



SUPPORTING
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SUPPORTING ECONOMIC TRANSFORMATION IN NIGERIA

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Authors

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List of acronyms

AIGMAN	Automotive Industry Group of Manufacturing Association of Nigeria
ALCMAN	Automotive Local Content Manufacturers Association of Nigeria
BOF	Budget Office of the Federation
BPE	Bureau of Public Enterprises
CBN	Central Bank of Nigeria
CSEA	Centre for the Study of the Economies of Africa
CTG	Cotton, Textiles and Garment
DD	Demographic Dividend
DFID	Department for International Development
DHS	Demographic and Health Survey
DMO	Debt Management Office
DPM	Deputy Prime Minister
DVA	Domestic Value Added
ECA	Excess Crude Account
ECI	Economic Complexity Index
ECOWAS	Economic Community of West African States
EEG	Export Expansion Grant
EMIT	Economic Management Implementation Team
EMP	Employment and Growth Study
EPB	Economic Planning Board
EPIC	Electricity Power Implementation Committee
FDI	Foreign Direct Investment
FEC	Federal Executive Council
FGN	Federal Government of Nigeria
FIRS	Federal Inland Revenue Service
FMF	Federal Ministry of Finance
FMITI	Federal Ministry of Industry, Trade and Investment
GDP	Gross Domestic Product
GIFF	Growth Identification and Facilitation Framework
GoN	Government of Nigeria
HCI	Heavy and Chemical Industry
ICT	Information and Communications Technology
ILO	International Labour Organization
IPP	Independent Power Plant
IMF	International Monetary Fund
ISIC	International Standard Industrial Classification
MAN	Manufacturers Association of Nigeria
MDAs	Ministries, Departments and Agencies
MITI	Ministry of Trade and Investment
MPC	Monetary Policy Committee
MTEF	Medium-Term Expenditure Framework
NAC	National Automotive Council
NAIDP	Nigeria Automotive Industry Development Plan
NAMA	Nigeria Automotive Manufacturers Association
NBS	National Bureau of Statistics, Nigeria
NEC	National Economic Council
NCS	Nigeria Customs Service
NEMT	National Economic Management Team
NERC	Nigerian Electricity Regulatory Commission
NGF	Nigeria Governors' Forum
NIRP	Nigerian Industrial Revolution Plan
NIS	Nigeria Immigration Service

NNPC	Nigerian National Petroleum Corporation
NPC	National Planning Commission
NSIA	National Sovereign Investment Authority
OECD	Organisation for Economic Co-operation and Development
OEM	Original Equipment Manufacturer
PCI	Product Complexity Index
PHCN	Power Holding Company of Nigeria
R&D	Research and Development
RCA	Revealed Comparative Advantage
RMRDC	Raw Materials Research and Development Council
SITC	Standard Industrial Trade Classification
SON	Standards Organisation of Nigeria
SMEs	Small and Medium Enterprises
SNA	System of National Accounts
SPRM	State Peer Review Mechanism
SSA	Sub-Saharan Africa
SURE-P	Subsidy Reinvestment Programme
TFP	Total Factor Productivity
UNCTAD	United Nations Conference on Trade and Development
UNECA	United Nations Economic Commission for Africa
UNIDO	United Nations Industrial Development Organization
WBES	World Bank Enterprise Survey
WEF	World Economic Forum
WTO	World Trade Organization

Executive summary

Nigeria has enjoyed fast economic growth over the past decade but, compared with other large oil exporters and many other African countries, **it has experienced little economic transformation and has seen low-quality growth**. Now, with oil prices down significantly, and weak growth, new areas of economic growth need to be identified. Business-as-usual will not safeguard productive jobs for the future and will not reduce poverty significantly. This is a cul-de-sac. Promoting quality growth and economic transformation is crucial. But how can this be done?

This paper addresses that question, drawing on a combination of economic analysis, to identify potential areas for action, and political-economy assessment, to clarify the conditions under which such action may be able to succeed. We draw on relevant international experience, especially from large countries that have managed to transform the structure of their economies, as well as on the record of economic policy reform in Nigeria to date.

We first review the (lack of) economic transformation in Nigeria – the country’s ‘transformation deficit’ – focusing on production and employment structure, labour productivity, export performance and firm-level productivity. This review finds, among other things, that Nigeria’s growth in gross domestic product (GDP) per capita has lagged behind that of several other countries, such as Indonesia and China, owing in part to **a very low level of investment**. The GDP data before the recent rebasing suggest that over 1990-2010 there was hardly any structural change. Even using the rebased data, which yields a slightly more positive view, **the share of manufacturing in Nigeria (9%) is still at the bottom of a group of a range of comparator countries**. Trade (the sum of imports and exports) as a percentage of GDP has declined over the past decade. **The export basket is very concentrated** in crude oil and gas-related products (oil, liquefied gas). Moreover, calculations using the Hausmann complexity index show **Nigeria lacks diversification into complex products, even by comparison with other African countries and other African oil exporters**. Firm-level data suggest Nigeria’s total factor productivity (TFP) is some 13% lower than that of Kenya, but, more encouragingly, there are substantial differences among firms, sectors and locations in Nigeria, suggesting **scope for the enhancement of productivity and competitiveness on which economic transformation depends**.

We next examine **what other successful countries have done to support economic transformation and how they have done this**. Some key policy lessons are:

- Even for the largest economies, international competitiveness has to be the goal and yardstick of success if the productivity gains of economic transformation are to be realised.
- Investments in infrastructure and, especially middle-range, skills are vital.
- Firms or sectors identified as potentially competitive internationally should receive government support that is linked explicitly to their export performance.

The policy process requirements for success are also quite demanding. They involve 1) appropriate timing for the policy change; 2) consistency of policy packages; 3) clarity about objectives; 4) gathering support for policy changes; 5) ways of adjusting to short-term political realities; and 6) the importance of feedback and course correction mechanisms. We argue that realism is needed on the ease with which these policy orientations and process features will be adopted in Nigeria. Particular challenges concern **the persistence of inward-looking policy mind-sets, inimical to a trade-based vision of economic transformation**, and the way protectionist policies and decisions on the allocation of oil rents are locked in with **a political system based on patron-client relations, not on a vision of national development and state-building**. However, being realistic does not mean doing nothing.

Instead of dwelling on the country’s past experience, **we proceed to examine what Nigeria could focus on in order to transform, diversify and raise productivity – the economic potential**. We use analytical techniques such as revealed comparative advantage, Hausmann’s product space analysis and Lin’s growth identification and facilitation framework to shed light on this issue. **Combining these techniques**

suggests a number of products, close to Nigeria’s current export profile but with high opportunity gains, that Nigeria could diversify into. We also summarise the consensus of economic studies on the areas for priority policy action that would require attention in connection with investments in any one of the identified sectors. These include 1) targeted and core infrastructure (in power, an integrated transport network and aviation); 2) access to finance; 3) reduced business environment costs that can encourage high productivity value chain sectors (e.g. in agriculture); 4) lower import protection and lower trade costs; and 5) skills-building, particularly through vocational training, and human capital development (health and education) generally.

Returning to political and administrative feasibility, we take a closer look at **the lessons of policy reform in Nigeria since the restoration of democracy.** We argue the balance sheet exhibits five features:

- Reform progress has been uneven, as illustrated by the contrast between monetary and fiscal policy.
- The way institutional arrangements work in practice is less impressive than their formal appearance.
- The progress in power sector and public finance reform has shortcomings that critically affect the environment for economic transformation.
- Current industrial policies at the sector level are some way off from what would be recommended on the basis of international experience, being more or less strongly influenced by inward-looking, import substitution – not international competitiveness – models.

It is important to be realistic about the potential for future reform in light of this experience. Being realistic includes, for example, not pretending improving formal institutions will do the trick. It is also important, we argue once again, not to go to the opposite extreme. This is partly about not exaggerating how much must change in the short or medium term in order to get transformation started. **Most success stories in Asia started in a single sector, with a single, politically empowered, public agency.** Changing deeply embedded ideas about national development, and the place of agricultural and industrial transformation in it, was one of the tasks those agencies undertook. They implemented their ideas vigorously, **eventually producing such striking demonstration effects that their ideas became the new orthodoxy.**

These experiences are relevant to Nigeria. They point to **the importance of thinking about demonstrating policy for economic transformation in a sector** – providing one or more live examples of the employment generation and profits to be gained from orienting to international competitiveness. This would require high-level political authorisation and support and choices about where to start that pay attention to both the analysis of economic potential in different sectors and the corresponding political economy (what interests, enjoying what level of protection, are already present or might be attracted by the offer of subsidies linked to export performance?) **Experience in other countries also points to ways of delivering such a demonstration initiative.** Given the complexity and uncertainty surrounding such questions, the front-line reform team or agency should be given scope to work in an ‘entrepreneurial’ fashion. That is, they should be given the freedom to try out a few avenues towards desirable policy reforms and draw lessons in a tough-minded way before getting fully committed, so their best guesses become progressively better informed and more refined. This way of approaching reform for economic transformation has had substantial pay-offs in another Asian country, the Philippines. It is the logical next step in Nigeria.

The proposals mapped out in this paper go a considerable way beyond business as usual, in terms of both policy orientations (especially aiming at international competitiveness, rather than import substitution) and reform approaches (an entrepreneurial approach to changing mind-sets and dealing with political-economic constraints). Yet, **to repeat, business as usual is not going to generate the large increase in productive employment that the country needs.** It is going to reproduce indefinitely the skewed and socially unjust patterns of income growth that have typified Nigerian economic life for several decades. The paper argues it is time to start on something new.

1. Introduction

Increasingly, the goals of economic development policy-making in low- and middle-income countries extend beyond sustained growth and poverty reduction. Government economic strategists are concerned to set their countries on a path leading to economic transformation, defined as a process of structural change in which labour and other resources move progressively from low- to higher-productivity sectors and activities. Transformation involves moving resources both between sectors (e.g. from agriculture to manufacturing) and within sectors (from lower- to higher-productivity farms or firms). Usually, it involves product diversification and new export activities.

This is a more ambitious objective than high growth, although for many countries it may be the best or only route to inclusive, employment-intensive growth. Based on the experience of countries that have made the breakthrough to transformation in recent decades, it calls for a calibre and consistency of policy-making and policy delivery that is hard to reach under prevailing political and public management systems. Economic analysis can point to areas where investments would have the right payoffs if given the right institutional and policy support, but political economy analysis provides ample reasons for doubting whether such support would be sustained for long enough to be effective. There is an urgent need to identify ways of breaking into this circle, with politically and economically smart interventions capable of attracting the support of reform-minded members of domestic and international policy communities.

The SET programme is committed to tackling this challenge by providing analysis and advice and engaging in dialogue with policy-makers and professionals in a number of developing countries, of which Nigeria is one. This paper is an output of preliminary work addressed to the policy community in Nigeria in the context of the new hopes and expectations generated by the accession of President Muhammadu Buhari in 2015. The paper pulls no punches. It has two principal aims. One is to make as clear as possible the scale and nature of the challenge economic transformation poses for Nigeria. The other is to begin an exploration of ways of breaking into the country's particularly difficult circle of political-economy factors with transformation-oriented initiatives that are both technically sound and politically feasible.

The paper has five further sections. The first (Section 2) sets out evidence suggesting that, with respect to economic transformation, Nigeria has considerable catching-up to do in relation to comparator countries in Africa and Asia. Section 3 then identifies the main characteristics of the policy orientation and policy process that would be required for catch-up, based on the best international evidence. In Section 4, we apply a number of recognised techniques to assessing the economic sectors in which progress towards economic transformation could in principle be made. Section 5 then addresses the question of what politically feasible initiatives might trigger a move from principle to practice, enabling the necessary policy support to be provided to a selected sector or industry. Section 6 concludes.

2. The transformation deficit

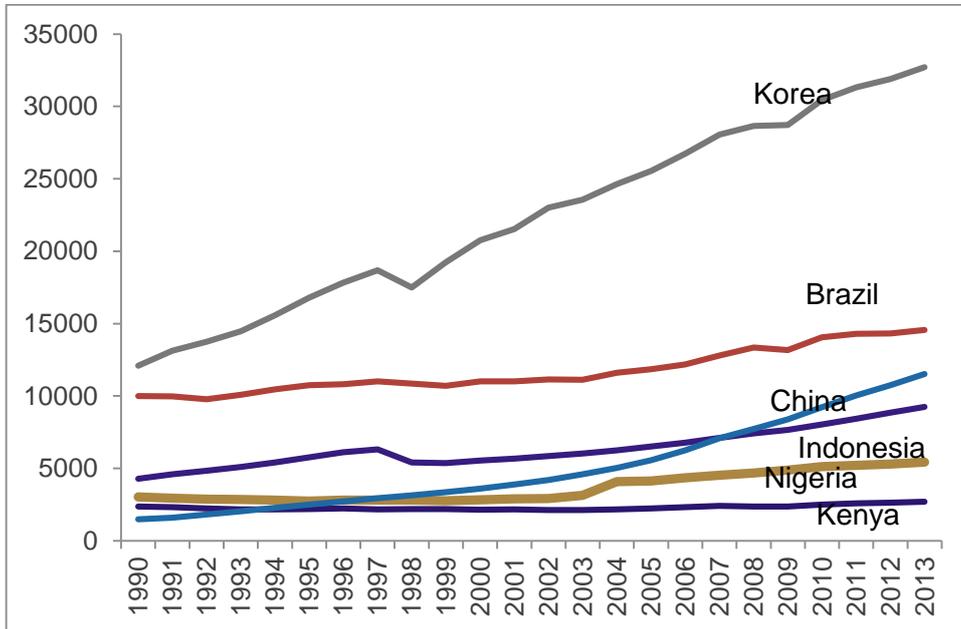
Nigeria is at a critical juncture. The economy has grown fast over the past decade, within a largely untransformed economic structure. The oil economy in a period of high prices has made a substantial contribution to sustaining aggregate growth, posing a challenge of sustainability now oil prices are down significantly. As well as being over-reliant on oil, the pattern of growth has been both uneven regionally and socially non-inclusive, generating limited sources of new employment. New areas of employment-generating economic growth need to be identified urgently, for well-known social and political as well as economic reasons. In short, Nigeria needs to begin a process of economic transformation.

A major obstacle to taking the necessary policy steps to initiate real transformation is complacency – a lack of awareness at the highest policy levels of the extent to which Nigeria has lagged behind other countries facing similar or less favourable structural conditions. The relevant comparators include large and regionally heterogeneous oil exporters in Asia, such as Indonesia, and resource-poor medium-sized countries in Africa, such as Kenya. This section presents evidence on the limitations of recent growth in Nigeria, taking full account of the recent rebasing of gross domestic product (GDP) measurement. It begins with the basic descriptive statistics and then offers more sophisticated measures of what may be called Nigeria’s transformation deficit, where the country’s economic structure is considered alongside that of relevant comparators.

2.1 Economic progress from 1960 to 2010

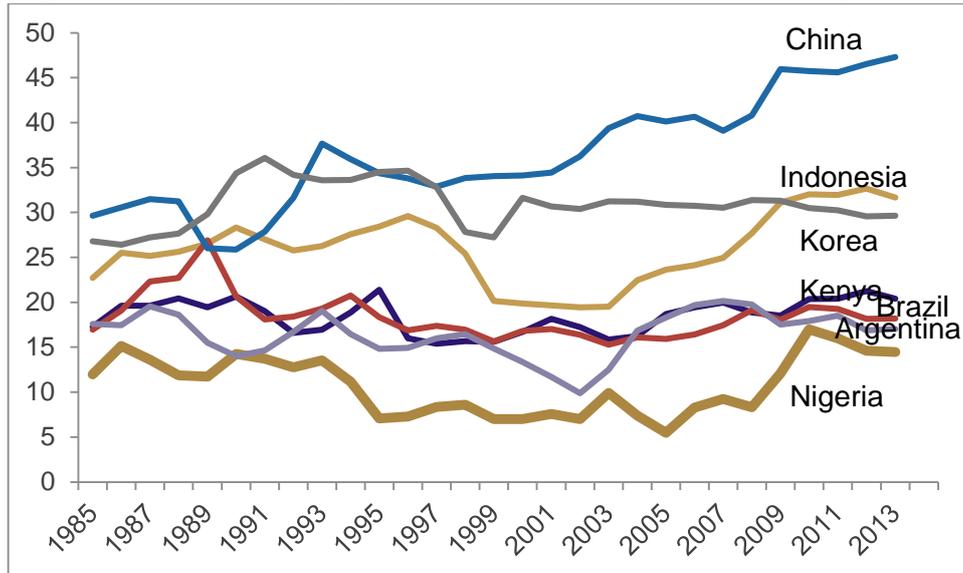
As Figure 1 shows, GDP per capita has increased in recent decades, but over the longer term it has fallen behind that in several other countries, such as Indonesia or China.

Figure 1. GDP per capita (2011 international dollars) increased relatively little in Nigeria



Source: World Development Indicators

This has many causes, but an important one is the very low level of investment Figure 2 shows. This is normally attributed to insecurity, absence of adequate infrastructure and ‘weak governance’.

Figure 2. Gross fixed capital formation (% of GDP) has been very low

Source: World Development Indicators

The historical data on sectoral GDP (before the recent rebasing exercise) suggest there was hardly any structural change over the 20 years between 1990 and 2010. Among the most notable changes are a rapid increase in the role of the mining sector (which includes the oil and gas sector) and a spectacular fall in the role of manufacturing (Table 1). The textile industry illustrates the de-industrialisation process in Nigeria, as 820 companies were shut down or suspended production between 2000 and 2008. At its height, the textile industry employed close to 700,000 people, with 175 mills contributing around \$9 billion in the mid-1980s. But in 2004 it collapsed to 10 factories employing 40,000 workers.

Table 1. GDP (old series) and employment, Nigeria, 1960-2010

	Gross value added (%) ^a						Number of persons engaged (%) ^b					
	1960	1975	1990	2000	2005	2010	1960	1975	1990	2000	2005	2010
Agriculture	58.3	30.5	29.5	27.5	35.2	31.6	78.2	60.0	50.0	63.7	62.4	60.7
Industry	18.1	47.2	53.6	55.3	46.5	48.0	5.3	8.6	6.4	4.2	5.0	6.2
Mining	0.8	18.4	36.2	50.6	41.9	44.6	0.3	0.2	0.4	0.1	0.2	0.2
Manufacturing	10.9	21.5	13.6	3.8	3.0	2.0	3.4	6.7	4.4	3.1	3.6	4.2
Other industry ^d	6.4	7.4	3.8	0.9	1.7	1.4	1.6	1.7	1.5	1.0	1.2	1.8
Services^e	23.6	22.2	16.9	17.1	18.3	20.3	16.5	31.4	43.6	32.2	32.6	33.1
Market services	20.0	18.0	15.5	14.3	16.2	18.5	15.0	17.8	30.9	21.7	21.8	22.7
Distribution services	18.5	15.0	13.5	13.3	15.1	16.7	14.7	17.4	30.1	21.0	20.5	20.0
Finance and business services	1.5	2.9	1.9	1.0	1.2	1.8	0.3	0.4	0.8	0.6	1.3	2.8
Non-market services	3.6	4.3	1.5	2.8	2.0	1.8	1.5	13.7	12.7	10.5	10.8	10.4
Government services	2.1	3.0	1.1	1.8	1.1	0.9	0.6	5.7	6.3	4.2	4.3	4.3
Other services	1.6	1.2	0.3	1.0	0.9	0.9	1.0	7.9	6.4	6.3	6.5	6.1
Total economy	100	100	100	100	100	100	100	100	100	100	100	100

Notes:

(a) Based on current prices in local currency.

(b) Includes paid employees, the self-employed and family workers.

(d) 'Other industry' includes construction and public services.

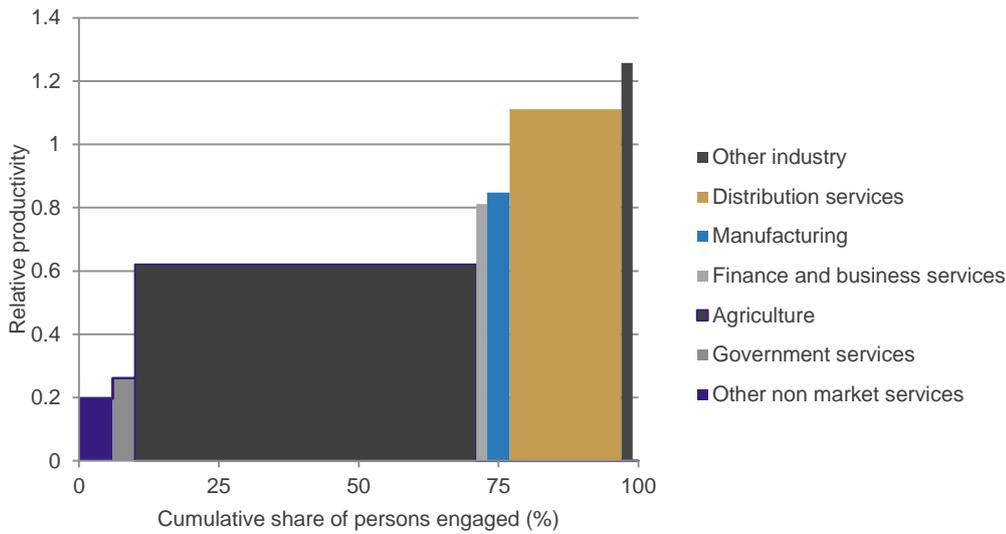
(e) 'Distribution' includes transport services and distributive trade as well as hotels and restaurants; 'Finance and business services' excludes real estate activities; 'Other services' include other community, personal and household services.

Numbers may not sum due to rounding.

Source: Authors' calculations using the 10-Sector Database (<http://www.rug.nl/research/ggdc/data/10-sector-database>); Timmer et al. (2014)

There remain major productivity differentials among sectors (Figure 3), which illustrate the potential to change aggregate productivity by moving labour from one sector to another. However, data from the International Labour Organization (ILO) and the Demographic and Health Survey (DHS) that can be used to calculate sectoral employment shares confirm how little economic transformation has actually taken place. The number of people employed in agriculture hardly shifted over the period 1990-2010 (Figure 4).

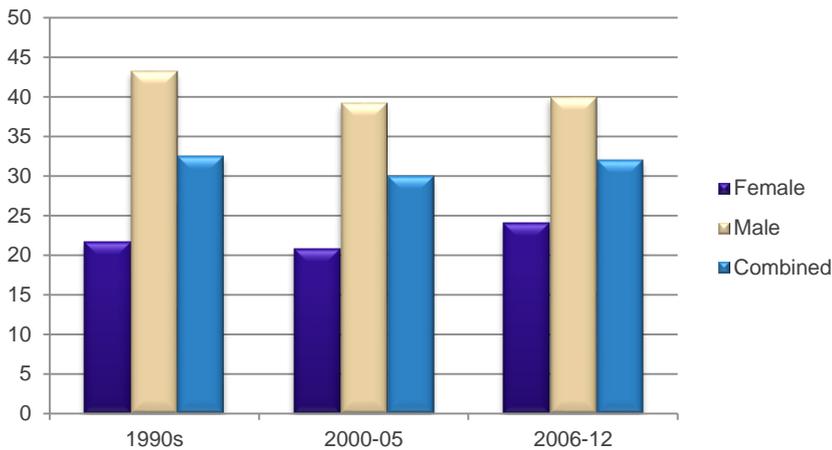
Figure 3. Productivity gaps in Nigeria, 2010



Note: Mining (relative productivity 128.2/share of persons engaged 0.002) omitted.

Source: Authors' calculations using the 10-Sector Database (<http://www.rug.nl/research/ggdc/data/10-sector-database>); Timmer et al. (2014), see also Table 1 above

Figure 4. Percentage of workers (age 25+) in agriculture, Nigeria



Note: Using DHS data.

Source: McMillan and Harttgen (2014) (<http://www.nber.org/papers/w20077>).

2.2 Insights from rebased GDP data on Nigeria's economic structure

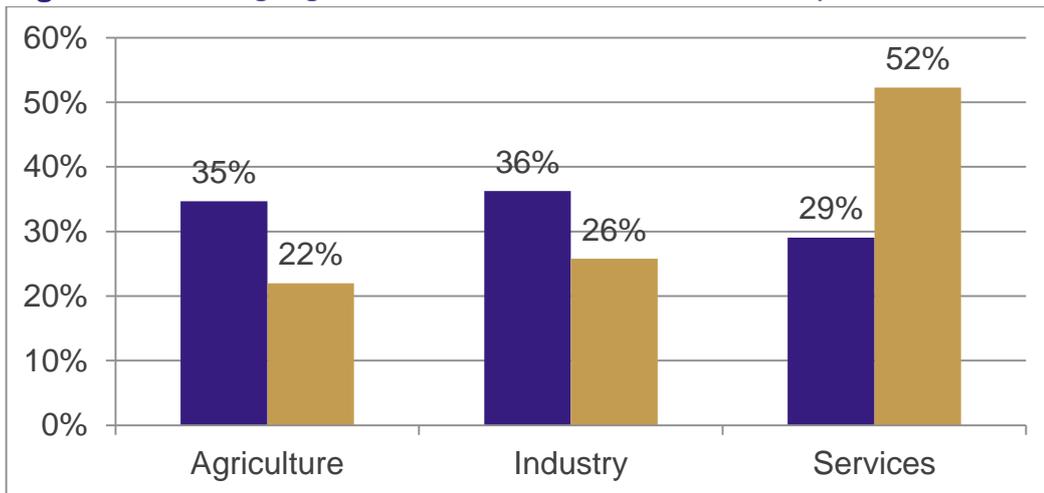
In 2014, following the rebasing exercise, Nigeria became the biggest economy in Africa (surpassing South Africa), with GDP going from \$270 billion to \$510 billion. The rebasing involved a change in the base year from 1990 to 2010, following System of National Accounts (SNA) 2008 and using industrial classification International Standard Industrial Classification (ISIC) Rev. 4 (from Rev 3.1). It involved a level shift in GDP of 59.5% in 2010 (89.2% in 2013).

The rebasing itself provides insights into patterns of structural change. The greatest increase in level of value addition as part of the rebasing was in information and communication, trade, manufacturing and real estate. Thus there is evidence of faster structural change than was reported under the old series, as there is a strong increase in the share of services sector and a strong decline in the share of agriculture and also industry (Figure 5). Notably, the manufacturing share was higher and manufacturing growth was stronger than previously expected (according to the National Bureau of Statistics (NBS) this was 1.9% in 2010 under the old series, but it was 6.6% in 2010 under the new series). This reflects the inclusion of better and more survey data (e.g. expanded business registers) and a reclassification between sectors

(e.g. firms processing farm produce from ‘agriculture’ to ‘manufacturing’). The Supply and Use Table for Nigeria has not yet been made available (although below we use a version from the Eora database).

The Nigerian manufacturing report of 2012 provides insights into how the rebasing exercise changes our view somewhat on the manufacturing sector. Prior to the rebasing, the manufacturing sector was in decline (from 8% in 1982 to 4% in 2012); after the rebasing, it appears to be much bigger and growing (from 7% in 2010 to 9% in 2013). The recent report on the manufacturing sector (NBS, 2014) finds the food, beverage and tobacco sector contributes 53% of the total (sugar and bread are important), followed by textiles, apparel and footwear at 18% (‘other woven fabric’ recorded the biggest increase). The total number of persons engaged was 2.88 million in 2010, 3.03 million in 2011 and an estimated 2.97 million in 2012.

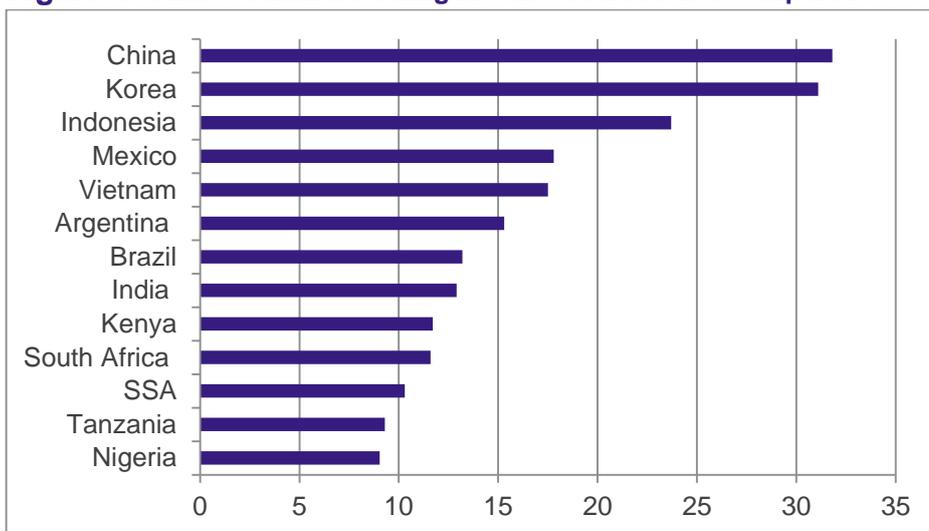
Figure 5. Rebasing Nigerian GDP and sectoral shares in GDP (old and new data for 2010)



Source: NBS

These corrections are important. However, they do not alter the finding that the share of manufacturing in GDP is very low. Even using the rebased data, the share of manufacturing in Nigeria is still at the bottom in a group of a range of comparator countries, as Figure 6 shows.

Figure 6. Share of manufacturing in value addition in a comparative context (2013)



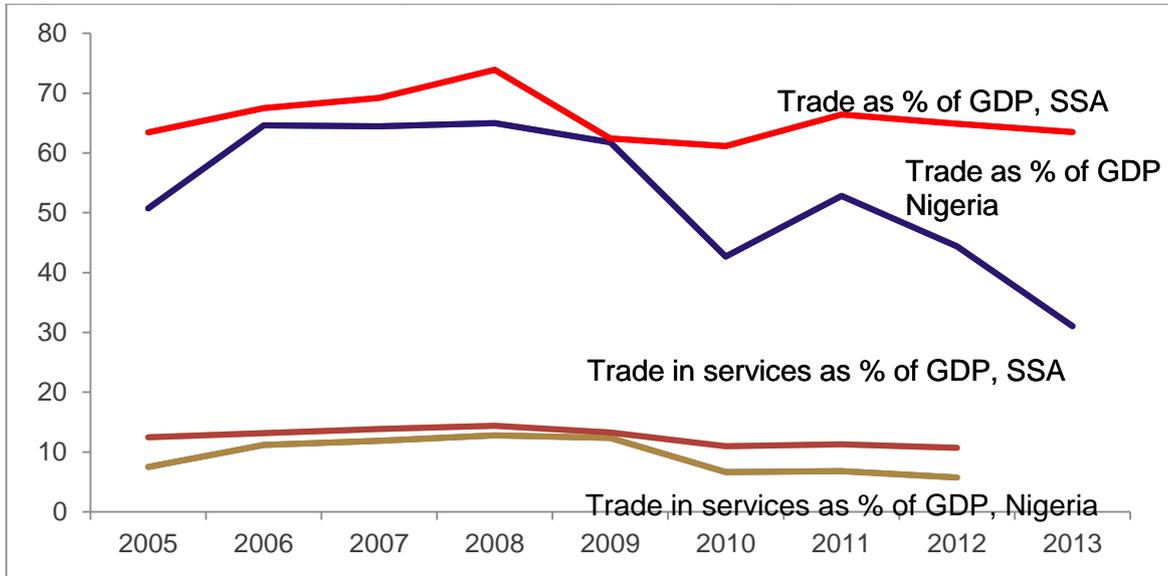
Note: Some countries, such as Tanzania, use pre-rebasing data.

Source: World Development Indicators

2.3 Trade and economic transformation

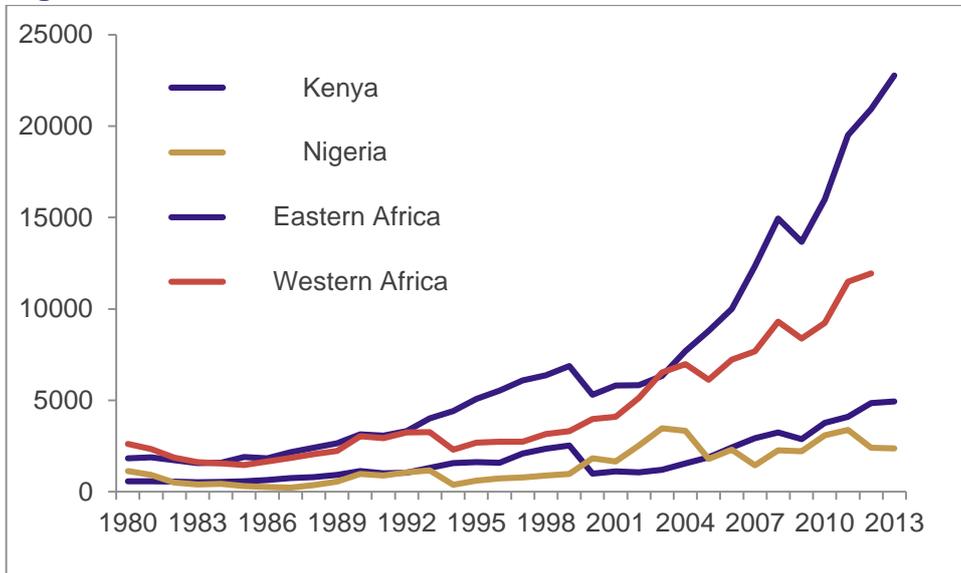
Trade (the sum of imports and exports) as a percentage of GDP has declined over the past decade. Trade is now only 31% of GDP (Figure 7). Goods imports are influenced heavily by the price of oil. We have also charted trade in services, and this too has declined, to only 5.7% in 2012. The comparable data for Sub-Saharan Africa (SSA) as a whole are double this. Exports of services from Kenya have been much more dynamic than those from Nigeria (Figure 8).

Figure 7. Trade as % of GDP (all, services; Nigeria and SSA)



Source: World Development Indicators

Figure 8. Insufficient dynamism in exports in services in Nigeria (\$ million)



Source: UNCTAD

Exports have been hampered by an appreciating exchange rate. Figure 9 suggests a 40% decline in competitiveness on this basis in the past five years. But this alone cannot explain the poor performance in exports. The recent exchange rate depreciation may offer some respite for economic sectors, but not enough.

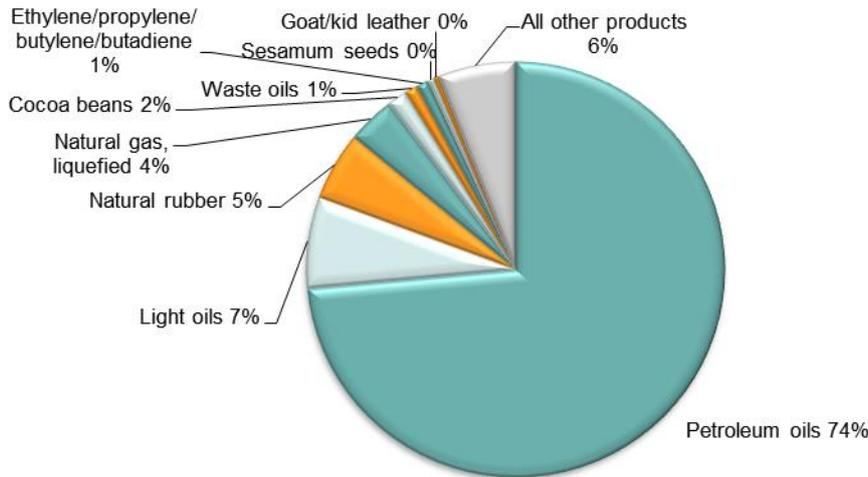
Figure 9. The increase in the real effective exchange rate (2000M1-2016M5) may have hampered non-oil exports



Sources: World Bank GEM (blue)

As Figure 10 shows, nearly all of Nigeria’s exports are crude oil- and gas-related products (oil, liquefied gas), with only a few agricultural exports contributing significantly (e.g. cocoa beans, sesame seeds).

Figure 10. Top export products, Nigeria (average 2011-2013)

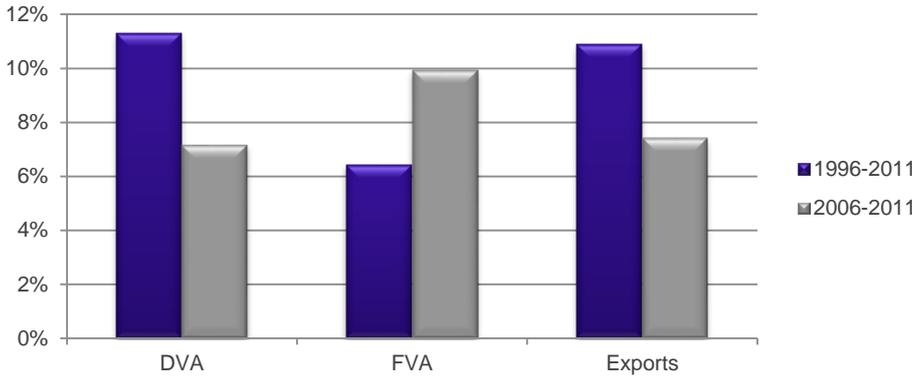


Note: At Harmonised System 6-digit level.

Source: Authors’ calculations using data from UN Comtrade database

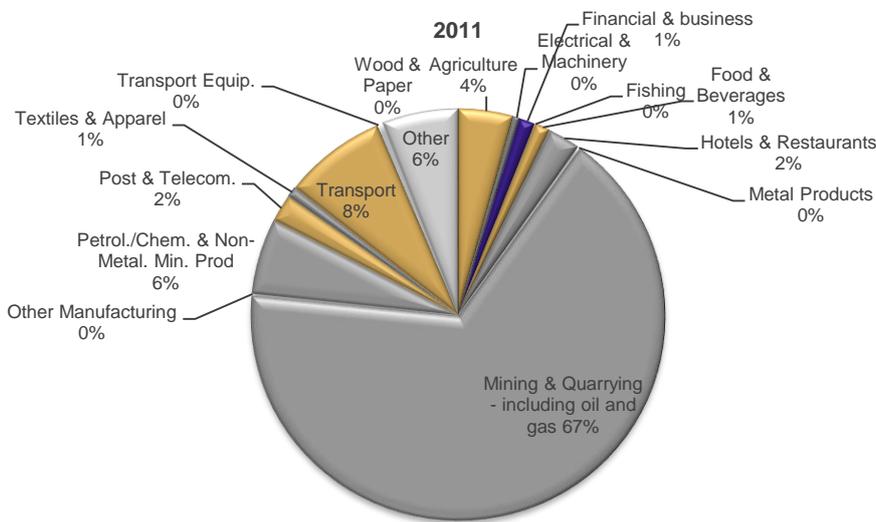
Nigeria has diversified a little in terms of six-digit subheads of the industrial classification but the new products are the same type of products, and there is no clear trend. Moreover, the contribution to the value-added in exports comes from mineral products. The annual growth in domestic value addition in Nigerian exports (calculated using Eora) was around 7% over 2006-2011, whereas growth in foreign value addition was 10% over the same period (Figure 11). The share of domestic value added (DVA) is still some 90%, which is high compared with in other countries. But the percentage is high because of the importance of mineral products, which contribute more than two-thirds of the DVA in Nigeria’s exports (and this share increased over the past decade). Figure 12 shows how little other sectors contribute to (value addition in) exports.

Figure 11. Compound annual growth rate of domestic value added, foreign value added and exports, 1996-2011 and 2006-11, Nigeria



Source: Own computations using Eora26 database, see Kennan and te Velde (2015) for details

Figure 12. Sectoral DVA as a share of total DVA 2011, Nigeria



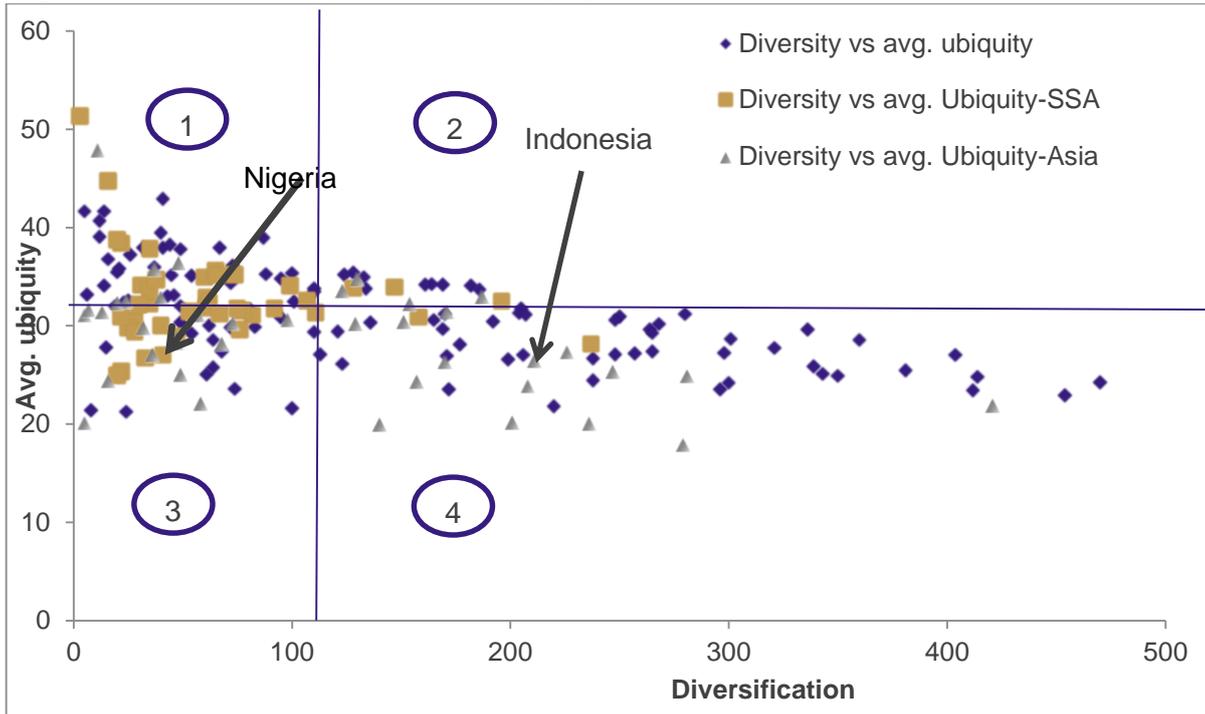
Source: Own computations using Eora26 database, see Kennan and te Velde (2015) for details

2.4 Economic complexity

We can use a number of additional analytical techniques, following Hausmann et al. (2014b), to shed light on the extent of Nigeria’s transformation deficit. Figure 13 shows the negative relationship between the diversity of a country’s economy and the average ubiquity of its products. More diverse countries (countries that export a relatively large number of products) generally export products with relatively lower ubiquity (products that are produced by relatively few other countries). Area (1) in the figure consists of countries with little diversification, producing standard products that many countries export (high ubiquity). Area (2) includes diversified countries producing standard products; area (3) consists of non-diversified countries producing products that are less ubiquitous (exclusive products); and area (4) includes diversified countries that produces exclusive products. Area 1 countries in the figure are mostly developing countries whereas area 4 countries are mainly developed countries. African countries are mostly spread over areas 1 and 3. Asia also has many countries in area 4.

In this figure, Nigeria is much less diversified than, for example, Indonesia, even though both are major oil exporters, and the products Nigeria exports are a bit more common and are produced by many other countries. Moreover, the fact that the products exported by Nigeria have on average low ubiquity results mainly from the rarity of the products, while that of Indonesia results from the complexity of the products. This can be inferred from the fact that Indonesia exports many products.

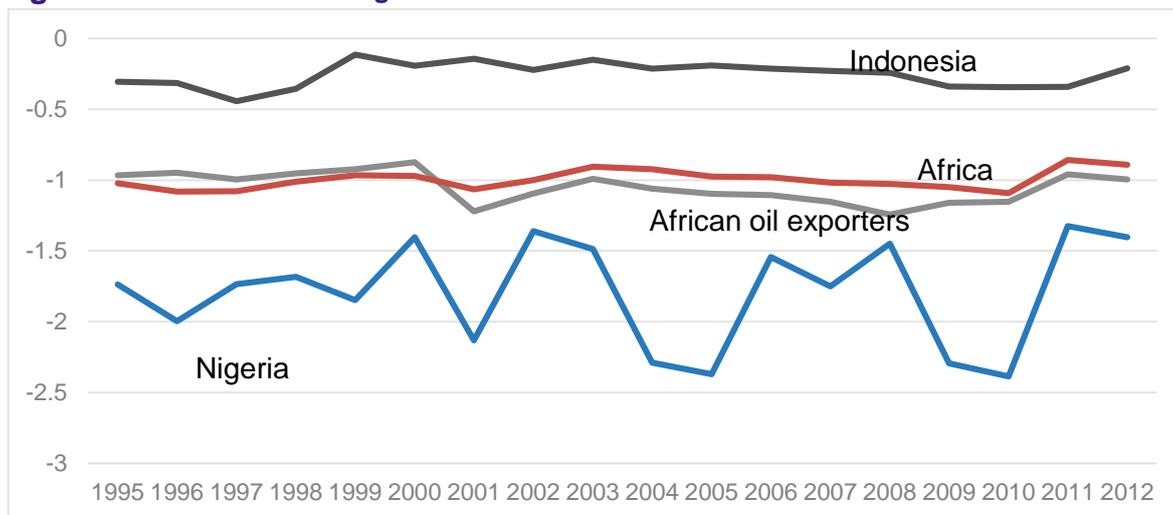
Figure 13. The relationship between ubiquity and diversification



Source: Authors' calculations for the year 2012

Figure 14 compares the economic complexity of Nigeria, Indonesia and African countries over time, as measured by the economic complexity index (ECI). The figure shows Indonesia has a higher ECI score, suggesting it has more capabilities to produce diverse products, and thus more productive knowledge, than Nigeria. As mentioned in Yaméogo et al. (2014), natural resource endowment (especially oil resources) may affect countries negatively in terms of complexity. This is clearly one of the things that has happened in Nigeria. Its oil riches help explain its relatively low ECI value. However, in addition to the similarity of resource endowments between Nigeria and Indonesia, Nigeria has a much lower ECI than the average of African oil exporters. This suggests Nigeria suffers particularly severely from lack of diverse production capabilities.

Figure 14. ECI values for Nigeria are much lower than for African Indonesia



Source: Calculations on ECI values obtained from <http://atlas.media.mit.edu/rankings/country/>

This lack of production capabilities is a problem for Nigeria. As Hausmann et al. (2014a) argue, countries with a higher economic complexity level than expected, given their income level, tend to grow faster than countries that are too rich given their ECI values. Countries with relatively lower productive knowledge

(lower ECI) make products that are either in the peripheral parts of the product space or relatively simple. Hence, moving to a particular new product does not provide much benefit as compared with the situation in countries such as Indonesia that have higher ECI and opportunity values.

A visual way of showing the importance of product complexity is to point to the product space maps for Indonesia and Nigeria for the period 1962-2012. We present a number of such maps in Annex 1 (each dot is a product, and the colour of the product shows which communities (sector) it belongs to). They clearly show that, while Nigeria and Indonesia shared a similar complexity map in 1962, only Indonesia has really moved ahead in terms of complexity since that time.

2.5 Firm-level productivity

By definition, economic transformation occurs when resources are shifted from low- to high-productivity activities. This happens, for example, when resources are shifted from low- firms to high-productivity firms within a sector. Generally, the scope for such shifts is greater in developing countries than in developed countries, because there is less pressure and competition (e.g. because there is more protection) in developing countries and hence fewer penalties for being less productive.

We may examine total factor productivity (TFP) at firm level using World Bank Enterprise Survey (WBES) data (data available from <http://www.enterprisesurveys.org/>). We first estimated a production function for Nigeria and two comparator countries – Kenya (2007) and Indonesia (2009) – and used costs in constant dollar terms for 1,889 firms (around half of them in Nigeria). We then tabulated the average value of the residual by sector and country. The result is shown in Table 2. The data suggest productivity in textiles and garments is very low in Nigeria (compared with in other sectors in Nigeria, and compared with in Kenya and Indonesia), but productivity in non-metallic mineral production and electronics is high. Overall, Nigeria's productivity is some 13.2% (that is, 9.4% + 3.8%) lower than Kenya's.

Table 2. Total factor productivity, differentials (%) from average of Nigeria, Kenya and Indonesia

	Indonesia (2009)	Kenya (2007)	Nigeria (2007)	Total
Textiles	-1.4	6.1	-41.5	-3.9
Garments	-12.6	1.3	-22.6	-15.3
Food	-8.3	16.8	-2.1	1.3
Metals	13.7	25.4	5.8	11.6
Electronics	-50.8	0.0	70.6	37.5
Chemicals	12.6	-11.0	-0.4	4.1
Wood and	-22.0	8.4	3.8	0.2
Non-metallic minerals	4.1	65.6	26.0	9.6
Auto	55.1	0.0	0.0	55.1
Other man	56.5	-2.6	4.8	3.2
Retail	-31.7	0.0	0.0	-31.7
Other service	2.3	0.0	0.0	2.3
Other	57.9	0.0	0.0	57.9
Total	-0.9	9.4	-3.8	-0.2

Source: Own computations using WBES data. Data refer to TFP derived using procedure in the text

Using Nigeria data for 2009, Table 3 shows productivity differs by sector, with textiles and electronics having higher productivity and garments lower productivity. As can be expected from the literature, the productivity of exporters is 43% higher than that of non-exporters, and that of foreign-owned firms is 61% higher than that of domestic-owned firms. In part, this may reflect the higher productivity of large firms of 100 employees or more (31% above average). Overall, there are clear differences in productivity between Nigeria's exporters, non-exporters and foreign-owned firms. This really highlights the arguments around the need for a more competitive environment to drive productivity and economic transformation.

Table 3. Total factor productivity, differentials (%) from average, by sector (Nigeria, 2009)

	Average	Non-exporter	Exporter	Domestic-owned	Foreign-owned
Food	-1.3	-3.6	55.7	-3.7	58.2
Garments	-4.6	-4.9	33	-4.6	
Textiles	23.7	21	33.9	23.7	23.9
Machinery	1.1	5.9	-25.4	0.6	7
Chemicals	7.1	0.5	38.8	-2.5	67.3
Electronics	19.2	19		19	
Non-metallic minerals	-3.3	-3.3		-3.5	34.2
Wood, wood products	-2.9	-3.7	73.8	-2.9	4
Metals and metal products	6.5	54.4	45.5	5.8	68
Other manufacturing	3	2	29.2	1.6	105
Total	0	-1.1	41.7	-0.9	60.1

Source: Own computations using WBES data. Data refer to total factor productivity derived using procedure in Kennan and te Velde (2015)

2.6 Regional disparities in economic performance

The countrywide averages mask large differences in economic performance between rural and urban areas, between different states and between firms in certain zones and elsewhere. These disparities are a cause for concern for the weaker performers, but at the same time they mean there are also above average experiences that could be used as good examples.

The WBES can be used to examine differences in productivity and wages across states. There are wide disparities in TFP, with a north-western state least productive (nearly 25% lower than the average) and a south-south state most productive (50% above average). There is hardly any formal employment generation in the north apart from in the public sector. Poverty also varies greatly across regions in the country (World Bank, 2013). Average poverty rates for the north-east and north-west areas are 59.7% and 58%, respectively, whereas the north-central area has an average rate of 48.8%. By contrast, average rates in the south-west, south-east and south-south are 30.6%, 39% and 37.6%, respectively. Using an up-to-date household survey, the south is more unequal than the north and there is a 40% gap in the mean of consumption per capita between north-east and south-south.

There are differences across rural and urban areas. The national poverty rate (headcount) declined only slightly between 2004 and 2010. Based on poverty (headcount) rates, as measured using data from comprehensive household surveys conducted in 2003/04 and 2009/10 (and using the international measure), poverty has reduced slightly from 48.3% to 46.1%, masking very different levels in rural areas (from 57.4% to 52.9%) and urban areas (36.8% to 34.3%). It should be noted that the poverty estimates in 2009/10 may have been overstated.

Despite lower levels of poverty, poverty is still persistent in urban areas. There is a large number of informal microbusinesses in the Nigerian economy and this sector employs as many as 32 million Nigerians. Informal firms find it difficult to retain earnings, reinvest capital or raise productivity. There is also lack of permanent hiring by businesses. Oyelele (2013) argues migration from the countryside to urban centres often exceeds the carrying capacity of the urban centres in Nigeria, which results in poor housing conditions, congestion, pollution, unemployment and a general overstretch of public services. Although migrating to the cities means higher wages for most, the lack of sustainable livelihood could also deter many migrants from staying in the cities permanently, leading to their 'drifting back' to their rural communities. Some decide to dwell in city slums and, based on Oyelele (2013), as much as 60% of urban dwellers live in slums in Nigeria. While urbanisation is typically related to increases in GDP per capita, the link is weak in Nigeria.

There is also much variability in economic performance as part of economic clusters. World Bank (2014) argues Lagos state is an illustrative example of a strong urban growth agglomeration that has produced jobs, generated inclusive growth and brought millions out of poverty. It argues that, to reduce the absolute number of poor and generate the number of productive jobs desperately needed for the growing ranks of young Nigerians, a number of cities in Nigeria other than Lagos will need to experience the same type of take-off into rapid urban growth. It suggests better connectivity of markets through infrastructure will be a

key to increasing the viability of other Nigerian cities for investors seeking to serve a larger national or international market.

Nigeria has a number of industrial estates and small clusters across the country (Chete et al., 2014), including:

1. A computer village in Otigba (Lagos);
2. An auto and industrial spare parts fabricator in Nnewi;
3. A leather tannery in Kano; and
4. A footwear, leatherworks and garment cluster in Aba.

These clusters/sectors have faced different experiences. The Otigba Computer Village (Lagos) started in 1995 and involved some 400 small and medium enterprises (SMEs) working together, employing more than 3,000 workers. The formation of this cluster has given Nigeria a foothold in skills-intensive computer repair and 'clone' production, and deals with the sale, service and repair of information, communications and technology (ICT) products and components. By contrast, we have already mentioned the textile cluster as an example of the de-industrialisation process.

2.7 Conclusion

Nigeria faces a major economic transformation deficit. GDP per capita has increased in recent decades, but over the long term GDP per capita growth has fallen behind several other countries such as Indonesia and China, largely due to a very low level of investment over the years. Nigeria's growth, moreover, has not been transformative.

This perception is affected a little by the rebasing of the GDP series. The pre-rebasing data suggested that over 1990-2010 there had been hardly any structural change, with the share of employment in agriculture changing very little. The new estimates of GDP not only make Nigeria Africa's largest economy but also recognise considerably more services sector activities. But, even using the rebased data, the GDP share of manufacturing in Nigeria (9%) is still at the bottom of a range of comparator countries (and below the average for SSA at 12%). Trade (the sum of imports and exports) as a percentage of GDP has declined over the past decade. Trade is now only 31% of GDP. Nigeria faces a massive decrease in competitiveness, as the real effective exchange rate appreciated by 40% over 2009-2014.

Further, we have used Hausmann's ECI to show that African countries and also large oil producers such as Indonesia have a much higher value on the ECI, and hence higher productive knowledge, than Nigeria. Moving beyond national averages, we have shown that Kenyan manufacturing firms are 13% more productive than Nigerian firms, and that productivity varies considerably among firms in Nigeria. There are also differences in economic performance between urban and rural areas, between the north and the south and inside clusters and outside. ***All of this highlights the need for a more competitive environment, to permit movement of resources into high-productivity activities and drive economic transformation.***

3. The policy challenge

According to all reasonable standards of comparison, Nigeria's transformation deficit is large. This is the conclusion to be drawn from the data reported and assessments applied in Section 2. We now examine the question of what it is going to take, in terms of policy-making and implementation, to start to turn this situation around. The evidence comes from other large middle-income countries that have been more or less successful over recent decades in embarking on processes of economic transformation. Here, we summarise the main lessons from these experiences, drawing on the fuller discussion in Annex 2.

3.1 Key policy conditions

Four key lessons concerning basic policy orientations emerge from a comparison of the more and less successful large economies in Asia and Latin America. While it would be a mistake to copy slavishly and in detail what has worked in comparable countries in the past, the underlying principles are very consistently supported.

Lesson 1 is about the advantages and disadvantages of having a large domestic market. Under the right conditions, competition among firms within a large domestic market can spur the improvements in efficiency and the acquisition of technological capabilities necessary to become competitive in international markets, as in the experience of Korea. However, ***even for the largest economies, international competitiveness has to be the goal and yardstick of success if the productivity gains of economic transformation are to be realised.*** The policy temptation to regard the domestic market as a sufficient basis on its own for transformation can be very strong and in practice has weakened the industrial performance of economies like Argentina and Brazil. In those countries, domestic firms protected by high tariff barriers have had little incentive to upgrade, and industrial transformation has remained a distant hope as a consequence (a spectacular performance in agriculture mitigating this failure in the case of Brazil).

Lessons 2 and 3 are about infrastructure and skills. Levels of public investment in transport and energy vary substantially among large economies in Asia and Latin America and the differences account for some significant divergences in pace of transformation. Success in transformation typically involves a good deal of movement of skilled labour between industries as firms move up the value chain. One of the keys to the exceptional industrial dynamism of countries like Korea has been the creation of an adaptable workforce with middle-range skills, essentially secondary school graduates with strong abilities to be trained in new machinery and industrial processes.

Lastly, the key to success in economic transformation is an approach to 'industrial policy' (a general term applicable to agriculture and services as well as manufacturing) in which ***firms or sectors identified as potentially competitive internationally receive government support linked explicitly to their export performance.*** Targeted credit, technology access assistance and subsidies through trade tariffs and the tax system are a familiar feature of economic policy in most developing countries. Typically, however, these arrangements are a costly result of bilateral deals between firms and politicians, with little genuine economic rationale. What makes the difference is basing the choice of target sectors on potential global competitiveness (discussed in relation to Nigeria in Section 4) and then enforcing rigorously the conditions firms have accepted in exchange for special treatment.

3.2 Policy process requirements

Six features emerge from international experience as critical to the process of getting the policy orientations just described into place, and keeping them there:

1. ***Suitable timing of policy changes:*** The most effective policy changes are very well thought out, announced and explained in advance, and then systematically implemented in ways that become irreversible.
2. ***Consistency of policy packages:*** Trade, monetary and fiscal policies must work in harmony; no single policy action can succeed without a series of complementary measures acting in concert.

3. **Clarity of objectives:** Economic agents prefer certainty; they will respond better to well explained policy changes expressed in terms of clear multi-year goals than to confused messages that suggest the government may not be serious and changes may not be permanent.
4. **Gathering of support for the policy changes:** The changes in policy orientation required to allow a country to embark on economic transformation produce winners and losers in the short run, but a sufficient consensus can be achieved if firms are shown a road map towards future profitability.
5. **Adjusting to short-term political realities:** Smart adjustments to the design of new policies may, in addition, allow losses to be cushioned in ways that do not compromise the long-term objective.
6. **The essential role of feedback and course-correction mechanisms:** All of the leading industrial economies in Asia made major mistakes in industrial strategy that needed to be corrected; rigorous, independently minded and politically supported monitoring of current strategies is essential, to allow correctives to be applied in sufficient time, so that ultimate goals are not compromised.

3.3 Getting from here to there in Nigeria

To summarise the international lessons, successful economic transformation involves getting many things right, in a coordinated way. The basic orientation of policy matters; an orientation to achieving international competitiveness in selected industries is fundamental. The policy process requirements include concerted monetary, trade and subsidy measures; pre-announced and predictable industrial policies; careful management of the incentives of ‘winners’ and ‘losers’; and intensive monitoring against fixed targets and goals. Without these measures, industrial policies tend towards the strengthening of firms whose profitability depends on subsidies and a domestic market niche, with international competitiveness becoming progressively harder to achieve.

It should be clear, and recognised without undue defensiveness, that taking these lessons on board in the Nigerian context is going to be hard. The legacies of past history work powerfully against the policy orientations and process conditions described here.

These legacies include ***the persistent influence of inward-looking policy mind-sets, inimical to a trade-based vision of development, among the country’s intellectual and policy elites*** (Bevan et al., 1999; Henley, 2015; Henley et al., 2012). Export-oriented manufacturing, and even the revival of agricultural exports in which Nigeria was once a major player, has not been viewed as either necessary or possible in past periods of development policy-making in Nigeria. This needs to change – or at least to be managed – before the necessary policy orientations become possible.

The challenge of changing basic policy orientations is bound up, of course, with other legacies. From at least the Biafra war onwards, inward-looking policy orientations have been bound up with a political economy that has reduced both politics and business to a struggle for control of oil rents. In Nigeria since around 1970, what Richard Joseph calls ‘prebendal’ politics and others would call patron-client politics has become entrenched in the way the rich and powerful share out the spoils of power among themselves and the way they legitimise this state of affairs with their followers (Joseph, 1987). Prebendal politics plays on the potential for ethnic group loyalties and fears to come to the fore. It provides a sufficient sense of benefit, or at least of threat averted, for the mass followers of the big man in power for open rebellion to be averted. However, it does not produce strong pressures for political leaders and senior officials to take in hand the big challenges of national development and state-building. The origins of this political-economic system lie back in the 1970s. After the Biafra war, according to Joseph and especially Peter Lewis, the bureaucratic and military elite in power had an opportunity to begin the type of state-led nation-building project that contributed in progress in countries like Malaysia and Indonesia. But they failed to rise to the challenge (Lewis, 2007).

While significant improvements in institutions and economic management have been achieved since the restoration of democracy in 1999, the underlying power relations have changed little. None of the political drivers of the industrial policies that transformed much of East Asia from the 1950s, or the rural development policies that created a foundation of inclusive development in several Southeast Asian countries from the 1960s and China and Vietnam from the 1980s, seems to be present (Campbell, 2013; Lewis and Watts, 2015a, 2015b). To use a term currently fashionable with political scientists, the basic political settlement remains unfavourable.

Thinking about options for initiating economic transformation in Nigeria today needs to be hard-headed about these legacies of the past and their manifestations in the economic structure of the present. This does not mean, however, that nothing can be done. The rest of this paper is about what *can* be done. Section 4 applies economic analysis to the question of where to start, in terms of sectors and industries. Section 5 addresses processes of reform that may be expected to work in the context, taking into account the highs and lows of experience since the restoration of democracy in 1999.

4. The economic potential

Nigeria needs to make a start on economic transformation. We have seen that the challenges involved in doing so include a major reorientation of policy thinking away from inward-facing protectionist instruments and decisive steps to put in place sustained and well-targeted support for investment in higher-productivity sectors and industries. But ***where should this effort start?*** This section applies tools of economic analysis to identify areas of high potential for contributing to economic transformation (Section 4.1), given Nigeria's current endowments of productive resources and the competition it will likely face in international and domestic markets. Section 4.2 builds on this by identifying a set of policy areas that economists agree are priorities in the context of building competitiveness, promoting exports, productivity and diversification.

4.1 Identifying promising sectors and products

We used a range of methodologies to explore a set of potential new products that Nigeria could invest in or make plans to diversify in:

- Revealed comparative advantage (RCA) analysis (4.1.1);
- Hausmann/Hidalgo product space analysis (4.1.2);
- Analysis of firm level productivity (4.1.3);
- Justin Lin: growth identification and facilitation framework (GIFF) (4.1.4);
- Further views, including previous government documents (4.1.5).

Section 4.1.6 brings all of the results together; Annex 3 gives fuller details on specific methods.

4.1.1 Analysis of revealed comparative advantage

Data from the UN's Comtrade database can be used to calculate a revealed comparative advantage (RCA or the Balassa index) by Standard Industrial Trade Classification (SITC) four-digit section (one of 1,028 products). The share of each country's exports in a section was calculated as a percentage of the country's total exports in SITC four-digit section, and these shares were then expressed as a ratio of the analogous shares of world exports. 'World' is defined as Comtrade's 'All countries' aggregate (which represents the sum of the data reported by all countries in any given year).

This analysis suggests the following products could be targets of diversification: tobacco; crude materials such as rubber, sesame seeds, cotton and fuel wood; food products such as cocoa, nuts and milk; transport equipment such as vessels; manufactured goods such as different types of leather; and some mineral fuels. Of course, we need to bear in mind that these products are already exported by Nigeria and have an RCA greater than one as defined above (Annex 3 includes the detailed results).

The results, based on four-digit classification, further show Nigeria exports 41 products with RCA greater than one; that is, the diversity of Nigeria is 41. This is low compared with the average diversity of all the 188 countries included in this study, which is equal to 122. This confirms Nigeria does not produce many different products but rather focuses on the production of a few products.

4.1.2. Hausmann/Hidalgo product space analysis

Annex 3 applies the Hausmann/Hidalgo product space tool to identify a range of promising sectors that are close to (at a small distance from) Nigeria's current production structure but in which a gain seems possible in terms of diversification into more complex products. If a country is exporting many products connected to a new product that it is not already exporting, then the distance of this new product is small. On the other hand, if a country exports only a small proportion of the products that are related to a new product, then the distance of this new product will be large.

The analysis identifies those products that are closer to the country's current set of capabilities, but with a higher level of sophistication. Annex 3 provides the details of the promising products, on this criterion, for Nigeria in 2012:

- Chemicals and related products;

- Manufactured goods classified chiefly by material;
- Machinery and transport equipment;
- Miscellaneous manufactured articles.

Hausmann's product space analysis suggests Nigeria would also benefit from diversifying its production to 1) chemicals; 2) wire, stainless/alloy steel; 3) textile yarn machinery; and 4) optical microscopes.

4.1.3. Firm-level productivity

Our analysis in Section 2 suggested that, while Nigerian productivity is lower than in Kenya on average, some sectors perform better than others. The data analysis suggested productivity in garments is low in Nigeria (compared with for other sectors in Nigeria, or compared with in Kenya and Indonesia), but productivity in metals and electronics is relatively high. On this basis, metals and electronics are promising sectors to build on in terms of competitiveness.

4.1.4. Applying the growth identification and facilitation framework

Lin et al. (2011) introduced the six-step GIFF based on their work on structural economics. This involves selecting industries that have become internationally competitive in comparable countries; identifying constraints to technological upgrading of existing domestic firms; attracting new firms; scaling up successful private innovations in new industries; building special economic zones or industrial parks; and compensating pioneer firms. Lin and Treichel (2011) applied the GIFF in Nigeria. Annex 3 discusses a range of sectors for growth, selected on this basis. They include palm oil, rubber manufactures, textiles, leather, telecommunications, information technology, fertiliser, food and beverages, vegetables and fruit, car parts, furniture, paper, pharmaceuticals, metal and organic chemicals. They suggest some have more potential or better past experience (e.g. leather, telecommunications, information technology, fertiliser, food and beverages, paper, furniture) than others (palm oil, textiles, rubber manufactures, metal, chemicals).

The authors argue Nigeria's private sector has become increasingly active and there are a number of examples where successful self-discovery of promising options has already taken place: ICT, light manufacturing, food processing, wholesale and retail, construction and car parts, meat and poultry, oil palm and cocoa. None of these industries currently produces significantly for export. However, all of them have significant employment and growth potential and, according to the authors, could be upgraded for exports.

Overall, the analysis suggests the following promising sectors and specific constraints:

- **Food processing** (including fruit juices, meat and poultry, noodles and spaghetti and tomato paste) has experienced strong growth in recent years, and producers are confident about prospects for further growth. Constraints are around tomato production and government support around exporting, research and development (R&D) and availability of seeds.
- **Construction** has a very significant potential for job creation. The constraints include the unavailability of mortgage financing and shortages of technical labour.
- **Motorcycle, tractor and TV assembly** are set for rapid expansion. Key constraints consist of the lack of adequate trade facilitation, which leads to delays in clearance of imports and the need for land to allow for expansion of production and reap benefits from economies of scale.
- **Computer assembly** is also growing rapidly. Partnership between the public and private sectors to help reduce the skills gap would be crucial to reduce cost. In addition, the government may facilitate the adoption of broadband internet access in universities and schools.
- Parts of the **metal industry**, such as cast iron and manganese steel, have been prospering, whereas others, such as aluminium, have been in decline. Constraints include lack of power supply and customs clearance of imported raw materials.

4.1.5. Previous government analyses

Under Vision 20:2020 and the economic transformation strategy, the following business activities were identified by the National Planning Commission (NPC) (2009):

1. North-east: agriculture and solid minerals, e.g. gypsum, biomass, ethanol, biodiesel, tropical fruits, etc.
2. North-west: gum arabic, livestock and meat processing, tanneries, biofuel, etc.
3. North-central: fruit processing, cotton, quarries, furniture, minerals, boards. Plastic processing, leather goods, garments, etc.
4. South-east: palm oil refining and palm tree processing into biomass particle boards; plastic processing, leather goods and garments.
5. South-west: manufacturing (especially garments, methanol, etc.), distributive trade, general goods, plastic, etc.
6. South-south: petrochemicals, manufacturing (plastic, fertiliser and fabrications, etc.), and oil services and distributive trade (Tinapa).

The Nigerian Industrial Revolution Plan (NIRP) was started in 2012. Importantly, as discussed in Section 5, the NIRP does not entirely share the orientation to trade and the attainability of global competitiveness that informs the methods described above. Under this plan, the government promotes sectors that it thinks it should have developed over the years having for decades relied entirely on exporting raw materials. The emphasis is on increasing local processing and the production of import substitutes. In this context, the federal government has listed '13 National Strategic Export Products' to replace crude oil (following the former Minister of Industry, Trade and Investment, Olusegun Aganga):

1. Agro-industrial (palm oil, cocoa, cashew, sugar and rice);
2. Mining-related (cement, iron ore/metals, auto parts/cars, aluminium and oil and gas industrial products);
3. Petroleum products (fertiliser, petrochemical and methanol).

The previous government claimed successful examples, including the auto, sugar, and cotton and textile industries. A number of government or donor-funded programmes are exploring possibilities in other sectors, for example the services sectors. There are fast-growing clusters around entertainment and ICT.

4.1.6. Summarising views on promising sectors

This section consolidates the above suggestions promising sectors. **Table 4 summarises the main sectors suggested by the different types of analyses, emphasising respectively whether Nigeria already has a good trade performance in this field, whether productivity is already relatively high or whether there is a high score on one of the Hausmann product space analyses.** The opportunities (some in the north, others in the south) centre on:

- Food processing (e.g. fruits, tomato paste) and other niches in agriculture value chains;
- Assembly and light manufacturing (e.g. leather);
- Technology-intensive manufacturing (chemicals, electronics, industrial machinery, ICT).

Table 4. Promising sectors for merchandise trade

Method or study	Promising sectors for merchandise trade
Main products with RCA>1 (based on 2012 data)	Tobacco. Crude, inedible materials such as rubber, sesame seeds, cotton and fuel wood. Food products such as cocoa, nuts and milk. Transport equipment such as vessels. Manufactured goods such as different types of leather, and mineral fuels.
Hausmann – parsimonious strategy (own calculations, based on 2012 data)	Chemicals and related products. Manufactured goods classified chiefly by material. Machinery and transport equipment. Miscellaneous manufactured articles. Hausmann’s product space analysis suggests Nigeria would also benefit from diversifying its production to 1) industrial machinery such as textile yarn machinery, and 2) specific chemicals (e.g. sulphur compounds or epoxide resins).
Lin and Treichel (2011)	Food processing (including fruit juices, meat and poultry, noodles and spaghetti and tomato paste). Construction. Motorcycle, tractor and TV assembly. Computer assembly. Tyre industry. Metal industry (cast irons and manganese steel).
Firm-level productivity analysis	Electronics and metals have the highest productivity in Nigeria and compared with Kenya and Indonesia.
Multiplier analysis	Sectors with the greatest multiplier (if demand for that product went up by 1, by how much GDP would need to increase) based on Nigerian Eora data: Maintenance and repair. Textiles and wearing apparel. Retail trade. Education, health and other services. Recycling. Public administration. Post and telecommunications. Food and beverages wholesale trade. Transport equipment. Construction. Electricity, gas and water. Wood and paper. Transport hotels and restaurants. Financial intermediation and business activities. Petroleum. Chemical and non-metallic mineral products. Electrical and machinery. Metal products. Fishing, agriculture, mining and quarrying.
NPC (2009)	North-east: agriculture and solid minerals e.g. gypsum, biomass, ethanol, biodiesel, tropical fruits, etc. North-west: gum, livestock and meat processing, tanneries, biofuel etc. North-central; fruit processing, cotton, quarries, furniture and minerals, boards. Plastic processing, leather goods, garments etc. South-east: palm oil refining and palm tree processing into biomass particle boards, plastic processing, leather goods and garments. South-west: manufacturing (especially garments, methanol, etc.), distributive trade, general goods, plastic, etc. South-south: petrochemicals, manufacturing (plastic, fertiliser, and fabrications, etc.), oil services and distributive trade (Tinapa).
13 strategic exports (Allafrica, 2015)	Agro-industrial (palm oil, cocoa, cashew, sugar and rice). Mining related (cement, iron ore/metals; auto parts/cars, aluminium and oil and gas industrial products). Petroleum products (fertiliser, petrochemical and methanol).
Chete et al. (2014)	A range of clusters around 1) a computer village in Otigba (Lagos), 2) auto and industrial spare parts fabricators (Nnewi), 3) leather tannery (Kano) and 4) footwear, leatherworks and garment cluster in Aba.

4.2 Identifying priority policy areas

In developing policies for promising sectors, the new government can draw on a large body of accumulated knowledge about typical constraints requiring priority action. We review the policy suggestions according to McMillan et al. (2016), who classify policies for economic transformation into those intended to promote 1) *structural change*: public actions to accelerate the movement of resources from lower- to higher-productivity sectors by reducing the economic costs of resource flows into modern economic activities and/or by increasing the rate of growth of modern activities relative to the rest of the economy; and 2) *within-sector productivity growth*: public actions to generate sustained productivity growth across the economy, by increasing the productivity of firms in modern economic activities and/or by promoting productivity growth across the entire range of economic activities, including agriculture, manufacturing and services. We also distinguish within each of these policy sets between (a) policies that are ‘horizontal’ and improve fundamentals (skills, infrastructure, or investment climate) and (b) policies that are more targeted and display some measure of selectivity – for example they are aimed at specific economic activities.

There are a number of well-known general and specific constraints to achieving further growth, productivity, export diversification and economic transformation. There seems to be a reasonable consensus around the general constraints (applicable across sectors), which include: 1) targeted and core infrastructure (in power, integrated transport network, aviation); 2) access to finance, particularly for small businesses; 3) reduced business environment costs that can encourage high value-chain sectors (e.g.

reducing multiple taxation, encouraging formal land titling); 4) lower import protection and lower trade costs that will reduce input costs; and 5) skills-building, particularly through entrepreneurial and management training, and human capital development (health and education) generally.

The following studies support these general conclusions. World Bank (2009) suggests the following promising areas for policy: 1) infrastructure; 2) access to finance; and 3) improving the investment climate. It also adds relaxing import protection and improving skills-building, particularly through vocational training. While it is conceptually challenging to compare constraints across countries, compared with in other countries firms in Nigeria were far more likely to say electricity was a serious problem. Nigeria's rank on the Doing Business indicators in 2014 was 170 out of 189 (improved from 175 in 2013). Nigeria ranks 88th of 194 countries on the trade logistics index. It is better than the 148th place of SSA, and Nigeria is one place below Kenya, but worse than Indonesia, which is ranked 62nd, with Brazil at 74th. World Bank (2012) further highlights the importance of providing farmers with better access to inputs, including new seed varieties, lower prices for fertilisers through reducing trade costs and better institutions for the reduction of trade costs.

The International Monetary Fund (IMF) (2014) suggests the longer-term challenge for Nigeria is to successfully put the economy on a path to lower oil dependency and a diversified and competitive investment-driven non-oil sector and in this context is supportive of the authorities' ongoing efforts to 1) promote targeted and core infrastructure (in power, integrated transport network, aviation); 2) reduce business environment costs and encourage high-productivity value chain sectors (agriculture); 3) promote employment of youth and female populations; and 4) advance human capital development (health and education).

Hausmann and Wyett (2014) suggests policy should focus on the development of new export activities that better utilise the human resources of the country. This involves action on the macro front to achieve a more stable real exchange rate, improvements in the capacity to solve coordination failures in the provision of specific public sector inputs and programmes to stimulate investment in new tradable activities.

The annex highlights further specific policy opportunities coming from the application of the Lin/Monga GIFF, for example R&D incentives and export expansion grants for food processing, vocational training in construction, trade facilitation for assembly operations, public–private collaboration and access to broadband in ICT, lack of power for the metal industry and the removal of the petroleum subsidy for the fertiliser industry.

We summarise the identified policy areas in Table 5. ***This suggests the greatest pay-offs will be achieved by focusing on improving policy and policy implementation processes in these areas, so as to realise opportunities in the promising sectors identified in Section 4.1.6.***

Table 5. Public actions to promote economic transformation

	Improving fundamentals (cross-sectoral)	Targeted interventions (sector-specific)
Public actions to support structural change	Investment climate reforms	Export push policies
	Financial sector development and access to finance	Selective industrial policies Spatial industrial policies
Public actions to support within-sector productivity growth	Core infrastructure (power, integrated transport network, aviation)	Management training
	Human capital development	Export diversification
	Agricultural innovations	Developing global value chains Increasing agricultural productivity

Source: Text and adaptation in McMillan et al. (2015)

5. The policy reform potential

Previous sections of this paper have made three things clear. First, Nigeria's transformation deficit is large. Second, the relevant international experience shows this challenge will not be effectively met without changes in policy orientation and policy implementation that are going to be difficult to realise in the political and administrative context of present-day Nigeria. Third, however, there is no shortage, in strictly economic terms, of places in which to start a process of developing and applying improved policies: in this sense, the possible entry points for upgrading the quality of economic growth in Nigeria are numerous and varied. As discussed in Section 4, a good range of sectors and products appear economically promising on the basis of one or more of three types of rigorous analytical methods. With the exception of some of the priority-setting under the NIRP, the methods have in common that they seek to identify goods and services in which Nigeria has the potential to become internationally competitive, the importance of which was a theme of Section 3. In addition, there is a reasonable consensus around the areas calling for policy action to support the development of priority sectors.

This section turns to the potential for policy reforms that are good enough to get change started in at least a small set of the identified industries. It begins by summarising the results of a review of how economic policy is currently made, formally and in reality, and what has worked well and what has not in the recent history of economic policy reform in Nigeria. The full review may be found in Annex 4. We then make the case for a selective 'demonstration' approach based on a realistic assessment of the barriers to wholesale policy change.

5.1 The balance sheet of recent reform

In a number of respects, economic policy reform has made impressive headway in recent times, especially since 2003, when the first bold attempts were made to reshape Nigeria's economic policy architecture. The prospects for economic transformation have been improved as a result. However, progress has been uneven across areas of policy; the formal structures of decision-making are more impressive than the reality behind the façade; and notable shortcomings are found in areas identified in Sections 3.1 and 3.2 as critical for supporting or implementing economic transformation. The bottom line is that the difficult historical legacies referred to in Section 3.3 have been moderated but not overcome.

The ***unevenness of the progress*** is well illustrated by the contrast between monetary and fiscal policy processes. Despite enjoying management autonomy rather than full institutional autonomy, the Central Bank of Nigeria performs its core functions well, and has contributed usefully, if not yet sufficiently, to the regulation of the banking sector. This is an important contribution to the overall climate for business and investment. On the other hand, despite efforts to rationalise the management of Nigeria's public debt and to put budgeting on a responsible footing using a Medium-Term Expenditure Framework (MTEF), fiscal policy retains many long-established weaknesses. What drives the expenditure envelope approved for various ministries, departments and agencies is not always based on need and societal welfare, but rather the narrow pecuniary interest of policy-makers and implementers, as well as the sectional interests of the legislators. This confluence of interests has resulted in weak budget implementation and performance. Bogus and phantom projects are included in the budget with the active connivance of the executive and the legislature, making oversight function on the part of the legislators a token exercise.

The ***discrepancy between impressive façade and less encouraging practice*** that is illustrated by the conduct of fiscal policy also applies to sectoral policy and planning. A seemingly rational structure for coordinating and consulting around the development plans of ministries, departments and agencies is guided by an Economic Management Implementation Team (EMIT) and a National Economic Management Team (NEMT) under the president (see Annex 4 for details). In practice, powerful ministers circumvent the prescribed process in promoting projects that interest them and might not withstand wide scrutiny. Mechanisms for coordinating economic policies between the federal and state levels appear well conceived but have not realised their full potential. The National Economic Council (NEC), Nigeria's highest statutory economic decision-making body, has to its credit the agreement on joint funding of integrated power projects and the passage of a Fiscal Responsibility Bill (the origin of the MTEF), both significant but technocratic ventures. The potentially more significant, because more political, initiative, the

Nigeria Governors' Forum (NGF) with its informal arrangements stimulating policy emulation, and since 2007 a formal peer review mechanism, has had limited impacts.

Examination of policy processes in two fields – power sector unbundling and public finance reform – bring to the fore **shortcomings that critically affect the enabling environment for transformation**. The unbundling of the former Power Holding Company of Nigeria has made significant headway but is still incomplete and therefore not yet alleviating one of the principal infrastructural constraints on new and existing industrial and agro-processing ventures. In the field of public finance, the state governments has effectively blocked the transition from an Excess Crude Account (ECA) that provided insufficient protection against political raids on surplus oil revenues to a National Sovereign Investment Authority, with stronger safeguards. The notorious further depletion of the ECA in recent years has set back hopes that Nigeria can turn its oil wealth into more of a blessing and less of a curse – a source of finance for the infrastructural investments that economic transformation requires, rather than a source of discretionary spending by senior politicians.

The policies currently in place for the development of the automotive and textile sectors illustrate **the large distance to be travelled before Nigeria adopts the sort of industrial policy thinking suggested by international experience**. As discussed in Section 3, ideas about economic transformation in Nigeria have been influenced historically by inward-looking models. As in Latin America, protectionist policy impulses have reinforced and been reinforced by the vested interests of firms benefiting from public subsidies and their political patrons. In larger countries, the illusion persists that industrial progress is possible on the basis of import substitution alone, so long as larger segments of the value chain for priority products are localised progressively. However, this approach, which postpones indefinitely the achievement of international competitiveness by the affected industries, has long since lost the support of any significant group of international economists.

The development plans for the automotive and textile sectors are both part of the NIRP. Both are intended to boost domestic production of currently imported goods. They are not based on the type of assessment of potential comparative advantages in export trade illustrated in Section 4. At least in the automotive sector, the old ideas and constellations of interest still prevail. Raised import duties on fully assembled vehicles are supposed to encourage local fabrication of vehicles and parts. A small number of 'big players' in the industry are able to excise a strong influence on the detailed design of the policy, including the generosity of the subsidies, because politicians believe, on the basis of little evidence, they alone are capable of generating growth and jobs. Substantial rents are thereby created. In the absence of the kind of disciplines imposed by a requirement to begin exporting, these rents do not finance learning and technological upgrading but merely underwrite inefficient production processes – the opposite of economic transformation.

The Cotton, Textiles and Garment (CTG) Policy may be a more complicated case. In the 1970s, Nigeria had a large, integrated industry whose output may not have needed much protection, although it was given it in the form of an import ban that fuelled large-scale smuggling. Today, however, both the domestic producers and the textile traders/smugglers and their allies, including corrupt customs officers, find a common interest in sustaining a high level of protection – and thus, for example, in helping delay Nigeria's adoption of the Economic Community of West African States (ECOWAS) common external tariff. Once again, the approach to industrial policy-making is the opposite of the internationally recommended one, where the focus would be on discovering niche products or sections of the global value chain for which enterprises could be built with a prospect of achieving international competitiveness within a reasonable period.

5.2 Towards politically feasible economic transformation

The balance sheet of recent reform suggests a comprehensive shift towards policies and policy processes favouring economic transformation is very unlikely in Nigeria in the near future. Decisive action in all the priorities identified in Section 4.2 would be ideal. However, it is important to be realistic about what is possible, and also to avoid the opposite extreme of denying anything can be done to nudge Nigerian policy-making in the direction of a transformation perspective.

Being realistic includes not pretending correctives to the limitations just reviewed can be found in further elaboration of the formal apparatus of coordination and consultation. The problem does not lie so much with the formal arrangements as with the way these work in practice. The informal channels of influence matter as much as the institutional façade, and both are shaped in practice by the distribution of economic and political power, and the way high-level politics works. The problem is not just about institutions, and this is true not just of Nigeria but of development processes in general, as Robert Bates recently reminded us (2014).

Not going to the opposite extreme is partly about not exaggerating how much must change in the short or medium term in order to get transformation started. There is now a large literature of single-case and comparative studies that investigate the political-economic differences among countries that have succeeded in transforming their economies and those that have not quite made the grade. Building on the pioneering work of Johnson (1982) and Evans (1995), this literature has progressively clarified which features of country politics and governance are preconditions for the creation of policy processes that lead to economic transformation and which are not (e.g. Cimoli et al., 2009; Kelsall, 2013, 2014; Kohli, 2004; Nissanke and Aryeetey, 2003; Noman et al., 2012; Robinson and White, 1998; Woo-Cumings, 1999). One thing that emerges consistently is that it is not necessary for the bureaucracy of the state as a whole to be turned an effective coordinator of policy and driver of private sector investment and productivity growth. As we argued in Section 3, sound industrial policy involves getting many things right, in a purposeful and coordinated way. But not all of this has to be done in a comprehensive, cross-sectoral way, and the organisations that steer the process can be specialised entities that have been given a specific mandate by the political leadership.

Most success stories in Asia start in a single sector, with a single, politically empowered, public agency. This was a theme of Johnson's study of the Ministry of Trade and Investment (MITI) in Japan. It is part of the story about agricultural transformation in Indonesia and agricultural stagnation in Nigeria told by the Tracking Development study (Berendsen et al., 2013; Henley, 2015; Henley et al., 2012). The wider picture is that pockets of effectiveness can be found within dysfunctional public services in many countries, including Nigeria, where the right combination of professional management and political backing is found (Abah, 2012; Crook, 2010; Leonard, 2010; Roll, 2014). Depending on how strategically they are located within the government system, pockets of effectiveness can provide sufficient drive to get transformation started.

Many of these case studies underline the significant independent role played by sound economic policy ideas (such as the concept of economic transformation summarised in this paper). The Tracking Development findings, in particular, suggest the presence or absence of influential policy ideas based on sound economics explains on its own a great deal of the differences in development performance between Southeast Asian countries and closely comparable countries in SSA. But, again, the key ideas that helped countries like Indonesia, Malaysia and Thailand first transform their agricultures and then move on to industrialisation, were not immediately persuasive to the political classes and bureaucracies of those countries as a whole. They were pioneered by specialised public agencies with strong political backing. **Those agencies implemented their ideas vigorously, eventually producing such striking demonstration effects that their ideas became the new orthodoxy.** The revolution in thinking about development, socialism and capitalism that has taken place in China and Vietnam over the past 30 years is an even more important example of big changes arising from small beginnings as a result of demonstration effects (Beresford and Tran, 2004; Coase and Wang, 2012; Lin et al., 1996).

Together, these elements of international experience suggest a more optimistic perspective on the policy reform potential than is suggested by the overview of recent reforms in the country on its own. Key elements are the potential contribution of specialised agencies, managed professionally with strong political backing; and the feasibility of changing ideas by creating demonstration effects.

5.3 Demonstrating new thinking

In spite of an unfavourable political-economic context, then, there may be a place for change initiatives that have the purpose of demonstrating the applicability to Nigeria of the best international thinking about economic transformation, including the benefits of an orientation to competitiveness in global markets. **This**

would require a high-level political decision empowering an agency or agencies to take the matter in hand. It would not entail a frontal assault on the institutional arrangements and assumptions associated with previous plans, such as the NIRP. In the first instance, it would only require the facilitation of new investment in a sector or industry with the potential to demonstrate, in a positive way, the gains to be had from targeting international competitiveness, rather than deepening import substitution.

Any such initiative would need to focus on one or two sectors dealing with selected products identified as promising by the economic analysis of Section 4. **The products should be selected not just on their economic merits but on a set of judgements about the likely feasibility of overcoming typical political economy constraints.** It would make sense to avoid completely sectors where ‘big players’ and large rents are already entrenched. It would probably be wise, too, to choose activities in which the necessary subsidies to build competitiveness are not very large, so that big, politically connected, investors seeking permanent monopoly positions are not attracted. As we have seen, international experience underlines the importance of giving investors a predictable policy environment that includes disciplines and sanctions as well as the prospect of profit. Given Nigeria’s federal system, the focus should be in one or two states where there is some evidence of high-level political interest in this type of innovation.

Part of the purpose of the exercise would be to reveal to private business players that bigger and more secure profits can be made with competitive operations in larger markets than can be obtained with political protection of narrow productive niches. The other part of the demonstration would be about showing how public agencies can acquire the combination of closeness to the private sector, ability to coordinate action on the constraints perceived by investors and ability to discipline those that fail to comply with pre-announced performance targets, as discussed in Section 3. A key activity would be the brokering of relationships, both within the sector as presently constituted and between existing players and others, domestic and foreign, with the capacity to inject new methods and technologies.

5.4 Making it happen

The formula just described may appear rather abstract. Some readers will be impatient to pin it down to specific sectors and actors. However, **international experience suggests initiatives of this sort should be approached with a minimum of blueprint-style planning and a strong focus of modalities of working.** Complexity and uncertainty are key words.

In general, the political economy of policy is *complex*. In other words, there are few certainties, because outcomes are the result of decisions by numerous actors, involved in countless interactions, where each player is constantly making judgements, in a more or less self-interested or altruistic way, based in part on expectations about the behaviour of others. In other words, policies (as they are implemented, not just as they appear on paper) are the result of a system, where small changes in one part can have large and unpredictable effects, for better or worse, on the whole. Uncertainties are significant, putting a premium on the ability of actors to learn and adapt (Harford, 2011). Moreover, within a policy system, incentives for the main players to act in a particular way are shaped partly by ideas, especially ideas that either open up or close down perceptions about alternative ways of pursuing the same interests (Rodrik, 2014).

In these respects, there are useful analogies between policy-influencing for economic transformation and starting up a business based on new technology in an as yet unexplored consumer market. In those contexts, entrepreneurs who eventually achieve success typically begin by recognising their almost total ignorance of how they are most likely to achieve their desired outcome, a high and sustained profit rate. They proceed by trial and error, making a sequence of ‘little bets’ and feeding back the lessons quickly into a refinement of the approach until a viable strategy is arrived at. The application of these ideas to the promotion of key economic reforms in the Philippines provides a model that is worth considering in Nigeria (Booth, 2014; Faustino and Booth, 2014; Faustino and Fabella, 2011).

Thinking on these lines has an important implication for how to go about demonstrating policy for transformation in a given sector. The necessary realism about political-economy constraints is unlikely to be achieved by a one-off analysis that identifies the main stakeholders and captures the experts’ current best guesses about their interests and likely points of view. It can only be achieved if the would-be demonstrators are prepared to be entrepreneurial in the above sense. **The front-line reformers must**

have the interest, capability and freedom of action to try out a few avenues towards desirable policy reforms and draw lessons in a tough-minded way before getting fully committed, so their best guesses become progressively better informed and more refined.

The 'small bets' that are tried out must, of course, be technically sound. They should include changes in policy process which, if fully implemented, would help move current practice closer to the ideal. They should also be politically realistic, meaning there would be a reasonable prospect of their being adopted if 'the stars were to align' in their favour.

The 'trying out' of options that is suggested would most likely include some technical economic analysis (briefing notes, presentations) to illustrate the potential gains from tweaking some aspect of the current policy regime. Therefore, the team doing the work needs to include economists or business people. It needs to be led by individuals with a reasonable understanding of the sector and a lot of ability to think outside the box, to visualise changes that might not be ideal but would make a significant difference to outcomes.

Experience from other countries also suggests trying things out is a matter of getting to know 'who is who' in the sector and in the relevant business associations, consumer groups and ministries, departments and agencies. The group coordinating the initiative must be able to make informed judgements about who might have an interest in supporting a different configuration of subsidies, tariffs incentives, etc., for whatever reason. Therefore, it needs to include people who already have an inside track and experience that is applicable to the business of wooing allies, and of discovering smart ways to disadvantage or divide any opposition to the proposed policy change.

6. Conclusion

This paper began with the challenge of economic transformation, defined as structural change in which productive resources move from low- to high-productivity sectors and industries. This challenge, as distinct from just sustaining an acceptable level of economic growth, is the relevant one for Nigeria today. Even if growth can be sustained in the context of lower oil prices than those of the past decade, growth without the needed structural change will generate too few jobs and will remain regionally and socially exclusive.

To formulate an approach to transformation that makes sense for Nigeria, two things are needed: sound proposals, based on rigorous economic analysis, about where to focus innovation; and good ideas about how to deal with typical constraints arising from the workings of economic and political institutions. This paper has sought to provide both of these elements.

Section 2 aimed to provide a wake-up call for Nigerian policy-makers. Using conventional indicators and recently developed techniques for assessing the extent of transformation in an economy, showed Nigeria's 'transformation deficit' is substantial. In other words, the country is lagging behind not only other large, oil-rich countries such as Indonesia, but also much smaller and less well-endowed economies in Africa. Section 3 provided a further dose of realism by examining what other countries have done to support economic transformation and how they have done it. Among other things, it suggested the importance of emphasising the achievement of global competitiveness even in a large economy with a growing domestic market, and the need for policy consistency and a relationship between government and private investors that is both predictable and disciplined. Legacies of Nigerian history working against the recommended policy orientations as well as the desirable policy processes were briefly reviewed.

The perspective offered by the paper has not been downbeat, however. Section 4 showed that a relatively large range of industries and sectors appear suitable for investments to raise their productivity with a view to achieving competitiveness in regional or global markets. There is also a reasonable consensus around the broad substantive policy areas to focus on, but policy process and implementation is crucial. Section 5 considered whether the necessary support seems likely to be forthcoming, based on the experience of policy reform in Nigeria since the 1990s. This was not particularly encouraging, as progress has been uneven, more formal than real in several critical areas and weak in areas that critically affect the enabling environment for economic transformation, including the mechanisms for channelling oil earnings into alleviating power and infrastructure bottlenecks. Industrial policy has continued to be informed by old-fashioned protectionist ideas and overly influenced by vested private sector interests. The historical legacies still shape the fundamentals.

We have argued that it is important to be realistic about what is possible in this context, and especially not to have the illusion that adjusting the formal institutions of policy coordination and consultation will make a difference. On the other hand, transformation breakthroughs in Asia all began in a small way, with specialised agencies pioneering new ideas and building on the demonstration effects. This, we suggest, is relevant experience for Nigeria.

We have not attempted to specify exactly in what sector and with what instruments a small beginning might be attempted. There are some obvious principles that can be applied to the list of possible economic entry points identified in Section 4. The feasibility of securing high-level political support for a demonstration venture designed to show the benefits, including profitability and employment generation, of an investment geared towards a global market is an absolute precondition. More pragmatically, the choice should avoid sectors in which politically connected private sector players are enjoying old-style protection they will want to defend. Subsidies will be needed but should not be unnecessarily generous or unconditional, so investors seeking comfortable niches will not be attracted. Last but not least, the design of the support should recognise that change processes of this sort are complex, cannot be pre-designed in detail and should be conducted in an agile and adaptive fashion, so mistakes are quickly corrected and lessons learned.

We do not know whether these proposals, based on combining economic analysis with smart ways of dealing with typical problems of political non-feasibility, will be attractive to the new team of top policy-makers in Nigeria. They do go well beyond business-as-usual, but business-as-usual is not going to generate the large increase in productive employment that the country needs. It is going to reproduce indefinitely the skewed and socially unjust patterns of income growth that have typified Nigerian economic life for several decades. It is surely time to make a start on something new.

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Annex 1: Product space for Nigeria and Indonesia

As countries upgrade their production by producing related but more sophisticated products, they undergo economic transformation; it is easier for countries to achieve this if the product lines are closely related. This theory of product relatedness is called ‘product space’, describing the network of relatedness between products. Relatedness refers to the similarity of the inputs (such as skills, infrastructure and technology) required by products, and in this network, two products that are exported significantly by two or more countries are connected by a line.

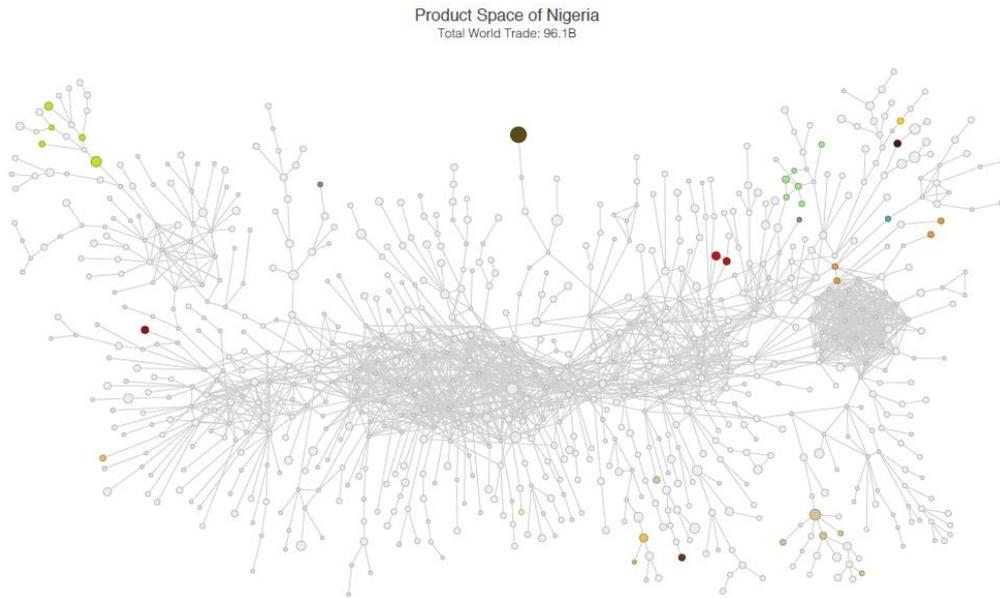
Figures of the product space can be explained using the following metaphor: Suppose the figure depicts a forest and each tree in the forest is a product. Products (trees) that require similar capabilities for their production are positioned close to each other while different products that require different capabilities are further away from each other. Firms that produce these products can be thought of as monkeys living in trees, and each country differs in the number and position of its monkeys in the forest. As monkeys start living in more and more trees and moving into more complex trees, product diversity and complexity increases. If trees are close to each other, it is easier for monkeys to jump from one tree to another as compared to the case with distant trees. In other words, it is easier to add new capabilities and expand to new products in a relatively dense part of the product space, while this is more difficult in a part of the product space with loosely connected products.

Product space has a central dense core with products such as machinery, metal products, chemicals and capital intensive goods. An electronics cluster is positioned on one side, and an apparel cluster is positioned on the other side. Disconnected from this, there is the textile cluster close to the central part. Apart from these, the product space is not dense. For instance, oil and tropical agriculture clusters are disconnected to other parts of the forest, while forest products and paper are a little bit more connected to the central part.

Using the product space analysis, one can locate a country in the forest to see its economic position in the world and infer how easy it is for the country to move forward, what the nearest trees are, etc. For instance, many countries focus on exporting only a few products. A market crisis or an unexpected production disruption can affect those countries seriously, leading to an increase in trade deficit and a decline in GDP and employment. Looking at the position of these countries in the product space, one can explain the current economic situation of the world and give policy recommendations.

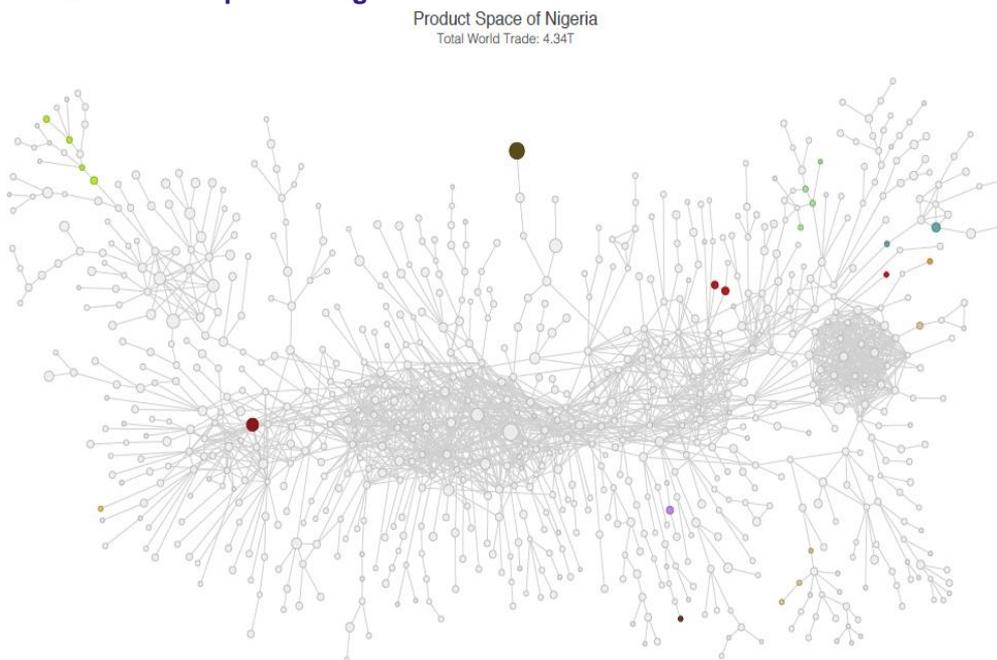
Suppose that countries vary in terms of the capabilities they have and products differ in terms of the capabilities required for their production. Then, countries with more capabilities (for instance rich countries) are expected to make more products as well as products that few other countries can make, and are positioned in a relatively more central part of the product space as compared to poorer countries, which are usually located at the periphery of the product space. These countries can have high growth because they are surrounded by many products. Indeed, countries such as India, China and Eastern Europe who are positioned in a relatively connected part of the product space have been growing faster as compared to countries that are in a poorly connected part of the product space. Moreover, such countries with many complex capabilities can create a bunch of new products if they acquire new capabilities, in contrast to countries with only few capabilities which may not be able to produce new products.

Figure A1.1. Product space of Nigeria in 1962



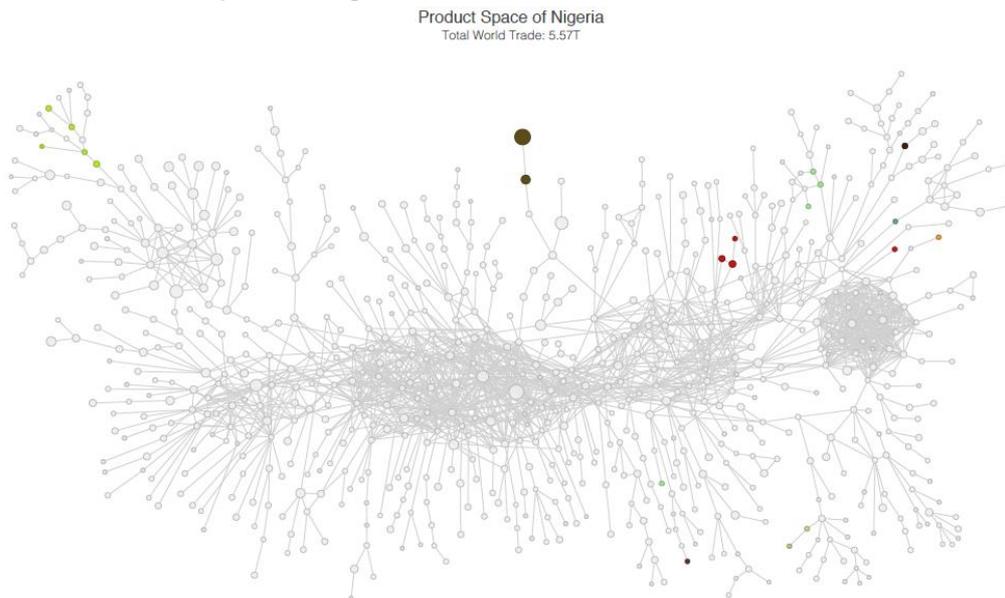
Source: MIT Atlas

Figure A1.2. Product space of Nigeria in 1995



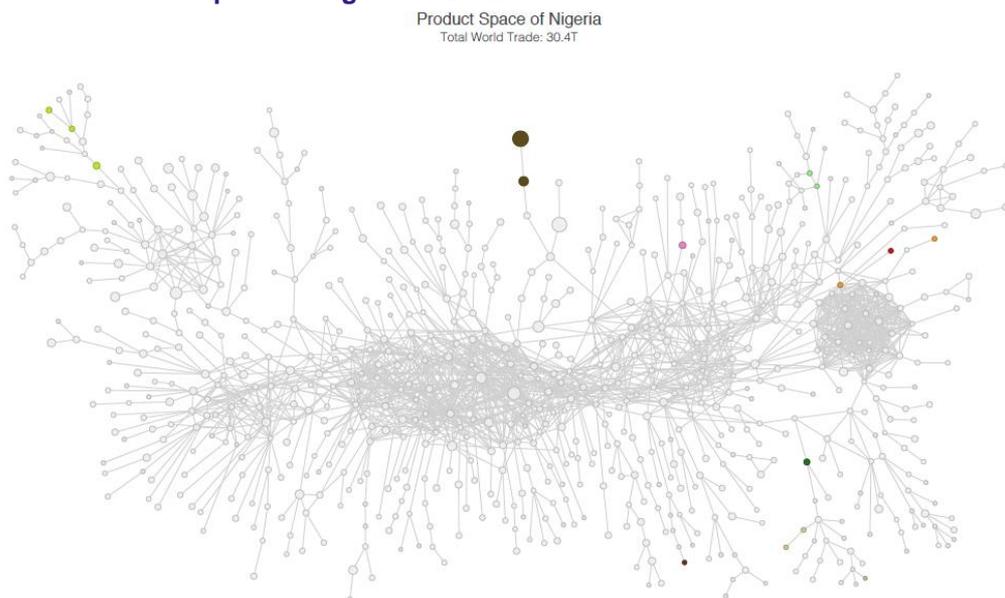
Source: MIT Atlas

Figure A1.3. Product space of Nigeria in 2000



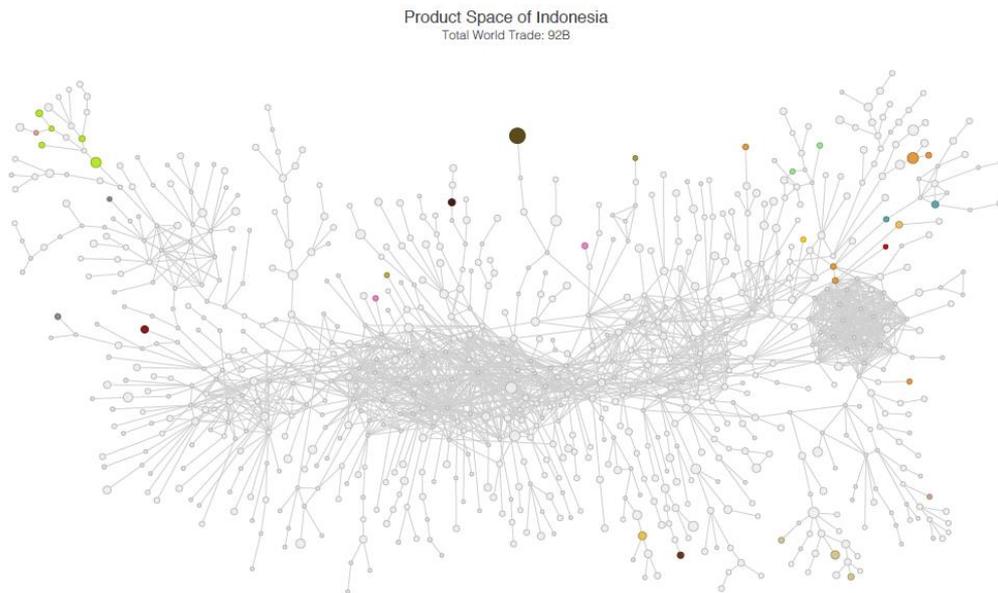
Source: MIT Atlas

Figure A1.4. Product space of Nigeria in 2012



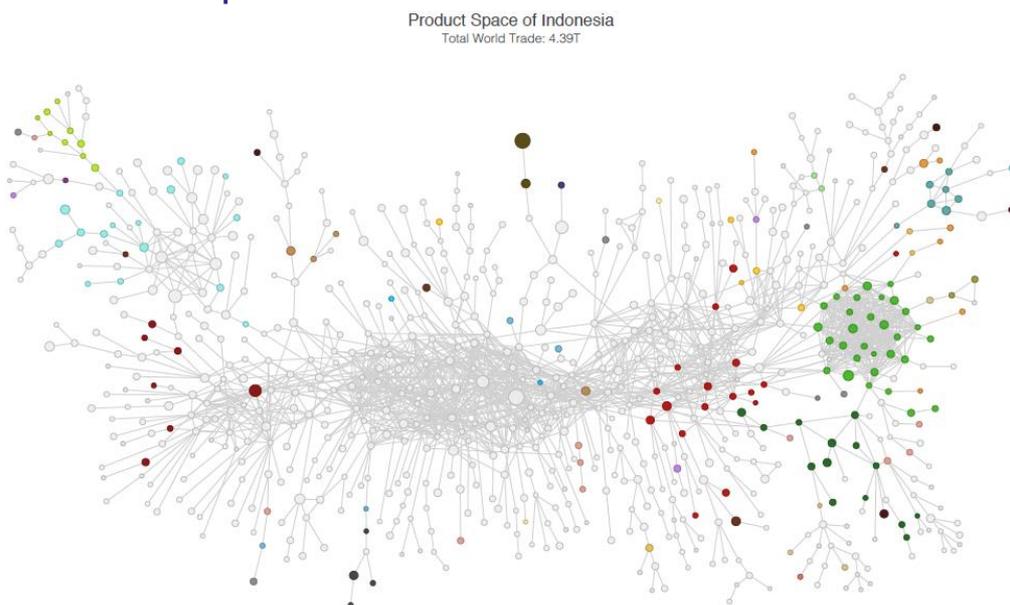
Source: MIT Atlas

Figure A1.5. Product space of Indonesia in 1962



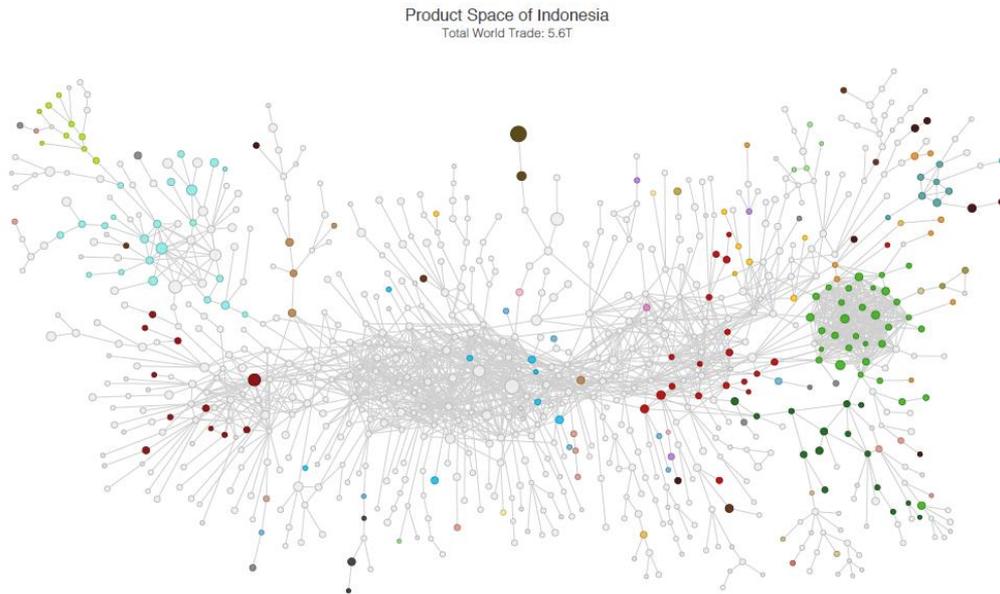
Source: MIT Atlas

Figure A1.6. Product space of Indonesia in 1995



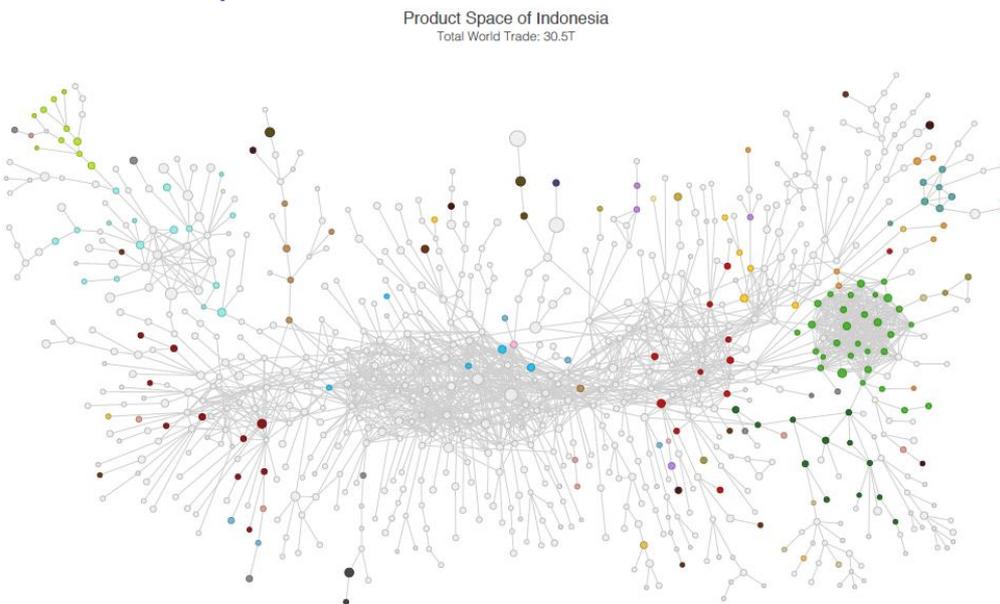
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Figure A1.7. Product space of Indonesia in 2000



Source: MIT Atlas

Figure A1.8. Product space of Indonesia in 2012



Source: MIT Atlas

Annex 2: Economic transformation lessons from other countries

A2.1 Economic transformation lessons

A2.1.1. Setting the stage

The fact that Nigeria's GDP accounts have been recalibrated to make it the largest economy on the continent sets the bar higher in terms of the potential gains from economic transformation, just as the oil price decline make it more imperative that diversification and new development pathways be quickly discovered. Imbedded in the new GDP accounts is the finding that manufactures are indeed a larger share of national output than previously thought, which is a potentially positive development. Why might this be so?

We know from the work of Rodrik (2015) that countries are reaching their peak in terms of manufacturing as a share of national GDP at an earlier stage of development than did countries in the past. Indeed, some large economies have seen their share fall dramatically, in the case of Brazil from 30% in 1980 to 15% in 2010, with serious consequences for the drivers of growth. Absent commodity exports, whose boom has now passed, Brazil has become a premature service economy. This is not a recommended pathway, and it useful to delve into how this occurred. In contrast, Indonesia, another large and populous economy, has fared much better and has managed the transition out of primary commodity production more smoothly and to greater gain in terms of economic growth by maintaining a significant presence in manufactures.

While it may prove elusive to follow the path of South Korea, China or even Vietnam in the process of industrialisation (Rodrik, 1996, 1996), there are certainly policy lessons embedded in those development stories that can be extracted from their unique institutional contexts for the benefit of policy-makers seeking options for the future. That is the objective of this annex.

A2.1.2. International competitiveness: is it necessary, and if so, how to achieve it?

Large economies have the obvious advantage of large domestic markets. This can be a blessing or a curse. It is a blessing because in the long run, as the economy is transformed from agriculture and primary commodities to manufacturing and ultimately is dominated by services, size is a distinct advantage for aggregate demand management. It is an advantage as well for short-term economic management, again since aggregate demand can be called upon via incentives favouring consumption in robust domestic markets. It is not a blessing, however, if size leads to an over-reliance on consumption at the expense of investment or of an undervaluing of exports. The lessons of South Korea and other high-income economies that were low-income economies as recently as one generation previously is that they saw exports not only as the engine of growth but also as the yardstick of efficiency. Without that hurdle of entering global markets, how can a government promote efficiency?

We have seen in the cases of Brazil and Argentina that domestic industry is extremely comfortable behind higher than average tariffs and other measures of protection to operate in large national markets with very little effective competition. This yields low-quality products and unfortunately translates into an inability to sell those products or similar ones overseas. Domestic industry is thus a stay-at-home sector, rent-capturing, less innovative, and below global standards. This situation makes economic transformation much harder to achieve because domestic firms do not have to perform well to do well. If Nigeria is to be a major centre for increasingly higher-value-added production, it will have to achieve these high export standards at home. This can only be fostered by intense domestic competition, easy entry without administrative or economic barriers, and access to credit for new entrants. Here we are advocating a Schumpeterian approach so favoured by Aghion (Acemoglu, et al., 2004, 2006; Vandebussche et al., 2006) and others who seek to move industries to the technological frontier.

In some sectors, as Aghion et al. (2004) argues, firms use existing technologies and merely compete on price. These are ones a distance away from the frontier. Since the size of the domestic market conveys certain economies of scale and other advantages, firms will also gain in size. The key advantage of vigorous domestic competition, however, is that some firms will decide to move to new industries, moving closer to the frontier via new products, innovation, and market presence. These will be the industries of

tomorrow. They cannot emerge, however, without intense competition, often not only requiring effective competition agencies but also necessitating governments to avoid capture by existing large firms. Many countries, including Korea and Mexico, among major economies have struggled with this as noted by OECD studies on competition.

A2.1.3. The importance of infrastructure

Large economies can be divided into those that have and those that have not invested sufficiently in infrastructure. In the former category, we can place Korea and China, and in the second group we can put Brazil and India. The results are clear. Korea is ranked 21st on the Logistics Perception Index and Brazil is ranked 65th. The history of Korea and China tells the opposite story and yields efficient ports, sufficient energy, and strong transport systems. As an example of the importance one should place on infrastructure (Goswami et al., 2002), India was reported by researchers to be competitive with China in 1990 in the garment and textile sector on the basis of wage versus productivity comparisons; however, when the logistics costs of energy interruptions and transport costs were included, that competitive equality quickly disappeared. Energy costs to Brazilian businesses are two-and-a-half times that of those in the US, and were it not for the miracle of agricultural productivity there, its commodity export advantage would be decimated by high transport costs. Yet Brazil has consistently underinvested in infrastructure (Elstrodt et al., 2007).

Public spending in Brazil has favoured not only social programmes such as Bolsa Familia, with high merit, but also programmes that benefited early retirement, fuel subsidies, and other consumption-based tax incentives rather than long-term investments. Mistakenly, the government has often thought that the private sector would pick up the slack; however, as research at the World Bank (Calderón and Servén, 2004, 2010; Servén, 1996; Servén and Solimano, 1992) and elsewhere (Agénor et al., 2005) has shown, public and private spending on infrastructure are complements, not substitutes. Put differently, in order to encourage successful public-private partnerships, especially in transport, the government needs to ‘crowd in’ rather than ‘crowd out’ the private sector.

Governments that spend as little on investment as Brazil, in the range of 18% of GDP, compared to 35% in Korea or perhaps the excessive 45% in China, cannot expect to be competitive when it comes to logistics. Moreover, the lack of efficiency in infrastructure sectors has negative spillover effects in other areas of competitiveness and also diverts business spending from forward-looking areas like R&D to less useful spending on electric generators and secure trucking to more efficient ports. At least that is the experience of Brazil. In contrast, economies of East Asia, such as Korea, Malaysia and Singapore, have invested significantly and wisely to achieve the highest levels of performance in their ports, airports and logistics chains. Economic transformation based in part on infrastructure improvements lays the ground for further advances, yet each policy bottleneck has the potential for derailing future growth.

A2.1.4. Upgrading skills for progress

One of the major lessons of the Spence Commission on Growth and Development is the importance of investments in education and in the development of basic skills that are transferable between industries. An important finding that goes beyond what is widely known about basic education and its quality, recently highlighted again by the work of Pritchett (2006), is that skills are learned on the job and that formal sector employment yields many externalities in terms of quality improvements in the labour force. We know from the experiences in Latin America that premature increases in formal sector benefits and wage taxes that create wedges between productivity and wages that are damaging. The manner in which formal sector wages are set in Singapore, for example, by a trilateral process involving business, labour and government, has seemed to work well.

One little-known fact about Korea’s remarkable development success is that decade-to-decade comparisons of the ‘top five export industries’ between 1960 and 2000 rarely show the same industries. This industrial dynamism and rapid move up the value chain that others seek to emulate, would not have been possible without an adaptable and skilled workforce, and essentially high school graduates with strong abilities to be trained for new machinery and new industrial processes. This aspect of labour force training has proven more elusive in India, despite a cadre of top-flight graduates in the sciences and IT. In the case of Brazil, TFP has not budged much in the course of the last twenty years, while the minimum wage has increased significantly. The result has been laudable improvements in measures of inequality,

but flat productivity. As noted in the next section, there are areas where government can work side by side with businesses to upgrade the quality of the labour force, provided that basic education goals have been achieved.

A2.1.5. The role of government and views on industrial policy

There are a number of key lessons to take away from the development experiences of major economies, such as Korea, Brazil, China, India, Indonesia and Mexico. Some were well recognised in the Spence Commission Report (Commission on Growth and Development, 2008), namely, that countries seeking to record major sustained gains in economic growth will have to get a lot of things right! One-off policy reforms will be unsuccessful; rather governments seeking to undertake major economic transformations will have to coordinate a slew of re-enforcing policies, such as those already mentioned, including but not limited to infrastructure investments, human capital development policies, competition policies and openness to global trade. Strong and consistent macroeconomic management is a sine qua non, of course. In addition, the Report notes that successful transformers have had visionary leadership that has allowed for uninterrupted long-term policy goals, effective implementation with correction mechanisms, and a political and social consensus (however achieved) that assures people that gains from economic growth will reach them and their children. More on this subject in Section A2.2.

One may legitimately ask why some of the countries noted above have not sustained their economic development paths despite large populations, some with considerable natural resources and many with talented technocrats. The answer may lie in the lack of consistency among policies, weaknesses in implementation, capture by the elite at the expense of the general citizenry, and in numerous cases, simply put, corruption. No country can succeed if government is captured either by its leaders or by the elite or even by powerful bureaucrats. Corruption indices do not lie. The challenge to India today, now reported to have a higher expected growth rate this year than China, is that it has perennially faced administrative barriers and related corruption at various levels. Brazil has endured celebrated cases of political corruption, including price-fixing scandals involving foreign providers and difficulties surrounding the operations of the state oil company. This has set back Brazil's development.

Much has been written about industrial policy, namely, the notion that government can have an informed view of the desired future path of the economy. In this context, a binary comparison between policies and outcomes in Brazil versus Korea may shed light on the issue. To initiate a comparison, it is worth noting that in 1980, Brazil's per capita income was 34% that of the US, while Korea's was a mere 21% or roughly a third versus a fifth of the PCI of the US. Fast-forwarding to 2010, Brazil's relative Productivity Complexity Index (PCI) had fallen to 20% of that of the US, while Korea's had risen to 64% of the US standard. What accounted for this huge reversal of fortunes?

Many of the factors have already been noted in terms of Korea's investment in capital, investment in education, smart economic policies, and the quality of institutions. But let us for a moment also compare the records on industrial policies, practiced intensively in Korea during the 1975-1990 period and then gradually abandoned as Korean conglomerates, the 'chaebol', took command of their own futures, with those currently operating in Brazil. In Korea, the notion that it would overtake Japan in global export markets and that it would then move to the innovation frontier has led to the success of Samsung, Hyundai and others. An example of this is Korean leadership in electric car batteries, bioengineering and other new industries. It was simply said based on an explicit understanding – government support in access to credit, technology and other supportive policies in exchange for export performance. This reward system led to the creation of industrial giants that were globally efficient.

By contrast, we see the lending of the massive state development bank in Brazil, BNDES, whose lending dwarfs that of the World Bank, and whose sources of funds include captive wage tax contributions and other government financing. Its explicit goals are to promote the offshore deep-ocean (pre-sal) oil deposits of Brazil, which were explored and developed by the national oil company, Petrobras, as well as to provide large relatively successful Brazilian firms with highly subsidised loans to enable them to grow faster and become globally important. The former bet is a risky one due to the nature of the oil market and the extremely high investment requirements. The latter is even more speculative, since the path to becoming national champions should rest on efficiency, quality and global competitiveness. Very few have achieved this goal, and yet it has entailed two very costly consequences.

The first is seen in the cost of this targeted industrial policy in terms of alternative investments displaced, namely, infrastructure investments not undertaken. Second, it is seen in the very limited access to finance for new creative firms (viz., venture capital) in the high-cost and narrow Brazilian capital market. The transformative policy chosen, namely, a reliance on state financing to target future champions, was unlikely to succeed, because domestic competition is insufficient to force firms to the efficiency frontier in existing sectors, hence making it unlikely that they would be able to compete well globally or become new industry forces. The lesson here is the indispensability of linking domestic competition with the goal of global competitiveness.

This significant lesson is reinforced by the experience of the captured and essentially monopolistic telecommunications sector in Mexico that produced one of the world's richest entrepreneurs. The effect of the lack of domestic competition, noted in Organisation for Economic Co-operation and Development (OECD) rankings, show Mexico's extremely high costs in ICT. Mexico, according to World Economic Forum (WEF) reports, is also rated poorly on measures of innovation and new business practices, and has not broken free of the maquiladora label, despite reasonable productivity-wage comparisons and proximity to the world's largest market in the US. The idea that large economies should protect inefficient industries limits these industries' ability to transform themselves, and in such circumstances, other transformative policies, no matter how well intentioned, will unfortunately not succeed.

A2.1.6. Concluding views

There are many lessons to be extracted from the experiences of major economies attempting to move up the value chain, create employment for large populations, and improve incomes and national welfare. It would be as much a mistake to ignore the past policy lessons as to blindly employ past policies under new and different circumstances. Many large and populous economies also see windows of opportunity, such as demographic dividends (DD). On that score, it should be emphasised that the demographic dividend of larger working-age populations can reduce the dependency ratio, which is a potential not a given economic gain. Unemployed workers do not make the DD a plus, but rather a drag on the economy.

Hence the necessity of creating an environment in which businesses can hire, train, and yes, fire workers (with reasonable safeguards); one in which businesses and government work together to achieve long-range economic goals; a situation where inefficient industries are displaced and markets are contestable and open to new entrants with better ideas.

Transformative policies are often undertaken under duress – political or economic – which is the story of many East Asian economies. Nigeria, when looking at the oil sector, faces such a situation today in regards to its population growth rate and poverty levels, and its sources of non-oil exports. As the largest economy on the continent of Africa, given the vibrancy of its entrepreneurs, Nigeria can also see opportunities. The challenge is to set a transformative course that is sensible, is based on efficiency and global standards, provides a smart role for government, and has long-term stretch goals and ways of measuring achievement towards those goals. These features distinguish those major economies that have succeeded from those that didn't succeed in achieving their development aspirations.

A2.2 The process of successful policy formation and implementation

Successful transformers have spent a good deal of time on the process of formulating and implementing major policy changes. This aspect of transformational policy-making cannot receive too much attention since it is this process that will determine whether even the most well-thought-out policies will succeed or fail. Much depends of course on the political and institutional context, and generalisation can mislead; nevertheless, there are some general observations that can provide a useful guide to the policy-maker embarking on this path. We will attempt to deal with six crucial aspects of policy formulation and implementation: 1) timing of policy change, 2) consistency of policy packages, 3) clarity of objectives, 4) gathering support for policy changes, 5) the importance of early wins as well as commitment to long-term objectives, and 6) the importance of monitoring, evaluation and corrective feedback mechanisms.

A2.2.1. The timing of transformational change

There is much to be learned from the process of trade liberalisation in South Korea between 1982 and 1988. The first important observation that makes this example so pertinent is that it was a major shift in economic policy for a country that had previously relied on import restrictions and a myriad of import controls to manage trade. As such, this was a major departure in policy thinking for an export-driven economy that had been perennially short of foreign exchange and where financial repression and credit allocation made access to imports quite difficult.

Korean policy-making is characterised by a good deal of preparation and examination of what others have done, what worked, what failed, and what lessons can be adapted for the Korean context. The quality of policy-making is therefore dependent on the quality of the bureaucracy, and in the case of Korea in particular, the think tanks that were associated with line ministries. This enabled them to tap the best and the brightest, those with external training, and also get views that would not emerge from the rank and file government officials, who were better at implementing than designing new policy initiatives. Thus, much of the preparation came from economists at the Korea Development Institute, the pre-eminent economy policy research entity at the time.

The trade liberalisation reform programme was pre-announced amid extensive (albeit usually one-way) consultations with the business sector. This was both to advise the corporate sector of impending increases in competition in the domestic market, and to explain the benefits to their production via lower tariff rates on raw material and intermediate imports that would help their cost structures. The six-year liberalisation plan would allow up to 92% of import categories to be freely imported into Korea by the end of the period. The schedule was pre-announced with categories known by the business sector, down to the 5 digit SITC category.

There was to be no negotiation, no reversal of policy and no delay in policy implementation. Progress would be carefully monitored. There would be adjustment costs to be borne by some sectors, and this would be dealt with on a case-by-case, industry-specific basis. All chaebol, the large Korean conglomerates that accounted for the bulk of exports, understood that this programme was non-negotiable. Their best bet was to accept the inevitable and seek the beneficial aspects to help their bottom lines. **The major lessons to be gleaned are the indispensability of superior preparation of the reform program, the importance of pre-announcements, and the criticality of systematic and irreversible implementation.**

A2.2.2. Policy consistency

Policies are clearly interdependent; however, governments often see them as independent actions that can be assessed on their own merits. A trade liberalisation programme will not be implementable, for example, with an overvalued exchange rate. Innovation policies will not be successful in the absence of active domestic competition or the international yardstick of competitiveness. Housing policy reforms will fail if unaccompanied by incentives for savings, efficient financial intermediation, and properly functioning markets for housing finance. The list can be continued; the point being that complementary policies affect the outcome of policy changes and all relevant policies need to be in alignment.

One question that immediately emerges is who in government handles the integration of policy formulation, for surely the trade ministry, necessary though it is for implementing trade reforms, does not control exchange rate management or the incentives offered to exporters or the degree of competition in domestic markets. There are both positive and negative lessons from Korea's experience. On the plus side of the equation, Korea had the Economic Planning Board (EPB), led by a Deputy Prime Minister (DPM) for Economic Policy to ensure that all ministries cooperated and indeed were informed and aligned on policy formulation and implementation. Much was accomplished at the Vice Ministers' weekly meetings chaired by the DPM or his Vice Minister of EPB.

On the negative side of the equation, the Koreans shared the view of the Japanese that some sectors were politically too sensitive to liberalise (e.g., rice) and they learned that health and safety codes could be used to delay opening of some markets. Moreover, the competition agency in Korea was notoriously weak in the face of the corporate sector, very similar to the case of Mexico's regulator in dealing with Carlos Slim's virtual monopoly of the telecoms sector. This weakness notwithstanding, we can see in

Korea a policy that was aimed at increasing the efficiency of the economy, conforming to global standards in order to continue its successful penetration of foreign markets, and only secondarily to lower prices of imports to the Korean citizen. Nevertheless, all instruments were employed to make the programme succeed. **The lesson to be taken away is that no single policy action can succeed without a series of complementary and consistency aligned policies acting in concert.**

A2.2.3. Clarity of policy objectives

Despite misgivings by some in government or concerns by certain sectors, there was no uncertainty that the programme would be fully implemented. The announcement of liberalisation ratio targets was a clear indication that the programme would persist. Policy incentives were in place to ensure that those not playing ball would be replaced and that sloppy implementation or unnecessary slowdowns would not be tolerated. This aspect of policy implementation involves certain national political and institutional idiosyncrasies that may not be replicable; however, the advantage of clearly announced multi-year goals is that it is clear that the programme will move forward and that the best course of action for the business sector is to move forward and prepare itself for the new reality. There was no ambiguity in Korean policy and no lack of resolve to follow through, as with many other areas of economic policy. **The lesson here is that economic agents prefer certainty associated with policy reforms; hence, if announced and sequenced properly, the process can be successful if there is clarity of objectives and certainty of policy resolve.**

A2.2.4. Garnering support for transformational reforms

Reforms of the transformational type will certainly have winners and losers in the immediate horizon; however, if they make sense and can help propel the economy to a higher growth path and create new sources of income, they can gain support. Some major considerations are that the winners are gaining for the sake of the country and not merely pocketing windfalls and that the losers receive some relief, but not so much as to delay their exit from industries or for their recalcitrance to imperil the pathway of reform. Clearly in the case of Korea, the beneficiaries were the exporters, the main drivers of Korea's growth. In many instances, the same firms that dominated exports also dominated domestic markets – a plus and a minus. The plus side is that government can ensure that the benefits are sufficient that the pain of adjusting to more import competition is bearable. Moreover, the chaebol knew that without a trade liberalisation programme, their relatively unimpeded access to the important US and European markets would be impaired. Hence this was a price to be paid.

On the negative side, the fact that exporter and importer may be in the same conglomerate structure made it more difficult to drive the import-competing firms out of sectors where they lacked comparative advantage. This has hurt Korea up until the present day, since the Korean service sector faces inadequate foreign competition despite reasonably progressive trade legislation and this lowers productivity in services, now quite low and less than half (in terms of TFP) of what it has been in manufactures. Parenthetically, this overexposure by the largest firms in too many sectors had a hand in the excessive indebtedness of conglomerates and the severity of the adjustment needed in the aftermath of the East Asian financial crisis of 1997-1998.

The main point of garnering support for transformational policies is to show firms where their future possibilities will lie and to allow new firms to participate in that transformation. Large firms will always enjoy advantages in terms of access to finance, political influence and foreign exposure; the key is ensure that this comes along with efficiency and global competitiveness and not as a result of trade protection and rents from oligopolistic market concentration. In the case of Korea, the export yardstick and global competitiveness always provided that measure and government support for those goals was unwavering. The policy lesson, regardless of market circumstances, is that policy support is possible if firms see a road map towards future profitability and if government holds firms accountable for performance.

A2.2.5. Political realities and long-term goals

Those advising on policy change often speak in the abstract of quick wins as well as the importance of long-term objectives. These two aims, the first an often necessary condition to maintain support for the second, are both possible to achieve, but this requires a coordination and clarity among policy-makers as they design and implement policy change. We have indicated how in the case of Korea the nature of the corporate sector made it easier to make the dual objectives consistent. These circumstances may not exist

in other countries. Nevertheless, quick wins can be found if one can anticipate where and how the initial benefits of the policy reform will pan out. If the benefits are substantial, some redistribution to those not benefiting is possible.

Take the case of privatisation of pension plans, such as those implemented in Chile. The beneficiaries were new financial entities gearing themselves to invest the public's pension funds. The losers were public entities that were going to lose contributors. In this case the winners-losers calculus is between public and private entities and it can be managed via fiscal means – taxes and transfers. In other cases, where the losers are other private sector firms, public investment funds can be established to help foster new investments and help the transition, in the case of trade reform from non-tradables to tradables. The key point is that the losers need to be dealt with in a way that is on a quickly diminishing scale to reinforce the new incentives. **The keys to implementing these aspects of policy-making well are to identify the losers and the winners, and to find the right set of incentives to cushion the former and to finance it by capturing some of the benefits of the latter in a manner consistent with the ultimate policy objectives.**

A2.2.6. Monitoring, evaluation and mid-course corrections

One very fundamental lesson from successful policy-making in Korea is the realm of monitoring, evaluating and acting on the information collected to adjust transformational programmes. Necessary conditions are that the monitoring is done in a timely and honest fashion, and that there be no 'gilding of the lily' to hide miscues. The agency entrusted with this monitoring needs to be politically independent enough to cut across ministries and report to the champion of the economic reform programme. The EPB in Korea did annual reviews of all major economic reforms programmes and indeed of the Five Year Development Plans that guided Korea for more than two decades. They knew what data to collect and understood the manner by which incentives drove the economy in general and the trade liberalisation programme in this case.

In addition to collecting information concerning the quality and speed of implementation, the successful programme requires the ability to undertake mid-course corrections. It is unlikely that all programme aspects will be perfectly designed at the outset, and many programmes in East Asia underwent substantial revision and in some cases abandonment if they proved ineffective (e.g., Malaysia Heavy Industry programme is one such example). Changes in policy design rather than changes in either objectives, targets or speed of implementation is a necessary part of the process. These changes can involve individuals charged with implementing reforms, the creation of new agencies or units to implement, the manner in which the programme is marketed to the public (viz., it is widely accepted that water privatisations in much of Latin America were successful in terms of almost all objectives of the reform, but they had a terrible reputation with the public due to poor public relations). **One lesson here is that public support is an important and often undervalued part of reform agendas. This requires a major media effort involving not only government officials but also the press and some good old-fashioned advertising as well.**

The ability of policy leaders to make adjustments without either abandoning reforms or being put on the defensive is a key aspect of mid-course corrections. Of course it helps if the policy is a smart policy with a high chance of success, but in any event adjustments need to be planned for and accommodated in the process of implanting. The lesson is that it is difficult to find successful policy reforms that end up looking exactly the way they were originally designed. Korea was exemplary in most policy areas, although there were some cases, such as in the selection of six key industries to be supported during their Heavy and Chemical Industry (HCI) phase of development, where some industries, such as petrochemicals, were ultimately downscaled in favour of successful industries, such as autos, ship building and electronics. **The key takeaways are that transformative policy reforms work better (a) when they are intensely monitored with clear political support or sanctions from the country's leadership, (b) when progress is measured versus expected results in a timely and objective fashion, and (c) when changes are made to improve the reform process that enhance chances of success without compromising the ultimate goals.**

A2.2.7. Concluding point

It may not be an exaggeration to conclude that more reform programmes have failed because of poor implementation than failed because they were poorly designed. Another way of making the same point is to emphasise that part of the successful design of major transformational policies is incorporating from the outset measures to organise, sell and monitor the effort. There also needs to be room for so-called mid-course corrections, as the process is unlikely to be an entirely smooth one. Some advocates of reform stress the speed of reform, while others, such as the Koreans, stress the steady and unalterable pace of reform. Of course it depends often on the area of reform; however, for the panoply of policies connected to transformation of an economy, consistent and steady reforms with some early wins may be the wisest policy choice.

Annex 3: Further analysis on the economic potential

A3.1 Analysis of revealed comparative advantage

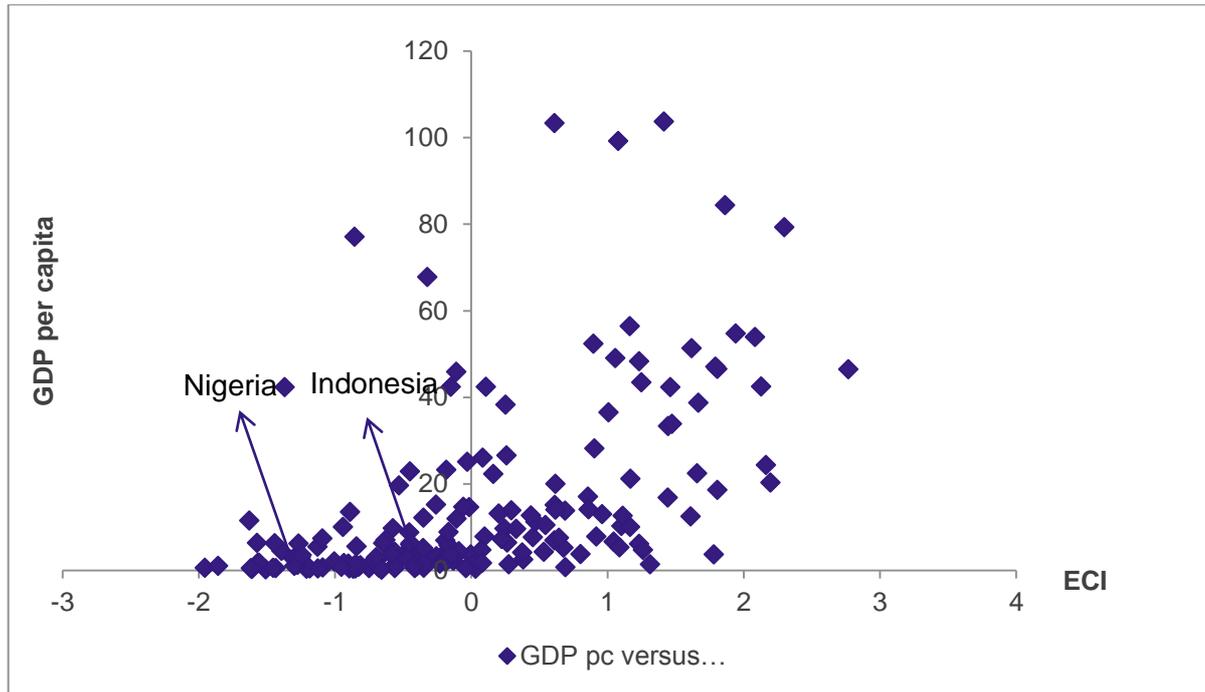
Table A3.1 shows the results of the RCA analysis.

Table A1. Nigerian products (top 40) with an RCA>1

Main sector (SITC 1)	SITC 4	Product	RCA
Beverages and tobacco	1222	Cigarettes (tobacco)	1.510565
Chemicals	5914	Disinfectant/rodenticide	1.001773
Crude materials, inedible	2312	Natural rubber excl. latex	36.83467
Crude materials, inedible	2225	Sesame seeds	25.49705
Crude materials, inedible	2922	Lac/gums/resins/balsams	13.22801
Crude materials, inedible	2862	Thorium ore/concentrates	11.7578
Crude materials, inedible	2633	Cotton waste	1.992221
Crude materials, inedible	2450	Fuel wood/wood charcoal	1.855418
Crude materials, inedible	2721	Animal, veg fertiliser, crude	1.655944
Crude materials, inedible	2876	Tin ores/concentrates	1.296217
Crude materials, inedible	2631	Raw cotton, excl. linters	1.058021
Food and live animals	725	Cocoa wastes	80.64181
Food and live animals	721	Cocoa beans, raw/roasted	36.37974
Food and live animals	812	Fodder bran/by-products	32.06519
Food and live animals	221	Milk and cream unsweetened	14.23135
Food and live animals	724	Cocoa butter/fat/oil	7.017351
Food and live animals	577	Nuts edible fresh/dried	4.261186
Food and live animals	19	Live animals n.e.s.	2.658171
Food and live animals	752	Spices excl. pepper/pimento	2.546749
Food and live animals	361	Crustaceans, frozen	2.473147
Food and live animals	168	Meat (excl. swine) preserved	1.706103
Food and live animals	15	Equine species, live	1.689006
Food and live animals	723	Cocoa paste	1.529818
Machinery and transport equipment	7933	Vessels for breaking up	105.9795
Machinery and transport equipment	7935	Special purpose vessels	2.780957
Machinery and transport equipment	7937	Tugs and pusher craft	2.538489
Manufactured goods, by material	6116	Goat/kid leather, no hair	58.60858
Manufactured goods, by material	6117	Animal leather nes	15.39538
Manufactured goods, by material	6863	Zinc/alloys worked	5.43582
Manufactured goods, by material	6115	Sheep leather without wool	5.28317
Manufactured goods, by material	6513	Cotton yarn nes	2.141411
Manufactured goods, by material	6644	Float/polished glass sht	1.869734
Manufactured goods, by material	6851	Lead/alloys unwrought	1.581979
Manufactured goods, by material	6254	Tyres, new, cycles etc.	1.36267
Manufactured goods, by material	6526	Woven cotton blend >200g	1.089177
Manufactured goods, by material	6871	Tin/alloys unwrought	1.075741
Minerals fuels, lubricants	3441	Ethylene etc. liquefied	54.19629
Minerals fuels, lubricants	3431	Natural gas ,liquefied	8.298961
Minerals fuels, lubricants	3330	Petrol./bitum. oil, crude	7.573764
Minerals fuels, lubricants	3340	Heavy petrol/bitum. oils	1.485604
Miscellaneous	8966	Antiques over 100 years	3.708425

A3.2. Hausmann/Hidalgo product space analysis

Here we provide the details of the product space analysis. Figure A3.1 below shows that economic complexity of a country is positively correlated with its income. A country with a relatively higher GDP such as Indonesia has a higher productive knowledge (higher complexity) as compared to a country with lower GDP such as Nigeria.

Figure A3.1. ECI and GDP per capita (1000 US\$) in 2012

Source: Authors' calculations based on UN Comtrade data.

We also calculated the following measures (see Hausmann et al., 2014a, for full explanations and the formulas behind them):

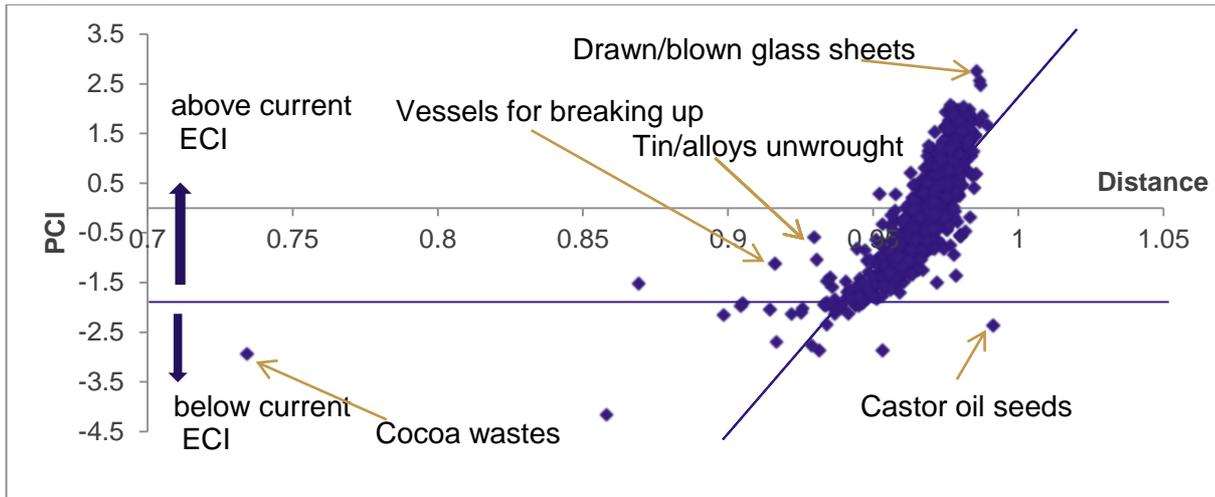
Economic Complexity Index (ECI) and the corresponding measure for products, the Product Complexity Index (PCI). In 2012 Nigeria ranked 121 of 125 on the complexity map, i.e. it exported few products which are also exported by other countries. A complexity index can be analysed for countries and products.

Distance: How far is a certain product from the current revealed capabilities?

Opportunity gain: How strategic is that product in terms of its proximity/connectedness to other complex products?

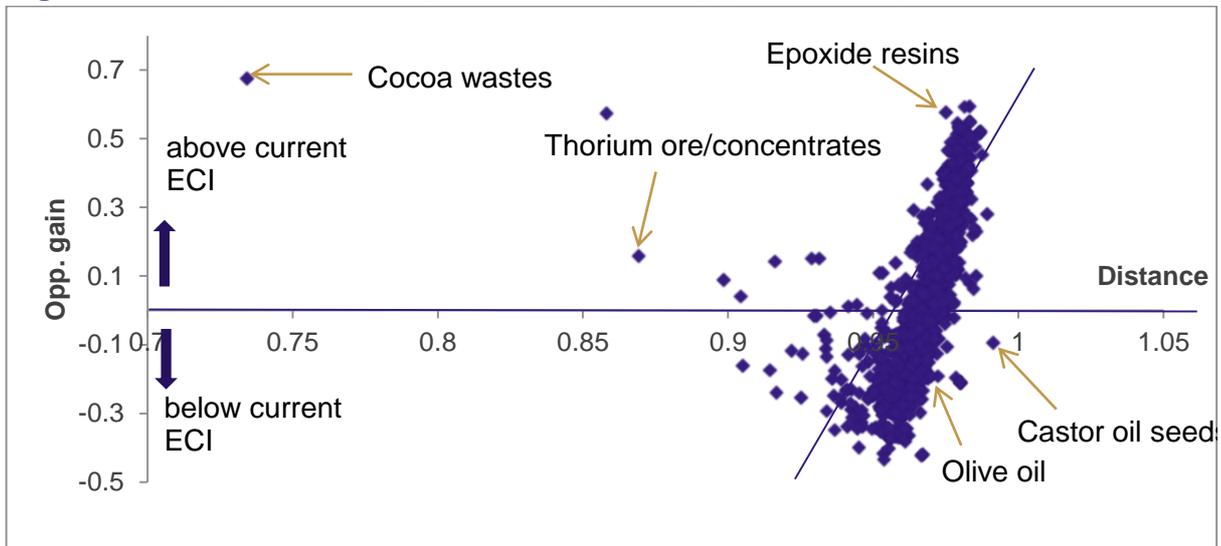
Figures A3.2 and A3.3 show products that are feasible for Nigeria in 2012, and plots the 1,028 products included in our analysis. Feasible products are those with relatively more complexity or opportunity gain and smaller distance to Nigeria's current productive knowledge. Among the products shown in Figure 27, the feasible ones correspond to products with ECI value greater than Nigeria's current ECI value (-1.97) and to the left of the line drawn between the two points: (1) the intersection of the 25th percentile of PCI and 25th percentile of distance; and (2) the intersection of the 75th percentile of PCI and 75th percentile of distance. According to Figure A3.2, the feasible products lie above the line with greater than zero opportunity gain (Hausmann et al. (2014b)) and to the left of the line drawn between the two points: (1) the intersection of the 25th percentile of opportunity gain and 25th percentile of distance; and (2) the intersection of the 75th percentile of opportunity gain and 75th percentile of distance. The reason the diagonal lines are taken into account is that there is a trade-off between the complexity or opportunity gain of a product and its distance, because products with higher complexity and opportunity gain are generally also more distant, which makes it more difficult to move to these products. According to Figures A3.2 and A3.2, one of the feasible product categories for Nigeria is mineral fuels, lubricants and related materials, and Nigeria is already present in this area. Other feasible products are in the major sectors food and live animals, machinery and transport equipment, crude materials (inedible), except fuels. Products in these sectors are relatively complex and provide large opportunity value.

Figure A3.2. Nigeria’s efficiency frontier: Complexity (PCI) versus distance (2012)



Source: Authors’ calculations based on UN Comtrade data.

Figure A3.3. Nigeria’s efficiency frontier: Opportunity gain for each product versus distance (2012)



Source: Authors’ calculations based on UN Comtrade data.

We can combine the above three measures into a single index by using a weight. For example, the **parsimonious transformation index** gives importance to products that are closer to the country’s current set of capabilities, but with higher sophistication so that the development of new products is faster and less risky. The **strategic bets index** emphasises products that are more sophisticated even if they lie at a greater distance. Therefore, the parsimonious transformation index prioritises distance while the strategic bets index prioritises complexity and opportunity gain.

Table A3.2. Parsimonious transformation index and strategic bet index

Weights	Distance	Complexity	Opp. gain
Parsimonious transformation index	0.6	0.2	0.2
Strategic bets index	0.2	0.4	0.4

Source: Hausmann et al. (2014b)

If a country is mostly exporting products connected to a new product that it is not already exporting, then the distance of this new product is small (close to zero). On the other hand, if a country exports only a small proportion of the products that are related to a new product, then the distance of this new product will be large (close to 1). Higher opportunity value implies being close to other products and/or more complex products, while higher opportunity gain implies higher potential benefits (a higher number of new

products that get closer) from moving closer to a new product. In both the parsimonious transformation and strategic bets strategies, we would like to identify those products with higher index values resulting from high complexity and opportunity gain. In the parsimonious transformation strategy, even the products with a short distance are valued, leading to high index values, while in the strategic bets strategy, short distance does not necessarily lead to high index value (Hausmann and Klinger (2006)).

Tables A3.3 and A3.4 show the index values for Nigeria for 2012. The index values show that in Nigeria, major product groups that identify both with the parsimonious transformation and strategic bets strategies point us to include the following types of products:

- Chemicals and related products;
- Manufactured goods classified chiefly by material;
- Machinery and transport equipment.
- Miscellaneous manufactured articles.

Therefore, Hausmann's product space analysis suggests that Nigeria would also benefit from diversifying its production to 1) chemicals; 2) wire, stainless/alloy steel; 3) textile yarn machinery; and 4) optical microscopes. See tables 8 and 9 for information about specific products from these major sectors.

Table A3.3. Parsimonious transformation strategy for Nigeria (combination of distance, complexity and opportunity gain), top 40 products, by industry

Major sector	Specific Product	ISIC Code	Rank	Index	Distance	Complexity (PCI)	Opp. Gain
Manufactured goods classified chiefly by material	Drawn/blown glass sheets	6643	3	1.187	0.986	2.751	0.229
Manufactured goods classified chiefly by material	Hot-rolled alloy steel	6754	16	1.044	0.984	1.775	0.493
Manufactured goods classified chiefly by material	Cold roll alloy steel	6756	29	1.018	0.980	1.677	0.476
Manufactured goods classified chiefly by material	Wire, stainless/alloy steel	6782	35	0.998	0.979	1.578	0.475
Manufactured goods classified chiefly by material	Flat silicon-elect steel	6751	36	0.997	0.981	1.589	0.454
Chemicals and related products, n.e.s.	Organo-sulphur compounds	5154	5	1.090	0.980	1.974	0.536
Chemicals and related products, n.e.s.	Epoxide resins	5742	6	1.086	0.975	1.930	0.576
Chemicals and related products, n.e.s.	Doped chemicals (elect)	5985	14	1.051	0.977	1.987	0.337
Chemicals and related products, n.e.s.	Hormones	5422	19	1.039	0.981	1.760	0.494
Chemicals and related products, n.e.s.	Hormones/steroids/derivs	5415	32	1.010	0.976	1.755	0.366
Chemicals and related products, n.e.s.	Low-petroleum lube oils	5977	37	0.995	0.980	1.524	0.508
Chemicals and related products, n.e.s.	Colouring preparation nes	5331	40	0.994	0.979	1.562	0.473
Machinery and transport equipment	Machining centres etc.	7312	1	1.206	0.987	2.556	0.514
Machinery and transport equipment	Shaping/slotting/gear tl	7317	2	1.189	0.987	2.464	0.520
Machinery and transport equipment	Special indust machines	7284	4	1.104	0.983	1.976	0.594
Machinery and transport equipment	Pneumat/hydraulic valves	7472	7	1.079	0.982	1.861	0.592

Major sector	Specific Product	ISIC Code	Rank	Index	Distance	Complexity (PCI)	Opp. Gain
Machinery and transport equipment	Sharpen/grind.. mac tool	7316	9	1.069	0.983	1.894	0.503
Machinery and transport equipment	Lathes - metal removal	7313	10	1.066	0.983	1.832	0.550
Machinery and transport equipment	Office machines nes	7519	13	1.053	0.988	1.847	0.453
Machinery and transport equipment	Weaving/knitting/etc. equ	7245	18	1.040	0.987	1.724	0.517
Machinery and transport equipment	Clutches/sh coupling/etc.	7486	20	1.037	0.983	1.689	0.547
Machinery and transport equipment	Textile yarn machinery	7244	21	1.037	0.984	1.824	0.407
Machinery and transport equipment	Gears and gearing	7484	22	1.033	0.982	1.728	0.492
Machinery and transport equipment	Needle roller bearings	7464	23	1.031	0.982	1.838	0.371
Machinery and transport equipment	Parts centrifuge/filters	7439	24	1.031	0.979	1.672	0.546
Machinery and transport equipment	Parts spec indust machny	7285	25	1.029	0.979	1.697	0.513
Machinery and transport equipment	Parts react/gas turb eng	7149	26	1.028	0.981	1.669	0.528
Machinery and transport equipment	Gear/flywheel/clutch part	7489	27	1.022	0.981	1.642	0.525
Machinery and transport equipment	X-ray etc. equipment	7742	28	1.020	0.980	1.720	0.438
Machinery and transport equipment	Mtl work/tool holder etc.	7351	33	1.004	0.980	1.550	0.530
Machinery and transport equipment	Paper ind machine parts	7259	34	0.998	0.982	1.551	0.493
Machinery and transport equipment	Parts for fans/gas pumps	7438	38	0.995	0.977	1.554	0.488
Miscellaneous manufactured articles	Still photo film developed	8826	8	1.075	0.981	2.032	0.397
Miscellaneous manufactured articles	Optical microscopes	8714	11	1.066	0.978	2.015	0.383
Miscellaneous manufactured articles	Chem photo goods, retail	8821	12	1.059	0.977	1.934	0.430
Miscellaneous manufactured articles	Watch movements assembled	8855	15	1.046	0.977	2.073	0.225
Miscellaneous manufactured articles	Physic/chem analysis equ	8744	17	1.043	0.980	1.745	0.531
Miscellaneous manufactured articles	Original prints etc.	8962	30	1.017	0.978	1.873	0.280
Miscellaneous manufactured articles	Binoculars/telescopes	8711	31	1.010	0.983	1.591	0.511
Miscellaneous manufactured articles	Fluid gauges/instruments	8743	39	0.994	0.976	1.579	0.466

Source: Own calculations

Table A3.4. Strategic bets strategy for Nigeria (combination of distance, complexity and opportunity gain), top 40 products, by industry

Major sector	Specific Product	ISIC Code	Rank	Index	Distance	Complexity (PCI)	Opp. Gain
Manufactured goods classified chiefly by material	Drawn/blown glass sheets	6643	3	1.389	0.986	2.751	0.229
Manufactured goods classified chiefly by material	Hot-rolled alloy steel	6754	17	1.104	0.984	1.775	0.493

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Miscellaneous manufactured articles	Optical microscopes	8714	10	1.155	0.978	2.015	0.383
Miscellaneous manufactured articles	Chem photo goods, retail	8821	12	1.141	0.977	1.934	0.430
Miscellaneous manufactured articles	Watch movements assembled	8855	15	1.114	0.977	2.073	0.225
Miscellaneous manufactured articles	Physic/chem analysis equ	8744	16	1.106	0.980	1.745	0.531
Miscellaneous manufactured articles	Original prints etc.	8962	30	1.057	0.978	1.873	0.280
Miscellaneous manufactured articles	Binoculars/telescopes	8711	32	1.037	0.983	1.591	0.511
Miscellaneous manufactured articles	Fluid gauges/instruments	8743	37	1.013	0.976	1.579	0.466

Source: *Own calculations*

A3.3. Applying the growth identification and facilitation framework

Lin and Treichel (2011) apply GIFF in Nigeria. They discuss a range of promising sectors for growth, including:

- **Palm oil** – But this still has a low export volume.
- **Rubber manufactures** – Tyre industry closed as it could not compete with imports.
- **Textiles** – Textiles is a failing industry primarily because competitiveness with imports is undermined by high costs of power in Nigeria, as well as a small wage differential to comparator countries which produce at large volumes.
- **Leather** – Already has private sector momentum: goat/kidskin leather is the fourth largest export. Industry already in place in Kano but needs better enabling conditions.
- **Telecommunications** – Since December 2010, two operators have begun TV assembly in Lagos. Large potential for scaling up exists, provided land is being made available.
- **Information Technology** – Knock-down of computers is successfully taking place
- **Fertiliser** – Indigenous fertiliser plants exist and are growing fast; Nigeria has refineries and fertiliser plants but requires enabling conditions, such as the removal of the petroleum subsidy.
- **Food and beverages** – Booming sector oriented to the domestic market; cocoa beans are third largest export; frozen crustaceans fifth largest export.
- **Vegetables and fruit** – Both already active in Nigeria; to scale up it requires enabling conditions, especially power and a cold chain.
- **Car parts** – Onitsha cluster in Anambra state focuses on car parts; motorcycles and tractors are assembled in a knock-down assembly already.
- **Furniture** – Industry active in Nigeria and rapidly growing.
- **Paper** – Industry already active and growing. Logistical support could help accelerate growth.
- **Pharmaceuticals** – Industry established but fragmented. Mergers could help reduce cost.
- **Metal** – Industry in place but too small and scattered to be cost effective. Scaling up could be facilitated through creation of clusters.
- **Organic chemicals** – Industry could benefit from abundant supply of raw materials; however, petroleum subsidy is major distortion blocking larger foreign direct investment (FDI).

The authors further argue that Nigeria's private sector has become increasingly active and there are a number of examples where successful self-discovery has already taken place: ICT, light manufacturing, food processing, wholesale and retail, construction and car parts, meat and poultry, oil palm, and cocoa. None of these industries currently produces significantly for export. However, all of them have significant employment and growth potential and according to the authors could be upgraded for exports.

Seven sectors emerged for further attention, as they represent industries in countries with a similar endowment structure: 1) footwear, including sports shoes; 2) textiles; 3) TV recorders; 4) aquaculture; 5) motor vehicle parts; 6) vegetable oil; and 7) fertilisers. Additional sectors are 8) motorcycles; 9) meat, meat products, and oil seeds; 10) fertilisers, petroleum products; 11) leather; 12) travel goods; 13) office machines; 14) pharmaceutical products; and 15) organic chemicals.

The paper then discusses a number of sectors and the specific constraints they face.

Food processing (including fruit juices, meat and poultry, noodles and spaghetti and tomato paste) has experienced strong growth in recent years, and producers are confident about prospects for further growth. Tomato paste producers indicate that their growth potential would sharply improve if domestic production of tomatoes could be scaled up. In addition, specific government incentives such as Research and Development, the full operationalisation of the Export Expansion Grant (EEG) and assistance in distributing seeds could allow production to further expand.

Construction has a very significant potential for job creation. The primary constraint for faster growth is the unavailability of mortgage financing. Specific interventions to improve the availability of such financing through reform of the land transaction process and the development of mortgage related financial instruments would be critical to facilitate faster growth. In addition, the industry suffers from shortages of skilled technical labour. Targeted interventions to substantially upgrade the quality of vocational training would help youth unemployment and reduce the costs of construction firms.

Motorcycle, tractor and TV assembly are set for rapid expansion. Key constraints consist of the lack of adequate trade facilitation, which leads to delays in clearance of imports, and the need for land to allow for expansion of production and reap benefits from economies of scale.

Computer assembly is also growing rapidly. Partnership between the public and private sectors to help reduce the skills gap would be crucial to reduce cost. In addition, the government may facilitate the adoption of broadband internet access in universities and schools.

Following years of decline owing to lack of competitiveness with imports, the **tyre industry** ceased production in 2008. Key constraints to greater productivity include 1) the need for natural gas to power an Independent Power Plant (IPP); 2) the need to rehabilitate the Warri refinery to facilitate availability of black carbon – a key input for tyre production; and (3) the need for a bail-out fund to address the large amount of unserved debt. Gas had not been available owing to the turmoil in the Niger Delta, while the rehabilitation of the refinery had not proceeded on a timely basis. An injection of fresh capital from the government could be crucial to bailing out the industry, especially if packaged with other measures, in particular the rehabilitation of the Warri refinery and concessional loans (based on a performance agreement with the private contractor).

The metal industry has been suffering from power shortages and lower price competition from abroad. Nonetheless, some segments of the production, like cast iron and manganese steel, have been prospering, while others, such as aluminium, have been in decline. One of the key obstacles, in addition to the power supply, has been the customs administration, which has been delaying the clearance of imported raw materials. However, the most important challenge in facilitating the growth of this industry is the lack of power.

Annex 4: Nigerian experience in policy reform

This annex examines Nigeria's economic policy architecture, looking through the lens of how economic policy is decided and implemented. It briefly discusses the traditional economic policy settings, comprising the monetary and fiscal authorities, as well as sectoral economic policy-making. It then investigates how economic policy has been decided and implemented since 2003 when Nigeria made its first bold attempt at reshaping its economic policy architecture, with a view to bringing about rapid economic reforms. In particular, this section examines the roles of the economic management implementation team, the economic management team, the national planning commission, the national economic council and the Nigeria Governors' Forum. It identifies the entry points for the influencing groups in the policy-making process and comments on the relationships between the Federal vs. States, with respect to economic policy-making. It provides practical examples of how economic policy has been decided and implemented, using the past power sector and public finance reforms; automobile policy; national cotton, textile and garment policy. Finally, it offers some conclusions on what works and why.

A4.1 Conduct of monetary and fiscal policies in Nigeria

A4.1.1. Monetary policy

The Central Bank of Nigeria (CBN) is the custodian of monetary policy in Nigeria. According to the CBN Act of 2007 (amended) (Federal Republic of Nigeria, 2007), the principal functions of the bank include: monetary and price stabilisation, exchange rate and external reserves management, and currency control and management of the financial system. In pursuance of these functions, CBN enjoys independence and management autonomy. By this autonomy, the bank is empowered to choose suitable monetary instruments with no guidance or interference by the government. This implies that while government could set monetary targets such as an interest rate or inflation target as components of macroeconomic policies, CBN enjoys autonomy in deciding the appropriate instruments to adopt in achieving the targets. In terms of management autonomy, CBN has power over staff appointment and internal budgeting. The purpose of the autonomy is to insulate the monetary policy process from politics, so that decisions are based on rational economic considerations. However, CBN has no institutional autonomy, as the governor and deputy governors of the bank as well as members of CBN board are appointed by the president subject to the approval of the legislature. Also, there is some level of linkage between monetary and fiscal authorities. For example, CBN and the Federal Ministry of Finance (FMF) are the key institutions that bear responsibility for macroeconomic policy-making in Nigeria. Again, the CBN governor is a member of National Economic Management Team (NEMT), coordinated by the Minister of Finance.

The key decision-making organs of the CBN in policy formulation are the Monetary Policy Committee (MPC) and the board of directors (both chaired by the CBN governor). The MPC is responsible for monetary and credit policies as well as price stabilisation and open market operations of the Bank. The MPC is made up of the governor, four deputy governors, two members of the board of directors, three members appointed by the president, and two members appointed by the governor. Constitutionally, the MPC must meet at least six times a year, and the decisions are taken based on simple majority voting system.

The board of directors is responsible for the policy and general administration of the affairs of CBN. The roles of the board also include formulation of exchange rate policy, supervision of the activities of commercial banks, designing the operational guidelines and approval of the financial budget of the bank. The board of directors is made up of a governor as the chairman, four deputy governors, a Permanent Secretary of the FMF, five directors appointed by the president and the accountant-general of the Federation of Nigeria.

One of the recent monetary policies implemented by CBN is the bank consolidation and recapitalisation policy of 2004. This was in response to the declining and weak capital base of the majority of the commercial banks, which affected lending to the real sector (Arengbeyen and Olufemi, 2011). Based on the decision of CBN's board of directors, the capital base of commercial banks was increased from N2 billion to N25 billion. This was to inject fresh capital into the financial sector (Soludo, 2006). Furthermore, banks were advised to go into merger and acquisition in order to meet the new capital base requirement.

This new requirement explains the reduction in the number of commercial banks in Nigeria from 89 pre-consolidation period to 25 after the consolidation. In spite of this effort, Nigerian banks still faced systemic challenges, in particular risk management and financial sector stability. The recent set of reforms on improving corporate governance in the financial sector, by former Governor Mallam Sanusi Lamido, aimed to address these challenges.

A4.1.2. Fiscal policy

The FMF is the custodian of fiscal policy in Nigeria, and the ministry is supervised by the minister of finance. The minister does not take important decisions without consulting and/or obtaining the approval of the president (or the Federal Executive Council – FEC). The minister’s statutory responsibility translates into a responsibility for macroeconomic policy. In practice, therefore, the minister of finance is responsible for macroeconomic policy formulation and coordination, and lays down the basic framework for monetary and exchange rate policy and manages fiscal policy. The main instrument for fiscal policy is the budget. FMF works in collaboration with its parastatals and agencies – the Federal Inland Revenue Service (FIRS), Debt Management Office (DMO) and the Budget Office of the Federation (BOF), to formulate and implement fiscal policies. CBN also plays an active role in debt financing by raising funds for government through sale of treasury bills, the main instrument of its open market policies. FIRS is charged with the responsibility of accessing, collecting and accounting for the various taxes to the federal government (Federal Republic of Nigeria, 2007). DMO, which was established in 2000, manages Nigeria’s debt, which was previously managed by several establishments in an uncoordinated manner. For example, FMF had five different departments charged with the management of external debt while CBN had two. This approach to debt management led to inefficiencies and necessitated the formation of a central establishment to manage Nigeria’s debt.

BOF is charged with the responsibility of preparing the federal budget for each fiscal year under the supervision and approval of the minister of finance. Based on the Fiscal Responsibility Act of 2007, Nigeria prepares its budget using an MTEF. This covers government expenditure and revenue over a three-year period. In preparing the MTEF, BOF consults and works with the legislature and other key government ministries, departments and agencies (MDAs). For example, in preparing the medium-term revenue framework, the Nigerian National Petroleum Corporation (NNPC), FIRS and other MDAs that generate revenues for government are engaged. Also, legislative approval is needed in determining the expenditure cap for MDAs.

After the federal budget has been prepared, it is presented to the FEC by the minister of finance. On approval, it is formally laid before the National Assembly by the president or his representative (the minister of finance has presented the last two budgets to the National Assembly) for deliberation. Statutorily, the National Assembly has powers at this stage to change the oil benchmark price, include a new expenditure line or increase the expenditure cap. This suggests that the legislature could, in some circumstances, influence the direction and conduct of fiscal policy.

After approval by the National Assembly and assent by the president, FMF, together with BOF, moves to implement the budget. FMF is responsible for the release of funds to MDAs, while BOF monitors the disbursement and usage of funds by MDAs, through the Department of Budget Monitoring and Evaluation. The work of the Department of Budget Monitoring and Evaluation is further complemented by the Budget Monitoring and Price Intelligence Unit in the Presidency.

In Nigeria, however, what drives the expenditure envelope approved for various ministries, departments and agencies is not always based on need and societal welfare, but rather the pecuniary interest of policymakers and implementers, as well as narrow political interests among legislators. This confluence of interests has resulted in weak budget implementation and performance. Most times bogus and phantom projects are included in the budget with the active connivance of the executive and the legislature, making oversight function on the part of the legislators a token exercise.

A4.2 Sectoral economic policy

Beyond monetary and fiscal policies, there are other economic policies that are meant to achieve government objectives and are facilitated by other bodies. Sectoral policy is broad and covers policies on

land, labour, agriculture, industry, trade and infrastructure, among others. A key feature of sectoral policy is that it is collaborative – formulated (as well as influenced by many actors) and implemented by several ministries. Unlike fiscal and monetary policies, sectoral policy is not codified. In some cases (or on some matters), MDAs can, based on their functions, initiate key economic policies in which the presiding minister could make the final approval. However, in the case of major government policies, with far-reaching ramifications, it is finally approved by the president, after passing through six phases. The key phases in the policy-making and implementation process for sectoral policies are illustrated in Figure A4.1. At the initial phase, long-term plan of the government (e.g. Vision 20:2020) is developed by the National Planning Commission (NPC). In developing this plan, they consult extensively with stakeholders within public and private sectors. They also consult development partners and relevant Civil Society Organisations while designing the plan.

This broad plan is then translated into specific policies by the MDAs at the second phase, with inputs from several actors. In the third phase, the policies of MDAs is transmitted to the Economic Management Implementation Team (EMIT), through their supervising ministers, for review and discussion. EMIT comprises selected heads of key MDAs and advisers to the president, and is headed by the minister of finance who doubles as the Coordinating Minister for the Economy. EMIT analyses the feasibility and the economic implications of proposed policies. After policies have been approved at the EMIT stage, they are forwarded to the National Economic Management Team (NEMT), another committee coordinated by the minister of finance, for further scrutiny. The composition of NEMT allows for businesses, think tanks and private sector inputs into the policy process. For example, representatives of the organised private sector, the manufacturing association and the Nigeria Economics Society are some of the members of NEMT and therefore they ensure that policies recommended to the president for approval are sound and well thought out. On approval by NEMT, a policy is presented to the president for final approval, with a memo from the ministry presenting the policy. The president, at this stage, is guided by the Federal Executive Council, which consist of ministers and key advisers.

At the policy implementation stage, EMIT also plays a vital role. EMIT coordinates the execution of policies by various MDAs, monitors progress, and reports it to the President. However, ministers under whose ministries the policies originate are responsible for actual policy implementation. Additionally, NPC works with relevant ministries to develop performance targets and measure progress. Recently, however, the special adviser to the president on performance monitoring also engages in the monitoring of MDAs' performance. This is a clear duplication of responsibility, which increases the cost of governance and also limits the ability of government machinery to function effectively.

The sectoral policy process described above does not always work in practice. What we have noticed is a situation where 'powerful ministers' circumvent the process to enact policies which are not competitively decided. A good example is the removal of fuel subsidy in January 2012. This was unilaterally removed by the minister of finance without wide consultation with the stakeholders and this elicited a huge revolt and strike during which the country lost billions of Naira. Effective consultations with the relevant stakeholders and the public could have averted the wide-spread industrial action against the subsidy removal.

A major achievement of NGF is the development of a State Peer Review Mechanism (SPRM), which is the first of its kind at sub-national level in Africa. SPRM, established in 2007, involves a comparative evaluation of performance across 36 States of the Federation, in order to identify best practices in policy formulation and implementation. Substantial support has been garnered for this initiative at national (through the NEC) and international (Department for International Development – DFID – and World Bank) levels. However, challenges still remain as political bickering and disagreements among the governors have resulted in the disintegration of the Forum.

A4.3.3. State planning commissions

Planning agencies have also been established in the states to help improve economic planning and policy implementation. In addition, the Joint Planning Board was created in 2014, with members drawn from senior level planning officers in federal MDAs, permanent secretaries and directors of state planning agencies. Again, this is to help ensure coherence in the policy-making and implementation process.

A4.4 Practical examples of reforms, industrial policy decisions and implementation

This section presents some examples of sectoral policies implemented in the country. It highlights the key processes in the economic policy decision-making and implementation in Nigeria. The review focuses on: power sector and public finance reforms, and gives insights into industrial policies, dwelling on the automobile policy, and the cotton, textile and garment policy. It then concludes with a section on what works and why.

A4.4.1. Power sector reform

Poor electricity supply remains one of the greatest challenges to Nigeria's economic transformation and development, despite the investment of about \$2 billion over the past two decades (FMITI, 2014). A series of reforms were launched in 2000 to revitalise the power sector, with liberalisation as the main policy component. The policy formulation was carried out by the Electricity Power Sector Implementation Committee (EPIC), while the National Council on Privatisation and the Bureau of Public Enterprises (BPE) were responsible for the sale and transfer of government owned utilities to private owners.

The policy had four phases (KPMG, 2013): The first is the pre-transition phase, which involves the unbundling of Power Holding Company of Nigeria (PHCN) – the government agency in charge of power generation, distribution and transmission – and the transfer of privatised assets to private owners. This phase started in 2005 with the unbundling of PHCN into eleven distribution companies, six generation companies, and a single transmission company. By the reform, a single subsidiary will control the transmission sector leaving the six generating companies and other power producers to sell electricity to the eleven distribution companies. The distribution companies will then control the supply of electricity within a designated geographical area. The regulation of the industry is to be carried out by the Nigerian Electricity Regulatory Commission (NERC), which is independent and self-sustaining in terms of funding. The first phase of the reform was completed in February 2013 with the transfer to private owners, and 15 of the 17 companies were created out of PHCN. The country is presently at the transitional phase, which involves the development of market procedure for the management of low supply, establishment of market surveillance panel by NERC, and contractual agreement on electricity trading by the new owners. This will be followed by the medium-term phase, where a spot market will be created for electricity trading, and to further open the market for more entry and competition. In the final phase, the Multi Year Tariff Order will be developed for the power sector. This is to help determine efficient revenue requirement, so as to set the appropriate tariff for the Nigerian electricity market.

Government expenditure on power has reduced as a result of the reforms, with allocation to the sector dropping from \$0.63 billion (3.3% of the budget) in 2009 to \$0.49 billion (1.5% of the budget) in 2013. However, private investment in the sector has been rising, thereby filling the gap created by the falling government investment.¹

¹ <http://www.punchng.com/business/money/foreign-direct-investment-in-nigeria-tops-6-8bn>

A4.4.2. Public finance reform

Public finance is one key area where major reforms have taken place and where several challenges still remain. Some of the reforms include: the creation of the sovereign wealth fund to save excess revenue accruing from high oil prices, the introduction of MTEF to reduce government focus on short-term budgeting, and the petroleum subsidy reform to reduce inefficiency in government spending and rising recurrent expenditure.

As part of the negotiation for partial debt relief by the Paris Club of Creditors, Nigeria introduced oil benchmark pricing and an Excess Crude Account (ECA). The oil benchmark is set lower than the expected international crude oil price, with the difference saved into the ECA. However, lack of sound governance and legal structure affected its management as monies were constantly withdrawn without due process. For example, President Obasanjo unilaterally withdrew about \$8 billion for an independent power project in 2007 (Gillies, 2010). As a result, a sovereign wealth fund, the National Sovereign Investment Authority (NSIA), was created to replace ECA. The National Assembly passed into law the NSIA act in 2011, establishing it as an independent government body managed by a governing council. The governing council comprises the president; the 36 state governors; the ministers of finance, justice and planning; the governor of the Central Bank; the chief economic adviser to the president; the chairman of the revenue, mobilisation, allocation and fiscal commission; two representatives of the civil society; four eminent academics; two representatives of Nigerian youth and two representatives of the private sector.

However, the state governments have been unwilling to commit to the NSIA Act. In fact, in 2011, the state governors instituted a legal action against the federal government. This has been a major setback to the take-off of the NSIA and also explains the rapid depletion of the ECA. For example, the reserves in ECA dropped from \$20 billion in 2008 to around \$3.1 billion as of December 2014.² Thus, the structure of Nigerian federalism remains a major obstacle to successful public finance reform.

Another important public sector reform was the removal of the petroleum subsidy in 2012. Although this enjoyed the support of the federal and state governments, the public protests that followed the removal forced the government to consider a partial removal. With the partial removal, the Subsidy Reinvestment Programme (SURE-P) was introduced to put part of the savings back into social safety net programmes as well as complete ongoing infrastructure projects. However, questions have arisen on the management and implementation of the programme, with critics alleging misuse and diversion of funds for political patronage.

A4.4.3. Industrial policies in Nigeria: who really decides?

Rapid industrialisation remains a priority for the Nigerian government, with most of the industrial policies having some elements of protectionism. The argument has always been the need to boost local production in diverse industries. While the consequences of protecting local industries have been extensively debated in various spheres, little attention has been paid to the process of designing industrial policies in Nigeria, and the roles and interests of various stakeholders. On one hand, there is a persistent issue of the design of the policy process being rather ad hoc, and not benefiting from wide and extensive consultations. And on the other hand, the influence of various interest groups and big players in the private sector seems to affect the nature as well as the effectiveness of industrial policies. In the absence of a thriving business environment and adequate infrastructural capacity to support open and competitive industries, policies rather seem to accommodate the interests of a few powerful industrialists who rely on government patronage to capture and monopolise free markets. With government under pressure to transform the economy from a net importer to a major exporter of specific products, it also designs policies that aim to support domestic producers to invest more in the industries. Government's drive to achieve this objective gives local producers and potential investors higher bargaining powers to the design of industrial policies. Thus the influence of other key stakeholders such as, civil society, professionals and the public in the design of policies are rather relegated to the background.

There are a number of key stakeholders in the industrial policy process in Nigeria including the regulators, pressure groups and industrialists. The regulators include Federal Ministry of Trade and Investment

² punchng.com/news/eca-drops-to-2.49bn-fg-states-share-n580bn

(FMTI), Standards Organization of Nigeria (SON), Raw Materials Research and Development Council (RMRDC), Nigeria Customs Service (NCS), National Automotive Council (NAC), and the Nigeria Immigration Service (NIS). Prominent pressure groups in the industrial sector consist of Manufacturers Association of Nigeria (MAN), the Automotive Industry Group of Manufacturing Association of Nigeria (AIGMAN), Nigeria Automotive Manufacturers Association (NAMA), and the Automotive Local Content Manufacturers Association of Nigeria (ALCMAN). Powerful industrialists and companies with deep political connections equally play key roles in the industrial policy-making process, prominent among them include Dangote Group of Companies, BUA Sugar Refinery, and Innoson Vehicle Motors. While there is limited evidence on the exact forms of elite bargains that take place in the policy design process, the section sheds light on the specific features of industrial policies and the operating environment of these specific sectors that create spaces of influence for the 'big players' in the policy-making process. To do this, the section takes interest in the automobile, and cotton, textiles, and garment sectors.

Automotive policy

The Nigeria Automotive Industry Development Plan (NAIDP) is aimed at strengthening the automobile industrial sub-sector by providing a 10 year developmental blueprint that will attract investments from foreign Original Equipment Manufacturers (OEMs) and local vehicle manufacturers to boost domestic production. NAIDP is a key part of Nigeria's Industrial Revolution Plan (NIRP) which intends to broaden the industrial base of the economy, and improve government revenue generation base. To provide the incentives needed to fast-track investments in the sub-sector, the Federal Government of Nigeria (FGN) through the NAIDP policy document raised the duty and levy for 'imported fully built cars' from 20 per cent to 70 per cent (35 per cent duty and 35 per cent, levy), with the objective of encouraging local fabrication and production of vehicles.

The key stakeholders in the automobile industry include the apex government agency, National Automotive Council (NAC) mandated to make automobile policies; and pressure groups like the Nigeria Automotive Manufacturers Association (NAMA), Automotive Local Content Manufacturers Association of Nigeria (ALCMAN), and the Automotive Industry Group of the Manufacturers Association of Nigeria (AIGMAN). The major private sector players include Innoson Vehicle Motors, Annamco, PAN Nigeria, Leyland Busan Motors. The sector has been an oligopolistic market, with few companies and industrialists controlling majority of the market share. Given that the automobile industry in Nigeria is particularly constrained by physical infrastructure, especially the unavailability of electric power to operate the heavy machineries and equipment, big industry players require special protectionist policies in order to breakeven and compete favourably with imported 'fully built' vehicles. Thus, it is safe to say that industry leaders and 'big players' in the automobile sector influence the direction of policy to either gain, or retain competitive advantage, by inducing government officials who may as well have pecuniary interest in the industry or are expecting political favours in return.

A number of pull and push factors influence the decision of the Federal Government of Nigeria (FGN) and leading automobile industry players to collude and pursue protectionist policies. First, the FGN relies on the capacity of the 'big players' to achieve desired sector-wide economic outcomes, such as employment generation, economic diversification and economic growth. Second, there are indications that the FGN often use these 'big players' as vehicles to achieve political goals, given that they are often veritable means to deliver on economic goals set out during electioneering campaigns. On the part of the 'big players', their incentive to collude with government policymakers derives mainly from rent income and the desire to capture new markets. This incentive is likely to stem from the huge market for vehicles that exist in Nigeria. For instance, in 2012, a total of 400,000 vehicles (100,000 new cars and 300,000 used cars) valued at over USD 3.451 billion (550 billion Naira) were imported into Nigeria. Thus, 'big players' in the Nigerian automotive industry stand to reap unprecedented economic rents from less competitive government auto-policies. A demonstration of this was the policy of the federal government to patronise locally produced cars for official use by federal MDAs. Innoson Motors was the immediate beneficiary of this policy but a problem that immediately arose was the inability of Innoson Motors to meet the demand arising from this policy.

CTG policy

The cotton, textiles and garment sector is one of the key priority sectors in the National Industrial Revolution Plan (NIRP). This is informed by its potential for job creation and export promotion. According

to the Federal Ministry of Industry, Trade and Investment (FMITI) (2015), CTG sector has the potential to create about 100,000 direct jobs and 1.3 million indirect jobs by 2017. Thus, the CTG policy was introduced in January 2015 to harness these benefits.

Over time, the CTG sector has evolved into an oligopoly with only few companies controlling the market as well as exerting huge influence on government industrial and trade policies. The inadequacy and low level of implementation of anti-competition regulations and laws has worsened the situation. While, different stakeholders in the sector exert different degrees of influence on the direction and scope of industrial policies, the degenerated state of the industry is arguable the main driver of the policies. During its peak period in the 1970s, there were at least 175 functioning textile mills in Nigeria employing over 300,000 workers. By 2012, the number of mills had reduced to less than 30 and only about 25, 000 workers were employed (Burgis, 2014). These also had ripple effects on thousands of cotton farmers who supplied raw produce to the industry. Nigeria spends about \$2 billion on importation of textile, with huge implications for the foreign exchange balance and local textiles industry (NIRP, 2014). Problems like huge energy cost and competition from smuggled and counterfeit products are the main predicaments of the industry (FMITI, 2014). Therefore, the major driver of government policies in the industry is the need to revive it and ensure that the industry becomes a major driver of economic growth and employment.

Yet, the influence of some vested interests cannot be overlooked. Although the Federal Ministry of Industry, Trade and Investment (FMITI) is statutorily responsible for formulating industrial policy in Nigeria, it does so in a collaborative manner. The major stakeholders are often involved in the process from conception to implementation. In the case of the textile industry, the major stakeholders include the customs authority, the domestic manufacturers, dealers and trader of textile (another name for the importers and in some cases the smugglers of textiles), the policymakers and in rare instances consumers associations. While there is lack of adequate information to gauge which stakeholder's interest dominates policy formulation process, the outcome often shows that domestic producers' interest do. For example, even during periods when the performance of the textile industry was impressive (i.e. in the mid-1970s), the Nigerian government placed textile products on its import prohibition list in order to protect domestic producers. This action persisted even after it became obvious that banning importation of textiles was counter-productive to the industry as it increased the level of smuggling and dumping in the country.³ It is therefore not surprising that dealers, who have overtime found it easier and cheaper to smuggle textile products, do not complain about the ban. Another important stakeholder in this case is the Nigerian Customs Services. Activities of some corrupt custom officers who collaborate with dealers to smuggle prohibited products reduce the effectiveness of industrial policies. The influence of the domestic producers is also noticeable in their roles in the delay in Nigeria's adoption of the ECOWAS common external tariff and signing of the EU-ECOWAS economic partnership agreement. The major reason as frequently argued is that the proposed tariff regime would harm the domestic industry.

A4.5 What works and why

Policy-making in Nigeria is a complex and intricate process, shaped by the economic management experience of policy handlers, the interest of multiple actors and sometimes the laws of the country. With regards to monetary policy, the country has witnessed a series of far reaching polices, with some measured success. The independence and management autonomy enjoyed by CBN play key roles in its success, as political interference is put under check. On the other hand, fiscal and sectoral polices are, to a great extent, shaped by the politics and influence (or power) of non-state actors. The quest to encourage private sector participation in sectors seems to promote the influence of wealthy industrialists in the design and implementation of policies. Also, coordinating policies among the federating units is also a key challenge as conflicts of interests do arise. This affects policy performance and sometimes produces policies that are detrimental to social welfare.

Another key feature of Nigeria policy-making process is inconsistency (directly against the key ingredients for successful transformation policy identified in Section 3). While one political party has controlled the federal government since transition to democracy in 1999, policies and priorities of government have

³ <http://www.reuters.com/article/2010/11/30/nigeria-imports-idUSLDE6AT1RH20101130>

changed with every administration. This is a big issue as it increases the cost of governance and sometimes weakens government effectiveness. Undue political interference in the policy-making process, and the increasing role of vested interests, contribute to policy inconsistency and ineffectiveness in Nigeria. Therefore, ensuring policy consistency and managing 'undue influence' of politics are crucial to improving policy-making and implementation in Nigeria.

The oligopolistic nature of the automobile; and cotton, textiles, and garment industries as well as the infrastructural challenges faced (electricity, transportation etc.) by these industries create spaces for big players to influence government policy process. Also, the capacity of industry big players to deliver on government policy objectives such as jobs creation and economic diversification creates enormous bargaining power and leverage for them to influence government's industrial policy.

Overall there is a complex web of political interest groups that seem to exert varying degrees of pressure on industrial policies in Nigeria. Thus notable elites and entrepreneurs with huge financial capacity, operating as 'privileged insiders' influence industrial policies to protect their commercial interests. While the specific roles that these influencers play in the policy process is not documented, the realities on the ground point to their significant influence in the design and implementation of policies. In addition, weak institutions undermine the economic-making process. Such institutions have elevated vested interests and political patronage at expense of need, national interest, societal welfare and competitiveness.