1. ***Special Feature: Structural Transformation***

A summary of key issues and debates in recent research

- **Structural transformation** is typically understood as the process in which labour moves from traditional agricultural activities to higher value and more productive activities within agriculture and modern industry. Overall, the share of agriculture in GDP and employment decreases, while the share of manufacturing and productive services increases. Population moves increasingly to urban areas. Timmer (1988) (see Briones and Felipe, 2013), for example, specifies **four phases of transformation**: (i) Agricultural labour productivity starts to increase. (ii) As productivity reaches a sufficiently high level, agricultural surplus enables growth of manufacturing and services by mobilising labour, savings, tax from the agricultural sector. (iii) In the integration phase, non-agricultural sectors become increasingly significant; agriculture is gradually integrated with the rest of the economy through improved infrastructure and markets. (iv) The economy has reached an industrialised stage when integration is advanced and agriculture is just one of many sectors. Several authors (e.g. Briones and Felipe, 2013) argue that successful economies have historically followed this development pathway; statistically, structural change is also positively correlated with poverty reduction (see Page, 2012) and examples show its relevance for promoting productive employment (e.g. te Velde and Kingombe, 2012).

- **In addition to models that focus on inter-sectoral shifts**, Rodrik (2013) argues that the neoclassical model is of relevance for growth within modern sectors: It emphasises the importance of incentives to accumulate physical and human capital, and to innovate. Acemoglu and Robinson (2012) in their book ‘Why Nations Fail’ argue that modern prosperity can only be achieved where pluralistic political and economic institutions are in place.

- **Structural transformation trends in Asian and African developing countries**: While citing some successful examples as well as positive developments in individual countries, most of the studies below highlight that structural transformation remains elusive in many developing countries: In Asia, agriculture is due to remain the largest employment sector in a majority of countries, and by 2040, only Malaysia is likely to become industrialised (Briones and Felipe, 2013). In Africa, manufacturing share of GDP is still less than half of the average of all developing countries (see Page, 2012). Cases such as Ghana (see Kolayalli, 2012) show that the economic growth experienced by many countries is not necessarily associated with a shift to more productive activities and sectors. Even where signs of structural change can be observed in agricultural sectors of selected countries (Minten et al., 2012; Andersson and Göran, 2013), more significant changes are needed to accelerate economic transformation.

- **Frequently cited obstacles to structural transformation include**: external factors, such as the competitiveness challenge faced in manufacturing due to the rise in production in East Asia (see Rodrik, 2013); structural
factors, such as primary resource endowments and the risk of a ‘resource curse’ holding back the
development of manufacturing (see Kolavalli et al., 2012); misguided government policies, including a lack
of investment in agricultural infrastructure, R&D and insecure land rights (e.g. Briones and Felipe, 2013); and
a negative role of foreign aid, either through upward pressure on exchange rates (see Kolavalli et al., 2012),
or lack of donor support for programmes focusing on structural transformation (see Page, 2012).

- Policy recommendations in the studies below differ: Several argue for heightened attention to the
promotion of agricultural productivity and market linkages, to lay the foundations for structural transformation (see Briones and Felipe, 2013; Kolavalli et al., 2012; Minten et al., 2012). Others focus more on the importance of economic diversification through manufacturing (Page, 2012), or see the need for complementary efforts in this area (Kolavalli et al., 2012). For example, Special Economic Zones can be a viable tool in promoting structural change, especially if accompanied by wider reforms efforts (see te Velde and Kingombe, 2012). Several authors also recognise the need for longer-term investment in what Rodrik (2013) refers to as the ‘fundamentals’ – including human capital and institutional development. These views suggest the need for multipronged strategies to promote structural transformation, however based on country-specific assessments of the factors driving and blocking structural transformation.

The big picture: Recent research on development pathways

Structural Change, Fundamentals, and Growth: An overview, by Rodrik, Dani, Institute for Advanced

- Two traditions within growth economics are outlined. A dual economy tradition supports structural
transformation through the movement of resources from traditional to modern economic sectors (typically from
agriculture to industry), while a neoclassical model focuses on economy-wide capital accumulation. A combined
typology is proposed, where structural change can fuel rapid but episodic growth early in the industrialisation
process, while the accumulation of fundamentals (human and institutional capabilities) requires time-
consuming investments across the entire economy, producing steady, slow and sustained growth.

- This typology is supported by a number of case studies, including a comparison of growth in Vietnam and
Ghana since the 1980s. Though Ghana has had a more open business environment, Vietnam’s economic growth
has been more rapid, related to its larger structural transformation from agriculture into manufacturing. While
Ghana focused on natural resources, Vietnam’s focus on manufactures, particularly garments and textiles,
allowed the large-scale adoption and productivity upgrade of agricultural workers, and rapid intra-sector
productivity growth. More recently there has been growth-enhancing structural change in Africa. This, though,
has primarily been the result of movement into services, and African economies may not have accumulated
sufficient ‘fundamentals’ to transform those services into high-productivity activities.

- The path of rapid catch-up through industrialization may be less feasible in the future as, for instance, China
poses significant competitive challenges to newcomers in manufactures. Also, trade rules limit the room for
industrial policies that use state subsidies. Furthermore, manufacturing is becoming increasingly capital-
and skill-intensive. Though there is some room for diversification into manufacturing in Africa, for instance on the
back of natural resources exploitation or to meet the needs of regional markets, development will have to
to generally proceed the harder way, through steady improvement in the fundamentals. >> Full paper

Why Nations Fail. The Origins of Power, Prosperity and Poverty, by Daron Acemoglu and James

Based on historical evidence, the authors argue that sustainable economic growth is determined by
politics: centralised and pluralistic political and economic institutions which can develop based on
popular demand. Without the latter, economies may reduce poverty but will not fully ascend to modern
prosperity. Reviews praise the wealth of examples in the book, but also share similar concerns:

- Janet Hunter of the London School of Economics notes that “many readers will be less comfortable with (...) the
oversimplification inevitably associated with almost any mono-causal explanation (...).”

- Bill Gates openly takes issue with the “vague and simplistic” analysis and challenges several historical case
studies. He stresses that “most examples of economic growth in the last 50 years (the Asian miracles) took place
when their political system tended more toward exclusiveness.” Conversely, even under the best conditions of
inclusiveness, growth did not necessarily sustain itself. He notes that economic success such as in China had
instead followed a focus on capitalistic economics (private property, markets and investing in infrastructure and
education), independent of the political system.

- Simon Maxwell provides a nuanced critique of various elements of the book, such as its theory of how inclusive
institutions can be brought about (by popular demand, but not by aid); the lack of discussion about who gains
and who loses from capitalism (one country at the expense of another?); and the need for more reflection of what works well and what does not, even in liberal-democratic market economies.


Regional perspectives 1: Recent publications on structural transformation in Asia


This study reviews and projects the structural transformation and productivity, drawing on an 8-region model. Among other things, it concludes that labour productivity growth is projected to have overly focused on agriculture and public goods, including investments in agricultural infrastructure, functional land right systems, new technologies and R&D, and efforts to promote integration into global value chains. The rationale for industrial policy often applied in manufacturing could similarly be extended towards agribusiness support. >>>Full paper

>>> Further reading: A new article in the World Development Journal ‘Moving off the Farm: Land Institutions to Facilitate Structural Transformation and Agricultural Productivity Growth in China’ (December 2013) highlights the importance of land rights as one of the underpinning factors of structural transformation and productivity, drawing on an 8-year panel of 1,200 households. One key finding is that land tenure insecurity seems to discourage temporary migration of rural labour.

>>> Further reading: The book ‘The Dynamics of Economic Growth: Policy Insights from Comparative Analyses in Asia’ (2013) by Khuong Minh Vu provides an overview of economic growth in the region and unpacks its underlying drivers. Among other things, it concludes that labour productivity growth and capital accumulation (in particular in Information and Communication Technologies) were among the major sources of GDP growth in Asia.

Regional perspectives 2: Recent publications on structural transformation in Africa


• Based on regression from a database on employment, output and productivity covering 35 developing countries, the authors suggest that structural change is positively associated with declines in poverty.

• However, the average manufacturing share of GDP in Africa is less than half that of the average of all developing countries. In Asia, rising worker output is a result of both intra-sector productivity increases, and of moving from lower to higher productivity employment. In Africa (and Latin America), on the other hand, while productivity within sectors has been increasing, labour has been proportionally moving to lower productivity sectors, such as informal community, personal, and government services.

• The author suggests that foreign aid has partly been responsible for this lack of structural transformation. Policy debates have focused on the role of overall growth in reducing poverty. Donors have overly focused on regulatory reform, while support for ‘pro-poor growth’ has largely focused on agricultural productivity.
To accelerate structural change, donor should address infrastructure and skill constraints, support non-traditional exports and industrial agglomerations, build firm capabilities, and strengthen regional integration. [Full paper]

Further reading: The African Centre for Economic Transformation proposes a transformation index to track structural changes in African economies. This index captures economic diversification, export competitiveness, productivity in manufacturing and agriculture, share of technology in production and exports, and human economic wellbeing.


The authors review smallholder agrarian transformation in Africa, using longitudinal data from 2,354 smallholder households in eight African countries for the period 2002 to 2008.

- 4.4% of households intensified grain production annually, a significant increase on the 1.3% rate between 2002 and the date of household establishment (on average 1980), through more intense use of labour resources rather than through technological change. This has been driven by economic growth and commercialization; political support to agriculture has not had a large effect.
- However, there has been no tendency towards increasing diversification from grains into non-staple crops, and income diversification from activities outside agriculture has decreased. While in 2002, 54% of households had cash income from non-farm sources, this was just 45% in 2008. This suggests that many households have returned to farm activities as agricultural incentives have improved. [Article Abstract]


This paper is a detailed case study of economic transformation in Ghana. It finds that despite sustained economic growth and poverty reduction, Ghana has exhibited less transformation than economies in Asia and Latin America.

- Diversification away from agriculture has been modest; agriculture contributes more than one-third of GDP and employs more than 50% of the labour force; industry's share of GDP declined from about 36% to less than 30% between 1993 and 2009. Instead, exports are driven by cocoa and gold, leading to upward pressure on the exchange rate and hampering the development of manufacturing. Discovery of oil and gas risks reinforcing this 'resource curse' trend. Agricultural productivity growth is insufficient to enable the development of competitive agro-processing industries; Urbanisation has been rapid, but urban economies are dominated by services, mostly informal, which benefit less from economies of scale or agglomeration.
- Policy priorities include increasing competitiveness of agriculture (e.g. through institutional change in the land tenure system to attract investments). The authors also recommend identifying ways to improve conditions for manufacturing and developing productive services. [Full paper]

Further reading: The McKinsey Global Institute has published a new report “Reverse the curse: Maximising the potential of resource-driven economies” (December 2013), discussing how economies with large resource endowments can handle them more effectively in order to bolster economic development. It considers issues ranging from economic diversification, to local content and shared infrastructure.


This study analyses economic transformation in Ethiopia focusing on cereal wholesale markets (2001 -2011), where structural changes lead to efficiency gains and benefits for consumers and producers alike. Selected finding include:

- Higher consumption levels (up 15% between 2000-2005) and a growing urban population (44% increase between 2001-2011), leading to higher quantities traded; significant road infrastructure investments (e.g. all-weather surfaced roads expanded by more than 50% over 15 years) and a better organised transport sector (e.g. shifts to bigger, cheaper trucks), leading to lower transport costs and better market connectivity (e.g. transport times to the Addis wholesale markets fell on average by 20%); access to market information improved through the increased use of mobile phones (coverage of rural wholesale markets rose from 0% to almost 100% between 2000-2005); commercial farms emerged as important players in the cereal market.
- Higher quantities traded and access to better price information have caused retail and milling margins to drop by 50% between the first and second half of the decade. While real prices for locally traded cereal in 2011 were slightly above 2001 prices, rises were relatively lower in cereal deficit and vulnerable regions.
Having started from a low base, policies in Ethiopia should continue to focus on infrastructure, transport sector efficiency, and mobile phone penetration in rural areas, including for financial services. >> Full paper


This report considers the role of Special Economic Zones (SEZs) in fostering structural change and creating employment in Sub-Saharan African economies. Previous research has found that the majority of African SEZs have been unable to significantly contribute to either of these goals. However, by reviewing positive exceptions such as Mauritius and Kenya, and additional examples in Asia, the authors highlight how SEZs can become a powerful policy tool.

- **A common theme which emerges is the importance of clustering** together firms from the same sector in close geographical proximity, with the intention that firms learn from each other and benefit from scale. New evidence is presented that Kenya experienced significant employment and manufacturing labour productivity gains by promoting the export-oriented apparel sector in this way following the Africa Growth and Opportunity Act: the authors suggest that 40,000 manufacturing jobs have been created and manufacturing labour productivity increased by 20% between 1996 and 2006. However, they also warn that promoting industries linked to temporary trade preferences could leave countries vulnerable.

- They point to the successes of Mauritian firms in raising the quality of garment products and in acquiring design and marketing capabilities as evidence that sustainable productivity gains are more likely to be achieved when SEZs are accompanied by higher levels of investment in human capital and by fuller reforms to the business environment to encourage entrepreneurial activity. >> Full paper

3. Enterprise Development and Poverty Reduction – Insights from Mozambique


This study analyses non-farm household enterprises and their welfare impacts in Mozambique during its period of rapid economic growth, based on national surveys. In this period, households have increasingly maintained household enterprises (12% increase between 2003 and 2009), often in addition to farm income.

- **Controlling for other characteristics, having household enterprise income was significantly correlated with higher consumption in 2008** (10% for urban, 15% for rural areas if it is the primary income, somewhat less if it is a secondary income). **Micro enterprises** (employing labour outside the household) have the strongest link to consumption (70%/ 54% higher than average in rural/urban areas), but only 3% of households own one.

- The study found that starting a new household enterprise as primary employment on average increased consumption by 18%; for rural household enterprises, the average increase was even higher, at 23%. This does not hold for secondary employment household enterprises, yet ‘upgrading’ to a primary household enterprise implied a 33% consumption increase. **Rural household enterprise start-ups** were more likely to move out of poverty (44%) than households that never owned an enterprise (18%); only 12% fell into poverty compared to 23% of households that never owned an enterprise (6% / 16% in urban areas).

- **Based on survey results on major HE constraints, government policy** should focus on (i) expanding access to financial services for households; (ii) expansion of secondary and linkage roads to ensure access to markets for household enterprises; (iii) development of local market places to create clusters; and (iv) access and quality of public services such as education, health services, and water supply. **This is different from the MSME strategy of the government**, which focuses on reforms of the business regulatory environment. >>Full paper

4. Agricultural and Global Value Chain Development – New reviews of research and experience

**Effectiveness of innovation grants to smallholder agricultural producers: an explorative systematic review**, by Ton, Giel et al., EPPICentre, University of London, 2013.

Though relatively rare, grant funds targeted to smallholder farmers are increasingly recognised by governments and development agencies as a mechanism for agricultural innovation. Based on 20 impact studies and referencing 42 largely qualitative studies, this review assesses their approaches and impacts across three modalities:

- **Voucher schemes** that provide farmers with subsidies on inputs, technologies and/or services are shown by several impact studies to support the uptake of innovation-enhancing practices in the farming system.
• **Competitive grants** for farmer groups or smallholder-sourcing enterprises are also shown to encourage investments in technology or support services. For both modalities above, however, there is less evidence that they improve farmers’ livelihoods.

• **Innovation support funds**, where grants are provided to service providers for agricultural research, are shown to be more directed at key constraints in on-farm innovation if local farmers organisations are involved in decision making; however it is less clear whether including higher-level farmer organisations in research grant funds decisions is effective in scaling-up innovation.

Overall, grants are considered as only one factor contributing to innovation; they are more effective when combined with wider support, covering market access, infrastructure, and social and human capital. >> Full study

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This case study explores the reasons **why Bolivia now exports far more Brazil Nuts than Brazil**, with 77% of global volumes even though it is smaller, poorer and has a worse business environment than Brazil who used to dominate this market. **The trigger for change was the introduction of tighter EU sanitary standards for nut imports in 1999**, to which the two countries reacted differently:

• Bolivia’s government immediately **demanded testing for all outgoing shipments** as a condition for export licenses, which triggered **Bolivian producers to cooperate in upgrading their processing, and their testing of nut quality**. Their business association was revived to develop shared services, including a testing lab, which was cheaper than the only commercial lab (also located 600 miles away and known for its slow and expensive services). The association also provided a one-stop shop for export licenses, and training to members. Producer buy-in and financial autonomy were promoted by instituting a representative board of directors with short terms.

• Conversely, the Brazilian government **did not demand comprehensive testing**. The industry stayed **fragmented**, reinforced by conflicts among processors, and between processors and harvesters. Instead of upgrading processing, some authorities tried unsuccessfully to train seasonal nut collectors in quality-enhancing practices. Continuing to send contaminated shipments to the EU, they were shut out of that market. From that point, in-shell nuts were largely exported to Bolivia for processing, enabling it to take Brazil’s market share. >> Article Abstract

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This Newsletter has been compiled Melina Heinrich, Ashley Aarons and Eleanor Bell of the DCED Secretariat. Please note that the DCED is an inter-agency body, not a funding organisation.