

Series 2

---

# URBANIZATION AND STRUCTURAL TRANSFORMATION

---

 **UNHABITAT**  
FOR A BETTER URBAN FUTURE

## **Urbanization and Structural Transformation**

All rights reserved

United Nations Human Settlements Programme (UN-Habitat)

P. O. Box 30030, 00100 Nairobi GPO KENYA

Tel: 254-020-7623120 (Central Office)

[www.unhabitat.org](http://www.unhabitat.org)

HS/017/16E

### **Disclaimer**

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Views expressed in this publication do not necessarily reflect those of the United Nations Human Settlements Programme, the United Nations, or its Member States. Excerpts may be reproduced without authorization, on condition that the source is indicated

### **Acknowledgements**

#### ***Core Team***

Director: **Oyebanji Oyelaran-Oyeyinka**

Principal Authors: **Oyebanji Oyelaran-Oyeyinka and Kaushalesh Lal**

Contributors and Advisors: **Victoria Chebet, Oluyomi Ola-David, Shampa Paul, Gbemisola Adetoro, Gulelat Kebete**

Support Team: **Jacqueline Macha, Mary Dibo, Anne Muchiri, Pamela Odhiambo, Adedoyin Luwaji and Abdulmalek Al-Hamedi**

Design and Layout: **Fredrick Maitaria**

Editors: **Dominic O'Reilly,**

Sponsor: **International Ecological Safety Collaborative Organization (IESCO)**

Printer: **UNON, publishing services section, Nairobi**



An overview of Mexico City. © UN-Habitat/Julius Mwelu

## Introduction

Urban areas are crucial for national development. According to conventional wisdom, no developed country has achieved its level of development or prosperity without urbanizing but this statement must be qualified, it is about sustainable urbanization. Most of a country's wealth is created in its cities, hence the maxim that cities are the engines of economic growth and development. Productive cities are engines of economic growth where critical sectors have replaced low-productivity agriculture and experienced high productivity growth in industrial manufacturing.

Cities account for about 70 per cent of global GDP<sup>1</sup>. Economic activities in urban areas account for as much as 55 per cent of the GDP in low-income countries, 73 per cent in middle-income countries, and 85 per cent in high-income economies<sup>2</sup>. Indeed, it is anticipated that 80 per cent of future economic growth will be in cities<sup>3</sup>. In some countries, a single city could account for

a significant share of the national wealth. For example, Seoul, Budapest and Brussels respectively accounts for over 45 per cent of the GDP of South Korea, Hungary and Belgium<sup>4</sup>. In other countries, it is a group of cities that contributes a significant share of GDP. For example, in South Africa, six major cities collectively account for 55 per cent of the GDP. The case of China is quite remarkable, with 50 per cent of the GDP generated in the coastal areas that constitute 20 per cent of the territory<sup>5</sup>. For all cities, their contribution to GDP is greater than their contribution to the national population. The disproportionate economic contribution of urban areas is often ignored in development policy or not duly integrated in development strategies and plans.

Besides the positive contribution of cities to growth, urban areas are associated with higher levels of income. Indeed, the relationship between the level of urbanization and per capita income across countries is positive. Figure 1 suggests

1 World Bank, 2009a

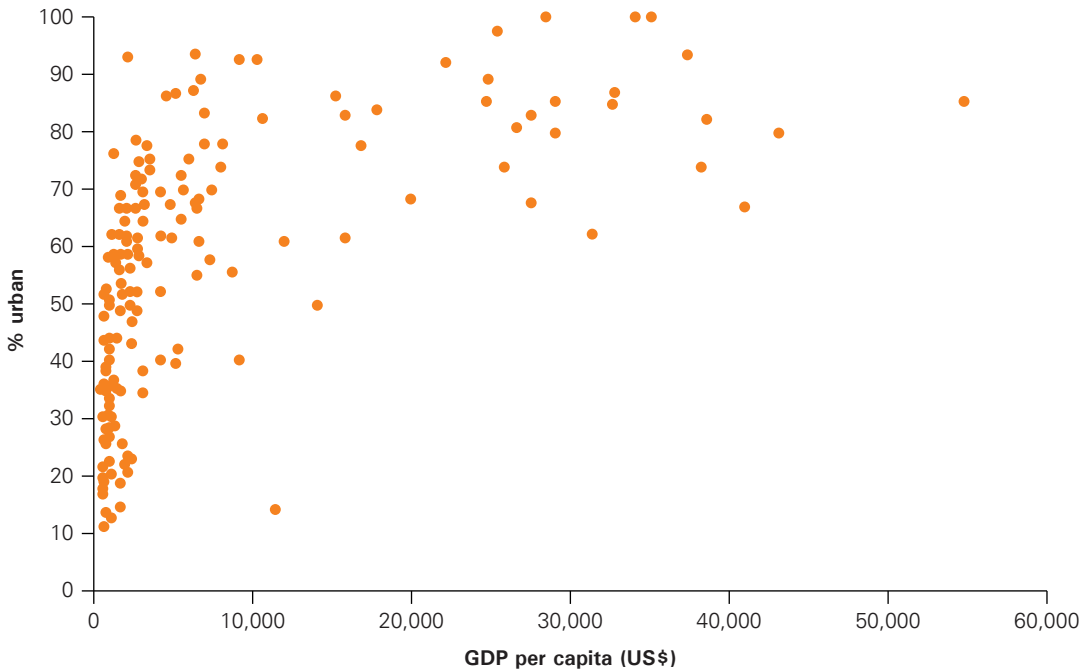
2 UN-Habitat and DFID, 2002

3 SIDA, 2006

4 UN-Habitat, 2010

5 World Bank, 2009d

Figure 1.1: Urbanization and GDP



Source : UN (2010), percentage urban ; World Bank (2010), GDP per capita

that few countries have reached income levels of USD 10,000 per capita before becoming 70 per cent urbanized. Among developing regions, few countries attain income levels of USD 5,000 before becoming 60 per cent urbanized (Annex 1). Corresponding figures for Africa, Asia and Latin America and Caribbean can be gleaned from Annex 1. What this shows is that countries urbanize as they get richer and as they accumulate skills and infrastructural assets to modernize.

From the figure 1.1 below, urbanization correlates strongly with wealth generation at the early stages of development but this relationship weakens as countries get richer. The positive relationship between urbanization and income also applies at the regional level. The regions that have the highest levels of urbanization are the ones with the highest levels of GDP per capita. Among developing regions, Latin America and Caribbean (with 78 per cent of its population residing in urban areas) has a GDP per capita of USD 4580 as against USD 601 and USD 647 for sub-Saharan Africa and South Asia, which are 36

per cent and 29 per cent urbanized respectively<sup>6</sup>.

There are however, exceptions. Figure 1.1 also shows that there are several countries with relatively high levels of urbanization but low levels of income. This implies that high levels of urbanization alone are not sufficient to generate high levels of prosperity. Such countries might not be drawing on the full benefits of agglomerations<sup>7</sup>, or that urbanization might be occurring in the absence of long-term economic growth or in a situation where growth has been too low. The latter is common in sub-Saharan Africa, and has been characterized by rapid urban growth occurring within the context of low economic growth<sup>8</sup>, poor agricultural performance, climate change, rising unemployment, financially-weak municipal authorities incapable of providing basic

<sup>6</sup> UN-Habitat, 2010

<sup>7</sup> Polese, 2000; 2005

<sup>8</sup> Between 1970 and 1995, Africa's urban population grew at 5.2%, while GDP per capita fell by an annual rate of 0.66% (Fay and Opal, 2000)

services, poor governance and the absence of coherent urban planning policy that integrates economic, social and physical planning<sup>9</sup>. Under such conditions, "... rapid urban growth... has been an inevitable recipe for the mass production of slums"<sup>10</sup>.

Figure 1.1 further indicates that, when countries reach urbanization levels of more than 70 per cent the link between urbanization and income weakens. Beyond this point, increasing levels of urbanization contribute little to income. This suggests that there are other key factors besides the level of urbanization that contribute to the prosperity of cities. Some of these factors relate to appropriate urban policy, planning, design, management and governance, as well as the existence of institutions capable of responding to the problems, consequences and challenges associated with rapid urbanization.

Given the size of the contribution of cities to the national economy, the future of African countries will be determined by the productivity of urban areas and the extent to which urban growth and the accompanying challenges are managed. Developing countries that want to grow must engineer sustainable urbanization. There are at least three ways by which this can be achieved<sup>11</sup>.

The first is to nurture the growth of high-productivity activities particularly manufacturing followed by services, both of which benefit from agglomeration economies. The sectoral composition of countries that have experienced long-term growth shows that the urban sector in the form of manufacturing and services led the growth process. In developing countries, 86 per cent of total growth in national value-added between 1980 and 1998 came from the urban sector growth, specifically industry, namely and services<sup>12</sup>.

<sup>9</sup> Cheru, 2005; Barrios et al, 2006; Annez et al, 2010

<sup>10</sup> Davis, 2004, pp. 10-11

<sup>11</sup> Spence, 2008; Oyelaran-Oyeyinka and GehlSampath, 2010

<sup>12</sup> National Research Council, 2003 cited in Annez and Buckley, 2008, p.9

## Structural Transformation and Sustainable Urbanization

Urbanization is one of the most significant global trends in the 21st Century. More than 50 per cent of the world population now lives in urban areas, while about 5 billion people or 60 per cent of the world's population will live in urban areas by 2030. Approximately, 90 per cent of world urban population growth between now and 2030 will take place in developing countries. Hence, cities are the locus of significant global challenges.

Sustainable urbanization is known to be a vehicle for national economic and social transformation. By sustainable urbanization we mean the transition of rural-urban landscapes that structure both rural and urban economy, ecology and society in ways that reward the present generation with higher quality of life but without endangering and diminishing the living standards of future generations. This structural shift is underpinned by proper planning, supported by enforceable legal mechanisms and, by so doing, brings about rapid economic progress and the equitable development of citizens. When rural-urban shift is properly managed alongside industrialization and planned urban space, it tends to lead to higher productivity and, eventually, rising living standards and better quality of life. Sustainable urbanization spawns cities that evolve into centres of change and innovation, mainly because the concentration of people, resources and activities support human creativity.

However, research has shown that there are a number of countries that are highly urbanized without having seen a large shift of economic activity towards manufacturing and services in most developing countries. This phenomenon will be discussed in this study.

Successful countries that have been able to sustain a rapid transition out of poverty, due to a rapid rise of productivity in the agricultural sector in ways that transformed the rural-urban economies, have mostly achieved sustained urbanization. Conventional wisdom interprets this process as a successful structural transformation, where agriculture (through



Ain Beni Mathar Integrated Combined Cycle Thermo-Solar Power Plant, Morocco. © World Bank/Dana Smillie

higher productivity) provides food, surplus labour with skills and even savings for the process of urbanization and industrialization. Clearly, a vibrant agricultural sector raises labour productivity in the rural economy, pulls up wages and gradually eliminates the worst dimensions of absolute poverty. Concomitantly, the process also leads to a gradual decline in the relative importance of agriculture to the overall economy, as the industrial and service sectors grow even more rapidly, partly through stimulus from a modernizing agriculture and migration of rural workers to urban jobs<sup>13</sup>.

Most natural resource exporters in Africa and elsewhere do not conform to the standard model of urbanization<sup>14</sup>. For example, in 2010, Asia and sub-Saharan Africa were both at the same level of urbanization; while the former recorded the

fastest-growing nations (which are South Korea and China), the latter has equally rising wealth but has seen little growth in income per capita over the years. Generally, in developing countries urbanization has taken place in cities of all sizes.

### The Convergence of Urbanization and Structural Change

Structural transformation is defined as the development of an economy's structure from low productivity and labour-intensive activities to higher productivity, capital and skill-intensive activities. It involves a long-term shift in the fundamental institutions of an economy and helps to explain the pathways of economic growth and development.<sup>15</sup> In technical terms, four essential and interrelated processes define structural transformation in any economy:

<sup>13</sup> Timmer, 2007; Timmer and Akkus, 2008

<sup>14</sup> Gollin, Jedwab and Vallarta, 2013

<sup>15</sup> Etchemendy 2009; McMillan, Rodrik and Verduzco-Gallo, 2013



- (i) a declining share of agriculture in GDP and employment
- (ii) a rural-to-urban migration underpinned by rural and urban development
- (iii) the rise of a modern industrial and service economy
- (iv) a demographic transition from high rates of births and deaths (common in underdeveloped and rural areas) to low rates of births and deaths - associated with better health standards in developed and urban areas

In sum, the process leads to the reallocation of economic activities across three broad sectors (agriculture, manufacturing and services) that accompany the process of modern economic growth and the changes to the structures of the economy and society.

### Productivity Growth results from Sustainable Urbanization

Structural transformation is characterized by the transition of an economy from low productivity and labour-intensive economic activities to higher productivity and skill-intensive activities. The driving force behind structural transformation is the change of productivity in modern sectors which are dominated by manufacturing and services.

Structural change is equally attended by the movement of the workforce from labour-intensive activities to skill-intensive urban-based ones. The key constraint to the movement of labour from rural to urban space is the lack of opportunities in skill-intensive sectors such as manufacturing. When labour migrates to cities with little or no opportunities, available labour is underemployed or employed inefficiently.

Clearly, the analysis of productivity change is of utmost important to our understanding of the causes of urbanization and structural transformation. This study uses the ratio of value added to total employment in a particular sector as a measure of labour productivity. Labour productivity is decomposed into two components,

namely; (1) change in productivity due to structural change and (2) intra-sectoral productivity growth. The analysis helps in quantifying the association between labour productivity and structural transformation.

### Urbanization without Change in Labour Productivity in Africa

Recent empirical evidence suggests that structural change could take place without much change in labour productivity; this is the case with many African countries. One of the reasons for this phenomenon is that peculiar urban dynamics occurs with little change in deep-going type of economic structure that accompany transitions observed in industrial settings, but is caused largely by the export of natural resource based products which Africa tends to specialize in.

A recent study that focused on structural transformation in eleven Sub-Saharan African countries examined its implications for productivity growth during the past 50 years. They found that the expansion of manufacturing activities during the early post-independence period led to a growth enhancing reallocation of resources but the process of structural change was stalled in the mid-1970s and 1980s. Growth rebounded in the 1990s but instead of expanding industrial activities, workers mainly relocated to the service industries rather than manufacturing. The present study analyzes the reasons for stagnant or declining productivity in modern sector, usually manufacturing, in Africa<sup>16</sup>.

### Urbanization Poverty and Employment

Employment creation and structural economic transformation are amongst the two major challenges at the forefront of current African growth and development strategies. At the micro level, employment creation provides opportunities for earnings and underpins increases in household expenditures and secure livelihoods. At the macro level, development occurs through the

<sup>16</sup> deVries et. al. 2013

reallocation of labour across sectors toward those with the greatest growth potential and the highest productivity. Jobs also facilitate social (such as female wage employment) and political (seeking identity) transformations. However, it is not easy to achieve sustained employment generation<sup>17</sup>.

African countries will achieve high and sustained economic growth rates alongside improved levels of social development, only if productivity changes are based on widespread economic diversification<sup>18</sup>. The achievement of development goals and higher living standards will therefore depend on the ability of countries to foster entrepreneurship and promote innovation, including the spread, adaptation and adoption of pre-existing know-how and techniques, services, processes and ways of working. Unfortunately, much of the growth in low income countries over the past decade has not led to structural changes.

About 70 per cent of the total population in large metropolises lives in slum communities. Research revealed that there is a negative correlation between informal employment and GDP per capita; hence, informal growth tends to be growth-reducing in developing countries. Thus, informal workers tend to be less well-off than those who work and live in more formal settings.

The formation of cities in developing countries is taking the shape of informality, illegality and slums. Therefore, urban growth in most developing countries is strongly associated with slum growth due to the lack of appropriate planning and affordable housing. Urban inequality has grown due to differentiated wealth concentration in cities. For example, statistics show that about 81.7 per cent of Africans live on less than USD 4 per day, with 60.8 percent falling below the USD 2 per day mark. There is also the problem of high costs of informal services provision and the absence of social safety nets.

## Empirical Analysis of African Countries

To our knowledge, little or no systematic empirical work has been done to identify the causal relationship between structural transformation and urbanization in ways that foster economic development. It is argued in this study that the association is mutually reinforcing. In order to establish a causal relationship, measurable indicators are needed. From the perspective of industrialization, labour productivity is considered an appropriate proxy. The sources of productivity growth are numerous. For instance, optimum allocation of resources and technological advancement are expected to lead to higher productivity. Industrial policies coupled with human resource development initiatives could also lead to higher productivity. The changes in productivity within various sectors result in structural change with respect to employment and contributions of sectors to total value added or GDP growth.

This study proposes to quantify associations between urbanization<sup>19</sup> and quality of life which is measured by human development index (HDI<sup>20</sup>). The HDI is a geometric mean of three indices, namely life expectancy, education, and income per capita. Life expectancy is measured as that at birth whereas education index is based on mean years of schooling and expected years of schooling. The income index is based on Gross National Income (PPP USD). HDI is considered a better measure of prosperity than simply income. It includes three main dimensions of prosperity. The non-availability of HDI data before 2005 has limited us to use the data of other indicators for 2005-2013. The analysis of sample economies of selected African, Asian and Latin American countries are presented respectively.

17 World Development Report, 2013

18 UNECA, 2011

19 Degree of Urbanization data have been taken from World Development Indicator online.

20 HDI data is taken from UNDP Website <http://hdr.undp.org/en/content/human-development-index-hdi> is accessed on November 2, 2015



## Africa

Before going into analysis of each country separately, it is considered crucial to present the scenario of quality of life and urbanization in the African continent. The relationship between HDI and degree of urbanization has been quantified using Tobit analysis and results are presented in Table 1.1.

Tobit has been preferred over Ordinary Least Square (OLS) estimates as dependent variable, in that HDI is a truncated non-negative variable with 1 as upper limit. One of the differences between Tobit and OLS estimates is the iterative procedure followed in Tobit resulting in more robust and precise estimates while base results of Tobit are similar to that of OLS. It can be seen from the table that the coefficient of degree of urbanization is statistically significant at 1 per cent level (highest level) for all the countries except South Africa where the level of significance is 5 per cent, suggesting that the association between the two is very strong in all the countries.

It can be seen from the table that coefficient of degree of urbanization is positive for all the sample countries suggesting that there is a positive association between HDI and degree of urbanization.

The magnitude of the coefficient represents the slope of line of association. The results show that slope of the line is different for all the countries. The slope is highest in the case of Ethiopia. It can be inferred that Ethiopia witnessed the highest change in HDI controlling for urbanization. On the other hand, the slope (0.036) of the line for Botswana is the second lowest. Although Ethiopia and Botswana witnessed almost similar urbanization growth, the degree of urbanization at base year (2000) is 14.74 and 53.22 per cent respectively. It may be inferred that despite such a high level of urbanization in Botswana, HDI and urbanization is going hand in hand. This is not the case for South Africa, which is at the comparable level with Botswana.

The slope of line for Nigeria is the lowest (0.005). The association between HDI and urbanization in Nigeria is similar to that of South Africa as the degree of urbanization changed from 39.07 in 2005 to 46.09 per cent in 2013 while HDI changed from 0.47 to 0.50 only. Looking at GDP per capita in South Africa one can think that the potential for expansion is less but that is not the case in Nigeria; urbanization is increasing rapidly but its contribution to national income is not commensurable. As is clear from structural change in Nigeria, the focus has been on the agriculture

**Table 1.1: Economic Development and Urbanization in Africa**

COUNTRY	CONSTANT TERM	DEGREE OF URBANIZATION			LOG LIKELIHOOD	SIGNIFICANCE LEVEL
		COEFF.	T-VALUE	P> T		
Botswana	-1.364	0.036	17.26	0.00	35.879	0.00
Ethiopia	-0.256	0.038	10.15	0.00	28.801	0.00
Ghana	0.013	0.011	21.68	0.00	41.389	0.00
Kenya	0.114	0.017	18.59	0.00	40.965	0.00
Nigeria	0.277	0.005	11.89	0.00	40.054	0.00
South Africa	0.270	0.006	3.01	0.015	30.015	0.011
Tanzania	0.074	0.014	32.72	0.00	43.802	0.00
Uganda	0.080	0.027	10.53	0.00	34.280	0.00

Note: Dependent variable is HDI



An over view of Nairobi, Kenya by night. © UN-Habitat/Julius Mwelu

sector where the productivity and contribution to national income is low but the sector provides employment opportunity to a large population. The remainder of the section presents analysis of each country separately.

### Botswana

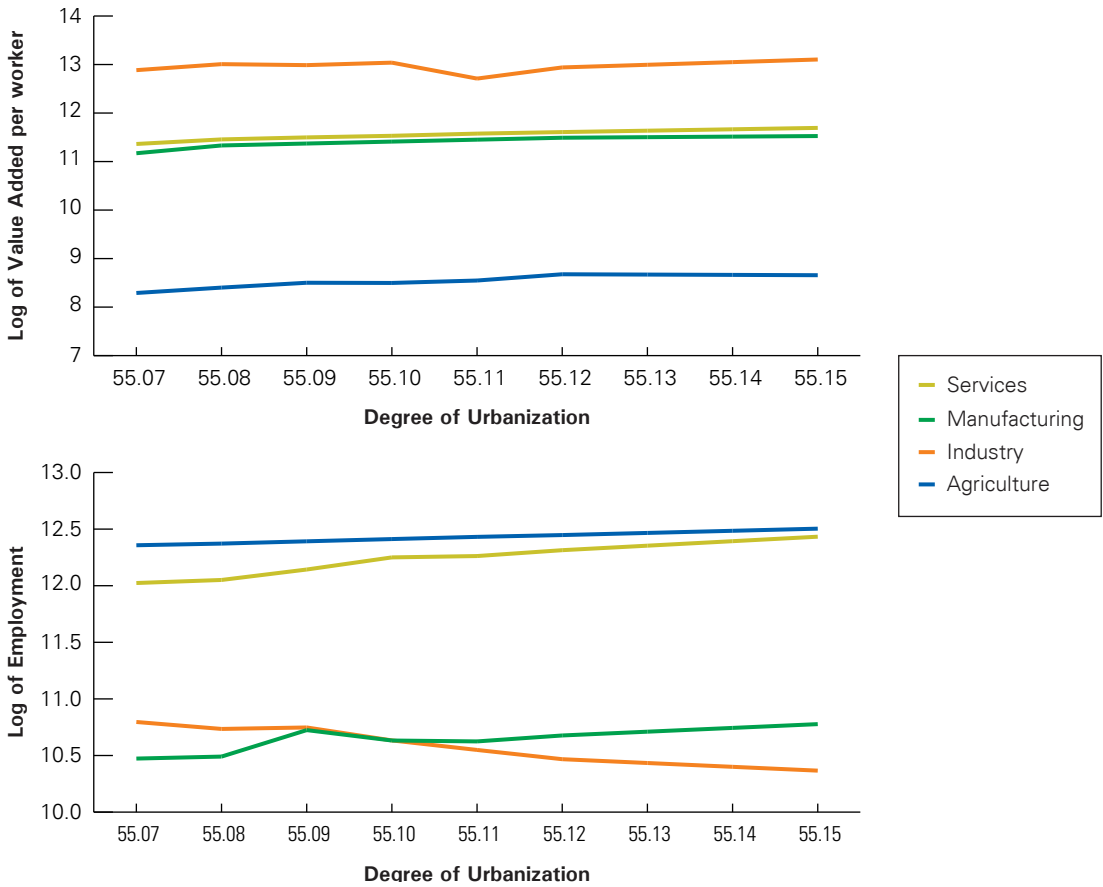
The relationship between economic development and degree of urbanization in Botswana is depicted in Figure 1.2 (Appendix I). Other forms of associations such as linear, log-linear, and power functions were tried. The functional form that gave highest R-square has been considered the best fit. Figure 1.2 shows that the association between the two is quadratic in nature with very high R-square. The quadratic form of association suggests that the rate of change of HDI becomes inelastic to change in degree of urbanization at a certain level of HDI. That level is defined as the threshold level of HDI, marked by 'T' in figure 1.2. It can be seen from the figure that it reached to threshold level of HDI at 0.678 in 2011 when the degree of urbanization was 56.47 per cent. Since 2011 there has been

very little change in HDI although the degree of urbanization changed to 56.94 per cent in 2013. It may be inferred that the contribution to economic development by new migrants is comparatively low.

Figure 1.3 depicts the linkages between structural transformation measured by growth in value added per worker, subsequent productivity and employment with the degree of urbanization.

It can be seen from the figure that the highest productivity has been in the industrial sector while the lowest has been in agriculture. As far as productivity is concerned, almost all the sectors witnessed moderate growth during 2005-2013. Looking at the sector-wise employment scenario, it can be noticed that employment in agriculture remained highest during 2005-13. Despite being the least productive, the sector is important from the point of view of employment generation. The services sector which held a second position in providing employment in 2005 provided almost as much employment to as many persons as did

Figure 1.3: Degree of urbanization, productivity and employment in Botswana



the agriculture sector in 2013. Hence, the services sector may be considered as the best in terms of employment creation. However, in terms of productivity, it is the second lowest after industrial sector. Although the productivity of the industrial sector is the highest, the employment numbers there have been declining rapidly. This has resulted in it having the lowest share of employment in 2013. The rapid decline in employment in industrial sectors needs to be a concern of policy makers in Botswana. The manufacturing sector had similar productivity levels to that of services sector was the lowest employer in 2005 and has maintained its employment level in 2013. It can be inferred from the analysis that services sector has mainly contributed to urbanization in Botswana. The situation in Botswana after 2011 may be termed as economic growth-less job creation.

### Ethiopia

The association in the case of Ethiopia is presented in Figure 1.4 (Appendix I). The figure shows that the rate of change of HDI after 2011 is marginal. It reached to threshold level of HDI at 0.42 in 2011 while the degree of urbanization (DU) was 17.74 per cent. Since then, the DU has changed to 18.59 per cent while HDI changed to 0.44 in 2013.

The associations of the degree of urbanization with productivity and employment change are depicted in Figure 1.5. It can be seen from the figure that the association between productivity in the industrial sector is negative, which suggests that high productivity jobs have reduced over a period of time though the degree of urbanization has increased. The figure suggests that employment in the industrial sector has also increased. It may be inferred that high

value-added jobs are being replaced by low value-added ones resulting in reduction in productivity and increase in employment.

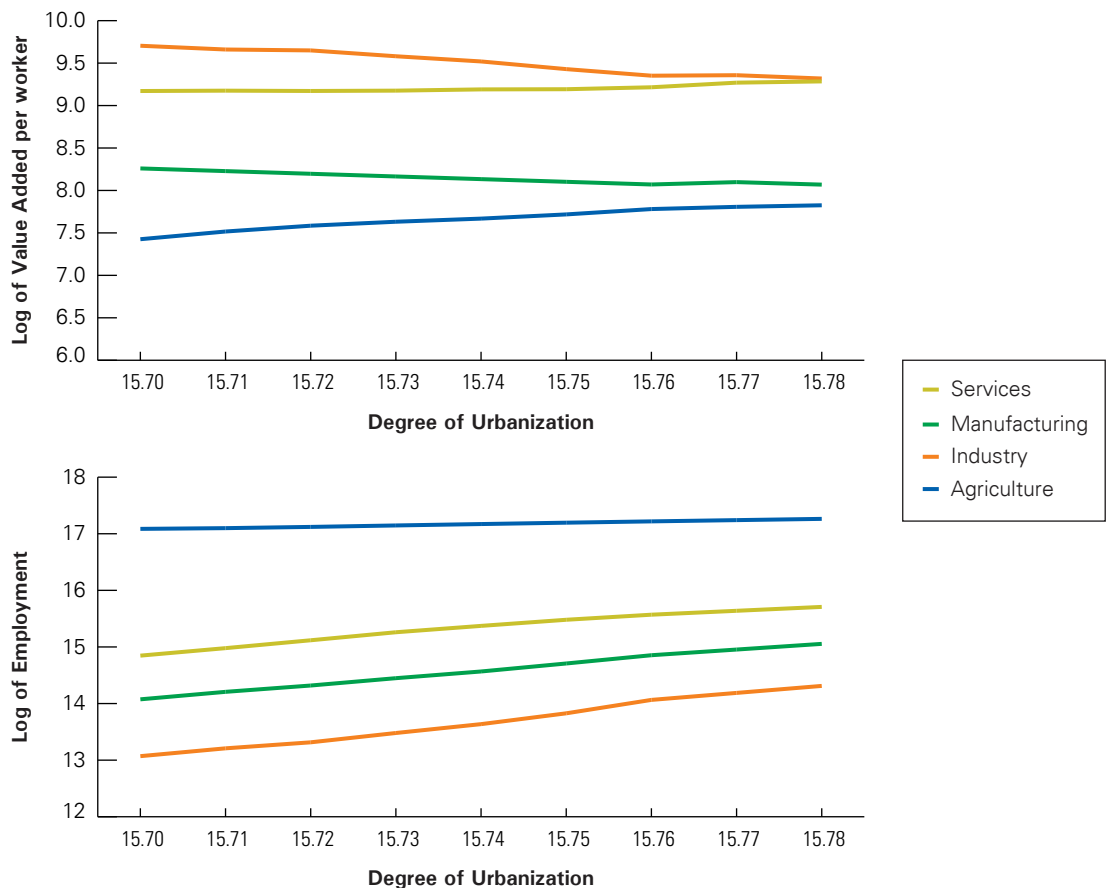
The productivity in the services sector was almost static during 2005 to 2013 but the employment in the sector has experienced positive growth. With growing urbanization and employment, the sector has been able to maintain productivity levels. This could have been achieved by providing appropriate skills to the youth, who could be absorbed in the sector.

Productivity in the manufacturing sector, however, has declined, although it maintained third position during 2005-2013. Employment in the sector experienced a positive growth rate, which suggests that high value-added activities have

been decreasing. The trend is similar to that of the industrial sector. All the sectors experienced a positive trend in employment with an increasing degree of urbanization, although the growth of employment in agriculture has been less compared to other sectors. The analysis suggests that the migration of workers from agriculture to other sectors is taking place and resulting in an increase in urbanization.

The migrant workers are being absorbed into the industrial and manufacturing sectors at low value-added activities and that is against the true spirit of structural transformation. The decline in productivity in industry and manufacturing sectors resulted in a lower contribution to the national income, thereby making HDI inelastic to growth of urbanization. This situation may be regarded as economic growth-less job creation.

**Figure 1.5: Degree of urbanization, productivity and employment in Ethiopia**



### Ghana

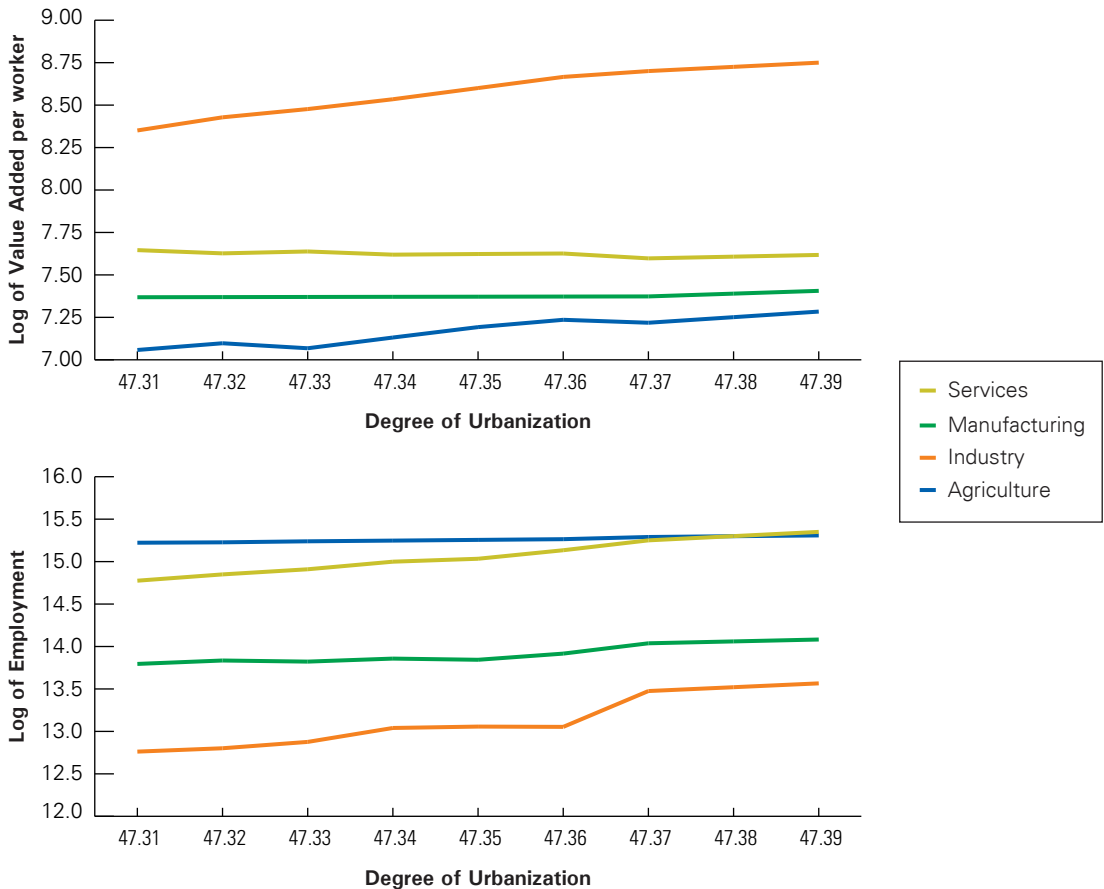
Figure 1.6 (Appendix I) depicts the relationship between development and urbanization in Ghana. It can be seen from the figure that urbanization and HDI are going hand in hand despite the fact Ghana attained the urbanization level of 52.74 per cent and HDI (0.573) in 2013. Findings suggest that additional degree of urbanization commensurately contributes to national income.

Figure 1.7 presents the association of urbanization with value added and employment. It can be seen from the figure that value added and employment in industrial sector increased with the degree of urbanization. Therefore, it may be inferred that the sector is not merely contributing to employment but also employment in high value-added activities. One of the ways to generate employment in such

activities is to provide skill upgrade opportunities to youth that help them to be absorbed in highly-productive economic activities.

Although employment in the services sector has recorded a positive growth, productivity in the sector has witnessed a negative trend with increase in degree of urbanization. The decline in productivity suggests that the additional workforce absorbed in the sector is engaged in low productive activities. This is to some extent strange as workers in the industrial sector are absorbed in high productive jobs; and in the services sector, they are absorbed in low-value activities. One of the reasons could be the size of employment in both the sectors. The level of employment in the services sector is much higher than in the industrial sectors. The services sector encompasses telecommunications,

**Figure 1.7: Degree of Urbanization, productivity and employment in Ghana**



which is expanding fast and might have generated a lot of low-skilled jobs. Consequently, productivity of the sectors has witnessed a declining trend but has generated a lot of employment.

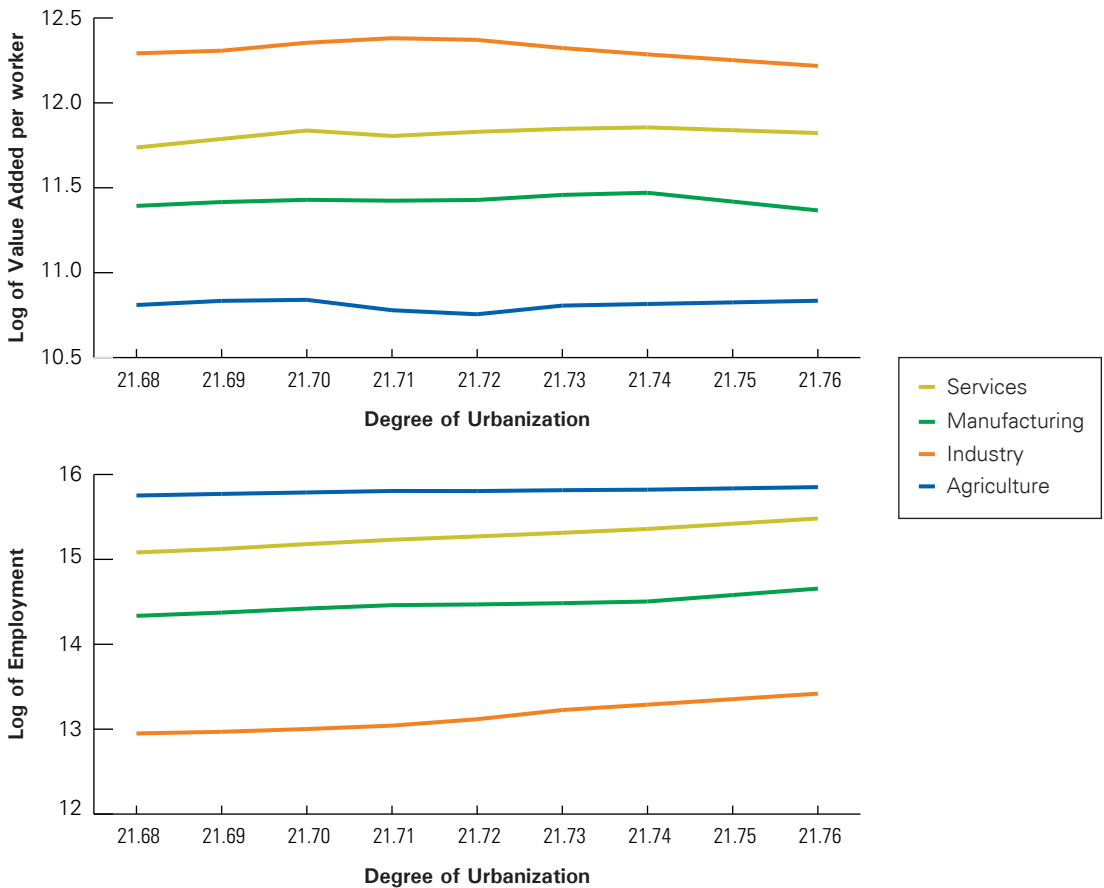
The manufacturing sector holds the third position from the point of view of value added as well as employment. The employment level and productivity have increased with the increase of degree of urbanization. Increasing productivity of industrial and manufacturing sectors might have resulted in higher per capita income, which is captured in Figure 1.6. The agriculture sector on the other hand is the least productive but has the highest levels of employment. Nevertheless, with the higher degree of urbanization employment in services sector is rising to surpass employment in the agriculture sector. Moreover, productivity in the agricultural sector

has increased with the degree of urbanization. The results presented in Figures 1.6 and 1.7 suggest that increasing productivity with degree of urbanization in all the sectors has resulted in better national income and better HDI. The kind of structural change taking place in Ghana is contributing to urbanization with improved quality of life.

### Kenya

Figure 1.8 (Appendix I) depicts the linkage between economic development and the degree of urbanization in Kenya. It can be seen from the figure that degree of urbanization and HDI are increasing proportionately. The pattern of growth of urbanization and HDI in Kenya is similar to that of Ghana. In both countries, HDI has not reached to the threshold level where it becomes inelastic to degree of urbanization.

**Figure 1.9: Degree of Urbanization, productivity and employment in Kenya**





The association of productivity and employment with the degree of urbanisation (DU) in Kenya is presented in Figure 1.9.

It can be seen from the figure that productivity has increased or remained static in all the sectors except industry with increase in DU. The productivity in the manufacturing sector did not change with increasing degree of urbanization. The findings suggest that urbanization in Kenya has increased not at the cost of productivity but has equally contributed to national income by augmenting productivity. The phenomenon is captured by data presented in Figure 1.8.

The industrial sector, which is highly productive, has the lowest levels of employment although it is increasing with DU. The agricultural sector, which

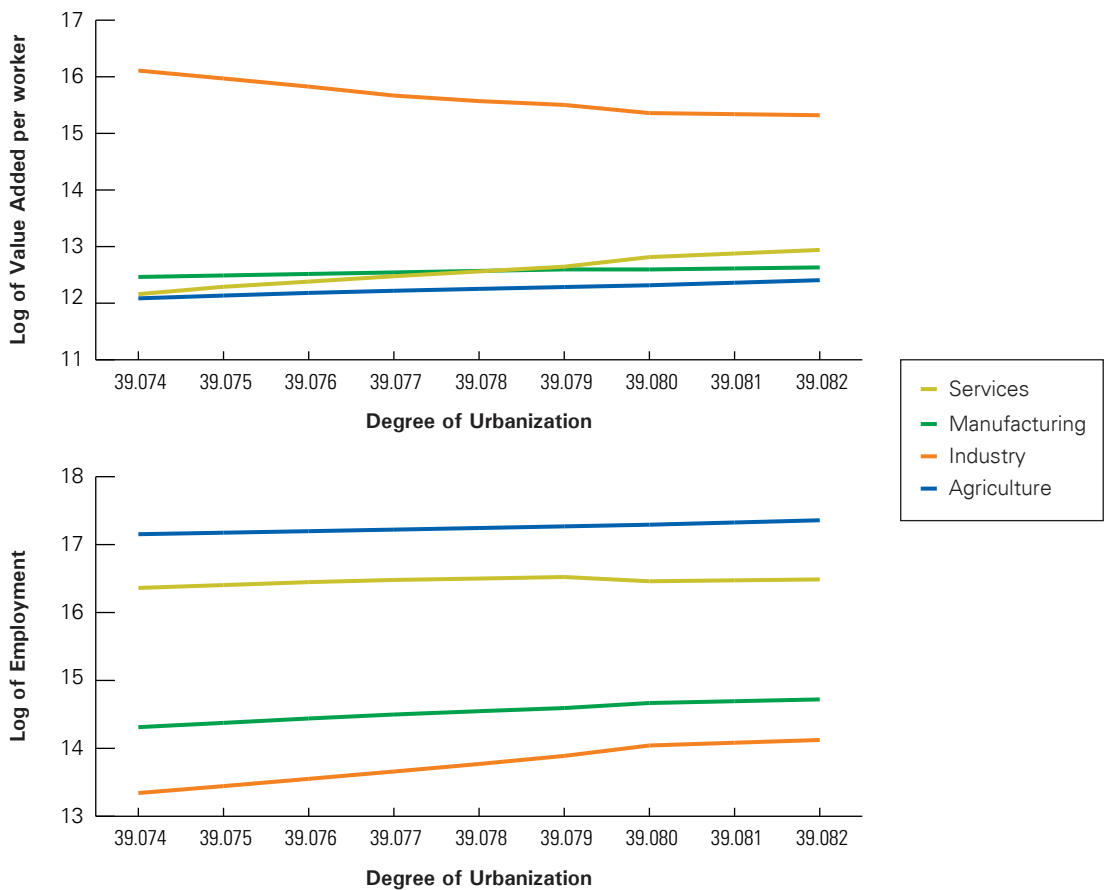
is least productive, provides employment to a large population. Like productivity, employment in these sectors has also registered positive growth with respect to urbanization.

It may be inferred from the findings that structural change in Kenya is contributing to higher productivity and also provides more employment in major sectors of the economy. Therefore, it may be argued that structural transformation has had a positive impact on the Kenyan economy and thereby increasing quality of life of the citizens.

### Nigeria

The association between the degree of urbanization and HDI in Nigeria is depicted in the Figure 1.10 (Appendix I). The graph shows a strong quadratic association between the degree

**Figure 1.11: Degree of Urbanization, productivity and employment in Nigeria**



of urbanization and prosperity, which is the result of structural change. The nature of quadratic association is that the degree of urbanization and HDI go hand in hand up to a certain level of urbanization but HDI becomes almost inelastic to urbanization beyond that. However, it has not reached that threshold in Nigeria.

Figure 1.11 shows the association between value added per capita and employment with degree of urbanization in four major sectors of the Nigerian economy. The figure shows that levels of employment in all the sectors and the degree of urbanization went hand in hand between 2005 and 2013. It may also be noticed that the relative positions from the employment point of view of various sectors remained unchanged, which suggests the growth of employment has been similar in all sectors.

The association between urbanization and value added is not uniform across all the sectors. Value added had marginally increased in agriculture and manufacturing but in services sectors it surpassed manufacturing in 2013. On the other hand, value added in industry has not only declined but has a steep negative slope suggesting that high-value added activities are diminishing. This decline in value added in the industrial sector, which has the lowest level of employment share, should be a concern for the Nigerian government. Augmentation of productivity in all other sectors has contributed to national income resulting in higher HDI, captured by Figure 1.10. Therefore, it may be argued that the additional workforce in all the sectors except industry is employed in high value-added activities. Consequently, they generate more income and lead a better quality of life with higher degree of urbanization.

### South Africa

Despite having a high level of urbanization and HDI in South Africa, the association between economic development and degree of urbanization is positive without reaching the threshold of HDI.

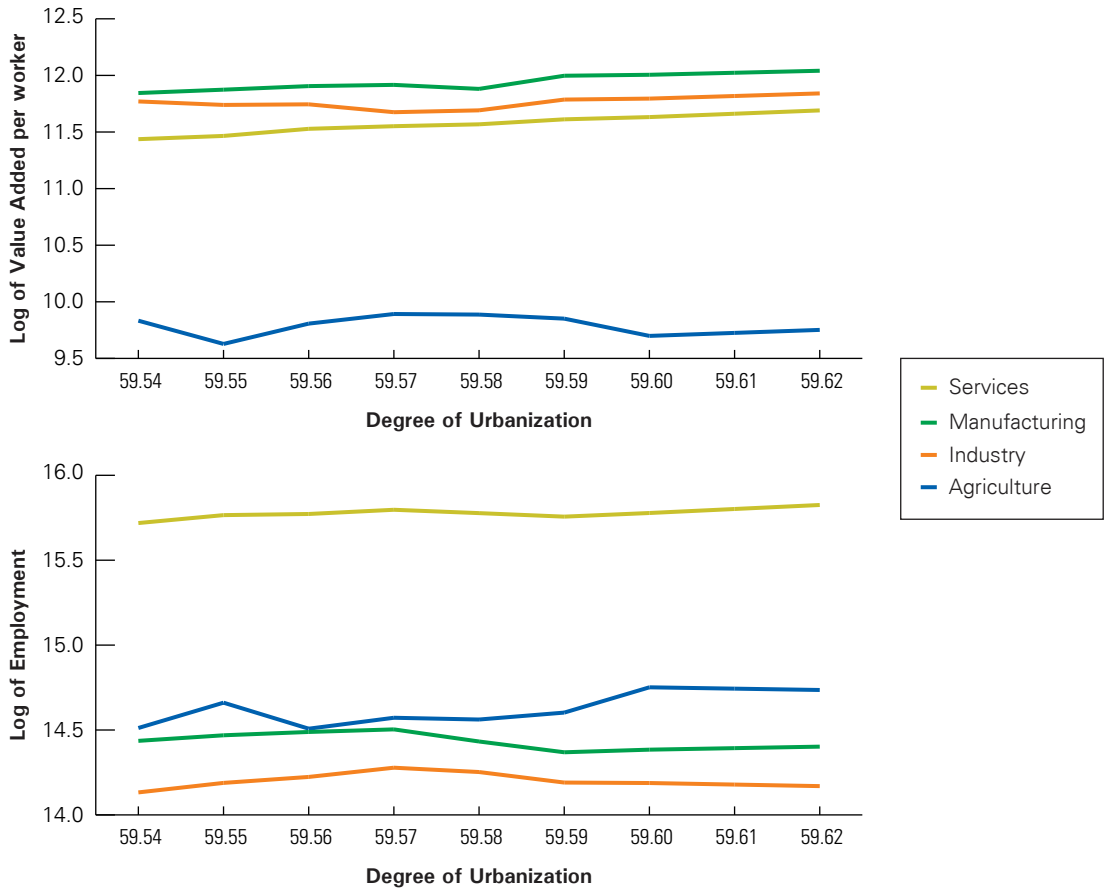
The association is depicted in Figure 1.12 (Appendix I). Such a high value of  $R^2$  of the association suggests that they are going hand in hand. This scenario would be explained in terms of changes in productivity levels in various sectors of the country.

The association of productivity and employment with the degree of urbanization is presented in Figure 1.13. It may be noticed from the figure that productivity in agriculture has been fluctuating while it has increased in all other sectors with growing degree of urbanization. In terms of the relative position of the sectors from a productivity point of view, the agriculture sector is the least productive. The decline in productivity of certain sectors is the true essence of structural transformation. Therefore, it may be argued that structural transformation witnessed by South African economy is on the right track.

As far as the employment levels in various sectors are concerned, manufacturing is the only sector where employment has recorded a negative trend with respect to degree of urbanization. It may be inferred that new migrant workers are being absorbed in sectors other than manufacturing. The changes in manufacturing sector such as increasing productivity and decreasing employment suggest that the sector is consolidating in high-value activities. Comparatively, the productivity level in the sector is the highest among all the sectors. This step is appropriate in the direction of structural transformation.

The increase in employment and productivity in industry and services with respect to the degree of urbanization suggests that the additional workforce is absorbed in high productive activities, resulting in better income. Therefore, the relationship between HDI and the degree of urbanization is still going hand in hand despite achieving such a high HDI. This is captured in Figure 1.12. It is happening because productivity in high value-added sectors is continuously increasing. Other nations in the continent need to follow the structural transformation practiced by South Africa.

Figure 1.13: Degree of Urbanization, productivity and employment in South Africa



**Tanzania**

The relationship between economic development and urbanization in Tanzania is presented in Figure 1.14 (Appendix I). It can be seen from the figure that the degree of urbanization and economic development is proportionately increasing. Although the best fit between the two is quadratic in nature, there is no sign of reaching a threshold level of HDI. It may be inferred that the contribution of the newly-urbanized population is similar to that of the existing urbanized population. The phenomenon would be explained in terms of the productivity growth of various sectors of the Tanzanian economy.

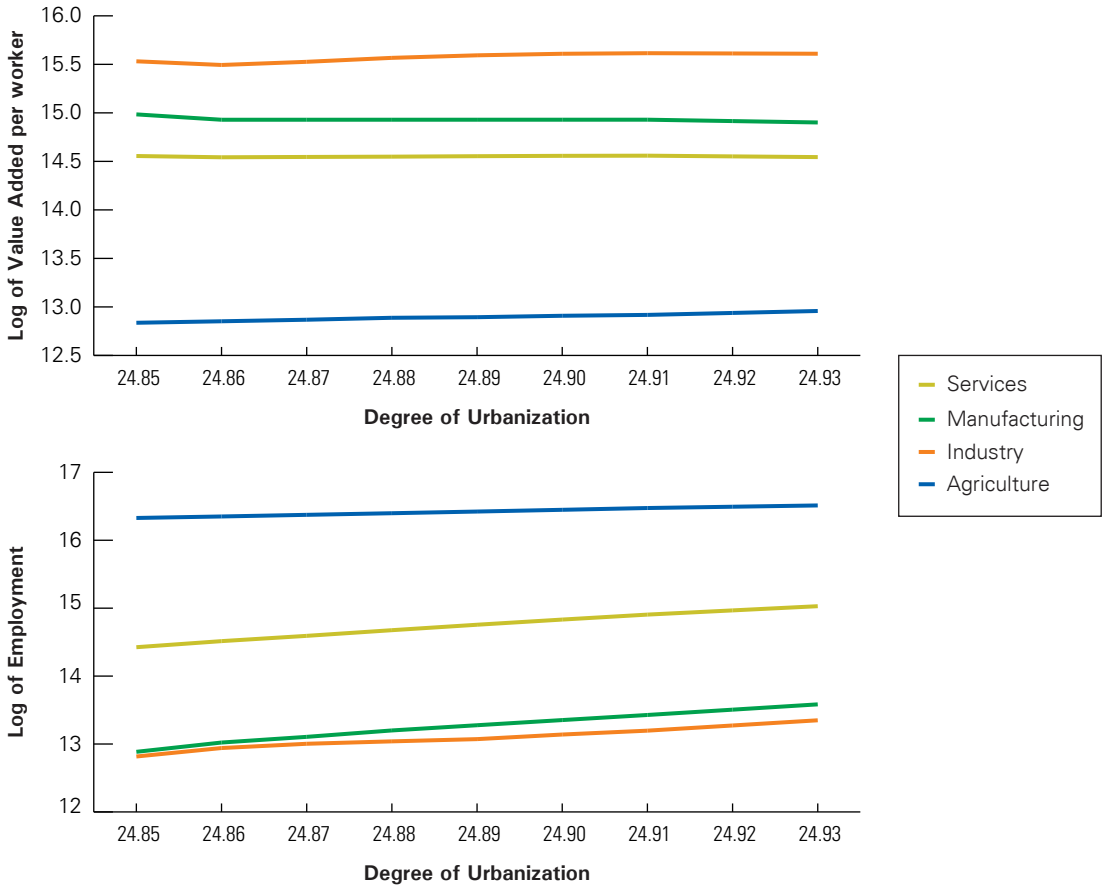
The linkage between productivity and employment with degree of urbanization in Tanzanian economy is presented in Figure 1.15. The figure shows that the

productivity in agriculture and industry has increased with increasing degree of urbanization while in manufacturing and services, it was almost static.

As far as employment is concerned, it has recorded positive growth in all sectors. The figure also shows that the industrial sector despite having the highest level of productivity, is lowest in terms of employment. In a sense, productivity and employment take the inverse position. Agriculture, which provides employment to a large segment of the population, is the least productive sector. The services sector, third in terms of productivity, is the second-highest employer after agriculture.

It is clear from the analysis presented in Figure 1.15 that structural transformation in the

Figure 1.15: Degree of Urbanization, productivity and employment in Tanzania



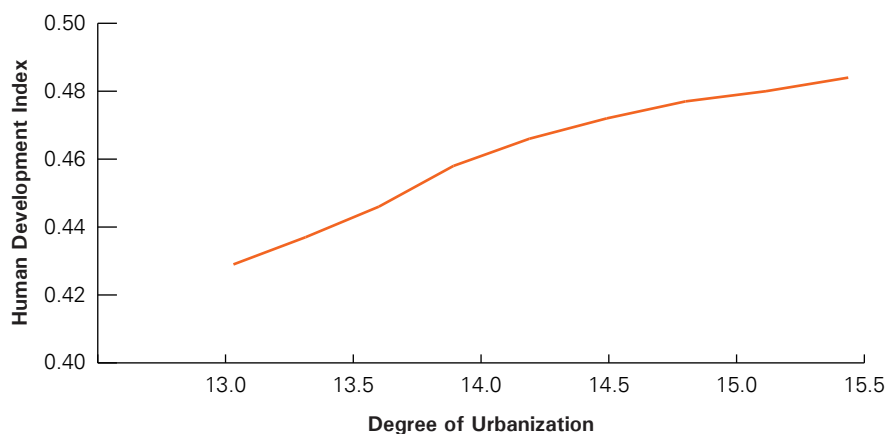
Tanzanian economy is leading to a higher degree of urbanization which in turn, is contributing to both productivity and employment. The increasing levels of productivity suggest that the newly-urbanized population is employed in high productive activities resulting in higher national income. This is captured in Figure 1.14, which shows that the economic growth and urbanization are increasing proportionately.

### Uganda

The association between economic development and urbanization is presented in Figure 1.16.

The Figure shows that the economic development and degree of urbanization are increasing commensurately. However, the argument cannot be substantiated by empirical evidence due to lack of data on productivity and employment for the Ugandan economy. It may be inferred that structural change in the country is proceeding in the right direction.

Figure 1.16: Development and Urbanization in Uganda



## 4.2 Asia

The Tobit estimates of Asian sample countries are presented in Table 1.2. Similar to African economies, the association of economic development with degree of urbanization is positive in all the countries except Philippines and Sri Lanka.

The coefficients of degree of urbanization in both countries are negative, suggesting that economic development and urbanization are not growing in the same direction. This is captured

in the graphs presented and discussed in details in respective country analyses. Irrespective of the sign of coefficient, the parameter estimates are highly significant (at 1 per cent level). Such a high level of significance indicates that the degree of urbanization significantly influenced the economic development in Asian economies. The remainder of the section discusses the degree of urbanization and its linkages with productivity growth and employment in each country separately.

Table 1.2: Economic Development and Urbanization in Asia

COUNTRY	CONSTANT TERM	DEGREE OF URBANIZATION			LOG LIKELIHOOD/F	SIGNIFICANCE LEVEL
		COEFF.	T-VALUE	P> T		
China	0.321	0.008	30.74	0.00	41.430	0.00
India	-0.194	0.025	20.52	0.00	39.581	0.00
Indonesia	0.307	0.007	15.25	0.00	40.216	0.00
Malaysia	0.449	0.004	11.45	0.00	41.241	0.00
Philippines	1.168	-0.011	-12.65	0.00	44.950	0.00
Sri Lanka*	9.291	-0.467	-22.55	0.00	508.32	0.00
Thailand	0.522	0.004	11.97	0.00	38.149	0.00

Note: Dependent variable is HDI, \*OLS rather than TOBIT results

### China

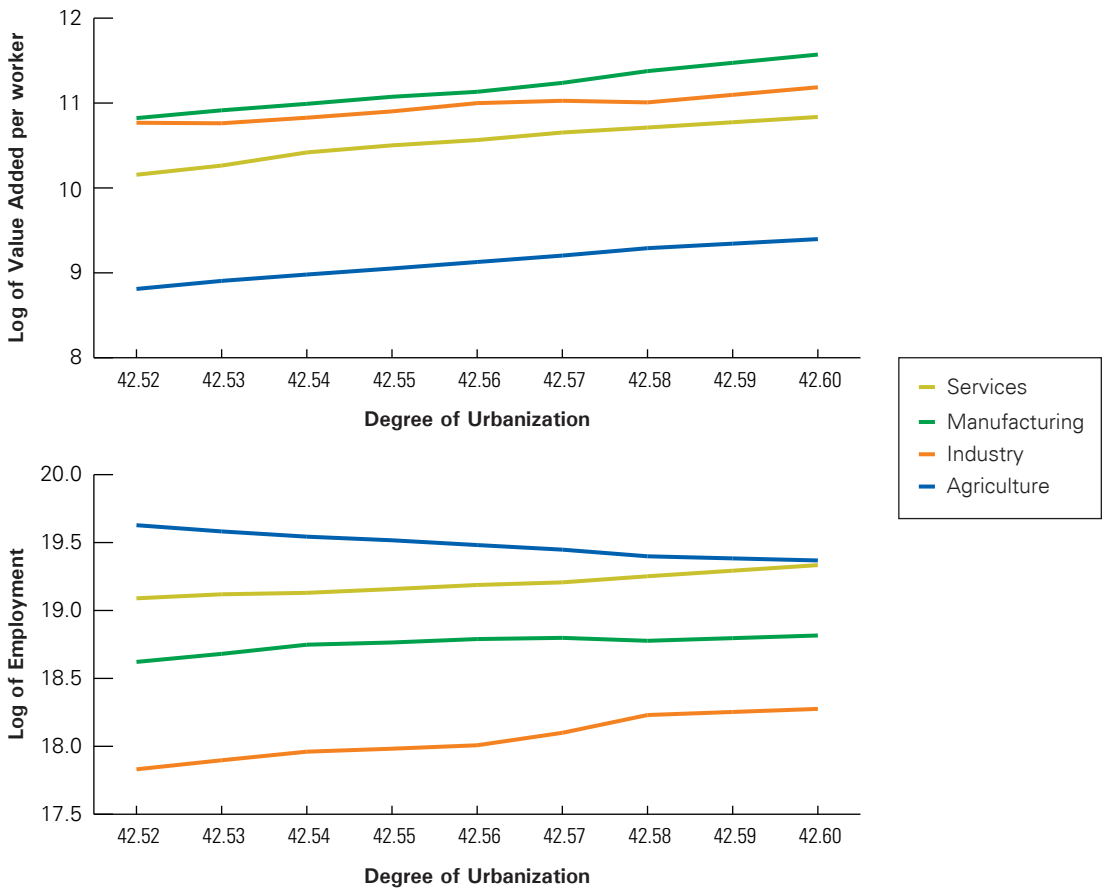
The association of HDI and degree of urbanization is depicted in Figure 1.17 (Appendix I). It can be seen from the figure that  $R^2$  of quadratic association between the two is almost close to 1 indicating the goodness of it. It can be seen from the figure that HDI and urbanization are going hand in hand. There is no sign of convergence of HDI. This kind of association could be explained in terms of productivity and employment growth presented in Figure 1.18.

Figure 1.18 shows that productivity in all major sectors has registered a positive growth rate. Although productivity has grown in all the sectors, manufacturing has witnessed the highest growth, followed by industrial with the increasing degree of urbanization. However, the relative position of

these sectors in terms of productivity remained unchanged between 2005 and 2013.

As far as employment is concerned, it has increased in all the sectors except agriculture. In fact, the levels of employment in services and agriculture sectors became almost identical in 2013. It may be inferred that the workforce is moving away from low value-added sectors such as agriculture, to high value-added sectors such as manufacturing and industry. Unlike several African economies, the surplus labour from agriculture is not absorbed in low value-added activities of high productive sectors. Rather, the new workforce is absorbed at high value-added jobs resulting in high degree of industrialization which, in turn, is contributing to national income and urbanization.

**Figure 1.18: Degree of Urbanization, productivity and employment in China**





The kind of structural transformation taking place in the Chinese economy is meeting the main purpose of it. As defined earlier, structural transformation should result in greater economic growth by replacing low-productive sectors with high-productive ones. In China, even productivity in the least-productive sector has registered a positive growth although the employment in the sector has declined suggesting that agriculture has been capital intensive and a lot of technology transfer has taken place in the sector.

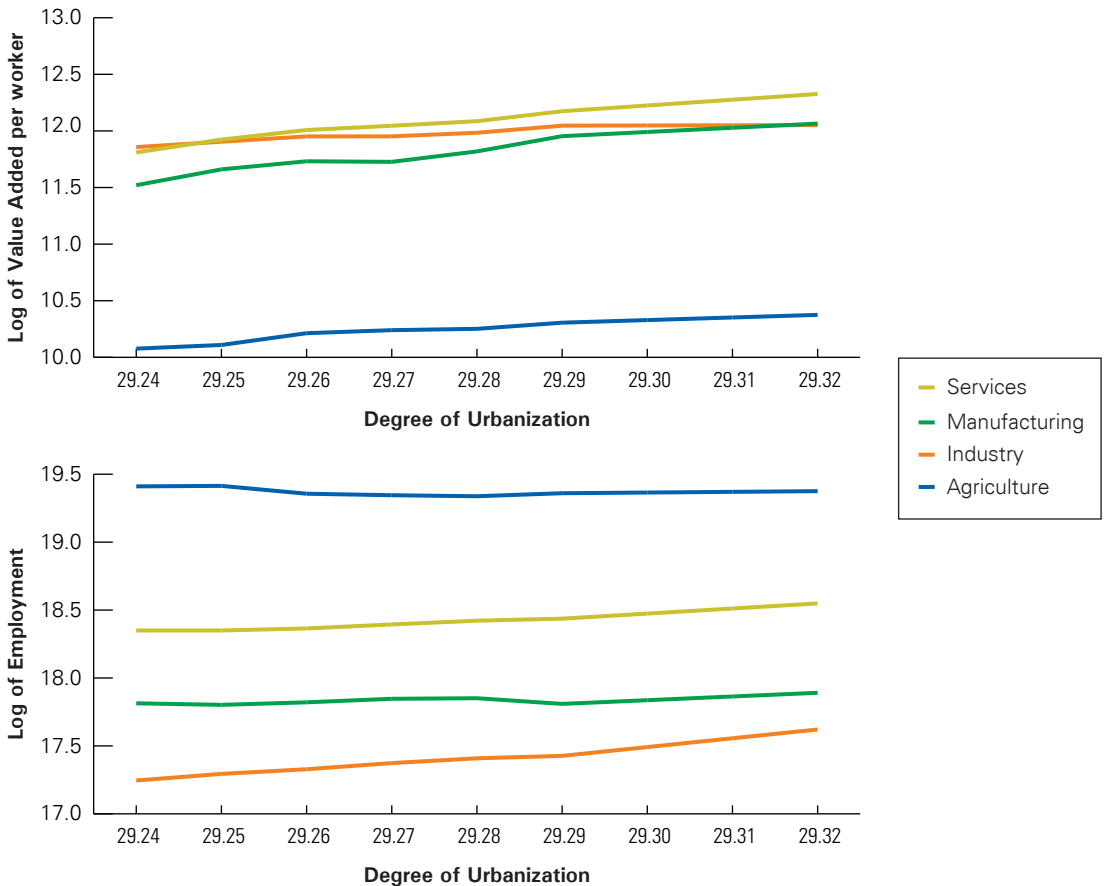
### India

Figure 1.19 (Appendix I) presents an association between economic development and the degree of urbanization in India. It can be seen from the figure that the trend is similar to that of China but the level of urbanization is much lower in India. In

2005 it was 29.24 and 42.52 per cent in India and China respectively. But it changed to 31.99 and 53.17 per cent respectively. In 2013, the association between the degree of urbanization and economic development could be explained in terms of productivity and employment growth presented in Figure 1.20.

Figure 1.20 shows that, as with China, the productivity in all the sectors has registered a positive growth as the degree of urbanization increased. In India, it is the services sector that has registered the highest productivity growth followed by manufacturing. The change in productivity in the industrial sector has been the lowest. In terms of relative position, the services sector occupied the first position, surpassing industry which had been the most productive in

**Figure 1.20: Degree of Urbanization, productivity and employment in India**



2005. The productivity levels in manufacturing and industry were similar in 2013.

As far as growth of employment in these sectors is concerned, it has increased except in agriculture, a trend similar to that of China. It may be inferred that India is going the same way as China with respect to structural change and degree of urbanization but the levels of urbanization is very different. The degree of urbanization in 2013 in China and India is 53.17 and 31.99 per cent respectively. However, the relative position of the sectors in terms of productivity in both the countries is not identical. In China services sector is on the third position in terms of productivity while in India the sector occupies the first position.

It may be concluded that the service sector is given more importance than manufacturing and industry while in China the preference is the other way round. Another distinguishing aspect between the two countries is the change of the degree of urbanization during 2005 to 2013. It changed dramatically from 42.52 to 53.17 per cent in China while in India it increased from 29.24 to just 31.99 per cent.

### Indonesia

The linkage between the economic development and degree of urbanization in Indonesia is depicted in Figure 1.21 (Appendix I). The scenario is similar to that of China and India not only in terms of trend but also with respect to threshold level. The curve does not show any sign of HDI being inelastic to the degree of urbanization. The levels of productivity and employment presented in Figure 1.22 explain the association between economic development and urbanization.

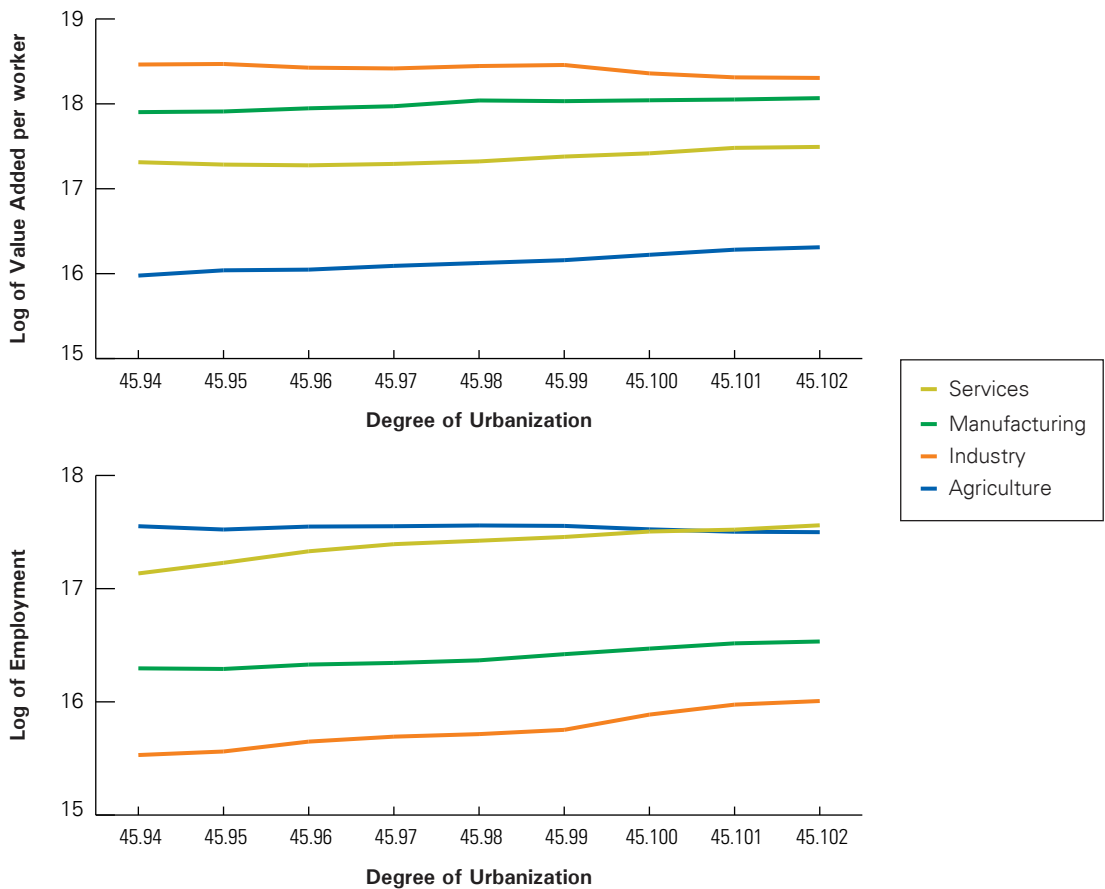
Although the relative position of productivity of the main sectors remained unchanged with increasing degree of urbanization during 2005 to 2013, the industrial sector has witnessed a negative trend. The productivity of the sector has declined with the increase in urbanization. The productivity in other sectors almost remained static during 2005 to 2013, while the degree of urbanization changed from 45.94 to 52.25 per cent.

Looking at the growth of employment in these sectors, one may notice that it is agriculture where employment has declined while in other sectors it has increased marginally. The increase in employment and decrease in productivity in the industrial sector suggests that the surplus manpower from agriculture is being absorbed in industry at low productive activities resulting in low national income but this is being compensated by increase in productivity and employment in the services sector.

Despite the slow growth in employment and productivity in the economy, the urban population changed from 45.94 to 52.25 per cent during 2005 to 2013. This is somewhat different from India. The change in the urban population is much less in India while it was very large in China during the same period.

The change in the degree of urbanization and HDI are not commensurate. This is because the productivity in some sectors has increased while in others it has decreased, resulting in very little contribution to national income. Consequently, the change in HDI is marginal (from 0.64 in 2005 to 0.68 in 2013). It may be inferred that additional workforce could not contribute proportionately to economic development. Therefore, the large change in degree of urbanization contributed little to change in HDI and this is captured in Figure 1.21.

Figure 1.22: Degree of Urbanization, productivity and employment in Indonesia



**Malaysia**

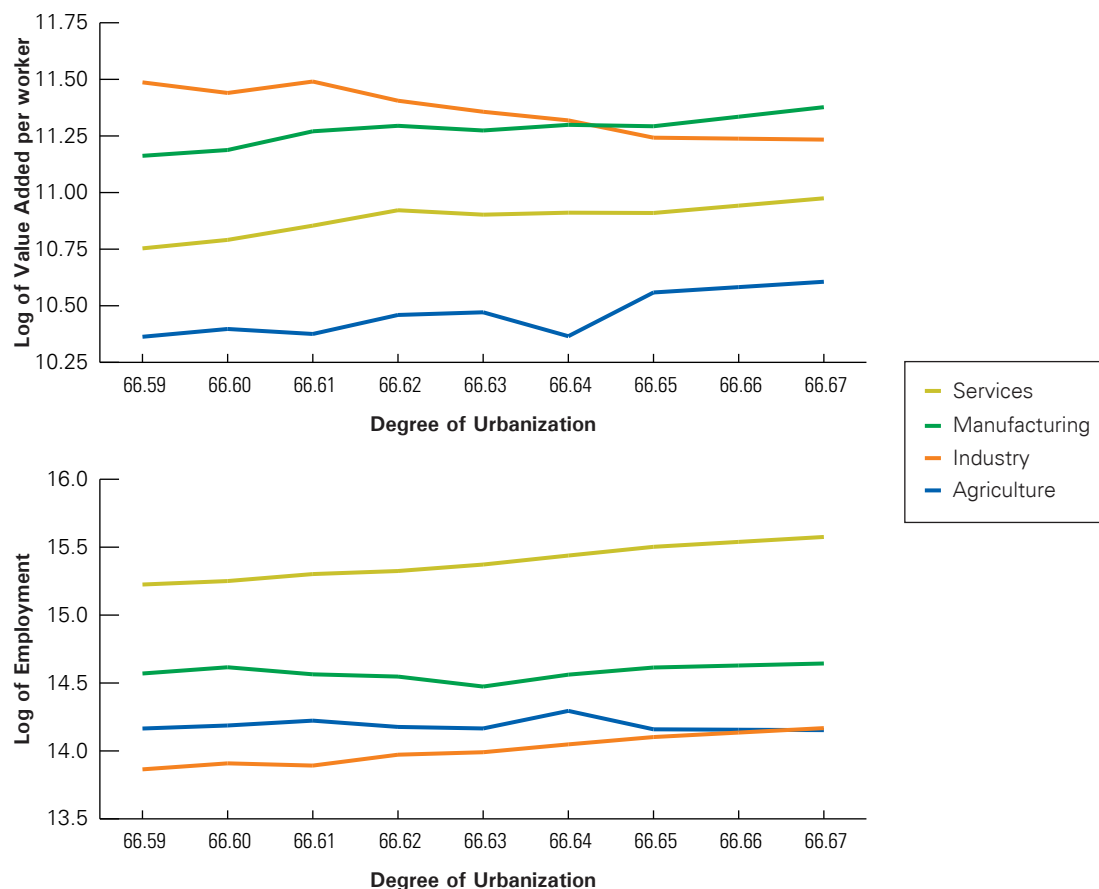
Figure 1.23 (Appendix I) depicts the relationship between HDI and the degree of urbanization in Malaysia. Like other Asian countries, the association is positive with a very high value of R<sup>2</sup>. Although the levels of urban population and HDI are much higher in Malaysia than even in China, there is no sign of HDI being inelastic to urban population. The productivity and employment growth depicted in Figure 1.24 would reveal the reason behind it.

The scenario with regard to productivity growth is similar to that of Indonesia. Productivity in all sectors except industry has increased with the growing urban population while, in industry, it has drastically declined and led to a change in its relative position from top to second after manufacturing in 2013. The productivity in other sectors has grown at almost the same rate.

On the other hand, the levels of employment have increased in all the sectors except agriculture. The employment scenario in Malaysia is different from most of the countries featured in this paper. The agriculture sector has been found to be the largest employer in other countries while it takes the third position in Malaysia followed by services and manufacturing. Such a large volume of employment in the services and manufacturing sectors with increasing productivity might have resulted in income and consequently high HDI compared to other countries. The employment in industrial sector which was the lowest in 2005 reached similar levels as that of agriculture in 2013.

The figure shows that workforce is moving away from agriculture and is being absorbed in all the sectors - highest in services, which is the second-

Figure 1.24: Degree of Urbanization, productivity and employment in Malaysia



least productive sector. Since the newly-migrated workforce is absorbed in a higher productive sector, it augments overall productivity gains resulting in higher national income and, consequently, higher HDI. It may be argued that structural change is leading to higher degree of urbanization and better quality of life for Malaysia's citizens.

### Philippines

It may not be appropriate to relate the degree of urbanization with economic development in the Philippines as the definition of urbanization radically changed in 2003. Until 2003 the Philippines classified urban and rural areas using the physical and economic characteristics of *barangays*. The definition of urban areas which has been in use since the 1970 census, considers population density, street patterns and the

presence of establishments and facilities for basic services.<sup>21</sup>

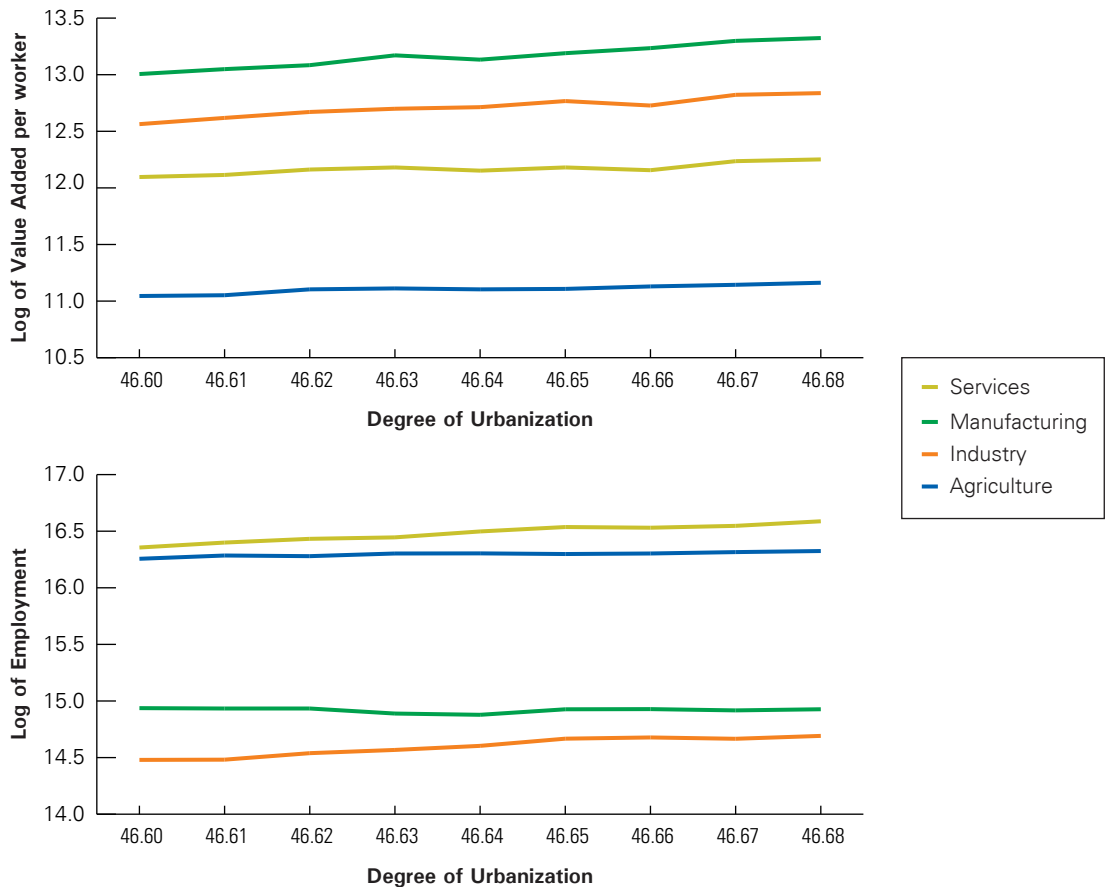
The new definition is that a *barangay* is considered urban if it has a population size of 5,000 or more; at least one establishment with a minimum of 100 employees or if has five or more establishments with a minimum of ten employees, and ten or more facilities within the two-kilometre radius from the *barangay* hall.<sup>22</sup>

The new definition may lead to de-urbanization due to movement of establishments to more than two kilometres away from a *barangay* hall. And if the population of such *barangay* is fewer than 5,000,

<sup>21</sup> National Statistical Coordination Board, Resolution no. 9, 2003

<sup>22</sup> From [http://www.nscb.gov.ph/pressreleases/2004/30Jan04\\_urban.asp](http://www.nscb.gov.ph/pressreleases/2004/30Jan04_urban.asp), accessed on December 10, 2015

Figure 1.25: Degree of Urbanization, productivity and employment in Philippines



it would become rural, resulting in a decline of the degree of urbanization. As a result, the urban population declined from 46.60 per cent in 2005 to 44.63 per cent in 2013. However, HDI increased from 0.64 to 0.66 during the same period. On the other hand the productivity and employment in most of the sectors has grown during 2005 and 2013 which is depicted in Figure 1.25.

The case of Philippines is unique. The productivity in all the sectors has registered a positive growth during 2005 to 2013 but the percentage of urban population has declined. This is could be due to a change in the definition of urbanization. As far as employment is concerned, it has also experienced a positive growth rate except in manufacturing sector which has been almost stagnant. The services sector, the third-most productive one, not

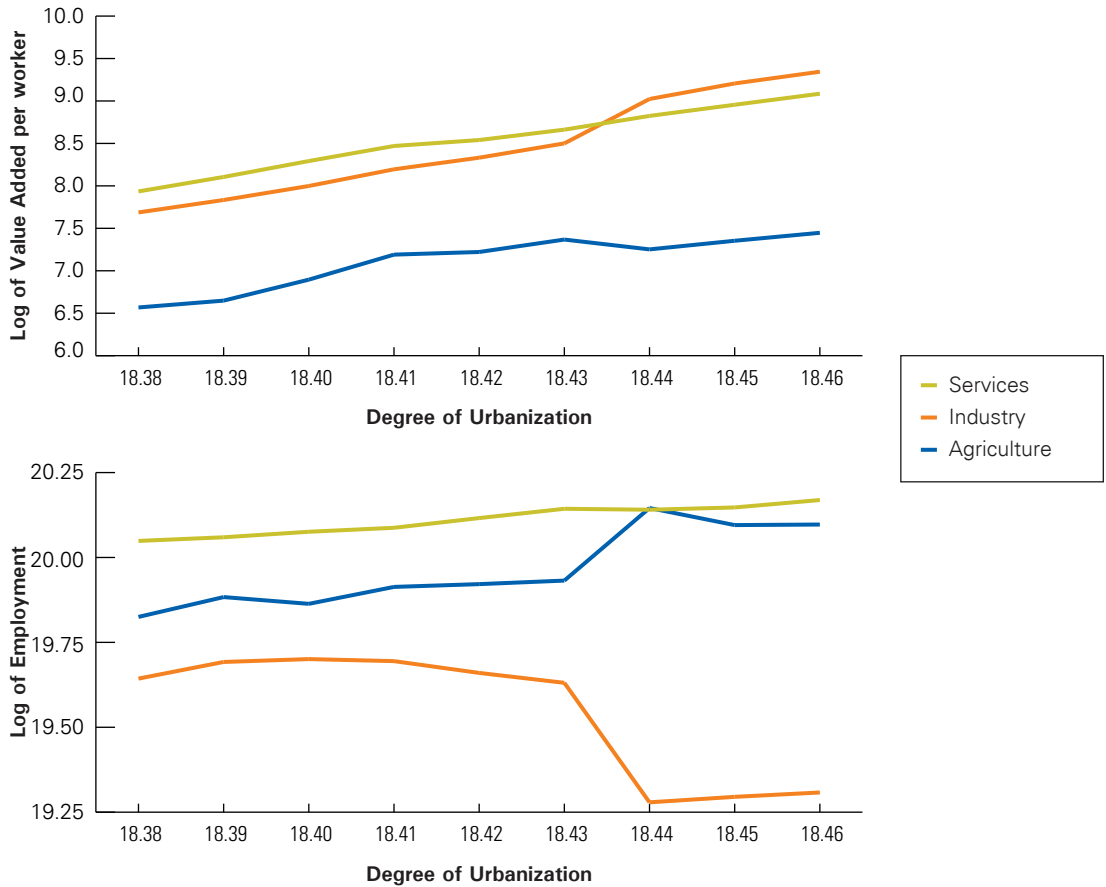
only experienced the highest employment growth but also is the largest employer in the economy. An increased level of productivity is expected to contribute to a higher national income and this is what has happened in Philippines. Consequently, HDI has increased during 2005 to 2013.

### Sri Lanka

As the definition of urbanization is not static, it is not appropriate to relate it to the degree of economic development in Sri Lanka. It is not based on any definite criterion such as the size of population, population density, proportion of the male population in non-agricultural occupations or status of civil administration.<sup>23</sup>

<sup>23</sup> Panditharathne, 1996

Figure 1.26: Degree of Urbanization, productivity and employment in Sri Lanka



Consequently, the degree of urbanization has decreased from 18.38 in 2005 to 18.30 per cent in 2013. The major reasons responsible for the decreasing trend of level of urbanization are the absence of an acceptable definition of urban settlements and an island-wide census in 2001.<sup>24</sup> In Sri Lanka, urban status is conferred on an area by the Minister in charge of Local Government purely for local administrative purposes.<sup>25</sup> However, the country has experienced positive growth of economic development and that would be explained in terms productivity and employment growth presented in Figure 1.26.

It can be seen from the figure that productivity has registered a positive growth in all sectors of the economy from 2005 to 2013. The highest growth has been achieved by industry followed by services and agriculture. On the other hand, the employment scenario depicts a grim situation. Employment in services has almost been static and in industry it has drastically declined. It is the agriculture sector where employment has grown.

The reason for productivity growth could be due to intra-sectoral changes such as technology transfer and optimum allocation of resources. It is worth mentioning that the garments manufacturing sector in Sri Lanka has performed well in national and international markets in recent years. From a productivity perspective, the structural change in Sri Lanka is in the right direction but the phenomenon

<sup>24</sup> Uduporuwa, 2010  
<sup>25</sup> *ibid*



of de-urbanization cannot be explained with the help of data.

**Thailand**

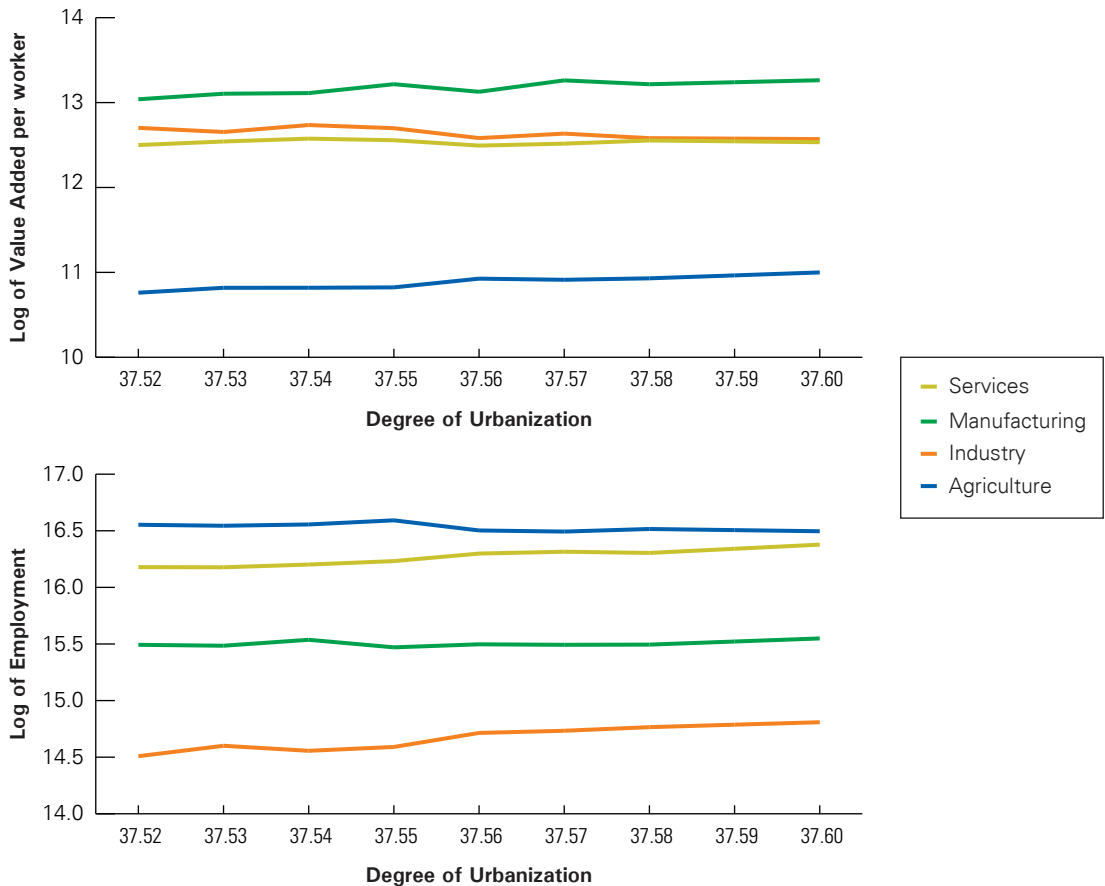
Figure 1.27 (Appendix I) presents the linkages between economic development and urbanization. The nature of association is similar to many of the sample economies but the figure shows that HDI became inelastic after reaching a threshold level of 0.72. The HDI did not change after that but urban population grew from 37.52 to 47.94 per cent in 2013. The productivity and employment growth presented in Figure 1.28 would explain the nature of association between HDI and the degree of urbanization.

It can be seen from the figure that the growth of productivity in the industrial sector has declined

with increasing urbanization, while it has increased in other sectors though the change in the services sector has been marginal. Consequently, the productivity levels of the industrial and services sectors became almost identical in 2013 while the manufacturing sector maintained its top position. Like many other countries the agriculture sector has been the least productive.

Employment in agriculture has declined with increasing degree of urbanization whereas it has increased in other sectors. The relative position of sectors in terms of levels of employment did not change with increasing degree of urbanization. It can be seen from the Figure that productivity has been increasing with the degree of urbanization. The Figure also shows that productivity growth in agriculture, manufacturing and services is marginal

**Figure 1.28: Degree of urbanization, productivity and employment in Thailand**



and this might have resulted in near stagnation of national income. Therefore, the stagnation of HDI may be attributed to the decline in productivity in the industrial sector and the marginal increase in productivity in other sectors. The findings suggest that the contribution of degree of urbanization to economic development is marginal, particularly after a threshold level of urbanization.

## Latin America

Tobit<sup>26</sup> estimates of the coefficient of degree of urbanization in sample Latin American countries are presented in Table 1.3. The results are similar to other countries. The Table also shows that no country in Latin America has witnessed de-urbanization. The parameter estimates are significant at the highest level (1 per cent). Such a high level of statistical significance suggests that the association between economic development and degree of urbanization is positive and very strong.

The remainder of the section presents country specific association and its interpretation in terms of productivity and employment growth.

## Argentina

Figure 1.29 (Appendix I) depicts the association between HDI and degree of urbanization in Argentina. This is similar to many other countries but differs in reaching the threshold level of HDI. It can be seen from the Figure that the HDI reached a threshold level of 0.804 at 91.13 per cent degree of urbanization in 2011. Thereafter, the rate of change of HDI with respect to the degree of urbanization is almost stagnant, suggesting that urbanization beyond the threshold level is disproportionately contributing to national income. The productivity and employment growth presented in Figure 1.30 may be useful in establishing the linkages between urbanization and economic development.

It can be seen from the Figure that productivity in the industrial sector has declined with the increase in urban population while the other sectors have realised an increase in productivity. The manufacturing sector maintained its top position during 2005 to 2013 while the agriculture sector occupies second position, shifting industry to third. Strangely, the services sector in Argentina is found to be the least productive, a situation different from most of the sample countries of Asia and Africa.

As far as the employment scenario is concerned, the services sector (which is least productive) provides jobs to the largest number of people. In other countries, this is usually applicable to the

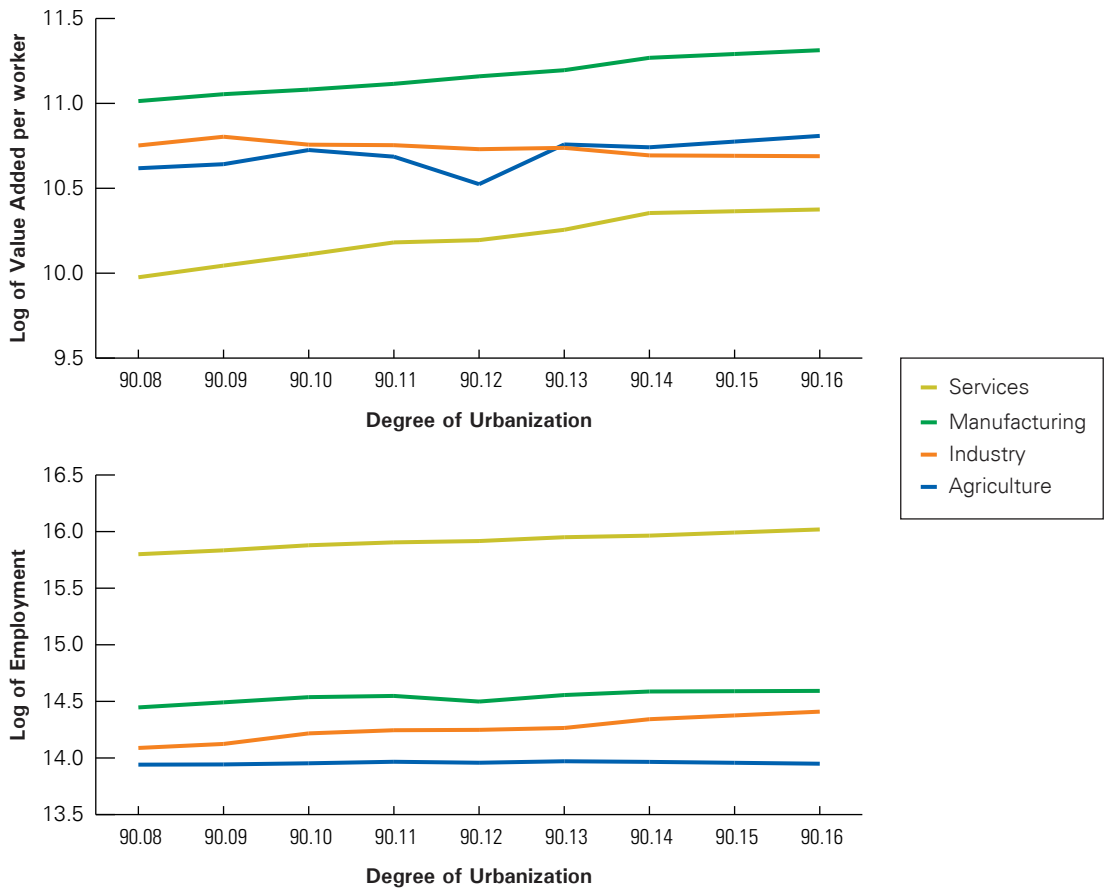
<sup>26</sup> The regression model did not converge in TOBIT in many countries. Hence base results are presented in the table and such countries are marked with \*

**Table 1.3: Development and Urbanization in Latin America**

COUNTRY	CONSTANT TERM	DEGREE OF URBANIZATION			LOG LIKELIHOOD/F	SIGNIFICANCE LEVEL
		COEFF.	T-VALUE	P> T		
Argentina*	-1.799	0.028	7.61	0.00	57.92	0.00
Bolivia	0.112	0.008	14.91	0.00	44.407	0.00
Brazil*	-0.673	0.017	15.78	0.00	248.90	0.00
Colombia	-0.448	0.015	14.89	0.00	42.450	0.00
Mexico*	-0.391	0.015	25.29	0.00	639.38	0.00
Venezuela*	-8.455	0.104	9.38	0.00	87.96	0.00

Note: Dependent variable is HDI; \*Base results rather than Tobit results

Figure 1.30: Degree of urbanization, productivity and employment in Argentina



agriculture sector. This sector in Argentina on the other hand, provides employment which is lower than all the sectors, a phenomenon rarely seen in other countries. The growth analysis of employment suggests that it has been stagnant in the agriculture sector with increasing degrees of urban population while in industry and manufacturing it has marginally increased and the services sector experienced a reasonable growth.

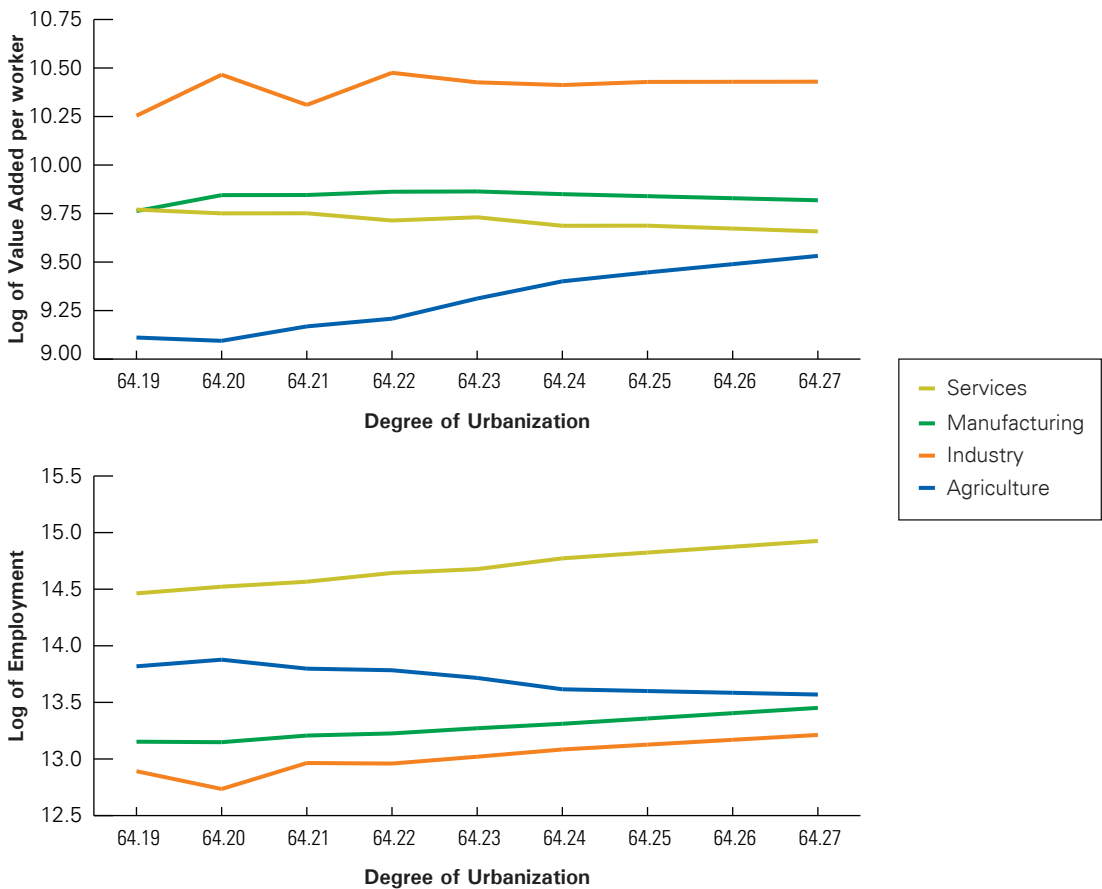
The Argentinian economy may be regarded as a services sector oriented one. The sector being least productive does not contribute much to national income resulting in an almost stagnant HDI. The industrial sector, whose productivity is declining with increasing employment and urbanization, suggests that the additional workforce from rural areas is absorbed in low value-added activities in

the sector. Therefore, the sector also contributes to the stagnation of HDI.

### Bolivia

Presented in Figure 1.31 (Appendix I), the association between economic development and degree of urbanization in Bolivia shows that degree of urbanization and HDI is increasing proportionately. Another noticeable fact is that the urban population has not reached any threshold level. This form of association is explained in terms of the productivity and employment growth depicted in Figure 1.32.

It can be seen from the Figure that it is only the services sector that has experienced decline in productivity. In industrial and manufacturing sectors it has marginally increased. The highest growth has

**Figure 1.32: Degree of urbanization, productivity and employment in Bolivia**


been realised by the agriculture sector. The relative position of the sectors did not change with the increasing degree of urbanization during 2005 to 2013. The growth of employment scenario would suggest that the level of employment has decreased in agriculture and that the workforce has moved out from the sector. Largely, it has been absorbed in the services sector which has registered the highest employment growth. Employment industry and manufacturing has marginally grown with the increasing degree of urbanization. It may be inferred that new migrants from rural areas are being absorbed in the highly-productive industrial sector, thereby contributing reasonably to national income. Consequently, the HDI has increased with the increasing degrees of urbanization. Therefore, it may be argued that structural change witnessed in Bolivia is based on productivity gains in all the

sectors. This form of structural change contributes positively to urbanization and can offer better quality of life to the citizens.

### Brazil

The association between economic development and degree of urbanization in Brazil presented in Figure 1.33 (Appendix I) is somewhat different from Bolivia's. The degree of urbanization reached a threshold level of HDI 0.739 at the urban population density at 84.34 per cent in 2011. Thereafter, the urban population has increased to 85.17 per cent in 2013 with very little change in HDI at the level of 0.744. In general, the degree of urbanization is much higher in Brazil than in many other countries. This may be one of the reasons for HDI being inelastic to additional urban population. An effort would be made to explain this type of

association between the two by the productivity and employment growth presented in Figure 1.34.

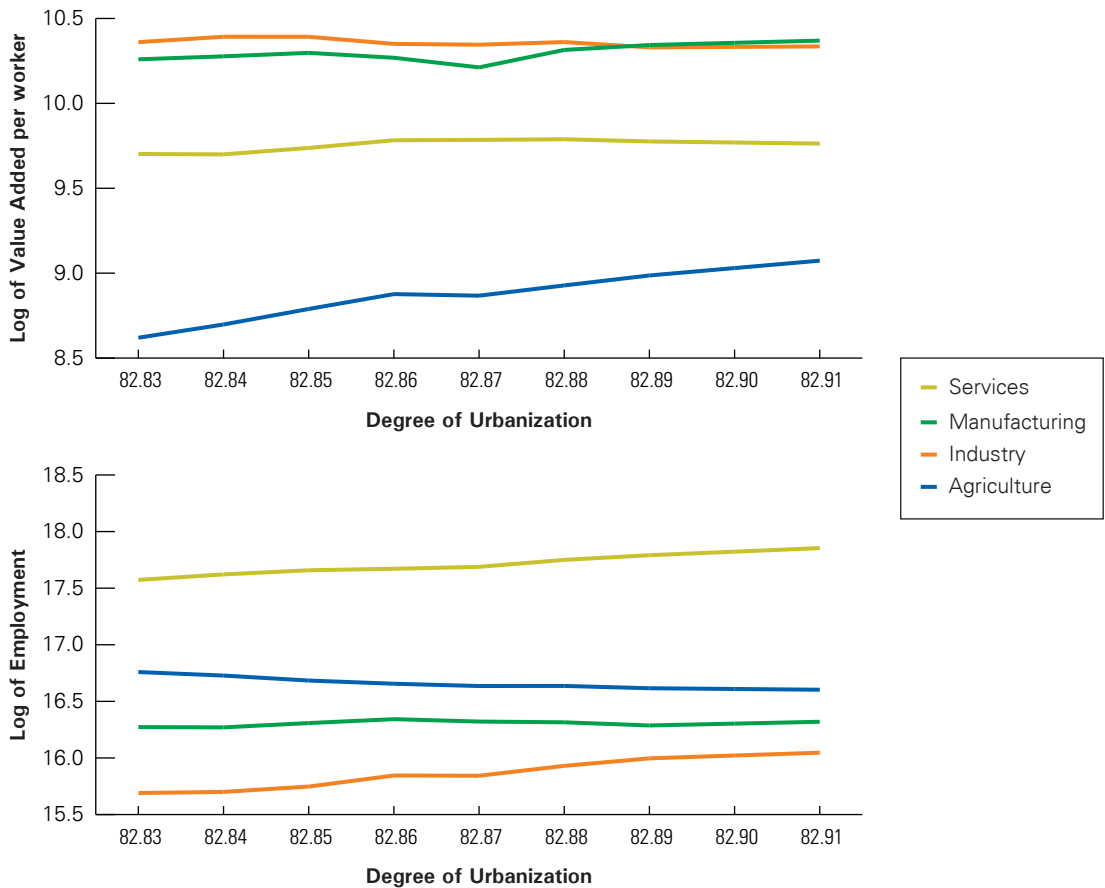
It can be seen from the figure that productivity of all the sectors except industry has registered a positive growth. In fact, the manufacturing sector was the second-most productive in 2005 surpassed industrial sector to become most productive in 2013. During this period urban population changed from 82.83 to 85.17 per cent. Although there has been growth of productivity in services and agriculture, their relative position did not change with increasing degree of urbanization. The agriculture sector remained the least productive in 2013 as well.

The growth analysis of employment suggests that it is the agriculture sector that has witnessed a

decrease in employment. The highest employment growth has been realized in industrial sector. It is clear from the analysis that employment in the industrial sector is increasing and productivity is decreasing with population increases. At the same time, employment in agriculture is also declining.

It may be inferred that the workforce is migrating from rural to urban areas, leading to a higher degree of urbanization but such migrants are absorbed in low-value jobs in the industrial sector thereby increasing employment. Consequently, the productivity of the sector has declined as urban population increased. The net result is very limited contribution in national income due to the newly-urbanized population. This is captured by Figure 1.33 where HDI has become stagnant with increasing urban population. This kind of structural

**Figure 1.34: Degree of urbanization, productivity and employment in Brazil**



transformation may be regarded as economic growth-less employment creation.

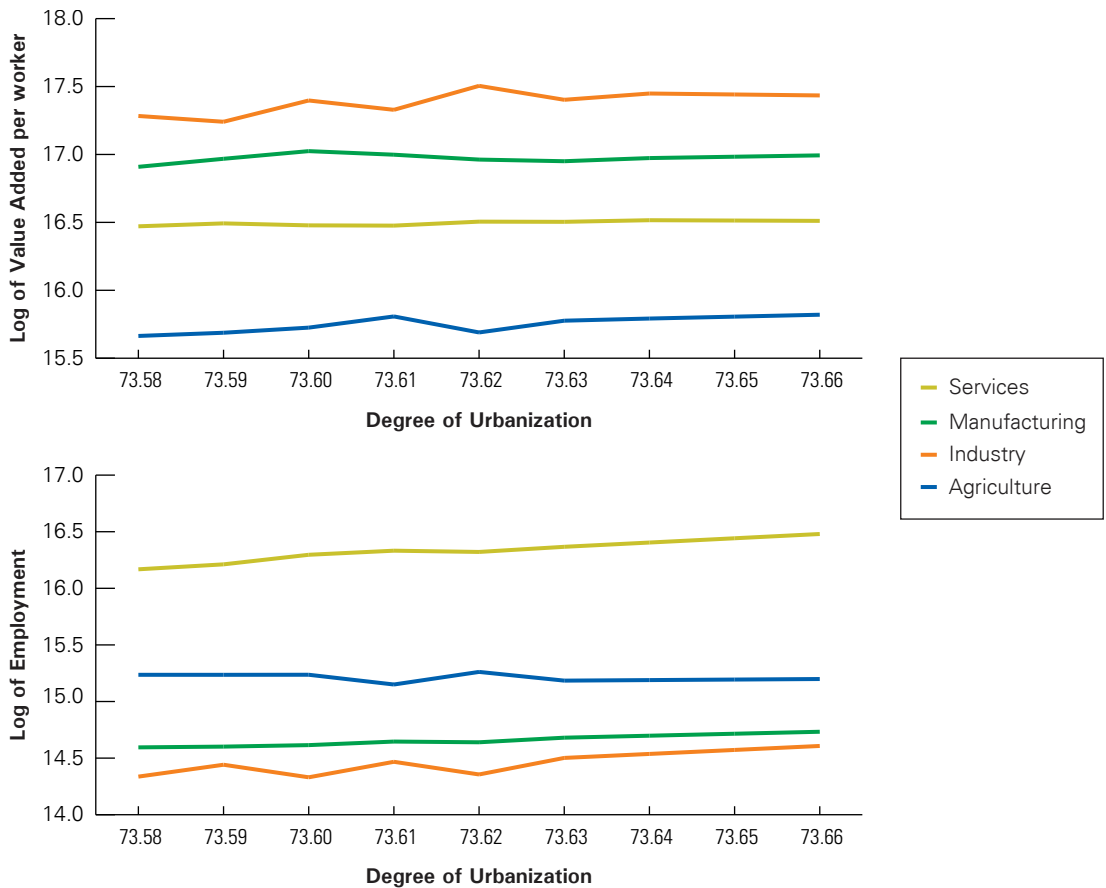
### Colombia

As shown in Figure 1.35, the association between the economic development and the degree of urbanization in Colombia is similar to that of Brazil. The urban population reached the threshold level of HDI level of 0.710 with 75.32 per cent urban population in 2011. Although the urban population changed to 75.88 per cent in 2013, HDI remained at an almost identical level of 0.711. HDI declined to 0.708 in 2012 but recovered in the next year. The Colombian economy might have gone through the same form of structural transformation, presented in Figure 1.36, as Brazil.

It can be seen from the figure that productivity levels in all the sectors remained stagnant with the increasing degree of urban population. The urban population changed from 73.58 to 75.88 per cent during 2005 to 2013 but productivity gain is almost negligible in all the sectors. Consequently, the relative positions of the sectors in terms of productivity did not experience much change.

As far as sectoral employment growth is concerned, the relative positions of the sectors have not changed with increasing degree of urbanization but growth of employment varies among sectors. For instance, the employment in agriculture has declined while the services sector has registered the highest employment growth followed by industry and manufacturing. In Colombia, the workforce is moving from agriculture, where production is

**Figure 1.36: Degree of urbanization, productivity and employment in Colombia**



relatively low, to the high-productive services sector. But the new migrants are absorbed in low value-added activities in other sectors resulting in almost stagnant productivity of the sectors. Since the additional workforce from agriculture is provided low value-added jobs, their contribution to national income is marginal. This leads to stagnant HDI which is captured in Figure 1.35.

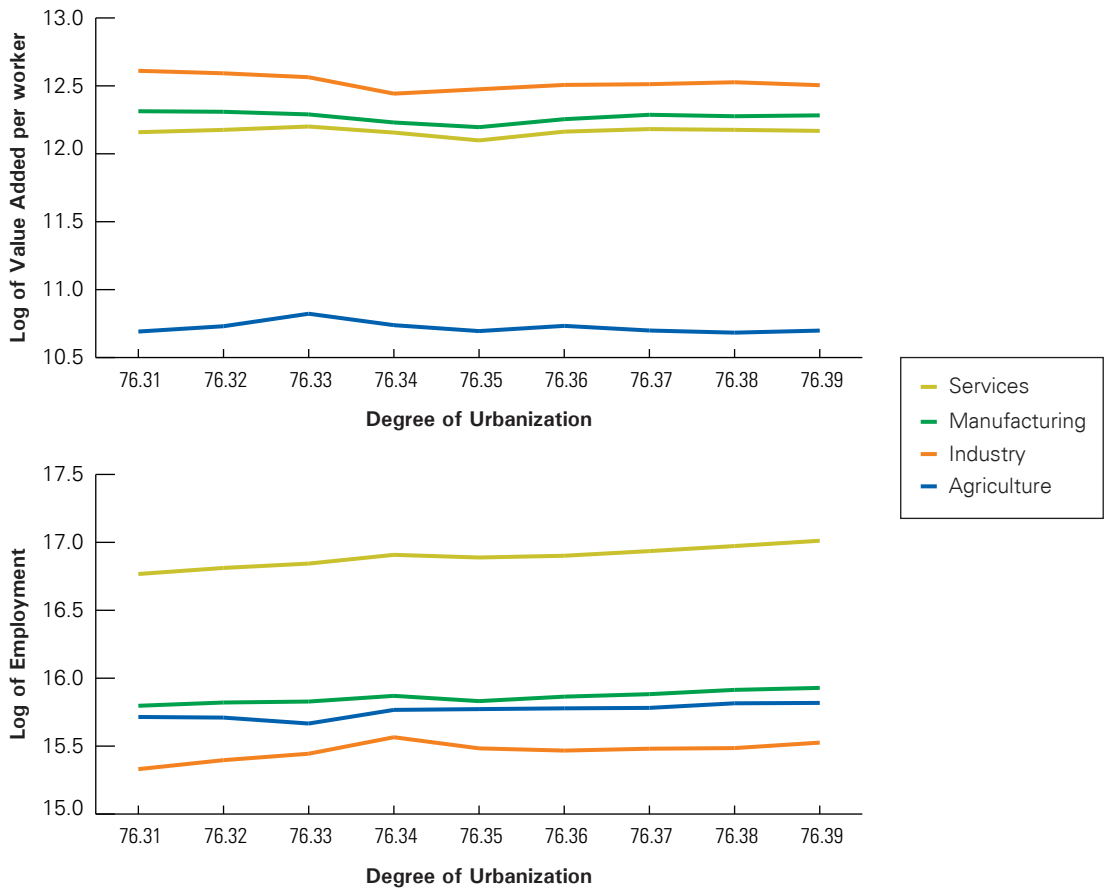
Like Brazil, this type of urbanization is not commensurately contributing to HDI. The newly-urbanized population may not be getting the true benefit of urban areas. Rather, this type of urbanization may contribute to slum formation. The migrant population cannot be blamed for this because they move from rural to urban areas as they have no employment opportunities there.

### Mexico

Depicted in Figure 1.37 (Appendix I), it can be noticed that, like many other countries in Latin America, HDI reached the threshold level of 0.752 at an urbanization level of 78.12 per cent in 2011. Since then, the rate of change of HDI has been declining as the urban population has been increasing. The urban population changed to 0.52 percentage points while HDI changed from 0.752 in 2011 to 0.756 in 2013. The productivity and employment growth of the Mexican economy presented in Figure 1.38 would explain the inelasticity of HDI with the degree of urbanization.

It can be seen from Figure 1.38 that productivity in manufacturing and industrial sectors declined during 2005 to 2013 with increasing degrees of urbanization while in agriculture and services it

**Figure 1.38: Degree of urbanization, productivity and employment in Mexico**



almost remained stagnant during the same period. Although the productivity of highly productive sectors such as industry and manufacturing declined, the relative position of all the sectors remained unchanged. The agriculture sector remained the least-productive sector.

The analysis of employment in various sectors suggests that a positive growth was registered in all. The services sector recorded the highest employment growth while agriculture has been the lowest. The employment growth analysis suggests that there has been very little movement of workforce from agriculture to other sectors. The migrant population might have been absorbed in low value-added activities of manufacturing and industrial sectors resulting in the decline in overall productivity.

Although the services sector in Mexico provides employment to the largest percentage of workforce, it stands third from a productivity perspective. Moreover, the productivity of the sector has been stagnant as urbanisation has increased. It can be inferred from the analysis that the migrant population has been absorbed in low value-added economic activities in urban areas. Consequently, their contribution to the national income has been much less compared to existing urban population, thereby resulting in almost no change in HDI which is captured in Figure 1.37. The findings also suggest that degree of urbanization has not increased compared to the sample countries of Asia and Africa. It can be inferred that the country has reached a saturation level from urbanization perspective resulting in less economic development.

## Venezuela

Figure 1.39 (Appendix I) depicts the relationship between economic development and degree of urbanization in Venezuela. The scenario is very different from other countries in the region and elsewhere. The HDI in Venezuela reached to a threshold level of 0.758 in 2008 at 88.69 per cent of urbanization level. It can be seen that

the country has achieved a very high degree of urbanization, just lower than that of Argentina. Consequently, HDI has been high. However, in 2009, HDI decreased from the previous year and has been almost stagnant since then. The association between HDI and degree of urbanization would be explained from the productivity and employment growth presented in Figure 1.40.

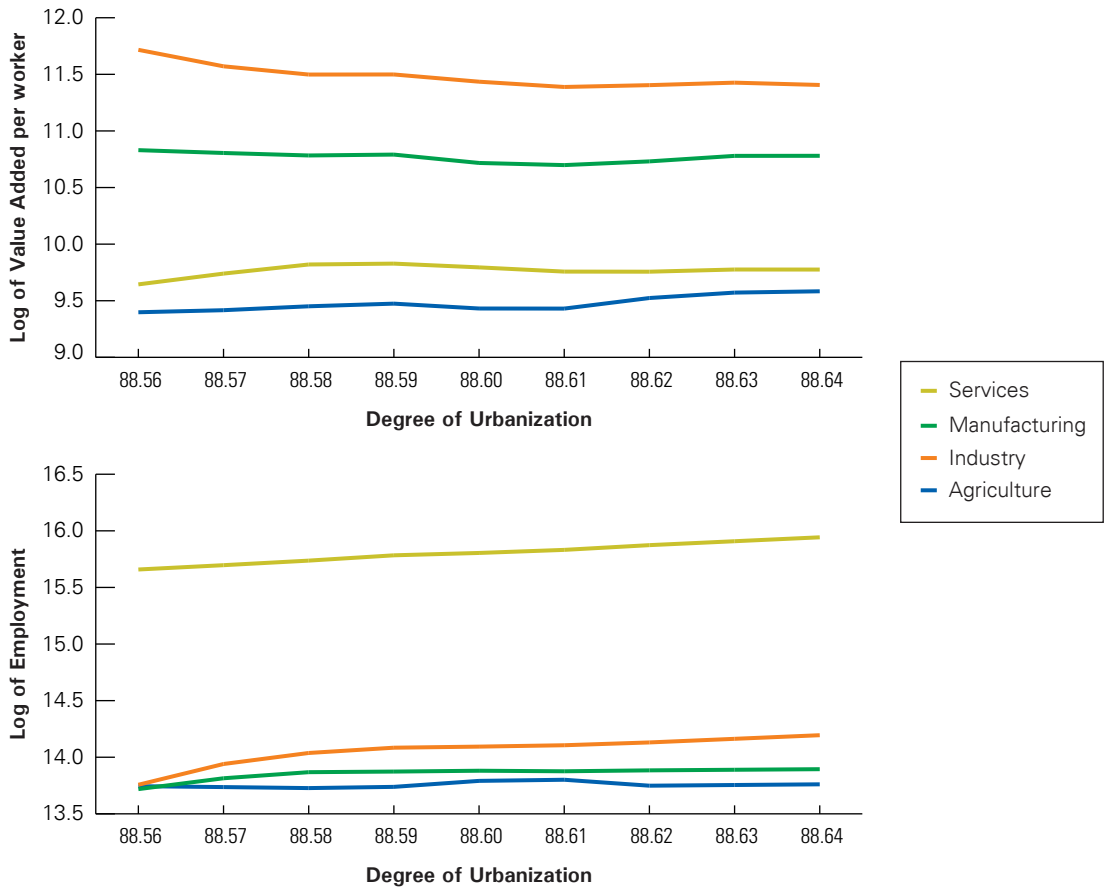
It can be seen from the figure that productivity of the industrial and manufacturing sectors declined with the increasing degree of urbanization, while it recorded a positive growth on the other two sectors. Despite the changes in productivity growth, the relative position of sectors in terms of productivity remained unchanged during 2005 to 2013. At the same time, the percentage of urban population marginally changed from 88.56 to 88.89 per cent.

The analysis of sectoral employment growth suggests that it has increased in all the sectors, with the highest growth in industry followed by services and manufacturing. The agriculture sector recorded the lowest employment growth. The findings suggest that the industrial sector registered the highest employment growth even though the productivity of the sector has declined with the increasing degree of urbanization.

A similar trend is being followed by the manufacturing sector. The declining productivity and increasing employment suggests that the additional workforce is absorbed in low value-added activities of the highly-productive sectors, resulting in a disproportionate contribution to national income. Consequently, the HDI hardly changed during 2005 to 2013. It may also be noted that Venezuela has achieved a high degree of urbanization and the rate of change of urban population is low. It may be inferred that urbanization has reached a saturation level and additional degree contributes very little to national income.



Figure 1.40: Degree of urbanization, productivity and employment in Venezuela



### Summary

The analysis of the linkages between degree of urbanization and economic development presented in the paper suggests that there are huge variations among continents although the association is positive in all the countries analysed except Philippines and Sri Lanka.

The degree of urbanization also varies substantially from one continent to another. In Africa, it varies from 18.59 per cent in Ethiopia to 63.79 per cent in South Africa in 2013 while in Asia it varies from 18.30 in Sri Lanka to 73.28 per cent in Malaysia. The percentage of urban population is much higher in Latin America, where it varied from 67.70 per cent in Bolivia to 91.45 per cent in Argentina in 2013.

In Africa, Botswana and Ethiopia reached to a threshold level of HDI where the index becomes inelastic to the growth of urban population. The stagnation of HDI with a high degree of urbanization is understandable but it seems unimaginable in countries such as Ethiopia. The HDI became inelastic to growth of urbanization at the level of 17.74 per cent of urban population. The decline in productivity in high productive sectors such as industrial and manufacturing has been the major reasons for the slow urbanization process and stagnation of economic development. In other African countries, the degree of urbanization and economic development as a result of structural transformation has been increasing proportionately.

The analysis of Asian countries suggests that Thailand is the only exception, where HDI reached to a threshold level of 0.72 and became inelastic to the degree of urbanization at the level of 44.08 percent of urban population. The decline in the productivity of the industrial sector may be due to this phenomenon. Although the urban population grew from 44.08 per cent in 2008 to 47.94 per cent in 2013, the HDI remained stagnant at the level of 0.72. In other Asian countries though the degree of urbanization varies drastically from one country to another, there is no sign of stagnation of HDI. For instance, the degree of urbanization in 2013 in China and India was 53.17 and 31.99 respectively while in Malaysia it was 73.28 per cent. Philippines and Sri Lanka have experienced declines in their urban population during 2005 to 2013. It may be attributed to the terrain of the country in the case of Philippines while frequent changes in definition of urbanization may be the main cause in Sri Lanka. In general, the association between economic development and degree of urbanization has been positive and significant.

The behaviour of Latin American countries is very different from the countries of the other two continents. In general, a high degree of

urbanization has been achieved by all the sample countries. In 2013, it varied from 67.70 per cent in Bolivia to 91.45 per cent in Argentina. Consequently, HDI reached a threshold level at some point during 2005 to 2013 in all the countries except Bolivia. The proportionate increase in HDI and urban population is understandable as the degree of urbanization is low. There exists the possibility of a greater degree of urbanization that is expected to result in better income and improved quality of life of the Bolivian people. On the other hand, in the rest of the Latin American countries, HDI became inelastic to urban population as they have reached a saturation level in terms of urban population. Additional urban population neither contributes to productivity nor are cities equipped to accommodate more population.

Therefore, it may be inferred that lots of structural change is taking place in Asia and Africa resulting in higher incomes and better quality of life but in Latin America there is very little scope for further increases in the degree of urbanization. Cutting across the region, the association between the degree of urbanization and economic development is found to be positive and significant.

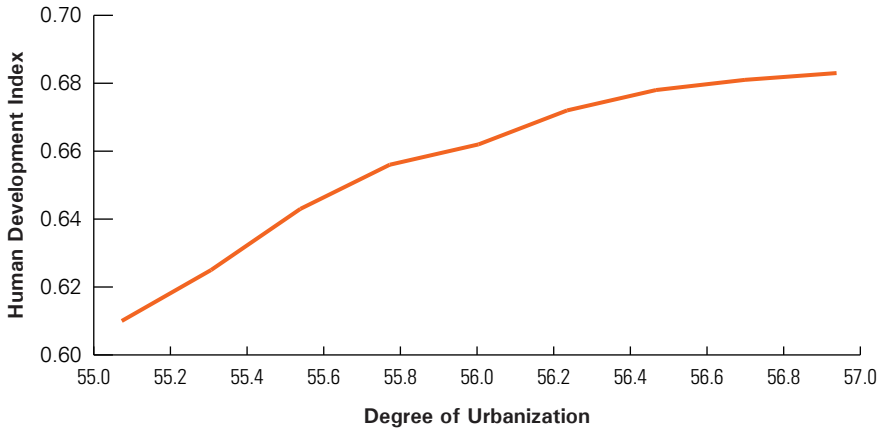
## References

- Annez, P. C., & Buckley, R. M. (2008). Urbanization and Growth: Setting the Context. In M. Spence, P. C. Annez, & R. M. Buckley (Eds.), *Urbanization and Growth* (pp. 1-45). Washington, D.C: World Bank/Commission on Growth and Development.
- Annez, P. C., Buckley, R. M., & Kalarickal, J. (2010). African Urbanization as Flight? Some Policy Implications of Geography. *Urban Forum* 08, 21 (3), 221-234. DOI: 10.1007/s12132-010-9085-6.
- Barrios, S., Bertinelli, L., & Strobl, E. (2006). Climate Change and Rural–Urban Migration: the Case of sub-Saharan Africa. *Journal Urban Economics*, 60 (3), 357–371.
- Cheru, F. (2005). Globalization and Uneven Development in Africa: The Limits to Effective Urban Governance in the Provision of Basic Services, UCLA Globalization Research Centre-Africa. [www.globalizationafrica.org/papers/57.pdf](http://www.globalizationafrica.org/papers/57.pdf).
- Davis, M. (2004). Planet of Slums. *New Left Review*, 26, 1-23.
- de Vries, G., Timmer, M., & de Vries, K. (2013). Structural Transformation in Africa: Static Gains, Dynamic Losses. *GGDC Research Memorandum 136*, University of Groningen.
- Etchemendy, S. (2009). Models of Economic Liberalization: Regime, Power and Compensation in the Iberian-American Region. *APSA 2009 Toronto Meeting Paper*.
- Fay, M., & Opal, C. (2000). Urbanization without Growth: A Not-So-Uncommon Phenomenon. *World Bank Policy Research Working Paper Series 2412*.

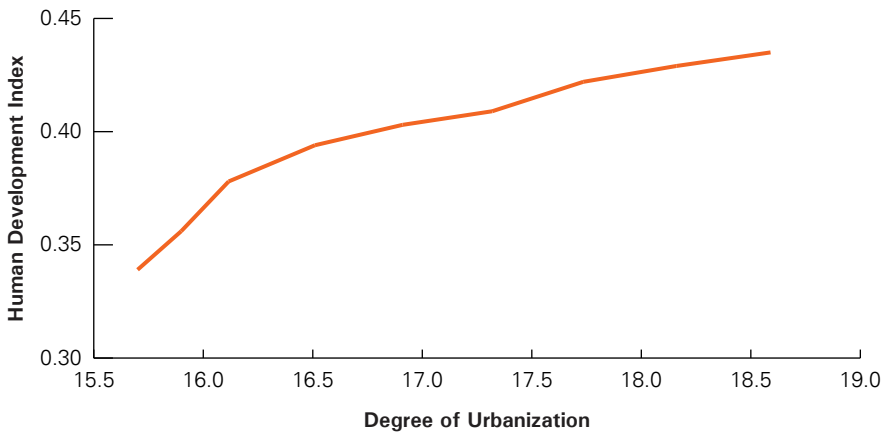
- Jedwab, R., Gollin, D., & Vollrath, D. (2013). Urbanization with and without Industrialization . *Working Paper Series IIEP-WP 2014-1, Institute for International Economic Policy (IIEP), The George Washington University, Washington, D.C* , Available from: [www.gwu.edu/~iiep/assets/docs/papers/Jedwab\\_IIEPWP\\_2014-1](http://www.gwu.edu/~iiep/assets/docs/papers/Jedwab_IIEPWP_2014-1).
- McMillan, M., Rodrik, D., & Verduzco-Gallo, Í. (2013). *Globalization, Structural Change and Productivity Growth, With an Update on Africa*. Available at: [http://margaretsmcmillan.com/wp-content/uploads/2013/12/McMillanRodrikVerduzco\\_Final\\_All.pdf](http://margaretsmcmillan.com/wp-content/uploads/2013/12/McMillanRodrikVerduzco_Final_All.pdf).
- National Research Council. (2003). Cities Transformed: Demographic Change and Its Implications for the Developing World. Panel on Urban Population Dynamics. In M. R. Montgomery, R. Stren, B. Cohen, & H. E. Reed (Eds.), *Committee on Population, Division of Behavioral and Social Sciences*. Washington, DC: National Academies Press.
- Oyelaran-Oyeyinka, B., & Gehl-Sampath, P. (2010). *Latecomer Development: Innovation and Knowledge for Economic Growth*. Oxford, UK: Routledge .
- Panditharathne, B. L. (1996). The Development of the Sri Lankan Settlement System. In G. A. Paul (Ed.), *Economic Development and Social Change in Sri Lanka: A Spatial and Policy Analysis*. New Delhi: Manohar Publishers.
- Polèse, M. (2005). Cities and National Economic Growth: A Reappraisal. *Urban Studies*, 42 (8), 1429-1451.
- Polèse, M., & Stren, R. E. (2000). *The Social Sustainability of Cities: Diversity and the Management of Change*. Toronto: University of Toronto Press.
- Robinson, B., & Swilling, M. (2012). *Urban Patterns for Green Economy: Optimizing Infrastructure*. Nairobi: United Nations Human Settlement Programme (UN-Habitat).
- SIDA. (2006). *Fighting Poverty in an Urban World - Support to Urban Development*. Stockholm: Department for Infrastructure and Economic Cooperation, Division for Urban Development (INEC/URBAN). Retrieved on 6th January 2016 from [http://www.sida.se/contentassets/6107b402eb5444b0ba156af2741a815d/fighting-poverty-in-an-urban-world\\_1056.pdf](http://www.sida.se/contentassets/6107b402eb5444b0ba156af2741a815d/fighting-poverty-in-an-urban-world_1056.pdf).
- Spence, M. (2008). *The Growth Report: Principal Findings and Recommendations*. London: World Bank. [http://siteresources.worldbank.org/EXTPREMNET/Resources/489960-1338997241035/Growth\\_Commission\\_Final\\_Report\\_Launch\\_Presentation.pdf](http://siteresources.worldbank.org/EXTPREMNET/Resources/489960-1338997241035/Growth_Commission_Final_Report_Launch_Presentation.pdf).
- Timmer, P. (2007). Agricultural Growth. In D. Clark (Ed.), *The Elgar Companion to Development Studies*. Cheltenham, UK: Edward Elgar Publishing.
- Timmer, P., & Akkus, S. (2008). The Structural Transformation as a Pathway out of Poverty: Analytics, Empirics and Politics. *Working Papers 150, Center for Global Development*.
- Turok, I., & Mcgranahan, G. (2013). Urbanization and Economic Growth: the Arguments and Evidence from Africa and Asia. *Environment and Urbanization*, 25 (2), 465-482.
- Uduperuwa, R. J. (2010). An Analysis of Urban Growth and Urbanization in the Sabaragamuwa Province, Sri Lanka. *Sabaramuwa University Journal*, 9 (1), 115-132.
- UNECA. (2011). *Economic Report on Africa 2011: Governing Development in Africa - The Role of the State in Economic Transformation*. Addis Ababa, Ethiopia: United Nations Economic Commission for Africa (UNECA).
- UN-Habitat and DFID. (2002). *Sustainable Urbanisation: Achieving Agenda 21*. Nairobi: UN-Habitat.
- UN-Habitat. (2010). *State of the World's Cities 2010/2011: Bridging the Urban Divide*. Nairobi & London: UN-Habitat & Earthscan.
- World Bank. (2009a). *Systems of Cities: Harnessing Urbanization for Growth and Poverty Alleviation—World Bank Urban and Local Government Strategy*. Washington, DC: World Bank.
- World Bank. (2009d). *The World Bank Urban and Local Government Strategy: Concept and Issues Note, Finance Economics and Urban Department Sustainable Development Network*. Washington, DC: World Bank.
- World Bank. (2013). *World Development Report 2013: Jobs*. Washington, DC: The World Bank.

## Appendix I

**Figure 1.2: Development and Urbanization in Botswana**



**Figure 1.4: Development and Urbanization in Ethiopia**



**Figure 1.6: Development and Urbanization in Ghana**

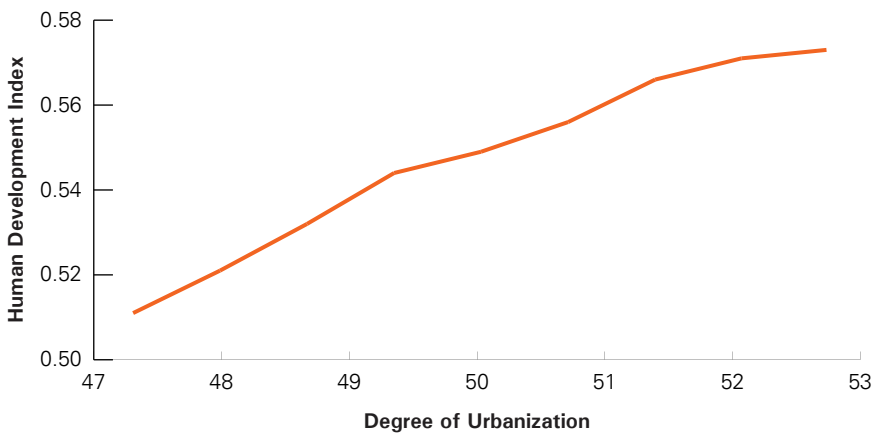


Figure 1.8: Development and Urbanization in Kenya

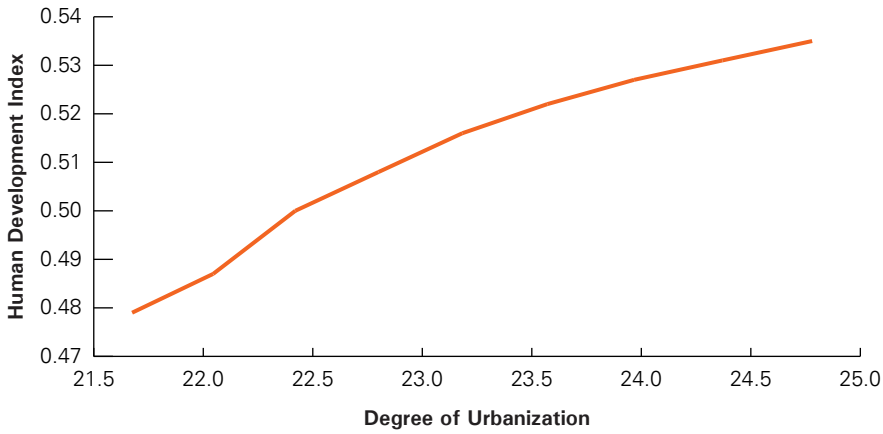


Figure 1.10: Development and Urbanization in Nigeria

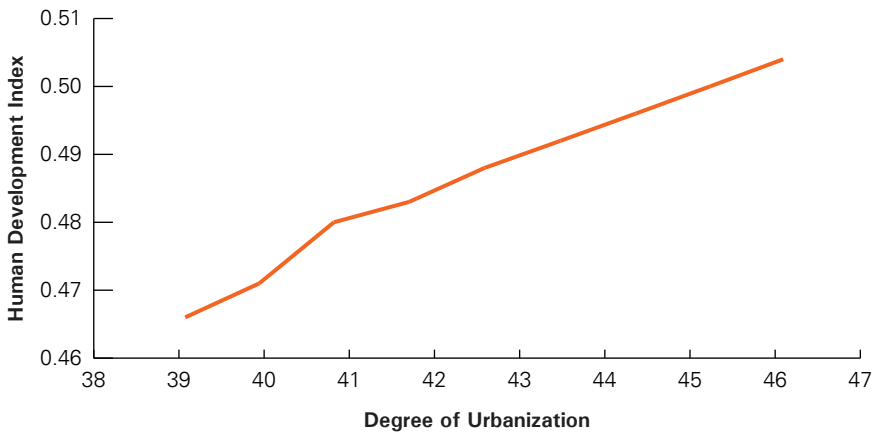


Figure 1.12: Development and Urbanization in South Africa

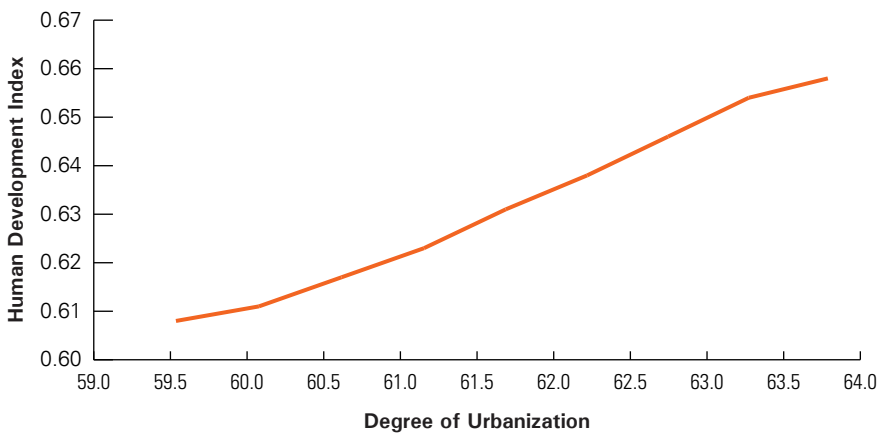


Figure 1.14: Development and Urbanization in Tanzania

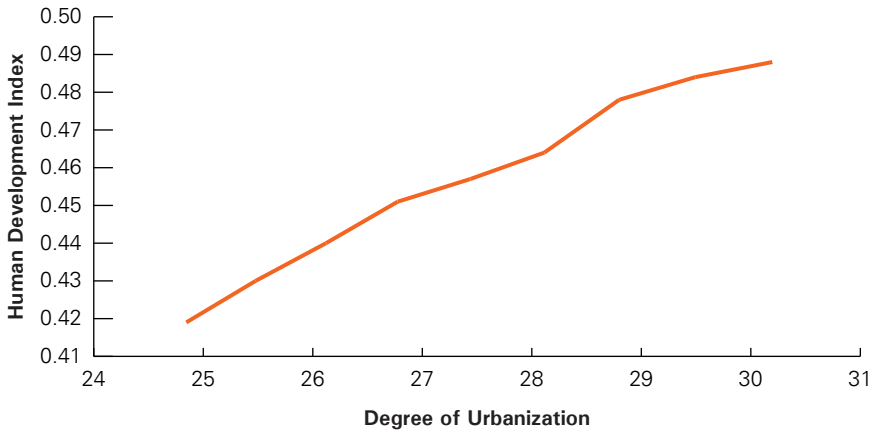


Figure 1.17: Development and Urbanization in China

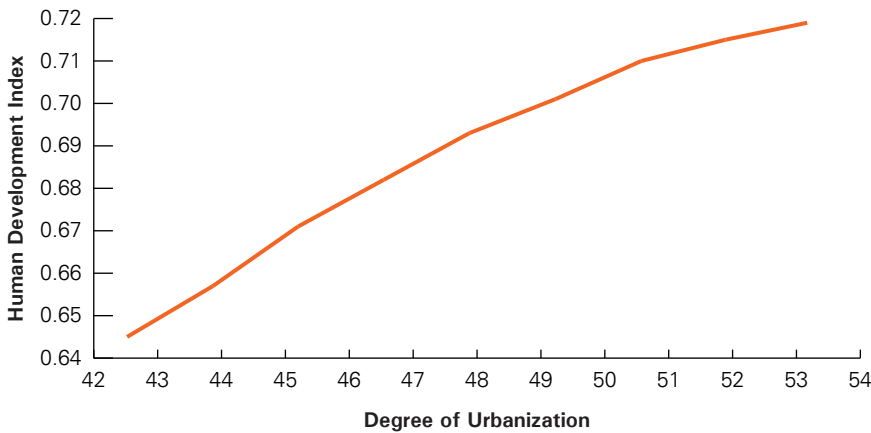


Figure 1.19: Development and Urbanization in India

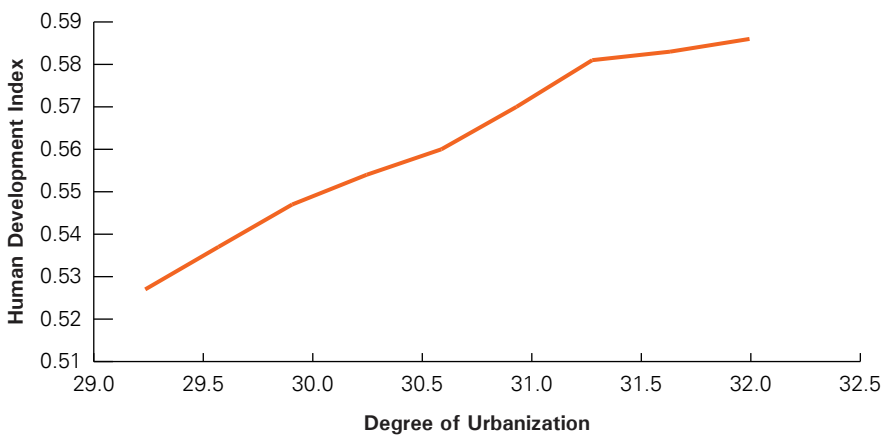


Figure 1.21: Development and Urbanization in Indonesia

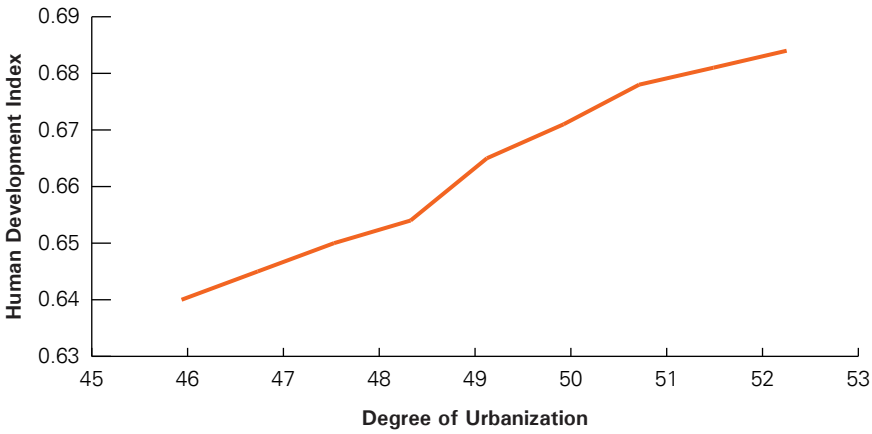


Figure 1.23: Development and Urbanization in Malaysia

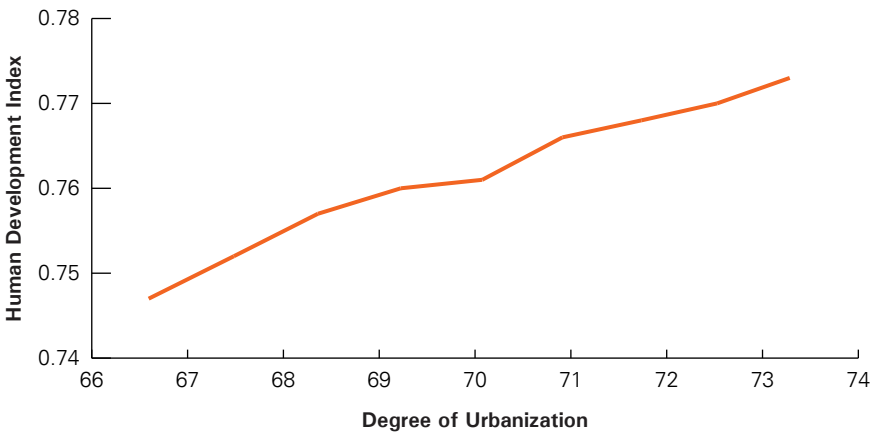


Figure 1.27: Development and Urbanization in Thailand

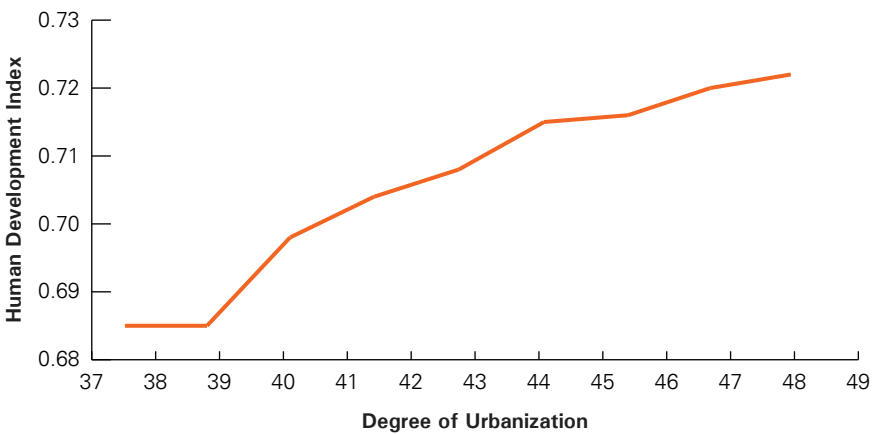


Figure 1.29: Development and Urbanization in Argentina

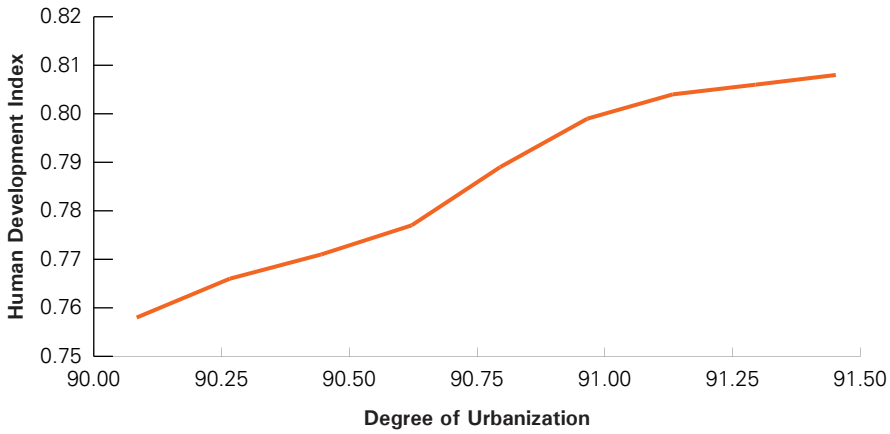


Figure 1.31: Development and Urbanization in Bolivia

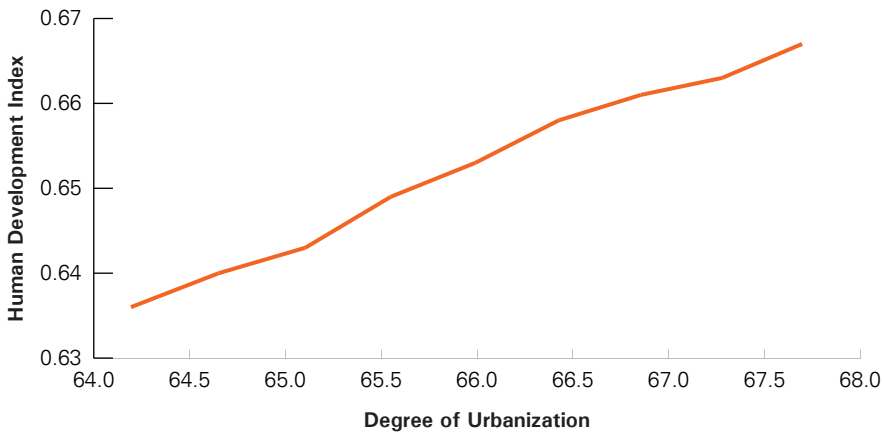


Figure 1.33: Development and Urbanization in Brazil

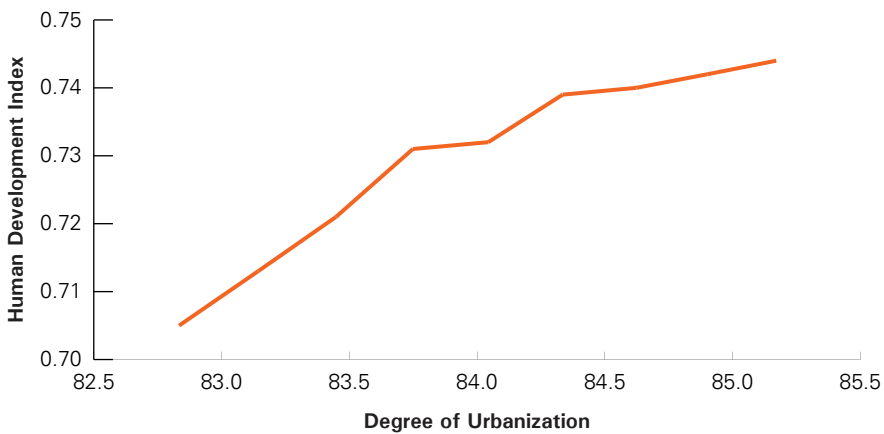




Figure 1.35: Development and Urbanization in Colombia

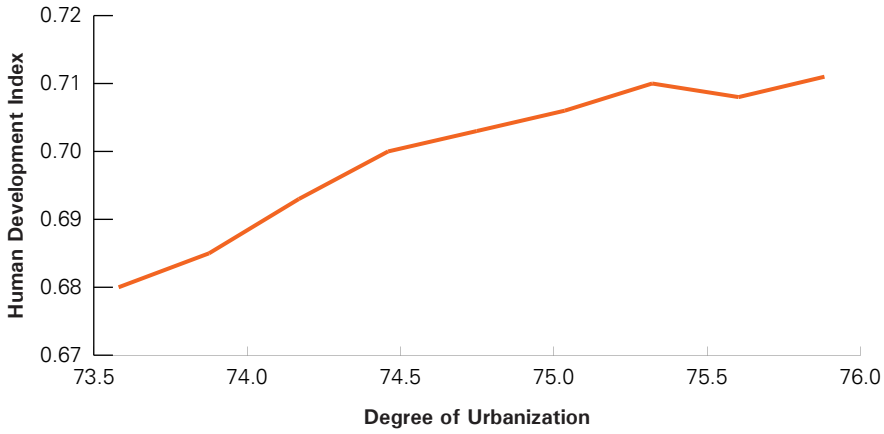


Figure 1.37: Development and Urbanization in Mexico

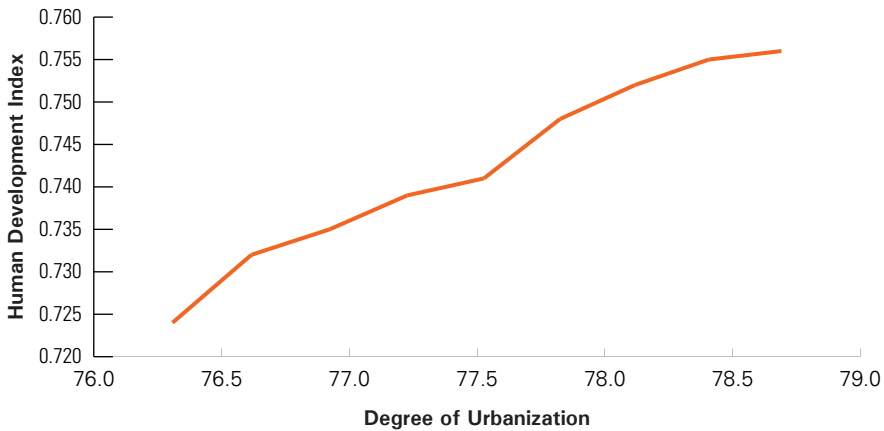
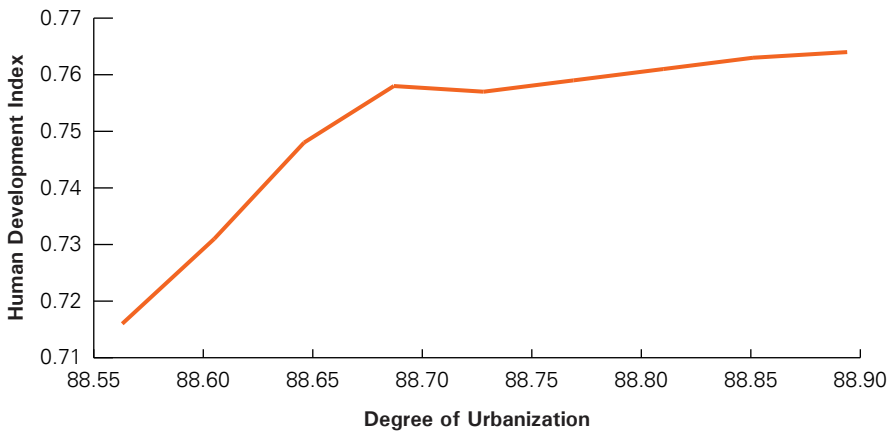


Figure 1.39: Development and Urbanization in Venezuela



**UNITED NATIONS HUMAN SETTLEMENTS PROGRAMME**

P.O. Box 30030 00100 Nairobi GPO KENYA

Tel: 254-020-7623120 (Central Office)

[Infohabitat@unhabitat.org](mailto:Infohabitat@unhabitat.org)