-per-unit declines as volume grows. However, we clear observe that firms are not infinitely big. Something limits their expansion. That something is management costs. Diminishing returns to entrepreneurial abilities gives rise to the U-shaped AC curve we are so used to in the standard analysis.

Alchian & Demsetz somewhat disingenuously mock Coase. Coase tells us the “firm” exists because of the difficulties of management, but what are the dimensions of this problem. To say that the firm exists because of transactions cost is a difficult proposition to disagree with—or refute. A&D try to remedy this problem by identifying the nature of the costs of transacting. Most importantly, they try to explain why firms have the characteristics that are so commonly associated with them: Firms are organizations that revolve around managers and residual claims to uncertain returns or profits. In many and varied degrees, these are the details that we associate with the business unit called the firm. Why does such an institution exist?

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35 Coase contrasts his view of the firm with that of Frank Knight. Knight was a leading economist at the University of Chicago at this time. Knight held two views of the firm. First, the firm was a risk management tool. Coase disagreed because risk management could be and often was contracted for outside of the firm. In spite of Coase’s dismissal of this idea it will come back into play shortly. Second, Knight claimed that the firm was an institution in which an entrepreneur guaranteed the pay of other resource owner, which he would not do without the option of controlling their behavior. Coase also disputed this. Coase said if that was the only thing involved in the firm, it could be contracted for in market transactions. Again, it now appears that Coase was probably too quick to throw out the ideas of Knight. Essential parts of Knight’s insights are embodied in later work of Alchian, Demsetz, Jensen and Meckling.

Alchian & Demsetz say the answer is *SHIRKING*. Some workers stand around the water fountain while others work like bees on elaborate spreadsheets. Who is more productive? It is the manager’s job to know. **The firm exists to manage resources.**

What does management do? In the efficiency equation shown above, A&D concentrate on the denominator. They claim that the firm exists to determine what the potential marginal products of various inputs are. Then the firm has to monitor the revealed performance of the inputs because there is an incentive to shirk. Finally the firm meters the rewards paid to the resources in order to satisfy the equi-marginal rule. Measure; Monitor; Meter. Good management, which is the firm, measures potential productivity, monitors actual input productivity and meters rewards. Good management matches rewards to productivity. Profits are maximized where marginal productivity divided by pay is equal across workers and between various resource units.

Management is necessary when there is *team* production among inputs. There is more need for management to prevent shirking when:

- multiple types of resources are used,
- synergistic effects among resources,
- multiple owners of resources come together in the firm,
- hard to measure productivity (this often means that it is more efficient to measure input effort as opposed to output),

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37 Coase was not expressly concerned about *shirking* and does not use the word or stress the ideas. Cheung restates Coase and does play up the idea especially in the context of piece rate pay (like sharecropping and franchising). Cheung, Steven N.S. "The Contractual Nature of the Firm," *Journal of Law & Economics*, April 1983, 1-22.

38 As a measure of the difficulty of measuring marginal productivity, consider the case of programming. When the Fox Broadcasting Network bought the rights to NFL football, they paid a large amount of money that could never be and has never been recovered from sales of advertising during these football telecasts. Indeed, most of what is advertised during these events are other Fox programs, so there is no positive cash inflow from these plugs. However, the value of the marginal product of televising NFL games is seen by the fact that CBS, which was closed out of NFL broadcasting when Fox won its contract, turned around and outbid NBC in the next round. The Fox contract was for $1.58 billion (or $395 million) for 4 years. After they signed the contract, fox projected the following revenues:

- $120,000 per 30 second spot commercial (approx annual revenue of $250 million)
- $25 million from NFL related programming
- $75 million from sale of ad time in super bowl 1997
- $40 million deal with McDonald's Corp for 4th quarter marketing promotion.

"[T]hey didn't make money on the national telecasts, but the relentless promoting of other fox shows expanded the audience at the time when fox was struggling to establish itself as a network."

Sources:
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The New York Times, February 10, 1995, Friday, Late Edition - Final, Section B; Page 9; Column 5; Sports Desk, 904 words, TV SPORTS; Fox Is Losing Big, But Winning Bigger, By Richard Sandomir Advertising Age, June 13, 1994, Pg. 66, 1506 words, MURDOCH ADDS FOOTBALL TO LIST OF GLOBAL AMBITIONS, By Joe Mandese Advertising Age, April 25, 1994, NEWS; Pg. 1, 584 words, Fox keeps pace with grizzled vets for football deals, By Joe Mandese The Associated Press, January 14, 1994, Friday, AM cycle, Business News, 527 words, Fox Says It Will Energize, Won't Trivialize NFC Franchise, By LYNN ELBER, AP Television Writer, PASADENA, Calif.
• difficult to detect shirking (coolies pulling the barge).

Shirking also explains why the firm is organized around residual claims to the profits. The efficient way to pay managers is by making them residual claimant to the difference in the revenues of the firm and costs paid to the resource owners. When the manager is the residual claimant, then paying one worker more than his productivity comes directly out of the managers pocket. Similarly, paying another less than his productivity will encourage that worker to work less and lower productivity. Again profits suffer.

Indeed, contingency claims are a compelling way to reduce shirking at any level of production. Piece-rate pay for assembly line workers encourages them to move quickly (it may also encourage them to move sloppily). However, contingency claims create risk. In the context of the firm it is efficient for the manager to bear the risk of the organization of production and for the workers not to. Take the case of salesmen’s commission. Sales commissions are dependent on many dimensions of the organization decided by management. To the extent that sales people bear the cost of capricious restructuring, the efficiency of the contingent claims is negated. In a similar sense, it may not be efficient for the manager to bear the burden of the business risk of an enterprise, but this means that some method of monitoring the manager must be found.

In the Coasian sense, there are gains from collecting information and organizing production in bigger and bigger units. In the hub and spoke analogy, the firm grows like a molecule. Teams of teams are linked together. If groups of teams work together, the manager of one team becomes a team member at the second level. Hence, the manger of the first level team cannot be an autonomous firm. The cost of teams of teams, or pyramiding management is that the lower level managers are increasingly insulated from residual claims to the profits of the firm. This means that there is a value in making the firm bigger, while the costs of controlling shirking especially among managers puts a limit on how big the firm can get.

As we think about the various forms of businesses that we observe around us stock corporations:
• proprietorships and partnerships
• closely held corporations with limitations on sale of shares
• nonprofits—hospitals, universities
• mutual funds and insurance associations
• sports leagues and other franchises

We will try to apply our understanding of the firm as a management device to understand the efficiencies and inefficiencies of each.

THE SEPARATION OF OWNERSHIP AND CONTROL

THE EVOLUTION OF BUSINESS
Consider the firm in its evolution. Most firms start out because an entrepreneur has an idea about a new product, or a way to make things cheaper, or a better way of organization production. The entrepreneur takes a chance and receives profit in compensation. Profit is revenues minus costs. Costs are the payments to the other resource suppliers (because the entrepreneur is also a resource) that the entrepreneur has contracted. The entrepreneur agrees to pay these suppliers no matter how business turns out. The entrepreneur gets what ever is left. If the venture is a flop, the entrepreneur is liable for the losses.
Some ventures are successful, some not. The ones that are not do not continue. The ones
that are successful have the singular characteristic: The business expands. Most often, business
expansion requires that the entrepreneur accumulate additional resources. Sometimes the
entrepreneur’s success allows the entrepreneur to expand using personal wealth. More often,
however, the entrepreneur must raise financial capital from other investors. These invested capital
suppliers must then work out an arrangement with the entrepreneur. All of the other kinds
of business units that we see in the world, such as partnerships, corporations, joint ventures,
franchises, mutual companies, are the result of working out the details between the entrepreneur
and the financial capital suppliers. We can call these expanded business units because they are
caused by the desire to expand and the necessity of acquiring outside financial capital.

The association between the entrepreneur and the financial capital suppliers redefines the
notion of profit. Part or all of the profit of the business is now owned by the financial capital
suppliers.

The arrangements can be elaborate: royalty structure for oil exploration and extraction,
profit payouts for movie and other artistic productions, franchise fees and royalties, profit sharing
among partners. Until the last two centuries, partnerships and especially family partnerships were
the most common form of expanded business organization. Today the stock corporation is the
type of business unit that accounts for the largest share of total output.

The stock corporation defines the relation among the financial capital suppliers to be one of
fixed or residual claims. Debt holders have fixed claims; stock holders have residual claims. Stock
holders own the profits. Debt holders get excess of revenues over costs after material suppliers and
labor are paid. If this operating income is not sufficient to cover the fixed claims of the debt
holders, company may go bankrupt.

The expanded business form necessarily separates ownership of profits from the control of
the company. The owners of the profits are the investors of the financial capital. They must hire
managers to control the business. The managers may still retain a large share of ownership in the
enterprise (Bill Gates and Microsoft) or they may own virtually no stock in the company. At all
events, the managers are no longer the owners of the firm by definition. Hence, there is a
separation of ownership and control.

The same kind of separation is found in the other expanded business organizations.
However, the problems of the separation of ownership and control are most severe in the
corporation. The corporation is a flexible expanded business unit. Other expanded business units
are much more narrowly focused. Movie production companies form to make one movie. Oil
exploration consortia form to drill one well. Law partnerships form to provide legal services only
and usually only a very specific kind of these. On the other hand, corporations allow for on-going
business across a limitless spectrum.

With this flexibility comes the cost of managerial malfeasance. Managers may not act in
the interest of the stockholders. (Time, Inc., merges with Warner Communications forming Time-
Warner as a way of stopping a takeover by Paramount, Inc.)

SEPARATION OF OWNERSHIP AND CONTROL

The three basic types of business organizations are 1) the sole proprietorship 2) the
partnership and 3) the stock corporation. The publicly traded common stock corporation is the
most dominant form of business organization in the U.S. economy and probably in the world.
The characteristics of the common stock corporation are that 1) claims to the residual cash flows
are owned by the common stock holders; 2) fixed claims to net cash flows may be owned by
other groups like preferred stock holders, debt holders, and long term lease holders; 3) the
control of the assets is vested in managers appointed by a board of directors elected by the stockholders.

The theory of management described by Alchian and Demsetz says that the best way to compensate managers is by making them the owners of the firm. That is, managers themselves shirk unless their pay is tied to their performance in organizing production. In the stock corporation, managers are definitionally divorced from at least part of the ownership. Stockholders are outside investors that provide capital to the firm and specialize in taking the risk of the uncertainty of the profitability of the enterprise.

Jensen & Meckling coin the term *Agency Cost.* It is a good term to describe contracting problems. Agency is the case where one party, the principal, contracts with another, the agent, to act on the principal’s behalf. Agency cost results from the fact that the agent will never act in perfect accord with the principal’s interests.

The stock corporation creates the problem of the separation of ownership and control that creates agency costs. Definitionally, separation of residual claims to profits and managerial control of assets is separation of ownership and control. The top management of a corporation are the agents of the owners, the stockholders. In some matters the managers do not act in the interests of the stockholders.

Jensen & Meckling begin their analysis of the firm by examining what happens when a sole proprietorship sells an equity interest to outside investors. Their story is that once the proprietor is a partial owner, work effort declines. If the proprietor sells (1-\(\alpha\)) interest, then shirking only costs the proprietor \(\alpha\) cents on each dollar that the value of the firm declines. The proprietor will consume more leisure and more perks. (It is shirking just like in the Alchian & Demsetz problem.) A lot of analysis in Jensen and Meckling deals with expansion. Shares of the business will not sell equal to the value of the company based on managerial effort when the manager was full residual claimant. This is true with or without expansion. There is always a consequent reduction in managerial effort.

The outside investors try to monitor this, however, they cannot do so perfectly. The value of the firm declines because 1) monitoring costs real resources and 2) monitoring is not perfectly effective. On this basis alone the amount outside investors are willing to pay for their (1-\(\alpha\)) interest is much less than (1-\(\alpha\))% of the capitalized value of the cash flows available to the proprietor. Outside investors know the manager will shirk and there is no way to perfectly monitor or bond the manager’s behavior.

If the firm has many new investment projects available, then the proprietor may be able to sell the firm for much more than its current cash flows. But this amount will still be less than the discounted value of the expected cash flows if the proprietor could fund the projects without outside equity interests.

Agency costs between owners and managers is one explanation of why stock issues sell for less than capitalized value of the cash flows if the manager were a 100% owner. Agency costs are also a possible explanation of why new stock issues result in a decline in the price of the existing stock. New stock issues are typically associated with a decrease in the amount of ownership claims held by management.

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DEBT V. STOCK OWNERSHIP
The effect of partial equity ownership on the agency costs between stockholders and managers would seem to be remedied by converting the company to all-debt financing. Modigliani & Miller argue that there is no effect of financing in the choice between stock and bonds. Hence, why not choose all bonds, maximize the tax savings, and minimize the agency costs?

The answer is the Collateral Problem. What if there was 100% debt in a company with random cash flow? In some states of the world the company would go bankrupt. This limits the debt leverage a firm may use.

THE AGENCY COSTS OF DEBT
There are agency costs of debt. Jensen & Meckling outline three: 1) bankruptcy behavior (bet-the-ranch, asset substitution), 2) under-investment, and 3) bankruptcy costs.

Bankruptcy behavior is the willingness of the residual claimant to engage in extremely high risk projects when there is no equity at stake. Examples include the recent debacle of the savings and loan industry. S&Ls faced with sharp competition in interest rates paid to savers as a result of deregulation of the banking industry in the late 70s and a large portfolio of low interest home loans dating back to the 50s became technically insolvent. With essentially no equity at risk, the managers gambled on high risk real estate projects. The debt holders (the savers in this case) were unconcerned because they were insured by the government. The result were a lot of spectacular failures. Note that the reason the whole industry went down is because S&Ls were all investing in the same asset—real estate. When prices of that asset declined most all of the institutions went into a tail spin. Banks on the other hand have not fared as badly facing similar circumstances because across the banking industry, different banks have invested recklessly in different assets. Some investments have paid off, some have failed.

Bankruptcy behavior often takes the form of asset substitution. Sometimes this involves out and out fraud as in the cases of Miniscribe and Crazy Eddie’s. Crazy Eddie took his inventory and moved it around from store to store to pad his inventory that he reported. But it can just be the movement of plastic assets from one venture to another. For instance, a failing car dealer can roll over inventory from plain sedans into exotic sports cars in hopes of increasing margin and pulling out of financial distress.

Under-investment is another problem of high D/E. With little equity, a low return project even one that is riskless may be passed over by equity holders. This occurs because with little equity and a lot of debt all of the return from a low return project goes to guarantee the interest payments on the debt. With nothing left for the equity holders they have no incentive to engage in the project. (This is called the Myers underinvestment problem.)

Bankruptcy costs are the explicit costs of filing bankruptcy—lawyers fees and the like. These costs are not as high as typically believed. They average around 5% of liquidation value. However, they are costs that the equity holders do not take into account when making decisions. Therefore, the collateral level must be at least as large as these costs to ensure that equity holders behave in a profit maximizing fashion. As a consequence of these, debtholders will not hold debt in an all debt company. They require there to be some collateral—some stock investment as well as debt.

In the Jensen & Meckling view, the optimal debt to equity ratio is a balancing of the agency costs of debt against the agency costs of equity where the agency costs of equity is the shirking induced by diluted ownership of the top manager. This view has fallen out of favor because in the stock corporation, the top manager rarely has a substantial share of outstanding
equity. Nonetheless, empirical investigation of this suggests that in the range of average equity ownership of major corporations, increasing the holdings of top managers causes significantly more profitable decisions.

**INTER-FIRM CONTRACTING**

**THE FIRM AS A NEXUS OF CONTRACTS**

So far we have developed the concept of the firm as a tradeoff between the benefits of size due to economies of scale and specialization, and the costs of managerial control. In this sense the corporation is an organization that allows for growth by expanding the financial resources of the firm. This comes through the securities markets and results from the gains due to specialization in risk bearing. Jensen & Meckling use the phrase *nexus of contracts* to describe the corporation. It is enlightening because it forces us to look at the problem as one of contract enforcement. Agency costs are simply the costs of contract enforcement. The organizational structure of the corporation can be explained as adaptations in an attempt to maximize the gains from trade among the various contracting parties that come together within the corporation.

However, the limits of the corporation are not solely determined or even well explained by search for economies of scale and the availability of financial resources as a result of specialized risk bearing. Economies of scale can occur in any line of business and can be exploited by horizontal expansion as well as vertical or conglomerate. Coase and Alchian & Demsetz suggest that opportunities for team production may exist and spur the expansion of the firm, but they do not tell us where to look for these or what to look for. We will try to remedy this.

The overall focus of our inquiry is contract enforcement. For argument’s sake let’s assert that sometimes contracting problems are most efficiently solved by subsuming them into a corporate entity. That is, it may be that corporations exist because the corporate “nexus of contracts” has lower enforcement cost than contracts between corporate entities or other economic agents. However, inter-corporate contracts are equally ubiquitous. In this sense, every inter-corporation transaction could be an intra-corporate transaction. The question posed is one of “to make or buy.”

**THE HOLD-UP PROBLEM**

The corporation might “make” as opposed to “buy” because it is fearful that it will be cheated. In every transaction there is the risk that the buyer or seller may be cheated. When you buy milk at the Winn-Dixie, it may be spoiled when you open it in the morning. When you do research for a professor, the professor may ignore your invoice.

The economic analysis of contract cheating has labeled it the “hold-up” problem.

The hold-up problem exits when a contract requires that resources be committed to a project by one party before another. It is almost always the case that one party to a contract

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commits resources before the other (for instance, you pay for the milk before you drink it). However, the problem becomes more acute when this time lag is extended.

When these resources are sunk, that is, have little salvage value, then the second party to act in a contract is in a position to hold up the first. Klein, Crawford, and Alchian call this hold-up behavior *post contractual opportunistic behavior*. “Post contractual” means that the second party acts after the first has committed the resources. “Opportunistic behavior” implies that the second party acts in a way that benefits him at the expense of the first party.

Consider the case of the restaurant, Ichiban’s Steak House, formerly operating in Atlanta. The proprietor of this restaurant had a long term lease in a building in downtown Atlanta. The restaurant operated from 1970 to 1993. The lease agreement signed in 1990 was for 5 years with an additional 5 years at the option of the leasee. The building changed hands in 1992 and the new landlord wanted the restaurant to move out. The restaurateur refused so the landlord acted opportunistically. The landlord blocked Ichiban customers’ access to parking behind the building which had historically been available. The landlord also engaged in building renovations in a fashion meant to inconvenience Ichiban customers. Large “Hazardous Materials” signs were posted in the immediate vicinity of the entrance to the restaurant.

It is important to note that if the contract were perfectly enforceable, both parties would benefit because there are gains from contracting and joint production. Opportunistic behavior unilaterally changes the terms of trade after the initiation of the contracted behavior, after one contracting party has put resources at risk. It may well change the terms of trade so dramatically that the first party actually loses money on the deal. In this case, if the first party is smart and recognizes the potential problem, and is unable to contract around it, then the contract may be foregone.

The resources at risk in the hold-up problem are sometimes called *appropriable, specialized quasi-rents.* “Appropriable” implies that they are at risk. “Specialized quasi-rents” tells us why. When resources must be committed in a fashion that causes them to become specific to a particular project and have high value in their primary use in that project but low value in any other application, they are at risk. The differential between the primary value and their salvage value is called a quasi-rent. After the resources are sunk, their capitalized cash flow need only be larger than the salvage value to keep them operating. (Think of an oil well.) Any additional cash flow is rent. (“Quasi” means that the rents are only there after the resources are committed as opposed to monopoly rents or profits.) Highly specialized projects have high quasi-rents. These often afford great opportunity for expropriation.

A good example of the contracting problems created by specialized resources can be found in the production of wines. Wine is made from grapes grown on vines that are extravagantly cultured. These vines only produce grapes after several years of growth. When well tended they continue to produce for decades. The different grapes make different wine and grapes vary in quality, both between vineyards and across time. Similarly, wine makers specialize. For instance, champagne producers have caves to store the fermenting bottled wine. They have a large staff trained in turning the wine kept inverted in racks. Wine makers specialize in analyzing and stabilizing the fermentation of wines of specific characteristics, wines made from specific types of grapes.

Because of these investments in specialized resources, long-term contracts are arranged between wine makers and grape growers. Even so, a hold-up problem can develop at harvest

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time. The wine maker can refuse to take the grapes in order to try to drive the growers supply
price down. The grower in another circumstance can refuse to sell in order to drive the wine
makers demand price up. When these problems are too severe, and we predict they become more
severe as the variation in quantity and quality increases, then the wine making and grape growing
functions are merged into one firm. On the other hand, when the hold-up problem is minimal, it
makes sense to separate these functions in order to prevent shirking.

The stylized facts of French viticulture are several: Champagne vintners grow only the
grapes that they use to flavor the champagne. The bulk of the grapes used to make champagne
are purchased on the wholesale market and often after the grapes have been crushed and partially
fermented. This seems to make sense because in champagne manufacture, the process of
flavoring and carbonating the wine is the specialized resource. A potential hold-up would occur
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if the house were forced to buy a necessary ingredient from an outside source.

In red wines, the vines themselves are the more specialized. In Bordeaux, the vineyards
are much smaller than they are in Burgundy. Presumably this is due to the fact that the variability
in the quality of the grapes is more extreme in Bordeaux and minimizing shirking in tending the
vines is more important. However, to combat the hold-up problem, the vintners and vineyards
have long-term contracts. The vintners are more likely to own their vineyards in the Burgundy
region.

In another example, newspapers typically own their printing presses whereas other, more
infrequent publishers do not. The circulation of a newspaper is a specialized resource. The
immediacy of printing and distribution is the value of the circulation. This specialized resource is
open to a hold-up problem. The printer, if operated as an independent agent, can refuse to print.
In the time that it would take to arrange for another printer, circulation value would be lost. By
such a threat an independent printer could force the publisher to sell out at a price significantly
below the full value of the circulation. (This allegedly happened to the Spartanburg Herald many
years ago.) Large newspapers with national circulation do not own their presses but contract with
numerous printers to avoid the hold-up problem.

EXPLICIT CONTRACTING AS AN IMPERFECT CONTROL DEVICE

The suggestion in the case of the printing press and in the case of wine making is that the
hold-up problem can be solved by integrating the chain of production within the firm. However,
we know that the larger firm admits to agency costs and shirking. It is a fair question to ask why
explicit contracts with enforceable terms and sufficient penalties for reneging cannot be
substituted in place of integration. Sometimes they can.

Soon after the wholesale electricity market was opened in 1992, consulting companies
began soliciting municipal power authorities to help them buy power on the wholesale market.
These consulting companies would line up power suppliers from around the country who were
willing to “wheel” power into the city over the transmission lines of the utility that surrounded
the city. In effect, the consultants brought the market to the city buyer. Early on the consultants
wrote contracts as a percent of the power used by the city. A royalty contract such as this is often
efficient. However, in this case, the problem developed that the local utility often underbid the

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43 Champagne is a sparkling white wine, traditionally made from a mixture of grapes grown in the old
French province of Champagne; the best is from the Marne valley. It was reputedly developed in the 17th cent. by a
monk, Dom Perignon. The fermented and blended wine is bottled, then sweetened and allowed to ferment further.
The carbonic acid left in the bottle after the final fermentation gives champagne its sparkle. Dom Perignon is now a
brand of champagne made by Moet & Chandon in Epernay. As an aside, champagne does not age well. It is best
consumed within a year or two of the time that it is released by the house.
competition that the consultant lined up. When this happened the consultant received no payment for the services that had been provided, that is, creating the competition that resulted in a lower price to the city. It didn’t take long for the market to adjust and for the consultants to begin signing shared-savings contracts in which the consultant got a percentage of whatever electricity cost reductions the city enjoyed when it signed a new contract no matter who the supplier.

Explicit contracts of all sorts are common in our economy. We see specialized insurance contracts, performance contracts in labor relations, franchise contracts, and the like. Our interest will be to examine these explicit contracts to uncover the nature of the contracting problem that leads to the contract form chosen by the contracting parties. However, it is clear that explicit contracts are not necessarily the best solution to hold-up problems. We know this because we see the other techniques in use. We also have an appreciation of why this might be so. First, explicit contracts identify specific performance. Where specific performance is hard to measure, explicit contracts themselves can be manipulated by the contracting parties. Second, explicit contracts must specify price. When price changes, the behavior of the contracting parties should efficiently change. However, the contract itself then creates a hold-up. Where price is likely to change dramatically over the course of the contract period, explicit contracts may not be the best contracting solution unless some mechanism for price changes can be found.

One of the most compelling cases historically is that of General Motors and Fisher Body who finally merged in 1926. In 1919 they signed a long term contract providing that Fisher supply GM with a fairly new product--closed, metal automobile bodies. These new bodies required the use of dies that were durable and required a substantial investment. Hence, Fisher Body was concerned in signing the contract that GM would be in a position to act opportunistically. To alleviate this concern, GM signed a long-term, exclusive dealing agreement with Fisher. This put GM at risk. GM tried to solve this by fixing the price at which they would pay Fisher. Nonetheless, GM’s guess about price proved to be wrong and they were forced to buy Fisher out in order to maximize joint profits. GM signed a bad contract. They erred in not fixing an upper limit on their exclusive dealing arrangement. They erred by not making sure that the contract terms favored them in the event that their most sanguine forecasts proved correct.

Given that GM had negotiated a price per unit that was in fact the wrong price, why did GM want to renegotiate to the right price. The answer in this case seems to be that the high price of car bodies caused GM to under produce cars and to produce them the wrong way. For instance, GM wanted Fisher to build its stamping plants next to GM’s assembly facilities. Fisher refused because, we suppose, they feared the potential hold-up problem that would create. Even at the high price GM could not get the facilities where they wanted them. GM entered into an explicit agreement for a given quantity of car bodies at a high price. They were forced to pay off Fisher at the high price for the minimum agreed upon quantity, plus an additional quantity that reflected the time that it would take GM to build its own facilities. To minimize these negotiations, merger was undertaken.

A similar case occurred when BMW built its North American manufacturing plant in Greer, South Carolina. BMW planned to buy many parts for its autos from local manufacturing establishments. In solicited proposals to supply parts made to its specifications. However, it found that there were only a few bidders. BMW was unwilling to hang that fate of its production

44 In a reverse twist of this situation, Sonoco, which produces paper cones used in textile mills, builds its plants next to its major buyers. Presumably they do this to bond themselves against price manipulation. Sonoco has a monopoly in the production of cones.
line on only a few suppliers who might decide to act opportunistically. At the same time, it recognized that the reason so few companies were bidding was because of a fear that BMW might act opportunistically itself. BMW was asking these companies to build made to order parts using machines that were specially tooled and had little or no salvage value. The fear of the small machine shops and jobbers was that if they sunk $100,000 into a machine on a promise that BMW would buy the parts at $.50, after production began, BMW might try to cut the price to $.25, which it could do if the variable cost of production were only $.15.

BMW solved the problem by buying the machines itself and leasing them to the jobbers. In this way there was no hold up because the specialized resource was owned by the party that might choose to act opportunistically against it. Moreover, BMW was protected by the large number of shops with which it contracted.

Ownership of specific assets to avoid contracting problems can be usefully employed to explain a number of phenomena observed around us. Leasing companies own many assets. For instance, airplanes are quite often owned by holding companies that lease them to carriers. Railroad engines are the same. However, this was not true of railroad engines before the invention of the modern diesel powered, electric engine. Before the new engines, each type of service required its own special engine that was unprofitably employed elsewhere. For short-term commercial property, the landlord makes the improvements on the building, for instance, the landscaping and painting. However, for long-term leases, the renter commonly takes over these duties.

**Implicit Contracts**

Implicit contracts are so called because the contract implicitly makes reneging unprofitable. These contracts are built around a device called a *price premium*. The party that has the potential to renege is paid a price above the cost of the services provided in order not to renege. The capitalized value of the price premium is equal to the quasi-rents that could be expropriated from the buyer by reneging on the contract one time. The supplier could hold the buyer up once, after which the buyer would switch suppliers. The buyer pays a premium to avoid the losses associated with this. The buyer gets paid more than the cost of the service, hence the phrase, “Good work, if you can get it.”

Implicit contracts work well when the service provided is technological and price stable, relatively inexpensive, but imposes substantial costs if it is misprovided. Low cost services mean that a small price premium will produce big incentives. Stability in the providers production process means that the contract has a long horizon. These types of contracts are most often long term because this amortizes the quasi-rents over a long time period and lowers the price premium. The contracts are renewed often to avoid the last-period problem. These inter-firm associations are often called continuous dealing contracts. E.g.: corp. defense lawyers are typically paid by the hour while plaintiff attorneys are paid on contingency.

**Contracts v. Integration**

Sometimes inter-firm contracts work, sometimes they don’t. We search for an understanding of what separates the two cases. Let’s assert the working hypothesis that inter-firm contracting breaks down on price negotiation. When both parties commit substantial specialized resources, and when price varies substantially over the life of the resources, then integration instead of contracting is optimal organizational structure.
A TAXONOMY OF CONTRACTING PROBLEMS & RESOLUTION

• Problems:
  
  Shirking and Agency Costs—These are the problems of managerial control that arise when team production is required.
  
  Hold-Up—This is the problem of opportunism defined by Klein, Crawford, & Alchian.
  
  Measurement—Anytime it is hard to measure output because of hidden quality dimensions, costly measurement must be performed. For instance, in the case of the Alchian & Demsetz firm, this is the manager. A properly structured contract minimizes these costs. Barzel develops the measurement problem.
  
  Pricing—The price at which goods or services will be exchanged is an important part of the terms of a contract. However, many times the fundamental forces of supply and demand change, and hence, the terms of the contract should efficiently change.

• Resolution Alternatives:
  
  Corporate Integration. Integrating solves the contracting problems of the hold-up and measurement but substitutes shirking and agency costs in their place.
  
  Detailed Contracts. This includes things like franchise, royalty, and arbitration agreements. Also, warranties. Detailed contracts often employ contingency claims in an attempt to induce the contracting parties to supply hard to measure services.
  
  Price Premium, Brand names, Reputation. The notion of the price premium is a novel theme. It explains the phrase “Good work if you can get it.”

MEASUREMENT AS A CONTRACTING PROBLEM

MEASUREMENT IS COSTLY & POTENTIALLY WASTEFUL

Whenever two parties trade, they must measure the thing that is transferred. When the trade is effected, there is an incentive for the buyer to deflate the quantity or quality recorded for the sale and for the seller to inflate these measures. Moreover, the buyer has an incentive to over measure and to reject components of the sale that represent less than the average value of the bundle.

Where quality is costly to measure, minimizing this cost while protecting the integrity of contracts is valuable. For instance, if a vendor offers lumber in a bin for sale at $1 per board foot, buyers have an incentive to pick through the bin to find the higher quality pieces. If the vendor sets the price of $1 based on the average quality of the lumber, then half of the lumber will be sold and the other half ignored until the price is reduced. If the vendor raises the price to, say, $1.5, a competitive disadvantage may result and only a fraction of the lumber will then look attractive to the consumer.

More precisely, the buyer’s behavior can be decomposed into a two-step process. First, the buyer chooses the vendor based on the expected quality of the average unit and per-unit price offered. That is, the buyer searches across vendors on the basis of the expected quality/price ratio and chooses the vendor that offers the highest average value per dollar. Second, the buyer picks through the lot offered by the vendor, sorting to find pieces of higher than average quality. This

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sorting continues so long as the value of the marginal increase in quality exceeds the marginal cost of sorting.

Sorting of this sort is wasteful. If sorting is profitable, then nearly each item is sorted by each buyer in addition to the sorting performed by the seller. The full cost of the good is the posted per-unit price plus the cost of sorting. If the average item is sorted multiple times the average cost is raised by the multiple of the sorts. Costs can be lowered by stopping sorting by the buyer. One way that the vendor solves this problem is by making it costly for the buyer to pick through the stock. The vendor sells in lots, sight unseen. This leads to the rational suppression of information—selling a pig-in-a-poke.

Since sorting is profitable when variance is high, the seller can stop buyer sorting by reducing quality variations. If quality variations cannot be obliterated, then the seller can bundle goods so that there is no variation across bundles in the average quality per bundle even though within each bundle the variation is large.

If the seller suppresses information about product quality in order to stop buyer sorting, the buyer may be uncertain about the average quality as well and, thus, uncertain about the choice of vendor. Brand names and reputation are a way to solve this problem. (Oscar Mayer bacon)

Sometimes buyers have a lower cost of sorting than do sellers. Even so, it is not necessarily efficient for buyers to sort before the purchase because multiple sorts may still be wasteful. If the quality dimensions are idiosyncratic to the buyers, then multiple sorts are efficient. If the dimensions are common, multiple sorts are inefficient. When buyers have the cost advantage in sorting on common dimensions, warranties are a way of stopping pre-purchase, multiple sorts.

MEASUREMENT COST & THE STRUCTURE OF CONTRACTS

Measurement cost can be used to explain the existence of the firm. The firm centers the sorting authority in the manager/owner. Otherwise, each resource supplier to the firm would have to measure the quality of the input by each other supplier. Multiple sorts are inefficient. This, however, does not add much to our understanding of the firm over and above Alchian & Demsetz/Coase.

However, measurement cost can also be used to explain the nature of many contracts that we see between firms. A notable example is that of book publishers and writers. The standard contract involves a royalty rate between the publisher and the writer. The writer is paid a percentage of the sales of the book. Often this percentage increases as total sales grow. Also, it is common for the writer to receive a advance from the publisher in up-front cash against the future royalties. Why is this contract structured in this fashion?

It is not risk aversion. Measurement cost explains it. The writer has the most knowledge about the value of the book. This knowledge is most acute in the dimension of whether the book is a best seller or merely good. If the publisher has to pay for this value up front, then it must take measurements which are costly. Similarly, the activities of the publisher in bringing out the book affect the initial sales. These activities are similar across the many writers the publisher deals with. The cash advance is a way of paying the writer so that he does not need to measure these efforts. Cash is advanced against royalties as a way for the publisher to get its money back if the book sales reach some minimum level. The prediction is seasoned authors of boiler plate books like murder mysteries will get big advances, possibly not against royalties, where as green authors will get all their money as royalties—they make money only if and when the sales roll in.
It is interesting to compare book writers to newspaper writers. News people are paid a straight salary. The news editor “measures” the value of the stories as they fit into the overall paper. There is no measurement reason to make the writers’ pay dependent on the amount that they write. Moreover, it would induce excessive measurement on their part to try to make their pay dependent on the number of papers sold.

Co-authored books between high profile celebrities and parrot writers are predictably fashioned in the following way: The celebrity gets a check when the manuscript is finished. If the publisher signs the contract with the celebrity and then hires the parrot writer, this co-author gets paid like a newspaper writer, that is, a fixed payment. The publisher is the one with the market knowledge and can cheaply measure the value of the manuscript when it is turned in and during the revision stage. On the other hand, if the co-author puts the project together (that is, has the imagination about the project) then this write gets paid on a royalty basis.

The patent rights are similar. It is commonly the case that patent rights are leased on a royalty basis from the patent holder. For instance, an individual holding a patent on a machine design will be paid a royalty by a large corporation for each of the items they produce. This is true even for an exclusive lease.

This does not seem to make any sense? In would seem that the individual would prefer to sell the patent outright. This would capitalize the expected value of the design and move the risk of demand fluctuation from the individual to the corporation. Since the corporation can more easily bear this risk, because its stock and bond holders can fully diversify in the securities markets, such a lump sum payment seems efficient. Moreover, a lump sum payment would make the corporation producing and marketing the good full residual claimant to the efforts that they can control.

The explanation for the royalty payment must lie in the fact that the patent holder has the best idea about how useful or profitable the patent will be. Because the inventor has this information and not the corporation, the inventor must bear the risk. The corporation is not willing to pay the inventor the asking price in one lump sum because there is no way to know if the inventor is telling the truth or just telling stories.46

There is only a subtle difference between the information-measurement problem and the problem of shirking/opportunistic behavior. The book publisher or patent user might reasonably be portrayed as worrying about shirking/opportunism or, alternatively, as being unwilling to undertake costly measurement. Even if there are few distinguishing differences between the arguments, the idea of measurement gives additional flavor to the overall theory. Two other examples show the value of this added breadth.

The DeBeers corporation sells diamonds. Their virtual monopoly in the sale of diamonds is no longer driven by a monopoly in mining the stones. Rather, the fact that diamond mining companies choose to sell their stones through the DeBeers’ network seems to reflect the particular effectiveness of the selling organization. The facts of the selling organization are as follows:

DeBeers invites diamond buyers to purchase stones from them. The buyers submit bids for quantities in various ranges of quality. DeBeers prepares packages of stones which are then

46 Once the patent is proven, we expect that it will be acquired by a corporation and leased by this entity to multiple users on a royalty basis. Efficient pricing of patents and the like should be done on a per-unit of output basis. Even so, this does not always happen. It is common for individuals to continue to hold patents, which also seems only explicable on the basis of measurement. Possibly, only the inventor knows the likelihood that the invention can be superceded.
presented to the buyers on a take-it-or-leave-it basis. There is no negotiation over price. The buyers can inspect the stones. Only if a stone in a sight is grossly mislabeled (not of the general quality requested), can the buyer request that the stone be replaced. The buyer can refuse the bundle. However, that buyer will never be again invited to purchase from DeBeers.

The other example is the booking of movies.\footnote{Kenney, Roy W., and Klein, Benjamin. "The Economics of Block Booking," The Journal of Law & Economics, October 1983, pp. 497-540.} Before outlawed by the courts, movies were sold as a blind block by producers to theaters. Producer-distributors negotiated with theaters for a package of movies with a particular schedule over the coming year. Since the movies were not yet made, the booking of the block was obviously blind. The contract involved a sharing of revenues from ticket sales. The standard contract called for the share received by the producer-distributor to increase to its maximum value only after some trigger level was reached.

Measurement is at issue in both of these cases. In the DeBeers case, the diamond buyers have an incentive to reject the sight if its average quality is not greater than the price per carat, or to reject the sub average stones in the sight. To stop them from doing this, DeBeers makes it profitable to be an invited diamond buyer. This means that most of the time, the average quality exceeds the average price. Sometimes it does not, but the buyer just sucks that up. On the other hand the buyer has to worry about DeBeers shorting him and then not making it up in the future. However, the brand name of DeBeers insures that this won’t happen. The no-negotiation buying scheme reduces the amount of diamond inspection and is efficient as a result.

In the movie case, the producer-distributor has to protect against the exhibitor rejecting a picture or cutting short a run once the movie’s true drawing power is revealed. The producer makes a series of movies for the season. Some are good, some are not so good. Total revenue is maximized by showing not only the best but also the so-so. Even so, the exhibitor has an interest in substituting out of the mediocre. To stop this, the producer makes the exhibitor sign a block contract. On the other hand, to ensure that the producer lives up to its promise to devote a certain level of resources to movies throughout the season, the contract front loads the revenues to the theater. This way, the theater gets the larger share of profits from the dog movies and the producer has to make a few big hits to make its money.

In general, these stories tell us that the suppression of information maybe valuable but it creates the potential for opportunism on the part of the seller. To solve this problem the seller can use sharing contracts, brand names and warranties. Brand names bond performance by creating a price premium that will depreciate if the seller distributes a product that has lower quality than that expected by the customer. Brand names require that the manufacturer measures the product prior to sale. If it is cheaper for the customer to measure the product after the sale, then the brand name product will have a higher cost than a product that is warranted. Because it has higher cost, it can only compete in markets where that higher cost is a smaller percent of total price, that is, in the high quality end of the spectrum.

FRANCHISING

THE NATURE OF THE CONTRACT

The franchise is an organizational structure that lies on the spectrum between independent business units and multiple business units owned by a single corporation. In the
franchise the units are operated as independent profit centers with the owner claiming the residual profits. The association between the units occurs through the contract with the franchisor. As we move away from independent units along the organization spectrum, the problem of shirking grows. To compensate for this increased management cost, there must be some benefit.

Franchising is a ubiquitous phenomenon in business today, and seemingly it has grown in importance. However, it is not always easy to observe the existence of franchise establishments. Many organizations have both franchise outlets and company owned stores. In smaller enterprises, many times owners give an ownership claim to managers which vests after several years. This is a common place in the small chain-restaurant industry. Moreover, there are degrees of franchises. For instance, are Ace Hardware stores a chain?

The question raised in the theory of franchising is, What service is being supplied by the franchisor? Arguably it could be managerial expertise. Both McDonald’s and Burger King have hamburger schools. There is a lot of value in having the knowledge of how to profitably run a business. Even so, this argument seems to evaporate upon close inspection. If it were nothing but start-up services provided by franchisers, then the franchise relationship would terminate after a point. These kinds of contracts do happen, of course. (The Clemson golf course had such an arrangement with a golf course management company.) But we don’t think of them as franchises.

The thing that makes a franchise is an on-going, infinite horizon association between an outlet and a central agent. The thing that characterizes a franchise is a brand name that is identifiable to the consuming public. The social value of a franchise seems to be the information conveyed to consumers by this brand name. Brand names are unquestionably of growing importance and value in marketing and many brand named products are distributed through franchised outlets.

That benefit in the franchise setting is the value of the information conveyed to the consumer by the brand name associated with multiple business units. The franchise organization is a way of contracting among the business units to enhance and protect the brand name while minimizing the costs of shirking at the individual sites.

The contracting problem that must be confronted in this organizational setting it that each franchise unit has an incentive to shirk on quality. Quality reductions by one franchisee are partly offset by the quality expectations generated by other franchise units. Presumably this is more important in businesses where there are a lot of non-repeat customers, but it will also come into play even in repeat business endeavors. Brand names are quality assuring devices. If the McDonald’s where you eat everyday serves you a cold hamburger, you will still go back the next day expecting it to be hot because the unit is still a McDonald’s. Either by a little or by a lot, the franchise units have an incentive to reduce costs by cutting quality because it will increase their profits.

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48 I say “seems” because there is always great debate about whether information is valuable and about whether consumers are duped into consumption patterns. For the most part, I dismiss this view of the world. However, there is no incontrovertible evidence that brand names are valuable because of information.
MECHANISMS FOR QUALITY CONTROL—TERMINATION

The main leverage that the franchisor has for promoting quality is the cancellation of the franchise agreement with a franchisee.49 This has to cost something. One way to make the franchisee post a bond that is forfeited if the franchise is canceled is to require a large lump-sum payment. Many franchises do this. Another is to make the franchisee rent from the franchisor. In this way the building and improvements are taken over by the franchisor if the franchisee is terminated. Court records from the McDonald’s and Baskin-Robbins cases (1980 and 1982, respectively) indicate that both were the primary lesor of locations to their franchisees. Finally, the franchisor may make the franchisee build a funny looking building that has little value if the franchise agreement is canceled.

Why are there quite often queues of potential franchisees?50 Why doesn’t the franchisor charge a price high enough to clear the market? One argument focuses on the variance in the return to the franchise investment. If a potential site has uncertain value, then the franchisee must make enough in the bad times to cover the franchise investment. Hence under the expected outcome, there are excess returns. For instance, there may be a cost to shutting down a franchise. The empty unit or renamed facade creates a negative externality for the franchise. To insure the value of the brand name, the franchisees must make an extra return.

A more important factor is that the franchisor must share some of the wealth of the franchise as a bond of its (the franchiser’s) behavior. If the franchisee posts a bond that equals the harm imposed on other units if it cuts cost, the franchisee must fear that the franchisor will opportunistically terminate it and expropriate the bond. The franchisor can make termination costly to the franchisee without putting the franchisee at risk by sharing some of the value of the franchise with the franchisees. This generates a queue of potential franchisees.51

The franchisor allows the franchisee to share in the profits by restricting the number of units below the level that would exist if there were no threat of cancellation. The fact that the franchisee makes extra-profits by having some monopoly power has implications about store hours and prices. The franchisee will be tempted to raise prices and cut store hours in order to increase profits more than royalties. Hence, franchisers will impose price and hours restrictions.

TIE-IN SALES

In many franchise settings, the franchisor requires that the franchisee buy products from the franchisor.52 There are two arguments for this. First, it is a way of monitoring quality. Second, it is a way of collecting the royalty. The first argument seems fairly straightforward. We expect that the franchisor will either sell supplies to the franchisee, force the franchisee to buy from approved distributors, or inspect the supplies used. The franchisor must inspect even if it sells the supplies to make sure that the franchisee is not substituting product. It must also inspect the quality of the alternative suppliers to assure that they do not go into cahoots with the


51 It would seem that a problem is created when franchisees buy their right from an existing franchisee and pay the full value of the franchise. These repurchased franchisees won’t make excess profits or at least not as much as does the original owner.

franchisees. To the extent that the franchisor can promote high quality by monitoring inputs, it can reduce the threat of termination as a quality control. Hence, it can reduce the amount of franchise profits it must share with the franchisee.

The second idea is problematic. If the franchisor prices the supplies at cost, then there is no royalty payment associated with the supply sales. If the supplies are priced above cost, then it increases the franchisee’s incentive to substitute produce; in this way the franchisee can lower the royalty and quality. On the other hand, royalties based on supply sales can have the effect of varying the royalty payments based on relative demands. For instance, Chicken Delight charged higher markup on supplies for single dinners than for large-order items (chicken buckets). The advantages and disadvantages of such a royalty scheme are discussed below. At all events, the court in the Chicken Delight case took a dim view of such tie-in sales when used to extra royalty payments. Recent cases seem to be returning the viability of tie-in sales to promote quality. Furthermore, we expect the franchisor to offer supplies to the franchisee below cost in order to encourage them to produce high quality.

ROYALTY PAYMENTS

The franchisee pays the franchisor for the right to be part of the franchise. The form of this payment may vary. It can be a lump-sum, up front fee or it can be a royalty constant through time, or a royalty based on some measure of business activity. Of course, it may be a combination of these.

If franchises exist to monitor shirking at the local level by residual claimant status and to monitor the externality effect by the efforts of the franchisor, then we would expect the franchise fee to have some component tied to sales. It is important to recognize that the fee is tied to sales as opposed to other business indicators. Each franchisee is concerned about quality protection at all the other stores. Each wants the franchisor to have the strongest possible incentive to stop quality depreciation at the other stores. Since sales will be directly and negative affected by quality declines, the royalty to the franchisor goes down when the franchisor shirks on its monitoring duty. Contrast this to the effect of having the royalty paid as a function of franchisee profits.

Note that the more important is the monitoring function of the franchisor, the more the royalty should be calculated on sales. The more the production of the franchise involves managerial oversight, the more the franchise fee should be lump sum. The more the franchise involves advertising and centralization of ordering and supplies, the more the franchise fee should be based on recoupment of franchisor expenses.

SHOPPING MALLS AS A FRANCHISE PROBLEM.

The organization of shopping malls are remarkably similar to franchises. Here there is additional twist to the problem: The units are heterogeneous. The mall developer’s problem is to put together a package of rental rates that correctly internalize the external benefits generated by the anchor stores. The anchor stores bring customers into the mall some of whom are satisfied by the smaller stores. The package includes design, beautification, and maintenance of the facility.

We expect that the smaller stores pay higher rent than the anchor stores. More interestingly, we expect that this is a function of not only square footage but also sales. The sales component of the rent paid by the small stores gives the mall operator the incentive to beautify

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and maintain the mall in front of the small stores, which themselves have an incentive to shirk in this regard, free riding on the efforts of others. The large store will have an incentive to maintain its own location and it is affected much less by the common areas. Hence the large store is less likely to pay rent on the basis of sales.

Commonly the rent paid by the small stores is based on sales and this component kicks in only after sales have reached some base level. This means that the sales-effect payoff to the mall operator only occurs if they do a good job. Also stores commonly pay a maintenance fee that is based on a charge back of actual expenses of the operator.

ADDENDA

In summarizing the franchising issue, let’s return to the organizational spectrum that runs from independently owned and operated sites, through franchised units, to company owned stores.

Independent operations need management information, advice, and consulting; they also need capital. Independent operations are efficient in that there is almost always a close relation between ownership and management that improves the quality of management by reducing shirking.

Franchising may be a contractual structure that provides management consulting. It may also be a way of lowering the cost of capital because lenders are more confident in the viability of the operation given the oversight and managerial input of the franchisor.

On the other end of the spectrum we have chains of company owned stores. Chain stores are a vehicle that can be used to capture the gains from brand-naming. Brand names are valuable to final consumers because they provide information. Franchising is also a way to promote brand-name value.

The conclusion, then, is that we expect to see franchising in situations where (1) there is a significant amount of on-site production at dispersed outlets; and (2) there are significant gains from brand-name recognition on the part of consumers.

Empirically, what are the observable causes and consequences of franchising. Some propositions are worthy of consideration:

The form of the franchise payment should be predictably related to the productive function performed by the franchisor. The more important is brand name, the more the franchise payment should come from royalties as opposed to a lump-sum payment. Royalties efficiently align the incentives of the franchisees and franchisor when the principal function of the franchise is to create and protect a brand name. On the other hand, when managerial advice is more important, more of the franchise payment should come up-front in a lump-sum.

This royalty payment prediction is different from a theory that says that the franchise payment is just efficient two-part pricing of the license. Efficient two-part pricing would charge a low royalty price, possibly as a function of profits instead of sales and a high fixed fee. The fixed fees would vary directly with the value of the brand-name license being sold. On this theory, we would expect that a very successful franchise like McDonald’s would have the highest initial charge of all. However, it doesn’t.

When companies have both franchise outlets and company owned stores, there are two forces at play. One is that the incentive to free-ride on the chain-wide brand name quality is more keen where there are fewer repeat customers. Hence, outlets with a larger proportion of repeat business should more likely be franchised than outlets with a larger proportion of non-repeat customers. The other force, operating independently, is that company owned outlets require more managerial oversight from the company. Where this is more costly to supply, the outlets are
more likely to be franchised. To what extent these two separate forces are positively or negatively correlated may vary from one line of business to the next.

The factors that are the strongest in tipping the contractual scales toward company owned outlets as opposed to franchised ones are: 1) the capital requirement of the outlet; 2) the degree of the control of the product by the central agent or main office; and 3) the variation of profitability of outlets across time. The first is obvious. Outlets that require more capital are more likely to be company owned because a large corporation is a more efficient institution for raising capital. Furthermore, if the outlet has a large capital requirement, the management of the site will necessarily have a smaller residual claim anyway.

The second point may be somewhat more obscure. Product control takes away discretion from the on-site manager. Hence, it is less valuable to have franchisee-manager. By product control, I mean things like inventory and buying decisions. In department stores and super markets, a large portion of the economic decision-making concerns what to sell and how much to inventory. Indeed, in department stores, quite often the clerks work on commission so that shirking problems among the work force are minimized by the labor contracts. Moreover, forcing inventory and product line changes on franchisees is fraught with contention.  

Finally, the third point reflects the problem of monitoring quality at the outlets. To the extent that termination is a penalty, the threat of which sanctions quality shortfalls at franchises, variability in profitability mitigates this benefit. The more variable are profits, the larger the average expected quasi-rent to the franchisee must be to enforce quality standards. Furthermore, if failed franchises have a negative effect on brand name, the expected franchisee quasi-rent must be higher the larger is the variability in profit. Finally, if the chain finds value in operating some outlets that lose money for some periods of time, franchising is a problematic contractual structure.

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DEALING ARRANGEMENTS & ORGANIZATIONAL STRUCTURE

REVIEW OF THE THEORY OF ORGANIZATION

Organizational structure responds to transactions costs. On the one hand, shirking is a problem. Shirking is reduced by organizational forms such as independent business units that directly link managerial efficiency and residual profitability. Shirking increases as the organizational structure moves toward complete vertical integration. On the other hand, misalignment of incentives is a transactions costs that operates in the opposite direction. Vertical integration is a way to solve incentive misalignments, while independent business units foster opportunistic behavior. The competitive conditions observed in the marketplace are the result of balancing the relative costs and benefits along this spectrum of organizational forms. The middle ground between complete vertical integration and independent business units is littered with organizational hybrids such as franchise contracts and vertical restraints in the dealing relationship.

The economics of vertical restraints, which includes resale price maintenance, exclusive territories, exclusive dealing, full-line forcing, tying contracts, franchise termination, etc., has

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54 It is said that McD’s tries out all of its new products at company owned stores before forcing them on franchised outlets.

55 Here I am thinking of situations like the Winn-Dixie in Clemson when the new Bi-Lo opened. For several months, the W-D store must have been losing a substantial amount of money. It is not clear that it would have survived if it had been a franchise.
received a lot of attention in the past decade or so.\textsuperscript{56} The theory in varying degrees of detail links most of these arrangements to a production and distribution process in which the manufacturer attempts to compel its distributors to supply services to customers that enhance the value of the product.\textsuperscript{57} The problem is one where these services will not be provided by the distributor based on its own self interest in selling the product of the manufacturer. Because of this, the manufacturer must condition its contracts with distributors to overcome this misalignment of incentives. All of the vertical restraints listed above can reasonably come into play in forming an efficient contract.

Contracting problems arise from the inability of the manufacturer to write a well specified, perfectly enforceable contract that identifies the pre- and post-sale activities the dealer should undertake on the manufacturer’s behalf. In the classic example examined by Telser, consumers free ride on the special services provided at one dealership by taking advantage of discount prices offered at another. Contracting costs also result from the fact that these sales activities have differential effects across consumers. Some consumers are more sensitive to promotional activities and service after the sale than others. This encourages some dealers to cream the demand pool, skimming off the promotion-insensitive, informed buyers.

The underlying incentive misalignment is that the manufacturer wants its product marketed in a way that increases overall sales. The seller, however, finds that it can at times increase profits by reducing the supply of these sales inputs. Klein and Murphy argue that the problem revolves around the marketing arrangement between the manufacturer and its dealers.

Consider the case of shelf space. The manufacturer compensates its dealers for the promotional expense of shelf space by giving dealers a high mark up. That is, the manufacturer wholesales the product at a relatively low dealer cost compared to the suggested retail price. By means of this high wholesale markup, the retailer can afford to turn the inventory less often compared to other products of similar retail price. However, the low wholesale price makes discounting the product attractive. Any one seller in this circumstance has an incentive to attract all the informed buyers by cutting the retail price while the other retailers wait on the unsure consumers to make up their minds. Left without a “fair share” of the informed buyers, the full-price retailers cannot support the shelf space. To keep the shelf space at the full-price stores, the manufacturer has to further lower its wholesale price. But this only exacerbates the problem.\textsuperscript{58}

A NOTE ON EXCLUSIVE TERRITORIES

In addition and as a complement to RPM, manufacturers can use exclusive territories to create efficient distribution networks. Exclusive territories can act like RPM in restricting free riding by cut rate operations on the sales efforts provided by full service stores.\textsuperscript{59} With an


\textsuperscript{57} The manufacturer chooses a dealing relation over integrated production-distribution because independence efficiently minimizes the shirking problem. In the most basic case, the manufacturer’s products have a local market so limited that exclusive dealers cannot make a living. See Sass and Gisser. In this case, integration would require that the manufacturer become a conglomerate, multi-line production-retailing enterprise.

\textsuperscript{58} Klein and Murphy use the example of Monsanto Co. v. Spray-Rite Service Corp. 465 U.S. 752 (1984) as a case of a dealer cream-skimming heterogeneous buyers.

exclusive territory on a particular product, a retailer can discriminate between customers needing full service and those who know what they want right away.

Producers have a large array of distribution schemes for their products. One decision involves the choice of using exclusive agents or independent jobbers. A producer selling through independent jobbers has its product hawked along with the products of others. The other products distributed by the jobber may or may not be competitive. For instance, most candy is distributed by independent jobbers and is sold along with competitive lines of other manufacturers. On the other hand, independent insurance agents sell different lines of insurance by different underwriters. However, one independent agent will generally handle only one brand of commercial property and casualty, one brand of homeowners, etc.

Producers whose products are sold by independent distributors must be concerned with “bait & switch” behavior on the part of these agents. Suppose that the producer spends money on advertising that gets the consumer in the door. Once there, the agent can sell the customer a different product at a lower price but higher markup. The agent thereby expropriates the value of the advertising of the producer. Where both advertising by the producer and sales effort by the jobber are important, the producer will be at risk. Exclusive agents are a solution.

One extreme of dealing with exclusive agents is the case of franchising. Generally the franchisee is an exclusive agent, that is, it does not handle the products of others even non-competing lines. Moreover, the arguments that we developed as an explanation for franchising are all very similar to the arguments for exclusive dealing.

Exclusive territories usually occur along with exclusive dealing in order to insure that the agent that agrees to only deal in the goods of one producer will have sufficient business to make a living. This is arguably the case for insurance agents of the big, exclusive dealing underwriters like State Farm. Gisser and Sass claim that whenever a company is large enough to support an exclusive agent network, it will do so.

THE COORS CASE
Before the courts stepped in Coors practiced exclusive territories and maximum resale price maintenance among its distributors and minimum resale price maintenance for retailers. It also had distribution termination clauses of five days notice with cause and thirty days without.

Coors beer is nonpasteurized and requires refrigeration from the point of bottling to consumption. Exclusive territories allow distributors to receive an extra profit that they must pay for up front in a franchise fee. They lose this profit flow if they are terminated.

Maximum RPM is a way of stopping the distributor from charging a monopoly price, which it could as a consequence of the exclusive territory. Coors has already decided on the right price and does not want the distributor to reduce sales further. Reducing sales by raising price reduces the revenues flowing to Coors while increasing the profits of the distributor.

Exclusive territories are an efficient mechanism for insuring that the beer is handled correctly at the distribution level but not at the retail level. Minimum RPM is the more efficient device there. Since retailer cannot compete on price, they can only compete on quality which means stock rotation and handling.

THE SPECIAL CASE OF AUTOMOBILE DEALING
Klein and Murphy specifically discuss the case of automobile dealing. They make two points. First, they claim that automobile manufacturers restrict distribution of cars in order to create a dealership network that is larger than the one that would exist in the absence of the manufacturer’s intervention. That is, there are supply-side forces in distribution that dictate
active oversight of the dealership network by the manufacturer. Second, they claim that manufacturers intervene because of the existence of special-services considerations. This is the manufacturer’s demand-side interest. Automobile consumers demand pre- and post-sale service. The manufacturer has an interest in providing these to the consumer.

Klein and Murphy argue that there are substantial economies of scale in selling cars. For one thing, more inventory makes it easier to close any sale. Consumers on the verge of making a purchase can be pushed over the line by providing them with the exact dimensions they desire. If they really want it in red, that’s what it takes to make the sale. A large dealership can provide variety for its salespeople at low cost. The large dealership is likely to get both the red demander and the white not just one or the other. Carrying both colors is not redundant, excess inventory. Sales commissions per car are lower. Salespeople sell more per contact hour with customers. Arguably, there are economies of scale in other aspects of the business as well.

Competition translates economies of scale into lower prices. However, the lower prices offered by large automobile discounters create a distribution problem for the manufacturer. Large, relatively remote dealers free ride on the pre- and post-sale services provided by small, more proximate dealers. Warranty work, general maintenance and service, and show-room display are all necessary elements of automobile retailing, and they are all things for which proximity is valuable to the consumer.

It is reasonable to suppose that the abundant display of automobile models to Sunday drivers, stopping by the local car dealership to see what is available, is an important advertising medium for the manufacturer. It is also believable that consumers having found a model to their liking then purchase the car from a distant, discount dealer. The large, relatively remote dealer is free riding on the cars displayed on the local lot.

Consider general maintenance. Automobile purchasers want to be able to have their car serviced when necessary. Proximity of the service facility is valuable; this is the advantage of a local dealership. Even so, car buyers will not necessarily feel compelled to buy from the local dealer. Here, again, they can enjoy the low price afforded by a remote discounter and still take advantage of the local service.

Warranty work is similar and poses an even more serious problem for the manufacturer. In terms of general repairs, the local dealer charges a fee for services provided. For this type of maintenance, the local dealer will probably be willing to accept all customers demanding service. Industry insiders commonly claim that dealership service departments are highly profitable. There may be too few local dealers without manufacturer intervention to limit discount dealing. However, the local dealers that do exist will satisfy the special-services requirements of car purchasers in regard to routine maintenance and owner-compensated repairs. With warranty work, “It ain’t necessarily so.”

Manufacturers warrant their products against failure of certain systems. When a system fails, the manufacturer promises to provide repair. There are several ways in which this can be done. Most commonly, this warranty work is provided by a dealer. The manufacturer can compensate the dealer for this effort by directly paying the dealer for the repairs. However, the manufacturer faces a knife's edge when it does this. If the manufacturer pays the dealer too little for the work, the dealer has no incentive to do it. If the manufacturer over compensates the
dealer, the dealer will fake repairs. Of course, the manufacturer can monitor the warranty work provided by the dealer, but this can never be done perfectly or cheaply. The problems are legendary.  

The alternative to paying dealers directly for warranty work is to lower the wholesale price of the autos. In many ways this is a better marketing scheme except for the fact that the manufacturer wants its dealers to provide warranty work for all its car owners, not just the ones who buy from the dealership.

Warranty work paid for by wholesale margin is a doubly big incentive misalignment between the automobile manufacturer and its dealers. No dealer has a perfect incentive to provide warranty work for customers other than the ones who are likely to buy a new car from that dealer. Moreover, the part of the wholesale markup that goes to compensate warranty work is fuel to fire the growth of large discount dealers. These large, relatively remote dealers free ride on the provision of warranty work that is afforded by the smaller, local dealers.

To solve the agency problems in warranty work recompense and to supply required maintenance, routine repair service, and promotional display of their vehicles to uninformed buyers, manufacturers have an incentive to provide a larger network of dealerships than would develop in the case of unfettered competition among sellers of their product. For this reason manufacturers have an incentive to increase the number of car dealers.

To succeed in this they must somehow restrict the natural forces of competition among their dealers that would otherwise work to drive smaller dealers out of business. Resale price maintenance is one contracting mechanism that could possibly be used to thwart the competitive forces that drive the dealership network toward a few, large, discount automobile dealers. But as Klein and Murphy point out, an alternative scheme is to limit the distribution of cars. Dealers cannot grow large if they do not have the cars to put on the lot. The manufacturer can by fiat increase the number of dealers simply by distributing its cars more widely and by sanctioning cross shipping.

The main tenant in the Klein and Murphy argument is that a viable dealership network depends on the fact that dealerships receive a quasi-rent stream that bonds their behavior in providing the special services desired by the manufacturer. When applied to automobile dealing, there is an additional element to the argument. Manufacturers use high markup and limit the production of automobiles below the level demanded by their largest dealers in order to generate quasi-rents. They reallocate some cars (on which quasi-rents are earned) away from the largest dealers to the smaller ones in order to keep marginal dealers in business. They do this so that these marginal dealers can supply warranty work and other special services in proximate location to car buyers.

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61 One of our graduate students was a specialist in warranty work for Ford. He went to work for a local dealer and filed warranty repair claims with Ford that recovered over $250,000 for the dealership in a six month period. These were claims that the dealer had simply written off because the filing process was too complicated. Most of the claims were soon to expire, that is, Ford would not honor them even if filed correctly. Of course, Ford took notice of such an increase in approved claims and audited the dealership’s warranty records. The dealership sustained the audit, but one wonders how they are doing now as their warranty specialist moved away.

62 Not all of the wholesale markup goes to recompense warranty work. Moreover, the full cost of warranty work is not paid by wholesale margin. Manufacturers use both wholesale price and direct payment schemes to compensate dealers for the warranty work they provide.

63 Klein and Murphy question its efficiency in this application because of the idiosyncratic dealing with each buyer that seems to be a large part of the automobile selling process. They suggest as is amplified later in the text, that limitations on distribution is a more potent tool.
LEGAL BACKGROUND

The organizational structure of automobile retailing has been the focus of numerous studies analyzing the manufacturer-dealer relationship. That automobile dealing is not vertically integrated with manufacturing seems reasonably to result from the fact that dealer independence efficiently controls shirking. However, the contracting problems associated with the attempt to correctly align the incentives of the manufacturer and the independent dealers has long been an arena of legal confrontation between dealers and manufacturers.

A common dispute is the complaint by dealers that the manufacturer will not send them enough of the right kind of cars. This point was made emphatically by Honda’s experience when executives of American Honda Motor Co. were caught taking kickbacks from dealers to ship cars that the dealers would not have gotten under normal circumstances. The bribery ring was uncovered because of a civil suit brought by one Honda dealer who alleged that he went out of business because he could not get cars while his cross-town rival did by means of payola.

The opportunity for Honda executives to extort kickbacks from dealers occurs because Honda leaves some the quasi-rents flowing from the sale of Honda motor cars with the dealers so that it is profitable to be a Honda dealer. The standard explanation for Honda’s beneficence is that quasi-rents enjoyed by the dealers are a way of assuring their performance in promoting the brand name of the line. The extension of this argument in regard to automobile distribution is that manufacturers value an expanded network of dealers. To achieve this, manufacturers restrict the number of cars they produce relative to the wholesale price they charge. The cars are valuable commodities. (This is evidenced by the kickback money paid to the American Honda executives for car allocations.) The manufacturer seeks to distribute these quasi-rents in a way that expands the dealership network.

The Honda experience does not necessarily demonstrate Honda’s interest in an expanded dealership network except to the extent that the Honda dealers who paid the kickbacks would not have gotten the cars without paying. In other words, if the dealers paying the bribes would have gotten the cars anyway, the executives were simply extorting quasi-rents from those dealers. On the other hand, if the dealers that received the cars would not have gotten them anyway, then the executives were expropriating quasi-rents from the dealers for whom the cars were intended but who did not receive them. There is some evidence supporting this latter view. Only 30 to 40 of

65 Every state now has some law limiting the arrangement that can be entered into between automobile manufacturers and their dealers. An excellent review of these issues is found in Smith (1982).
66 See Lindsey Chappell “Web of Shame at Honda,” Automotive News, March 21, 1994, p. 1, and John O’Dell, “2 Ex-American Honda Executives Convicted,” Los Angeles Times, June 2, 1995, Orange Co. Ed., p. D1. Charges brought against executives and some dealers allege that kickbacks were paid by dealers to American Honda executives for automobile allotments, dealerships, and phony advertising campaigns. Some of the defendants claimed that Honda Motor Co. of Japan knew about and thereby sanctioned the kickbacks, but no sworn testimony of complicity was presented into evidence.
67 In recent empirical work, Kaufman and LaFontaine show evidence that McDonald’s passes along substantial quasi-rents to its franchisees. However, the Honda case is itself dramatic evidence that Honda Motor Co. intended for there to be substantial quasi-rents enjoyed by its franchisees.
the 550 Honda dealerships were involved in the kickback schemes.\textsuperscript{68} Also, the dealer who originally exposed the extortion did so because he claimed he was not getting car allotments originally promised him. Numerous lawsuits have followed the criminal convictions alleging that dealerships lost profits and in some cases went out of business because they did not get their “fair share” of cars.\textsuperscript{69}

At the same time that manufacturers restrict the number of cars that they send to some dealers, they retain the right to send cars at will to dealers. Toyota has been the object of numerous lawsuits that allege Toyota both under-ships and over-ships cars to its dealers. A major legal dispute is on-going between the southeast regional Toyota distributor and its dealers. One of the points of dispute is that the distributor will not send cars to dealerships that request them. Another point is that the southeast distributor forces dealers to take cars under threat of opening new dealerships nearby. The issue is more than misalignment of incentives between Toyota and its southeast distributor. This same point has been the focus of other lawsuits between Toyota itself and dealers in regions where Toyota distributes directly to its dealers.\textsuperscript{70}

In their attempt to control the breadth of their dealership networks, manufacturers have run afoul of antitrust laws. In the court record in these cases manufacturers have defended their behavior by claiming that vertical restraints are necessary to achieve an optimal dealership network. The basic legal hurdle has been the Sherman Act.\textsuperscript{71} The act prohibits concerted action in restraint of trade and the vertical restrictions employed by automobile manufacturers often give that appearance. Sanctions imposed by the manufacturer on one of its dealers result from the interplay among many dealers in the network. Hence, the actions of the manufacturer appear to be and often are the result of the combined decision making of the manufacturer and a group of dealers. In fact, there is no reported case where an aggrieved dealer suffered adverse unilateral action on the part of the manufacturer; there has always been some indication that other dealers encouraged or actually carried out objectionable acts. However, the issue of the sufficient conditions for combined actions on the part of the manufacturer and some dealers against other dealers is in flux.\textsuperscript{72}


\textsuperscript{72} Unilateral action by a manufacturer is not actionable; United States v. Colgate, 250 U.S. 300 (1919). Moreover, complaints from other dealers, followed by a manufacturer’s termination of the transgressing dealership,
The application of the Sherman Act hinges on whether the manufacturer’s actions in attempting to control its distribution system are considered a *per se* violation. If *per se*, the auto manufacturer is prevented from arguing that its actions promote inter-brand competition and, hence, should be allowed even though they seem to restrict intra-brand competition. A landmark case in this regard is *U.S. v. General Motors.*

In *General Motors*, the court found that GM pressured its dealers to stop selling cars to discounters. Store-front discounters in Los Angeles sold cars at prices well below the full-service dealers in the area. The discounters obtained their cars by cross shipments from remote dealers—dealers outside of the Los Angeles market. The discounters had no stock and would only buy a car for resale after a customer placed an order. The discounters carried no inventory and performed no warranty work. Hence, they were free riding on display, service, warranty work of local dealers by means of the cross-shipping arrangement with remote dealers.

The local dealers, understandably annoyed, encouraged GM to stop the cross-shipping and thereby put the store-front discounters out of business. The local full-service dealers met and agreed to petition GM to revoke the franchises of the cross shippers because of a violation of the locational clause in their contracts. Local dealers accompanied GM to meetings with the cross shippers. After what were apparently strong-arm tactics by GM, the discounting stopped.

In analyzing the suit, the Supreme Court specifically refused to consider whether the locational clause in the dealers’ franchise contracts was valid. Nor did the Court consider whether GM’s interest in stopping the discounting was pro-competitive vis-à-vis other brands of cars. The Court held that:

> We have here a classic conspiracy in restraint of trade: joint, collaborative action by dealers, the appellee associations, and General Motors to eliminate a class of competitors by terminating business dealings between them and a minority of Chevrolet dealers and to deprive franchised dealers of their freedom to deal through discounters if they so choose.

The Court went on to conclude that “[e]limination, by joint collaborative action, of discounters from access to the market is a *per se* violation of the [Sherman] Act.”

It is clear that GM was interested in preserving its dispersed dealership network in order to promote inter-brand competition. Discounters, who provide no showroom, no pre-sale prep, and no warranty work, free ride on the efforts of the full-service dealers. Even so, the court ruled that its hands were tied because of the *per se* nature of the case against GM in sanctioning remote dealers supplying the Los Angeles store-fronters. The elements of this case that made it a *per se* violation are that 1) it was designated a horizontal conspiracy and 2) it involved the elimination of certain traders from the market.

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74 The Court stated “[w]e need not reach these questions concerning the meaning, effect, or validity of the ‘location clause’ or any other provision in the Dealer Selling Agreement, and we do not.” *U.S. v. General Motors*, 384 U.S. at 139.
75 Id. at 140.
76 Id. at 145.
77 The Court held that “[e]limination by joint collaborative action of discounters from access to the market is a per se violation of the Act.” 384 U.S. at 145. The Court went on to conclude that the discounters lowered price, and the eliminating the discounters indirectly increased price. Id. at 147.
The horizontal nature of the actions in *General Motors* was immoderate. GM was slow to react to the harm done to its full-service Los Angeles dealers by the discounters. This prompted the concerted action of the full-service dealers. Even though these dealers had little ability to compel the cross shippers, once they became actively engaged in attempting to limit their behavior, the action became horizontal, which is a virtual Rubicon on the road to a *per se* violation of Sherman. On the other hand, the court has not been overly strict in defining the sufficient conditions for horizontal combinations. In *Spray-Rite* the court ruled that a manufacturer’s termination of a transgressing dealership prompted by nothing other than complaints from other dealers does not constitute a combination or conspiracy between the manufacturer and the other dealers. 78 Thus, the termination itself is a vertical rather than horizontal restraint. This view has been reinforced in other decisions discussed below.

Generally non-price vertical restraints are subject to the rule of reason.79 When a manufacturer’s efforts in controlling the tendency of the dealership network to become highly concentrated are couched in terms of vertical and non-price restraints, then the court can consider whether the whole scheme is actually pro-competitive on an inter-brand level. The court seems willing to accept that an auto manufacturer’s product allocation scheme is a non-price restraint. In *National Auto Brokers*, the Court held that the plaintiff had the burden to show that GM’s allocation scheme, as a non-price vertical restraint, was unreasonable.80 The plaintiff sued GM and some of its dealers alleging violation of the Sherman Act based on the assertion that the defendants refused to sell cars to National Auto Brokers (Nabcor). Nabcor was organized as a large brokerage system that would seek customer orders for cars and then attempt to buy the cars from dealers at a deep discount. Nabcor would seek to buy the cars from the dealers’ fleet allotments. Nabcor carried no inventory, had no store fronts, and provided no service. The trial court directed a verdict for the defendants. The appellate court upheld on the grounds that the plaintiff had failed to prove that the defendants acted in concert, and even if they had and the allotment of cars available to Nabcor was restricted, that conduct was not shown to violate the rule of reason. The Court appealed to long standing precedent by citing language from *Chicago Board of Trade*, which held that the reasonableness of the conduct must be judged by its holistic effects on competition.81

Manufacturers must have a way to allocate their cars. A scheme used by Subaru in deciding how to distribute to its regional distributors is called the “earned share system.” In *Jim Forno*, the district court held that the earned share system applied by the distributor to the dealers was a non-price, vertical restraint subject to analysis under rule of reason in spite of the fact that there was some evidence that the dealer-distributor scheme was “informal and subject to

78 Op. cit. note 72. In Spray-Rite, the Court emphasized two key distinctions. First, is there a concerted or independent action. Independent action is not proscribed. Second, is there concerted action to set price or only non-price restrictions. If the action is directed at price, then per se analysis applies; if non-price, then rule of reason is employed. Id. at 761.
81 National Auto Brokers citing Chicago Board of Trade v. United States, 246 U.S. 231 (1918). The court held that the plaintiff had the burden “to show GM’s distribution system was unreasonable in view of ‘the facts peculiar to the business to which the restraint is applied; the conditions before and after the restraint was imposed; the nature of the restraint and its effect, actual or probable.’ “
abuse.”82 In this case, a dealer sued the manufacturer and regional distributor for misapplication of cars based on false sales reports. The earned share system allowed for cars to be allocated based first on unfilled customer orders and then on turnover. The plaintiff argued that the distributor allowed some dealers to falsify sales reports to earn a higher share.83 In spite of this, the court held that the earned share system was a reasonable method of allocation.

GM has used numerous systems to control automobile allocation including: 1) limiting the allocations to the discount dealers “based on some measure of market potential in the dealer’s Area of Primary Responsibility”; 2) limiting allocation based on “dealer’s facilities”; and 3) limiting sales to the dealer’s “Area of Primary Responsibility”.84 These policies have been the subject of much litigation. In one series of cases, GM’s allocation of cars was the center piece of the dispute.85 There the GM-dealer relationship was described as follows:

Dealer Sales and Service Agreements govern the relationship between GM and each of its dealers. Under the agreements, GM assigns dealers an area of primary responsibility (APR) for the purpose of evaluating performance. Dealers agree to sell and service product lines effectively and to promote new vehicle sales in their APR’s through their own advertising and sales promotions. Dealers must maintain an adequate sales force and provide presale information to consumers. Dealers can sell to any customer, located anywhere, at any price, but must service GM vehicles regardless of where they were purchased. For its part, GM agrees to distribute vehicles in a fair and equitable manner and to explain its distribution method to dealers. GM has final discretion on accepting orders and distributing vehicles. One factor that affects distribution is sales potential in a dealer’s APR.86

In John Peterson Motors, the plaintiff claimed that its practice of selling cars for $49.00 over invoice caused other GM dealers to convince GM to reduce the Plaintiff’s supply of cars. GM admitted to reducing Plaintiff’s supply of cars based on Plaintiff’s $49.00 over invoice strategy. The issues were 1) whether GM’s actions should be judged by a per se or rule of reason standard and 2) if the rule of reason applied, whether the allocation strategy of GM was reasonable.

The first question hinges on whether the combination was horizontal or vertical. The trial court decided that the defendants’ acts were primarily horizontal because the agreement reached was among competitors, with GM merely becoming involved in the conspiracy later.87 Since the trial court concluded that the agreement was horizontal, the trial court applied a per se approach.

The Court of Appeals dismissed and held that the alleged agreement was vertical. Accordingly, GM’s allocation strategy was evaluated under the rule of reason approach. The

83 The fact that the dealer-distributor scheme was informal and subject to abuse relative to the manufacturer-distributor earned share system is another instance where quasi-rents that the manufacturer intended to go to smaller, more dispersed dealerships where diverted.
84 Lovett v. General Motors Corp., 769 F. Supp. 1506 at 1512 (D. Minn. 1991). The term “Area of Primary Responsibility” (APR) will be discussed below.
85 John Peterson Motors v. General Motors 613 F. Supp. 887 (D. Minn. 1985). This first District Court case spawned a number of subsequent cases: Lovett v. General Motors Corp., 769 F. Supp. 1506 (D. Minn. 1991), Lovett v. General Motors Corp., 975 F.2d 518 (8th Cir. 1992); and Lovett v. General Motors Corp., 998 F.2d 575 (8th Cir. 1993) cert. den. 114 S.Ct. 1058 (1993). In the subsequent cases, Lovett was John Peterson Motors’ trustee in bankruptcy.
86 Lovett v. General Motors Corp., 998 F.2d 575 (8th Cir. 1993)
Court concluded that GM’s action was a non-price vertical restraint because it was an effort of a manufacturer to control its dealers and not an effort by other competitors to eliminate competition. In light of National Auto Brokers, the plaintiff in John Peterson Motors had the burden of showing GM’s allocation system was unreasonable. This the plaintiff did not do, and GM successfully asserted that its allocation system was reasonable and pro-competitive on an inter-brand level.

GM’s defense was well rooted in the theory that a broad dealership network that can provide pre- and post-sale service is most beneficial to GM. The Court summarized GM’s argument:

> GM asserts that [John Peterson Motors’] “$49.00 over” plan conflicts sharply with its marketing strategy. GM believes that it is in its pro-competitive interest to establish a network of local businesses which can provide potential customers convenient access to sales and service. GM asserts that the nature of cars and trucks as costly, complex, mobile products requires larger capital investment at the retail level, sophisticated pre- and post-sale servicing, promotion and consumer education. Accordingly, it states that the number, location, and size of the dealerships are determined by analysis of each marketing area, and that it allocates vehicles produced at its factories among its dealers to accomplish its overall marketing strategy. GM asserts that JPM, with its “$49.00 over” strategy, takes a “free ride” on the full service dealer’s service, promotion, and marketing expenditures.  

The Court of Appeals went on to state that:

> [t]he availability and quality of service and repair affect a manufacturer’s goodwill and the competitiveness of the manufacturer’s product. Accordingly a manufacturer can take action against a price-cutting dealer without fear of antitrust liability if the action is the product of the manufacturer’s independent decision that the price-cutting dealer undermines the well-being of the manufacturer’s dealer network, even though the manufacturer learns about the price-cutting dealer’s behavior from dealers ‘whose principal or perhaps only concern is with protecting their prices.

The theory of organization discussed in the previous section argues that GM was correct about the pro-competitive effects of a broad dealership network, and the court agreed.

**MEASUREMENT**

The story goes that the automobile market is plagued by the problem that hidden flaws exist in used cars such that the market may have no equilibrium. By this I mean that anyone who has a used car that is any good will keep it because if it is put on the market, everyone assumes that it must be bad. Because the seller knows more about the car than the buyer, at any price, half of the sellers will be receiving less for their autos than the cars are worth. In the limit this problem will cause there to be no used car market, just like Barzel’s sorting problem. However, there is a used car market. Some equilibrium does obtain. Even so, we wonder how much the equilibrium is affected by informational asymmetries. One way to pose this question is: “Are used cars a good deal?”

Let’s turn to cows: In any exchange, Barzel (1982) notes that the determination of value of the exchanged commodity is costly. That is, the cost of measuring the attributes and the

89 Lovett v. General Motors Corp., 998 F.2d 575 at 578 (8th Cir. 1993).
verifying of measurement will be different for the buyers and for the seller. A potential remedy to the measurement cost problem is to use a proxy or signal. Furthermore, the less alterable the signal the more effective and more frequently it will be used than signals that can be manipulated.

Allen (1993) employs the signaling solution to explain veal calves sold at auctions. In general, all breeds of cattle are sold at the auction. Veal calves, usually only four to seven months old and weighs approximately 200-250 kilograms, differ from apparently identical animal, a feeder calf—one to be raised for beef, in the method by which they are raised. Veal calves are raised in small pen in order to restrict muscle development and are fed only high quality grains and/or milk in order to produce tender pale meat. Calves raised on cheaper hay will develop to approximately the same size but will have a dark red meat.

At auction, sellers have advantage over measuring the attributes of calves, since they know what the calves are fed and how they are raised. Buyers, on the other hand, are unable to identify the sellers nor do they know how the animal were raised. Despite asymmetric information, there are sales of veal calves at auctions.

The reason for this is that Holstein calves give a signal concerning the quality of what they will yield in veal meat. That is, measurement cost problem is resolved by an accurate and non-alterable proxy or signal to reveal relevant quality. Holstein calves develop a very distinct “pot belly” when fed hay, as opposed to only milk and grain. The pot belly is a signal of dark red meat.

Allen extends the analysis to distinguish veal calves sold at auction from veal animals sold in private transactions. Only animals intended for pink veal or baby beef are sold at auctions, not white veal. In producing either pink or white veal, animals are kept away from grass. The main difference is that white veal calves are raised only on milk or milk replacer. Since neither animal develops the “pot belly” signal, the incentive is to substitute cheaper grain for milk because in cows sold at auction there is no way to distinguish the difference. Buyers anticipate that calves sold at auction will have been fed mostly grain and bid accordingly. Therefore, only animals yielding pink veal are sold at auctions, while white veal is sold directly from farmers to the slaughter house.

We know two things from this story. Holstein calves are sold at auction for veal, and only holstein calves are sold for veal at auction. By this I mean that (1) if anyone buys a Holstein calf (without a pot belly) at auction for any reason other than to slaughter it for veal, then that buyer has made a mistake because the buyer has paid a premium price associated with the value of veal; and (2) if anyone buys a calf at auction hoping to slaughter it for veal, unless it is a Holstein without a pot belly, the buyer will be disappointed. The auction market for veal is not perfect. However, an equilibrium obtains where everyone knows what they are getting (within a narrow probability range) and pays accordingly for it.

Now let’s return to cars: How is the car market similar to the cow market? Most importantly, there is an auction for used cars just like there is an auction for cows. Car auctions are held in many places and are of various sizes, but the price and quality information about wholesale auction of used autos is distributed widely. From this, both buyers and sellers of used cars evaluate the market to determine the best deal.


Animal raised to produce white veal are kept in the dark.
cars know what the average car is worth given all the informational asymmetries.\textsuperscript{93} Buyers and sellers outside of auctions are unlikely to transact at prices that are far away from the auction prices.

Are used cars a good deal? This question does not have a direct answer. Used cars like veal calves are priced by the market based on the observable information available.\textsuperscript{94} New cars are priced by the market as well, but this may be based on a consumption preference for newness, something like a “separating equilibrium” in which there are people who only buy new cars and people who only buy used cars. New cars sell at a premium because of this. The question “Are used cars a good deal?” has to be refined. If the question means, “Are used cars, \textit{ceteris paribus}, more dependable?”, then the answer can only be determined by empirical investigation of repair records.\textsuperscript{95}

**APPLICATION**

Hall (1986) analyzes complementary markets by examining how ‘claim horse’ markets monitor the market for betting and assure honest of horse races.\textsuperscript{96}

Briefly, almost all horse races in North America employ a claim rule, a condition of entering the race, that everybody is committed to be sold at a price stipulated and advertised by the track. Prior to the start of the race, the track sets the claim price and assures that, if claimed, the horse is sold at the claim price after the finish. In addition, the track sets the purse or prize money, which is provided by the track in all claiming race and is divided in fixed proportions among the owners of the top five horses. A key feature of the claim rule is that only the horse is claimed, not the prize money.

The claim rule is used to reward experts for performing two functions: (i) experts police the list of race contestants to discourage horse switching and related fraud; and (ii) they advertise the honesty of race to bettors by claiming horse. In general, horse owners and trainers know more about their horse than bettors. To encourage betting (a disagreement over winning probabilities, where wages are placed when the pari-mutuel odds diverge from a bettor’s expectations) it is essential that no significant information bias exist. Also, the track’s revenues are derived as fixed proportions of the betting volume and this volume increases with the quality of the competitors in honest races. However, many types of fraud are possible, such as drugging horses, switching horse, and collusion between jockeys, but claiming discourages fraudulent activities because more people watch and inspect horses entering claming races in hope of finding a bargain. This search for bargains substitutes for other policing expenses and compensates the track for the added prize money it offers to induce entries. Furthermore, an absence of claiming in races with large purse signals the track to investigate this group of horses and, thus, the reallocation of policing resources discourages fraud.

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\textsuperscript{93} It is not nearly so obvious that there are informational asymmetries in the auto market as it is in the veal market. In auto’s, the seller may know things about the maintenance history of the vehicle, but the buyer may know more about mechanical characteristics. Both parties are expected to suppress information that hurts their interests and promote information to their advantage.

\textsuperscript{94} In Europe where title histories are recorded and observable, we are told that cars with a frequencies of turnover in the market sell for less.

\textsuperscript{95} However, the European evidence suggests that used cars are less dependable. The cet. par. conditions would include year, make, mileage, etc. of the car. That is, if you have the option of going on a trip to Florida in my 5 year old, 4 wheel drive, Chevy Suburban with 100,000 miles on the odometer, or in a car that is exactly the same except that it was purchased used 2 years ago, which one would be more likely to make the trip without interruption.

To summarize, when the purse and claiming price combination stimulate claiming, the new owners provide a signal to all observers, including bettors, that the horses are as listed—claims advertise honesty. In the absence of claiming, other policing methods will be employed by the track that acts as a signal to deter fraud. Thus, the signals that deter fraud (claiming, search for bargain horses, and bettors) indicate that policing is effective in these complementary markets.

In the opinion of Sauer, as well as my own, Hall over states the claiming race effect of signaling when the fix is in. There are relatively few horses claimed in claiming races. If racing officials were going to use the absence of claims as a signal that some fix was in, they would be investigating more than half of the races. Clearly such a rule is not suitably refined.

The main purpose of claiming in races is to equalize the field. Since all horses in a claiming race can be purchased at the same price, they must all have approximately the same value and ability. Claiming is a way of handicapping the race.

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Many people claim that education is nothing but a sorting mechanism. We teach nothing. All education does is erect hurdles that cause people to self select into one group or another.

A more sophisticated version of this story is that education is a form of a bond. Workers invest time and maybe money in getting an education. In order to pay back this investment they will naturally work more hours than they otherwise would have.

Sobering thought

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**BRAND NAMES**

**THE THEORY**

The basic economic theory of brand names is that they are a goodwill asset on which the firm earns a profit. This profit shows up as a price premium for brand named products compared to their generic counterparts.

The function of the price premium is to induce the firm to maintain an expected quality level. The firm earns the price premium so long as there is no quality shortfall. The dimensions of quality are hard to identify or measure. But that is precisely why brand names are valuable. If quality was easy to measure then explicit contracts could be employed.

The magnitude of the price premium has several facets. First, in order to stop the firm from reducing quality, the price premium has to be large enough so that its present discounted value is greater than the cost savings from producing lower quality. If the firm sells low quality to consumers expecting high quality, a one time, windfall is received. The price premium must be large enough to stop the firm from this type of behavior. Second, the price premium in present value terms has to be as large as the cost imposed on consumers from receiving low quality when they were expecting high. Finally, the price premium has to be large enough to pay the normal rate of return on the investments made to create the brand name capital. Usually these investments come in the form of advertising expenses. Sometimes they are research and development. It may also be the case that a brand name develops as a free by-product of other

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business decisions. However, if a brand name is damaged, advertising is the normal way for the firm to attempt to revitalize it.

This theory of brand names suggests that expenditure on advertising is a bond between consumers and firms. The advertising is a non-salvageable investment that only pays for itself if the firm continues to produce a consistent, expected level of quality. By this argument, advertising need not have content. It is only necessary to demonstrate that a given level of investment is sunk into the brand name. Taking the argument close to the absurd, firms could simply burn money.

**SOME EVIDENCE**

There have been several studies that offer insight into the brand name problem.99

1. Peltzman and Jarrell -- These researchers examined product recalls in the auto and drug industries. They looked at the stock price reaction to the announcement of the recall. This is a measure of the cost of the recall to the firm. They then accumulated evidence on the out-of-pocket cost of the recall. Their finding was that the out-of-pocket costs were much smaller than the stock price decline. Hence, product recalls, which are assumed to be unexpected shortfalls in quality, have negative goodwill effects. This, however, does not mean that the goodwill decline is due to a decline in the price premium that the firm’s product commands in the market place. Recalls could cause goodwill losses among distributors, agents, and franchises.

2. Mitchell, Tylenol -- This study examines the business fortunes of Johnson & Johnson during the period of the 1982 Tylenol poisonings. The finding is that J&J’s stock price took a big negative hit as a result of the terrorist tampering that killed 7. This negative investor reaction was in excess of the out-of-pocket costs of pulling the similar products off the market and replacing them with tamper-proof containers. Tylenol lost market share for a while, but J&J was able to regain the market-leader status of Tylenol by a vigorous advertising campaign. The cost of the advertising effort over the year following the disaster was approximately equal to the stock market losses suffered by J&J. We don’t know why consumers were reluctant to buy Tylenol after the poisonings, that is, we do not know if consumers treated the tampering as a shortfall in J&J’s quality. However, we do know that advertising of the sort predicted by the theory of brand names was required to restore Tylenol’s market share.

3. Airplane Crashes -- There have been numerous studies concerning the stock market reaction to air disasters. The general finding is that stock price falls about 2% net of market when a carrier crashes a plane. Mitchell and I did a couple of things that are interesting. We separated crashes into those that were arguably the fault of the airline, and those that were not. (Fault is not necessarily an issue: The Tylenol poisoning were not the fault of J&J.) In a random event like a airplane crash, the theory says that the company should suffer a goodwill loss when the event signals a decline in the expected level of quality. A crash, even due to pilot error, could be

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treated by consumers as just bad luck. “It had to happen eventually.” We found a bigger negative reaction to at-fault crashes. We found little or no reaction to not-at-fault crashes. Next we investigated insurance costs. We found that insurance rates reacted to at-fault crashes and not to not-at-fault one. Hence, we have consistent evidence that some crashes reflect an increase in the probability of danger (insurance rates increase) and these crashes are also associated with significant stock market losses for the carrier. Moreover, the stock market losses were larger than the insurance rate increases. We attributed this to the brand name loss.

4. Coca Cola -- The evidence cited in the previous studies implicitly argues that brand names earn a price premium that is at risk if the firm reduces quality. However, there is no explicit evidence of the price premium. In the Coke case such evidence is presented. In 1985, Coca Cola announced that they were changing the formula for Coke. The new product to be called Coca Cola was one that had been taste-tested extensively in unlabeled experiments. The new product was preferred by 60% of the tasters. Upon the announcement of New Coke, Coca Cola’s stock price plunged over 5%. The public outcry was overwhelming. Within three months, Coca Cola decided to bring the old formula back. Because of rules imposed by the Federal Trade Commission about the use of the word “new” in product labeling, the old formula was called Coca Cola Classic. At the announcement of Coke Classic, the firm’s stock price came back up about 2%. The evidence is marked: Coca Cola suffered a goodwill loss as a result of changing the formula. Mitchell and Benjamin go one step further. They examined the prices that Coke charged for the syrup to make the drinks. Their research reveals that the price premium enjoyed by Coke eroded as a consequence of the New Coke episode. Moreover, the price decline was approximately equal to the stock price decline. The interpretation is that consumers were paying for an assurance of quality consistency, and when that assurance was weakened consumers were not willing to pay as much.

**Antitrust and Vertical Relationships**

**Vertical Restraints of Trade**

This section deals with the vertical arrangement of industries where a manufacturer attempts to control certain aspects of the sales of its products. Vertical arrangements are the ways a manufacturer attempts to control the agency costs of its distributors. The manufacturer wants to sell as much of its products as it can while the dealer wants to sell as much of its stock as it can. This is the issue of interbrand versus intrabrand competition. There are some bright lines in this area of law. First, non-price vertical restraints are subject to the rule of reason. Price vertical restraints are per se illegal. After some false starts and blind alleys in early law, other distinction in vertical restraints have been eliminated.

**Vertical Integration**

The problem with vertical integration is that it may preclude competition either downstream, by foreclosing retail outlets, or upstream, by foreclosing potential buyers. Elements for a vertical merger claim are familiar: 1) define the relevant product and geo. market; 2) calculate the effect on market share; and 3) if effect on market share is more than de minimis, consider the peculiar nature of the industry including any trends toward concentration, new barriers to entry in the market, and the nature end purpose of the merger. Remember that the
Antitrust laws are supposed to protect competition, so things that do not decrease, and may increase competition should be legal.

- **Brown Shoe v. U.S.**[revisited], 370 U.S. 294 (1962)
  
  FACTS: These are the same facts as before. This section of the opinion deals with the vertical merger aspects. As you may remember, Brown and Kinney merged on both manufacturing and retailing levels. Brown's purchase of Kinney's retail outlets was at issue here.

  ANALYSIS: As always in merger law, the court begins with the product and geographic markets. Then the court shifts to analyzing the competitive outcome. First, the court decides if the effect on competition is de minimis or monopolistic. Since it is neither, the court then looks to the economic factors that gave rise to the merger.

  The economic factors of the agreement are decided by looking at the "nature and purpose of the action." Specifically looking to whether the proposed new contracts are tying arrangements or requirements contracts. In this case, the court decided from Brown's president's testimony that Brown intended a tying arrangement. Given that this was in the character of a tie, a lesser showing of market power was needed. The court also found important the increasing concentration in the shoe market. The court decided to check this trend through Brown. Thus, the foreclosure of this potential buying market was anticompetitive.

- **Ford Motor Co., v. U.S.,** 405 U.S. 562 (1972)
  
  FACTS: There are three major manufacturers of spark plugs: AC, Champion, and Autolite. GM owns AC. GM, Chrysler, and Ford control 90% of the domestic auto production. Spark plug makers sell to automakers at below cost. Plug makers make up the lost profits on sales in the aftermarket, which is possible because the average consumer will need five sets of replacement plugs and mechanics replace the original brand with the same brand.

  Ford wanted to expand into the plug market. It would taken Ford 5-8 years to expand, so it was cheaper for Ford to buy Autolite. That would have left Champion as the only independent maker. The Government filed suit.

  ANALYSIS: The district court held the merger unlawful. The Supreme Court agreed. The merger was unlawful for two reasons: 1) Ford was a limiting influence on the aftermarket because it could have entered the aftermarket; and 2) Ford's purchase foreclosed Ford as a purchaser from about 10% of the market. Ford could have internally expanded with no problem.

  Ford argued that it made Autolite more of a competitor with Champion and AC, but the court rejected this notion and held that the acquisition aggravated an already oligopolistic market.

  KEY POINTS: Foreclosing buyers is a harm to consider in evaluating anticompetitiveness. With vertical mergers, the analysis is similar to horizontal mergers. You must consider the foreclosure of market for both buyers and sellers in considering the market effect of the merger.

**VERTICAL CONTROLS**

The principal activity involved in the attempt to vertically control competition is called "resale price maintenance" or RPM. In using RPM one company, usually the manufacturer of a good, sets the price for which its product can be sold by companies that distribute the good.

- **Dr. Miles Medical Co. v. John D. Park & Sons,** 220 U.S. 373 (1911)
FACTS: Dr. Miles makes medicines. Dr. Miles sells them to wholesalers subject to restrictions on resale prices. John D. Parks has refused to agree to the price restrictions and has attempted to get other wholesalers to sell to John Parks at below the resale price levels.

ANALYSIS: Court begins by stating the maxim that under the common law, restraints on alienation are bad. Since Dr. Miles is selling the medicine, it cannot control what happens to it after the sale. The Court also states that these agreements hurt the public, and are thus void pursuant to the policy in the Antitrust laws.

DISSENT: Justice Holmes dissents and states that so long as the commodity is not essential, there is no public policy against letting a manufacturer do whatever it wants. The marketplace competition will take care of this problem. Further, Holmes correctly points out that a manufacturer knows what is best for it.

KEY POINTS: Early vertical RPM was decided on a common law restraint of alienation theory, thus it was illegal.

QUESTION: What do you think, who has the better argument? Why would Dr. Miles want to institute RPM?

- **U.S. v. Colgate**, 250 U.S. 300 (1919)

  FACTS: This was a criminal case where Colgate was accused of RPM. Colgate instituted RPM through a series of unilateral actions. Colgate distributed price lists, investigated price cutting, requesting assurances from offending dealers that there would be no more price cutting, etc. There was no allegation that Colgate and its suppliers agreed to fix the minimum prices, thus Colgate's action was taken as unilateral.

  ANALYSIS: Court focuses on fact that retailer, once he purchased the goods from Colgate, could sell it at any price or even give it away. These acts would, of course, jeopardize future purchases of Colgate products, but that jeopardy was not illegal. Court distinguishes Dr. Miles because Dr. Miles involved contracts that inhibited the retailer's right to sell.

  KEY POINTS: Unilateral action by a manufacturer to institute and enforce RPM is legal.

- **Kiefer-Stewart Co. v. Joseph Seagram**, 340 U.S. 211 (1951)

  FACTS: Kiefer is a drug store chain. Seagram and its affiliate, Calvert are in the liquor business. Seagram fixed max prices. Jury found for Kiefer. The Ct. App. held that an agreement to fix max prices actually promoted competition. There was a question on the sufficiency of the evidence that Calvert and Seagram had conspired. This case is not interesting for that reason, however.

  Seagrams had a policy of maintaining a maximum resale price by its wholesalers. Calvert was another distributor but wholly owned by Seagrams. Apparently the operational control of the two companies was disjoint. However, word came down from the top for Calvert to go along with Seagrams in enforcing its max RPM.

  ANALYSIS: Max price fixing is per se illegal. Court cites SOCONY-VACUUM that held that any attempt to set minimum, maximum, or stable prices is per se illegal. Likewise, the S.CT. held the evidence sufficient to find a conspiracy.

  Court said, “Sherman Act makes it an offense for respondents to agree among themselves to stop selling to particular customers.”
Posner and Easterbrook\(^\text{100}\) are critical of this case because of the issue of integrated ownership. (Apparently Perma Life is another case of a similar ilk.) In spite of P&E’s criticism, the case follows the court’s prior pattern. When refusal to deal is linked to concerted action, it is illegal.

**KEY POINTS:** Max price fixing is per se illegal.

**QUESTION:** Why would a manufacturer fix max prices?

- **Klor’s Inc. v. Broadway-Hale Stores, Inc.**, 359 U.S. 207 (1959)
  
  **FACTS:** Klor’s claimed that its major competitor, Broadway Hale caused its supplies of appliances–GE, RCA, etc. to refuse to deal with Klor’s or to sell only at high, discriminatory prices. Manufacturers and distributors of electrical appliances (Emerson, GE, etc.) in combination with Broadway-Hale agreed to refuse to deal with Klor. (Apparently Klor was next to B-H and selling cut rate, free riding on B-H’s store display, etc. B-H argued in defense that it was not attempting to monopolize because there were numerous stores selling the same stuff nearby.)

  Klor’s claims it has suffered injury in various respects. Defendant’s did not dispute the facts as alleged. D.Ct. held that arrangement was no problem because Klor’s was but a small fish in a big pond and thus there was monopolistic tendency.

  **ANALYSIS:** S.Ct. disagreed and held that a concerted refusal to deal as this was enough to be prohibited under Sherman. Court stated that intent of Sherman was to stop monopoly whether it be creeping or "proceeding at a full gallop."

  **KEY POINTS:** 1) Size of market effected is largely irrelevant when considering refusals to deal; and 2) size is relevant when considering those who are refusing to deal. That is, if one company refuses to deal, when that company has many customers, the court is more likely to find that there is refusal to deal. See also, Lorain.

  **Question–Was this the right decision? Should the appliance manufacturers have been sanctioned? What if I told you Broadway spent large sums on salespeople, displays, and service but Klor’s did not. What if I told you Klor’s stores were always very close to Broadway Hale stores? Should this conduct be illegal?**

  
  **FACTS:** Parke Davis makes drugs. It published a suggested minimum fee schedule to wholesalers and stated that it would not deal with wholesalers who did not follow the minimum fees. Parke also sold to retailers pursuant to the minimum fee schedule but it would grant volume discounts. Wholesalers could not grant volume discounts. Two retailers sold Parke vitamin products at substantially below the resale price. Parke learned of this and stated that if the offending retailers did not raise the prices, Parke would cut off all Parke products. The retailers refused to comply and Parke refused to sell to the retailers and Parke instructed its wholesalers to refrain as well. The D.Ct. found for Parke as the actions were unilateral.

  **ANALYSIS:** Parke's acts were illegal. Under Colgate, a manufacturer's mere refusal to sell is legal. But, if the manufacturer does something in addition to refuse to sell, such as instructing his wholesalers not to, then there is a violation. This goes to the agreement element of the Sherman Act. Under these facts, there is a Sherman violation.

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DISSENT: Dissent disagrees that Colgate's scope is so narrow. Further, the majority's announcing Colgate is still good law and then eviscerating it is bad.

KEY POINTS: Relatively narrow scope of Colgate doctrine and the element that decided this case.

QUESTION: Was the restraint of trade element assumed in this case? Should there be some indication of market power before that is assumed?

• **U.S. v. Gen. Motors Corp.** (1966)\(^1\)

  Store front auto sales sprang up in downtown L.A. These discounters were getting cars shipped in from out of town dealers. Many times the cars were “prep'ed” by the regular in town dealers. Regular dealers got mad, asked GM to stop the cross shipping. GM used the “location clause” in their dealership contract to lean on the out-of-town dealers. Location clause says that a dealer can only operate at its designated place of business unless a move is approved by manufacturer.

  Court did not strike down the location clause, but it did rule against GM. The court said that the concerted action of GM and the other dealers was a restraint of trade in violation of Sherman. “We have here a classic conspiracy in restraint of trade: joint collaborative action of dealers, the … association, and General Motors to eliminate a class of competitors by terminating business dealing between them and a minority of Chevrolet dealers …”


  FACTS: Schwinn makes bikes. It would not sell them to the dealers—it would lease on consign them. Schwinn would retain titles to the bikes until they were sold.. While there was no exclusive dealing, Schwinn dealers were granted exclusive territories and limited to a specific location. Price fixing was alleged, decided and not appealed in Schwinn's favor. Schwinn argued that the restriction were in its self-interest and were therefore subject to rule of reason.

  ANALYSIS: Court begins by stating that just because something is in the manufacturer's self interest, the rule of reason does not automatically apply. The Court must consider the effect on competition in the marketplace. Court held that if Schwinn sold the goods, then the restriction on its wholesalers of who it could sell to and in what territories would be per se illegal. In this case, however, since Schwinn retained ownership, Schwinn could legally impose whatever restrictions it wanted. Thus, not illegal.

  DISSENT: Dissent urges that the rule of reason should apply, especially in light of the government's argument that the per se rule is appropriate.

  KEY POINTS: Early decision held that retention of title to the goods was dispositive of whether an arrangement was illegal under Sherman.

  QUESTION: Should the retention of title matter? Does this decision increase the transaction costs of distribution systems?

• **Continental TV v. GTE Sylvania**, 433 U.S. 36 (1977)

  FACTS: Sylvania was a consumer electronics manufacturer. It suffered a decrease in sales. Prior to 1962, it sold to a few distributors, who would then resell to many retailers. In the face of decreasing sales, Sylvania phased out the wholesalers and began a franchise system to specific retailers.. Sylvania's franchisees were limited as to territory. Sylvania retained the right

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\(^1\) See M.T. Maloney and C.A. McGowan, "Automobile Dealing" for a discussion of this and related cases.
to place more retailers in the area if it wanted to. Continental was one of Sylvania's largest retailers and it wanted to expand to Sacramento. Sylvania denied the request. Continental sued. Issues presented are whether Sylvania's refusal to let Continental open another store and the contract terms that prevented Continental from changing locations.

**ANALYSIS:** Was locational clause subject to per se? NO–Since the franchises decreased intrabrand competition, and increased interbrand competition, rule of reason applies. Schwinn is overruled. Here, the benefits of the vertical arrangement were compelling, thus they were subject to the rule of reason.

**CONCURRENCE:** Justice White argues that the majority's decision unnecessarily calls into question whether the per se rule still applies to price restraints.

**KEY POINTS:** 1) Schwinn is no longer good law; 2) non-price vertical restraints are subject to the rule of reason.

**Monsanto v. Spray-Rite Co.**  

**FACTS:** Spray-Rite was a discounter of Monsanto products. Monsanto changed its prior distributorship contract terms to include provisions that the contract would only last 1 year, that the distributor must solicit sales, must have salesmen, and "exploit fully" their assigned area. There was evidence that competing firms complained to Monsanto that Spray-Rite was discounting. The Jury found for the Plaintiff. The Ct. App. considered whether there was any jury issue as to the conspiracy charged in the complaint. This case turned on whether there was a contract, combination, or conspiracy, to hold Monsanto liable under Sherman. Sup. Ct. affirmed lower court decision, but held that the appeals court had applied wrong standard.

**ANALYSIS:** The question presented is whether there was evidence to survive a directed verdict in the case, thus allowing the case to be submitted to the jury. Court held that under these facts, there was sufficient evidence to submit the case to the jury. Mere evidence of complaints is not enough to show a combination. "There must be evidence that tends to exclude the possibility that the manufacturer and nonterminated distributors were acting independently." Here there was such evidence. Thus, there was evidence to allow this case to go to the jury.

**KEY POINTS:** Under Sherman, there must be a combination. In the vertical context, this combination must be shown by evidence that tends to exclude the possibility of independent action. mere complaints are not enough. "There must be direct or circumstantial evidence that reasonably tends to prove that the manufacturer and others had a conscious commitment to a common scheme designed to achieve an unlawful objective."

**Business Electronics v. Sharp**  

**FACTS:** Business Electronics (BE) was Sharp's exclusive dealer in the Houston area between 1968 and 1972. In 1972, Sharp appointed Hartwell as a second retailer in the Houston area. Hartwell made complaints to Sharp about BE, who was allegedly free riding on the non-price consideration Hartwell was providing, such as education and promotion. Sharp has a system of "suggested" retail prices. Hartwell on occasion would sell below the suggested price and BE would almost always. Sharp terminated BE. Jury found for the Plaintiff, BE.

**ANALYSIS:** This case turned on whether the nonprice vertical restraint was subject to rule of reason or per se rule. The Court holds that economic theory as well as a lack of case law suggests that nonprice vertical restraints, like providing sales and service, is pro competitive. Thus it should be subject to the rule of reason.
DISSENT: Dissent urges that price v. nonprice, is not the right inquiry. Additionally, the dissent argued that this was in fact, a price restraint as Hartwell was complaining that BE was undercutting prices, so Sharp terminated the dealership.

KEY POINTS: Non-price vertical restraints are subject to the rule of reason.

DISCUSSION
Miller Tydings Act of 1937 and the McGuire Act of ‘52 allowed for states to write fair trade laws that permitted RPM. These acts were repealed in 1975 returning RPM back to the position it held based on Dr. Miles. From ‘37 to ‘75, the court’s sanctions against RPM seem to have hinged on conspiracy. The Monsanto case appears to show the return to a larger prohibition. Interestingly, Congress stepped in and directly prohibited the Justice Dept. from arguing in favor of RPM before the Sp. Ct. in the Monsanto case. This is indicative of a secular decline in popular opinion concerning RPM. In 1950, there were only four states (Alaska, Missouri, Texas, and Vermont) that did not have fair trade laws. By 1975, ten more states were without them, and there was lax enforcement of fair trade in the remaining 36 states.

RESALE PRICE MAINTENANCE — MONOPOLY EXPLANATIONS
RPM is the practice of manufacturers dictating the price at which their products will be sold in the retail market. It is a step beyond “manufacturer’s suggested retail price.” In RPM the manufacturer will impose penalties on wholesalers and retailers that defy the mandated price. In most cases, RPM is a barrier against price cutting as opposed to price gouging.

RPM has been explained, and condemned by the courts, as a method of monopoly cartel organization. The object of a monopoly is to limit quantity and raise price. The problem faced by a cartel is the allocation of the monopoly quantity among the cartel members and the enforcement of these quotas: Each cartel member has an incentive to cheat on the cartel agreement by marginally cutting price and increasing its output. It thus enjoys even higher profits than those afforded by the cartel arrangement.

RPM can be an efficient cartel device. Cartel members can cut price to distributors but those distributors cannot easily pass the price cuts along to consumers. Hence, the cheating cartel member’s sales do not grow; the only effect is to increase the profits of the distributor.

It has also been argued that RPM is a cartel device by monopolizing the distribution channels available to potential manufacturers. The cartel supports a RPM structure that stops competition among distributors. Distributors that break the rules are penalized (lose their rebates that come at the end of the year). Hence, distributors are not willing to handle the products of competing manufacturers.

RESALE PRICE MAINTENANCE — NON-MONOPOLY EXPLANATIONS
Manufacturers often use RPM even when they are not acting in concert. Manufacturers may find RPM an efficient device for controlling the marketing of their products when:

Retailers offer services at the point of sale that are important in convincing the customer to buy the good. In this case RPM stops cut rate sellers from free riding on the sales effort afforded by full-service suppliers. This is also the reason that wholesalers do not sell to the

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public at wholesale prices. (Note that if the service provided with the sale can be charged for separately, as in the case of installation, then there is no problem with two tiered sales networks.)

Manufacturers do a lot of brand advertising that can be adversely affected if consumers search the market and find competing brands. Hence, if the consumer knows that Brand X cost the same everywhere, there is no reason to price shop which could lead to brand shopping and switching as a by-product.

Manufacturers want to prevent loss-leader sales. If a manufacturer is trying to achieve status for its product it may not want the product to be used as a loss-leader which would cheapen the image. The manufacturer wants price and counter space to signal certification of high quality. The subtly of the point is that if manufacturer needs counter space, it can buy it even for low turnover items by offering retailers high markups. However, if some retailers mark down the product the other retailers will not be able to sell the product and will not keep it on the shelf. Hence, total counter space devoted to the product falls even though the profits to the price cutting seller increase.

**EXCLUSIONARY PRACTICES**

Exclusionary practices are actions taken by a company that attempt to restrict competition. They are similar to Horizontal Restraints. However, their treatment by the courts has been a good bit more varied. Exclusionary practices include Exclusive Dealing; Tying; Boycotts and Refusals to Deal; and Predatory Pricing and Price Discrimination. Each will be discussed in turn.

**EXCLUSIVE DEALING**

Exclusive dealing is controlled by Clayton, Section 3. This Section makes exclusive dealing illegal if the effect of the deal is to substantially lessen competition. As always, the relevant product and geo. market is key in deciding whether there has been a decrease in competition. Whether specific aspects of the deal are bad is frequently the result of being to show interbrand competition.

**Standard Fashion Co. v. Magrane-Houston Co.**

258 U.S. 346 (1922)

FACTS: Standard had an exclusive deal with Magrane for the sale of patterns. Magrane controlled 40% of the market for sales of patterns. Standard offered favorable terms to Magrane so long as Magrane did not carry any other's patterns or sell below MSRP. Magrane violated contract by selling other's patterns.

ANALYSIS: Court agreed with lower courts that held that in some instances, where the Magrane store is the only one in town, Standard would have a monopoly on the sale of patterns. Thus, the court concluded that the deal was to substantially limit competition. There was apparently no evidence presented of the actual monopoly power.

KEY POINTS: Product and geographic markets key when evaluating whether something may substantially lessen competition.


FACTS: This case had to do with a requirements contract where one party, here Tampa Electric, agreed to buy all the coal it needed from one supplier for a specified price. Obviously,
the cost of coal to Nashville Coal went up to the extent that it was not profitable for Nashville to provide the coal at the specified price. Tampa had to get coal elsewhere and sued Nashville for the difference based on the contract rate ("Contract damages"). Nashville defended by claiming that the contract was illegal under Clayton §3. Both the district court and the appellate court held that the contract was illegal.

ANALYSIS: Again, the key inquiry is the relevant product market, the relevant geographic market, and the amount of competition foreclosed. The Sup.Ct. held that the relevant geo. market was an area spanning more than 10 states. With that size of relevant geographic market, the competition foreclosed was less than 1%. Obviously, for Tampa, a large geographic market is key.

KEY POINTS: 1) Relevant geo and product market; and 2) how the court can manipulate these factors.

TERRITORY ALLOCATION
- **U.S. v Sealy (1967)**

FACTS: The United States brought suit against manufacturers of Sealy mattresses to enjoin them from allocating territories among themselves. Sealy Inc. is owned and controlled by a number of regional mattress makers. Sealy allocated among its members exclusive territories in which each could sell Sealy products. Each manufacturer could sell their own products at will, and in any territory. District Court found for Sealy, Inc.

ANALYSIS: The Court characterized this as a horizontal allocation of territory because the members and controllers of Sealy were also the regional manufacturers. Essentially the Court ignored the fact that Sealy Inc. offered a distinct product from each manufacturer as well as its separate corporate identity. The Court held this a per se illegal horizontal territorial allocation. Court cited *Timken Roller Bearing*. In this case competing firms agreed to allocate territories for the sale of bearings, as well as the prices each could charge in other's territories. There was to separate brand name they were trying to promote. This territorial allocation was held per se illegal, but the question was left open as to whether horizontal restrictions of territorial limitations among sellers might be lawful if unaccompanied by other trade restraints.

Dissent (Harlan) characterized this as a vertical arrangement designed to promote interbrand competition. In that regard, intrabrand restrictions are allowable and are in fact pro-competitive in the mattress market versus the Sealy mattress market.

**U.S. v. TOPCO ASSOC**
(1972)

FACTS: Topco is a co-op of small and medium sized local grocery stores and chains. Topco is a purchasing agent that allows Topco to buy tremendous quantities at lower prices for its members. Essentially, Topco is a concentration of economic power. Topco also owns some private label brands.

Topco members must approve the inclusion of new members. All members must agree to stay within their allotted territory in selling Topco brand products or their membership will be canceled.

The U.S. brought suit to enjoin the territorial allocations as they applied to the distribution of Topco branded products. Topco argued that their territorial allocations promoted interbrand competition between Topco brands and the store brands of major chains. The district Court agreed and held that the arrangement was sufficiently vertical to warrant the rule of reason
approach. The rule of reason approach resulted in a finding that the arrangement was pro-
competitive looking at the grocery market as a whole.

ANALYSIS: Court holds that this is a horizontal allocation of territory because of the
make-up of Topco. The facts that Topco is controlled by members and members approve new
members urges this conclusion. Since this is horizontal, it is per se illegal. The court also states
that the AT laws are designed to promote competition in all sectors—not just one the national
grocery brand level. The Court requires members to compete against each other in the store
brand market as well.

DISSENT: Dissent (Burger) points out that this is pro-competitive from the national
market prospective. This arrangement promotes interbrand competition at the expense of
intrabrand competition.

KEY POINTS: 1) Hor. v. vert. characterization is key and 2) the differences between
interbrand and intrabrand competition.

Extension:

These last two cases fall into the outline of price fixing because the involve horizontal
combinations. However, they are more properly treated in the context of organizational structure
as was pointed out by the dissent in both.

Both Sealy and Topco were acting like franchises. A franchise might aptly be
characterized as one firm with a whole bunch of vice presidents who operate the franchise
outlets. Just to add slightly to this, in the franchise structure, the franchise owners are paid based
on the profitability of their outlet. That profitability is indirectly related to the overall franchise,
but a large portion of the earnings of the franchisee are in his own hands. In the absence of
franchises, business are organized either as independent shops or as chain stores.

The Topco case best exemplifies the egregious error made by the court. Topco was an
association of independent grocery stores trying to become a franchise. Topco felt, correctly so,
that was the only survival option in the face of major competition from the chain stores, like
Winn-Dixie, BiLo, Kroger, A&P, Publix, etc. The court rules against Topco. We see the problem
even today. There is a gap in the grocery business that is associated with small to medium sized
stores. This gap could have and should have been filled by Topco.

Jay Palmer v. BRG of GA 1990

TERMS: per curiam: this means that all justices agreed and no one takes credit for the
opinion. In reality, this means that all justices voted on the outcome and why, and then a clerk
wrote the opinion for the court.

FACTS: BRG (Bar Review Group) and HBJ (BarBri) agreed to allocate the Georgia
territory to BRG who would then pay a fee to BarBri. The evidence was that the price of the
course went up.

The Supreme Court held that the agreement per se illegal because it was a horizontal
allocation of territory. Further there was evidence that the prices went up without an increase
service. This was a class action and each member got paid about $125. Now, there is facially
intense competition. The current price is around $800.

TYING

There are three factors in a tying arrangement: 1) different products; 2) power in the tying
market; and 3) more than de minimis effect on commerce. The first element is that there needs to
be different products. For instance, a new car and tires is not "different products" for purposes of tying. A "new car" and gas may be.

Power in the tying market can be provided by any means, such as natural monopoly, patent, copyright, or sheer size. Again this issue is determined by the product and geographic markets analysis with which we are quite familiar. Last, the effect on commerce must be more than "insubstantial."

Why tie? Tying is assertedly bad because it would extend the monopoly in one market to another product. That would allow a collection of monopoly rents in another product. But, if a firm truly had market power in the tying industry, why not just charge more for the tying product?

Consider a simple example. Northland Cable has an effective monopoly in the supply of cable TV in Clemson. Northland charges around $35 per month for cable TV. What would happen if Northland began bundling cable and local telephone service. That is, assume Northland adopted a policy of selling cable and phone as a package. Consumers would have to buy both or forego cable TV. Let's say that Northland charges $60 for the package. How would consumers react?

Local phone service is around $25 offered by competitive suppliers. Hence, consumers could buy phone alone for $25, or they can buy phone and cable TV for $60, but they cannot buy cable only. Consumers will view the package in its unbundled form. The package is composed of $25 worth of competitive phone services plus the cable TV. The implied price of cable is, then, $35. Hence, if cable is worth $35 to a consumer and the consumer would consume phone services anyway, the consumer buys the package. If cable is worth less than $35, then the consumer foregoes cable and just buys phone from the competitive suppliers.

In this case, tying does not increase the monopoly profits of the firm. The reason for this is important to recognize. Tying will not increase monopoly profits when the tied and tying goods are consumed in fixed proportions. In the fixed proportions case, the monopolist can capture all of the monopoly rents in the tying product by optimally setting its price. By implication, if the two goods are not consumed in fixed proportions, there may be some advantage from tying.

This principle can be usefully applied to several of the cases discussed below. Notably in the first case, A.B. Dick tied sales of ink to its patented mimeograph machine. Since ink is used in variable proportions with the mimeo machine, the tied sale did, in fact, increase Dick's profits.

The defenses to tying are limited. First is that there is a new industry that requires special service that no one else can provide. An obvious response is that if this were true, then you would not need to tie because the market would take care of the problem. There is also the defense of "metering" [price discrimination] like A.B. Dick, but since this can be accomplished through other means, then this is no good defense. There is also a protection of goodwill argument. Under this defense, the seller claims that the user must use its tied product in order to insure that the seller's machine will function properly and preserve the goodwill of the seller. This defense rarely works.


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104 The problem has the small wrinkle that involves people who do not consume phone but want cable. Under some circumstances, tying phone and cable in this example could actually reduce the monopolist's profits because it raises the price of cable by a lot to these people. Under less likely conditions, profits might go up because of this. In either case, this effect is of second order of importance.
FACTS: A.B. Dick had a patent for a mimeo machine that required as a result of its use compliance with license terms that required the user to buy A.B.‘s ink and paper. Henry sold ink to a user of the machine. A.B. Dick sued Henry for patent infringement by virtue of the license agreement.

ANALYSIS: Court holds that patent provided market power in the machine market, and since the public could choose to buy with these restrictions or not, there is no problem. The court implicitly recognized that A.B. could always just charge more for the machine.

DISSENT: Dissent makes a slippery slope argument.

KEY POINTS: Early ties were not always a problem when the tying product was a patented item.


  FACTS: Salt Co. made patented machines that it would lease to others so long as all the salt required by the machines was purchased from Salt Co. Machines were the "Lixator" and the "Saltomat." The contract provided that Salt Co. would have essentially a right of first refusal to salt sales. U.S. brought suit under Clayton § 3 and Sherman §1.

  ANALYSIS: Court held that this was an illegal tie as an extension of the patent monopoly into the salt market. Salt Co. argued that the restraint may have been reasonable and that there was evidence that there was any monopoly in the salt market. The court rejected this notion and stated that so long as something more than "insubstantial" commerce was affected, there was no problem. Here, $500,000 per year in salt was enough. Additionally, that Salt Co merely retained a right of first refusal did not make the tie reasonable. The court likewise rejected the "goodwill" defense that would have required "high quality" salt to be used in the machines. The court did state that Salt Co could require a certain quality of salt, but not from a particular vendor.

  KEY POINTS: 1) tying is per se unreasonable; 2) threshold commerce level is low; and 3) may tie to quality but not vendor.


  FACTS: This is a case of full line forcing. That is, if you want to buy the good films, you also have to buy the bad. That is, with : "Casablanca" and "Sergeant York" came "Gorilla Man" and "Tear Gas Squad." The issue was whether this was a tie.

  ANALYSIS: The court begins by stating the first element to a tying claim is that there is power in the tying market. With patents and copyrights, there is a presumption of market power as to that product. Without a patent or copyright, market dominance will suffice, and if you do not have that, then that power may be inferred from the tying product's desirability or uniqueness. [Doesn't this just got o the relevant product market?] In any case, the block booking is illegal as a tie. The distributor ca, however, just charge more for the good films and less for the bad, and probably make as much money. The problem then is administrative costs–is this like BMI?

  KEY POINTS: 1) how market power is established; and 2) whether this makes sense.

*SIEGEL v. CHICKEN DELIGHT*

448 F.2d 43 (9th Cir. 1971)

FACTS: Chicken Delight would give away franchises in exchange for purchases of mixes, packaging, and hardware from the stores. Prices for these items was higher than others.
Chicken argued that there were not two products offered here—the franchise was a single product and came with specific items. This was like selling a car with tires, or a left shoe with a right.

**ANALYSIS:** Court begins with three elements of tying: 1) separate products; 2) power in the tying; and 3) effect on a substantial amount of commerce. Chicken urges a fourth factor, that of "justification" or reasonableness. Court rejects this notion.

Chicken's first argument is that its franchise agreements are one product. The court disagrees and states that whether the items should be treated as one product is determined by the nature and use of the product—whether the "items are normally sold or used as a unit with fixed proportions." With trademarks, the court must look to the function of trademarks. The court decides that a trademark is a brand name and so long as the quality of the brand name is assured, it matters not where the components come from. Thus, the value of the trademark does not depend on the tied items.

The court goes on to state that there was sufficient market power in this trademark, as a separate product. Thus, the agreement was a tie. Chicken continues with urging its fourth factor.

Chicken claims that even if the arrangement is a tie, it is reasonable because 1) it was a reasonable way to measure and collect revenue; 2) it was a new way of doing business that is hard to change now; and 3) the tie allows quality control. Court rejects all of these and states that there are other less restrictive means of accomplishing the same goal.

**KEY POINTS:** 1) elements of tying; 2) justification is no defense.

**QUESTION:** What were the goals of Chicken? What are some less restrictive means?


  **FACTS:** In this case a patient brought suit against the Hospital claiming that the Hospital illegally tied surgery services to the anesthesia services of Roux, the sole provider of anesthesia for the hospital. The Court found that this was not an illegal tie. The real issue presented by this case was whether rule of reason or per se rules applied.

  **ANALYSIS:** Read O'Connor's opinion. She begins by stating the elements of a tying claim: 1) monopoly in the tying product (through patents, or other factors); 2) effect on a significant amount of commerce in the tied market; and 3) separate products. This case focuses on the last element. Court assumes the first two.

  In terms of the third, the key inquiry is whether, at a minimum, consumers might wish to purchase the goods separately. O'Connor correctly points out that few would want to buy surgery without anesthesia. Thus, there is serious question whether these are actually distinct products. But the Court goes further.

  O'Connor goes on to state that the three elements are merely a threshold. If all these are met, then the Court must consider the anticompetitive effects of the tie and the countervailing benefits. Here, there was apparently quality giving controls provided by the tie. Thus, the tie was legal either as involving different products or as reasonable.

  **KEY POINTS:** 1) Elements of tying cause of action; and 2) trend toward Rule of Reason.

- **Eastman Kodak Co., v. Image Technical Serv.**


  **FACTS:** Kodak sells copiers and other imaging machines. Kodak also sells service arrangements and replacement parts for its machines. Independently Service organizations (ISOs) compete with Kodak in the service market. Kodak sought to limit ISOs access to replacement parts in order to
impair the ISOs ability to compete in the service market. The parties agreed that the arrangement affected a substantial volume of commerce.

ANALYSIS: Since a substantial volume of commerce was effected, the next element to handle is whether the service and parts are separate. Then, inquire whether the sales have been tied.

First, the markets are for distinct products. Since ISOs exist, there is evidence of separate products. Kodak claimed, unpersuasively, that service only comes with parts, thus the market is the same. The Court rejects this notion. Then the Court returns to the market power issue.

The key issue presented is whether Kodak's stiff competition in the copier market means that there is also competition in the parts and service market. The Court concludes that due to insufficient information and high switching costs, Kodak can have market power for parts without market power for the machine. That is, Kodak argues that all parts and service restrictions are considered when the consumer buys the machine in the competitive market, thus, there is no market power in the parts market. The Court eschews this reasoning and determines that the lack of consumer information and high switching costs does not produce rational buyers that would consider these added costs. Therefore, there is market power in the parts market.

DISSENT: Dissent has a field day with the majority. The Dissent argues that all consumers know enough to consider the effect of parts and service markets for their branded machine. Thus, the per se rule applied by the majority is inappropriate.

KEY POINTS: 1) elements of tie relating to market power in branded goods; and 2) the eroding acceptance of the per se rule for ties.

DISCUSSION: Kodak was sued by independent service organizations because it attempted to restrict the secondary market on the service of its copying machines. The court in a divided opinion ruled against Kodak. The issue felt by the court involves the per se nature of the precedents on tying. Both sides of the court seemed willing to admit that Kodak had no market power in copying machines. The explanation for attempting to limit the secondary market on service was well developed by Kodak. The court's main argument in favor of prohibiting the limitations was that Kodak was able to exercise market power over customers who were locked into the product for the short run after they purchased the machine and did not anticipate the maintenance cost. Kodak claimed that customers buy the machine and maintenance as one service.

The majority’s opinion in the Kodak case is not compelling. It is hard to believe that there are significant profits, especially over the long haul from beating locked-in customers out of a few dollars on maintenance that they did not expect. A more reasonable argument is that Kodak had a niche in the market for copiers and sought to extract the full measure of its market power albeit not large. For consumers who would otherwise enjoy a surplus from using Kodak copiers over the market alternative, Kodak’s monopoly price would cause these consumers to spend too much on maintenance and not turn the copiers over at the optimal time. By monopolizing service, Kodak was able to price maintenance in a way that would counter this incentive. From an efficiency perspective, allowing Kodak to control the price of service, minimizes the amount of wasteful maintenance. This is true in spite of the fact that Kodak captures all of this extra surplus.

APPLICATION: COMPLAINT OF MONOPOLIZATION AGAINST THE SMART CORPORATION

INTRODUCTION
Smart has a monopoly in verification of authorized access to patient records. The monopoly on verification of authorized access to patient records is an exclusive franchise granted to Smart by the hospital. The hospital has exclusive control over patient records by the fact that patients choose to use the medical services provided by the hospital. The hospital passes this exclusive control to Smart.

Smart then ties the monopoly access to patient records to the copying of patient records. Smart requires that people who wish access to patient records and are deemed to have authorization for this access must obtain the records through copies made by Smart.

This is an illegal tying arrangement. Smart has monopoly control over access to patient records and illegally ties this to the service of copying patient records. The tying product is access to patient records. The tied product is copying patient records. Smart has a monopoly in controlling access to patient records. It extends this monopoly to the separate business of copying patient records. There is no reason why the two services are inherently one product. Hence, the tie is an illegal extension of monopoly power.

The case against Smart along these lines is based directly on the precedent set in Virtual Maintenance v. Prime Computers which follows from two other important tying cases, Jefferson Parish Hospital and Kodak v. Technical Image. These cases are succinctly outlined below:

**CASES**

O'Connor's concurring opinion outlined three conditions for applying the per se rule against tying. First, there must be market power in the tying product. Second, there must be a substantial threat that the seller will acquire market power over the tied product. Third, there must be a coherent economic basis for treating the tied and tying products as distinct.

The court held that in the Jefferson Parish Hospital case, the third condition was not satisfied. This case involved a claim that surgery and anesthesia were being illegally tied. The court held that while it might be argued that the hospital had monopoly power in supply of surgery services and that this monopoly power posed a threat to monopolize anesthesia services, there was no coherent reason to separate the anesthesia and surgical services. "[T]he link between the hospital's services and anesthesia … will affect neither the amount of anesthesia provided nor the combined price of anesthesia and surgery for those who choose to become the hospital's patients." (p 261 in Breit and Elzinga)

Court held that because of a manufacturer's inherent market power over its own line of equipment this conferred market power in the supply of parts. Further, because of the market power in parts, there was the potential to extend this market power into the supply of service. Finally, the court held that it was reasonable to consider the market for parts separately from service. Thus, the three conditions for an illegal tie as set forth in Jefferson Parish Hospital were met.

The dissent in this case argued that it does not make economic sense to claim that the exclusive control that a manufacturer has over its own brand name confers market power over after-market parts and service in the case where there is no market power in the equipment represented by the brand name. The merits of the argument made by the dissenting justices are debatable. But more importantly, the court reaffirmed the Kodak decision in the Virtual Maintenance case discussed below.

Case was remanded back to the appellate court. Sup Ct told appellate court to apply Kodak v. Image Tech. Serv.

The facts of the case are that Prime has an exclusive license on software originally developed by Ford Motor Co. Prime supplies computer equipment to Ford. Ford’s software is “locked into” Prime’s equipment. However, Ford chose Prime in the beginning. Ford requires its suppliers to use its software. Because of this and the exclusive license with Ford, Prime is able to force Ford’s suppliers to buy its hardware. It also ties in the service on these computers. Virtual argued that this is an illegal tie.

Appeals court made the economically meaningful argument that the software market and by extension, the hardware maintenance market for the computers that run Ford’s software is a submarket because it is market associated with a single consumer, Ford. Hence, it cannot be a monopoly. Ford chose Prime in a competitive marketplace, entered into an exclusive contract with Prime, and now chooses to force its suppliers to purchase

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105 Of which O'Connor who wrote the concurring opinion in Jefferson was one.
updates to its program which can only come from Prime. Hence, markets ancillary to this are “sub” and not subject to antitrust action.

The Sup Ct held otherwise. In Kodak, the Sup Ct said that even if there is no monopoly in the primary market, there can be monopolization in ancillary markets. Sup Ct told the appeals court to follow this logic in Prime, which the appeals court did.

DISCUSSION

The case against Smart is a direct application of Virtual Maintenance. Smart has entered into contract with hospitals just as Prime Computers entered into a contract with Ford Motor Company. This exclusive contract conveys market power on Smart just as the Ford contract conveyed market power on Prime. In the case of Smart, the market power is in the control of access to patient records. Both Prime and Smart extend this market power by tying it to another product.

The issue in the tying case against Smart is not whether it has a legitimate monopoly in controlling access to patient records. The situation parallels Ford choosing Prime as an exclusive software vendor. The argument follows back to Kodak where the exclusivity was created by the fact that consumers choose the Kodak brand. The hospital has control of patient records by the fact that patients choose to go to the hospital. The hospital confers this monopoly control of patient records on Smart.

This monopoly is not itself the subject of antitrust action. The monopoly on verification of authorized access to patient records is an exclusive franchise that is competitively auctioned by the hospital. There is no argument that this monopoly is inherently anti-competitive. It is reasonable to assume that when the hospital outsources the verification of authorized access to a patient's record, it does so in a cost minimizing way. Thus, if it were cheaper to assign this function to multiple service providers, it would do so, just as it is presumed that Ford would distribute its software via multiple vendors if that were more efficient.

However, when Smart ties the monopoly control of patient records to the requirement that it is the monopoly provider of copying patient records, an illegal tie is created.

The relevant product involves medical records and not medical services. If the product is medical services, then there is no case. This is the point argued by the dissent in the Kodak case. Scalia says that if Kodak had set the thing up so that it sold the copiers with built in maintenance and parts, then the question of monopoly would focus on the equipment market where there was no allegation or evidence of market power. Similarly, if the hospital chose to internalize processing of medical records, bundling this with the rest of the medical services it provides, then by Scalia’s argument there would be no case.

The hospital has a monopoly on access to medical records just as it has a monopoly on use of syringes (as you mention) or application of anesthesia (as in Jefferson Parish Hospital) by the mere fact that people choose the hospital to receive medical services. Some of the components of medical services are out-sourced. Syringe applications are not usually, but anesthesia is as in the Jefferson Parish Hospital case. And, in the case of Smart, record processing is out-sourced. The monopoly that is inherent in the consumer choice of one hospital over another, just like the consumer choice of Kodak over other copying machines or McDonald's over Burger King or Ford over Chevy, is passed along to the out-sourcer when there is an exclusive contract. Smart has a monopoly on record processing just like Prime had a monopoly on distribution of Ford software.106

The problem is that this monopoly derived from a single consumer's choice it not viewed by the court as bad in and of itself. Because there is competition in the consumer's choice of one hospital over another or one car manufacturer over another, the exclusivity that is created when an individual consumer makes a choice does not convey market power sufficient to warrant "the sledgehammer of Section 2" to use Scalia's words. However, when this exclusivity is then extended to a tied product, the court held, in spite of Scalia's objection, than it does come under application of section 1 of Sherman.

In making the case against Smart as an illegal tie, it is not necessary to argue that the monopoly that exists in the tying product is bad. That is the beauty of the argument. The relevant product is access to medical records. This is a monopoly franchise granted to Smart that flows from a patient's choice of one hospital over another. The monopoly that Smart has in access to patient records is plainly obvious and there is no claim that it is inherently bad.

Hence, the only things that are required to substantiate the claim of an illegal tie are to show that the tie allows Smart to exercise monopoly power in the tied market and that there is no coherent reason to treat the two markets as one. I think that both of these points can be made.

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106 The outsourcing of parts to OEMs in the Kodak case is similar.
The tie does force consumers to purchase copying services from Smart. There is no secondary market for copying patient records except from Smart. Smart monopolizes this service as evidenced by the fact that it charges so much and that it charges prices that are discriminatory across buyers.

Finally, there is no coherent reason to treat the markets as one. Unlike the Jefferson Parish Hospital case where surgery and anesthesia are inextricably linked, there is a reasonable separation of access to patient records and copying of them based among other things on the fact that some people need more copying services than others. At all events, this last hurdle is a high one.

CONCLUSION
The advantage of making a tying case is that you do not have to sweat over the issue of the relevant market. By making the claim of an illegal tie of access to patient records to the copying of patient records, the relevant market is defined to be copying patient records. The defense then shifts from identifying the relevant market to whether there is a coherent reason to make the two markets into one.

Moreover, the standard of harm is lowered. To make a straight up claim of Section 2 monopoly, you have to show significant effects on competition. (This is not literally true, but as a practical matter, it is the way these things go.) On the other hand, a Section 1 claim of an illegal tie has a lower hurdle level. You still have to demonstrate damages, but the per se nature of the offense means that you don’t have to show harm to the competitiveness of the market. Smart will try to draw the debate back to the overall competitiveness of the market, where it will be able to show that there are many people bidding for these contracts. A tying case focuses the argument away from that.

As a tying case, the fact that Smart is price discriminating in the charges it levies for copying is evidence that it is exercising monopoly power in the tied product, not that price discrimination is in and of itself anticompetitive. Under the per se standard of tying, the fact that it exercises monopoly in the tied product makes its actions illegal. Again it is a question of degree, but if you make a straight Section 2 case, you will be forced to argue that the price discrimination itself is bad (rule of reason) and this will be harder.

BOYCOTTS
Generally an individual may choose to deal with whomever it wishes. When many individuals, persons or businesses, get together to boycott another, then that combination may be an unlawful restraint of trade as an effort to monopolize. Generally, boycotts are considered under the per se rule, but this rule has been termed a "soft" per se rule, because some restraints are OK. Generally, refusals to deal to enforce territorial restrictions are illegal. Likewise, refusals to deal to "police" an industry is also illegal. (FOGA). This "policing" is generally illegal when the acts will decrease competition. For instance, in Molinas v. NBA, the Court upheld a player's suspension from the NBA for gambling. In U.S. v. AMA, the court struck down a clause in the code of medical ethics that prohibited certain earnings scheme. See also, Mackey v. NFL, where the Court held invalid an NFL provision that required a team signing a free agent to pay the prior team. Thus, group boycotts are generally illegal per se, but there may be an argument based on self-regulation of the industry.

• **FOGA v. FTC.** 312 U.S. 457 (1941)

FACTS: FOGA was comprised creators of women's fashion. Also a Defendant in the original case were the assemblers, cutters, and dyers of the clothing. FOGA was concerned with "pirated" fashions and sought to stop the pirates. FOGA established a series of essentially courts to adjudicate the privacy of members. In addition FOGA sought commitments from retailers to not sell pirates. If the merchant did not agree to not sell pirates, the merchant was given a "red card." This card meant that all members of the Defendants would not sell to the merchant. FOGA had market power.

ANALYSIS: First, the court focused that the fashion designs were not protected by any law. FOGA argued that its system of red cards was a way to protect its members original
designs. The court held that this self-regulation, was not a good excuse to the boycott. Arrangement held illegal because it is not acceptable to benefit one group (FOGA) at the expense of another (pirates and merchants).


  **FACTS:** Lorain Journal published the local newspaper in Lorain Ohio. 99% of households received the paper. WEOL was a start-up radio station approved by the FCC to broadcast to Lorain Ohio. Obviously most of the revenues to the radio and the paper were from advertising. The paper noticed advertising dollars being diverted to the radio. The paper instituted a policy that any one who advertised on the radio could not do so in the paper. US brought suit.

  **ANALYSIS:** Lorain did not deny the facts. Lorain argued that it was not yet successful in monopolizing and thus there was no cause of action yet. Court rejected this and held prospective relief was available. Next, Lorain argued that it had the absolute right to deal with whomever it wants. Court agreed that there is a right, but it is a qualified right. The major qualification is that that right may not be exercised to create or maintain a monopoly.

  **KEY POINTS:** 1) right to deal with others is qualified and will not always resist a boycott claim.

  **QUESTION:** What do you think, should individuals have the right to deal with whomever they choose? What if there is no monopoly involved–what if you refuse to deal because they are female or black? What if Lorain was not the only paper in town?

*Aspen Skiing Co. v. Aspen Highlands*

472 U.S 585 (1985)

**FACTS:** Initially in Aspen there were three developed mountains. Soon a fourth was added. These mountains were independently owned and operated. All would cooperate to sell Aspen skiing as a whole. In addition to joint ads, all agreed to recognize an all-area lift ticket where the skier would purchase the all-area pass and present a coupon to the mountain. The coupons were counted and each mountain would get a share of revenues in relation to the number of coupons collected.

Aspen Skiing purchased three of the four mountains. Aspen and Highlands continued the coupon system for some time. Aspen grew tired of the system and began to offer Highlands a fixed percentage of revenues, lower than what Highlands had received in the past. Highlands accepted once, and refused other times. Aspen also began to claim that the all-area system was too cumbersome. Highlands agreed to pay for an outside firm to administer the program. Aspen refused. The all-area ticket that included Highlands was discontinued, but Aspen created their own all-area pass for Aspen's three mountains.

Highland tried to compete in this market by offering an Adventure pass that was originally Highland passes with vouchers, payable at local banks, for Aspen's mountains. Aspen refused to take these vouchers. Highland then included money orders or traveler's checks in their adventure pack and Aspen finally accepted these negotiable instruments. Highlands got fed up and sued.

Jury awarded $2.5 million in actual damages. Court trebled this amount and added attorney's fees.

**ANALYSIS:** Aspen claimed that it had no duty to deal with anyone and that there was no duty on it to cooperate with a competition. Court rejected this argument because 1) because the
all-area plan existed before Aspen was on the scene it had a continuing duty to cooperate; and 2) there were no competitive justifications for Aspen's behavior. Also probably persuasive was Highlands repeated attempts to get along all of which were to no avail. Court specifically looked at the impact on Highland [who suffered economic losses], skiers [who thought Aspen was a less attractive place to ski], and Aspen [who gained no competitive advantage]. Aspen's failure to offer efficiency justification was important to court as well. Highland wins because Aspen refused to deal Highland.

KEY POINTS: When evaluating boycotts in the context of an entity's duty to deal with others, an important issue is the efficiency justification of the act from the boycotter's perspective.


  FACTS: Northwest was a Co-op where anyone could buy wholesale suppliers but members would get a rebate based on purchases. Pacific was a member that was expelled. Northwest claims Pacific was expelled because Pacific did not follow the rule regarding notification of ownership changes. Pacific claims it was because it was both retailing and wholesaling, as it was allowed to do. Northwest expelled Pacific without any procedural process. Pacific sued based on a boycott. D.Ct. held for Northwest, 9th Cir. reversed.

  ANALYSIS: Court wrestles with whether this is a boycott, so to be subject to a per se analysis. Two elements are for boycott analysis: 1) market power; and 2) good reasons. The court concluded that Northwest had no real market power as Pacific could purchase elsewhere. Second, the existence of the co-op is a good thing due to economies of scale, etc. Pacific claimed that the expulsion was the bad thing and not the existence of the co-op. Court rejects this and goes back to its original analysis and concludes that so long as there are reasonable rules for the co-op, that does not possess market power, then there is no boycott subject to the rule of reason. Pacific loses.

  KEY POINTS: 1) key elements whether a boycott exists are the market power and the good reasons for the actions; and 2) in law, if you do not like the answer, change the question especially in terms of the relevant product or geographic market and the actions that constitute a refusal to deal.


  FACTS: Insurers began to demand dentists submit X-rays with all claims in an effort by the insurer to control dental costs. Dentists objected. They formed a "union" and all members pledged to not send insurers x-rays. All would, however, allow insurers to physically visit the dentist's office. FTC sued under FTC act §5 (unfair method of comp.) The FTC found that the dentist's practices were illegal. Dentists appealed to the Ct. App, who reversed. S.Ct. sided with FTC.

  ANALYSIS: Court's issue was whether this was a boycott and thus subject to the per se approach. Dentists urged that whether they submit x-rays is no component of competition and that since the insurers still had access there was no problem. Court rejected both.

  Court found that all actions have some competitive effect as a matter of common sense and economic theory. Second, alternative access was not the same. Thus, there was some problem here. The question still remained whether the acts were per se or rule of reason illegal.

  Court decided that under arrangement, the Dentists acts were illegal as an unreasonable restraint of trade. First, the Dentists argued that the had no market power [Court rejected by
narrowly defining market] 2) there was no price impact (Court rejected--there had to be some); and 3) the restraint was to protect quality care (Court held submittal of x-rays had no impact on care.) Dentists lose under either per se or rule of reason approach.

QUESTION: What is the right standard now?

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1 http://users.ju.edu/~sjeante/Microsoft/antitrust.html.