Relationship Between Population, Urbanization, And GDP Per Capita Among The Various Regions Of The World

Rahul Gupta Choudhury

Abstract
Many articles have been written on the characteristics of the development of the advanced countries. There seems to be a consensus on how urbanization is closely linked to GDP per capita of a region or country – across the world. This research study wants to find out if that is the case and how different regions and countries across the world are performing on the crucial parameters of population, urbanization, and GDP per capita. So, eleven regions of the world were considered on the basis of classification done by the World Bank. Data was collated for a period of sixty years – from 1960 to 2020. Analysis was done on the parameters of population and population growth percentages, urbanizations and its growth percentages, and GDP per capita and its growth percentages. The study gives a panoramic view of the growth of all the eleven regions and also establishes that there is indeed a high correlation between urbanization and GDP per capita. East Asia + Pacific has performed the best in terms of all the parameters – however, they also have to go a long way to catch up with the advanced economies as the advanced economies already had a head start in the 1960s.

I. Introduction

The United Nations Population Division (World Population Prospects: 2022 Revision) has defined population as all residents regardless of legal status or citizenship. Now, population is a much-discussed topic as it has tremendous impact on the prosperity levels of a country or any other area. While ''demographic dividend'' is a boon for the country, excess population pressure may have negative impacts on an area as it increases the demands on resources like agricultural land as well as other resources like energy, food, water, and other services like infrastructure etc. Overall, however, most countries want to have a control over their population growth as it ensures higher level of distribution of scarce resources. Some other countries however encourage couples to have children as they are faced with the challenge of an ageing population. So, demography takes different forms and shapes in the different regions of the world. Guillard defined demography as "the mathematical knowledge of populations, their general movements, and their physical, civil, intellectual, and moral state". Today, the world population touches almost 8 billion and is expected to touch 10 billion by the year 2050. So, this paper will have a look at the various stages of population growth that the various regions of the world have had in the past sixty years – from 1960 to 2020.

Another very important phenomenon of recent times is that of urbanization. In 1800, the percentage of population living in urban areas in the entire world was around 10%. Today almost 56% of the world population live in urban areas. Traditionally, people were living in small communities and the structure was mostly rural in nature. Understandably, the density of population was also very low that time. With the growth of science and, very importantly, industrialization – the migration from rural to urban areas gained pace. It is estimated that the world urban population overtook world rural population in and around the year 2007. It is expected that by the year 2050, almost 70% of world population will be living in cities. This movement away from agriculture is primarily motivated by a better standard of living in cities although almost one-third of urban population resides in slums.

Figure 1 shows the composition and growth of urban and rural population over the years.

This trend of growth in urbanization will continue throughout the world as cities are able to provide a better standard of living and agriculture is not able to sustain the growth of population resulting in comparatively poorer living conditions. However, the good news is that the total number of people living in slums across the world has remained constant even though population and urbanization has increased substantially over the years. That means, in percentage terms, people living in slums has declined. For example, in the years from 1990 to 2014, percentage of urban people living in slums has declined from 44% to 25% in China, 55% to 25% in India, 37% to 22% in Brazil, and from 77% to 50% in Nigeria. The transition from rural to urban has not been easy for the migrants and they faced deprivation in many areas. Added to this are the insecurities of ensuring a steady income and access to food and clean water. So, cities have to be planned and designed in such a way that they are

more focussed on human well-being and not only as a source of income. The social and cultural aspects are becoming very important for urban living – along with the economic parameters. For a country or a city, the rate of growth of residents as well as the density of population is very important. It is of more importance as allocation of resources are done based on these parameters. The administrators have to ensure accessibility of things like housing, transport, healthcare, education, and employment opportunities for all sections of the inhabitants.

Figure 2 shows the share of people living in urban areas in 2020.

GDP per capita of a country is the total GDP divided by the total population (residents) of the country. It has been argued mainly by Economists that the GDP per capita is a barometer of the prosperity of a nation. It can always be argued that the well-being of the residents of a country also depends on distribution of income whereby even in a prosperous country, there may be a lot of poor people. However, there is no dispute on the fact that the economic condition of a country improves with the increase in GDP per capita. This is kind of cyclical because a robust economy will produce good GDP per capita which will again create scope for further economic growth. It is seen that a high GDP per capita also reduces poverty in that relevant segment. So, GDP per capita is taken as a sign of economic growth. The important components of GDP per capita are labour, entrepreneurship, and technology. Economic growth is also influenced by factors of production like population, labour, capital accumulation, and the level of technological progress which is part of development of knowledge. Research has shown that labour does not have a significant influence on GDP per capita. However, entrepreneurship and technology have a significantly positive impact on GDP per capita.

Figure 3 shows the share of population living in extreme poverty vs GDP per capita in 2020.

II.   Literature Review

Weeks, John R wrote a book on population (2021). He points out that the world population is now growing at the fastest pace ever in the history of human evolution. This is primarily because the death rate as well as the birth rate has slowed down tremendously. Modern medical science, the progress of technology, and the availability of proper and timely services to a much larger percentage of the population coupled with other favourable factors has ensured that the death rates across the world declines sharply. Birth rates at most parts of the world has also come down but is still much higher than the death rates. So, population growth goes unabated, and it may be a point of worry as unbridled population growth will definitely end up stressing the resources of this world. T. Kika et al (2012) wrote a book titled "Introduction to Population Demographics". They presented that not only is population growth an important parameter – there are other facets of population like population density and the age-group structure which are also equally important. Population density is measured by dividing the total population with the total geographical area covered by the entity – country, city etc. In most cases, density of population will keep on increasing as the land mass occupied remains the same. Populations increase depending on birth rates and immigration from other areas whereas populations decrease depending on death rates and emigration. There are certain factors which are affected by increase in population density – like competition, resource constraints, and probability of diseases, and even climate change etc. There are factors which are not dependent on population density like weather in the short term etc. It is to be acknowledged that all individual members of the population will not consume and contribute in the same manner – quality as well as quantity. The cohorts are structured populations – like juveniles, adults etc. When populations are growing fast, the likelihood of young people in the country is much more. When populations are stable, there is a more even distribution of age groups – while there will be more old age people in the country when the population is declining rapidly. Generally, an economy grows more when the working age population percentage is more in the total population.

The current population of the world is around 8 billion. This population size is expected to grow to about 10 billion by 2050. The current world urban population stands at around 4.5 billion and is expected to touch 7 billion by 2050. This total increase of 2.5 billion urban people is going to come mostly from Asia and Africa. According to Open University, a large number of today's urban agglomerations face a lot of problems. Some of these challenges that needs to be solved are lack of jobs, homelessness, expanding squatter settlements, inadequate services and infrastructure, poor health and educational services, and high levels of pollution. Developed countries have been able to control their immigration numbers and hence their population growth rates are very low. Developing countries are grappling with migration from rural to urban areas. There are, both, pull and push factors responsible for this migration. The "bright city lights" attract people from rural areas as the urban wages are higher and the services offered mainly in terms of educational and health facilities are also much better. Added to it is the relatively better infrastructure which promises a better standard of living. In addition to all this, there is the big challenge of offering gainful employment to all rural residents – especially when agriculture is becoming less and less profitable. Henderson, Vernon J et al (2020) discussed on urbanization in the developing countries. They noticed that the recent migration in Sub Saharan Africa and South Asia is not fuelled by a corresponding

increase in manufacturing. This migration is actually rent collected from exports of natural resources. This is an even more worrisome development for these two regions as the scope of economic growth in this kind of a situation is not high. That is why the GDP per capita stagnates in these geographical areas.

Ilter, C (2015) studied around 40 countries for economic and social factors that effect GDP per capita. He found that population of a country and GDP per capita are inversely related. So, ceteris peri bus, the lower the population the higher the GDP per capita. Moreover, there is a positive correlation between years of compulsory education and GDP per capita. There is also a positive correlation between transparency score and GDP per capita. Land size has no effect on GDP per capita. Diacon, Paula-Elena et al (2015) investigated the relationship between consumption, income, and GDP per capita. GDP per capita is taken as a proxy for the level of standard of living. They found that the relationship between income and consumption was stronger for low- and high-income countries compared to middle income countries. They also found that the relation between consumption, income, and GDP were stronger for low- and middle-income countries compared to high income countries. Mpofu, R T et al (2013) measured quality of life (QoL) through Human Development Index (HDI) in South Africa. They found that there was a significant correlation between HDI and government spending on health and education as a percentage of GDP. However, there was no correlation when government spending as a percentage of total government spending was used. Moreover, government spending on education as a percentage of GDP had a positive impact on HDI. However, government spending on health as a percentage of GDP had a negative impact on HDI. Bergeaud, A et al (2019) studied the phenomenon of convergence pertaining to GDP per capita in advanced countries over a long period of time. They found that policies influence relative GDP per capita levels. In addition to policies pertaining to innovation, the following areas also impacts the convergence of GDP per capita: "policies that increase productivity gains linked to technological shocks, policies that reduce anticompetitive barriers in the product market, introducing more flexibility in the labour market, and policies aimed at increasing the level of education of the working age population".

III. Analysis

Before proceeding to data analysis, there is a need to understand the various geographical regions that the world is divided into. The world bank has sub-divided the world into 11 (eleven) regions. They are Africa East & South (Africa ES), Africa West & Central (Africa WC), Sub-Saharan Africa (SSA), East Asia and Pacific (EA + Pacific), South Asia (SA), Middle East and North Africa (ME + NA), Latin America and Caribbean (LA + Caribbean), Europe and Central Asia (E + CA), Central Europe + Baltics (CE + Baltics), European Union (EU), and North America (N. America). The same sub-divisions were adopted for the purpose of this study. Data was collated for all the regions. The data mainly pertains to population, per capita GDP, and degree of urbanization (meaning, % of total population residing in urban areas). The growth of all the three parameters were calculated. The data obtained were from the year 1960 to the year 2020.

Table 1 gives a snapshot of the world and the different regions in terms of their base **population and population growth:**

It is important here to keep in mind that some of the geographical areas are overlapping and hence the total of the eleven regions will be more than the World figures as given here. The world, overall, has grown by about 2.6% over the last 60 years – from 1960 to 2020. This has not been uniformly distributed over the geographical regions. Some regions have grown at a fast pace while others have been able to reign in their population growth rates quite successfully. As can be seen, East Asia & Pacific region has the highest percentage of world population but has been able to contain and bring down the percentage by controlling the population growth rate. So, percentage of world population for East Asia & Pacific came down from a high of about 35% to around 30%. The population growth rate in whole of Africa has been very high (6%-7%) and on a comparatively low base of around 15% of world population – has almost doubled it to 30%. Middle East & North-Africa has also almost doubled the percentage by growing at about 6% over the last 60 years. However, their base volume was less at only about 3.5% in 1960. South Asia had a base value of almost 19% of total world population and it kept growing at more than 3.5% over the last 60 years. The result is that now in 2020, South Asia has almost one-quarter or 25% of world population. Comparatively, Latin America & Caribbean has hardly increased their percentage to world population by 1% even though their population growth rate was above 3%. Only about 8.5% of the world population now resides in Latin America & Caribbean. However, contrary to all these previously mentioned regions, Europe has performed an excellent job in terms of population control. Europe & Central Asia has brought down their percentage to world population from 22% to 12% only. This was achieved by growing at only 0.64% over the last 60 years. Similarly, European Union brought down its population percentage from about 12% to only about 6% by growing at only 0.42%. Central Europe & Baltics grew by even less at only 0.2% - almost halving their population percentage to world from about 3% to less than 1.5%. North America grew by a healthy 1.42% but still managed to bring down their percentages from about 6.5% to 4.75%.

Another phenomenon which has defined the world in the past couple of centuries is urbanization. All over the world, people have been moving away from agriculture-based jobs to manufacturing and service sector jobs., which are mainly based in cities and towns. It has been assumed that in modern times, urbanization and prosperity go hand-in-hand. This is because advanced high-income countries have a very high rate of urbanization. It is also normally seen that there is a correlation between GDP per capita growth and growth in urbanization, although the causal effect as to which causes or influences which one is still not very clear.

Table 2: Urban Population (%)

North America, especially USA, has been the forerunner of urbanization in the world. In 1960 only, almost 70% of the total population of North America were living in urban areas. This is far ahead of all other regions of the world including advanced European nations. The main reason was the rapid industrialization of USA coupled with an unprecedented economic boom. The interesting thing is that North America continued to grow at a steady pace touching almost 83% in 2020, but some other regions of the world has witnessed much more rapid growth in urbanization. As a result of this development, the percentage of urban population of the world residing in North America halved – from almost 14% in 1960 to 7% in 2020. The case of Europe is quite similar. Urbanization progressed at a steady pace in most of Europe, except Central Europe and Baltics. Although growth in urbanization continued in Europe, like North America – the percentage of urban population of the world residing in Europe halved in these 60 years - European Union had 15.59% of world urban population in 1960 which came down to 7.72% in 2020. Urbanization in America and Europe continued at a slow pace as their base values were already very high compared to the other regions of the world. Latin America and Caribbean also had high urbanization which then continued to grow by a modest 6.5% over the last sixty years. This region now has achieved a very high urbanization value of 81% which is even more than Europe and almost at par with North America. The solid growths in urbanization have come from Africa and Asia – but their base values were very low. Middle East and North Africa has doubled their urban population percentage and so has South Asia. As a result of this, the percentage of world urban population residing in these areas have gone up tremendously. Africa ES, Africa WC, and SSA had only about 14% rate of urbanization. They grew very fast and doubled and trebled their urbanization percentages. The growth is no doubt impressive, and their urbanization is way ahead of South Asia. In spite of all this, Africa still has a long way to go in terms of economic growth. However, the real champion in growth of urbanization is East Asia and Pacific. This region has grown from 22% to 60% with a high base value of urban population. So now, almost one-third of the world urban population resides in this region. The overall growth of this region is the abiding growth story of the world in the last sixty years.

GDP per capita has emerged as the most reliable parameter of standard of living of countries across the world. GDP is a measure of the total economic output of a nation. Dividing the GDP by the number of residents in the country gives a fair idea about the prosperity levels of the countries. This, however, does not give any indication about the distribution of wealth within the country – there may be poor people in countries with high GDP per capita. GDP per capita however is a good measure of how most people live and work in a country.

Table 3: GDP Per Capita

The world GDP per capita has grown tremendously over the last sixty years. From 1960 to 2020, the world GDP per capita has increased 25 times – from US$ 457 to almost US$ 11000. That is quite an impressive growth on such a large scale. North America, led primarily by USA and Canada, has grown 21 times its GDP per capita in 1960 and is by far the wealthiest region as constructed by the World Bank. EU in 1960 was at around US$ 1800 – the same as South Asia is now in 2020. So, EU has grown about 21 times from 1960 to 2020, a period of 60 years. North America and EU put together contribute to almost 60% of the world's GDP per capita. Latin America + Caribbean and Middle East + North Africa regions also grew 18 times between the years 1960 to 2020. However, they had a very small base value and hence the impact on World GDP per capita is not very high. South Asia, Africa, and East Asia had the lowest GDP per capita in the world in 1960 – in and around 100/150 US$. South Asia grew 22 times from 1960 to 2020 and now has a GDP per capita of around 1800 US$. Africa lags behind South Asia in the growth rates and has been able to reach only around 1500 US$ by the year 2020. The real champion of growth in GDP per capita is East- Asia + Pacific. The region has grown from approximately 148 US$ in 1960 to around 12000 US$ in 2020. This means that this region has multiplied its GDP per capita by an astonishing 80 times in the last 60 years. Although East Asia is still in the middle-income category, the growth trajectory clearly indicates that this region will soon reach the high-income category if population growth rates are kept in check. Some countries in this region are already facing the challenge of an ageing population – but this can be overlooked for some more time to come.

As mentioned earlier, data was collated from World Bank sources for all the regions – the main data collected was total population, percentage of urban population to total population, and GDP per capita. The data

was collated for the period of 1960 to 2020. After this, the growth rates of population, urbanization, and GDP per capita were calculated. Data analysis was carried out on these six parameters: population & population growth percentage, percentage of urbanization & growth percentage of percentage of urbanization, and GDP per capita and growth percentage of GDP per capita. Following are some of the results of the data analysis:

Correlation between the six parameters

The first analysis was done to determine whether the six parameters are correlated. The six parameters are: population, population growth percentage, urban population (%), growth percentage of urban population percentage, GDP per capita, and GDP per capita growth percentage. The data used for correlation was from all the regions and for all the sixty years.

Table 4: Correlation

As expected, urban population growth percentage is highly positively correlated with the total population growth percentage. However, total population growth percentage is not at all correlated with GDP per capita growth percentage. Again, population growth percentage is negatively correlated with GDP per capita. This means that population growth percentages have to be controlled if a country wants to grow its GDP per capita. Total population has no correlation with GDP per capita. On the other hand, percentage of urban population in a region/country is highly and positively correlated with GDP per capita. This does not however establish causality. It is difficult to say from this analysis whether high percentage of urban population results from high GDP per capita or high percentage of urban population causes the GDP per capita to go up. Most likely, it is a cyclical phenomenon where each one of the parameters influences the other. Urban population percentage and its growth percentage has no correlation with GDP per capita growth percentage. Given the earlier discussion, it seems that urbanization plays an important role in growth of GDP per capita provided overall economic activity in the region or country goes up simultaneously. Urban centres, especially in developing countries, come up only when there is a strong economic driving force which attracts people to work there – otherwise, the pressures on existing cities and their infrastructure becomes too high for maintenance and further growth.

When only the world data is considered (and the regional data is not considered), regression analysis gives a slightly different picture. World GDP per capita growth percentage is not at all correlated with World urban population growth percentage, whereas World GDP per capita growth percentage is correlated with world population growth percentage (.002, .437). So, the results at the aggregate world level are slightly different from the disaggregated regional level.

Regression Analysis

The dependent variable is World urban population growth percentage, and the independent variables are the urban population growth percentages of the regions. Following are the results of the analysis:

Table 5: Urban Population Gr %

Regression was carried out with SPSS - first with the 'enter' method and then with the 'backward' method. Six regions listed above made a significant difference to the world urban population growth percentage. The rest of the five regions did not make a significant difference. As seen earlier, the maximum impact in the world urban population growth percentage has come from East Asia + Pacific and Central Europe + Baltics. East Asia has been able to tone down its population growth and has had a tremendous growth in GDP per capita as well. They also had a very impressive growth in percentage urbanization of its total population. Latin America + Caribbean urban population growth percentage has a negative correlation with World urban population growth percentage. This is probably because the region has crossed the inflexion point where a large part of their urban population is not contributing positively to the economic development or GDP per capita of the region. Traditional theory will explain this as urbanization taking place too early – meaning, a particular value of GDP per capita is compatible with a certain percentage of urbanization. So, more urbanization than what the GDP per capita can sustain has taken place in case of Latin America + Caribbean.

GDP per capita is one of the most discussed areas in recent times. So, a regression analysis was run with World GDP per capita growth percentage as the dependent variable. Independent variables were the GDP per capita growth percentages of the eleven regions. This exercise was carried out to ascertain the regions which has impacted the GDP per capita growth of the world.

It was found from the results of the regression analysis that 7 regions out of the total of 11 regions had a significant impact on the growth percentage of the world GDP per capita. The correlation coefficient of Europe + Central Asia was found to be the highest at 0.765. This region was in the high-income bracket even in 1960 and then it continued to grow at an average of more than 40% over the last 60 years. As discussed earlier, East Asia +

Pacific had the highest growth rate, but their base in 1960 was much smaller than that of Europe + Central Asia. This region has a GDP per capita of almost 24000 US$ in 2020, whereas East Asia + Pacific has reached a level of 11500 US$ in 2020. In the 1960s, East Asia + Pacific had a GDP per capita of only around 150 US$ while the region of Europe + Central Asia had a GDP per capita of around 1000 US$. So, even after a stupendous growth in the last 60 years, East Asia + Pacific has been able to reach only up to the middle-income category countries, while Europe + Central Asia has remained firmly in the high-income category countries. The gaps in real terms (and not percentages) are only widening and catching up will not be easy for countries in the middle- or low-income categories. The growth percentage in GDP per capita of the region of Latin America + Caribbean also has a relatively high correlation coefficient. Although the region has grown by an average of almost 30%, the increase in percentage of World GDP per capita growth percentage is almost neglible. North America has also grown by more than 30% but has made an impact because of the high base value of GDP per capita in 1960. Middle East + North Africa and South Asia also grew by more than 30% on an average but their base values of 1960 was so low that they have made only a marginal impact on the World GDP per capita growth percentage. However, the region of Middle East + North Africa is way ahead of South Asia in terms of GDP per capita in 2020. The difference between high-, middle-, and low-income countries is only widening – but laggards in this area need to focus on the world average in absolute terms and try and achieve that quickly. Once the threshold value is reached, the region/country gets the flexibility to invest in basics like infrastructure, health, and education – and this provides further fillip to grow more in economic, social, and other relevant terms.

Table 6: GDP PC GR %

ANOVA

This exercise was carried out to understand the differences and similarities between the different regions of the world in terms of the six parameters discussed earlier.

It is seen that in case of population growth percentage Africa ES, Africa WC, Sub Saharan Africa, and Middle East + North Africa are quite similar. This is quite understandable as the regions combined together covers the entire continent of Africa and a small part of Asia which is geographically quite close to Africa. The average population growth percentage of Africa ES, Africa WC, and Sub-Saharan Africa over the last sixty years was above 6%. The population growth percentage of Middle East + North Africa was also close to 6%. So, the population growth percentages of this regions were very close to each other and similar. All other regions were very different from these regions. There was also no similarity between the other regions in terms of the population growth percentages.

All the regions in Europe are very similar to each other in terms of urbanization growth percentages. The regions of Central Europe + Baltics, Europe + Central Asia, and European Union have all grown by one to two percentages in the last sixty years. This is also expected as Europe started with a very high base in 1960 and then steadily grew at an average pace to reach a very high value of 70-75% urbanization. It will be pertinent here to remember that Europe also has a very strong agricultural base and hence the standard of living is not very different between the rural and urban areas of Europe (especially when compared to the developing countries). Again, European Union and North America is also very similar (no significant difference) in terms of urbanization growth rates. This is because North America already had a very high percentage of urban population in 1960 – and then continued to grow at a steady pace of close to two percent. Now, urbanization of North America stands close to 82%. Rest of the regions are all dissimilar to each other.

In case of GDP per capita growth percentage, all regions are quite similar to each other and there are no significant differences between the regions in this parameter. The average GDP per capita growth percentage for Africa ES stands at only 13.68% which is the lowest of all the eleven regions considered in this study. As discussed earlier, the highest score for average GDP per capita growth percentage is that of East Asia + Pacific with a score of 127.21 %. Except Africa, rest of all the regions in the world has grown by an average of 30% to 40% over the last sixty years. Even Africa WC is not very far off with an average growth of 25%. So, it seems the world is converging on the parameter of GDP per capita growth percentage. However, the developing world has to do much more to catch up with the developed countries. This is amply demonstrated by the fact that East Asia + Pacific, in spite of growing by 125% on an average over the last sixty years, has only reached to 19% of GDP per capita of North America which, at around 61000 US$, is by far the leader among all the regions.

IV.   Inference & Conclusion

It was found in the research study that urban population growth percentage is correlated with the total population growth percentage of the region. However, population growth percentage adversely affects the GDP per capita of the region. However, urban population percentage and GDP per capita is highly positively correlated. All regions of the Africa continents had a very high rate of population growth percentage compared to other regions and as a result their GDP per capita growth percentage was by far the lowest among all the eleven regions

– much below even the world average. Overall, Europe and North America had a very high urban population percentage, and they grew at a controlled rate to reach a very high level of urbanization. Consequently, their GDP per capita growth percentages were maintained at a level which was much above the other regions. Moreover, the population growth percentages of these regions were low thus ensuring a high GDP per capita growth percentage. Population growth percentage of South Asia is coming down quite emphatically and the urbanization is also taking place at a moderate pace. However, their population was so high and urbanization so low in 1960 that the GDP per capita was among the lowest among all regions of the world. It has performed moderately in the last sixty years and the pace is picking up. However, South Asia has a long way to go in terms of overall prosperity and GDP per capita. Latin America + Caribbean already had high urbanization in 1960 and has now touched the levels of North America. However, their GDP per capita is very moderate – it just about touches the middle-income group in 2020 at around 7500 US$ GDP per capita. However, GDP per capita of Latin America + Caribbean had touched almost 11000 US$ IN 2011-12. The real growth story in the last sixty years has emerged from East Asia + Pacific. They have brought down their population growth percentage from around 2.5% in the 1960s to about 0.43% in 2020. That is no doubt a remarkable feat. East Asia + Pacific has maintained a steady pace of urbanization with a year-on-year growth ranging from 1.5% to 2.3%. As a result, the percentage of urban population of the world residing in the urban areas of this region rose from 23% in 1960 to almost 33% in 2020. The GDP per capita of this region has grown by an astounding pace – from around 150 US$ in 1960 to almost 12000 US$ in 2020 – an average growth percentage of a whopping 127% from 1960 to 2020 – a period of sixty years. As a result of this, the percentage of GDP per capita of the world contributed by this region rose from around 1.5% in 1960 to almost around 7% in 2020.

As expected, East Asia + Pacific had the highest impact, followed by Central Europe + Baltics, on the urban population growth percentage of the world. East Asia + Pacific also had a high impact on the GDP per capita growth percentage of the world. However, world GDP per capita growth percentage is impacted the most by Europe + Central Asia. North America had a moderate impact on both, urban population growth percentage of the world as well as GDP per capita growth percentage of the world.

References

[1]. Henderson, Vernon J, Turner, Matthew A, Urbanization In The Developing World: Too Early Or Too Slow? Journal Of Economic Perspectives, Volume 34, Number 3, Summer 2020, Pp. 150–173.
[2]. Bernini, Cristina, Tampieri, Alessandro, The Mediating Role Of Urbanization On The Composition Of Happiness, Wileyonlinelibrary.Com/Journal/Pirs, March 2022, Pp. 638-657.
[3]. Bergeaud, Antonin, Cette, Gilbert, Lecat, Remy, Convergence Of GDP Per Capita In Advanced Countries Over The Twentieth Century, Springer Nature, Empirical Economics (2020) 59: 2509-2526.
[4]. Diacona, Paula-Elena, Mahab, Liviu-George, The Relationship Between Income, Consumption And GDP: A Time Series, Cross-Country Analysis, Procedia Economics And Finance 23 (2015) Pp. 1535 – 1543.
[5]. Mpofu, Raphael Tabani, Standard Of Living, Quality Of Life And Per Capita GDP: A South African Experience, Corporate Ownership & Control / Volume 11, Issue 1, 2013, Continued – 10, Pp. 882-889.
[6]. Ilter, Cenap, What Economic And Social Factors Affect GDP Per Capita? A Study On 40 Countries, Https://Ssrn.Com/Abstract=2914765.
[7]. Weeks, John R, Population: An Introduction To Concepts And Issues, 2011, Cengage Learning.
[8]. Tarsi, K. & Tuff, T. (2012) Introduction To Population Demographics. Nature Education Knowledge 3(11):3
[9]. Guillard, Achille, *Eléments De Statistique Humaine, Ou Démographie Compare*,1855.
[10]. Https://Www.Worldbank.Org/En/Topic/Urbandevelopment/Overview
[11]. Williamson, Jeffrey G, Migration And Urbanization, Handbook Of Development Education, Elsevier, Volume 1, 1988, Pp 425-465
[12]. Ourworldindata.Org/Urbanization, UN Population Division (Via World Bank).
[13]. Https://Www.Worldbank.Org/Topic/Overview
[14]. Https://Data.Worldbank.Org/SP.URB.TOTL.IN.ZS

Figure 1

Number of people living in urban and rural areas, World
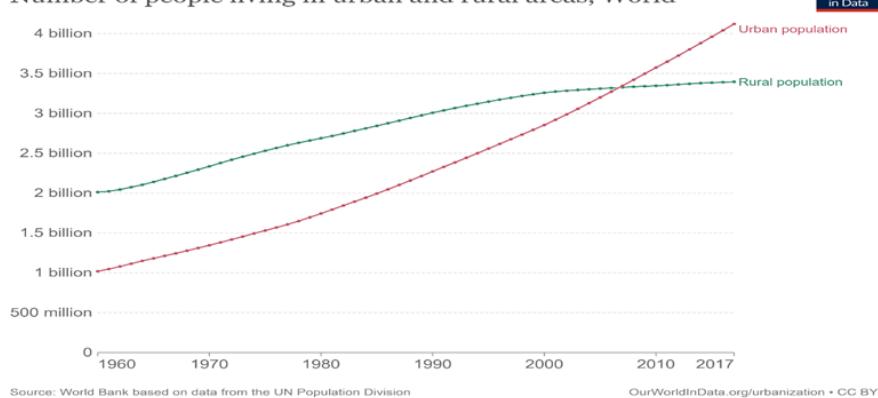
Figure 2

Share of people living in urban areas, 2020
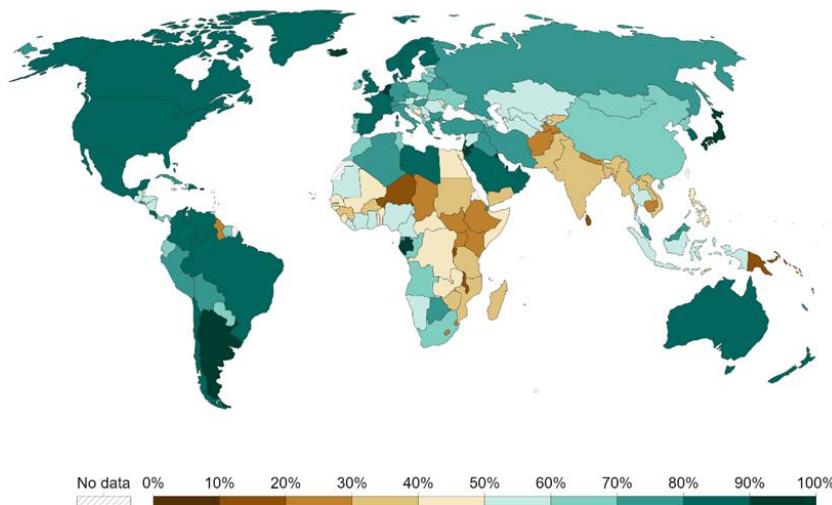
Source: UN Population Division (via World Bank)
Note: Urban populations are defined based on the definition of urban areas by national statistical offices.

Figure 3

Share of population living in extreme poverty vs GDP per capita, 2020

Extreme poverty is defined as living below the International Poverty Line of $2.15 per day. This data is adjusted for inflation and for differences in the cost of living between countries.
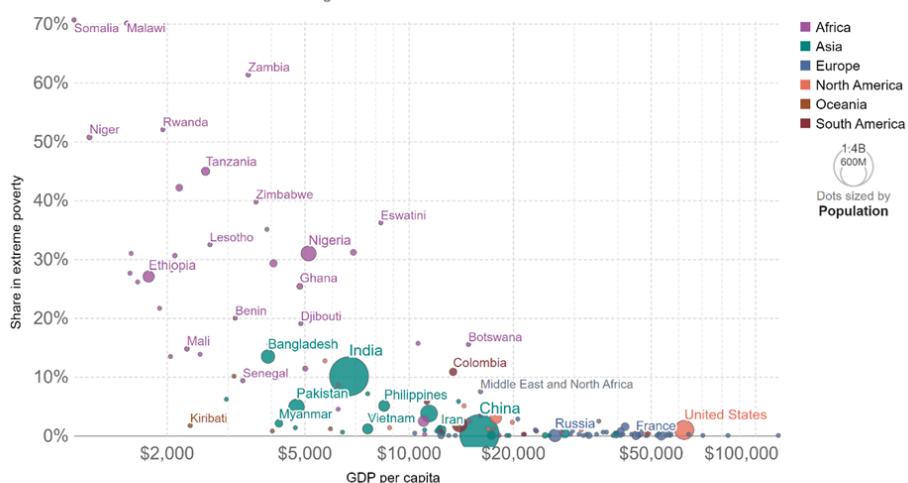
Source: World Bank PIP; World Bank WDI
Note: GDP data is expressed in international-$[1] at 2017 prices. Depending on the country and year, poverty data relates to either disposable income or consumption per capita.

1. **International dollars**: International dollars are a hypothetical currency that is used to make meaningful comparisons of monetary indicators of living standards. Figures expressed in international dollars are adjusted for inflation within countries over time, and for differences in the cost of living between countries. The goal of such adjustments is to provide a unit whose purchasing power is held fixed over time and across countries, such that one international dollar can buy the same quantity and quality of goods and services no matter where or when it is spent. Read more in our article: What are Purchasing Power Parity adjustments and why do we need them?

Table 1

	1960	2020	Average Growth %	% of World in 1960	% of World in 2020
World Total	3032156070	7761620146	2.60		
Africa ES	130836765	677243299	6.96	4.31	8.73
Africa WC	96396419	458803476	6.27	3.18	5.91
SSA	227233184	1136046775	6.67	7.49	14.64
EA + Pacific	1041673567	2360855079	2.11	34.35	30.42
South Asia	572839530	1856882402	3.74	18.89	23.92
ME + NA	105203230	464554123	5.69	3.47	5.99

LA + Caribbean	219828794	652276325	3.28	7.25	8.40
E + CA	666753356	923452178	0.64	21.99	11.90
CE + Baltics	91401764	102253057	0.20	3.01	1.32
EU	356906098	447801418	0.42	11.77	5.77
N. America	198624409	367553264	1.42	6.55	4.74

Table 2

	1960	**2020**	**Average Growth %**	**% of World in 1960**	**% of World in 2020**
World Total	33.60	56.06	5.45		
Africa ES	14.56	36.83	20.16	1.87	5.73
Africa WC	14.70	47.86	18.40	1.38	3.88
SSA	14.62	41.29	25.61	3.26	12.50
EA + Pacific	22.63	60.70	8.47	23.14	32.94
South Asia	16.70	34.89	9.62	9.40	14.90
ME + NA	34.89	65.56	12.16	3.60	7.00
LA + Caribbean	49.42	81.14	6.45	10.66	12.16
E + CA	55.57	72.61	1.71	36.37	17.22
CE + Baltics	44.51	62.56	0.95	4.00	1.47
EU	58.68	74.96	1.86	15.59	7.72
N. America	69.92	82.55	1.98	13.63	7.00

Table 3

	1960	**2020**	**Average Growth %**	**% of World in 1960**	**% of World in 2020**
World Total	457.54	10918.72	38.11	9517	167420
Africa ES	147.61	1359.62	13.68	1.55	0.81
Africa WC	107.93	1710.07	24.74	1.13	1.02
SSA	128.80	1501.15	17.76	1.35	0.90
EA + Pacific	148.43	11477.49	127.21	1.56	6.86
South Asia	82.35	1823.72	35.24	0.87	1.09
ME + NA	339.06 (1968)	6534.40	35.14	3.56	3.90
LA + Caribbean	396.45 (1961)	7244.66	29.28	4.17	4.33
E + CA	1032.94 (1967)	23955.31	41.87	10.85	14.31
CE + Baltics	2314.69 (1990)	16168.20	19.95	24.32	9.66
EU	1879.08 (1970)	34142.92	34.34	19.75	20.39
N. America	2939.45	61502.10	33.20	30.89	36.74

Table 4

	Parameter 1	**Parameter 2**	**Significance**	**Correlation Coeff.**
1.	Population Gr %	Urban Population Gr %	.000	0.636
2.	Population Gr %	GDP per capita Gr %	X	X
3.	Population Gr %	GDP per capita	.000	-0.562
4.	Population	GDP per capita	X	X
5.	Urban population Gr %	GDP per capita Gr %	X	X
6.	Urban population %	GDP per capita Gr %	X	X
7.	Urban population %	GDP per capita	.000	0.648

Table 5

	Regions	**Significance**	**Correlation Coeff.**
1.	Central Europe + Baltics	.000	1.043
2.	East Asia + Pacific	.000	1.181
3.	European Union	.009	.243
4.	Latin America + Caribbean	.000	-1.187
5.	Middle East + North Africa	.008	.359
6.	North America	.001	.220

Table 6

	Regions	**Significance**	**Correlation Coeff.**
1.	Europe + Central Asia	.000	.765
2.	East Asia + Pacific	.000	.135
3.	European Union	.011	-.176
4.	Latin America + Caribbean	.000	.135
5.	Middle East + North Africa	.000	.068
6.	North America	.001	.111
7.	South Asia	.000	.061