



2014 HAWAII UNIVERSITY INTERNATIONAL CONFERENCES
SCIENCE, TECHNOLOGY, ENGINEERING, MATH & EDUCATION
JUNE 16, 17, & 18 2014
ALA MOANA HOTEL, HONOLULU, HAWAII

CREATING ECONOMIES OF SCALE FOR ECONOMIC GROWTH: A PANACEA FOR WEST VIRGINIA'S ECONOMIC GROWTH

JOSHI, TULASI R.

FAIRMONT STATE UNIVERSITY
DEPT. OF BEHAVIORAL SCIENCE

Tulasi R. Joshi
Dept. of Behavioral Science
Fairmont State University

Creating Economies of Scale for Economic Growth: A Panacea for West Virginia's Economic Growth

Synopsis:

Industrial revolution laid foundation for the current scope of economies of scale and world urban growth which are intertwined with productivity and profits. West Virginia with declining population and lack of job opportunities has yet to take advantages of this mechanism. This proposal examines how economies of scale can be achieved in the state of West Virginia to create economic growth in the context of regional urban planning.

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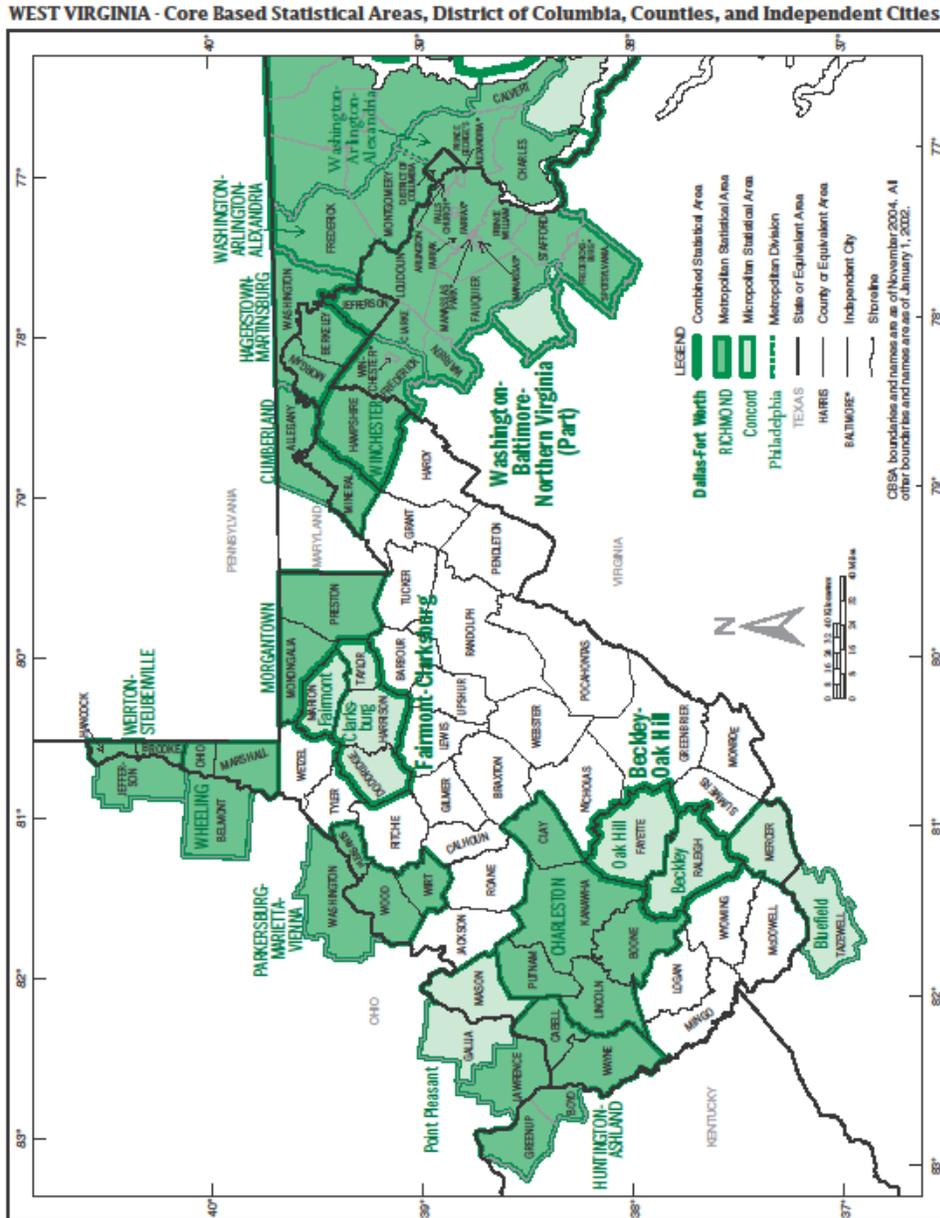
Tulasi R. Joshi, Ph.D.
Fairmont State University
Fairmont, West Virginia, USA

Abstract: Industrial revolution laid foundation for the current scope of economies of scale and world urban growth which are intertwined with productivity and profits. West Virginia with declining population and lack of job opportunities has yet to take advantages of this mechanism. This paper examines how economies of scale can be achieved in the state of West Virginia to create economic growth in the context of regional urban planning.

Introduction: Industrial revolution followed by the computer revolution increased the scope of economies of scale, in which the urban growth exploded not only in the western world but also in the third world. Increasing productivity has been a major human goal throughout its history in the pursuit of prosperity or making money. Productivity is the focal point of all political/economic systems whether it is democracy, capitalism, socialism or communism. It also encompasses education, technology, research and development. In this paper, the role of urbanization is examined in terms of how economies of scale can be achieved in the state of West Virginia to create economic growth and increase productivity in the context of regional urban planning. To reach this goal, this model could be beneficial to less developed countries of the world and to less developed states of the U.S.

West Virginia is surrounded by urbanized states of Ohio, Pennsylvania, Maryland and Virginia and is divided into 55 counties with a number of MSAs (Figure 1.), but the areas of these SMSAs are rural in nature without large cities as its largest city is the capital city of Charleston with a population of only 51,000.

Figure 1. West Virginia's MSAs



WV MSA Map Source:

U.S. DEPARTMENT OF COMMERCE Economics and Statistics Administration U.S. Census Bureau

As reported in the following website:

http://www2.census.gov/geo/maps/metroarea/stcbsa_pg/Nov2004/cbsa2004_WV.pdf

Some observations: Mostly economic development is associated with the degree of urbanization. For example developed countries have a significantly high level of urbanization as compared to less developed countries (See Table 1 below for some selected countries).

Table 1. Per Capita Income and Urbanization of Selected Countries¹

Countries	Per capita Income 2013 Estimate ¹	Urban % 2010/2011	Total Population 2014 Estimate In Million
Singapore	60,400	100 (2011)	6
USA	52,800	82 (2010)	319
Japan	37,100	91 (2011)	127
Germany	39,500	74 (2010)	810
China	9,800	50.6 (2011)	1,366
India	4,000	31.3 (2011)	1,236
Sudan	2,600	33.2 (2011)	36
Nepal	1,500	17 (2011)	31
Afghanistan	1,100	23.5 (2011)	31
Somalia	600	37.7 (2011)	10

¹Source: The World Fact Book as reported in the following websites:

<https://www.cia.gov/library/publications/the-world-factbook/rankorder/2004rank.html>

<https://www.cia.gov/library/publications/the-world-factbook/fields/2212.html>

<https://www.cia.gov/library/publications/the-world-factbook/rankorder/2119rank.html>

The same is true in the U.S. states. In the prosperous states, as compared to the less prosperous states such as West Virginia, not only the urban population percentage is high reaching up to 95 percent in

California (Table 2 and Figure 2), but also they have developed mega cities called CMSA (Consolidated Metropolitan Statistical Area) with a population as high as over 23 million for New York CMSA and over 18 million for the Los Angeles CMSA with city population over a million for a large number of cities.. The prosperous states surrounding West Virginia, have CMSAs with population over 3.5 million. In addition to CMSA, they also have urbanized areas with a population of more than a million. In comparison, the urbanization level of West Virginia and its less prosperous peer groups looks pale. In West Virginia the two largest SMSAs, Huntington-Ashland and Charleston have a population of only 304,000 and 225,000 respectively with a large number of population from rural areas and their primary cities population merely about 50,000 each. From this observation it is obvious that the low level urbanization causes low level productivity or economic development and vice versa.

Table 2. Per Capita Income and Urbanization of Selected U.S .A. States

States	Per Capita Income 2010 ¹	Urban % ² 3012 1970	Unemployment Rate , Mar 2014 Estimate ³	Total Population 2012 Est ⁴	Total CMSA Population ⁵ 2010
New York	52,000	87.9 85.7	6.9	19,570,000	23,347,000
California	45,000	95.0 90.9	8.1	38,041,000	18,317,000
Virginia	47,000	75.5 63.2	5.0	8,186,000	9,341,000
Maryland	52,000	87.2 76.6	5.6	5,885,000	9,341,000
Pennsylvania	44,000	78.7 71.5	6.0	12,764,000	7,144,000
Ohio	39,000	77.9 75.3	6.1	11,544,000	3,503,000
Kentucky	35,000	58.4 52.3	7.9	4,380,000	
Arkansas	35,000	56.2 50.0	6.7	2,949,000	
Mississippi	33,000	49.4 44.5	7.6	2,985,000	
West Virginia	34,000	48.7 39.1	6.1	1,855,000	

Some Additional MSA Population: CA (4,274,531 + 4,115,871 + 3,001,072 + 2,109,832 + 1,819,198), PA (2,351,192), OH-KY (2,155,137), OH (1,773,120), VA (1,658,292 + 1,225,626), KY (1,244,696), NY (1,034,090)⁶

Sources:

¹ Bureau of Business and Economic Resear, Revised 4/2/13

<http://bber.unm.edu/econ/us-pci.htm>

² US Census Bureau (Note: Urban population percentages are not directly comparable over time due to changes in definitions and criteria for delineating urban areas) as reported in the following website:

<http://www.icip.iastate.edu/tables/population/urban-pct-states>

³ Bureau of Labor Statistics as reported in the following website:

<http://www.bls.gov/web/laus/laumstrk.htm>

⁴ US Bureau of the Census as reported by Infoplease in the following web site:

<http://www.infoplease.com/ipa/A0004986.html>

⁵ City-Data.com webste:

<http://www.city-data.com/forum/city-vs-city/1816118-2013-msa-csa-definitions-so-2013-a.html>

⁶ US Census Bureau as reported by Weblists in the nfollowing web site:

<http://www.iweblists.com/us/population/MetropolitanStatisticalAreaPop.html>

Table 3. Populations Over 15,000 of West Virginia Cities, 2010

West Virginia	1,852,994
Charleston city	51,400
Huntington city	49,138
Parkersburg city	31,492
Morgantown city	29,660
Wheeling city	28,486
Weirton city	19,746
Fairmont city	18,704
Beckley city	17,614
Martinsburg city	17,227
Clarksburg city	16,578

Source: US Bureau of Census as reported byTogether We Teach in it following website:

<http://www.togetherweteach.com/TWTIC/uscityinfo/48wv/wvpopr/48wvpr.htm>

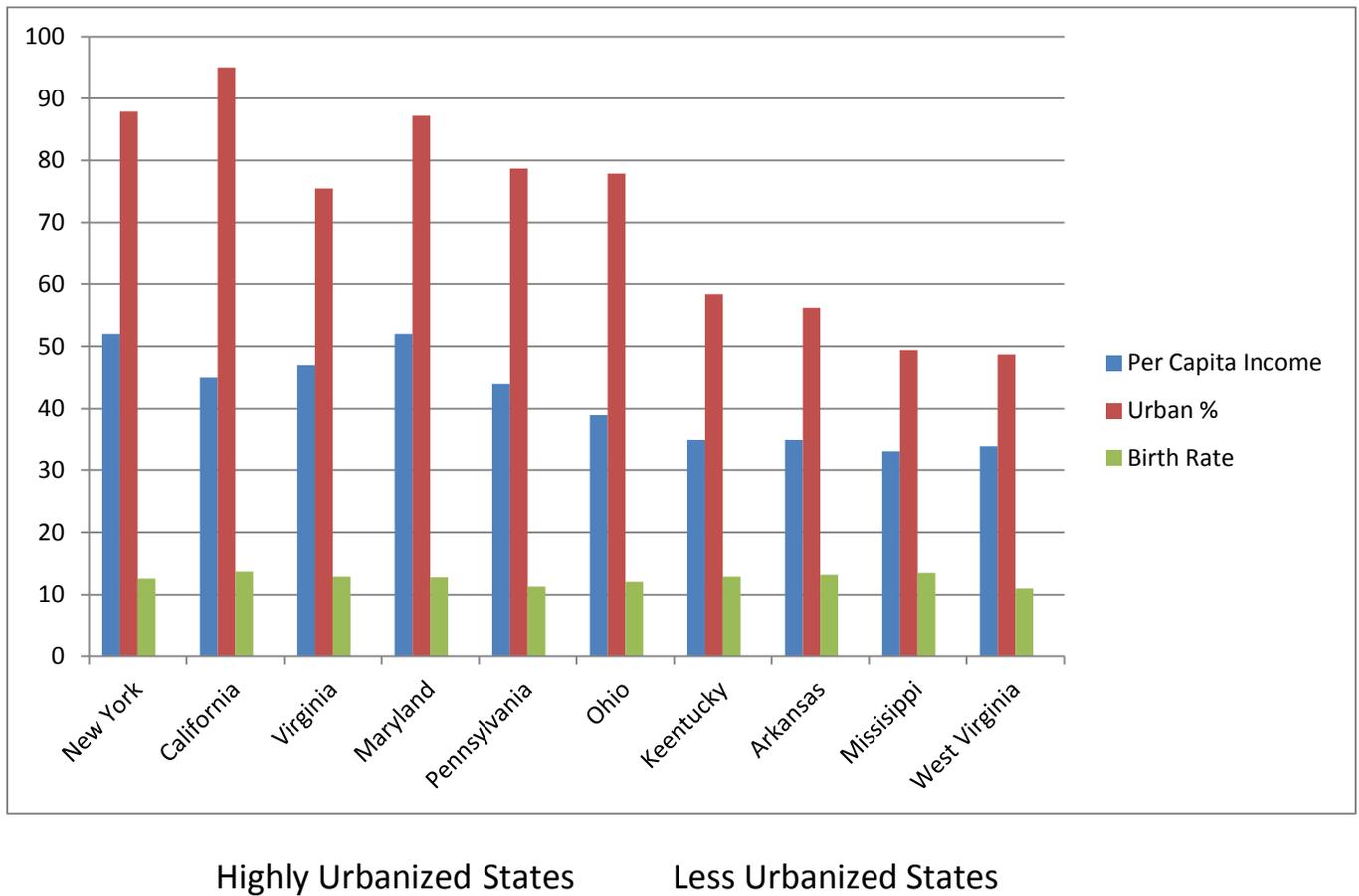
WV MSA Map Source:

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As reported in the following website:

http://www2.census.gov/geo/maps/metroarea/stcbsa_pg/Nov2004/cbsa2004_WV.pdf

Figure 2
Per Capita Income in Urban Population Percentages and Fertility Rate
Of Selected States



West Virginia consists of 10 MSAs (Metropolitan Statistical Areas) that were created from 2010 census; but they do not have the economic clout of the SMAs that contain large cities of a million people or more.

Some may argue that it becomes like the chicken and egg story—which came first. Urbanization creates economic development or economic development increases level of urbanization, and thereafter the process creates spiral (multiplier) effect until it reaches the equilibrium stopping the multiplier effect.

Places like New York City have been naturally endowed for attracting business and people thereby becoming a global city. Other places like West Virginia are not so naturally endowed to be prosperous. West Virginia's basic economy for some time has been coal mining. That activity has been on the decline. Is it possible to create an environment that will help increase productivity thereby becoming competitive at least in the regional level? The answer to this is yes. It can be done in the frame work of urban regional planning.

Here the focal point is to be competitive in productivity in the regional, national and global market. The low level of urbanization is hurting West Virginia to be productive and competitive; so it is important to understand how urbanization helps increase productivity. Some of the advantages from urbanization are briefly listed below.

1. **Economies of Scale:** As the size of operation increases especially with the use of high technology, cost of doing business, production, services, distribution, procurement, etc decreases. Without a large market, economies of scale cannot be achieved. We all know about the advantage of bulk purchases. For example, as a result of economy of scale, EU has been progressing; big chain enterprises such Wal- Mart, Amazon.com and McDonald have been an icon of success. Lowering cost means increasing productivity.
2. **Infrastructure Cost Reduction:** When a large number of people live close together in a large city, cost per person for infrastructure such as utility lines, roads and reading meters declines.

3. **Economic Threshold:** As the size of population increases in a community, number of variety of business and their number increases thereby creating more jobs and sales.
4. **External Economies:** Businesses and city residents benefit from a large city environment enjoying many things such as police protection, water lines, gas lines, opera house, professional football games, etc.

West Virginia's Urbanization and Economic Situation: From Table 2 and Figure 2, it is obvious that the income level and the level of urbanization are closely associated. The states with higher level of urbanization have higher per capita income, and the states with lower level of urbanization have lower per capita income. In addition, the states with upper level of urbanization have the benefit of large cities in sizes of 3 million to 10 million, thereby having greater benefits of urbanization mentioned above. These states contain large urbanized areas with a CMSA population from about 3 million to as high as about 24 million (Table 1). More than half of the population of these states has been concentrated in one or two urban agglomerations thereby getting greater degree of benefits from higher degree of urbanization. On the other hand, the states with lower per capita income, including West Virginia have very low level of urbanization. The biggest city of West Virginia is its capital city Charleston with a population of merely 51,000 and its largest SMSA is Huntington-Ashland with a population merely above 300,000 that includes a large number of people from rural areas, thereby not having a good impact on the economy since all the population is not in the urbanized area.. It clearly reveals the low level urbanization of the State. With a such low level urbanization, it is not surprising that the per capita income of neighboring prosperous peer states is considerably higher by 14.7% in Ohio, 29.4% in Pennsylvania, 38.2% in Virginia and a whopping 52.9% in Maryland Table 1 and Figure 1).

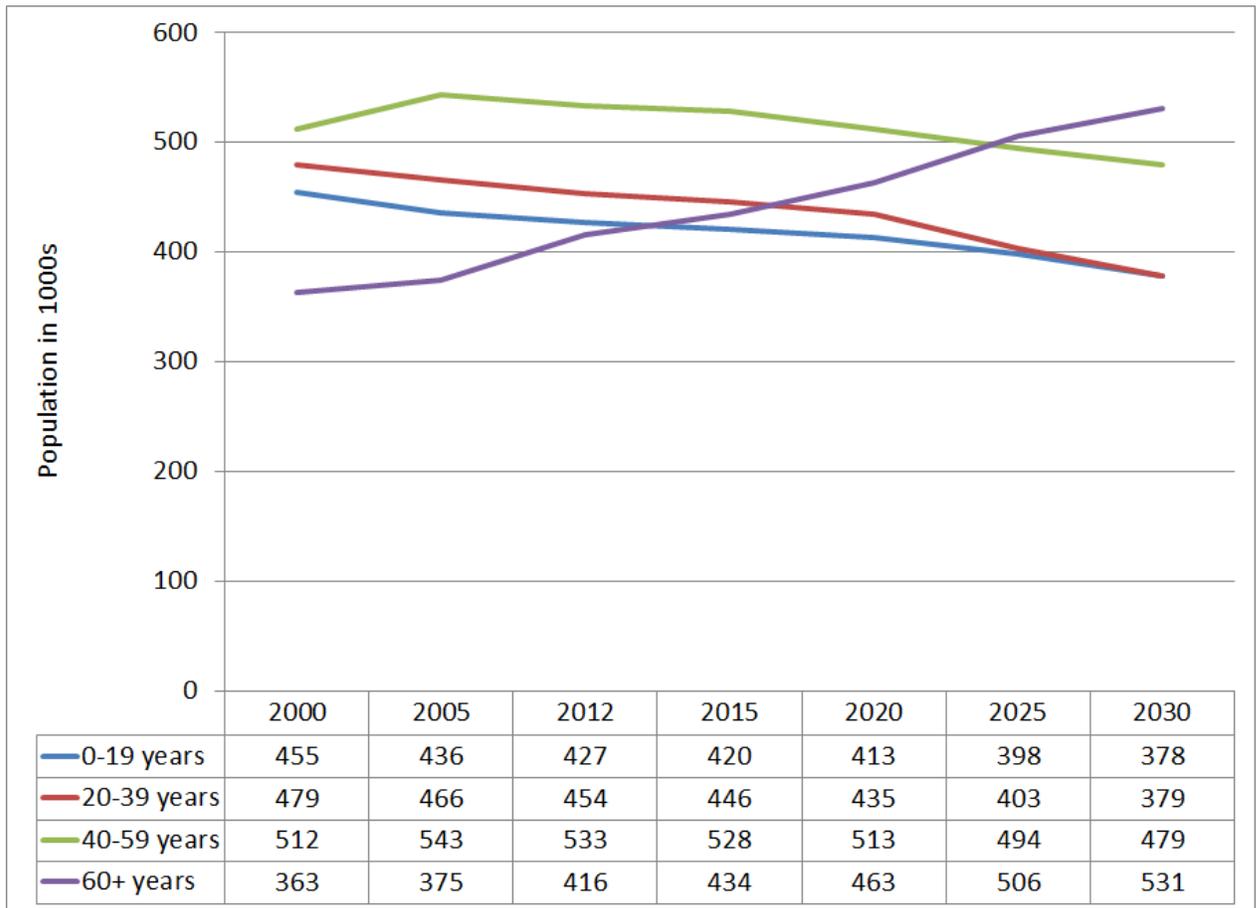
Solution: The national trend is that employment in the tertiary sector is on the rise being over 80% of the labor force whereas employment in the secondary and primary sector is on the decline. Urbanization plays a crucial role to create jobs in the tertiary sector, and West Virginia has to realize this fact that the only way to create more jobs and economic growth is through long range urban development planning since large cities have not been developed in the state naturally as they have in other surrounding states. Without urbanization containing large cities, aforementioned advantages cannot be accomplished. No wonder people are flocking towards cities to increase their productivity. As mentioned earlier developed countries and prosperous U.S. states have reached a very high level of urbanization, and the Third World countries are also on the move. There is no question that West Virginia needs to increase its level of urbanization; but it cannot happen in a year or so. It needs long range planning like an investment strategy. It is almost like a poor person trying to climb an economic ladder

The urban population of West Virginia is below 50% (48.7%), which was the level of the U.S. in 1920. Currently the U.S. urban population is 82%. This means the state has a lot of catching up to do in this respect. But the urbanization level of the state is not increasing naturally. Of the 5 largest incorporated places, only Morgantown, a city of only 29,000 has experienced growth, other cities have declined. There has been a growth of population in eastern panhandle area because of the impact of the DC metropolitan growth and a few other counties. But this isolated growth hardly makes any dent to create a competitive urban agglomerations in West Virginia. The population of the state declined from 2,005,053 in 1950 to the 2012 estimate of 1,852,994. Although it has been steadily increasing from a low of 1,793,477 in 1990, it is projected to be 1,833,535 by 2030 according to the Bureau of Business and Economic Research, College of Business and Economics, West Virginia University March 2014

release, which is less than the 2012 estimate. This means no per capita income increase relatively. But this bleak picture can be reversed with a long range regional urban development planning.

Planning for Two Large Metropolitan Areas: . West Virginia does not have advantages of large cities/urban agglomerations for economic growth and creating more jobs. Large urbanized areas are not going to be formed naturally. Cities grow mainly through rural-urban migration. But this is not happening in West Virginia; as a matter of fact, the state has been a feeding ground to cities outside the state since there are not enough jobs in the state to employ young people entering the labor market. As a result the percentage of the young generation is declining and the percentage of the old generation is increasing (Figure 3). This has caused one of the lowest total fertility rates in West Virginia of 1.83, the average total fertility of the U.S. was 1.93 in 2010. The state also has lowest birth rate of 11.0 among the selected 10 states (Figure 2). For these reasons, the population of the state has not increased in a significant manner for the last 60 years. The state population reached an all-time high of 2 million people in 1950, and has stabilized in the range of 1,800,000 for over 50 year which is projected to continue to be about the same to 2030.

Figure 3. West Virginia Population Trend by Age Group

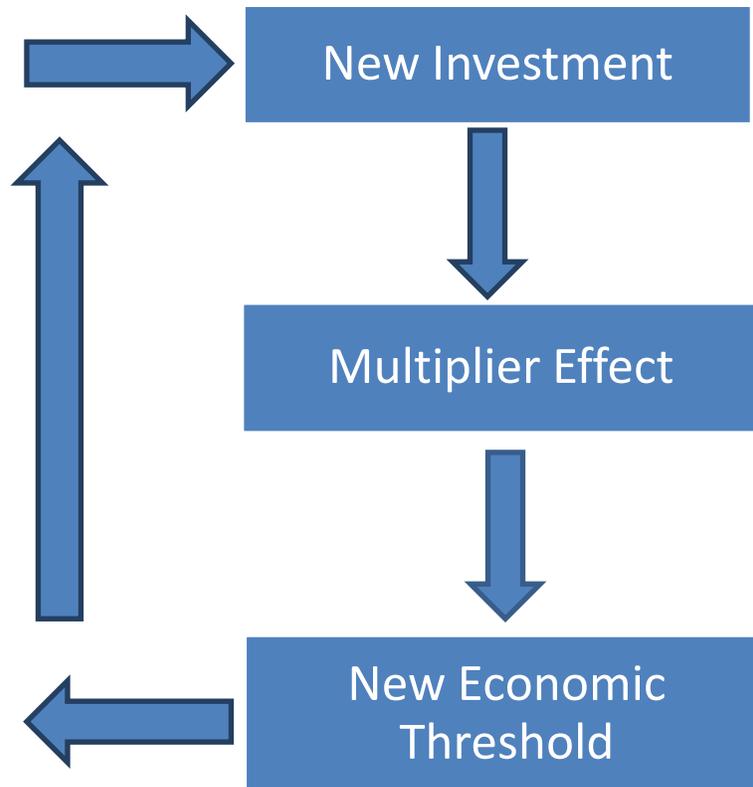


Source: U.S. Census Bureau as reported in the following website:
http://www.aoa.gov/AoARoot/AoA_Programs/HPW/behavioral/docs2/West%20Virginia%20Epi%20Profile%20Final.pdf

Growth of West Virginia can take place only if the state can be competitive to other states. The state cannot be competitive to attract business and people without large urban agglomerations. But the large urban agglomerations have not formed naturally. So a shot in the arm by the state is essential for the economic health by working towards the creation of large urban agglomerations. To do this, the state should give a priority by applying different means such as federal, state and private programs for the growth of two urban areas--one in the north and one in the south so as to take advantages of urbanization and increase productivity and employment.

West Virginia population is only 1.8 million (large enough for one good size city; with this population, two large urbanized can be planned of a million population each. One in the south where Charleston and Huntington are the two largest cities with a population of only about 50, 000) each, the second largest university of the state and couple other smaller universities.. These two areas within 60 miles connected by the interstate 64 also already have MSAs with a population of 280,000 and 592,000 respectively. The large percentage of rural population in the SMSAs in this area, however, gives a misleading impression of the degree of urbanization. The other one is in the north central part of the state, the Morgantown-Clarksburg area that has experienced some population growth, with two universities and high technology companies, but not enough to make a significant contribution on its own to make a large urban agglomeration. Here the goal is by using this resource base of these two largest urbanized areas and other federal, state and local resources to create two large urbanized areas of a million populations each. The State of West Virginia should make a long range commitment to prioritize these two areas for making investment by introducing new programs, transferring programs and activities gradually from other areas to these areas. Here the whole idea is to centralize state activities in these two areas. These two areas consist of several rural counties. But the expansion and creation of its programs should be as close as possible to the center of the primary cities to make effectiveness of urban agglomeration maximum so as increase its productivity. Without having an urbanized area of at least a million people, aforementioned advantages of urbanization cannot be accomplished on a competitive scale. If the state gives priority to make new investments in these two areas, the circular growth will kick in through multiplier and new economic threshold effects which will lead to new investments thereby accelerating its contribution to increase the size of these two urban areas to a million each (Figure 4). As the snowball effect takes place because of the circular growth and other new investments, the size of these two urban areas will increase at a faster rate than one can think.

Figure 4. Circular Urban Growth



No wonder people are flocking towards cities to increase their productivity. As mentioned earlier developed countries and prosperous U.S. states have reached a very high level of urbanization with large cities, and the Third world countries are also on this move. There is no question that West Virginia needs to increase its level of urbanization to increase its productivity competitively; but it cannot happen by itself.

It fact, the two largest cities of the state that are in the southern part of the state are not growing; a county in the middle of the state has experienced a large growth although not in large absolute number in the last decade, is not helping to make an urbanized area of a million in the south or the north..

Without having a million population urbanized area, the State of West Virginia cannot be competitive to



the surrounding states, and West Virginia will continue to be a rural area for the rural-urban migration for outside states..

Conclusion: Without large urban agglomerations, West Virginia cannot be competitive in the national or regional capitalistic system to create employment and increase per capita income. Therefore, because of the limited resources, the state need to focus to invest by giving priority only in a couple areas rather than distributing its scare resource to all over the state, which the state has been doing routinely. It is not easy to implement this concept. But if it is done slowly and steadily, eventually large urbanized areas will take a form, and the state in the long run will benefit from making the state an attractive place for business. Without urbanization, aforementioned advantages to increase productivity cannot be accomplished. .There is no question that West Virginia needs to increase its level of urbanization; but it cannot happen in a year so. It needs long range planning like an investment strategy.