

Five axioms of urban economics



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Economics is a science of scarcity and it is bound by rules and principles like other sciences. Arthur O'Sullivan's five axioms of urban economics are the guiding principles for urban economic theory. In this essay, the author will define and discuss O'Sullivan's five axioms of urban economics, and then explain the existence of cities utilizing the five axioms of urban economics.

The Five Axioms of Urban Economics

The first axiom of Urban Economics is stated as prices adjust to achieve locational equilibrium. What this axiom means is that prices change based on the desirability of the area until individuals no longer desire to leave their current occupied area of residence. Locational equilibrium is what keeps Dallas residents living in Dallas. South Dallas and Oak Cliff may be rough areas to live in, but property values are cheaper because of the perceived value of present characteristics of these areas. Down Town, Dallas is an expensive area in which to live, but wages are higher. Fewer people want to live Oak Cliff or South Dallas when compared to Downtown, so homes are priced lower in Oak Cliff or South Dallas than in Downtown. Prices for housing, land, and wages are always adjusting to make urban areas equally appealing. People will not place the same values on all cities equally, but with a multitude of cities and variance in individual circumstances, cities can reach equilibrium.

The second axiom of Urban Economics is self-reinforcing effects generate extreme outcomes. This axiom means that if one type of person or group moves into an area, then that area will become more attractive to the same types of people or groups. Think about places around the Dallas area. Are there areas known for rich people the Dallas-Fort Worth metropolitan area?

What about trailer parks or areas specifically known for high poverty in North Texas are there any that come to mind? Is there any certain street where you might find a surplus of car dealerships, gas stations, or restaurants?

These are all examples that could be considered extreme outcomes. These outcomes happen because of self-reinforcing effects, or changes that lead to similar changes. When a trailer park locates in a city, for example, the area right around that park becomes an excellent spot for a new trailer park, and this creates even more appeal for a third park, and so on. Soon the area has additional stores and services targeted at people living in trailer parks, adding to the appeal for future expansion. The same outcome is true for any group of people where there is a higher concentration or that group, such as African Americans concentrated in South Dallas.

The third axiom is externalities cause inefficiency. An externality is a cost or benefit that is passed on to someone outside of a transaction. There are two types of externalities, positive and negative. A negative externality, or external cost, is an economic activity that imposes a negative effect on an unrelated third party (Urban Economics, 8E). A positive externality, or external benefit, is the positive effect an activity imposes on an unrelated third party (Urban Economics, 8E). For example, if a widget business expanded into a widget factory, then a negative externality of this expansion would be the increase in pollution that a factory would produce. Positive externalities of the expansion would be the improved effect in production of widgets through research and that the laborers' work became easier and less dangerous. Both positive and negative externalities can occur on either the production or the consumption side (Urban Economics, 8E). Externalities

cause inefficiency because they incentivize people to do too much or too little of something.

The fourth axiom of Urban Economics is that production is subject to economies of scale. The higher the volume of production of a firm, the lower the production cost. If the firm makes only one widget it will incur the total cost of buying the needed supplies, research and development of making a widget, and time cost of producing the widget. The cost would be very high. If a widget factory made millions of widgets, it may receive cost reduction for buying supplies in bulk, and through higher production of widgets the production process could be streamlined and cut costs. By principle of scale of economy, the cost of making the millionth widget will be less than the cost of producing the first widget.

The fifth and final axiom of Urban Economics is that competition generates zero economic profit (Urban Economics, 8E). Where there are profits, there are people interested in getting their share (Urban Economics, 8E). This axiom of urban economics says that in real life businesses try to maximize profits by trying to mimic ideal economic model conditions. Firms analyze where to derive profits and wherever profits are found, new businesses with lower prices drive down the prices and the profits for the industry. The result is efficient for consumers, who can buy what they want at optimal prices.

Take our hypothetical scenario: you have complete working knowledge of the production of widgets, the market is profitable, and the starting capital was given to you. Therefore, you open your own widget making business. For most people, the answer is easy. Assuming all widgets are created equal, to be competitive in the market, you charge you lower price than your

competitors charge. In the widget industry where price makes the difference, a competitor might respond by lowering their price as well. You would have no choice but to lower your prices again to remain competitive. Eventually, firms in the widget market will lower price levels to the point where there is no more profit and firms are only covering costs of production. Competition would have created a situation where there is no economic profit and no room for new firms to enter into the marketplace.

Why Cities Exist According to the Axioms of Urban Economics

Since modern society seems to focus on cities, it may seem strange to the modern Americans that cities actually are very young and a new idea in terms of history. Cities are where we work and live, cities host our governments, and cities are where firms choose to be to do their business. Urban Economics by Arthur O'Sullivan States " cities exist because human technology has created systems of production and exchange that seem to defy the natural order...The transformation of a rural society into an urban one occurred because technological advances increased the agricultural surplus, increased the productivity of urban workers, and increased the efficiency of transportation and exchange" (Urban Economics, 8E). Recently in history, society has shifted from an agricultural focus to a focus on industrialization. Obviously, we all could not live in cities or there would be no one to raise crops and ranch livestock. According to the first axiom of urbanization, a locational equilibrium has been established by making land cheaper in the country to offset the lower wages of farming and ranching so not everyone will move into the cities. Thus, land and housing would be more expensive the closer you come to the heart of a city to offset the high wages

available in the urban setting. According to the second axiom of self-reinforcing effects generating extreme outcomes, industrial firms that produce industrial goods will centralize themselves in the city, and farms and ranches that produce agricultural goods will develop side by side in the countryside. The fifth axiom states that firms will develop near like firms and will do so until there is zero economic profit. This situation means that industrial firms will develop in the city and agricultural firms will develop in the countryside until there is no more profit to be made. The fourth axiom of the scaling effect would allow for specialization in both the countryside and the city. This would set up a comparative advantage economy between the countryside and the city where the city can trade their industrial goods for the agricultural goods of the countryside. Cities were born from efficiency, hard work, and ingenuity. Without inventions like the cotton gin or the tractor, Americans might still find themselves living on the farm today. Instead, only 5 percent of the population grows food that feeds the entire country with more to spare; and the rest of us work to produce something worthy of trading for that food or for some other good or service (Urban Economics, 8E). Therefore, cities exist because it is beneficial to produce what you specialize in and use trading firms to lower costs and trade with other cities and areas that may specialize in goods and services desired or needed.

Second Essay Starts

Marginal costs and benefits are utilized as a form of measurement of costs and benefits at a specific level of production and consumption. Everyday individuals, groups, and institutions make decisions based on our marginal

evaluations of the alternatives. They do this by asking questions: “ What will it cost to produce one more unit”, and “ What benefit will be received by acquiring one more unit”? In this essay, the author will define and discuss marginal costs and benefits and their effect on market efficiency in the presence or absence of externalities.

What Are Marginal Costs and Marginal Benefits?

Marginal benefit is the gain you receive for doing anything one more time (Urban Economics, 8E). Marginal benefit is typically measured in terms of revenue or what price level the free market places on the next unit you produce (Urban Economics, 8E). Imagine you are the proud owner of a widget making shop, and you could sell an unlimited number of widgets for 10 dollars, then your marginal benefit for each additional widget you produced would be 10 dollars. Realistically though, there is a limit on the amount of any item you can sell at a given price. If your market is saturated, to sell another widget you may have to lower your price to 8 dollars. Therefore, your marginal benefit for the next widget you produce will be only 8 dollars.

Consumers experience marginal benefits as well, but the value of these benefits are not generally measured by the measurement of revenue. If a customer, values a widget from your store at value laden 20 dollars, based on its perceived value and consumer satisfaction from a purchase of a widget from your shop, then they will buy one. However, once they have one, they will only consider buying a second widget at 20 dollars. If they buy a second widget from your shop, it is based solely on the value-laden perception that the widget’s benefit is worth the 20 dollars. If the consumers

do not perceive that the widget has 20 dollars benefit or use, they will not purchase another widget at the 20-dollar price level. Therefore, if your shop wants the consumer to buy widgets, the owner must either lower the price or offer some other promotional benefit. Consumers' marginal benefit is also referred to as "marginal utility" (Urban Economics, 8E). According to the law of diminishing marginal utility, "as a person increases consumption of a product, while keeping consumption of other products constant, there is a decline in the marginal utility that person derives from consuming each additional unit of that product" (Urban Economics, 8E). As the marginal benefit for widgets declines among your customer base, so does the price they are willing to pay which in turn affects your marginal benefit as a widget producer.

"Marginal cost is the total cost you incur to produce one more unit" (Urban Economics, 8E). Following the example from the previous paragraph, it is the cost to make one more widget. Since, marginal costs are measured by total cost divided by change in output, marginal cost declines as change in output increases (Urban Economics, 8E). The overhead costs of production gets spread out over the increased change units produced. At some point, though, marginal cost reaches full capacity, and if you want to increase production, you will have to buy more widget machines, hire more employees, keep longer hours, and eventually build another site of production. These changes will increase the total cost for making widgets, so your marginal cost will increase. Now marginal cost is going up while marginal revenue is declining, for reasons already discussed. This situation means you are making less profit for each widget.

Market Efficiency without Externalities

If there is competition in the market but no significant, the free market result is efficient and benefits both the producer and the buyer (Urban Economics, 8E). It may or may not be fair since it depends on the existing distribution of market ownership (Urban Economics, 8E). This efficiency is achieved because the maximized quantity of output produced by a perfectly competitive firm results in the equality between price and marginal cost (Urban Economics, 8E). The most optimized efficient market without externalities is Perfect completion market. Perfect competition Market is an idealized market structure that achieves an efficient allocation of resources. In the short and long run, this involves the equality between price and marginal cost (Urban Economics, 8E).

Market Efficiency with Externalities

An externality exists when a third party who is not directly involved in the buying or selling of the goods or service incurs a cost or benefit (Urban Economics, 8E). In other words, an externality arises when a third party to a transaction experiences addition costs which can be either negative or positive due to transactions between buyers and sellers(Urban Economics, 8E).

Negative externalities occur when the consumption or production of a good causes a harmful effect to a third party (Urban Economics, 8E). For example, the pollution produced with a sports car, or traffic jams due large number of car owners. If a good has a negative externality, then the cost to society is greater than the cost consumer is paying for it (Urban Economics, 8E). A positive externality exists when the private benefit enjoyed from the

production or consumption of goods and services are exceeded by the benefits as a whole to the society. In this scenario, a third party other than the buyer and seller will receive a benefit because of consuming the good (Urban Economics, 8E). An example of positive externalities is the increased value of the neighborhood when you refurbish the outside of your house.

Externalities are not usually fully reflected in prices. Externalities are regarded as a form of market failure. The costs and benefits related to externalities are not typically included as part of the decision making process when making market decisions. Negative externalities because too many goods and services are being made available to the market and being consumed at ill efficient amounts (Urban Economics, 8E). Positive externalities cause too little of a good or services to be made available to the market which cause inefficiencies in consumption of goods and services by consumers (Urban Economics, 8E). the price for the good and the quantity produced are lower than the market could bear.

When positive externalities occur in a free market, consumers pay a lower price for goods and services and consume lesser quantity of those goods and services to socially efficient levels (Urban Economics, 8E). When negative externalities happen in a free market, producers do not pay the additional external costs that exist so the costs are passed on to society (Urban Economics, 8E). Thus, producers have lower marginal costs so more of the products and services are bought than the efficient amount (Urban Economics, 8E).

In order to get consumers to consume more of goods and services that have been affected by a positive externality, a government subsidy can be given to the public (Urban Economics, 8E). The subsidy will increase the marginal benefit they receive when they consume the good. All those who receive the external benefits from the consumer goods (Urban Economics, 8E) can pay for the subsidy. The subsidy will increase the marginal benefit they receive when they consume the good and all those who receive benefits from the positive externalities (Urban Economics, 8E) can pay for the subsidy.

Negative externalities result in a lower free-market output. In order to make the market produce the optimal amount, we must impose a government regulations or taxes. This is called “ internalizing the externality”, and forces those involved to pay for the negative externalities (Urban Economics, 8E).

In conclusion, through this essay the author has learned many things about regulated and unregulated markets. Both have their costs and benefits, and society should be very prudent when entering to the market place because not all the cost is seen.