2

Ghana's Economy-wide Transformation

Past Patterns and Future Prospects

Xinshen Diao and Peter Hazell

2.1 Introduction

Ghana has experienced a successful economic and political transformation since its Structural Adjustment Program (SAP) of the 1980s, and is one of the few African countries to have attained lower-middle-income status, or to have achieved the Millennium Development Goal (MDG) of halving poverty by 2015. This chapter describes the economy-wide transformation that has occurred, and uses a growth decomposition framework to identify the main sources of economic growth. It is found that while Ghana has benefited from significant growth in labor productivity within important sectors, and there have been structural changes in the sense that agriculture has shrunk as a share of national GDP and employment while other sectors have grown faster, still there has been relatively little progress in moving workers out of low-productivity sectors like traditional agriculture into more productive sectors like manufacturing or modern services. We question whether this pattern of transformation is sustainable in the future, and explore alternative options that may be needed. Chapter 3 provides a complementary analysis of the political transformation that has occurred in Ghana, and thence the political and governance challenges facing the country as it seeks to adopt a more sustainable type of transformation.

The chapter is structured as follows. Section 2.2 describes the patterns of growth that have occurred in Ghana since the country launched its SAP in 1983, including the growth in national and per capita incomes, the changing sector composition of the economy, and the changes in employment. In Section 2.3 we present a conceptual framework developed by Rodrik (2014, 2018) and use it to decompose the sources of growth in labor productivity and identify the relative importance of within-sector productivity growth compared to the structural shifting of workers from low to higher productivity

sectors. This leads in Section 2.4 to a discussion of the sustainability of the past pattern of growth, and of future growth opportunities and challenges. Finally, Section 2.5 concludes.

2.2 Ghana's Economic Transformation since the 1980s

2.2.1 Growth in National Per Capita Income

Ghana started its SAP[1] in 1983 (see Chapter 3 for further details), earlier than most other African countries that eventually went through a similar IMF- and World Bank-guided reform process. GDP per capita has grown modestly but steadily since the mid-1980s. In fact, over the thirty-four years 1984 to 2017, Ghana experienced positive per capita GDP growth every single year, and this despite population growth of 2.5 to 2.8 percent per annum, and rainfall-induced fluctuations in the output of its largest sector—agriculture. Only five other developing countries in the world have managed to achieve uninterrupted growth in per capita GDP over thirty or more years since 1960. These five countries include two in Africa and three in Asia (Table 2.1). If we also consider countries with just one year's interruption over thirty years, then there are three other Asian countries that can be included: two are past Asian growth miracles, Korea and Singapore, plus India (Table 2.1).

Table 2.1. Countries with uninterrupted per capita GDP growth for thirty years

	Growth period	Number of growth years uninterrupted	With one year growth interruption	Average annual per capita GDP growth rate within the growth period[b]
Ghana	1984–2017	37		2.8
Botswana	1961–92	32		7.7
Mauritius	1984–2016	33		4.3
China	1977–2017	41		8.5
Thailand	1961–96	36		5.4
Vietnam[a]	1985–2017	33		4.9
India	1980–2017		38	4.5
Korea	1961–97		37	7.5
Singapore	1965–97		33	6.7

Note: [a] Vietnam's data available since 1985.
[b] Based on simple average.

Source: Authors' calculation using data of World Development Indicators (WDI), World Bank (2017).

[1] Also known as the Economic Reform Program (ERP).

Another remarkable feature of Ghana's experience is that the economy began to grow almost immediately after it implemented its SAP, whereas many other countries that adopted similar reform programs went through painful adjustment periods, sometimes characterized as "lost decades," before their economies bounced back.

2.2.2 Structural Change

Ghana differs in one important respect from the other countries in Table 2.1 that have experienced uninterrupted growth over many years, and that is Ghana's average annual growth in per capita GDP has been slowest. An important reason for this is that the other countries have experienced more rapid industrialization, often leading to periods of very rapid growth (Rodrik 2014). In Ghana, however, despite achieving low-middle-income country by 2008,[2] there has been very little industrialization while services have grown rapidly (Figure 2.1).

Ghana rebased its national accounts in 2007–10, which makes comparisons of the structure of GDP at different periods more difficult. When the national accounts were revised in 2006, significant adjustments were made to both the

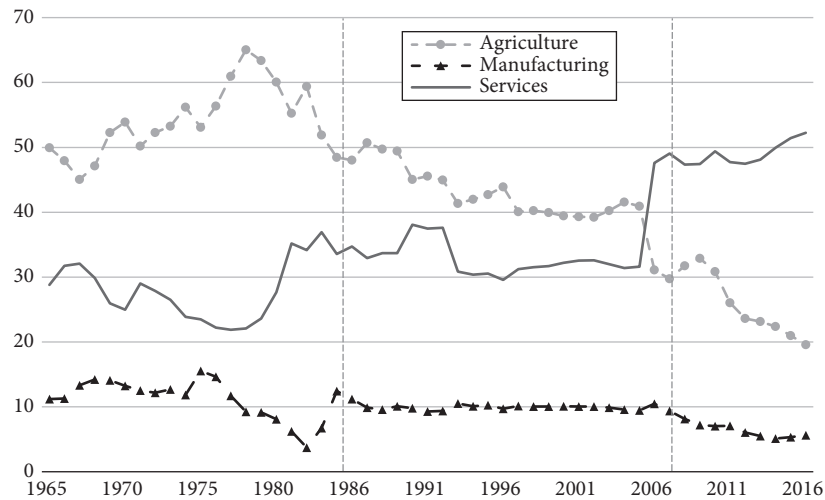

Figure 2.1. Sector shares of GDP

Source: Authors' calculation using World Development Indicators, World Bank (2017).

[2] As measured by the gross national income (GNI) per capita at current US$, using the World Bank Atlas method.

level and structure of GDP compared to prior 2006 estimates based on a 1993 reference year. GDP in the newly rebased national account was 60 percent higher than that in the old estimate, and about 70 percent of this increase was due to the inclusion of service activities that were simply not covered under the old system (GSS 2010). The sudden jump in the service share in 2006 from about 30 percent of GDP to nearly 50 percent reflects this rebasing result (Figure 2.1).

Despite the complications arising from this rebasing, it is clear from Figure 2.1 that the structure of Ghanaian economy changed significantly over 1965–2016. Table 2.2 provides some additional details for the period 1975–2016. The period from 1975 to 1983 shows how badly Ghana's economy suffered prior to the SAP that began in 1983. Measured in constant US dollars, GDP in 1983 was only 79 percent of the level attained in 1975 (Table 2.2). Moreover, while all sectors were producing less in 1983 than in 1975, some sectors had suffered far more than others. Industry, which includes manufacturing, tumbled the most, and industrial GDP in 1983 was only about half its 1975 value. Agriculture contracted by about 19 percent in this period, while services fell the least, declining by only 6 percent (Table 2.2).

During 1983 to 1993, national economic growth quickly recovered with implementation of the SAP, and by 1988 national GDP in constant terms had returned to its 1974 level. Again, there were important differences by sector. Agricultural GDP only recovered to its 1975 level by 1993, while industry's GDP was still 14 percent below its 1975 level even in 1993. Manufacturing did even worse; its GDP was not much higher in 1993 than in 1983, at about half its 1975 level. The poor performance of manufacturing is explained by the industrialization policies pursued in the 1960s and 1970s, involving state ownership and centralized planning. As in other countries following similar industrialization policies, this created state-owned, overstaffed, inefficient, and

Table 2.2. Changes in sector GDPs and sector shares over 1975–2016, selected years

GDP (constant 2000 US$)	GDP relative to 1975 (1975 = 1.00)					Sector share of GDP			
	1983	1984	1985	1988	1993	1985	1993	2006	2016
National	0.79	0.85	0.90	1.05	1.30				
Agriculture GDP	0.81	0.88	0.89	0.95	1.04	48.4	41.4	31.1	19.6
Industry GDP	0.49	0.54	0.63	0.81	0.86	18.0	27.8	21.3	28.2
Manufacturing GDP	0.49	0.55	0.68	0.87	0.54	12.4	10.5	10.5	5.6
Services GDP	0.94	1.01	1.08	1.36	2.05	33.6	30.8	47.6	52.2

Source: Authors' calculation using World Development Indicators, World Bank (2006 and 2017)

politicized firms. These had become a major burden on government finances by 1983, and were crowding out the private sector (Leite et al. 2000). Although the government was committed to reforming the state enterprises as part of the SAP, actual progress was slow (Leite et al. 2000). There were still widespread doubts in some policy circles about the benefits of large-scale privatization (Friedrich Ebert Foundation 1994: 9–17). Moreover, an overall policy environment conducive to private-sector-led development had yet to be fully established, and privatizing or otherwise reforming some 350 state enterprises was inevitably a slow process.

Unlike industry, the service sector proved more resilient during 1975–83. Its GDP share was only down 6 percent in 1983, and it recovered quickly with the SAP reforms. By 1984 it had already recovered to its 1975 level of GDP, and by 1993 its GDP had virtually doubled.

During the period 1993–2016, the same pattern of structural change continued, led by the service sector. The GDP share of services changed little between 1993 and 2006 under the old 1993 based accounting system (Figure 2.1), but many new types of service activities were growing that were not being captured in the national accounts. When the national accounts were rebased in 2006, services jumped from 32 percent to 48 percent of national GDP, and had reached more than 50 percent by 2016. During this sub-period, agriculture's share in GDP continued to decline, and industry's share remained flat. Manufacturing, however, plummeted and only accounted for 5.6 percent of national GDP in 2016.

2.2.3 Aggregate Productivity Growth

Increases in productivity are essential for sustained growth in per capita incomes. There are several ways of measuring productivity growth, all of which are vulnerable to weak data, so we report and compare several different productivity measures in this section. The most direct measure is labor productivity for the economy as a whole. Figure 2.2 compares annual growth rates of labor productivity measured by value-added per worker and GDP per capita.[3]

Given that the growth rates for employment and the total population were similar (averaging 2.7 percent annually over 1984 to 2010), and that total value-added differs from GDP only by the government's net indirect tax

[3] Value-added for the total economy was obtained from Gronigen Growth and Development Centre (GGDC), University of Gronigen (Timmer et al. 2015).

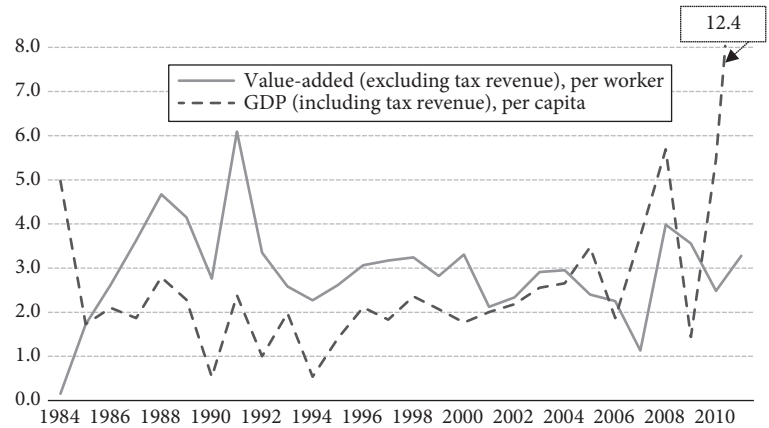

Figure 2.2. Annual growth rates of value-added per worker and GDP per capita in 1984–2011 (%)

Source: Authors' calculation using data of GGDC (Timmer et al. 2015) for labor productivity and World Development Indicators, World Bank (2017) for per capita GDP.

revenue (which is included in GDP), then we should expect to find similar trends in the growth of GDP per capita and value-added per capita. Figure 2.2 generally confirms this expectation.[4] Both productivity and PCI measures fluctuated during the SAP period 1984–94 because of the shocks induced by an array of policy changes, and again in the late 2000s after the economy was shocked again by the discovery of oil and the development of oil exports.

A problem with labor productivity is that its growth can result from resource expansion (e.g., land expansion in agriculture), or capital deepening in industry, as well as from increases in the productivity of the resources that are used. In principle, total factor productivity (TFP) is a better productivity indicator because it avoids this problem, but its use depends critically on the calculation of the capital stock and capital services, which are difficult to quantify. Moreover, when a Cobb-Douglas production function for GDP is assumed for growth accounting purposes, the shares of labor and capital in GDP are also difficult to measure and have to be assumed. Keeping these limitations in mind, we have compiled alternative estimates of growth in TFP using two major data sources. One is the Conference Board Total Economy Database (TED)[5] which provides growth accounting and total factor productivity measures for many countries, including Ghana, for 1990–2011. Another source is

[4] The fluctuations in the gap between the two trends are mainly due to fluctuations in net indirect tax revenue as a proportion of the GDP but not in the economy's total value-added.

[5] The Conference Board Total Economy Database, January 2014, http://www.conference-board.org/data/economydatabase/.

Table 2.3. Growth in per capita GDP, labor productivity, and total factor productivity (%)

	GDP per capita	Labor productivity		Total factor productivity (TFP)				
	UNSD	GGDC	TED	TED	WDP			
					ΔTFP_K06	ΔTFP_K13	ΔTFP_Keff	ΔTFP_Ks
1984–2011	2.8	2.9						
1984–2010	2.4	2.9			2.2	1.9	2.4	2.2
1990–2011	2.8	2.9	3.1	3.4				
1990–2000	1.6	3.2	3.0	3.7	1.4	0.7	1.4	1.4

Notes: [1] Labor force data is the same between GGDC and TED.
[2] Growth accounting method is used by TED for TFP estimates and share of labor and capital is the same (0.5) in the estimation.
[3] We chose growth accounting-Hick neutral measure in WDP. There are four different TFP estimates (ΔTFP_K06, ΔTFP_K13, ΔTFP_Keff, and ΔTFP_Ks) in WDP based on alternative estimates or assumptions of initial capital stock and depreciation rate which lead to different capital stocks (i.e., K06, K13, Ks and Keff). Depreciation rate is assumed to be constant over time at 6 percent or 13.3 percent, respectively, for K06 and K13, and ten years of investment is used as an adequate proxy for the initial capital stock estimation in both cases. For the case of Ks the initial capital stock is computed based on the assumption that the country is at its steady state capital-output ratio, and deprecation rate is at 6 percent and constant over time. The time-varying depreciation rate is used for computing capital stock in the case of Keff.

Sources: GDP per capita is from World bank Indicators, World Bank (2017); labor productivity GGDC is from Timmer et al. (2015); labor productivity TED and TFP TED are from The Conference Board Total Economy Database (2014); and four TFP measures of WDP are from UNIDO (2014).

the United Nations Industrial Development Organization (UNIDO), which has developed a World Productivity Database (WPD) containing information on levels and growth of aggregate total factor productivity (TFP) for 112 countries, including Ghana, for 1960–2000.[6] Both databases provide crude estimates given the limited information available for most African countries including Ghana.

Table 2.3 reports the various estimates of TFP growth in Ghana for 1984–2010 and 1990–2011, and compares them to the labor productivity measures used to calculate Figure 2.2. We also include a separate estimate of labor productivity using TED data. Despite their differences, there is considerable agreement amongst the various productivity estimates, and average TFP growth over 1984–2010 was similar in magnitude to the growth in labor productivity as measured by GDP per worker. This implies that the lion's share of the growth in living standards in Ghana has been due to TFP growth rather than resource expansion (land) or capital deepening.

[6] Isaksson (2007). "World Productivity Database: A Technical Description," Staff Working Paper No. 10/2007, Research and Statistics Branch, UNIDO.

2.2.4 Changes in Employment

Table 2.4 shows the average annual growth rates in employment by sector, and for time periods determined by the years in which population censuses were conducted. Prior to the SAP (1960–84) employment grew at about 3.2 percent per annum in agriculture, manufacturing, and for the economy in total. Employment in services grew a little faster (3.8 percent per year), mostly in finance and government services. However, employment in "other" industry (mining, utilities, and construction) actually shrank by 1.4 percent per year during this period. Growth in employment slowed across the economy during 1985–2000 as the country adjusted to the SAP reforms, except for other industry (including mining and construction) where employment rebounded to grow at 8.2 percent per year. During 2000-2010, growth in total employment recovered to 3.3 percent per year, driven by accelerated growth of employment in services (6.8 percent) and manufacturing (3.5 percent). Within services, employment grew fastest in trade, finance, and other services. Growth in agricultural employment slowed further to 0.7 percent per year during this period, reflecting in part the rapid pace of urbanization in the country and the growth of rural nonfarm activity (see Chapter 5).

Table 2.4. Annualized growth rate in employment for Ghana and by sector (%)

	Total economy	Agriculture	Manufacturing	Other industry	Services
1960–84	3.2	3.2	3.1	–1.4	3.8
1984–2000	2.0	1.2	1.8	8.2	3.0
2000–10	3.3	0.7	3.5	2.2	6.8
1960–2010	2.8	2.0	2.8	2.3	4.1
	Within other industry				
	Mining	Utilities	Construction		
1960–84	–2.3	0.4	–1.2		
1984–2000	10.5	3.2	7.9		
2000–10	–1.6	4.6	3.7		
1960–2010	1.7	2.1	2.6		
	Within services				
	Trade	Transport	Finance	Government	Others
1960–84	3.3	2.6	5.8	5.3	4.9
1984–2000	3.0	3.6	8.9	0.9	5.0
2000–10	7.0	5.4	8.3	5.7	7.7
1960–2010	3.9	3.4	7.3	4.0	5.5

Source: Authors' calculation using GGDC data (Timmer et al. 2015).

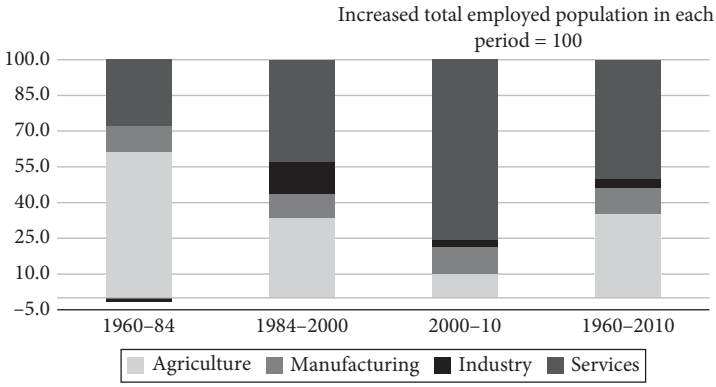

Figure 2.3. Sector allocation of increased employment
Source: Authors' calculation using GGDC data (Timmer et al. 2015).

Figure 2.3 shows more starkly the growing importance of service sector employment in Ghana. Of all the jobs created in the national economy during 2000–10, about three quarters were created in the service sector. This was almost double the share of additional jobs created in services during 1984–2000. By contrast, agriculture's contribution to additional employment has shrunk dramatically, adding only 10 percent of all jobs in 2000–10, down from about a third in 1984–2000. Industry, including manufacturing, created slightly more jobs than agriculture during 2000–10, but its share of new jobs was lower than in 1984–2000. A glimmer of good news is that manufacturing created more jobs in 2000–10 than 1984–2000, but the share involved is still small and, given that manufacturing's share of GDP declined between 2006 and 2016, raises questions about the productivity of the manufacturing jobs that were created.

Another distinctive feature of the employment patterns in Ghana is the importance of the informal economy rather than the formal economy in creating nonagricultural employment. The available census data classify employment status into seven groups: (a) self-employed with employees, (b) self-employed without employees, (c) paid wage/salary worker, (d) domestic worker, (e) unpaid family worker, (f) unpaid apprentice, and (g) other; and six choices in institutions: (a) public, (b) formal private, (c) individual/family enterprise, (d) public–private mixed or parastatal, (e) foreign and international, (g) others. We define formal sector employment as primary occupations in public, parastatal, and foreign/international entities, or in the private sector when renumerated through regular wages or a salary. The remaining occupation groups are defined as informal employment. We netted out public sector and agricultural employment, disaggregated by rural and urban locations, and tabulated the results by private sector for 2000 and 2010 (Table 2.5a and 2.5b).

Table 2.5a. Employment structure of private non-agriculture by formal/informal, rural/urban, and industry in 2000

	Total private nonagricultural employment for the country is 100								
	2000 Rural			2000 Urban			2000 National		
	Formal	Informal	Total rural	Formal	Informal	Total urban	Formal	Informal	Total national
Mining	0.5	1.0	1.4	0.9	1.0	1.9	1.4	1.9	3.3
Manufacturing	0.8	8.4	9.2	3.5	13.3	16.8	4.3	21.7	26.0
Utilities	0.1	0.3	0.3	0.3	0.2	0.5	0.3	0.5	0.9
Construction	0.5	1.6	2.0	1.6	3.6	5.2	2.1	5.2	7.3
Trade services	0.7	9.2	9.9	4.2	28.2	32.5	4.9	37.5	42.3
Transport services	0.6	1.1	1.7	2.9	2.9	5.8	3.5	3.9	7.5
Business services	0.3	0.5	0.8	1.9	1.0	2.9	2.1	1.5	3.7
Personal services	0.4	2.2	2.6	1.9	4.6	6.5	2.3	6.8	9.1
Total	3.8	24.2	28.0	17.2	54.8	72.0	21.0	79.0	100
	Each sector in rural is 100								
	2000 Rural			2000 Urban			2000 National		
	Formal	Informal	Total rural	Formal	Informal	Total urban	Formal	Informal	Total national
Mining	32.1	67.9	100	49.3	50.7	100	42.0	58.0	100
Manufacturing	8.9	91.1	100	20.7	79.3	100	16.5	83.5	100
Utilities	20.3	79.7	100	55.0	45.0	100	41.1	58.9	100
Construction	22.8	77.2	100	31.2	68.8	100	28.8	71.2	100
Trade services	6.6	93.4	100	13.1	86.9	100	11.5	88.5	100
Transport services	37.2	62.8	100	50.3	49.7	100	47.3	52.7	100
Business services	35.4	64.6	100	64.3	35.7	100	58.4	41.6	100
Personal services	15.7	84.3	100	29.6	70.4	100	25.6	74.4	100
Total	13.5	86.5	100	23.9	76.1	100	21.0	79.0	100

Source: Authors' calculation using Census data of 2000 (GSS 2003).

Table 2.5b. Employment structure of private non-agriculture by formal/informal, rural/urban, and industry in 2010

	Total private nonagricultural employment for the country is 100								
	2010 Rural			2010 Urban			2010 National		
	Formal	Informal	Total rural	Formal	Informal	Total urban	Formal	Informal	Total national
Mining	0.7	0.5	1.3	0.6	0.3	0.9	1.3	0.9	2.2
Manufacturing	0.5	6.9	7.5	2.7	10.7	13.3	3.2	17.6	20.8
Utilities	0.1	0.0	0.2	0.5	0.1	0.6	0.7	0.1	0.8
Construction	0.4	1.1	1.5	1.3	3.1	4.3	1.7	4.2	5.9
Trade services	0.8	10.3	11.1	4.9	30.9	35.8	5.7	41.3	46.9
Transport services	0.8	1.0	1.7	3.3	2.5	5.9	4.1	3.5	7.6
Business services	0.2	0.2	0.5	1.8	0.9	2.7	2.0	1.2	3.2
Personal services	0.7	2.3	3.0	3.4	6.2	9.6	4.1	8.5	12.6
Total	4.3	22.5	26.8	18.5	54.7	73.2	22.8	77.2	100.0
	Each sector in rural is 100								
	2010 Rural			2010 Urban			2010 National		
	Formal	Informal	Total rural	Formal	Informal	Total urban	Formal	Informal	Total national
Mining	58.7	41.3	100	62.7	37.3	100	60.4	39.6	100
Manufacturing	7.2	92.8	100	20.0	80.0	100	15.4	84.6	100
Utilities	91.8	8.2	100	90.0	10.0	100	90.4	9.6	100
Construction	26.1	73.9	100	29.1	70.9	100	28.3	71.7	100
Trade services	6.9	93.1	100	13.6	86.4	100	12.0	88.0	100
Transport services	43.9	56.1	100	56.9	43.1	100	53.9	46.1	100
Business services	48.0	52.0	100	66.1	33.9	100	63.4	36.6	100
Personal services	23.0	77.0	100	35.6	64.4	100	32.5	67.5	100
Total	16.0	84.0	100	25.2	74.8	100	22.8	77.2	100

Source: Authors' calculation using Census data of 2010 (GSS 2013).

Table 2.6. Contribution of the informal and formal sectors to the national increase in total employment over 2000 to 2010; by sector and rural and urban (%)

	Rural			Urban			National		
	Formal	**Informal**	**Total rural**	**Formal**	**Informal**	**Total urban**	**Formal**	**Informal**	**Total national**
Mining	1.2	–0.1	1.1	0.0	–0.5	–0.5	1.2	–0.6	0.6
Manufacturing	0.2	4.9	5.1	1.6	7.0	8.6	1.7	12.0	13.7
Utilities	0.3	–0.3	–0.1	0.9	–0.2	0.7	1.2	–0.5	0.6
Construction	0.3	0.5	0.8	0.8	2.4	3.2	1.1	2.9	4.0
Trade services	0.9	11.9	12.8	5.8	34.7	40.5	6.7	46.6	53.3
Transport services	0.9	0.8	1.8	3.9	2.1	6.0	4.9	2.9	7.8
Business services	0.2	–0.1	0.1	1.7	0.8	2.5	1.9	0.7	2.6
Personal services	1.1	2.5	3.6	5.4	8.4	13.8	6.5	10.9	17.5
Total	5.0	20.2	25.2	20.2	54.6	74.8	25.2	74.8	100

Source: Authors' calculation using data of Census 2000 and 2010 (GSS 2003, 2013).

Nationally, 77.2 percent of all private sector, nonagricultural employment in 2010 was in the informal sector, and this share was higher in rural (84 percent) than in urban (74.8 percent) areas. Most of the private informal sector employment in 2010 was in manufacturing and trade services (17.6 percent and 41.3 percent, respectively), but more so in urban than rural areas. Between 2000 and 2010, the share of employment in formal manufacturing further declined while the share in trade services increased slightly, and this happened in both rural and urban areas.

Within individual nonagricultural sectors, informal employment was dominant in manufacturing, construction, trade services, and personal services in both rural and urban areas. It also dominated transport and business services in rural areas. Formal employment only dominated in mining in both rural and urban, and in utilities, transport and business services in urban areas. As we shall see in Section 2.3, labor productivity is generally higher in the formal than informal sectors, so the high shares of informal employment in key sectors like manufacturing and trade that provide most of the employment do not bode well for labor productivity.

Another perspective on the changes in employment can be obtained by computing the contributions informal and formal employment made to the increase in total employment between 2000 and 2010. This is reported by sector and separately for rural and urban areas in Table 2.6.

2.3 Source of Growth in Productivity

2.3.1 Conceptual Framework

In order to identify the main sources of growth in per capita income (PCI), we use a conceptual framework developed by Dani Rodrik in his papers on "The Past, Present and Future of Economic Growth" (Rodrik 2014), and more recently for Africa, in "An African Growth Miracle?" (Rodrik 2018).[7] Rodrik identifies two broad development challenges: the "fundamentals" challenge, and the "structural transformation" challenge. Growth in productivity and PCI arises "within" sectors as a result of overcoming "fundamental" challenges by building *fundamental capabilities*, such as better institutions, healthier and

[7] Rodrick's framework draws on the neoclassical growth theories of Solow (1956), Grossman and Helpman (1991), and Aghion and Howitt (1992), which essentially focus on the growth process within modern sectors, and the dual-economy theory initially formalized by Lewis (1954) and expanded upon by Ranis and Fei (1961) that focuses on relationships and flows among sectors. McMillan, Rodrik, and Sepúlveda (2016) further discuss the inter-connection of these two schools of economic theories in detail (see page 5 of McMillan et al. (2016)).

Table 2.7. A typology of growth strategies, growth patterns, and outcomes

		Strategy focusing on structural transformation	
		Slow	***Rapid***
Strategy focusing on investment in fundamentals	*Low*	No or very little growth	Episodic growth
	High	(3) Slow growth	(4) Rapid, sustained growth

Source: Rodrik (2014).

better-educated workers, improved technologies, and more enabling policies. These are longer-term investments that are essential for sustaining economic growth over the long term, but which may have slow payoffs and contribute relatively little to short-term growth. Growth that arises from *structural change* involves investing in the rise of modern, highly productive industries like export manufacturing, and shifting workers from low-productivity sectors like traditional agriculture into the modern industrial and service sectors. This strategy requires significant capital and political investment, but can lead to more visible short- to medium-term benefits as well as setting the stage for longer-term growth. The two strategies can be summarized as in Table 2.7.

The rapid growth of China and several other Asian countries occurred at relatively low levels of fundamental capability, but with governments taking a strong proactive development state approach to promoting modern industry, especially export manufacturing, and facilitating the mass movement of workers from agriculture to industry. These countries have generally fallen into cell (2) in Table 2.1, experiencing rapid but episodic growth, and which if it is to be sustained, now requires more attention to complementary investments in fundamental capabilities. In Ghana, on the other hand, and as argued in Chapter 3, the emphasis since the Structural Adjustment Program (SAP) of the early 1980s has been more on investing in fundamental capabilities, with a rather benign state neglect of industry and the structural transformation issues. This has placed the country in cell (3), with a consistent pattern of slow growth and limited industrialization.

2.3.2 Applying the Framework

Rodrik formulized his two sources of growth into a growth decomposition model (Rodrik 2014). To apply this model to Ghana, we made several adaptations to better capture the reality of Ghana's recent structural transformation. We present these changes in two steps.

The first step is conceptual, and involves changes to the model structure. First, we introduced agriculture as a separate sector in the model to reflect the fact that far from being a stagnant traditional sector, it has actually experienced significant productivity growth in recent years in Ghana, and part of this productivity growth in agriculture can be attributed to fundamentals. Second, we redefine the traditional sector without agriculture as the informal sector (I) and explicitly model labor mobility from agriculture into informal activities. Note that if labor productivity in agriculture should happen to exceed its productivity in the informal sector, then any structural change resulting from the movement of labor from agriculture to the informal sector would become growth-reducing instead of growth-enhancing.

The modified version of Rodrik's model we use is as follows:

$$y = \alpha_M y_M + \alpha_S y_S + \alpha_I y_I + (1 - \alpha_M - \alpha_S - \alpha_I) y_A, \tag{1}$$

$$\hat{y} = (\alpha_M \pi_M + \alpha_S \pi_S + \alpha_I \pi_I + \alpha_A \pi_A)\gamma(\ln y^*(\Theta) - \ln y) \tag{2}(A)$$

$$+ \alpha_M \pi_M \beta(\ln y_M^* - \ln y_M) \tag{B}$$

$$+ (\pi_M - \pi_A) d\alpha_M \tag{C}$$

$$+ (\pi_S - \pi_A) d\alpha_S \tag{D}$$

$$+ (\pi_I - \pi_A) d\alpha_I \tag{E}$$

where y is the economy's aggregate labor productivity, and a "$\wedge$" over a variable denotes proportional changes ($\hat{x} = dx/x$). y_M, y_S, y_I, and y_A are, respectively, value-added per worker for manufacturing, services, the informal economy and agriculture, π_M, π_S, π_I and π_A are the relative labor productivities (y_i/y) for the same sectors, and α_M, α_S and α_I are the employment shares of manufacturing, services and the informal sector, respectively.

Equation (2) identifies distinct channels for growth. First, there is a process of convergence that accompanies the accumulation of fundamental capabilities, such as skills and improved governance and institutions (A). Rodrik calls this the "fundamentals" channel, as it depends on broad-based investments in human capital and institutional arrangements. Second, there are the forces of unconditional convergence operating within manufacturing (B). These two dynamic effects are potentially augmented by two reallocation-of-labor effects, from agriculture to higher-productivity manufacturing (C) and modern

services (*D*), but are also potentially negatively affected by reallocation of labor from agriculture to the informal economy (*E*) if the productivity in the informal economy is lower than agriculture.

The second step involved empirical adjustments to the model to fit the available data. We had sufficient data to disaggregate the economy into ten sectors. Let Y_i denote the i^{th} sector's GDP at constant prices, and let y and y_i denote to the economy's GDP per worker and i^{th} sector's GDP per worker, respectively. Equation (1) thus can be rewritten as follows:

$$y = \sum_i^{10} \alpha_i y_i, \sum_i^{10} \alpha_i = 1. \tag{3}$$

Let $i = 10$ represent the agricultural sector, and $i = 1, 2, \ldots, 9$ be the nine nonagricultural sectors. Totally differentiating equation (3), dividing through by y and rearranging terms, we obtain the following equation similar to (2):

$$\hat{y} = \sum_i^{10} \alpha_i \pi_i \hat{y}_i + \sum_i^{9} (\pi_i - \pi_{10}) d\alpha_i \tag{4}$$

The first term in the right-hand side of equation (4) differs slightly from the first two terms of (2) in the following ways. First, we no longer explicitly distinguish the productivity growth that arises as a result of unconditional convergence in the modern manufacturing sector (Channel (*B*) in equation (2)). Modern manufacturing in Ghana counts for only a small component of the manufacturing sector defined in the national account, and the growth contribution of its so-called unconditional convergence in manufacturing seems not to have been important. In addition, there is not enough data to allow us to define a modern manufacturing separately in equation (4). Second, $\hat{y}_i$ in equation (4) which measures the change in within-sector's labor productivity, can be different across sectors. This is a modification from equation (2) in which γ is the same for all sectors. This modification allows equation (4) to be flexible enough in measuring the actual change in a sector's labor productivity. The second terms in the right-hand side of equation (4) is to capture the structural-change-led growth, which is the combination of Channels (*C*) to (*E*) in equation (2) in which the economy is aggregated into four sectors.

2.3.3 Results

The model was applied to Ghana using sector-level data obtained from GGDC (2015) for the period 1984 to 2011. Table 2.8 shows the key model coefficients used; namely, the relative labor productivity of each sector (π_i in equation (4)),

Table 2.8. Key model coefficients: Sector-wise labor productivity, and GDP and employment shares, 1984, 2000, and 2011

	Relative labor productivity (π_i)			GDP share			Employment share (α_i)		
	1984	**2000**	**2011**	**1984**	**2000**	**2011**	**1984**	**2000**	**2011**
Agriculture	0.67	0.61	0.67	40.9	32.9	26.2	61.1	53.6	38.9
Mining	4.98	1.59	2.79	2.5	2.8	7.9	0.5	1.8	2.8
Manufacturing	0.96	1.04	0.79	10.4	11.1	8.8	10.9	10.6	11.1
Utilities	4.84	5.25	4.89	1.4	1.8	1.7	0.3	0.3	0.4
Construction	5.24	1.85	2.92	6.3	5.4	9.1	1.2	2.9	3.1
Trade services	0.60	0.66	0.46	8.8	11.2	11.5	14.6	17.0	25.1
Transport services	5.83	5.33	4.59	13.2	15.4	15.5	2.3	2.9	3.4
Business services	4.99	4.04	2.44	2.5	5.8	5.6	0.5	1.4	2.3
Government services	1.86	1.80	1.48	11.4	9.4	9.3	6.2	5.2	6.3
Personal services	1.02	0.98	0.64	2.6	4.0	4.2	2.6	4.1	6.6
Total Economy	1.00	1.00	1.00	100	100	100	100	100	100

Source: Authors' calculation using GGDC data (Timmer et al. 2015).

and the employment shares (α_i in equation (4)), as well the sector shares in GDP, for 1984, 2000 and 2011. Key observations here are: a) the low labor productivity of agriculture relative to all sectors except trade services in 1984 and 2011 and, in 2011, personal services; and b) the employment shares for all sectors except agriculture either increased over 1984–2011 or remained unchanged (utilities and government services). Clearly, there has been a net outflow of migrants from agriculture to most other sectors, which is consistent with structural change. However, whether this structural change contributed to raising national labor productivity depends on whether or not workers moved from agriculture to sectors with higher labor productivities. The last panel in Table 2.8 provides a cautionary note: the sectors whose employment shares grew the most over 1984–2011 were trade and personal services, yet these sectors had similar or lower labor productivities than agriculture. The movement of workers from agriculture to these sectors would have made a negative contribution to growth in national labor productivity, and this would have reduced the overall gain from structural change. The model decomposition results in Tables 2.9 and 2.10 clarify the situation.

The last panel of Table 2.9 shows the annual growth rates in labor productivity by sector, and for the total economy (which is the weighted sum of growth rates in labor productivity across sectors) for the periods of 1984–2011 and 2000–11. These growth rates are then disaggregated by sector to show the

Table 2.9. Decomposition of Ghana's economy-wide labor productivity growth in 1984–2011 and 2000–11 (results sum to total growth rate for economy each period)

	Within sector $(\alpha_i \pi_i \hat{y}_i)$		**Structural change** $[(\pi_i - \pi_{10}) d\alpha_i]$		**Total growth** $[\alpha_i \pi_i \hat{y}_i + (\pi_i - \pi_{10}) d\alpha_i]$	
	1984–2011	**2000–11**	**1984–2011**	**2000–11**	**1984–2011**	**2000–11**
Agriculture	1.03	1.11	–	–	1.03	1.11
Mining	0.02	0.19	0.20	0.22	0.22	0.41
Manufacturing	0.24	0.04	0.01	0.01	0.25	0.06
Utilities	0.06	0.04	0.00	0.00	0.06	0.04
Construction	0.07	0.41	0.16	0.07	0.23	0.48
Trade services	0.17	–0.04	–0.03	–0.07	0.14	–0.10
Transport services	0.30	0.22	0.20	0.21	0.51	0.43
Business services	–0.01	–0.10	0.23	0.22	0.22	0.11
Government services	0.21	0.10	–0.03	0.10	0.19	0.20
Personal services	0.05	–0.04	0.03	0.03	0.08	–0.01
Total Economy	2.14	1.93	0.78	0.80	2.93	2.73

Source: Authors' calculation using GGDC data (Timmer et al. 2015).

part due to within-sector growth (panel 1), and the part due to structural change (panel 2). Table 2.10 shows the same results in percentage share form (taking the economy-wide labor productivity growth rate as 100).

A key result for the economy as a whole is that while labor productivity grew by 2.93 percent per year over 1984–2011, 73.2 percent of this was due to growth in "within-sector" labor productivity, while "structural change" contributed only 26.8 percent. These shares were little changed even in the more recent period 2000–11 (70.8 percent and 29.2 percent, respectively). Our finding is similar to that of Osei and Jedwab (2016), who used a similar data set but a slightly different decomposition approach.

In Rodrik's terminology, growth in Ghana has been predominantly led by the fundamentals rather than structural change, and this is unusual even in comparison to other African countries. Indeed, comparing Ghana's growth pattern with seven other low-income African countries available in the GGDC dataset, the contribution of structural change to the overall labor productivity growth in Ghana is among the lowest. For the eight low-income African countries together, structural change contributed 56 percent of economy-wide productivity growth in 2000–10, and it contributed more than 90 percent in four of the eight countries in the GGDC dataset (Diao, Harttgen, and McMillan 2017).

The reason for Ghana's poor performance on structural change has already been anticipated in our discussion of Table 2.8. The sectors that absorbed most of the labor that moved out of agriculture over 1984–2011, namely, trade services and personal services, had low labor productivities even compared to agriculture, hence the movements of labor to these sectors contributed little to the growth in national labor productivity. In fact, because labor productivity in trade services was lower than in agriculture, the movement of labor to this sector made a negative (–2.5 percent) contribution to aggregate labor productivity in 2000–10 (panel 2 of Table 2.10).

Another striking result in Tables 2.9 and 2.10 is that labor productivity in agriculture grew more than in any other sector, accounting for the lion's share of the increase in the within-sector labor productivity of the entire economy, and for 35.3 percent of the increase in national labor productivity over 1984–2011. Labor productivity also grew in some nonagricultural sectors, but in most cases the growth was very modest, especially during 2000–11. Labor productivity even fell in trade, business and personal services in this later period. Thus, the overall gains from within-sector productivity slowed in the economy as a whole, led by a slowdown in most nonagricultural sectors during 2000–11. The most alarming decline was in manufacturing, whose

Table 2.10. Contributions of each sector to Ghana's economy-wide labor productivity growth in 1984–2011 and 2000–11 (% shares)

	Within sector		Structural change		Total growth	
	1984–2011	2000–11	1984–2011	2000–11	1984–2011	2000–11
Agriculture	35.3	40.6	–	–	35.3	40.6
Mining	0.7	7.0	7.0	8.2	7.6	15.1
Manufacturing	8.0	1.6	0.5	0.5	8.5	2.1
Utilities	1.9	1.5	0.1	0.2	2.0	1.6
Construction	2.5	15.0	5.3	2.5	7.8	17.5
Trade services	5.9	–1.4	–1.1	–2.5	4.8	–3.8
Transport services	10.4	8.2	6.9	7.6	17.3	15.8
Business services	–0.5	–3.8	7.9	7.9	7.4	4.2
Government services	7.3	3.5	–1.0	3.8	6.3	7.3
Personal services	1.7	–1.4	1.1	1.0	2.8	–0.3
Total Economy	73.2	70.8	26.8	29.2	100	100

Source: Authors' calculation using GGDC data (Timmer et al. 2015).

growth in within-sector labor productivity slowed from 0.24 percent during 1984–2011 to 0.04 percent during 2000–11.

Labor productivity in Ghana would have grown faster if more workers had moved into the highest productivity sectors. Why did this not happen? There are four non-traded nonagricultural sectors (utilities, construction, transport services, and business services), which all have labor productivities that are three to four times higher than the economy's average (Table 2.8). However, the expansion of these high-productivity sectors has been rather modest. Together they increased their employment share by less than 5 percentage points over 1984–2011. Their expansion is constrained by the fact that they produce mostly nontradables outputs/services, and hence their growth depends on growth in the rest of the economy.

Mining is another sector that has a much high labor productivity relative to the national average (Table 2.8), and which contributes significantly to Ghana's exports. However, large-scale modern mines, which dominate the sector, are extremely capital intensive and do not employ much labor, while informal small-scale mining is labor intensive but has low labor productivity. The emerging oil sector is also capital intensive and requires few workers.

One might expect manufacturing to have a relatively high labor productivity, but as shown in Table 2.8, it productivity was not much higher than agriculture in 2011. During 1984–2011, manufacturing also experienced little growth in its within-sector productivity (Table 2.9), or its employment share (Table 2.8), and its total contribution to the increase in national labor productivity was a mere

8.5 percent in 1984–2011. This contribution fell to only 2.1 percent in 2000–11 (Table 2.10). The problem is that while there are some formal manufacturing firms in Ghana that have reasonably high labor productivity, the sector is still dominated by many small and informal enterprises that have very low labor productivities. Ghana has not yet been able to achieve any significant growth in its formal manufacturing sector, nor in its manufacturing exports.

2.4 Future Prospects

Section 2.3 has shown that Ghana's economic growth since the SAP of the 1980s has been driven primarily by improvements in Rodrik's "fundamentals", which led to steady but modest growth in within-sector labor productivities, especially for agriculture, and thence steady but modest growth in national GDP per capita. Structural change has played only a modest role in raising labor productivity. Although there has been a significant shift of workers out of agriculture, they have mostly moved to jobs in informal services and manufacturing, where labor productivity is similar to or even lower than in agriculture. A shift to these kinds of jobs does little to raise average labor productivity, and in one case (movement to trade services), has even made a negative contribution.

Looking to the future, Ghana can expect to continue to gain from the longer-term impacts of past and ongoing improvements in its fundamentals, but these promise at best a modest if steady contribution to growth in GDP per capita. Their contribution may also slow as some important past sources of productivity growth run out of steam. For example, labor productivity growth in agriculture has depended on land expansion, but the land frontier is now approaching its limits, and unless other sources of productivity growth can be tapped, agriculture's labor productivity growth rate will slow (see Chapter 4).

How can Ghana sustain its current average annual GDP per capita growth rate of 2.8 percent? Better still, are there ways for Ghana to accelerate its growth rate to new highs? Additional growth of within-sector productivities will need to play a key role, and this requires a continued emphasis on fundamentals in national policy. But for faster growth, Ghana also needs to do a better job of tapping into the benefits of structural change, and this requires policies that can generate more rapid growth of modern sectors that can achieve a) high levels of labor productivity relative to agriculture, and b) absorb lots of workers from lower productivity sectors like agriculture. It is likely that the oil and mining sectors will provide an important, if volatile, source of GDP growth, but despite their high labor productivities, they are not likely to create much additional

employment. More promising possibilities for creating productive employment lie in growing the more productive parts of the agricultural, manufacturing, and services sectors, and these options are reviewed below.

2.4.1 Agriculture

As shown in Section 2.3.2,the agricultural sector contributed the most to growth in economy-wide labor productivity during 1984–2011. This is a significant achievement given that agriculture is still the largest employer, and most of its workers are traditional, often poor, smallholders. However, the sector's labor productivity is still only about 60 percent of the national average (Table 2.8), which is lower than the productivity of all nonagricultural sectors except trade and personal services. This is good news in the sense that there ought to be significant opportunities to achieve greater productivity gains. There are also good prospects for growth in the demand for agricultural products in the national, West African regional, and world markets. A challenge is that past increases in labor productivity have come mainly from expanding the total crop area, which has been possible because Ghana was a relatively land-abundant country. But this option is running out, and future productivity growth will increasingly depend on technology, management, and land-use changes that accelerate the growth in land as well as labor productivity. These issues are discussed in Part II of this book, where they are analyzed in some depth. An important finding is that while the agricultural sector has benefited from an enabling policy environment that has encouraged farmers to invest in expanding their production, still the sector has been constrained by low levels of public investment and, apart from cocoa, by limited success in developing the value chains for nontraditional export crops, or import substituting crops and livestock products like rice, tomatoes, and chicken. Had the government been more effective in partnering with the private sector, then perhaps there would have been a greater shift by now to faster growth in land productivity in Ghana, and an even faster rate of labor productivity growth.

2.4.2 Manufacturing

2.4.2.1 Background

Manufacturing played a crucial role in the development of China and most South East Asian economies, and as argued by Rodrik (2014), offers a shortcut

for a developing country like Ghana to achieve rapid growth. The sector has two key advantages: a) it faces an elastic demand for its output, either through exports or import substitution, and b) it is relatively easy for modern manufacturing firms to achieve high levels of efficiency and labor productivity through the adoption of internationally available technologies and know-how. Manufacturing can thus grow and expand rapidly in environments where the economy-wide capabilities in terms of human capital and institutions are still very limited. Manufacturing can also absorb a large number of less skilled workers coming directly out of agriculture, which makes the sector the most desirable destination for a majority of poor rural migrants, leading to large-scale structural changes and growth of economy-wide productivity. Sadly, the manufacturing sector has yet to play an important role in Ghana's economic development.

Ghana inherited a small manufacturing sector at Independence that comprised mostly small informal enterprises serving the domestic market (Rimmer 1992). Developing a formal industrial sector was an early government priority, and Ghana pursued a state-led industrialization program focused mainly on import-substitution industrialization (ISI). The result was a rapid expansion of the modern manufacturing sector in the 1960s and early 1970s, with many state-owned firms being set up (Steel 1972). But the sector never became that big in terms of its shares in national GDP or employment, and despite the many state-owned firms that were set up, the vast majority of manufacturing jobs remained in small, informal manufacturing units (Friedrich Ebert Foundation 1994: 53; Ball (1998: 87)). As shown in Table 2.6b, this is still the pattern; in 2010, 84.6 percent of total manufacturing jobs were in the informal sector.

As in many other countries that pursued similar industrialization policies, the ISI strategy was not a success. To promote industrialization in the formal sector, the government invested heavily in setting up state-owned manufacturing firms, and engaged in policies that protected and favored their development, such as trade protection, and privileged access to foreign exchange and finance. Most state-owned firms proved costly and inefficient, and were never able to compete with imports on a fair footing, or expand into export markets. Not only did the ISI waste resources in the state-owned sector, it crowded out the private sector, distorted the economy, and impeded growth, contributing importantly to the economic crises of the early 1980s.

Correcting the legacy of ISI was a major priority of the SAP reforms, which involved unwinding the policy distortions, and privatizing most state enterprises.

Even so, the manufacturing sector failed to take off and its share in national GDP was only 5.6 percent in 2016, down from 10.5 percent in 2006 (Table 2.3). It also remains a low-productivity sector. In 2011, labor productivity in manufacturing was only 80 percent of the national average (Table 2.8), and its within-sector labor productivity only grew by 0.24 percent per year over 1984–2011. Even then, most of this gain occurred during and immediately after the SAP reforms; its within-sector labor productivity grew by a mere 0.04 percent per year during 2000–11 (Table 2.9).

2.4.2.2 A bifurcated sector

One reason for the poor performance of the manufacturing sector is because of the split between a relatively small number of large-sized firms in the formal sector, and a much larger number of small and informal units, including many household enterprises and micro firms. Some insights into the relative productivity of formal and informal enterprises can be gleaned from an NIC report published by the government (GSS 2006), which provides value-added and employment information by firm size groups (Table 2.11).

The average firm size is about 164 workers for the medium and large ($\geq$ 30 workers) firm size group, and 17.1 and 4.8 workers for the two smaller firm size groups. The larger firms provide 84 percent of the total manufacturing value-added in this NIC sample, but only 38 percent of total employment. The ratio of these two numbers provides an estimate of the relative labor productivity of the different firm size groups. Normalizing the average labor productivity for the entire sample to 1.0, the relative labor productivity of the larger firms is 2.2, but only 0.3 and 0.2 for the two smaller firms. That is

Table 2.11. Shares of value-added and employment and labor productivity for three groups of manufacturing firms in Ghana

	Large firms (employee number $\geq$ 30)	**Small firms Employees number**	
		10–29	**1–9**
Share of value-added (%)	83.8	6.7	9.5
Share of employment (%)	38.2	21.8	40.0
Average firm size (person/per firm)	163.9	17.1	4.8
Relative labor productivity (total manufacturing's labor productivity = 1.0)	2.2	0.3	0.2
Ratio to the smallest firm group (small firms with employees 1–9 = 1.0)	9.3	1.3	1.0

Source: Authors' calculation using data of 2003 NIC (GSS 2006).

to say, an average worker in a larger firm is about eight times more productive than an average worker in small manufacturing firms (Table 2.11).[8]

Although larger manufacturing units achieve higher labor productivities, they also require more capital, and that could affect their competitiveness. Again, insights can be gained from the published NIC report, which provides estimates of the value of fixed capital at the beginning of 2003 for individual industries and by two firm size groups (firms with more than ten employees, and those with less). Using such information, we can calculate capital and labor ratios across industrial sectors and by size group.[9] At the national level, for all the manufacturers covered by the NIC, the average value of fixed capital is $7,155 per worker, while for the larger firms ($\geq$ 10 workers) it is $11,908, and for the small firms (less than ten workers) it is only $25.4 per worker. Thus, although the labor productivity of small firms (1–9 workers) is only 1/9th that of the larger firms (Table 2.11), they are achieving this level of productivity using only 0.02 percent as much capital per worker as the large firms. Another problem is that the large firms pay much higher wages than small firms, which is in line with their higher labor productivity. But given than Ghana is now a relatively high-wage economy, this does undermine their competitiveness when competing against low-wage Asian competitors in Ghana's domestic or potential export markets.

2.4.2.3 What is holding back manufacturing?

Much has been written about the constraints on the manufacturing sector in Ghana. These include the business environment (see Chapter 3), high transport costs, inadequate and costly port facilities, unreliable power supplies, inadequate access to finance, difficulties in obtaining land rights, high labor costs, weak or ineffective industrial policies, and state–business relations, etc. (World Bank 2014; Owoo and Page 2017). These constraints appear to be more binding on the formal than informal sector, making it difficult for formal manufacturing firms to achieve a competitive edge against international competitors. On the other hand, the informal sector faces a more binding market constraint, because it produces mostly nontradables, the demand for which is constrained by growth in national demand. Demand for the products of the

[8] Many workers in the small firms are not regular employees. For example, the regular employees accounted for 21 percent of total employment in the small firm group with employees 1–9. Thus, when all workers are treated equal, as we did in Table 2.11, it could significantly underestimate the labor productivity for small firms. Keeping this caveat in mind, the labor productivity gaps between small firms and large firms should still be significant.

[9] According to 2003 NIC, value of fixed capital assets at the beginning the survey year include values of land, buildings, machinery and equipment (GSS 2006).

informal manufacturing sector has grown rapidly with rising per capita incomes and urbanization, which explains why informal manufacturing employment grew by 12 percent per annum over 2000–10 (Table 2.7). The downside is that the jobs being created are still low-productivity jobs, so more attention needs to be given to improving the efficiency and productivity of some of the small and medium-sized units in this subsector.

The discovery and development of oil offers new opportunities for diversifying the economy into upstream and downstream industries, but this would require a coherent longer-term industrialization policy, key public investments, and effective management of the "resource-curse" or "Dutch disease" risks associated with oil revenues (Owoo and Page 2017). The agricultural processing sector would also seem to offer good prospects for growth, particularly given rapid growth in demand for processed and pre-cooked foods in urban areas. There is also some scope for expansion into the West African regional market as trade barriers are brought down. This sector is still dominated by many small and medium-sized firms, and has the potential to grow lots of reasonably productive jobs. However, firms face many of the same constraints as manufacturing firms in general, as well as challenges in obtaining reliable supplies of raw materials of the right qualities from farmers. These issues are explored in more detail in Chapter 8.

2.4.3 Services

As we have seen, services have been the fastest growing sector in Ghana since the SAP, and by 2016 they had become the largest sector in national GDP (Table 2.3). Most of this growth has been in trade and personal services, both of which are dominated by small informal enterprises. Services are predominantly nontradables, and their demand has grown with GDP per capita, but also with the rapid urbanization of the country. For example, trade services have grown with a greater need to move more agricultural commodities from rural to urban areas. However, not all the growth in services has arisen in the cities, and much has occurred in small and medium-sized towns, where it has created new off-farm income-earning opportunities for farm households (see Chapter 5).

The difficulty with the services sector is that it has low labor productivity, in some cases like trade and personal services, even lower than agriculture. Although there may be some opportunities for developing pockets of modern services that have higher labor productivity, it is unlikely that these

can substitute for the development of more productive manufacturing and agricultural activities if Ghana is to benefit more from structural change.

2.5 Conclusions

Ghana's economic growth since the SAP reforms of the 1980s has been driven primarily by improvements in "fundamentals," which led to steady but modest growth in within-sector labor productivities, and thence steady but modest growth in national GDP per capita. Structural change has played only a modest role in raising labor productivity. While many workers have left agriculture, many of them have moved to sectors with similar or even lower labor productivity, so this has contributed little to raising the average labor productivity.

Ghana can expect to continue to gain from the longer-term impacts of past and ongoing improvements in its fundamentals, but these promise at best a modest if steady contribution to growth in GDP per capita. Their contribution may also slow as some important past sources of productivity growth run out of steam as, for example, the possibilities for further land expansion for agriculture. If Ghana is to sustain or even accelerate its average annual GDP per capita growth rate of 2.8 percent, then the country will need to do a better job of tapping into the benefits of structural change, and this requires policies that can generate more rapid growth of sectors that can achieve a) high levels of labor productivity relative to traditional agriculture, and b) absorb lots of workers from lower productivity sectors like traditional agriculture. While the oil and mining sectors will provide an important, if volatile, source of GDP growth, and they have high labor productivities, they are not likely to create much additional employment on their own. Although with the right industrial policies and investments, there is scope to use these sectors to help diversify the economy into more upstream and downstream industries. Other promising possibilities for creating productive employment lie in expanding and improving the more productive parts of the agricultural, manufacturing, and services sectors. Not only is there a growing national demand that offers new market opportunities in these sectors, but with increasing regional economic cooperation, Ghana should be able to increase its exports into the West African regional market.

In Rodrik's scheme of things, structural change led by improving such sectors requires a more proactive development state approach to drive it, and not just a focus on fundamentals. Ghana's earlier attempts to develop specific sectors through government-led initiatives like the ISI industrialization

program failed badly. The relevant questions now are: a) whether there are better policies available today that might successfully drive lead sectors, and b) if so, does the government have the inclination or capacity to deliver on such an agenda? These questions are addressed in subsequent chapters, with special emphasis on the agricultural and food sectors.

References

Aghion, P., and P. Howitt. 1992. "A Model of Growth through Creative Destruction." *Econometrica* 60(2): 323–51.

Ball, Rajiv. 1998. "The 'Long Depression' and the Growth of Small-scale Industries in Ghana, 1970–mid1980s," in Gareth Austin (ed.), *Industrial Growth in the Third Word, 1870–1990*. LSE Working Papers in Economic History, 44/98. London: LSE, 73–87.

Collier, Paul, and Anthony J. Venables. 2007. "Rethinking Trade Preferences: How Africa Can Diversify its Exports." *The World Economy* 30(8): 1326–45.

Diao, X., K. Harttgen, and M. McMillan. 2017. "The Changing Structure of Africa's Economies." NBER Working Paper No. 23021. Cambridge, MA: National Bureau of Economic Research.

Friedrich Ebert Foundation. 1994. "Privatization of State-owned Enterprises in Ghana: Proceedings of a Workshop Organized for Members of the Finance Committee of Parliament on 18–20 of November." Accra: Friedrich Ebert Foundation.

Gollin, D., R. Jedwab, and D. Vollrath. 2016. "Urbanization with and without Industrialization." *Journal of Economic Growth* 21(1): 35–70.

Grossman, G., and E. Helpman. 1991. *Innovation and Growth in the Global Economy*. Cambridge, MA: MIT Press.

GSS (Ghana Statistical Service). 2003. "Population and Housing Census 2000." Census data. Accra.

GSS (Ghana Statistical Service). 2006. "National Industrial Census 2003." Accra.

GSS (Ghana Statistical Service). 2010. "Rebasing of Ghana's National Accounts to Reference Year 2006." Accra.

GSS (Ghana Statistical Service). 2013. "Population and Housing Census 2010." Census data. Accra.

Japan External Trade Organization (JETRO). 2009. "Kakkoku Chiiki Betsu Joho" (information by country/region). Available at: http://www.go.jp/world/search/compare.

Leite, Sergio Pereira, Anthony Pellechio, Luisa Zanforlin et al. 2000. "Ghana: Economic Development in a Democratic Environment." Occasional Paper No. 199. Washington, DC: International Monetary Fund.

Lewis, W. A. 1954. "Economic Development with Unlimited Supplies of Labor." *Manchester School of Economic and Social Studies* 22(2): 139–91.

McMillan, Rodrik and Claudia Sepúlveda (eds). 2016. *Structural Change, Fundamentals, and Growth: A Framework and Case Studies*. Washington, DC: International Food Policy Research Institute.

Ministry of Trade and Industry (MoTI). 2002. "Study of the Textile Sub-sector, a Report Prepared by Brucks & Associates for MoTI." November. Accra: MoTI.

Mottaleb, Khondoker Abdul and Tetsushi Sonobe. 2011. "An Inquiry into the Rapid Growth of the Garment Industry in Bangladesh." *Economic Development and Cultural Change* 60(1): 67–89.

Osei, Robert Darko and Rémi Jedwab. 2016. "Structural Change in a Poor African Country: New Historical Evidence from Ghana," in Margaret McMillan, Dani Rodrick, and Claudia Sepúlveda (eds). 2016. *Structural Change, Fundamentals, and Growth: A Framework and Case Studies*. Washington, DC: International Food Policy Research Institute.

Owoo, Nkechi and John Page. 2017. "Industrial Policy in Ghana: From Dominant State to Resource Abundance," in E. Aryeetey and R. Kanbur (eds), *The Economy of Ghana Sixty Years after Independence*. Oxford: Oxford University Press, 176–91.

Quartey, P. 2006. "The Textile and Clothing Industry in Ghana," in H. Jauch and R. Traub-Marz (eds), *The Future of the Textile and Clothing Industry in Sub-Saharan Africa*. Buchdruckerei: Bub Bonner University, 135–16.

Ranis, G., and J. C. Fei. 1961. "A Theory of Economic Development." *American Economic Review* 51(4): 533–58.

Rimmer, Douglas. 1992. *Staying Poor: Ghana's Political Economy, 1950–1990*. Oxford: Pergamon Press.

Rodrik, D. 2013. "Unconditional Convergence in Manufacturing." *Quarterly Journal of Economics* 128(1):165–204.

Rodrik, D. 2014. "The Past, Present, and Future of Economic Growth," in Franklin Allen et al., *Towards a Better Global Economy: Policy Implications for Citizens Worldwide in the 21st Century*. Oxford: Oxford University Press, 70–133.

Rodrik, D. 2018. "An African Growth Miracle?" *Journal of African Economies* 27(1): 10–27.

Steel, William F. 1972. "Import Substitution and Excess Capacity in Ghana." *Oxford Economic Papers* 24(2): 212–40.

Solow, R. M. 1956. "A Contribution to the Theory of Economic Growth." *Quarterly Journal of Economics* 70(1): 65–94.

Timmer, M. P., G. J. de Vries, and K. de Vries. 2015. "Patterns of Structural Change in Developing Countries," in J. Weiss and M. Tribe (eds), *Handbook of Industry and Development*. London: Routledge, 65–83.

World Bank. 2006. World Development Indicators. Available at: http://data.worldbank.org/indicator in 2006.

World Bank. 2014. "Ghana: Country Profile 2013". Enterprise Surveys. Washington, DC: World Bank.

World Bank. 2017. World Development Indicators. Available at: http://data.worldbank.org/indicator in 2017.