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*"The Intersection of Crime and
Technology on Education"*

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Abstract

This paper will explore the intersection of technology and education on crime and employment. The research will inform policymakers about the costs and benefits of technology centers and research parks and reveal how promotion of education and technology affect the decision-making processes of crime and employment. This will be done by looking at crime and education around technology and research parks and their benefits, both locally and nationwide. A local perspective is important because many of these parks are in high population areas and are more likely to experience higher rates of crime. A national perspective is important because the parks provide incentives for people to migrate and gravitate towards them.

Introduction

Education continuously changes over time and does not have a defined form. As the number of ways to verbally explain information increases and the value of that information changes, there will be a need to have a higher quality of specialized instruction and equipment for delivery of education. This equipment will come in varying degrees of technology. When education becomes more specialized and more levels of knowledge are needed, more technology is needed. This requires the local economy to have the capacity to nurture this specialized zone or center. If the economy is lacking, policies may be required for the growth or the initialization of one.

The performance of the economy is directly related to the crime rate. The way to compare the relationship is through the industries that bring more high-end incomes and those that bring low-end incomes. It has become a generalized rule for the income of cities that the taxes are meant to be on nonresidents or high-income earners. These are established through the planned development of the city. There are countless different economic and urban planning theories that can be followed when developing land or enforced through polices. The majority believe in neighborhood life cycle theory or alternative neighborhood-change theory.

Neighborhood life cycle theory is the theory that neighborhoods, localized areas, or cities follow a set cycle, and policies should be focused on that framework. The cycle is mostly known by these four steps: growth, stability, decline, and renewal. This could also be referred to as the part of morality, fertility, and migration if you stand by the urban ecology theory. Growth can happen in a myriad of different ways including the movement of people, the increase in business transactions and business activity, or growth in tax income. Stability refers to the maintaining of activity when growth matches decline and do not exceed decline. The decline is when the area can no longer maintain itself and assets are leaving faster than they are coming in. This state is reversible and can lead to a renewal of the area when appropriate and applicable policies are set up.

On the same coin, there is the alternative neighborhood-change theory which is more focused on asset-based planning than intervention-style planning. This asset-based planning can be done by enacting fiscal incentives and fiscal deterrent polices. Both focus on controlling when each step happens, the severity of each other, and the continuation and growth of the city. The continuation and growth of the city is something that every urban planner should take into consideration.

The Deterioration of an Economy

Economies are the beating hearts of population centers, and if the people living in those areas leave the economy, it beats closer to death. Metro-shifts are the term used when referring to mass migrations out of rural areas into cities and then cities into suburbs. During the past century, these population shifts were caused by four main situations: postwar mortgage programs, urban highway building, urban renewal, and public regulation of land use. This was mostly observed after the Second World War and the birth of the suburbs.

These metro-shifts are then divided into more specialized terms and concepts. Deindustrialization and suburbanization are the first terms that were developed to specifically identify the metro-shifts that were happening at the time. Deindustrialization is mostly caused by the exporting of industrial jobs to foreign competitors – in other words, globalization. This greatly affected the rust belt, where the industrial sector was the main producer of jobs and taxes for those areas. When the jobs left the areas, people looked to the more populated center for job opportunities. These shifts were termed suburbanization. The suburbs exploded in population, which caused housing prices to increase, causing displacement of original residents, and an increase of evictions. To solve the increase in house abandonment, gentrification policies were enacted. This was the process of repairing and rebuilding buildings in a deteriorated area, this usually displaces the poorer residents.

Metro-shifts have a plethora of different effects on the areas where they happen. There is an increase in the tax base, economic investment, and a positive influx of civilians. This increase in the tax base allows the local government to increase funding for social programs. The increase in population necessitates more engagement in fiscal, social, and development imperatives. This includes the way you levy taxes, what type of products and services are levied, which land is developed, how much land is developed, the level of property values, and the management of government resources and government agencies, all of which maintains and improves the lives of citizens.

When a metro-shift occurs in an industrial population center, the effects are visible. Firms affected by these shifts have fewer incentives to improve their factories or change their outputs. This causes the number of manufacturing jobs to decrease, which also decreases tax revenues. The city then decreases the social work it can do, thus causing more people to leave. When people leave, more properties are left abandoned or derelict. This develops into a dangerous cycle, very fast.

On the other side when a metro-shift occurs in an urban/suburban area and people start moving away, the city or town starts to diminish. The people who are financially able to leave will leave; this is known as urban flight, and when those that do not feel like their assets are secured and move their assets, this is referred to as capital flight. Both of these events worsen the situation for those stuck in the cities. This will continue to happen in a diminishing city until it becomes unsustainable, and the city defaults. Without higher-income jobs, the cities' infrastructure that supports the lower-income individuals will collapse under the weight of their social and financial responsibilities. The abandoned properties and the inept ability to support its citizens will escalate the city's downfall.

To curve the metro-shift in the city's favor, leaders will try to implement revitalization projects. This includes urban renewal projects that encourage gentrification or suburbanization. Undeniably these metro-shifts will affect other cities in the surrounding areas, but the cities enacting these policies are trying to keep their city alive. It is a continuous battle to balance policy, tax base, and human capital.

The Effects of Revitalization

Revitalization is the most sought-after effect for a city that is in a freefall decline. There are several ways that revitalization can occur. A few are: (1) growing a pole or center, (2) through government intervention and government projects, and (3) giving the initiative to nongovernment organizations. These ways are primary to serve as a steppingstone for the cities to make a turn-around. There are downsides to go through *revitalization*. These include an increase in property crime rates, deterioration of existing culture or community, an increase in evictions, and a rise in property values. It is important to recognize that some of these effects have aspects that are considered good for businesses and for cities that want the city to change. For example, higher property values allow people to sell or lease their land for more and push people to pay more for their property. For the government this allows them to sell the property for more and increase property taxes.

The crime rate varies between different towns and cities. There are few similarities between that can be stopped, they are high violent crime rate is associated with places with low-wage earning and the high property crime rate is associated with places with high-wage earning. Unemployment plays a factor in this. A good example is provided by comparing Dallas, TX and

Extracted December 2019	Dallas, Texas	Houston, Texas
Average Violent	32.57	42.5
Average Property	45	55.3
Average Crime Rate	38.78	48.9
Unemployment	3.6	4.2

Houston, TX. This relies on the culture of the places being compared have relatively the same culture. This also requires looking at other statistics to get a narrower idea.

When referencing growing an economic pole or center, I am referring to the growth pole/growth center theory. This is closely related to Walter Christaller's theory of central places. The first theory states that economic growth takes place around a cluster of industries. These core industries develop interlocked with each other indirectly or directly, while secondary industries are the sectors that provide for the core and increase in economic diversity. For example, in California, Silicon Valley is a cluster of industries relating to computer software and computer programming. Then the consumer service industry starts to grow to service the employees and they feed into each other.

The second theory, *central place theory*, is about the relationships between the size, the number, and the geographic distribution of cities and different centers of population. The theory has the main function to describe what goods are supplied and what goods and services to be

supplied to the surrounding population. This is based on the concept of how far the customers are willing to go to purchase goods and services. This is often seen with the taxation habits of cities.

The government can enforce policies or enforce certain taxes that promote land development. Local governments mainly use two tax methods: sales tax and income tax. Sales tax encourages commercial development in the corners of the city to maximize the tax burden on nonresidents. While income tax encourages high-end residential areas to be built and maintained around high-end offices.

Another important set of policies can be broadly described by “broken windows theory.” Broken windows theory states that visible signs of crime, anti-social behavior, and civil disorder create an urban environment that encourages further crime and disorder, including serious crimes. To make policies around this is to keep constant maintenance on properties, or to encourage the quick trading of properties. These choices are deeply dependent on the industries that the city wants to focus on.

There is the option to empower nongovernment organizations to control the development of the industries within their city. This would require limited bureaucracy, funding, and technical assistance to these organizations. There are disadvantages to this, mostly the lack of a comprehensive plan. Also, this can systemically exclude the less politically connected organizations from deciding what should be prioritized and where. This for cities that want to be focused on community or than specified industries, allowing the diversity of industries to happen more quickly.

Special Economic Zones

Special economic zones have been used to increase business activity in an area. The zone can offer a multitude of different benefits to these businesses, but the general outlook done by the World Bank has the zones required to export eighty percent of their output, but the host governments have the final say in much output can go to local markets. There is little research done about other special economic zones outside of Asia. Then again, the research that has been done shows that they mostly fail because of decreasing labor standards, low wages, poor environmental standards, and being cost-ineffective. So, if a special economic zone is set up in an unstable environment, there will need more resources to be pulled into the project.

SEZs have a complicated history of working and failing in different parts of the world. In South Asian countries, the history of success could be found within the financial sectors of the continent. These provide higher wages, training, and higher tax incomes to the city and its people. This depends on a few factors including but not limited to the type of industry that will be involved, the geopolitical region where the zone is located, and what policies the government will enforce inside of the economic zone and outside of the zone. When done properly these zones can encourage domestic development and provide needed investment into the local economy.

The domestic businesses located within these zones are expected to benefit from the larger companies entering the local economy. This is not the case in a majority of case studies, the multinational companies brain drains from the local economy and instills loyalties into the

employees to train to keep them on board. So, when the company leaves the zone, they will try to carry their employees with them. If the company was there to capitalize on the low-skilled labor, then the local economy will collapse if they leave. This can be seen with the Route 128 in Boston, and with Silicon Valley.

In the situation of Silicon Valley and Route 128, the employees trained by the tech giants leave the companies that employed them and start-up other companies within the local vicinity. In Route 128, the employees are trained and then are sent to areas outside of the local vicinity or kept within the zone. This stifles the local economy because companies are impacting the economy locally. This becomes a problem of economies of agglomerations versus economies of scale.

Economies of agglomeration focus on properties and research that spilled in from larger companies. This gives them assets that allow them to serve their local economy far more effectively than economies of scale. Economies of scale focus on imports and exports to maximize production and profit efforts. With economies of scale, your products may be made for a higher profit, but you root up local businesses. On the other hand, economies of agglomeration can cause goods and services to be limited to a standardized few.

The types of economies are necessary to deal with when setting up a special economic zone because you will be setting up an area with different rules than the rest of the surrounding areas. When dealing with economies of agglomeration and economies of scale, you have to be careful about which style of economy you allow to rule within your community, due to the varied consequences of each.

Research / Community Technology Centers (CTCs)

One common way for cities to jumpstart core industries is financing or enforcing policies that build up a highly specialized zone. These areas usually have an industry focus and rely heavily on the city's economy to thrive. The city will try to build these zones close to the center to keep other cities from enacting policies that will drag them into other tax plans. As that highly specialized zone will be seen as a key feature of that city – for example, the well-known Silicon Valley in California and Automation Alley in Michigan. These zones will usually be called technology centers or corridors.

The primary purpose of a technology center is to serve as a place for people to engage in communication, access the Internet, and/or to experience activities that they did not normally participate in. For these centers to be successful, creativity has to be more in supply than demand. For this reason, they are located in almost every country in some form or another. The different variations include information kiosks, info centers, community-multimedia centers, village knowledge centers, school-based telecenters, and many other names.

The plans for the centers are flexible and responsive to the different criteria that the location requires of them. This allows them to be very specialized or very generalized. Due to their customizable nature, they can be used in rural, urban/suburban, wealthy, or poor areas. The problem that you run into is the personnel that is accorded to run the centers and the ability to store and access the information that is gathered.

To properly keep the center running, it must provide some simple services and to keep information. This includes identifying the value of information, identifying information gaps, why that information is useful, how to access that information, documenting local knowledge. By providing simple services you can increase the demand for complex services. This can also be used to identify and develop the complex services that the local demand is requiring.

There are two different ways for these centers can operate, profitable and non-profitable. Profitable centers are usually used for only certain groups of people or specific professions. There are more public and profitable centers, these centers are mostly referred to computer cafes or computer bangs (Korean) and they are popular in East Asian population centers. They focus on providing their customers with high-speed internet and high-end computers. Then there are the community computer cafes that are located in more rural areas in rural Asia and rural Africa. Profitable and non-profit computer cafes will be an integral part of emerging and developing economies.

When you start to scale up these businesses (profitable or non-profitable) there are a few things to be wary of, including functional scaling-up, organizational scaling-up, and quantitative scaling-up. Functional scaling-up refers to the increasing scope of activity. This usually happens when a nongovernmental organization uses the center for their work or to increase their agenda. Organizational scaling-up refers to an initiative to improve the effectiveness and efficiency of an organization's core activities. This is the result when a national network of centers forms, allowing for bigger projects. Quantitative scaling-up refers to the number of people connected through a center. The varying amounts of scaling-up depend on the center, as many of the locations are not single properties but counties or geographical areas – for example, consider Dallas's Telecom Corridor or Houston's Texas Medical Center. These properties are given more privileges than others because they enhance their core industries. Scaling-up is very dependent on the center or area.

Conclusion:

Crime and unemployment/employment affect the movement of populations, which affects the availability and quality of education and technology that is available for public consumption. To truly have a prosperous region, local planners, and government officials must balance their duties between enacting policies, implementing taxes, and providing incentives for nongovernment organizations. If there is too much bureaucracy and NGOs are not available to clear obstacles in an orderly fashion, progress will be slow. Urban planners know that cities cannot continuously develop land without help from outside city limits.

Community Technology Centers can slow down the declining curve. They are meant to be a product of the city and investments from industries because the industries will decide what skills are necessary and will benefit the economy. Due to this fact, CTCs are incredibly customizable and allow businesses or communities the flexibility to grow or contract if needed. Through the development of these centers, a cities' industries (and thus its economy), are given room to grow. This growth reduces incentives for metro-shifts. As more cities seek this similar development, this trend will be followed on a county, then state, and finally national level.

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