Series 1

STRUCTURAL TRANSFORMATION IN DEVELOPING COUNTRIES: CROSS REGIONAL ANALYSIS

UN-HABITAT
FOR A BETTER URBAN FUTURE

Structural transformation in developing countries: Cross regional analysis

United Nations Human Settlements Programme (UN-Habitat)
P. O. Box 30030, 00100 Nairobi GPO KENYA
Tel: 254-020-7623120 (Central Office)
www.unhabitat.org

HS/018/16E

Disclaimer

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**

Introduction

Structural transformation is defined as 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 the modern sector, which is dominated by manufacturing and services.
It is also characterized by the movement of the workforce from labour-intensive activities to skill-intensive ones. The movement of labour is severely affected by the existence of opportunities in skill-intensive sectors because, even if these opportunities exist, labour might only move to a new sector if it is properly trained to be absorbed by the sector. The existing labour force would therefore require requisite training before moving to the new sector.

Another scenario could be that the existing skill of labour force was used inefficiently. The labour force was already trained for skill-intensive activities but was engaged in sectors where their skill was not fully utilised. Given the opportunities in the new sector, the labour force would move without any additional training. This scenario may be considered a case of inappropriate allocation of human resources. In both cases, the productivity of labour force would change and result in changes to the structure of the economy.

The growth and development of a modern sector depends on both the institutional environment and availability of appropriate human resources. The relationship between them is bidirectional and mutually re-enforcing. The growth of the modern sector would result in structural change.

One aspect of structural change is labour and the other is the opportunities in a modern sector. The new opportunities are created by industrial policies of a nation. The growth and development of a modern sector depends on both the institutional environment and availability of appropriate human resources. The relationship between them is bidirectional and mutually re-enforcing. The growth of the modern sector would result in structural change. Hence, it can be argued that the causal relationship between labour productivity and structural transformation is bidirectional and is quantifiable. As mentioned earlier, industrial policies also play an important role in structural change. The relationship between institutional environment and structural change is not quantifiable though it can be identified by content analysis.

It is clear from the above discussion that an analysis of changes in productivity is of utmost importance to understand the causes of structural transformation. Although total factor productivity might be a better instrument to analyse structural change, analysis in this study would be based on single-factor productivity (labour) due to lack of data on other factors. The Groningen Growth and Development Centre of Groningen University maintains a sector-wide database on gross value added in national currency and total employment for selected countries. This study intends to use the same data and a ratio of value added to total employment in a particular sector as a measure of labour productivity. Subsequently, labour productivity would be decomposed into two components, namely change in productivity due to structural change and intra-sectoral productivity growth. Such analysis would help in quantifying the association between labour productivity and structural transformation.

Empirical evidence also suggests that structural change can take place without much change in labour productivity. The pattern of structural change observed in many African countries is a case in point. In that scenario, changes in economic structure are driven largely by the export of natural resource-based products. A study by Vries et. al. (2013) analysed structural transformation in 11 Sub-Saharan African countries and 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. However, when growth rebounded in the 1990s, workers mainly relocated to services industries rather than manufacturing. This study analyses the reasons for stagnant or declining productivity in"modern"sectors"on"the" African"continent.

Structural Change and Urbanization Dynamics

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 the world's urban population growth between now and 2030 will take place in developing countries. Hence, cities are the focus of significant global challenges.

Urbanization is known to be a vehicle for national economic and social transformation. Planned urbanization is expected to bring about rapid economic progress and prosperity, with industrialization as its end result. Therefore, planned urbanization will lead to higher productivity and, eventually, rising living standards and better quality of life. Cities are known to be centres of change and innovation, mainly because the concentration of people, resources and activities are expected to favour innovation.

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. These countries, as will be discussed later, in this study were identified to be natural resource exporters and do not conform to the standard model of urbanization (Gollin, Jedwab and Vallarta, 2013). For example, in 2010, Asia and sub-Saharan Africa were both at the same level of urbanization; the former has the fastest-growing nations in South Korea and China, while the latter has seen

Rapid urbanization. © UN Photo/Kibae Park

The University of Namibia in Windhoek. Campus, lecture hall and the general information Centre, library and computer banks.

little growth in income per capita over the years Generally, in developing countries urbanization has taken place in cities of all sizes.

Across regions, the distribution of city size is quite similar. For instance, in 2010, there were 257 Asian and 60 African mega cities with more than 750,000 inhabitants.[1] Asia and Africa have approximately the same number of mega cities per capita, which represent around 40 per cent of the population in both continents. Asia is an example of the standard story of urbanization with structural transformation. The successful Asian economies typically went through both Green Revolution and Industrial Revolution, with urbanization following along as economic activity shifted away from agricultural activities. In contrast, Africa offers a perfect example of urbanization without structural transformation. This is because there has been little evidence of a Green Revolution in Africa. Its food yields have remained low. Also, there has been no Industrial Revolution in Africa. Manufacturing and services were 10 per cent and 26 per cent for Africa but 24 per cent and 35 per cent for Asia, and African labour productivity was 1.7 and 3.5 times lower in industry and services, respectively.

Urbanization 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 reallocation of labour toward sectors 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.[2]

1 *Gollin, Jedwab and Vallarta, 2013*

2 *World Development Report, 2013*

> African economies today are facing the formidable challenge of creating more and better jobs, not just by sustaining the pace of growth but by making it more inclusive. Emerging economies, such as Brazil, China and India have been more successful than most African countries in this respect, achieving impressive reductions in poverty for more than two decades.

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.[3] 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 economic growth in low-income countries over the last decade has not led to structural changes.

Poverty and Urbanization

About 70 per cent of the total population in large metropolises live in slum communities. Research revealed that there is a negative correlation between informal employment and GDP per capita; 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. Urban inequality has grown due to differentiated wealth concentration in cities. For example, in Africa, statistics show that about 81.7 per cent of Africans live on less than USD 4 per day, with 60.8 per cent falling below the USD 2 per day mark. There is also the problem of high costs of informal services provision and the absence of a social safety net.

African economies today are facing the formidable challenge of creating more and better jobs, not just by sustaining the pace of growth but by making it more inclusive. Emerging economies, such as Brazil, China and India have been more successful than most African countries in this respect, achieving impressive reductions in poverty for more than two decades. How are they different from Africa? One answer is that they have undergone a more rapid structural transformation; that is, the process by which new, more productive activities arise and resources move from traditional activities to newer ones. A higher proportion of labour thus moved from low-productivity to high-productivity sectors.[4] The countries that manage to pull out of poverty and get richer are those that are able to diversify away from agriculture and other traditional products. As labour and other resources move from agriculture into modern economic activities, overall productivity rises and incomes expand. The speed with which this structural transformation takes place is the key factor that differentiates successful countries from unsuccessful ones.

In Latin America in 1950, about 40 per cent of the population lived in the urban centres; by 1990, it was up to 70 per cent. Today, an estimated 80 per cent of the region's population live in cities, making Latin America the world's most urbanized region. In comparison, the European Union is 74 per cent urbanised while the figure is 50 per cent in the East Asia and Pacific region. By 2050, UN-Habitat predicts Latin America's cities will include 90 per cent of the region's population.This growth came at a cost; it was "traumatic and at times violent because of its speed, marked by the deterioration of the environment and above all, by a deep social inequality".[5] By 2050, 90 per cent of Latin America's population will be in towns and cities while Brazil and the Southern Cone may reach

3 *UNECA, 2011*

4 *African Economic Outlook, 2013*

5 *UN-Habitat, 2012; 2014*

this level by 2020. Inequality and violence are the main problems cited. Latin American cities are the most unequal and often most dangerous places in the world, with social divisions hardwired into the urban fabric. Some 111 million Latin Americans out of a total of 588 million live in shanty towns. Improving such dwellings and their surroundings has contributed to their stability, all the more necessary given the considerable housing shortage.

Despite efforts in the past ten years to redistribute wealth, 122 million city residents still live in poverty. The informal economy, with the associated lack of welfare coverage, hits young people and women particularly hard. As of 2014, 260 million people live in the region's 198 large cities (populations of more than 200,000 people) and generate 60 per cent of Latin America's GDP.[6] This is more than 1.5 times the contribution expected from large cities in Western Europe. Brazil and Mexico, the region's urban leaders, are home to 81 of the region's large cities. These two countries are projected to contribute 35 per cent of Latin America's overall growth by 2025. By 2025, 315 million people will live in Latin America's large cities where the per-capita GDP is estimated to reach USD 23,000—more than that of Portugal in 2007.

Growing cities will have to revamp public infrastructure expenditure to increase citizens' living standards but these transformations also offer a unique opportunity for city leaders to shape an emerging global dialogue on urban development. Latin America's working-age population is projected to expand until it peaks in the 2040s at around 470 million potential workers. These young, urban workers are critical for creating wealth and raising regional living standards but policies must be in place to provide access to quality education and opportunities to enter the formal workforce through channels that maximize their know-how and ability to unleash new generators of economic development.

6 *McKinsey Global Institute, 2011*

> While structural change can be defined as an alteration in the relative importance of economic sectors, the interrelated processes of structural change that accompany economic development are jointly referred to as economic transformation.

Industrialization in the Developing World: A Selected Review

In analysing the remote and current industrialization challenges in the developing world, the section that follows provides a selected review of what the academic literature tells us about the Asian, Latin American and African industrial conditions. Attempts at industrialization by all regions of the world harks back to the success first of Great Britain, followed by Western Europe and thereafter North America during the 19th and early 20th Centuries (Oyelaran-Oyeyinka, 2014). The literature on the experiences of these countries seems to agree that, although the early-industrializing countries started out at different stages of growth, they followed a more or less similar format of change that led to their transformation. Marked by the shift from a subsistence/agrarian economy towards more industrialized/mechanized modes of production, hallmarks of industrialisation include technological advance, widespread investments into industrial infrastructure and a dynamic movement of labour from agriculture into manufacturing (Romer," 1952;"Lewis," 1978;"Rapley," 1987;"Todaro," 1989).

Agreement exists on the fact that a dynamic process of industrialization is fundamental to overall economic development of countries, given that it promotes growth-enhancing structural change, which is the gradual movement of labour and other resources from agriculture to manufacturing, as accompanied by productivity increases. Manufacturing is construed as critical in most such expositions because of the empirical correlation between the degree of industrialization and the per capita income in countries (Szirmai, 2012). Given that productivity is higher in the case of manufacturing than agriculture, transfer of resources into manufacturing should normally provide a basis for higher rates of productivity-induced growth structures.

Nature and Sources of Structural Transformation

The Convergence of Urbanization and Structural Change

Structural transformation is defined as the shift of an economy's structure from low-productivity, labour-intensive activities to higher productivity, capital and skill intensive activities.[7] It is a long-term shift in the fundamental institutions of an economy and this explain the pathways of economic growth and development.[8] In technical terms, four essential and interrelated processes define structural transformation in any economy: a declining share of agriculture in GDP and employment; rural-to-urban migration underpinned by rural and urban development; the rise of a modern industrial and service economy and 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 (Oyelaran-Oyeyinka, 2015; Timmer, 2012; Africa Focus Bulletin, 2013). In summary, it can be defined as the reallocation of economic activity across three broad sectors (agriculture, manufacturing and services) that accompany the process of modern economic growth (Herrendorf, Rogerson and Valentinyi, 2013).

Why Structural Transformation?

Structural transformation is essential as not only a

so. Specialization, productivity and growth trigger processes of agglomeration, further specialization and technological advances.

The rise of new economic powers has generally been driven by the rapid structural transformation of their economies featured by the shift from primary production, such as mining and agriculture to manufacturing; and, in manufacturing, from natural-resource-based- to more sophisticated, skill- and technology-intensive activities. With urbanization, labour-intensive manufacturing activities grow faster than primary activities, generating new jobs, income and demand. Capital accumulation leads to a more sophisticated manufacturing structure and the economy gradually moves to skill- and technology-intensive sectors (UNIDO 2010).

While structural change can be defined as an alteration in the relative importance of economic sectors, the interrelated processes of structural change that accompany economic development are jointly referred to as economic transformation. These transformation patterns can be observed in newly industrializing countries in Asia and Latin America, yet also relate to the experiences of European countries during the 19th and early 20th Centuries. During the transformation period the economic structure changes significantly, while industrialization triggers a rapid increase in the share of manufacturing in the economy and a concomitant decline in agriculture's share.

Furthermore, the share of the total labour force