

# THE CHANGING ECONOMY OF TANZANIA PATTERNS OF ACCUMULATION AND STRUCTURAL CHANGE

*By: Prof. Marc Wuyts and Dr. Blandina Kilama*

THDR 2014: Background Paper No. 3  
ESRF Discussion Paper 60



The Economic and Social Research Foundation (ESRF)

2014

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**ISBN: 978-9987-610-92-1**

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# Acknowledgement

This paper is also available as REPOA working paper no 14/3. The paper has also been used as background material in the preparation of *Tanzania Human Development Report 2014: Economic Transformation for Human Development* coordinated by ESRF. Our thanks go to the Executive Director of REPOA Prof. Samuel Wangwe and ESRF Dr. Hoseana Lunogelo, for giving us the opportunity to carry out this work. We are grateful to Dr. Albina Chuwa, Director General of NBS (National Bureau of Statistics) and Morrice Oyuke, Economic Statistics Director for allowing us to seek assistance from NBS staff concerning queries we had about data used in this discussion paper. Special thanks to Daniel Masolwa, Mlemba Abbasy, Ruth Minja, Fred Matola, James E. Mbogo, Muhidin Mtindo and Sylvia Meku from NBS for the time and effort they spent in responding to our queries. We also thank the participants of the REPOA's training workshop on empirical macro economics, held in November 2012 for allowing us to try some of the initial ideas that led to subsequent research for this paper. In particular we thank, Daniel Masolwa (NBS) and Nicas Yabu (Bank of Tanzania) for their valuable assistance after the training.

Preliminary ideas for this paper were presented in two research seminar respectively at REPOA and at University of Dar es Salaam in April 2012, we thank the participants for their valuable comments.

On behalf of ESRF, we appreciate permission from REPOA to publish it again jointly in ESRF discussion paper series.

# Abstract

This working paper explores past processes of economic transformation in Tanzania, particularly since the economic reforms of the 1980s. The paper starts with the premise that it is not sufficient to look at the evolution of the rate of economic growth to assess the macroeconomic performance of the economy, particularly when making inferences about its impact on poverty reduction. What matters as well is the analysis of the changing patterns of accumulation and structural change that accompanied this process of economic growth. The approach of this paper consists of looking at the data cautiously by triangulating different bits of macro data – taking account of the accounting frameworks within which they are constructed – in order to pinpoint the varied and sometimes contradictory stories they tell, leaving ample room (we hope) for ourselves and for the reader to ponder whether the patterns revealed in the data make reasonable sense in the light of our admittedly subjective hunches and qualitative feel of the Tanzanian economy in terms of both its history and its changing structure.

The paper starts by briefly focusing on the growth in aggregate production (GDP) in Tanzania. It then looks at the changing composition of aggregate expenditures on final demand and, by implication, at the evolution of the saving-investment equality over time. Next, the paper deals with the division of GDP across productive sectors in the economy, and the resulting patterns of structural change as revealed by differential growth rates in output within and across productive sectors of the economy. Finally, the paper looks at population and labour force growth and at the changing composition of employment across productive sectors and by status of employment, taking account of gender differences in the nature of employment.

The main argument of this paper is that the processes of economic transformation and structural change since the economic reforms of the late 1980s were essentially characterised by rapid but jobless growth, leading to accentuated divergences in productivity within and between productive sectors, in which agriculture and the informal economy act as *sponges* that mop up the surplus labour within the economy. The lesson the paper draws from this analysis is that the challenge Tanzania faces today is not to initiate a process of economic transformation, but to reverse the direction of the on-going transformation process by striving for greater convergence of productivity growth with employment growth.

# 1. Introduction

Few would doubt that the Tanzanian economy has undergone major changes since the policy reforms of the 1980s. The driving force behind these economic reforms was the increased openness of the Tanzanian economy to globalisation. In the process, Tanzania has transformed from a low-growth to a high-growth economy. For example, in recent years the economy's growth rate has been consistently above 7%, which, in combination with population growth of 2.7%, leaves a significant margin of 4.3% or more for growth in income per capita. Economic growth implies accumulation: not just the rate of accumulation but also the ways in which accumulation fuels the nature of productivity and employment growth across and within the productive sectors of the economy. Therefore, accumulation and structural change together propel the process of economic growth.

It follows that what matters for the successful transformation of an economy is not just the rate at which the economy expands (its rate of growth), but also the character of the growth process – that is, the direction in which the economy expands (Wuyts & Kilama, 2014). In particular, 'growth-enhancing structural change can be an important contributor to overall economic growth' (McMillan *et al.*, 2013: p. 1). However, globalisation per se does not necessarily foster growth-enhancing structural change. Nor does growth necessarily go hand in hand with successful economic transformation. Whether it does so or not depends on the manner in which a country integrates within the global economy, and whether or not this implies convergent or divergent patterns of productivity growth and employment growth within and across the productive sectors of its economy (Timmer, 2009; McMillan *et al.*, 2013; Wuyts & Kilama, 2014).

In recent years, the question of economic transformation in Tanzania has become the focal point of macroeconomic policy (Mpango, 2013). Mpango's focus is on policy formulation based on forward projections using the 'typical' middle-income country as a blueprint, and hence Mpango makes little or no reference to lessons that could be drawn from the socioeconomic transformations – positive or negative – that have already taken place in Tanzania under the impetus of economic reforms, particularly in the context of the high rate of economic growth during the last 15 years. Yet processes of change are invariably context-specific and path-dependent, and hence they cannot necessarily be depicted only with reference to a stylised blueprint. This paper takes a different tack and seeks to engage in an empirical enquiry of past processes of economic transformation in Tanzania, particularly since the economic reforms of the 1980s. More specifically, this paper seeks to explore the changing patterns of accumulation and structural change that have characterised the Tanzanian experience since structural adjustment. However, the aim of this paper is not simply to look backward by engaging in a historical enquiry of past developments, but instead to extract lessons from the past that might be relevant to the challenges of economic transformation in the future. Our aim is to distil some stylised facts from past processes of accumulation and structural change in Tanzania that hint at possibilities for and obstacles to the challenge of fostering growth-enhancing structural change in Tanzania in the future.

This paper relies on data exploration of readily available secondary data sources: national

accounts, population and labour force data in particular. As such, it assumes a familiarity with national income accounting identities and basic demographic accounting of population growth, structure and momentum, and it further employs a simple framework for the arithmetic of structural change using decomposition analysis of growth rates across productive sectors of the economy. For ease of reading, however, techniques used in this paper will be explained briefly prior to their application.

Before we start, an important initial caveat is necessary. Investigating patterns in macroeconomic data for a country like Tanzania is always a tricky affair, particularly with respect to the validity and reliability of national accounts data as well as labour force data. As Jerven (2013: p. 16) explained, 'the concept of validity is related to whether the measure is accurate, and the concept of reliability is related to whether the measure is similarly inaccurate or accurate each time'. Like most other African countries, Tanzania's national accounts have both validity and reliability problems. As with other secondary data, at best national income statistics provide selective visibility of the reality under investigation and are uneven in terms of quality: some parts are probably reasonably good estimates based on actual measurements, while others often involve making guesstimates which may or may not be based on reasonable assumptions (which, moreover, may change over time) or are derived as residual categories that follow from the accounting framework.

When looking at macroeconomic data, therefore, we should not assume that the data are somehow cast in iron. But this does not mean that such data should be dismissed altogether: selective visibility does not necessarily imply no visibility at all. Moreover, as the Dutch econometrician Henri Theil once reportedly said, 'models are to be used, but not to be believed'. Something similar could be said about the art of analysing macroeconomic data, which at best consists of making sense of messy information. Thus, this paper seeks to refrain from extracting single bits of data in isolation from the context within which they are constructed. Indeed, all too often a single statistic – like GDP growth, for example – is used to make strong claims about economic development, notwithstanding the shaky foundations upon which it is constructed (Jerven, 2010). Instead, our aim is to approach the data cautiously, trying to pinpoint the varied and sometimes contradictory stories they tell by triangulating different bits of data and taking account of the accounting frameworks within which they are constructed, while also – we hope – leaving ample room for ourselves (and the reader) to ponder whether the patterns revealed in the data make reasonable sense in the light of our admittedly subjective hunches and the qualitative feel of the Tanzanian economy in terms of both its history and its changing structure.

This paper, therefore, can perhaps best be seen as an empirical prelude to the analysis of the political economy (in the classical sense) of Tanzania's development since the economic reforms of the late 1980s, although we shall occasionally go back to the earlier period – to the Nyerere years, and in particular to the severe economic crisis Tanzania experienced in the early 1980s – to provide contextual background for the subsequent economic development and change that constitute the focus of this exploratory enquiry.

In summary, this paper is essentially empirical in nature, with an explicit focus on distilling stylised facts from Tanzania's recent economic developments. In a different but related paper (Wuyts & Kilama, 2014), we deal with the theoretical dimensions of the concept of economic transformation, and we shall occasionally refer to this work to put the empirical explorations in this paper into an analytical context. Our aim here, then, is to explore messy data by focusing on



the growth in aggregate production (GDP) in Tanzania; the changing composition of aggregate expenditures on final demand and, by implication, the evolution of the saving-investment equality over time; the division of GDP across productive sectors in the economy; the resulting patterns of structural change as revealed by differential growth rates in output within and across productive sectors of the economy; population and labour force growth; and the changing composition of employment across productive sectors and by status of employment, taking account of gender differences in the nature of employment.

# 2. A brief overview of economic growth in Tanzania

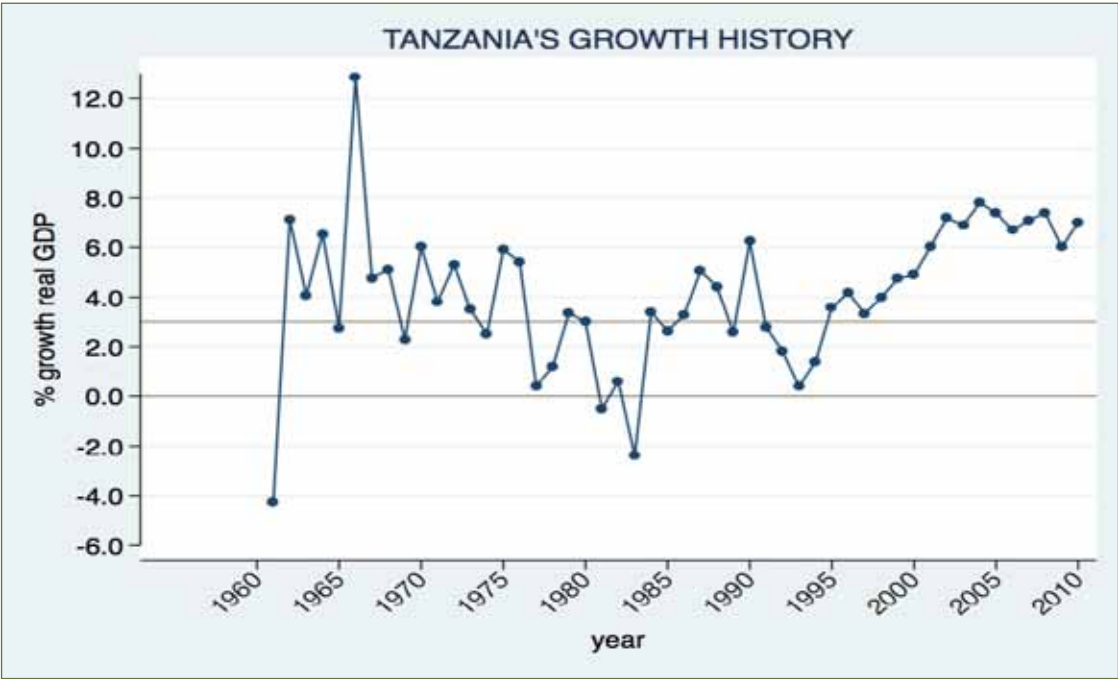
The *rate of growth* of an economy measures the rate of change of real GDP (i.e. at constant prices) during a given period (usually one year). Since GDP is a flow variable that measures aggregate value added produced in a country, it follows that its growth rate is also a flow variable, which, expressed as a fraction, is obtained as follows:

$$g_{GDP} = \frac{\Delta GDP}{GDP} = \frac{(GDP_t - GDP_{t-1})}{GDP_{t-1}} = \left( \frac{GDP_t}{GDP_{t-1}} - 1 \right)$$

That is, the GDP growth rate equals the ratio of the increment in GDP from one period (t-1) to the next (t) divided by GDP in the first period (t-1). Growth rates can be expressed as fractions or, more commonly, as percentage changes (in which case, the fraction is multiplied by 100).

The rate of GDP growth is a quantitative outcome variable, which when plotted as a time series depicts a trajectory of highly aggregated footprints of an economy over time. For example, Figure 1 shows the time series for the rate of real GDP growth up to 2010, obtained by splicing the data on GDP at constant prices over successive national accounts series in Tanzania.<sup>1</sup>

**Figure 1: The growth trajectory of Tanzania’s GDP since independence up to 2010**



Source: National Bureau of Statistics, 1995a: Table 7.1; 1995b: Table 1; 1999: Tables 3 and 4; 2012: Tables 1 and 3 (authors’ own calculations)

Figure 1 also shows two horizontal lines. The lower line depicts zero growth, and hence points located below this line depict years with negative growth rates. The higher line roughly represents

<sup>1</sup> Time series that overlapped were spliced by taking the latest series as far back as possible.

the rate of population growth, which, with relatively minor movements, has remained close to 3% per annum. Therefore, the rate of growth of *per capita* GDP is (approximately) equal to the vertical distances between the data points and the line depicting the rate of population growth.<sup>2</sup>

Figure 1 was constructed by splicing together GDP data across successive national accounts series. As discussed further below, national accounts series differ in their construction, not only because definitions and methods of measurement of GDP and its components have changed over time in terms of both international norms and national applicability (Coyle, 2014), but additionally because economies also change over time, not only in terms of their rate of expansion but also in terms of their structure and the evolution of relative productivities between and within sectors. Indeed, an economy does not just grow in size; it also changes in appearance. Thus, Figure 1 should *not* be read as depicting a 'growth history' of Tanzania, since it abstracts from the major processes of institutional and structural change accompanied by massive relative price changes that invariably take place in a growing economy. Instead, Figure 1 illustrates the historical trajectory of short-run ups and downs in the rhythm of quantitative expansion of Tanzania's aggregate economic output. In this respect, it is like a thermometer that records how hot or cold it was, but not which way the wind was blowing or whether it was sunny or rainy.

Nevertheless, Figure 1 does provide a useful background chart for the subsequent empirical analysis in this paper, which focuses on the varied nature of structural changes that took place within the Tanzanian economy, particularly since the economic reforms of the late 1980s. Indeed, when looking at the nature of structural change, it is important to keep in mind whether such changes took place against a background of crisis and recovery, in a context of modest growth, or during the rapid expansion of an economy. In this respect, Figure 1 clearly depicts the economic crisis that Tanzania experienced during the early 1980s after a prolonged period of socialist development with modest but reasonable growth rates. The year 1983 stands out in particular as the nadir of the crisis, which signalled a major break in economic policies in Tanzania, leading to a period of economic reforms oriented towards increased market openness from the mid-1980s onwards. Equally remarkable is the sustained period of high growth rates which started in the late 1990s.

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<sup>2</sup> The growth rate of a product is approximately equal to the sum of the growth rates of its terms. Conversely, the growth rate of a ratio is approximately equal to the difference between the growth rate of the numerator and that of the denominator.

### 3. Aggregate expenditures on final demand and the accumulation balance

Accumulation is about the process of expanded reproduction of an economy: how surplus generated through domestic production or obtained from abroad is reinvested in an economy to make it grow. The accumulation balance of a country is depicted by the savings-investment equality in an open economy.

More specifically, to derive the savings-investment equality in an open economy, we start with the following identity that holds between macroeconomic aggregates on the expenditure side of the national income accounts:

$$\mathbf{GDP = HH CONSUMPTION + GOVERNMENT CONSUMPTION + INVESTMENT + (EXPORTS - IMPORTS)} \quad (1)$$

where HH consumption refers to household consumption. In national accounts tables, investment is also referred to as gross capital formation.

Gross domestic savings is then defined as the excess of domestic output over domestic consumption, as follows:

$$\mathbf{DOMESTIC SAVINGS = GDP - (HH CONSUMPTION + GOVERNMENT CONSUMPTION)} \quad (2)$$

From equations 1 and 2 it follows that

$$\mathbf{INVESTMENT = DOMESTIC SAVINGS + (IMPORTS - EXPORTS)} \quad (3)$$

This yields the *savings-investment equality*, also referred to (in traditional political economy) as the *accumulation balance* of an economy.

However, part of the income derived from domestic output (GDP) accrues to residents of other countries, and conversely, domestic residents also derive part of their income from output produced abroad. To account for the net inflow of such primary incomes, the gross national income (GNI) of a country (as distinct from its GDP) is defined as follows:

$$\mathbf{GROSS NATIONAL INCOME (GNI) = GDP + NET PRIMARY INCOME FROM ROW} \quad (4)$$

where 'ROW' equals 'rest of the world'.

Further account needs to be taken of the net balance of current transfer payments from and to the rest of the world, which leads us to the definition of gross national disposable income (GNDI) as follows:

$$\text{GROSS NATIONAL DISPOSABLE INCOME} = \text{GNI} + \text{NET CURRENT TRANSFERS FROM ROW} \quad (5)$$

As will be demonstrated below, historically net primary income flows (which include repayment of interests on loans and profit repatriation) in Tanzania have tended to be negative, while net current transfers (which include the inflow of foreign aid grants) have tended to be positive, the latter being larger than the former. It thus follows that GNDI was generally larger than GDP. However, this does not mean that this pattern of a net positive inflow on both these counts combined will necessarily continue to prevail in the future.

Based on these definitions, gross national savings is defined as follows:

$$\text{GROSS NATIONAL SAVINGS} = \text{GNDI} - (\text{HH CONSUMPTION} + \text{GOVERNMENT CONSUMPTION}) \quad (6)$$

Therefore, gross national savings differs from gross domestic savings inasmuch as the former also takes account of the sum of net income flows and net transfers from the rest of the world, as follows:

$$\text{GROSS NATIONAL SAVINGS} = \text{GROSS DOMESTIC SAVINGS} + \text{NET PRIMARY INCOMES FROM ROW} + \text{NET CURRENT TRANSFERS FROM ROW} \quad (7)$$

Similarly, the current account *deficit* of a country's balance of payments differs from its trade deficit (the surplus of imports over exports) as follows:

$$\text{CURRENT ACCOUNT DEFICIT} = \text{IMPORTS} - \text{EXPORTS} - \text{NET PRIMARY INCOMES FROM ROW} - \text{NET CURRENT TRANSFERS FROM ROW.} \quad (8)$$

This allows us to derive a second alternative expression for the accumulation balance using national rather than domestic savings<sup>3</sup>, as follows:

$$\text{GROSS INVESTMENT} = \text{GROSS NATIONAL SAVINGS} + \text{CURRENT ACCOUNT DEFICIT} \quad (9)$$

In empirical analyses it is useful to look at the savings-investment equality from the perspectives of both domestic savings (equation 3) and national savings (equation 9). Each yields different insights. Equation 3 reveals how investment in a country is financed by the sum of the surplus of domestic production over and above domestic consumption *plus* the excess of imports over exports (= foreign savings). This equation throws light on the nature of resource mobilisation for accumulation: the production side of financing investment.

In contrast, equation 9 looks at the income side by taking into account that part of the income derived from domestic output (GDP) accrues to residents of other countries, and conversely, domestic residents also derive part of their income from output produced abroad. Each tells a

<sup>3</sup> Tanzanian national income accounts feature national rather than domestic savings, but domestic savings can be derived easily from the accounts. Moreover, the national accounts feature net national savings, which equals gross national savings minus the imputed value of the consumption of fixed capital.

different story, particularly because domestic savings and national savings do not always go hand in hand in terms of their movements over time, as shown below.

A final concept we shall use in the analysis of national account data is Gross Domestic Absorption, defined as follows:

$$\text{GROSS DOMESTIC ABSORPTION} = \text{HH CONSUMPTION} + \text{GOVERNMENT CONSUMPTION} + \text{INVESTMENT}, \quad (10)$$

$$= \text{GDP} + (\text{IMPORTS} - \text{EXPORTS}) \quad (11)$$

This is a measure of aggregate expenditures on final goods and services for use within the country, which explains why, unlike GDP, it excludes exports (since they are not absorbed in the domestic economy) and does *not* deduct imports (since they are absorbed in the domestic economy). When imports exceed exports, therefore, domestic absorption will be greater than GDP, and conversely when exports exceed imports, domestic absorption is less than GDP. As shown below, in Tanzania, historically gross domestic absorption has generally been larger than GDP.

A word of warning is necessary before we turn to the analysis of Tanzania's national accounts data. As pointed out earlier, the interpretation of national accounts data is fraught with dangers, particularly when looking at data across successive series of national income accounts. One reason is that the definitions underlying the system of national accounts have changed over time, both internationally and nationally. Indeed, GDP and its constituent components are not cast in iron, and hence the concepts that underscore its definitions are subject to continuous contestation and revision, as revealed, for example, by the fascinating account given by Diane Coyle (2014) on the history of GDP. Moreover, at the national level the specific assumptions underlying guesstimates of some of the components of GDP, such as subsistence production or informal sector production, may change over time, often implying quite significant changes in the absolute as well as the relative importance of different aggregates (Jerven, 2013; Coyle, 2014).

Finally, economies change over time, and hence assumptions made on the basis of the prevailing structure of an economy in a particular base year may no longer be valid 10 or 15 years later. This explains why a new national accounts series is started every 10 to 15 years or so. In Tanzania the most recent series uses 2001 as the base year, the one before it used 1992, and the one before that used 1976. For these reasons, in years where series overlap, aggregates in current prices do not always show the same patterns. Therefore, care needs to be taken not to jump to hasty conclusions when comparing patterns across different series. Looking at trends or structural change within a given series generally gives more meaningful results than comparing trends or structures across different series.

### 3.1 The accumulation balance in the 2000s

To derive the accumulation balance for Tanzania, starting with the most recent period, we begin by looking at the breakdown of GDP at current market prices in terms of expenditures on final demand. Table 1 gives a comparative picture of this breakdown for three selected years during the period 2001 to 2010.

**Table 1: Breakdown of aggregate expenditures on final demand:  
2001, 2005, and 2010 (2001 series)**

<b>At current market prices</b>		<b>% GDP</b>		<b>% GDP</b>		<b>% GDP</b>
GDP	9,100,274		15,965,296		32,293,479	
1 - Final consumption	7,901,761	86.8	13,386,429	83.8	25,417,627	78.7
Households	6,822,466	75.0	10,581,908	66.3	20,209,449	62.6
Government	1,079,295	11.9	2,804,521	17.6	5,208,178	16.1
2 - Gross capital formation	1,587,743	17.4	4,001,088	25.1	10,342,536	32.0
Fixed	1,547,100	17.0	3,936,683	24.7	10,177,693	31.5
Change inventories	40,643	0.4	64,405	0.4	164,843	0.5
3 - Exports	1,547,644	17.0	3,324,425	20.8	8,988,306	27.8
4 - Imports	-1,936,874	-21.3	-4,746,646	-29.7	-12,454,990	-38.6
<b>Memorandum</b>						
Accumulation balance						
- Investment	1,587,743	17.4	4,001,088	25.1	10,342,536	32.0
- Gross domestic savings	1,198,513	13.2	2,578,867	16.2	6,875,852	21.3
- Import gap: imports - exports	389,230	4.3	1,422,221	8.9	3,466,684	10.7
Gross domestic absorption	9,489,504	104.3	17,387,517	108.9	35,760,163	110.7

Source: National Bureau of Statistics, 2011: Table 14.

The top panel of Table 1 shows the breakdown of GDP from the expenditure side, while the bottom panel shows the components of the accumulation balance (see equation 3) on the one hand, and the values of gross domestic absorption (see equations 10 or 11) on the other.

Using the accounting identities listed above, three sets of conclusions can be drawn from Table 1 with respect to the changing composition of aggregate expenditures during the 2001 to 2010 period:

a - All expenditure shares in GDP increased significantly, except the share of HH consumption, which fell dramatically:<sup>4</sup>

	2001	2010	change in % points
Household consumption:	75.0%	62.6%	- 12.4
Government consumption:	11.9%	16.1%	+ 4.2
Gross investment:	17.4%	32.0%	+ 14.6
Exports:	17.0%	27.8%	+ 10.8
Imports:	21.3%	38.9%	+ 17.6

b - The share of the import gap in GDP more than doubled:

	2001	2010	change in % points
Import gap:	4.3%	10.7%	+ 6.4

c - The share of domestic savings rose significantly:

	2001	2010	change in % points
Gross domestic savings:	13.1%	21.3%	+ 8.2

<sup>4</sup> The fact that the share of household consumption in GDP fell does not mean that household consumption declined in absolute terms. In fact, household consumption rose significantly during this period, in both nominal and real terms. A falling share of household consumption in GDP indicates that household consumption did not grow at the same rate as the other components of aggregate expenditures. This was true in both nominal and real terms (not shown here). In real terms, for example, GDP grew by an average of 7.1% per annum from 2001 to 2010, while household consumption grew by an average of 6% per annum.

The bottom panel of Table 1 shows that in 2001 gross domestic savings (13.2% of GDP) accounted for 75% of total investment (17.4% of GDP), while the import gap (4.3% of GDP) accounted for the remaining 25%. By 2010, however, the share of investment in GDP nearly doubled to 32% of GDP, of which 67% came from gross domestic savings (which rose to 21.3% of GDP) and 33% from the import gap (which more than doubled to 10.7% of GDP).

What this shows is that during the first decade of this century, Tanzania witnessed a steep rise in the rate of investment in the economy, expressed as a share of GDP. This went hand in hand with a significant rise in the share of domestic savings, while the share of the import surplus in GDP more than doubled. At the start of the decade, foreign savings contributed a quarter of total investment; at the end of the decade, this share increased to a third.

Finally, as Table 1 also shows, domestic absorption was consistently in excess of GDP, rising from 104.3% of GDP in 2001 to 110.7% in 2010.

Table 2 derives the savings-investment equality, using gross national savings rather than gross domestic savings (equation 9 rather than equation 3).

**Table 2: National disposable income and national savings:  
2001, 2005 and 2010 (2001 series)**

1 - GDP	9,100,274	15,965,296	32,293,479
2 - Net Primary Income ROW	-38,939	-211,431	-101,111
3 - Gross National Income (GNI) [= 1 + 2]	9,061,335	15,753,865	32,192,368
4 - Consumption of fixed capital	1,021,287	1,605,718	2,664,869
5 - Net National Income (NNI) [= 3 - 4]	8,040,048	14,148,147	29,527,499
6 - Net Current Transfers ROW	509,384	532,360	1,185,204
7 - Net National Disposable Income (NNDI) [= 5 + 6]	8,549,432	14,680,507	30,712,703
8 - Final consumption (household and government)	7,901,761	13,386,429	25,417,627
9 - Net national savings [= 7 - 8]	647,671	1,294,078	5,295,076
10 - Gross National Disposable Income (GNDI) [= 7 + 4]	9,570,719	16,286,225	33,377,572
11 - Gross national savings [= 10 - 8, or 9 + 4]	1,668,958	2,899,796	7,959,945
12 - Gross national savings as % of GNDI [100 x 11/10]	17.4	17.8	23.8
13 - Gross national disposable income as % of GDP	105.2	102.0	103.4

*Source: National Bureau of Statistics, 2011: Tables 17 and 18.*

What this tells us is that at the start of the century gross investment was largely financed by gross national savings (which includes foreign aid grants), leaving a small current account *surplus* of 0.8% of gross national disposable income. Hence, the net inflow of foreign aid (= the main component of net current transfers from the rest of the world) provided sufficient finances to cover both the trade deficit (imports *minus* exports) and the negative net inflow of primary incomes from the rest of the world. In 2010, however, the import gap had widened, which, along with net primary income flows from the rest of the world, was no longer fully compensated for by net current transfers from the rest of the world, in part due to the declining relative importance of foreign aid grants.



### 3.2 The accumulation balance in the late 1980s and 1990s

Figure 1 revealed the 2000s as a period with high growth rates. The period that preceded it, which started with the adoption of structural adjustment policies from 1986 onwards, witnessed a rockier growth trajectory. Table 3 shows the final expenditures composition of GDP and the breakdown of the accumulation balance for selected years in the late 1980s and the 1990s up to 2001, encompassing the period that witnessed the major impact of the economic reforms under structural adjustment policies. The data are derived from the national accounts series with base year 1992. For reasons explained above, the final expenditures composition of GDP for 2001 in the national accounts with base year 1992 (shown in Table 3) do not tally exactly with comparable shares for 2001 derived from the national accounts with base year 2001 (shown in Table 1). The reason for including the year 2001 in both Table 1 and Table 3 is to caution against jumping too readily to the conclusion that real changes happened, while in fact, as pointed out earlier, such observed differences may be due to statistical artefacts: inevitable revisions in definitions and assumptions, the reassessment of context, and availability of data sources, all of which routinely take place when changing from an old series of national accounts to a new one.

**Table 3: Breakdown of aggregate expenditures on final demand:  
1987, 1992, 1996 and 2001 (1992 series)**

<i>At current market prices</i>				% GDP		% GDP		% GDP
GDP	329486		1,369,874		3,767,643		8,274,606	
1 - Final consumption	324,906	98.6	1,402,210	102.4	3,565,401	94.6	7,433,905	89.8
Households	269,309	81.7	1,133,194	82.7	3,130,072	83.1	6,917,579	83.6
Government	55,597	16.9	269,016	19.6	435,329	11.6	516,326	6.2
2 - Gross capital formation	72,759	22.1	373,043	27.2	627,237	16.6	1,406,302	17.0
Fixed	71,059	21.6	369,368	27.0	620,597	16.5	1,390,641	16.8
Change inventories	1,700	0.5	3,675	0.3	6,640	0.2	15,661	0.2
3 - Exports	29,559	9.0	170,438	12.4	751,161	19.9	1,276,330	15.4
4 - Imports	-86,516	-26.3	-539,096	-39.4	-1,203,517	-31.9	-1,931,316	-23.3
5 - Discrepancy	-11,222	-3.4	-36,723	-2.7	27,360	0.7	89,385	1.1
<b>Memorandum</b>								
Accumulation balance								
- Investment	72,759	22.1	373,043	27.2	627,237	16.6	1,406,302	17.0
- Gross domestic savings	4,580	1.4	-32,336	-2.4	202,242	5.4	840,701	10.2
- Import gap: imports - exports	56,957	17.3	368,658	26.9	452,356	12.0	654,986	7.9
- minus discrepancy	11,222	3.4	36,723	2.7	-27,360	-0.7	-89,385	-1.1
Gross domestic absorption	397,665	120.7	1,775,253	129.6	4,192,638	111.3	8,840,207	106.8

Source: National Bureau of Statistics, 1999: Table 5a; 2006: Table 5a.

- Notes: 1 - Gross domestic savings is estimated by subtracting total consumption from GDP.  
2 - The statistical discrepancy records that estimates of the expenditure side of GDP do not exactly add up to GDP (as measured from the production side by adding value added across sectors).  
3 - In setting up the accumulation balance, the statistical discrepancy has to be subtracted from the sum of gross domestic savings and the import gap to ensure equality with investment.

Comparing both tables, however, we can see that the changing composition of expenditure patterns during the period from 1987 to 2001 was remarkably different from what prevailed during the 2001 to 2010 period.

More specifically, the following conclusions can be drawn from Table 3 concerning the 1987 to 2001 period:

- a) The most striking feature of the 1987 to 2001 period was that *the share of household consumption in GDP remained high and nearly constant* throughout the period as a whole:

	1987	1992	1996	2001
HH consumption (% GDP):	82%	83%	83%	84%

- b) *The import gap first rose and then declined significantly:*

	1987	1992	1996	2001
Import gap (% GDP):	17%	27%	12%	8%

- c) *Gross investment first rose and then fell (following the import gap):*

	1987	1992	1996	2001
Gross investment:	22%	27%	17%	17%

- d) *Government consumption fell from 1992 to 2001:*

	1987	1992	1996	2001
Government consumption:	17%	20%	12%	6%

In short, the share of household consumption remained remarkably stable throughout this period, notwithstanding major changes in the shares of the other components of expenditures on GDP, including the fall in the share of imports in GDP. It is important to keep in mind that these patterns took place against a background of relatively modest growth up to the second half of the 1990s.

With respect to the accumulation balance, the most distinctive feature of the earlier period (the late 1980s and the early 1990s) was that investment was almost completely financed by the import gap, with little or no domestic savings; at times there was even dissaving. The evolution of domestic absorption relative to GDP mirrors this pattern during the same period: in 1987 domestic absorption stood at 121% of GDP, a percentage that rose to nearly 130% of GDP by 1992. It was not until the mid-1990s that domestic savings picked up again and subsequently gained importance at the turn of the century, although this was against a background of a falling share of investment. Similarly, domestic absorption as share of GDP fell significantly during the latter half of the 1990s.

Table 4 shows the accumulation balance from the perspective of national rather than domestic savings.

**Table 4: National disposable income and national savings:  
1987, 1992, 1996, and 2001 (1992 series)**

1 - GDP	329,486	1,369,874	3,767,643	8,274,606
2 - Net Primary (factor) Income ROW	-12,675	-67,080	-36,921	-38,939

3 - Gross National Income (GNI) [= 1 + 2]	316,811	1,302,794	3,730,722	8,235,667
4 - Consumption of fixed capital	5,340	38,760	90,674	236,565
5 - Net National Income (NNI) [= 3 - 4]	311,471	1,264,034	3,640,048	7,999,102
6 - Net Current Transfers ROW	37,464	269,426	196,342	509,384
7 - Net National Disposable Income (NNDI) [= 5 + 6]	348,935	1,533,460	3,836,390	8,508,486
8 - Final consumption (household and government)	324,906	1,402,210	3,565,401	7,433,905
9 - Net national savings [= 7 - 8]	24,029	131,250	270,989	1,074,581
10 - Gross National Disposable Income (GNDI) [= 7 + 4]	354,275	1,572,220	3,927,064	8,745,051
11 - Gross national savings [= 10 - 8, or, 9 + 4]	29,369	170,010	361,663	1,311,146
12 - Gross national savings as % of GNDI [100 x 11/10]	8.3	10.8	9.2	15.0
13 - Gross national disposable income as % of GDP	107.5	114.8	104.2	105.7

Source: National Bureau of Statistics, 1999: Tables 6 and 7; 2006: Tables 6 and 7.

This table shows that gross national savings played a more prominent role in financing investment (compared with the role of gross domestic savings). The reason is that unlike domestic savings, national savings includes the inflow of foreign aid grants, thus leaving a smaller but significantly large current account deficit in its wake (compared with the much larger trade deficit).

It follows that during the late 1980s and early 1990s, at the aggregate level the accumulation balance was essentially driven by foreign aid. However, foreign aid alone did not fully fund the import gap. Foreign aid was the dominant player, but a significant current account deficit persisted during this period, a point to which we return below. In the subsequent period, during the 2000s, foreign aid continued to play an important role, particularly in funding government expenditures, but it lost its dominant role as the driving force behind the accumulation balance. From the late 1990s onwards accumulation rose as a share of GDP, while its financing came to depend more on domestic savings. But the import gap and current account deficit widened again towards the end of the 2000s, partly financed by foreign aid, but also as a consequence of the more prominent role played by the inflow of direct foreign investment during this period.

In summary, Tables 1 to 4 in conjunction with Figure 1 show that from the time of the economic reforms and structural adjustment onwards, Tanzania's economy underwent quite dramatic changes, not only in its rate of growth but also in the composition of its aggregate expenditure patterns and in the evolution of its accumulation balance. Initially, the share of consumption remained consistently high throughout the late 1980s and the 1990s, after which it fell significantly during the 2000s. Moreover, in the initial period the discrepancy between domestic absorption and GDP was very large, reaching as high as 130% of GDP by 1992, after which it fell within the 104% to 107% range by the turn of the century. Thereafter, during the 2000s, it rose again to about 111% of GDP in 2010. The import gap mirrored this evolution of the share of domestic absorption in GDP. During this period the share of investment in GDP fell significantly to about 17% at the end of the 1990s and subsequently rose to 32% of GDP in 2010. As shown above, this went hand in hand with sharp reversals in the evolution of the balance between domestic savings and import surplus on the one hand, and the balance between national savings and the current account deficit on the other.

### 3.3 The earlier years: state-led investment drive and economic crisis

It is our contention that the changes in expenditure patterns and in the evolution of the accumulation balance that took place in the post-reform period cannot be understood unless

they are situated in the context of the economic crisis of the early 1980s that triggered this process of market-led reforms. It is useful, therefore, to take a look at what happened during the second half of the 1970s and the first half of the 1980s. This period covers the end of the heyday of the Nyerere years, and the subsequent economic crisis of the early 1980s to which it gave rise. To do this we shall make use of the national account series with base year 1976 to look at the breakdown of aggregate expenditures on GDP and at the evolution of the accumulation balance during this period.

Table 5 gives us a comparative picture for five selected years in the period 1976 to 1987: 1976 (during the heyday of the Nyerere period), 1980 (the year before the crisis), 1983 (in the depths of the crisis), 1985 (the start of the Mwinyi era), and 1987. Our aim is to focus on the period from 1976 to 1985, but we include the year 1987 to provide a point of overlap between the national income accounts with base year 1976 (Table 5) and the national income accounts with base year 1992 (see Table 3).

**Table 5: Breakdown of aggregate expenditures on final demand:  
1976, 1980, 1983, 1985, and 1987 (1976 series)**

<b>At current market prices</b>		<b>% GDP</b>		<b>% GDP</b>		<b>% GDP</b>		<b>% GDP</b>		<b>% GDP</b>
GDP	24,876		42,228		69,522		112,213		203,901	
1 - Final consumption	18,495	74.3	34,427	81.5	62,417	89.8	102,595	91.4	200,930	98.5
Households	14,506	58.3	28,933	68.5	52,974	76.2	84,040	74.9	175,497	86.1
Government	3,989	16.0	5,494	13.0	9,443	13.6	18,555	16.5	25,433	12.5
2 - Gross capital formation	7,011	28.2	13,017	30.8	11,344	16.3	20,867	18.6	56,415	27.7
Fixed	6,404	25.7	12,433	29.4	11,903	17.1	18,966	16.9	72,152	35.4
Change inventories	607	2.4	584	1.4	-559	-0.8	1,901	1.7	-15,737	-7.7
3 - Exports	5,343	21.5	6,129	14.5	5,455	7.8	7,585	6.8	25,267	12.4
4 - Imports	-5,973	-24.0	-11,345	-26.9	-9,694	-13.9	-18,834	-16.8	-78,711	-38.6

**Memorandum**

<i>Accumulation balance:</i>										
- Investment	7,011	28.2	13,017	30.8	11,344	16.3	20,867	18.6	56,415	27.7
- Gross domestic savings	6,381	25.7	7,801	18.5	7,105	10.2	9,618	8.6	2,971	1.5
- Import gap	630	2.5	5,216	12.4	4,239	6.1	11,249	10.0	53,444	26.2
Gross Domestic Absorption	25,506	102.5	47,444	112.4	73,761	106.1	123,462	110.0	257,345	126.2

Source: National Bureau of Statistics, 1995c: Table 5.

In addition, Table 6 shows the accumulation balance from the perspective of national rather than domestic savings.

**Table 6: National disposable income and national savings:  
1976, 1980, 1983, 1985, and 1987 (1976 series)**

1 - GDP	24,876	42,228	69,522	112,213	203,901
2 - Net Primary (factor) Income ROW	-150	-112	-307	-1,656	-6,162
3 - Gross National Income (GNI) [= 1 + 2]	24,726	42,116	69,215	110,557	197,739
4 - Consumption of fixed capital	-913	-1,540	-1,619	-2,482	-5,340
5 - Net National Income (NNI) [= 3 - 4]	23,813	40,576	67,596	108,075	192,399
6 - Net Current Transfers ROW	464	1,055	1,150	6,406	38,257
7 - Net National Disposable Income (NNDI) [= 5 + 6]	24,277	41,631	68,746	114,481	230,656
8 - Final consumption (household and government)	18,495	34,427	62,417	102,595	200,930
9 - Net national savings [= 7 - 8]	5,782	7,204	6,329	11,886	29,726
10 - Gross National Disposable Income (GNDI) [= 7 + 4]	25,190	43,171	70,365	116,963	235,996
11 - Gross national savings [= 10 - 8, <u>or</u> , 9 + 4]	6,695	8,744	7,948	14,368	35,066
12 - Gross national savings as % of GNDI [100 x 11/10]	26.6	20.3	11.3	12.3	14.9
13 - Gross national disposable income as % of GDP	101.3	102.2	101.2	104.2	115.7

Source: National Bureau of Statistics, 1995b: Tables 6 and 7.

The period from 1976 to 1980 was characterised by a state-led investment drive which relied on access to foreign aid. At the time, apart from technical assistance, foreign aid mainly took the form of investment aid. Nevertheless, it was common practice for donor project aid to require counterpart funding by the Tanzanian government, which meant that the inflow of investment aid tied up government savings as well (Doriye & Wuyts, 1992: p. 22). Moreover, 'in the absence of real government savings to provide such counterpart funds, the going practice appears to have been to resort to domestic bank borrowing by the government' (*ibid.*: pp. 22–23).

In their econometric analysis, Doriye and Wuyts uncovered a strong association between government domestic bank borrowing (i.e. printing money) and investment support by foreign donors (*ibid.*: p. 23). The share of investment in GDP remained high throughout this period: 28.2% in 1976, rising to 30.8% in 1980, the year before the onset of the crisis. In contrast, the share of household consumption in GDP was initially low (58% in 1976), but it rose to 68% in 1980. Moreover, in 1976 the import gap was low (2.5% of GDP), but this was mainly due to the increased inflow of export earnings from the coffee boom in 1976–77. In fact, the import gap had been increasing in Tanzania from 1973 onwards (Doriye & Wuyts, 1992: p. 4). By the end of the 1980s the import gap stood at 12.4% of GDP.

The composition of imports changed dramatically during this period. On the one hand, the share of imports of capital goods in total imports rose from around 20% in the mid-1960s to an average of around 30% in the first half of the 1970s, and then to nearly 40% in the second half of the 1970s (*ibid.*: p. 4). This mirrored the impact of Tanzania's industrialisation strategy, particularly in the second half of the 1970s. On the other hand, the steep rises in the price of oil, first in the 1974–5 period and then again in the 1979–80 period, meant that the share of oil in total imports rose steeply, particularly towards the end of the 1970s. Consequently, by the end of the 1970s the Tanzanian economy witnessed a considerable squeeze on recurrent imports, apart from oil. This explains the paradox that capacity creation in the economy during the late 1970s (as a result of

the state-led investment drive, backed by foreign aid) went hand in hand with increased capacity underutilisation (Wangwe, 1983; Lipumba *et. al.*, 1988).

The foreign exchange squeeze, especially on recurrent imports, meant that the Tanzanian government sought help from its donors in 1980, specifically seeking to redirect the flows of aid away from investment support towards quick-disbursing aid to support recurrent imports instead. By that time, however, the mood in the 'donor community' had changed, adopting a stance in favour of pro-market, non-interventionist, neo-liberal policies. This led to a stand-off between the Tanzanian government and the IMF and the World Bank, provoking so-called 'donor fatigue', where the aid boom of the 1970s was abruptly ended in 1980 (Wangwe, 2004: p. 388), thus triggering the economic crisis of the early 1980s.

As Figure 1 illustrates, the period from 1981 to 1983 was characterised by negative GDP growth. The year 1983 represents the depth of the economic crisis. Both imports and exports fell as share of GDP in 1983 as compared with 1980, against a background of negative growth. Imports contracted more than exports, thus leaving a smaller import gap as share of GDP due to lack of foreign finance. Given this squeeze in imports, the economy was characterised by a veritable 'goods famine'. The shares of investment and of domestic (and national) savings also dropped by nearly half, while the share of household consumption rose as a result of the sharp drop in investment fuelled by donor aid. It was the depth of this crisis that prompted policy reforms, at first internally driven through the adoption of partial liberalisation measures, and subsequently driven externally by the adoption of structural adjustment policies in 1986.

The partial liberalisation measures of 1984 included a relatively modest devaluation of the domestic currency along with the adoption of the so-called 'own exchange import scheme', which 'opened the door to imports financed by foreign exchange balances and incomes held abroad by residents with no questions asked about the source of such earnings, most of which resulted from unrecorded parallel market activities' (Wuyts, 2001: p. 432). This scheme fuelled the importation of transport equipment and cheap consumer goods (cloth, second-hand clothing, etc.), which gave an initial impetus to the availability of 'incentive goods' within the economy to alleviate the goods famine, as well as to the development of informal sector production.

Subsequently, the renewal of donor aid, with the adoption of structural adjustment policies, led not only to renewed inflows of foreign aid, but also to a change in the patterns of foreign aid: away from investment support towards import support, and subsequently towards budget support. Foreign aid, therefore, initially focused on revitalising the channels of trade, rather than on investment. This went hand in hand with massive devaluations of the currency aimed at effecting the rapid depreciation of the real exchange rate (Wuyts, 2004). This process was accompanied by rapid price inflation, as can easily be seen by looking at the evolution of GDP *at current prices*, particularly in the earlier period of adjustment (1987 to 1996). Similarly, the rise of the share of imports and exports in GDP during this period is to a large extent a reflection of the relative price changes provoked by the rapid depreciation of the real exchange rate.

### **3.4 Household consumption and domestic absorption: an overview**

Finally, it is instructive to chart the evolution of household consumption as share of GDP on the one hand, and total absorption on the other, over the period from 1976 to 2010, across successive series of national accounts.

YEAR	ABSORPTION (% GDP)	IMPORT GAP (% GDP)	HH CONSUMPTION (% GDP)	HH CONSUMPTION (% ABSORPTION)
1976	102.5	2.5	58.3	56.9
1980	112.4	12.4	68.5	61.0
1983	106.1	6.1	76.2	71.8
1985	110.0	10.0	74.9	68.1
1987	126.2	26.2	86.1	68.2
1987	120.7	17.3	81.7	67.7
1992	129.6	26.9	82.7	63.8
1996	111.3	12.0	83.1	74.7
2001	106.8	7.9	83.6	78.3
2001	104.3	4.3	75.0	71.9
2005	108.9	8.9	66.3	60.9
2010	110.7	10.7	62.3	56.5

This overview shows that across the period as a whole, household consumption rose and fell, with very similar start and end points – roughly 60% of GDP or 57% of domestic absorption. The earlier period is discussed quite extensively in the literature on Tanzania’s political economy. The state-led investment drive backed by aid-funded investment support meant that consumption became a residual, particularly in the light of the practice of mobilising domestic savings through a process of forced savings (propelled by government borrowing from the banking system). However, the change from the 1990s to the 2000s has been much less extensively analysed.

As demonstrated above, the 2000s witnessed a remarkable change in patterns of expenditures, in particular:

- a high rate of growth of the economy;
- a steep rise in the share of gross investment in GDP;
- together with a significant rise in the share of domestic savings;
- and a dramatic fall in the share of HH consumption.

It is not our intention to venture into an explanation of what processes lie beneath these changes. This would require a comprehensive analysis of the political economy of Tanzanian development since the economic reforms of the 1980s. And any such explanation would need to address the question of how *plausible* it is to assume that income distribution remained unchanged during this decade. Indeed, experience teaches us that these kinds of major shifts in expenditure shares tend to go hand in hand with significant shifts in income distribution – in particular, in the distribution between profits and labour incomes.

## 4. Value added by sector: the production side of GDP

In the previous section we looked at the composition of GDP from the expenditure side. In this section we examine GDP from the production side. The GDP of a country measures the totality of its output for 'final use' during a given period of time, which, in the Tanzanian context, means during a given year. By goods for final use we mean, for example, the bread bought in a bakery and consumed at home. The bread is the gross output: into its making went other goods as inputs, including wheat grown on the farm, flour made from the wheat, and salt, as well as expenditures on fuel to keep the oven going when baking the bread. These inputs are intermediate goods, not for final use. The value added is the difference between the value of gross output and the value of intermediate inputs. To avoid double counting the value of intermediate goods, therefore, GDP is calculated by summing up the value added from the different production units – farms and firms – within the economy.

The national income accounts provide a breakdown of the composition of value added across the economy's various sectors. Sectors can be defined more broadly or more narrowly. The broadest definition involves a three-way breakdown of the aggregate value added of a country: agriculture, industry, and services. Each of these broad categories is then broken down into a set of more narrowly defined sub-sectors. In the latest Tanzanian accounts, for example, agriculture is broken down further into the following sub-sectors: crops; livestock, hunting and forestry; and fishing. Similarly, industry encompasses sub-sectors such as mining and quarrying, manufacturing, electricity and gas, water supply, and construction. Finally, services are broken down into trade and repairs, hotels and restaurants, transport, communications, financial intermediation, real estate and business services, public administration, education, health, and other social and personal services (for an interesting account of the conceptual difficulties involved in accounting for intangible services, see Coyle, 2014).

In this section, we will focus mainly on the evolution of the broader division of aggregate value added into agriculture, industry, and services, although occasionally we shall also take a closer look at specific subsectors such as mining and quarrying, for example. The reason for looking at the sector composition of GDP is that it allows us to come to grips with an important dimension of the processes of structural change and economic transformation. In this respect, according to Timmer and Akkus (2008; see also Timmer, 2009), there are four continuous and interrelated processes that define structural transformation:

- 1) 'a declining share of agriculture in GDP and employment';
- 2) 'migration from rural to urban areas and a rapid process of urbanization';
- 3) 'the rise of a modern industrial and service economy';
- 4) 'a demographic transition from high rates of births and deaths (common in backward rural areas) to low rates of births and deaths (associated with better health standards in urban areas)' (p. 4).

In this section we will deal with the first and third of these interrelated processes from the perspective of the structure of GDP and its changing composition over time. In the next section, we deal with



the question of the structure of employment and its changing composition over time. In this paper we will not deal explicitly with population dynamics and migration, other than when these issues are relevant to the discussion of employment dynamics. However, see Otieno and Amani (2014) for an excellent discussion of the demographic dimensions of Tanzania's socioeconomic development.

#### 4.1 The changing sectoral composition of GDP

Table 7 shows the GDP composition across agriculture, industry, and services for selected years of the period 1987 to 2010, using the national accounts series with base years of 1992 and 2001, respectively.

**Table 7: Sectoral composition of GDP: 1987–2010 (selected years; in current prices)**

Economic Activity	1992 National Accounts series (as % of GDP at factor costs)				2001 National Accounts series (as % of GDP at basic prices)		
	1987	1992	1996	2001	2001	2005	2010
Agriculture	153,336 50.7%	612,402 48.0%	1,658,275 48.0%	3,406,146 44.7%	2,789,853 32.9%	4,636,136 31.8%	8,241,811 28.1%
Industry	47,399 15.7%	206,718 16.2%	490,885 14.2%	1,215,091 15.9%	1,638,459 19.3%	3,316,757 22.7%	7,225,731 24.7%
Service	116,449 38.5%	513,788 40.3%	1,440,356 41.7%	3,161,164 41.5%	4,139,962 48.8%	6,786,597 46.5%	14,188,185 48.4%
GDP	302,683	1,275,916	3,452,559	7,624,616	8,488,274	14,597,767	29,297,677

Source: National Bureau of Statistics, 1999: Table 3; 2006: Table 3; 2012: Table 3.

Note: 1992 National Accounts series use GDP at factor cost; 2001 National Accounts series use GDP at current basic prices (for an explanation of the difference, see National Bureau of Statistics, 2007: p. 6).

Two caveats are necessary before moving on to the interpretation of the patterns revealed in Table 7. The first concerns the denominator used in expressing shares in GDP – i.e. whether this denominator is GDP at factor cost, GDP at basic prices, or GDP at market prices.<sup>5</sup> The earlier national income accounts expressed sector shares as percentages of GDP at factor cost (which is smaller than GDP at market prices). However, the national income accounts with base year 2001 no longer use GDP at factor cost, using GDP at basic prices instead, in line with revised international standards. Furthermore, in the new national income accounts sector shares are expressed as percentages of GDP at market prices, and not as percentages of GDP at basic prices. What this means is that the sector shares of agriculture, industry, and services do not sum to 100%, but are generally much lower. For example, in 2010, agriculture (including fishing) accounted for 25.5% of GDP at market prices (of which agriculture proper accounted for 24.1%), industry accounted for 22.4%, and services accounted 43.9%, yielding a total of 91.8% of GDP at market prices.

<sup>5</sup> GDP at factor costs differs from GDP at market prices inasmuch as the former does not include net indirect taxes (taxes minus subsidies) on products. GDP at basic prices differs from the concept of GDP at factor costs in that the former includes net indirect taxes (indirect taxes less subsidies) attached to factors of production. NBS explains this difference between factor costs and basic prices as follows:

Gross value added at factor cost can be derived from gross value added at basic prices by subtracting other taxes and subsidies on production. By definition, other taxes and subsidies on production are not taxes and subsidies on products that can be eliminated from the input and output prices. Other taxes and subsidies on production – i.e. taxes payable on land, assets, labour, etc., employed in production – are not taxes payable per unit of output and cannot be deducted from the producer's price. They are recorded as being payable out of values added of the individual producers or sectors concerned. (National Bureau of Statistics, 2007: p. 6: our italics)

The concept of GDP at basic prices also differs from GDP at market prices, but in this case the difference concerns the net taxes and subsidies on the products themselves, not the factors of production.

In Table 7 we re-expressed the sector shares as percentages of GDP at basic prices, and not as percentages of GDP at market prices (as used in the NBS calculation). In the year 2010, for example, the sum of sector shares as percentages of GDP at basic prices (shown in Table 7) equals 101.2%, which only differs from 100% due to the non-inclusion in this sum of shares of the negative correction for FISIM (Financial Intermediaries Services Indirectly Measured)<sup>6</sup>. This re-expression of sector contributions to total value, added as percentages of GDP at basic prices rather than GDP at market prices, also increases the comparability with percentage shares listed in earlier national account series, which used GDP at factor cost as the denominator.

But there is a further caveat that also needs to be considered when interpreting the data in Table 7. Indeed, even with the correction made for the choice of denominator, it would be foolish to jump to the conclusion that the share of agriculture fell from 50.7% in 1987 to 28.1% in 2010 – a drop of nearly 22 percentage points. To be sure, it is sufficient to compare the difference in sector contribution of agriculture to total value added for 2001: respectively, 44.7% for the 1992 series (benchmark) and 32.9% for the 2001 series (benchmark). NBS explains these changes in the sector share contributions, not only in agriculture but also in other sectors, as follows:

The changes in the share composition of the benchmarks were mainly due to the revision of crop prices and the picking up of other sectors such as wholesale and retail trade, mining and construction. This implies that the off-farm activities are increasing in importance in the economy. (National Bureau of Statistics, 2007: p. 8.)

In other words, aside from the revision of crop prices, part of the changes in the share of agriculture was due to the reclassification of economic activities that had previously been lumped together with agriculture into other categories like petty production and trade, thus reducing the share of agriculture. It follows, therefore, that the observed change in the percentage share of agriculture between the data pertaining to the 1992 series and the 2001 series cannot simply be interpreted as indicative of real changes in the economy; some observed changes result from statistical revisions that are made when a new series of national accounts is initiated. For this reason, when looking at patterns across series, it is always important to include and compare the data for overlapping years to avoid jumping to conclusions that data reflect real changes in the economy, when in fact they merely mirror revisions in statistical definitions, assumptions or methods of data collection.

What, then, can we conclude from Table 7 about the fall in the share of agriculture over the period from 1987 to 2010? During the latter period, from 2001 to 2010, the share of agriculture fell from 32.9% to 28.1%, a drop of 4.7 percentage points. During the earlier period, from 1987 to 2001, the share of agriculture fell from 50.7% to 44.7%, a drop of 6 percentage points. Taken together, this suggests a total drop in the share of agriculture since 1987 of about 10.7 percentage points of GDP – a significant drop, but by no means as big as the figure of nearly 22% obtained by subtracting 28.1% from 50.1% and ignoring the statistical revisions made in the new national income accounts.

Nevertheless, this rough estimate of a 10.7% drop in percentage points may be a conservative estimate – or, more precisely, it may be an underestimate of the drop in the share of agriculture during the 1987 to 2001 period. Indeed, according to the revisions made in the new national accounts series with base 2001, the measurement of agriculture during the period 1989 to 2001, using the national accounts with base 1992, included various off-farm activities apart from agriculture, and hence it overestimated the share of agriculture. However, it is quite plausible to

<sup>6</sup> For an interesting as well as amusing discussion of what exactly is measured by the 'statistical mirage' called FISIM, which appears as a negative correction in the production side (value added) of the national accounts, see Coyle (2014: 98–104).

assume that these off-farm activities expanded fairly rapidly under the impulse of the revitalisation of the channels of trade and petty production, which occurred as a result of the relaxation of the import constraint due to the combined effect of the own exchange import scheme and the increased availability of quick-disbursing donor funding, which targeted recurrent imports rather than investment support. This was indeed a period characterised by the rapid development of informal production, both urban and rural. If this assumption is correct, the observed drop in the share of 'agriculture' may well have been the combined effect of a more pronounced drop in the share of agriculture *proper*, in part counteracted by the increased importance of other off-farm activities. Therefore, it is plausible that the actual drop in the share of agriculture was bigger than the conservative estimate of a drop of 10.7 percentage points.

In conclusion, if we overlook both caveats above, we might be led to conclude that the share of agriculture fell from 50.7% in 1987 to 25.5% (as reported in the national accounts publications), corresponding to a drop of 25.2 percentage points. After taking account of *both* these caveats, our conclusion would be that the actual drop in the share of agriculture was definitely much smaller than 22 percentage points, but probably somewhat larger than our initial conservative estimate of 10.7 percentage points.

This analysis has used three broad sectors to look at structural change: agriculture, industry, and services. It is, however, instructive to look in more detail at the evolution of the relative importance of some key sub-sectors, particularly in the period covering the later 1990s and 2000s, which was characterised by rapid economic growth. Table 8 shows the picture going back to 1998, using the national accounts series with base 2001. Unlike in Table 7, all shares in this table are expressed as percentages of gross domestic product at current *market* prices.

**Table 8: Shares of GDP at current market prices for selected sub-sectors: 1998–2010 (selected years; 2001 series)**

<b>Economic Activity</b>	<b>1998</b>	<b>2001</b>	<b>2005</b>	<b>2008</b>	<b>2010</b>
<b>Agriculture, hunting and forestry</b>	30.3%	29.0%	27.6%	25.7%	24.1%
Crops	22.9%	21.4%	20.5%	19.0%	17.8%
<b>Industry and construction</b>	18.5%	18.0%	20.8%	21.0%	22.5%
Mining and quarrying	1.4%	1.8%	2.9%	3.4%	3.3%
Manufacturing	9.7%	8.4%	7.9%	7.8%	9.0%
Construction	5.2%	5.2%	7.8%	7.7%	8.0%
<b>Services</b>	44.0%	45.5%	42.5%	43.8%	43.9%
Communications	1.1%	1.2%	1.7%	2.5%	2.1%
<b>Gross Domestic Product at current market prices</b>	100.0%	100.0%	100.0%	100.0%	100.0%

*Source: National Bureau of Statistics, 2007: Table 1 (annex); 2012: Table 3.*

During this period the share of agriculture, hunting, and forestry (not including fishing) in GDP (at market prices) fell from 30.3% in 1998 to 24.1% in 2010 – a drop of 6.2%. The main component was value added in crop production, which declined as a share of GDP from 22.9% in 1998 to 17.8% in 2010. Notwithstanding this decline, among all sub-sectors as listed in the national accounts, crop production remains the single biggest sub-sector as share of GDP.

The share of manufacturing in GDP, which stood at 9.7% in 2001, first declined up to 2008 (to 7.8%), after which it rose to 9% in 2010. In contrast, the share of construction rose quite markedly and consistently: from 5.2% in 1998 to 8% in 2010. Two sectors, mining and communications, more or less doubled their share in GDP, admittedly from very low levels: from 1.4% in 1998 to 3.3% in 2010 for mining and quarrying, and from 1.1% in 1998 to 2.1% in 2010 for communications. Some of these changes may look rather minor, but from the perspective of patterns of structural change, they are by no means unimportant, particularly when looking at the changing nature of Tanzania's position within the global economy.

**Table 9: Structure of goods exports: 1996 - 2010 (selected years)**

<b>Export sector</b>	<b>1996</b>	<b>2001</b>	<b>2005</b>	<b>2010</b>
<b>% of Total exports</b>				
<i>Traditional 'cash' crops</i>	56.8	27.0	21.2	15.0
<i>Minerals</i>	6.9	35.6	42.2	41.4
<i>Manufactured goods</i>	14.2	6.6	9.3	25.9
<b>% of GDP at market prices</b>				
Goods exports as % GDP	11.7	8.2	11.8	18.6
- Traditional crops	6.7	2.2	2.5	2.8
- Minerals	0.8	2.9	5.0	7.7
- Manufactured goods	1.7	0.5	1.1	4.8

*Source: The Planning Commission, 1998: Table 15A, Ministry of Planning, Economy and Empowerment, 2006: Table 19 and Ministry of Finance, 2011: Table 19*

The top panel in Table 9 shows that the relative shares in total goods exports of traditional export crops (coffee, tea, sisal, cotton, tobacco, and cashews), minerals, and manufactured goods changed dramatically from the mid-1990s onwards. Up to and into the second half of the 1990s, Tanzania depended primarily on cash crops to earn foreign exchange from goods exports. This state of affairs changed abruptly during the late 1990s and the 2000s: the export of minerals (particularly gold, but also precious stones) became the modal category, accounting for 41.4% of total goods exports by 2010. Manufacturing exports first fell as a share of goods exports, but then recovered and nearly doubled.

The bottom panel shows the relative importance of these three categories of exports as shares of GDP. Note that these shares are not comparable with the corresponding shares listed in Table 8 since the latter concern shares of value added in total value added, while Table 9 features the shares of the value of their exports (gross output exported) as percentages of GDP. Nevertheless, it is interesting to note that by 2010 the share of the gross output of cash crops in GDP stood at 42% of what it was in 1996, having fallen from 6.7% to 2.8%. In contrast, the share of value added for crop production in GDP in 2010 was 78% of what it was in 1998. This may reflect both the malaise of traditional cash crop production and the fact that Tanzanian agriculture is diversifying away from traditional cash cropping towards greater diversity in food production, both for exports and, importantly, to supply the expanding domestic market, particularly in the context of rapid urbanisation.

The share of mineral exports in GDP, which reached 7.7% in 2010, far exceeds the share of mining in total value added, which stood at 3.3%. Of course, as stated above, the former features the value of

gross production, while the latter only includes the value added. This may suggest that the mining sector has a high share of intermediate inputs in the total value of production. Alternatively, or in addition, this discrepancy may also indicate that mineral exports do not only include output from mining, but also subsequent processing in manufacturing.

## 4.2 The arithmetic of GDP growth decomposition across sectors

When analysing macro data, it can be very useful to decompose an aggregate growth rate – for example, of a country’s GDP – across its (additive) constituent sectors or expenditure categories. To do this, consider the following derivation of the decomposition of GDP across three sectors – respectively, agriculture, industry, and services, all expressed in constant prices.

Let

$$Y = Y_a + Y_m + Y_s \quad (12)$$

where

- $Y_a$  = agricultural GDP
- $Y_m$  = industrial GDP
- $Y_s$  = services GDP

Taking first differences for equation 12 and dividing by total GDP yields the following expression in growth rates:

$$\begin{aligned} \dot{Y} &= \frac{\Delta Y}{Y} = \frac{\Delta Y_a + \Delta Y_m + \Delta Y_s}{Y} \\ &= \frac{\Delta Y_a}{Y_a} \cdot \frac{Y_a}{Y} + \frac{\Delta Y_m}{Y_m} \cdot \frac{Y_m}{Y} + \frac{\Delta Y_s}{Y_s} \cdot \frac{Y_s}{Y} \end{aligned} \quad (13)$$

Now let  $\alpha_y = \frac{Y_a}{Y}; \beta_y = \frac{Y_m}{Y}; \gamma_y = \frac{Y_s}{Y}$  (14)

where  $\alpha_y, \beta_y,$  and  $\gamma_y$  are the shares of agriculture, industry, and services in GDP, and let

$$\dot{Y}_a = \frac{\Delta Y_a}{Y_a}; \dot{Y}_m = \frac{\Delta Y_m}{Y_m}; \dot{Y}_s = \frac{\Delta Y_s}{Y_s} \quad (15)$$

Substituting equations 14 and 15 into 13 yields the following expression:

$$\dot{Y} = \alpha_y \cdot \dot{Y}_a + \beta_y \cdot \dot{Y}_m + \gamma_y \cdot \dot{Y}_s \quad (16)$$

Equation 16 states that the growth in GDP equals the sum of the products of the share of each sector in GDP with the sector’s growth rate. Each of the three constituent elements of this sum yields the contribution of the corresponding sector to the GDP growth rate.

Table 10 shows the sectoral growth rates for each sector (left panel) along with their respective contributions to GDP growth (right panel) for selected periods from 1987 to 2010. The data are based on the national accounts series with base year 1992 for the period 1987 to 2005, and on the national accounts series with base year 2001 for the period 2001 to 2010. For comparison

purposes, results for the overlapping period 2001 to 2005 are given twice: once using the 1992 series and again using the 2001 series.

**Table 10: Sectoral decomposition of GDP growth: 1987–2010  
(selected periods; in constant prices)**

Period	Sector Growth Rates (% average per annum)			Sector Contribution to GDP <sup>1</sup> (% average per annum)			
	Agriculture	Industry	Services	Agriculture	Industry	Services	GDP
<b>1992 series</b>							
1987–1994	3.1%	2.7%	3.0%	1.5%	0.4%	1.2%	2.8%
1994–2001	3.9%	5.9%	4.2%	1.9%	0.9%	1.7%	4.3%
2001–2005	5.0%	10.1%	6.0%	2.4%	1.7%	2.4%	6.3%
<b>2001 series</b>							
2001–2005	4.6%	10.4%	7.8%	1.5%	2.0%	3.8%	7.3%
2005–2010	4.0%	8.4%	8.0%	1.2%	1.8%	4.0%	6.9%

Source: National Bureau of Statistics, 1999; Table 4; Ministry of Planning, Economy and Empowerment, 2006: Table 3; National Bureau of Statistics, 2012: Table 6.

According to the 1992 national accounts series, in the period from 1987 to 1994, the initial years after the adoption of the structural adjustment policies, overall GDP growth was modest, particularly during the early 1990s (see also Figure 1). Agriculture was the leading sector, growing at 3.1% on average per annum, slightly ahead of services (3.0%) and industry (2.7%). In terms of sector contribution to GDP growth, agriculture, which accounted for about half of GDP at constant prices throughout this period, was the leading sector (1.5%), followed by services (with 1.2%) and industry (with only 0.4%). From 1994 onwards the growth rates increased in all sectors, with agriculture lagging behind industry and services. The growth in industry was particularly strong. However, agriculture (jointly with services) remained at the top in terms of its overall contribution to GDP growth, which resulted not only from the rise in its growth rate – from 3.9% during 1994–2001 to 5% in 2001–2005 – but also because of its large share in GDP at constant prices: 50% in 1994 and 48% in 2001 (National Bureau of Statistics, 1999: Table 4a; Ministry of Planning, Economy and Empowerment, 2005: Table 4b).

Turning next to the national accounts series with base 2001 for the overlapping period 2001–2005, we note that the sectoral growth rates are similar to those listed in the 1992 series for the same period, with the exception that the growth rate of services is seen to be higher: 7.8% in the 2001 series as compared with 6% in the 1992 series. But, the balance of sector contributions to overall growth changed quite dramatically due to the statistical revisions made in the 2001 series about the valuation of agriculture. In real terms, the share of agriculture (including fishing) in GDP at basic prices was about 33% in 2001, and about 30% in 2005. This pattern continued during the second half of the 2000s, with industry and services growing at similar rates – respectively, 8.4% and 8% per annum on average – and agriculture growing at 4%.

Table 11 gives a more detailed picture of growth performance at the level of selected sub-sectors (the relative importance of which in GDP was depicted in Table 8).

**Table 11: Average annual growth rates for selected sub-sectors: 1998–2010  
(selected years; constant prices)**

<b>Economic Activity</b>	<b>1998–2001</b>	<b>2001–2005</b>	<b>2005–2008</b>	<b>2008–2010</b>
<b>Agriculture, hunting, and forestry</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.1%</b>	<b>3.7%</b>
Crops	4.8%	5.0%	4.5%	3.9%
<b>Industry and construction</b>	<b>5.9%</b>	<b>10.4%</b>	<b>8.9%</b>	<b>7.6%</b>
Mining and quarrying	12.4%	16.5%	9.5%	2.0%
Manufacturing	5.3%	8.9%	9.0%	7.9%
Construction	5.6%	12.2%	9.9%	8.8%
<b>Services</b>	<b>5.5%</b>	<b>7.8%</b>	<b>8.2%</b>	<b>7.7%</b>
Communications	7.0%	15.5%	19.9%	22.0%
<b>Gross Domestic Product at constant 2001 market prices</b>	<b>5.3%</b>	<b>7.3%</b>	<b>7.1%</b>	<b>6.5%</b>

*Source: National Bureau of Statistics, 2007: Table 3; National Bureau of Statistics, 2012: Table 6.*

The sectors witnessing high growth rates were mining and communications. Mining output grew very fast in the earlier years up to 2005, but tapered off towards the end of the decade. In contrast, communications witnessed accelerated growth rates over the period up to 22% per annum at the end of the 2000s. Manufacturing saw sustained high growth rates of between 8% and 9% during the 2000s, although interestingly, as shown in Table 8, this did not lead to a rise in the share of manufacturing in GDP at current prices over the decade, which suggests that relative price changes did not favour this sector.

Perhaps the most striking feature of this table is that the growth rate in agriculture slowed down quite significantly over the 2000s, from 4.5% in the first half of the decade to 3.7% in the later years. This slowdown went hand in hand with a period of high food inflation. Towards the end of the 2000s, food prices were increasing at 12% per annum on average (Wuyts & Kilama, 2014). Table 12 gives a more comprehensive summary overview of agriculture during the 2000s, featuring shares of agriculture in GDP, broken down into monetary and non-monetary production for current and constant prices, implicit deflators and growth rates.

**Table 12: Monetary and non-monetary agriculture: shares and growth rates 2010–2010  
(selected years; current and constant prices)**

<b>1 - At current prices</b>						
GDP	9,100,274		15,965,296		32,293,479	
Agriculture, hunting, and forestry	2,636,193	29.0	4,410,478	27.6	7,782,138	24.1
Monetary	1,610,975	17.7	2,589,263	16.2	4,486,903	13.9
Non-monetary	1,025,218	11.3	1,821,215	11.4	3,295,235	10.2
Non-monetary as % of total agriculture	39%		41%		42%	
<b>2 - At constant 2001 prices</b>						
GDP	9,100,274		12,068,090		16,828,563	
Agriculture, hunting, and forestry	2,636,193	29.0	3,148,384	26.1	3,824,428	22.7
Monetary	1,610,975	17.7	1,922,831	15.9	2,330,731	13.8
Non-monetary	1,025,218	11.3	1,225,552	10.2	1,493,696	8.9
Non-monetary as % of total agriculture	38.9%		38.9%		39.1%	

<b>3 - Implicit deflators</b>			
<i>GDP</i>	100.0	132.3	191.9
Agriculture, hunting, and forestry	100.0	140.1	203.5
<i>Monetary</i>	100.0	134.7	192.5
<i>Non-monetary</i>	100.0	148.6	220.6
<b>4 - Average annual growth rates</b>			
<i>GDP</i>	7.3%	6.9%	7.1%
Agriculture, hunting, and forestry	4.5%	4.0%	4.2%
<i>Monetary</i>	4.5%	3.9%	4.2%
<i>Non-monetary</i>	4.6%	4.0%	4.3%

*Source: Ministry of Finance, 2011: Tables 1a and 3a.*

Table 12 shows that monetary and non-monetary agriculture grew roughly at the same rate, but the implicit deflator of non-monetary agriculture (which mainly includes food) rose more than the implicit deflator of monetary agriculture (which includes marketed food crops as well as traditional cash crops). This explains why the share of non-monetary agriculture in total agriculture rose from 39% to 42%. What it does not explain, however, is why the share of non-monetary agriculture in total agriculture remained nearly constant (and even rose slightly) in an economy that was supposedly undergoing rapid economic growth and transformation, including a falling share of agriculture in GDP.

Still, some caution, however, is needed in interpreting non-monetary production. It is quite likely that this includes local production that is most likely also marketed locally. Moreover, it could also be argued that these figures merely reflect national income statisticians' assumptions about how to estimate non-monetary agricultural output. Nevertheless, the patterns revealed in this table are quite plausible in the light of the fact that the falling share of agriculture in GDP did not go hand in hand with a commensurate fall in the share of agriculture in employment. To the extent that a large part of the labour force remains 'locked' in agriculture, it is quite plausible for the share of non-monetary (or locally marketed) production in total agriculture to remain constant or even rise, in spite of the fact that the share of agriculture in GDP may be falling. In this respect, as we have argued elsewhere (Wuyts & Kilama, 2014), a falling share of agriculture in GDP but not in employment is not necessarily a strong sign of positive economic transformation. This raises the question of what happened to the growth and distribution of employment during this period of rapid economic growth. We shall examine this issue in the next section.



## 5. Population, labour force, and the structure and evolution of employment

In 1961, an historic public debate took place in Japan between the newly arrived American ambassador Edwin O. Reischauer and the Japanese economist Nakayama Ichiro on which strategy Japan should adopt to foster economic development (Mishra, 2013). The American diplomat believed that rapid economic growth was well on its way to making Japan a Western-style developed nation, but in contrast the Japanese economist worried that rapid but unbalanced economic growth would create more problems than it solved. More specifically, according to Nakayama Ichiro, Japan was hobbled by an economy with two distinct sectors: one defined by modern technology, a high ratio of capital to labour, and high worker productivity and wages, while the other had the opposite traits (*ibid.*). It was largely due to the influence of Nakayama and his colleagues that Japan adopted a macroeconomic approach that emphasised labour over capital productivity and technical training for people moving out of the agrarian economy, laying the foundations of an approach to economic development that subsequently came to be identified with the East Asian miracle economies (*ibid.*).

The lesson from this debate is that what matters for successful economic transformation is not only rapid economic growth, or the rapid decline of the share of agriculture in GDP, but also the direction in which labour moves during this process of structural change. If labour absorption primarily moves *in the wrong direction*, towards less productive activities, while productivity growth is concentrated in sectors characterised by jobless growth, even if economic growth is rapid, it is unlikely to be inclusive (McMillan *et.al.*, 2013; Wuyts & Kilama, 2014). This is particularly important for a country like Tanzania, where population growth – and, by implication, labour force growth – remains high. This section takes a closer look at the growth and structure of the labour force and employment in Tanzania.

### 5.1 The implications of population growth, structure, and momentum for labour force dynamics

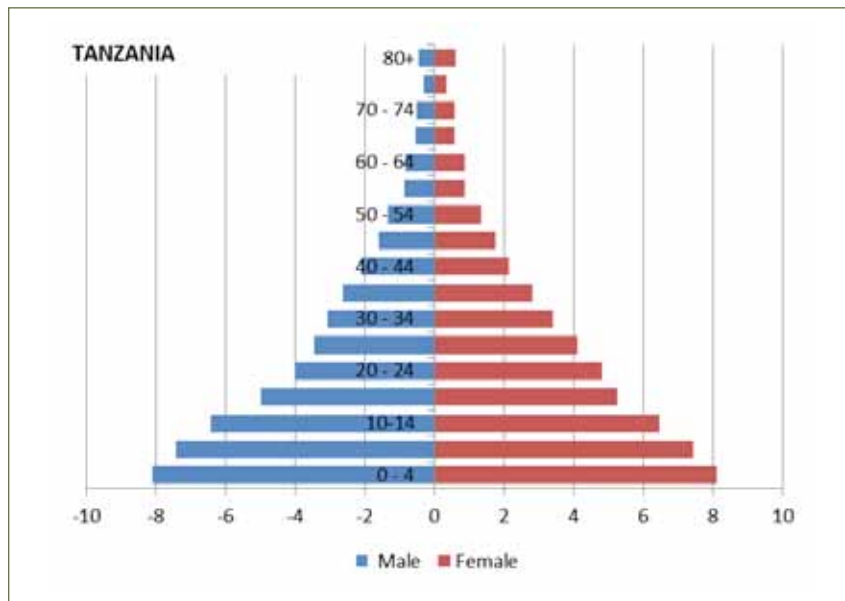
At the time of the Arusha Declaration, Tanzania's population (mainland) was about 12 million, but by 2012 the population had grown to about 45 million – an increase of 280%. In the earlier years, during the 1970s, the average annual rate of population growth stood at 3.2%. During the 1980s and the 1990s it fluctuated around 2.8%, and in 2012 it was about 2.7%. At this latter rate, the doubling time of the population is about 26 years (Otieno & Amani, 2014: p. 3).

Due to a decline in fertility, Tanzania witnessed a 'youth bulge', which means that the proportion of youth rises as a share of the total population. As explained by Otieno and Amani, the youth bulge 'consists of large numbers of adolescents and young adults who were born when fertility was high followed by declining numbers of children born after fertility has declined' (*ibid.*: p. 6). Tanzania began to experience a bulge in the youth population in the 1980s, but it became particularly noticeable in the 2000s (*ibid.*: pp. 6–7).

Population dynamics play an important role in the process of economic transition, not only in terms of the rate of population growth, but also in its age and sex distribution. More specifically, the

higher the rate of growth of the population, the younger the population structure; this is shown for Tanzania in Figure 2.

**Figure 2: Population pyramid for mainland Tanzania**

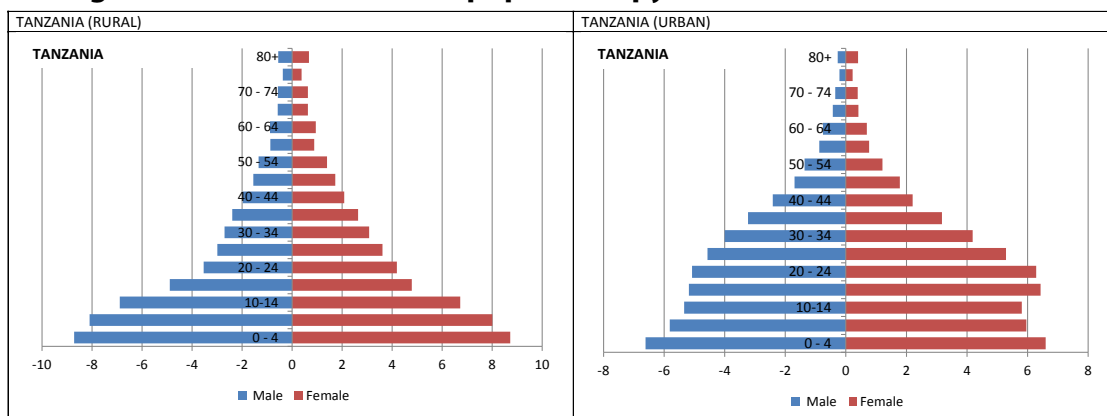


Source: National Bureau of Statistics, 2013 (authors' own graph)

The population's structure, however, is not evenly distributed across the rural/urban divide as a result of net rural to urban migration. What matters is not just the differential rates of growth between rural and urban areas, but also the way the pattern of net outmigration from rural areas alters the sex ratios and the age structures of rural and urban populations, and, by implication, of their respective labour forces.

For example, Figure 3 illustrates the impact of migration on the age and sex distribution of the rural and urban populations.

**Figure 3: Rural versus urban population pyramids (mainland Tanzania)**



Source: National Bureau of Statistics, 2013 (authors' own graph)

In comparison with Figure 2, Figure 3 shows how the rural population pyramid narrows down significantly for the age cohorts that typically correspond to people of working age, youth in particular, while conversely the urban pyramid shows significant bulging for these age cohorts. The bulge in the middle of the urban pyramid is much more visible than the corresponding squeeze

in the rural pyramid. This is because, given that the rural population is much larger than the urban population, the flow of migrants will constitute a much smaller percentage of the rural population than it does for the urban population. The sex ratios are not very different, but the sex ratio for the urban population is nevertheless slanted more towards women within the younger age cohorts of people of working age.

The implication of this population structure is, of course, that it makes the challenge of absorbing the growth of the labour force particularly acute. Population growth fuels labour force growth, which requires a rapid increase in productive employment. In 2001 the labour force was estimated to be around 15 million, but in 2012 it had risen to 24 million (Otieno & Amani, 2014: p. 58). At present the total labour force is growing at around 3.1% per annum, which is higher than the rate of population growth as a result of fertility transition (*ibid.*). This means that approximately 700,000 potential workers currently join the labour force each year (President's Office, Planning Commission, 2012: p. 51), a figure that grows as the population grows. At this rate the doubling time of the labour force is about 22.7 years.

Finally, migratory flows can have important consequences for labour force dynamics – not just in terms of growth, but also in terms of the age and sex compositions across rural and urban areas, and, by implication, in terms of the challenges this poses to absorbing labour (particularly newcomers to the labour force) in the productive sectors in the economy. As Figure 3 demonstrates, the youth bulge is especially pronounced in urban areas due to the impact of rural to urban migration on age structure. Conversely, this also means that children up to 14 years of age represent a larger proportion of the rural population. This helps to explain why it is estimated that the agricultural labour force in Tanzania is growing at a maximum of 2.8% per annum 'due to rural-urban migration and the growth of non-agricultural informal sector activities in the rural areas' (Otieno & Amani, 2014: p. 58).

## **5.2 The sectoral distribution of employment in Tanzania**

The main statistical source for labour force data in Tanzania is the *Integrated Labour Force Survey*. In Tanzania data are available from the 2006, 2000/1, and 1990/1 surveys. This means that, unlike national accounts, labour force statistics are not produced annually. Therefore, when labour force statistics are listed for years falling between two surveys or after the latest survey, they are estimated using interpolation and extrapolation respectively.

Like census data, labour force data take account of the sex and age distribution. Like national accounts data, they also classify workers by productive sectors. Furthermore, unlike national income data, labour force statistics separate out workers in the informal sector as part of the total currently employed labour force. In this respect, the informal sector is defined as follows:

The informal is considered as a subset of household enterprises or unincorporated enterprises owned by households. They are enterprises which are not separate legal entities independent of the households or household members who own them. They do not have a complete set of accounts which permit a clear distinction of production activities of the enterprises from the other activities of their owners and the identification of flows of income and capital between enterprises and owners. The enterprises may or may not employ paid labour and the activities may be carried out inside and outside the owners' home. All or at least some of the goods or services of the business have to be produced for sale.

The informal sector comprises informal own-account enterprises as well as enterprises of informal employers. The distinction between own-account enterprises and enterprises of informal employers is based on whether or not the enterprises of informal employers employ workers on a continuous basis as contrasted with the employment of employees on an occasional basis and the employment of unpaid family helpers. (National Bureau of Statistics *et al*, 2007; p. 7)

Finally, the labour data also classify workers by status of employment, a classification to which we will return later. Here we look at the classification of employment by productive sector, looking at both total employment and employment in the informal sector.

Table 13 gives a comparative overview of the distribution of the employment by productive sector for the 1990/1, 2000/1 and 2006 surveys.

**Table 13: The sectoral structure of employment: 1990/1, 2000/1, and 2006 (main activity only)**

Industry	Currently Employed Population (Main Activity Only)								
	1 - Total			2 - Informal			3 - Other [= 1 - 2]		
	1990/91*	2000/1*	2006**	1990/91*	2000/1*	2006**	1990/91*	2000/1*	2006**
Agriculture	9,164,059	13,253,395	12,713,234	13,160	40,272	19,498	9,150,899	13,213,123	12,693,736
	84.2%	85.4%	76.5%	1.4%	2.8%	1.2%	92.1%	93.8%	84.9%
Industry	445,697	332,297	714,217	264,944	256,089	341,592	180,753	76,208	372,625
	4.1%	2.1%	4.3%	27.7%	17.8%	20.3%	1.8%	0.5%	2.5%
Service	1,279,449	1,935,538	2,560,546	677,543	1,143,487	1,321,293	601,906	792,051	1,239,253
	11.7%	12.5%	15.4%	70.9%	79.4%	78.5%	6.1%	5.6%	8.3%
<b>Total Employed</b>	<b>10,889,205</b>	<b>15,521,229</b>	<b>16,627,133</b>	<b>955,647</b>	<b>1,439,847</b>	<b>1,682,383</b>	<b>9,933,558</b>	<b>14,081,382</b>	<b>14,944,750</b>

Source: Constructed by the authors using: National Bureau of Statistics *et al* 1993: Table M1 pp. 2–15 and Table INF1 pp. 2–27; National Bureau of Statistics *et al* 2002: Appendix 7B and Appendix 20; and National Bureau of Statistics *et al* 2007: Figure 5.2 p. 35, Table B3 p. 118, and Table C2 p. 119.

Notes: \* Population includes those aged 10 years or above for 1990/1 and 2000/1 surveys, but only those 15 years and above for 2006 survey

\*\* Private households with employed persons not included (presumably, domestic labour)

Before we turn to the patterns inherent in this table, it is important to stress that the 1990/1 and 2000/1 surveys used a different lower limit for age than in the 2006 survey: 10 years or above for the former, as compared to 15 years or above for the latter.

Keeping this caveat in mind, the following conclusions can be drawn from Table 13:

- a) At first glance, it would appear that the share of agriculture in employment dropped during the 2000s: 84.2% in 1990/1, 85.4% in 2000/1, but only 76.5% in 2006. But this conclusion ignores the fact that the earlier two surveys include the age cohort from 10 to 14 years old. Indeed, in our discussion of Figure 3 we already noted that children up to 14 years of age represent a larger proportion of the rural population than is the case for the urban population. Therefore, the 10- to 14-year age cohort listed in the earlier surveys is likely to be predominantly engaged in agriculture, thus inflating the share of agriculture in employment for the earlier surveys. Indeed, the 1990/1 survey shows that nearly 97% of employed children aged 10 to 14 were

recorded as working in traditional agriculture (National Bureau of Statistics and Ministry of Labour and Youth Development, 1993: Table M8, pp. 2–17). This pattern was similar for boys and girls. Moreover, this age cohort constituted slightly over 6% of the total currently employed population (*ibid.*), which would account for most of the observed difference in the share of employment between the 1990/1 and the 2006 surveys. In the 2000/1 survey we find that the share of agriculture in total employment for the 10- to 14-year age cohort was 83% and 77% for boys and girls, respectively, the remainder being accounted for by housework and, to a much lesser extent, informal sector work (National Bureau of Statistics and Ministry of Labour, Youth Development and Sports, 2002: Appendix 11A). Surprisingly, however, this 10- to 14-year age cohort constituted 13% of the currently employed population in the 2000/1 survey, which might suggest an increased reliance on child labour in agriculture.

In conclusion, this suggests that the share of agriculture in total employment has remained constant or declined only slightly for most of this period.

- b) Industry features the lowest share in employment: 4.1% in 1990/1, 2.1% in 2000/1, and 4.3% in 2006. Services account for the remainder: 11.7% in 1990/1, 12.5% in 2000/1, and 15.4% in 2006.
- c) Informal sector employment as share of total employment accounted for 8.8% in 1990/1, 9.3% in 2000/1, and 10.1% in 2006, indicating a slightly rising trend. It should be noted, however, that the share of agriculture in the informal sector is insignificant in all three surveys: 1.4% in 1990/1, 2.8% in 2000/1, and 1.2% in 2006. This implies that the actual definition of the informal sector is virtually exclusively confined to the non-agriculture sectors, notwithstanding the predominance of small-scale agricultural producers in Tanzania. Therefore, it follows that care should be taken in interpreting the residual category (labelled 3 in Table 13), obtained by subtracting informal sector employment from total employment. This residual cannot be equated with formal sector employment proper, precisely because it includes the large majority of the peasantry. Ignoring *formal* employment in (mainly, larger scale) agricultural enterprises, formal sector employment can be best approximated by adding the percentages listed for industry and services in section 3 of the table: 7.9% in 1990/1, 6.2% in 2000/1, and 10.8% in 2006.

Table 14 gives a more detailed breakdown of employment figures for selected sub-sectors of employment for the 2006 survey. The table further provides a breakdown by gender. The selection of sectors was confined to those with significant employment in the informal sector. Nonetheless, the aggregate totals give the total employment across all sectors of the economy (and not just the sum of the selected sectors).

**Table 14: Sectoral structure of employment by male and female: 2006  
(selected sub-sectors: main activity only)**

Industry	Currently Employed Population (Main Activity Only)								
	1- Total			2- Informal			3- Other [= 1 – 2]		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Agriculture, hunting, forestry, and fishing	5,880,789	6,832,446	12,713,234	13,296	6,202	19,498	5,867,493	6,826,244	12,693,736
	<i>72.7%</i>	<i>80.0%</i>	<i>76.5%</i>	<i>1.4%</i>	<i>0.8%</i>	<i>1.2%</i>	<i>82.0%</i>	<i>87.7%</i>	<i>84.9%</i>
Mining and quarrying	72,862	11,463	84,325	39,987	7,492	47,478	32,875	3,971	36,847
	<i>0.9%</i>	<i>0.1%</i>	<i>0.5%</i>	<i>4.3%</i>	<i>1.0%</i>	<i>2.8%</i>	<i>0.5%</i>	<i>0.1%</i>	<i>0.2%</i>
Manufacturing	272,872	161,335	434,206	133,470	109,533	243,003	139,402	51,802	191,203
	<i>3.4%</i>	<i>1.9%</i>	<i>2.6%</i>	<i>14.4%</i>	<i>14.5%</i>	<i>14.4%</i>	<i>1.9%</i>	<i>0.7%</i>	<i>1.3%</i>
Construction	171,995	6,686	178,681	50,699	412	51,111	121,296	6,274	127,570
	<i>2.1%</i>	<i>0.1%</i>	<i>1.1%</i>	<i>5.5%</i>	<i>0.1%</i>	<i>3.0%</i>	<i>1.7%</i>	<i>0.1%</i>	<i>0.9%</i>
Wholesale and retail trade	750,999	518,357	1,269,356	538,496	428,990	967,487	212,503	89,367	301,869
	<i>9.3%</i>	<i>6.1%</i>	<i>7.6%</i>	<i>58.1%</i>	<i>56.8%</i>	<i>57.5%</i>	<i>3.0%</i>	<i>1.1%</i>	<i>2.0%</i>
Hotels and restaurants	86,882	240,552	327,433	46,746	170,387	217,132	40,136	70,165	110,301
	<i>1.1%</i>	<i>2.8%</i>	<i>2.0%</i>	<i>5.0%</i>	<i>22.6%</i>	<i>12.9%</i>	<i>0.6%</i>	<i>0.9%</i>	<i>0.7%</i>
Transport, storage, and communication	231,116	13,111	244,227	25,968	17,081	43,050	205,148	-3,970	201,177
	<i>2.9%</i>	<i>0.2%</i>	<i>1.5%</i>	<i>2.8%</i>	<i>2.3%</i>	<i>2.6%</i>	<i>2.9%</i>	<i>-0.1%</i>	<i>1.3%</i>
Other community/social and personal service activities	79,336	35,206	114,543	78,789	14,835	93,624	547	20,371	20,919
	<i>1.0%</i>	<i>0.4%</i>	<i>0.7%</i>	<i>8.5%</i>	<i>2.0%</i>	<i>5.6%</i>	<i>0.0%</i>	<i>0.3%</i>	<i>0.1%</i>
<b>Totals</b>	<b>8,086,325</b>	<b>8,540,809</b>	<b>16,627,133</b>	<b>927,452</b>	<b>754,932</b>	<b>1,682,383</b>	<b>7,158,873</b>	<b>7,785,877</b>	<b>14,944,750</b>
<p>Source: Constructed by the authors using National Bureau of Statistics et al 2007: Figure 5.2 p. 35, Table B3 p. 118, and Table C2 p. 119.</p> <p>Note: Percentages listed in italics are percentages of column totals</p>									

At nearly 51.5%, women account for slightly more than half of total employment (main activity only). Yet this slight predominance of women in total employment is exclusively due to two sectors only: agriculture, the largest sector, where women account for nearly 54% of total employment, and hotels and restaurants, with 73.5%. In informal employment women only account for about 45% of total employment (main activity only). More specifically, women are mainly employed in trade (58% of female employment) and hotels and restaurants (22.6%), but also, interestingly, in informal manufacturing (14.5%). However, only in the hotel and restaurant sector do women account for the larger share of informal sector employment (about 78.5%).

Tables 13 and 14 examine employment totals by main activity only, although the labour force data also give information, albeit less detailed, on employment in secondary activities. The distinction between main and secondary activities is based on a ranking of the number of hours spent on each. Looking at the distribution of secondary activities matters not only because of the relative importance of these activities, but also because of the significant gender differences it reveals. In 2006, 48.6% of employed persons were engaged in secondary activities: 54.8% of employed women as against 42% of employed men (National Bureau of Statistics *et al*, 2007: p. 52). Moreover, participation in secondary activities is most common in rural areas, at 51.8% of employed persons (*ibid.*). Table 15 gives a more detailed breakdown of employment in secondary activities for selected sub-sectors of employment in the 2006 survey. The table also provides a breakdown by gender.

**Table 15: Sectoral structure of employment by male and female: 2006  
(selected sub-sectors: secondary activity only)**

Industry	Currently Employed Population (Secondary Activity Only)					
	Total			Informal		
	Male	Female	Total	Male	Female	Total
Agriculture, hunting, and forestry	1,218,842	573,391	1,792,234	120,175	18,538	138,714
	35.9%	12.3%	22.2%	10.7%	1.8%	6.5%
Mining and quarry	256,669	301,134	557,803	209,572	273,729	483,301
	7.6%	6.4%	6.9%	18.7%	27.2%	22.7%
Manufacturing	1,289		1,289	1,289		1,289
	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%
Construction	625,468	496,099	1,121,567	569,892	458,202	1,028,094
	18.4%	10.6%	13.9%	50.8%	45.5%	48.3%
Wholesale and retail trade	76,501	242,783	319,285	69,289	227,784	297,073
	2.3%	5.2%	4.0%	6.2%	22.6%	14.0%
Hotels and restaurants	51,882	3,144	55,026	31,011	899	31,910
	1.5%	0.1%	0.7%	2.8%	0.1%	1.5%
Transport, storage, and communication	873		873	16,814	12,026	28,840
	0.0%	0.0%	0.0%	1.5%	1.2%	1.4%
Other community/social and personal service activities	854,801	3,013,198	3,867,999	103,022	16,208	119,230
	25.2%	64.4%	47.9%	9.2%	1.6%	5.6%
<b>Totals</b>	<b>3,397,310</b>	<b>4,677,151</b>	<b>8,074,461</b>	<b>1,121,063</b>	<b>1,007,387</b>	<b>2,128,450</b>

Source: Constructed by the authors using National Bureau of Statistics et al 2007 Table C2 p. 119 and Table D2 p. 120.

In total employment in secondary activities, the dominant sector appears to be other community, social, and personal activities (with 47.9% of employment). The definition of this sector is left rather vague in ILFS 2006. Nearly two-thirds of these workers are women. In the analytical report of the 2006 Integrated Labour Force Survey this is taken to be the key message of the pattern of secondary activities (National Bureau of Statistics et al 2007: p. 53).

Two sectors, however, require special mention, namely mining and construction, both part of industry. Indeed, what is perhaps most striking in Table 14 is the size of employment (in excess of half a million persons) in the mining and quarrying sector: an estimated total of 557,803 persons, of which 483,301 were employed in informal mining and quarrying. This number is far in excess of the totals mentioned for employment as a main activity in this sector (see Table 14). Moreover, women account for more than half of this workforce: 53% of overall employment and 56.7% of employment in informal mining and quarrying. Construction is another sector that features much larger numbers of persons employed as a secondary activity than as a main activity: a total of 1,121,567 persons, nearly 92% of whom are in informal employment. In this sector, women account for 44% of employment in secondary activities.

Hence, a curious contrast emerges here with respect to gender differences in employment. If we only look at the distribution of employment in *main* activities, women are primarily located in agriculture, trade, and hotels and restaurants. Women's participation in industry is much lower, with the exception of manufacturing where women account for 37% of total employment. At the same time, if we look at employment in *secondary* activities, we find that women play a major role

in industry – mining and construction in particular – most of which are informal production and rural-based. Aggregate figures on employment tend to hide these patterns since they only include employment in main activities, not least to avoid double counting. But this hides significant patterns of employment that matter when looking at processes of structural change. Moreover, it is plausible that rural women in particular are more likely to be classified first as employed in agriculture, even if their engagement in secondary industrial activities may well turn out to be far more prominent than assumed or reported.

There is a further point worth mentioning here. As mentioned out earlier, if we examine the distribution of labour across productive sectors for main employment activities only, we find that employment in agriculture is very high. Yet this ignores the fact that a majority of rural dwellers are deeply engaged in secondary activities, many of which are outside agriculture. Hence, in terms of labour time, employment in agriculture is not so high as the data on employment by main activity suggests, due to the fact that the peasantry combines agriculture with off-farm activities to make a living.

### **5.3 The status in employment in Tanzania**

The labour force survey also tabulates employment data by status in employment, comprising the following categories:

- *Paid employees*: persons who perform work for a wage or salary in cash or kind, including permanent, temporary, and casual paid employees;
- *Self-employed (outside traditional agriculture)*: persons who perform work for profit or family gain in their own non-agricultural enterprise, including small and larger business persons working in their own enterprises. This category is sub-divided into those with employees and those without employees;
- *Unpaid family helpers (outside traditional agriculture)*: persons working completely without payment in cash or kind in family enterprises other than the family farm or shamba;
- *Traditional agricultural workers*: persons working in their own farms or shambas, in agriculture, livestock, or fishing, as either self-employed persons or unpaid family helpers. (National Bureau of Statistics *et al*, 2007: pp. 7–8)

Table 16 provides a cross-tabulation of employment status against sector of main employment for the 2006 Integrated Labour Force Survey.



**Table 16: Employment status by sector of main employment: 2006 (main activities only)**

Employment Status	Sector of main employment						Totals
	Central/local government	Parastatal	Agriculture	Informal	Other private	Household economic activities	
Paid employee	439,355	66,307	0	12,274	1,206,395	31,563	1,753,481
	100.0%	100.0%	0.0%	0.7%	84.2%	6.1%	10.5%
Self-employed (non-agricultural) with employees	0	0	0	232,334	66,552	899	299,786
	0.0%	0.0%	0.0%	13.8%	4.6%	0.2%	1.8%
Self-employed (non-agricultural) without employees	0	0	0	1,409,698	99,828	3,025	1,512,551
	0.0%	0.0%	0.0%	83.8%	7.0%	0.6%	9.1%
Unpaid family helper (non-agricultural)	0	0	0	29,366	61,035	485,974	575,798
	0.0%	0.0%	0.0%	1.7%	4.3%	93.2%	3.5%
Unpaid family helper (agricultural)	0	0	1,316,724	0	0	0	1,316,724
	0.0%	0.0%	10.5%	0.0%	0.0%	0.0%	7.9%
Work on own farm or shamba	0	0	11,168,792	0	0	0	11,168,792
	0.0%	0.0%	89.5%	0.0%	0.0%	0.0%	67.2%
<b>Total</b>	<b>439,355</b>	<b>66,307</b>	<b>12,485,516</b>	<b>1,682,383</b>	<b>1,432,370</b>	<b>521,202</b>	<b>16,627,133</b>

Source: Constructed by the authors using National Bureau of Statistics et al 2007 Table 5.8, Table B4, and B5, pp. 38 and 119.

Looking first at the final column of Table 16, we see that about two-thirds of employed persons (main activities only) are classified as working on their own farms or shambas. Adding the category of unpaid family helper in agriculture (7.9%) to this yields a total of 12,485,516, which amounts to a share of 75.1% of total employment. This sum is also given as total employment in the category (column) 'agriculture' in the table. Therefore, it appears that the category 'agriculture' in the classification 'sector of employment' is either arrived at as the simple addition of 'work on own farm or shamba' and 'family helper in agriculture', or, alternatively, is restricted to employment in traditional agriculture only (which, presumably, is seen to amount to the same thing).<sup>7</sup> This might also explain why there are no paid employees under the heading 'agriculture' in Table 16, even though the notion that there is no employment of paid labour in Tanzanian small-scale agriculture is highly questionable.

Paid employees and those who are self-employed account for roughly equal shares: respectively, 10.5% and 10.9% of total employment (main activity only). Paid employees are mainly concentrated in the government and parastatal sectors and in the 'other private' sector, while the large majority of self-employed are found in the informal sector. In fact, Table 16 shows that in the informal sector, 'paid employment', at a mere 0.7% for main activity, is deemed to be a very rare type of employment relationship. Self-employed workers without employees constitute the dominant type of employment status at 83.8%. Together with self-employed workers with employees at 13.8%, self-employment totals a staggering 97.6% of employment in the informal sector. However, this also reveals an interesting anomaly in these data: while paid employees constitute only 0.7% of the total, the self-employed with employees account for 13.8%. But when assuming that self-employed with employees have at least one worker each, these figures appear to hide the importance of paid employment in the informal sector (Rizzo & Wuyts, 2014: p. 5).

<sup>7</sup> This might in part explain why the total employment in category 'agriculture' as used in the classification of 'sector of employment' (Table 16) does not fully tally with the total in 'agriculture' listed in the classification of employment by industry (Table 14): 12,485,516 versus 12,713,234 respectively, a difference of 227,718 (1.8% of agricultural employment in the classification by industry).

## 6. Conclusion: transformation as jobless growth and productivity diverge

By way of conclusion, there are perhaps two lessons that can be drawn from this paper: one concerns method, the other content. Regarding method, the analysis of secondary data in a country like Tanzania is fraught with danger, given the problems of validity and reliability in data collection and compilation. In this paper, our approach has been to refrain from extracting single bits of data in isolation – such as GDP growth, for example – from the context within which they are constructed, to make strong claims about the nature of economic development. Instead, we have tried to approach the data cautiously, attempting to pinpoint the varied but often contradictory stories they tell, by triangulating different bits of readily available secondary data and by taking note of the accounting frameworks within which they are constructed, with the explicit objective of making reasonable sense in light of our knowledge of both the history Tanzania's economy and its changing structure.

In terms of content, the empirical analysis in this paper revealed that economic transformation is nothing new in Tanzania. Under the impetus of the economic reforms of the 1980s, Tanzania has been successful in raising the rate of growth of the economy from the late 1990s onwards. Moreover, this rapid growth process went hand in hand with an increased share of domestic savings, investment, and exports in GDP. The sectoral distribution of GDP has shifted away from agriculture towards industry and services. All these can be seen as positive developments. However, as also shown in this paper, employment did not follow suit: labour moved in the opposite direction of output growth, thus leading to accentuated divergences in productivity growth, both between and within the productive sectors of the economy (Wuyts & Kilama, 2014).

The share of agriculture in GDP fell steadily, but its share in employment remained consistently high. One possible explanation is that labour remains 'locked' in agriculture because productivity is low. For example, Mpango (2013) postulated that 'increased productivity in agriculture will increase production and generate excess labour supply'. Alternatively, it could be argued that causality runs in the other direction: labour productivity in agriculture remains persistently low because agriculture acts as a refuge sector of excess labour, due to what Rune Skarstein (2005) termed the dual phenomena of '*subsistence fallback*' and '*income diversification*' within agriculture. The direction of causality matters, because if labour productivity is low from agriculture acting as a refuge for excess labour, it follows that raising productivity through selective interventions in agriculture may accentuate rather than alleviate the problem of excess labour without leading to effective growth of wage employment outside agriculture (Wuyts & Kilama, 2014: p. 23).

The growth in wage employment outside agriculture has remained stunted, while the ranks of the 'self-employed' in the informal sector have swollen in size. As this paper showed, employment outside agriculture (main activity only) accounts for 23.5% of total employment (Table 14). Self-employment (outside agriculture) accounts for 10.9%, which entails mainly employment in the informal sector, while unpaid family helpers outside agriculture account for another 3.5% (Table 16). But this does take into account the fact that reliance on secondary activities is high in Tanzania, particularly in rural areas, which also suggests that Skarstein's alternative hypothesis on agriculture as a refuge sector of labour warrants further investigation. Most of these jobs are likely to be found

in informal employment.

The main conclusion that can be drawn from this paper, therefore, is that the processes of economic transformation and structural change since the economic reforms of the late 1980s were essentially characterised by rapid but jobless growth, leading to accentuated divergences in productivity within and between productive sectors. The lesson is that the challenge Tanzania faces today is not to initiate a process of economic transformation, but to reverse the direction of the ongoing transformation process by striving for greater convergence of productivity growth with employment growth.

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