Natural Monopoly

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A natural monopoly is a monopoly that exists because the cost of producing the product (i.e., a good or a service) is lower due to economies of scale if there is just a single producer than if there are several competing producers.

A monopoly is a situation in which there is a single producer or seller of a product for which there are no close substitutes. Economies of scale is the situation in which the cost to a company of producing or supplying each additional unit of a product (referred to by economists as marginal cost) decreases as the volume of output increases.

Economies of scale is just one reason for the existence of monopolies. Monopolies also exist because of sole access to some resource or technology and because of the use of non-market means to eliminate competition, including buying up competitors, colluding with suppliers or customers to discriminate against competitors, enacting legislation to restrict competition, threatening costly lawsuits or even engaging in physical violence.

If there are multiple firms in an industry that is characterized by natural monopoly, all except the one that can attain the largest volume of output, and thus the lowest production cost, will generally exit the industry because they will not be able to compete on a price basis. Once a single firm becomes established in an industry that is characterized by natural monopoly, it is very difficult for competitors to emerge because of the very high costs for production facilities (including infrastructure) that allow a scale of output equal to or greater than that of the existing monopolist and because of the uncertainty that they will be able to oust the existing monopolist.

The most commonly cited examples of natural monopolies are utilities such as railroads, pipelines, electric power transmission systems and water supply systems. Such industries are characterized by very large costs for their infrastructure (i.e., which arefixed costs), and it is thus often inefficient (i.e., detrimental to the economy as a whole) to have more than a single firm in a region because of the high cost of duplicating the facilities (e.g., parallel pipelines or parallel sets of electric wires to every home and business). Some types of manufacturing may also fall into the category of natural monopolies, such as the production of large aircraft (although it is not clear in this case because of huge government subsidies to keep competing manufacturers in business).

As is the case with all monopolists, there are strong incentives for natural monopolies to abuse their market position in order to increase profits and to enhance their power. This includes charging prices far above the cost of production, providing lower quality products and inferior service associated with those products, suppressing new technologies and contributing to corruption of the political system. Such abuse often results in pressure from consumers for government regulation.

It is important to distinguish between natural monopolies and other types of monopolies because the optimal public policy (i.e., government action or lack thereof) with regard to each can be different.

Monopolies are often relatively short lived, and even natural monopolies are not necessarily permanent. This is because technological advances can lead to the development of new forms of competition for an industry, change its cost structure and affect the demand for its products. For example, canals were once a natural monopoly for bulk transport in parts of Europe and the U.S., but these monopolies disintegrated during the nineteenth century as a result of the development of railways. Likewise, the advent of cellular phone technology has greatly weakened the wired telecommunications monopolies that prevailed in many countries.

Advocates of laissez faire capitalism (i.e., an economy in which the government plays no role in regulating business) emphasize this natural attrition of monopolies as a justification for doing nothing. They also point out that monopolists sometimes find that it is in their own best interest to limit their monopolistic behavior in order to deter the entry of competitors. In fact, in some situations a monopolist might even set production and pricing at levels close to those that would be set by the industry if competition existed.

Some advocates of laissez faire go so far as to claim that the concept of natural monopoly is merely a theoretical construct employed to justify government intrusions into the private sector in order to gain power and satisfy constituents, intrusions that are usually not in the best long-term interests of consumers or the economy as a whole.

They also assert that claims of natural monopoly have been wrongly used to justify the creation of government monopolies, particularly in public utilities. Examples include the nationalized railroads and telephone systems that existed in many countries (but not the U.S.) through much of the 20th century.

A strong case can certainly be made for having as little government intervention in an economy as possible because of the benefits of competition (e.g., incentives to produce high quality products at the lowest possible cost). Another reason is that government itself is a monopoly, and history has demonstrated repeatedly that it can be just as corrupt and abusive as private sector monopolies.

A major criticism of the laissez faire approach is the fact that monopolies can inflict substantial damage on an economy and on a society even in just a few years, and thus government intervention might be the lesser of two evils. That is, intervention, despite its problems, might do more than laissez faire in some situations to help a society towards such common goals as economic growth, technological advance and social justice (e.g., providing equal opportunity for all).

Government responses to natural monopolies can include any combination of doing nothing, setting legal limits on the monopolist's behavior, either directly or through a regulatory agency, promoting or setting up competition, dissolution and public ownership.

It is generally most efficient (i.e., beneficial for the economy as a whole) to maintain natural monopolies, if they truly are natural monopolies, but subject them to some sort of government regulation with regard to prices, quality of service, etc. The reason for not breaking it up is, of course, by definition, the fact that a natural monopoly can attain a lower production cost than could competitive firms in the same industry. This contrasts with the situation for other types of monopolies, for which it is often most efficient for them to be broken up into competing firms.

It could also be efficient to regulate a natural monopoly even if it goes so far as to set production and pricing at levels similar to those that would be set by the industry if competition existed. This is because there could still be very large monopoly profits as a result of the fact that its average production cost for any level of output is below that attainable by competitive firms in the same industry (i.e., because of its economies of scale). Thus, a strong argument can be made for regulation to bring down prices to a level close to cost (i.e., to provide a return on investment close to what competitive firms for the economy as a whole attain).

There can be a strong incentive for companies that are monopolies to claim that they are not monopolies in order to try to escape criticism and possible government regulation or breakup. Likewise, there is an incentive for companies that are clearly monopolies, or which have been labeled as such by the government, to claim that they are natural monopolies because being a natural monopoly can provide justification for being a monopoly from the viewpoint of the efficiency of the economy as a whole and thus make a government more reluctant to attempt to break it up.

Although monopolists usually prefer to not be regulated at all, they generally prefer to be regulated rather than to be broken up. This is because breaking up typically represents a much greater loss of power for the individual or individuals who control the monopoly.

In some cases a monopolist might actually favor some regulation. This could be in order to reduce the risk of new competitors emerging, to allow guaranteed prices for its goods or services and/or to prevent further government interference. Such regulation could thus make it easier to obtain the financing (e.g., lower interest rates) for the massive investments that are often required by natural monopolies.

A traditional solution to regulating natural monopolies in many countries has been public ownership. Although this eliminates the need for a separate regulatory agency, it is not without problems of its own. In particular, the incentives to engage in abusive monopolist practices are often just as strong for a government bureaucracy as they are for a private firm providing the same good or service. Moreover, it can be argued that there is less (but still considerable) potential for abuse from the balance of power that is attained by separating the monopolist from its regulator.

Since the 1980s there has been a trend towards the deregulation of monopolies in many countries that were, at least at one time, natural monopolies. Measures undertaken have included denationalization and the introduction of competition, particularly in the telecommunications industry.

One of the most promising ways in which competition can sometimes be efficiently introduced into industries that are characterized by natural monopoly is for competing firms to be allowed to provide goods or services via the same infrastructure, i.e., a form of common carriage. For example, different companies can be allowed to run trains over the same network of tracks and share in the maintenance costs of the tracks. Likewise, different producers of electricity can be permitted to use the same transmission network to reach their customers. And competition can be introduced into a wired telecommunications monopoly by permitting new communications firms to utilize the existing trunk lines and share the costs for that infrastructure.

The key element is that access to the infrastructure or network is available to any firm that needs it to supply its product, with the prices that the infrastructure owner is permitted to charge for its use being regulated. It is also crucial to establish (and enforce) minimum standards for the use of the infrastructure in order to ensure interoperability and prevent damage to the infrastructure. For example, to use the same railroad tracks, any operator of trains would have to meet standards with regard to sizes of the railroad cars, train speeds, safety training for crew members, etc.

In some situations it might be necessary for government intervention to break up vertically integrated monopolies (i.e., those which control multiple stages of production and distribution) in order for common carriage to work. For example, in the case of electricity, it might be most efficient to separate the generation of the electricity from its distribution and possibly from its marketing and sales.

Whether the introduction of such competition using a common infrastructure is more efficient than possible alternatives is not always clear. The added costs of the competition, including of introducing it, can be substantial, and the elimination of vertical integration can introduce additional risks. One such cost is the increased cost of finance, which is a key issue for capital-intensive natural monopolies.

Network effects are sometimes associated with natural monopolies, and thus they should be taken into consideration when considering policy regarding such monopolies. A network effect is the situation in which the value of a product to an existing or potential owner or user of it depends on the number of people already owning or using that product. Although network effects are frequently confused with economies of scale, the latter differ in that they are reductions in the unit cost of producing a product that can result from a larger scale of output by a business rather than reduced costs or increased benefits accruing directly to users or purchasers of the product.

An example of situation in which there would be network effects for the product of a natural monopoly would be an urban transportation system, such as a subway or a light rail system. An increase in the number of riders could result in an increase in the frequency of service and/or the addition of new routes. This would benefit existing riders because it would reduce waiting times and/or offer a choice of new destinations.

Another example is telephones on a wired telephone system when such systems were still natural monopolies (i.e., before cell phones became available). As the number of people subscribing to telephone services increased, the value to each subscriber increased because more relatives, friends, businesses, etc. could be called.

It is sometimes claimed that computer software both is a natural monopoly and is characterized by substantial network effects. On closer examination, however, it can be seen that the former is not correct despite the fact that much of the software industry is at present dominated by one large company with a high degree of monopoly power. Regarding the latter, it is true that there are currently large network effects for some types of software as a result of the de facto standards for the interoperability of data andprograms (i.e., for file formats and operating systems) established by the dominant company. However, it can be argued that theseproprietary (i.e., belonging to a single company) standards prevent the full potential of network effects from being realized that would be achieved in a more competitive environment with open standards that could be implemented by all firms that might enter the industry.

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Xülasə

Məqalədə inhisarın ən çox rast gəlinən formalarından biri olan təbii inhisarlar, onların yaranma əsası və başlıca xarakterik xüsusiyyətlərindən bəhs edilmişdir. Həmçinin qısaca da olsa təbii inhisarların dünya praktikasında yaranmış müxtəlif formalarının əsas praktiki cəhətlərinə də toxunulmuşdur.

Резюме

В статье говориться о наиболее распространенной формой монополии в области естественных монополий, а также основные характерные особенности и о основах их начинаний. Кроме того также кратко упоминается о основных практических аспектов различных форм естественных монополии.