

# **Economic Growth and Structural Change in Sub Saharan Africa during the Twentieth Century: New Empirical Evidence<sup>1</sup>**

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## **1. Introduction**

Generations of economists and historians have dealt with the question why the rich countries are rich, and the poor countries poor. Special attention is paid to Africa, which beyond any doubt is the most tragic example of a growth disaster. The debate focuses on the interpretation of the dismal growth performance. Can the slow growth be explained from geographical factors, or are cultural and institutional factors more important? Recently authors such as Rodrik (2002) and Acemoglu et al (2001b) have strongly stressed the importance of the institutional impediments to growth, paying due attention to the impact of colonisation on the growth path of the African economy. Strangely enough this discussion almost exclusively focuses on theoretical issues such as the modelling of institutions and their alleged impact on economic performance.

There seems to be a consensus among economists that during the colonial period institutions emerged which persisted over time and which hampered economic growth until long after independence. However, the poor growth record is postulated. Of course, there is abundant evidence that sub Saharan Africa faces a growth collapse from the 1970s onwards. But how about the earlier part of the twentieth century? The Maddison data indicate that the African economy did relatively well in the period 1950-1973, but this growth could easily be dismissed as an “easy” catching-up growth which affected virtually the entire world economy. It is more interesting to find out how the African economy performed in the colonial era. Was economic growth in this period indeed as low as is assumed by many scholars?

The lack of empirical evidence does not only relate to the economic growth performance, also the notion that institutions are persistent and do not fundamentally change over time is not seriously investigated. Mostly, economists introduce institutional characteristics for the late 20<sup>th</sup>

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<sup>1</sup> In this paper Sub-Saharan Africa represents all countries south of the Sahara, with the exception of the Republic of South Africa because of its close trade- and investment ties with the Western world. The author wishes to thank Ewout Frankema and Jutta Bolt for valuable comments. For questions and feedback please contact the author at: [j.p.h.smits@rug.nl](mailto:j.p.h.smits@rug.nl).

century in their regression analysis, postulating that these institutional characteristics did not change much over time. Of course, the work of economists into the great divergence of the west versus 'the rest' is of great importance. However, the theoretical notions expressed in these studies need to be critically tested on the basis of empirical research.

In this paper a new dataset on the African historical national accounts is presented for the period 1910-1960. The new historical GDP series show that the African economy did surprisingly well during the colonial era, even during the 1930s in which many other less developed regions suffered from the globalisation backlash. This pattern of the "rise and fall" of African GDP seriously challenges views that are dominant in present literature and which more-or-less indicate that the poor track record of this continent can be explained by some underlying structural problems related to geography or institutions

Section 2 gives an overview of the general explanations that economists and historians give of the great divergence between the west and the rest. Section 3 provides basic information about how the historical national accounts for Africa have been constructed, whereas section 4 presents the patterns of African growth and development on the basis of these new data. In section 5 the 'rise and fall' of the African economy will be analysed from an institutional perspective. It will be demonstrated how after independence the new African elites destroyed the indigenous institutional frameworks, which used to generate quite strong growth in the colonial era. This institutional shock brought about by the new African independent leadership paved the way for Africa's growth disaster of the post-1973 period.

## **2. Explaining Slow Growth: A Short Survey of Literature**

The dismal growth performance of Sub Saharan Africa is a popular topic in economic and historical literature. For an excellent treatment of the African case I refer to the survey articles by Easterly and Levine (1997) and Collier and Gunning (1999). In this section a more general discussion of the differences in growth rates between 'the west' and 'the rest' is presented.

One of the most challenging interpretation of the growth failure of the less developing countries is offered by Sachs and Warner (1995) and Gallup et al. (1998). These authors argue that primarily geographical factors explain the poverty trap in which so many tropical countries are caught. Africa's location in the tropics and the hazardous disease environment are supposed to have impeded the growth of especially the agricultural sector.

Apart from the fact that the regression analysis and its treatment of geographical factor is strongly criticised (see for example Rodrik (2002)), a more fundamental problem can be raised. If we do accept that geographical factors are the main reason behind the great divergence of the

West and ‘the Rest’, and bearing in mind that these geographical factors hardly change over time, than this must necessarily imply that in the long run these tropical countries show slow growth. This view is seriously contested by Acemoglu et al (2001a) who argue that there has been a ‘Reversal of Fortune’ in the world economy. Countries which are rather poor nowadays were much wealthier in earlier periods of time. It is not plausible that one and the same geographical context can induce rather strong growth in one period, and a growth collapse in later periods of time.

A second interpretation of slow growth is given by North and associates who stress the importance of colonial policy and the continuity of institutions over time (North, Summerhil and Weingast 2000).<sup>2</sup> However, also this interpretation in terms of colonial policy is not entirely convincing. How, for example, is it possible that the most productive colonies in the early nineteenth century could be found in the Caribbean, whereas these islands were colonised by different countries? This example shows that there is not a single one-to-one relationship between economic performance and the country which acts as colonisator. Also culture-based type of explanations, stressing how cultural and institutional characteristics of the colonial motherland are bound to influence the colonial empire, are not too convincing. Acemoglu et al (2004a) stress that whereas the Dutch Republic was characterised by modern and growth-promoting institutions, these institutional frameworks were not implemented in the colonies. On the contrary, the institutions of the Dutch East and West Indies were of an extractive nature and –especially in the case of Surinam and the Dutch Caribbean island- did not promote strong growth.

The most popular explanation of growth disasters focuses on institutions (Knack and Keefer 1995, Acemoglu et al 2001b, Rodrik 2002 and Djankov et al 2003). The economic development of the less developed countries is hampered because of the institutional shortcomings which characterise these societies. The roots of these institutional failures can be found in the endowment structure (land-labour ratios) and climate factors, which determine specialisation patterns.<sup>3</sup> In their comparison of the North- and Latin American institutional systems, Engerman and Sokoloff (1997) argue that low population density and climatic factors, led to a specialisation in tropical crops such as tobacco and sugar which are produced at increasing returns to scale. This

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<sup>2</sup> La Porta et al. (2004) point more specifically at the legal system implemented by the colonial powers.

<sup>3</sup> In the attempts to endogenise institutional development, often factors relating to geography and climate are included. But in these cases geography and climate do not have a *direct* impact on economic growth, but only an *indirect* effect due to the impact they have on the quality of institutions.

product specialisation induced an economic system characterised by high income inequality and an unequal distribution of political power.

Acemoglu et al (2001b) give an alternative explanation of the poor institutional quality of many countries located in tropical areas. They maintain that health risks, i.e. the incidence of malaria, explains whether Europeans decided to settle in their colonies or rather chose to implement extractive institutions in order to get as many resources from their colonies as possible. Acemoglu et al argue that in countries with high health risks, extractive institutions were being introduced, that these institutions are persistent over time, and that they hamper economic growth in the long run.

Even if not everyone agrees on which are the main determinants of institutional development, there is a growing consensus that institutions are persistent over time. However, under specific circumstances institutions can change. For example, the Western world has been able to generate very high growth, based on a specific set of institutions (Landes 1998). How can institutional change be brought about? And why do some countries choose for bad institutions that obviously hamper growth?

There seems to be a growing consensus that differences in economic performance between rich and poor countries, primarily depend on the quality of their institutions. Good, growth-promoting institutions are those which provide secure property rights and a relatively equal access to economic resources for large segments of society. But why do not all countries 'choose' the right set of institutions, as there is clear evidence that high economic growth crucially depends on institutional quality? Within a political-economic framework, Acemoglu, Johnson and Robinson (2004) present the so-called *social conflict* view which explains why so many developing countries end-up with low-quality institutions. In case of high social and political polarisation, social groups may be more interested in distributional issues (i.e. by ensuring they can claim a large part of total income of society), than that they are interested in maximising economic growth. In theory it might be possible that by maximising economic growth, other groups in society may gain economic power which in the end might threaten the political position of the ruling elite.

In other words, bad institutions arise because ruling elites benefit from them.<sup>4</sup> This automatically leads to the question to what extent the rest of society can challenge the elite. How can the power balance between the elite and the rest of society be influenced? Acemoglu et al

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<sup>4</sup> Institutional frameworks that benefit the ruling elite are not necessarily inefficient, as long as the sectors in which the elite has a stake is characterised by relatively high levels of productivity (see the plantation economies in the Caribbean). However, once these economic activities become less productive, but the institutions remain unchanged, these institutional arrangements will start to hamper growth.

claim that the distribution of political power is determined by the political institutions as well as the distribution of resources (such as physical and human capital). Political institutions allocate *de jure* power. As the ruling elite shapes the political institutions, it will ensure that these institutions enable them to remain in power. The higher the political power of the elite is, the more likely is it to secure the desired set of institutions (both political as economic institutions, see property rights etc).

Of course, political power is not confined to political institutions. Other social groups may have *de facto* power on the basis of which they can protest or even revolt. This political power stems from two different sources. First of all, it depends on the ability of social groups to engage themselves in collective action in order to reach their goals. This aspect is not investigated in this model. Acemoglu et al put all emphasis on the economic resources which determine the political power of groups. In case a particular group is relatively rich, it will be in a better position to challenge the elite by pushing for the reform of political and economic institutions, or simply by financing and organising a coup.

It is a well-known fact that institutions are persistent over time. The persistence of the political institutions is self-evident as the elites safeguard their own position and will create such political institutions which will increase their likelihood to stay in power. Besides, the elites will develop institutions which will ensure them that other social groups will not gain too much economic power. For example, taxation of the middle-class will be a means to limit the potential economic and political power of this group.

However, in particular circumstances institutional change can be realised. In case that the productivity levels of the middle class rise relative to those of the elite, the power base of the elite can be undermined. Such a reversal of productivity levels can be brought about by quite radical technological changes, relative price changes on the world market or other external shocks. In that case it might be possible that the elite does not have the economic, political and military strength to block institutional change.

### **3. The Construction of African Historical National Accounts**

In order to study the dynamics of long-term economic growth, this section presents a new dataset of historical national accounts for sub-Saharan Africa in the period 1910-1960.<sup>5</sup> For the period 1960-present we used Angus Maddison's dataset (Maddison 2001). The estimates for the period 1910-1960 are new, and made within the framework of historical national accounts. Of course,

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<sup>5</sup> For a more detailed description of sources and methods, see appendix 1.

estimating African GDP for such an early period is not easy. Still, there are reasons to be optimistic about the reliability of these series. First of all, colonial administrations collected and processed statistics on different aspects of economic life, simply in order to get useful information about how they could increase their income from taxation. The new historical GDP estimates are based on series for 16 agricultural products, 27 industrial products, transport, foreign trade, domestic trade, education and the public sector.

The data on agriculture are quite detailed. For different kinds of crops there is information about the portion of agricultural land with a specific crop, and on the average yield per hectare. Non-marketed output is included in these estimates as the statistics on land use relate to all agricultural land, including that part which was solely used for home-consumption. Combined with price data, the value of output of arable production could be obtained. For livestock detailed information is available on the number of animals, and their average price. In fact, the agricultural output estimates for Africa are based on the same type of sources that were used for calculating Western European agricultural output in the nineteenth century. The plausibility of these agricultural estimates could be checked by comparing these output levels, with the import and exports of food products. By combining these data, the total caloric intake of the African population could be estimated. This series shows a plausible trend.

Also the mining sector is well documented. Data on the volume and prices of mining production are widely available. In case that output data were missing, gaps could be filled with export data for the simple reason that almost all of the mining output was being exported. For the food-processing-, textiles- and clothing industries estimates were often based on the use of raw materials and intermediate goods. The value of these inputs was derived from the agricultural estimates as well as the net-imports which were meticulously recorded in the colonial trade statistics. For textiles, the inputs of cotton and wool were used, whereas for the clothing industries textiles output and net imports were at the basis of the calculations. For textiles, clothing and the food processing industries, value added was being estimated by comparing the price levels of output and the main inputs. The estimates of some small branches such as metals and public utilities, are based on volumina which were derived from Mitchell (1998).

Foreign trade data could be derived directly from the colonial trade statistics. The turnover value of domestic trade was calculated by adding the value of imports to the output value of agriculture and industry, and by subtracting the value of exports. The output volume of transport was calculated along similar lines. The net volume of imports was added to the volume of agricultural and industrial output in order to arrive to the total volume of output of transport services. For the railway sector additional data on the average distance of transport could be

derived from colonial sources. The value added of the government sector was based on total government expenditure. These series were available at an annual basis, whereas specific information on the total sum of wages and salaries (the actual value of production of government services) could be obtained for some benchmark years. Combination of these figures resulted in an annual series of government production.

The different sub-series of products within agriculture, industry and transport were weighted to a sector total on the basis of relative prices. Price data for the end of the period (the early 1960s) were used to arrive at sectoral output levels. Subsequently these estimates were linked to the absolute value added data from Maddison (2001), in combination with sectoral information derived from the World Development Indicators. By linking these series, we arrived at a continuous series of Sub-Saharan African GDP for the period 1910-2000. This approach has the advantage that relative price changes have been incorporated in our estimates. The Maddison data are expressed in US Dollars of 1990. This dataset is linked to the 1910-1960 series which were weighted using 1960 prices. This change of weighting schemes is important as the relative prices of agricultural cash crops and mining products witnessed a substantial decline in the 1960s and 1970s.

However, these estimates are characterised by some weaknesses which need to be pointed out:

-More benchmarks need to be used in order to do more justice to relative price changes. Such information is available, but due to the time consuming nature only a very rudimentary deflation procedure is used in this paper.

-Input/output relations are supposed to be constant in the period 1910-1960. This assumption is probably not too unrealistic as most sectors of economic life in this region were virtually untouched by rapid technological changes. However, more use can be made of a collection of (partly unpublished) input-output tables for the 1950s and early 1960s. Besides, for the agricultural sector more use can be made of detailed information of the use of agricultural machinery and fertilisers.

These new estimates are an important step forward in the quantitative analysis of long-run African growth as Maddison's dataset for the pre-1950 period only contains data for Ghana. As far as the two limitations mentioned above are concerned, it should be noted that the growth figures for the period 1910-1960 are probably somewhat underestimated. In case the technological and organisational changes would have been estimated correctly –in terms of

changing input/output relationships- we would have ended up with even higher GDP growth rates which in the end would even strengthen the main line of argumentation of this paper.

#### 4. Patterns of Growth and Development, 1910-1960

This new dataset on historical national accounts allows us to chart the economic development of sub Saharan Africa during the twentieth century. Table 1 shows how African levels of GDP per head of population developed in comparison with other regions.

**Table 1: GDP per caput per region, 1913-2001**

Panel A: Levels of GDP per caput in American Dollars of 1990

Panel B: Indices, The West=100

	1913	1950	1973	2001
(A)				
The West	3672	5649	13082	22509
The "Rest"	860	1091	2072	3377
Of which:				
Asia (excl Japan)	658	634	2236	3256
Latin America	1481	2506	4504	5811
Eastern Europe	1558	2602	5731	5038
Sub-Saharan Africa	524	700	1067	947
(B)				
The West	100	100	100	100
The "Rest"	23,4	19,3	15,8	15,0
of which:				
Asia (excl Japan)	17,9	11,2	17,1	14,5
Latin America	40,3	44,4	34,4	25,8
Sub-Saharan Africa	14,3	12,4	8,2	4,2

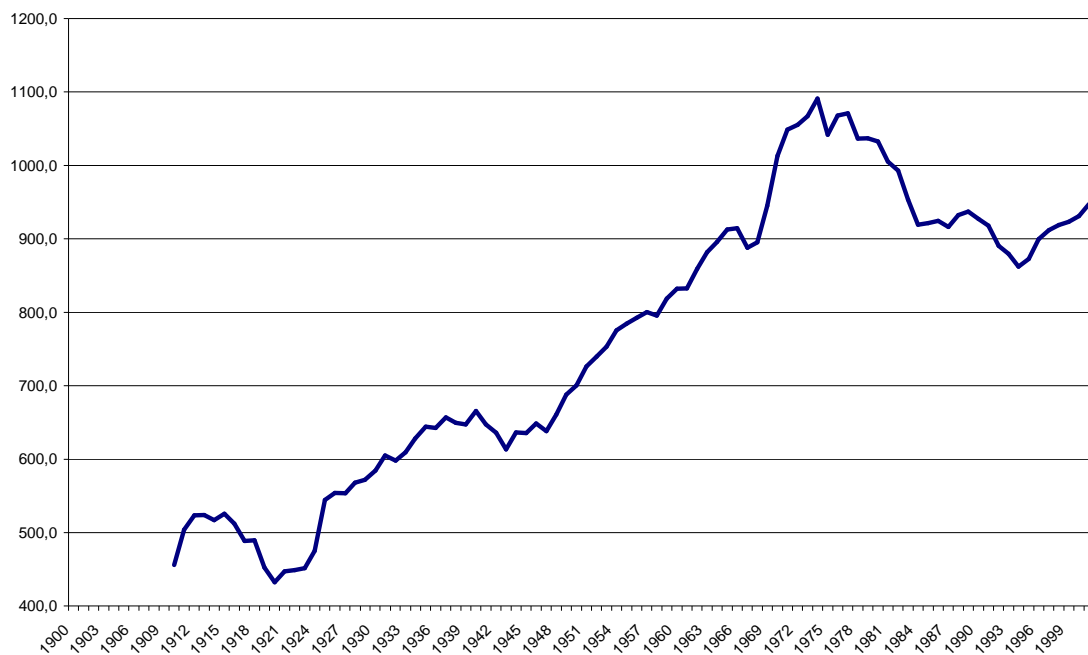
Source: Maddison (2001. African estimates for 1913 and 1950 based on own calculations.

These data indicate that the average income level in sub Saharan Africa was quite low around 1913. This figure seems plausible as it is in line with the income level that the western offshoots such as Australia and the United States reached in their early stages of development during the seventeenth and eighteenth century. Compared with the high income countries of the Western world, Africa was not able to catch up during the twentieth century, a feature it shares with other regions of the 'non-western' world. However, no other region lost as much ground to the western

countries as Africa did. In 2001 GDP per caput amounted to a mere 4,2% of the western income level, whereas on the eve of World War I this share still amounted to 14,3%.

During the first half of the Twentieth Century the African economy did really well, and hardly lost ground vis-à-vis the Western countries. Graph 1 shows that even during the globalisation backlash of the 1930s, African GDP per head of population expanded considerably.

**Graph 1: Levels of GDP per head of population in Sub-Saharan Africa, 1910-2000 (at constant prices in American Dollars of 1985)**



Source: See section 2 of this paper and the appendix.

Table 2 shows Africa's growth performance in detail and reveals that Africa's dismal performance is concentrated in the post-1974 period, whereas the period 1920-1973 was one of quite strong growth.

**Table 2: Average annual growth rate of African GDP (in %)**

	AGR	INDU	SERV	GDP	POP	GDP/CAP
1913-1921	1,0	-4,4	1,1	-0,8	1,1	-1,9
1921-1929	6,8	4,4	2,9	4,3	1,1	3,2
1929-1938	1,8	2,4	3,2	2,5	1,1	1,4
1938-1960	2,8	2,7	2,8	2,7	1,6	1,2
1960-1974	3,2	6,4	4,5	4,6	2,6	2,0
1974-2001	1,8	1,9	2,9	2,3	2,8	-0,5
<b>1913-2001</b>	<b>2,7</b>	<b>2,5</b>	<b>3,0</b>	<b>2,7</b>	<b>2,0</b>	<b>0,7</b>
1913-1974	3,0	2,7	3,0	2,8	1,6	1,2

Source: Section 2 and Appendix 1.

Until the 1970s African growth was quite strong, and even more important, these growth rates were attained for a relatively long period. In fact, economic growth per head of population has been more than 1% a year throughout the period 1921-1974. The strong growth of the African economy during the first two decades after decolonisation can be seen as a continuation of the growth pattern that had been realised in the colonial era. Moreover, this growth was remarkably balanced as all sectors participated in this economic expansion. It was only after 1974 that the economy got “out-of-balance”. Agriculture and industry suffered a strong slowdown in growth. Growth rates in these sectors were 25-30% lower than in the pre 1974 period, whereas the slowdown in services was much smaller (a mere 10% decline of growth rates).

The relatively strong performance of the African economy during the colonial era may come as a surprise as African society in this early phase is often portrayed as backward. However, this view is distorted and basically stems from the reports of explorers such as Livingstone. Yet, the Africa these westerners saw in this specific time-period was devastated by the slave raids which had been organised in the previous decades (Stavrianons 1981, pp. 112-116). The military expeditions by colonial armies had destroyed the economy and institutions of especially East Africa. If we concentrate more on other regions and on reports from westerners from earlier periods in time, we arrive at a much more positive judgment. Especially West Africa enjoyed remarkable indigenous economic development in early periods of time (Skinner 1964, Carlston 1968, Boahen and Webster 1970 and Boamah-Wiafe 1993).

Our new data substantiate this view. During the 1920s the African economy showed strong growth. But even more surprising is the economic expansion during the depression of the

1930s and the Second World War. In this period, which is often characterised as one of a serious globalisation backlash, many less developed economies witnessed an economic slowdown. It is therefore useful to examine the growth phase 1910-1960 in more detail.

The agricultural sector displayed strong growth in this early period. Especially the British Colonial reports indicate that levels of productivity were quite high. African farmers had been quite successful in developing food crops that were suitable for the African climate and type of soil. Besides, they proved to be able to increase the quality of their crops. In fact, in the early phases of colonisation European farmers had difficulties in competing with African farmers (Pim 1946). Even in case of cash-crop production, hardly any use was made of plantations simply because levels of labour productivity were higher on the indigenous peasant farms. This fierce competition from indigenous farmers, coupled with the scarcity of labour in Eastern and Southern Africa resulted in the introduction of forced labour.<sup>6</sup>

Table 3 indicates that especially the group of ‘other arables’, mainly consisting of cash-crops which were exported to Western countries, showed strong growth. However, despite the strong growth of the cultivation of products such as coffee, cocoa, tea and rubber, also traditional food products such as maize, millet, sorghum, yam, potatoes and cassava witnessed a substantial increase.

**Table 3: Average annual growth rates of agricultural output, 1900-1960 (in %)**

	Food	other arables	livestock	total
1900-1913	6,0	1,4	12,9	6,8
1913-1921	3,3	2,1	-5,1	1,0
1921-1929	7,6	20,6	3,5	6,8
1929-1938	1,7	10,2	1,3	1,8
1938-1950	1,4	6,8	0,5	1,4
1950-1960	3,5	5,7	3,0	3,6
1900-1960	3,9	7,2	2,8	3,7

Source: Section 2 and Appendix 1.

These new output data, combined with information on the imports and exports of food products from foreign trade statistics, give an impression of the food supply in the colonial period. These data indicate that the average caloric intake increased from somewhat below 1600 calories per

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<sup>6</sup> The emergence of different institutional structures in a context of land abundance and labour scarcity, is described in Domar (1970). Kendall and Louw (1986) even argue that the strong performance of African

inhabitant per day in 1910 to ca. 2000 in 1960. For the period 1960-2000 there is quite detailed information on the caloric intake for all of the individual African countries.<sup>7</sup> In the period 1961-1973 the average daily caloric intake increased in 32 of the 40 countries which are included in the FAO database. However, after 1973 in many countries the food situation got worse: in 19 of the 40 countries the average daily caloric intake decreased.

The evidence on the caloric intake shows that economic growth in the colonial period, which was by definition aimed at the needs of the colonisator, did not necessarily have negative socio-economic implications for the African population. On the contrary, the data on food supply show that the (material) living standards underwent more positive development during the colonial era, than after independence.

Also the non-agricultural sector performed well in the colonial period, even though there are clear indications that this growth was unbalanced.

**Table 4: Average annual growth rates of industry, 1910-1960 (in %)**

	manufact	industry	mining
1910-1913	12,4	12,4	30,8
1913-1921	-4,8	-4,4	15,9
1921-1929	3,5	4,4	18,1
1929-1938	1,3	2,4	11,1
1938-1950	0,5	0,9	2,6
1950-1960	3,0	4,0	7,2
1910-1960	1,5	2,2	11,3

Source: Section 2 and Appendix 1. Note that the industrial sector comprises manufacturing, construction, public utilities and mining.

The growth of the industrial sector was strongly determined by the mining industries. The growth rates for manufacturing are substantially lower, and there is evidence that the manufacturing sector suffered far more from the globalisation backlash of the 1930s than the mining sector. Besides, we do see that the industrial sector became more and more dominated by mineral products.

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indigenous farming can be seen as an important reason why the white settlers implemented their *apartheid* regime.

<sup>7</sup> These data are derived from FAOSTAT, the database of the Food and Agricultural Organisation, and can be downloaded from: <http://faostat.fao.org/>.

**Table 5: Share of mining products in total industrial output, 1910-1960 (in %)**

1910	2,2
1921	12,2
1929	27,7
1939	42,8
1950	42,8
1960	57,7
1970	50,1
1980	65,5
1990	57,1
2000	70,0

Source: For the period 1910-1960, see: Section 2 and Appendix 1. Data for the years 1970-2000 are derived from United Nations National Accounts Main Aggregate database, which can be downloaded from: <http://unstats.un.org/unsd/snaama/Introduction.asp>.

Table 5 indicates that already in the colonial period industrial production was dominated by mining activities. This one-sided specialisation in natural resource exploitation was the direct result of colonial policy. African industry was supposed to supply the colonial motherland with the necessary, cheap inputs for its industries. In return, African society was supposed to import industrial finished products (mostly consumer goods) from the colonising country. Within this context a broad-based industrialisation of Africa was out of the question.

There are clear indications that especially in Western Africa in the late nineteenth and early twentieth century industrialisation was well on its way. Entrepreneurs engaged in a variety of industrial activities such as glass manufacturing, cloth manufacturing, peanut processing industries etc. (Diop 1987, Olaniyan 1985). However, colonial administrations were adamant in blocking these attempts to industrialise (Stavrianos 1981, pp. 563-564). For example, in East Africa attempts were made to start the production of low-skilled mass consumer goods such as cotton textiles, shoes and matches. However, these attempts at industrialisation were blocked at the 1935 Governors' conference. Also in West Africa industrialisation was faced with serious impediments. It was only during the First World War when the grip of the colonisers on this part of Africa got a bit weaker that, temporarily, a number of new industries emerged such as cement plants, cigarette factories, sawmills, cotton gins, fish caneries and sugar mills. But also in this region, this broadening of the industrial base was halted in the interwar period. The result of this was a one-sided industrial sector, which was strongly dominated by mining products.

### **5. The “rise and fall” of Africa: An Institutional Perspective**

The new data on the long-run growth performance of sub-Saharan Africa show that this region has not always been a growth disaster. On the contrary, in the period 1920-1973 respectable levels of

economic growth were achieved. The ‘rise and fall’ of Africa -in terms of its GDP growth- shows that simple explanations of economic growth in terms of geographical constraints or inefficient and persistent institutions should be dismissed.

The rapid GDP growth in the pre-1973 period may come as a surprise in the light of the notorious extractive institutions that were implemented by colonial powers, and which are supposed to have had a growth-retarding effect. However, we should bear in mind that the European powers primarily saw their colonies as a source of income. And as permanent white settlement for reasons of health was not an option in large parts of Africa (see also Acemoglu et al 2001b), the generation of tax income was the prime objectives of colonial rule. Therefore, colonial administrations used existing indigenous institutions, as long as enough tax income was generated. Only in urban areas new institutions –such as marketing boards- were devised in order to regulate the exports of mining products and agricultural cash crops.

Moreover, the importance of the extractive institutions should not be over-stated. Branches of the economy in which the colonial powers were interested –mainly mining and cash-crop agriculture- only form a modest part of African GDP. The new estimates indicate that throughout the colonial period only 25% of GDP consisted of mining and cash-crop agriculture. Of course, adherents of the extractive institution view will comment that these institutions might have all kinds of (negative) spill-over effects to the rest of society. Nevertheless, peasant agriculture flourished in the period 1910-1960, resulting in rather strong increase of the standards of living of the African population. This illustrates that the extractive institutions did not seriously disrupt economic life.

Apart from the modest impact of the extractive institutions, the strong performance of peasant agriculture can also be understood in the light of the specific indigenous institutional framework which promoted the growth of this sector. In the colonial period a *dual* institutional structure emerged, in which rural and urban Africa went different ways.

Contrary to what is often believed, peasant agriculture was to a large extent subjected to market forces. Prices were determined by supply and demand. Price bargaining was a normal phenomenon, as profit motives were present in most market transactions (Kluckhorn 1962, Dupire 1962). Skinner (1964) emphasises the price awareness of African tradesmen. He also maintains that the aim of economic transactions was the increase of wealth. Profits that were generated, remained private property.

These accounts show that African culture was not one of strict equality. Differences in wealth were a fact of life as is expressed in the Masai saying that “the fingers of people are not all the same length”. The possibility to increase wealth was enabled by the fact that there was no communal ownership of production factors. For example, land was privately owned and the “state”,

in the form of kings and chiefs, merely held the land in trust (Ayttey 2005). In many ways economic actors enjoyed more (economic) freedom in the colonial era than they did after independence. Individuals could prosper as long as their activities were not in conflict with the interests of the community at large (Wickins 1981, p. 349).

Most of these societies enjoyed participatory forms of democracy. The ruler was surrounded by councils in order to prevent power abuse and corruption. An intricate system of checks and balances restrained the power of rulers. For example, in the Asante and Zulu kingdoms the king could make no laws without consulting the chiefs and elderly. Custom and tradition set limits to the authority of the king, his cabinet and advisors (Boamah-Wiafe 1993, Curtin et al 1988). Bates (1983) maintains that political intervention in the economy was exception rather than rule.

Within the traditional institutional framework rural Africa was able to generate substantial growth in the colonial era. Ayttey even argues that the colonial period was the “Golden Era” for African peasantry (Ayttey 2005), as can also be concluded from the tables 2 and 3. The economy did not suffer from the imbalances that would become so characteristic for African economic development during the last quarter of the twentieth century. Of course, due to the local organisation of economic and political life, this society was not able to reap the benefits of economies of scale and therefore functioned at a low-level equilibrium. But at least in this era Africa was in a state of equilibrium, not torn by internal rivalry and able to feed itself.

It should be noted that in some regions colonialism did have a negative impact on African society. For example, in Belgian Congo and some other areas in South-Eastern Africa, African workers faced forced labour and extreme poverty. These exceptions can be understood from the endowment patterns of this particular regions, i.e. the low population density. Domar (1970) already argued that forced labour and high economic inequality are likely to arise in areas with labour scarcity. However, the economies of these regions only have a modest share in total sub-Saharan African GDP (18% in 1950). Despite the setbacks in a limited number of countries, in the larger part of Africa local institutional structures remained intact and allowed peasant farmers to expand their output considerably. All in all, a rather positive picture emerges, especially if also the considerable colonial investments in health care, education and infrastructure are also taken into account.<sup>8</sup>

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<sup>8</sup> It should be stressed we only pay attention to the economic effects of colonisation. Of course the moral effects, the lack of political freedom etc which tremendously affected African society cannot be identified as positive.

African economists generally see the process of decolonisation as the starting point of Africa's economic problems (Ayittey 2005, Cheru 2002). The main institutional 'shock' that African society witnessed when it gained independence, was the implementation of an independent central state above the local communities. State power became concentrated in the hands of a small number of ethnic groups. These clans benefited their own people, more often than not ignoring the needs of the rest of society. Of course, this lack of a civil society is the direct result of the actions of the colonial powers who, ignoring the socio-political reality, defined borders and created states without nations.

At first sight, the situation after independence closely resembles the institutional context of the colonial period. Especially as far as the institutional arrangements aimed at the expansion of mineral- and cash crop exports were concerned, the African elites pursued the same kind of policies as the colonial administration had done. Export boards set sales prices for the export products, and also determined the prices which were paid to the peasant farmers (see for example Killich (1987) for Ghana).

However, in the colonial period the political power and rent-seeking behaviour of dominant ethnic groups was checked by the colonial administration. The colonial powers allowed certain ethnic groups special favours in their *divide et impera* style of ruling their colonies, but made sure that these local elites did not enrich themselves to the point that it would substantially weaken the African economy. Extreme types of rent-seeking would result in lower (taxation) income for the colonial powers, and were therefore undesirable.

After independence, this external check on extreme types of rent-seeking behaviour were removed. Moreover, the newly established governments started to destroy the local, rural institutional frameworks which had been left untouched in the colonial period. Local chiefs and kings were removed from power (Ayittey 2005). The new central government's political power was not checked by local leaders, nor were there other institutional ties between the central state and the local communities.

Besides, in a number of cases unoccupied land became state property. In some countries simply all land was being nationalised. This government policy should be seen in the light of the rapid increase in land-labour ratios. Africa rapidly transformed from a land-abundant to a (relatively) land-scarce region. This loss of control over land by local communities had a tremendous impact upon the economic freedom people enjoyed at a local level. For example in Nigeria, where all land had been nationalised, tenants could no longer use their land as collateral to obtain banking loans. This served as an important constraint on investments in machinery and schooling.

This institutional setting made it easy for elites to ignore the needs of society and to create predatory states, aimed at meeting the needs of a few. As most people remained voiceless, due to a lack of schooling as well as because of the absence of ‘civil society’ types of structures, society could not seriously challenge the state. This made it easy for governments construct political and economic institutions which served their own needs, and to “buy” the minimum level of political support they needed to keep the system running. One of the most successful ways to ensure the support from the urban population, was by keeping urban food prices down.

Here we do see the mechanism of *political consolidation*, mentioned in the theoretical framework of Acemoglu et al, at work. The ruling elite over-taxed the middle-class (farmers) in order to ensure they did not gain too much power so that they could overthrow the regime. Besides, this tax-income could be redistributed to the urban population in order to keep food prices down and also to transfer this money to sectors in which the ruling elite had a stake.

During the 1960s the new African ruling elites had reasons to worry about their economic power base. Not only did huge parts of society not support the new regimes, during the period 1960-1973 the relative prices of agricultural products were rising, whereas the prices of raw materials –mining being the main sector in which African governments had a stake- were constant or even declining.

**Table 6: Price-development of the main product groups, 1960-1972 (indices, 1970=100)**

	Food	Industrial products	Raw materials
1960	88	78	109
1963	91	77	100
1965	93	86	101
1967	92	95	97
1969	97	95	100
1970	100	100	100
1971	100	99	97
1972	109	104	105

Source: United Nations International Trade Statistics, 1981.

Within this specific context of declining relative prices in sectors in which the elite had a stake, policies aimed at *political consolidation* came into being. Taxation of middle class producers was a powerful tool for the ruling elites to consolidate their power Bates (1981, 1983). Government-controlled marketing boards systematically payed farmers prices for their crops which were way below world levels. The marketing boards made surpluses which were given to the government as a form of taxation. (Bates 1981, p15). In the case of Ghana, inefficient institutions were a

deliberate way of the government to prevent private business enterprise to develop (see Killick 1978, p. 37 and p. 60). As one African recalls: 'Nkrumah informed me that if he permitted African business to grow, it will grow to become a rival power to his and the party's prestige, and he would do everything to stop it, which he actually did'.

African economists stress that these policy failures were responsible for the growth collapse of sub-Saharan Africa. They put special blame on the over-taxation of peasant agriculture by the new political elites (Ayittey 2005; Cheru 2002). This view is substantiated by research that has been done by the World Bank into the political economy of agricultural pricing policy. One of these studies investigates the taxation of agriculture and its overall economic effect (Schiff and Valdes 1992). This World Bank study reveals that in the period 1960-1985 taxes on agriculture amounted to considerable levels.

The World Bank study shows that in case of huge government interventions agricultural growth was substantially lowered. The authors conclude that with an average annual GDP growth rate of 5 percent for the eighteen countries under investigation, a 10 percentage point fall in total taxation would result in a 10 percent increase in the GDP level after twenty-five years. Especially growth rates of African agriculture have been depressed due to different kinds of price interventions.

Ayittey makes a distinction between two harmful effects of this price policy. First of all, the lowering of food prices necessarily meant that peasants were paid less for their products. The peasant farmers showed a natural response to the (artificial) lowering of prices: they started to produce less. Therefore, the roots of Africa's food shortages can be found in these price interventions. FAO researchers even maintain that Africa –using its present, rather traditional production technologies- could feed three times its present-day population!<sup>9</sup> This finding is in line with Sen's statement that no famines have been recorded in democratic societies in modern times (Sen 1999).

The reduction of the food supply resulted in flourishing black markets, which in the end led to higher food prices. This led to the so-called second-generation problem. People had to invest a lot of time and energy -and high searching costs- into buying these products at ever-rising prices. Only those with good connections with government officials were able to get products at a reasonable price. The system of price controls therefore resulted in even higher levels of corruption. It is estimated that in the late 1990s 216 billion dollars have been lost due to policy failures, of which 148 dollars due to corruption (Ayittey 2005, p. 326). This last figure boils down to 35-40% of Sub-Saharan GDP in this period.

These examples illustrate how inefficient institutions, such as the over-taxation of agriculture, which were chosen for reasons of political consolidation of the elites, had a dramatic effect on overall economic growth rates. However, there are a couple of countries which were able to prevent such inefficient institutions to develop. Botswana and Mauritius are both clear examples of countries that were able to achieve high rates of economic growth and human development, on the basis of high-quality institutions. In the case of Botswana this favourable development is explained from the fact that the pre colonial institutions, which stressed the importance of consensus and the formulation of policies which were aimed at the common good, remained intact (Acemoglu et al 2003).

The study into the Mauritian growth miracle is less clear in its attempts to analyse the historical roots of Mauritian prosperity (Subramanian and Devesh 2003). Also this paper points at the importance of institutions, but admits that a large part of growth remains unexplained. Diversity, in economic and political terms, is seen as one of the keys to success. Subrmanian and Devesh point at the 'optimal rent sharing' between the political (mostly Indian) and economic (mostly non-Indian elites). However, they fail to explore the deeper, historical roots of the rather unique Mauritian growth path. In the interwar period Mauritius still was a mono-culture. More than 90% of Mauritius exports consisted of sugar. This sector entered a deep crisis in the 1930s, when the world market prices of sugar plummeted. In most other countries, where colonial powers had a stake in cash-crop production, such failing sectors were heavily subsidised. This did not happen in Mauritius. Due to its complex history, this island was a British colony, but the sugar plantations were managed by the French (who had ruled this colony until the early nineteenth century). At the time that the sugar industry started to collapse, the British colonial administration decided to broaden the economic structure of Mauritius and started to stimulate industrial development. The British had no interest in sugar plantation development. They were just interested in higher economic growth rates, as this would increase the income of taxation. It seems that the special institutional characteristics of Mauritius in which political power (by the British) and economic power (by the French) was divided, rent-seeking behaviour could be avoided.

Africa's main problem is the strong position of the ruling elites versus a weakly developed civil society. However, there are signs that African society starts to become stronger. Cheru (2002) argues that by creating 'civil society' kind of structures at local and regional levels, African society will be able to challenge the ruling elites. Moreover, he argues that the provision of medical services and education are best taken care of in societies where the communities at a local or regional level take the initiative of investing in human development. He even speaks of a "silent revolution",

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<sup>9</sup> Ayittey (2005) p. 237 mentions this FAO research.

pointing at the stabilising and growth-promoting social networks which are being built at a sub-state level. Increasingly, people turn away from the state which has betrayed them and return to their traditional roots of consensual democracy, within smaller communities. In many cases, political action at this level proves to be much more effective. The challenge African communities face now is to build on the virtues of the old indigenous systems, but at the same time to reap the fruits of possible density effects by not isolating themselves but to join forces with other communities in areas where economies of scale can be realised.

## **6. Conclusion**

This paper tries to understand Africa's growth performance from a long-run perspective. In literature, it is often stated that Africa is the classical example of a growth tragedy, and that this growth failure can be explained from inefficient and persistent institutions. However, the poor growth is simply postulated. Besides, in trying to explain the alleged lack of growth, it is assumed that institutions are persistent over time. Research into African economic development suffers from a lack of empirical research.

This paper sheds a new light on African economic growth by means of new historical national accounts estimates. A detailed analysis indicates that economic growth in the colonial period was strongly concentrated in cash-crop agriculture and the mining sector. In these industries impressive growth rates were realised, but it should be noted that these branches of the economy made a modest contribution of circa 25% to African GDP. As far as the rest of the economy is concerned, the evidence is mixed. Industrial development was clearly hampered by the colonial administrations. However, peasant agriculture showed strong growth and positively affected the material well-being of the African population. All in all, the African economy displayed rather strong growth in the colonial era, before the income levels started to fall in the 1970s. Moreover, until the 1970s all sectors of the economy contributed to economic development.

The growth pattern of the 'rise and fall of Africa' is studied in a political economy framework, which focuses on the power struggle between the ruling elite and the rest of society. It is argued that in the colonial era, the local indigenous institutions remained intact and that within this context a strong growth of peasant agriculture was realised. The segments of the economy in which the western powers intervened, mining and cash-crop agriculture, only formed a modest part of GDP. The traditional African institutional system was characterised by a respect for property rights, and a system of checks and balances that restricted the power of local rulers. Besides, potential rent-seeking behaviour of ruling elites was always checked by the colonial powers, because their main aim was to maximise income from taxation (a goal which could be undermined

by extreme rent-seeking behaviour which by definition is more focused on distribution than on growth).

After independence, the local institutions were erased by the new independent governments. They deliberately increased their power at the expense of local rulers. Besides, the rent-seeking behaviour of leading ethnic groups was no longer checked by an external force, as was the case in the colonial era. The strengthening of the political base of the elite, and the weakening of the power base of other social groups –due to the demolition of local institutions- paved the way for the building of inefficient economic institutions. The over-taxation of agriculture, and its dramatic macroeconomic consequences, are sad manifestations of this institutional decline.

Only in countries in which an independent government was formed, or in which society had the opportunity to restrict the power of the governments (Botswana, Mauritius), the emergence of such inefficient institutions could be prevented. It remains to be seen whether the rest of the continent can follow the example of these ‘growth miracles’. Throughout the continent an emergence of new civil society type of structures can be noticed, but one may wonder whether this will enhance effective collective action in order to challenge the power of the ruling elite.

## Appendix

For the period 1910-1961 time series on the volume of output were built for the following products:

Agriculture: cattle, cocoa, coffee, cotton, goats, maize, millet, oil crops, pigs, potatoes, rice, rubber, sheep, sugar, tea and tobacco.

Industry: construction and electricity, beer, clothing/apparel, leather, meat, asbestos, bauxite, chromium, coal, copper, cotton, gold, iron ore, lead, manganese, pig iron, refined copper, refined lead, refined zinc, steel ingots, sulphuric acid, tin, tungsten, vanadium, zinc.

Services: transport (railways and other road transport), domestic trade, foreign trade, education and government.

These series have been collected for the 15-20 largest countries of Sub Saharan Africa, and are derived from the following sources:

British Africa: Colonial Blue Books, Statistical Abstract for the Colonies (1850-1965)

French colonies: Annuaire statistique de l'Afrique occidentale française et du territoire du Togo sous mandat de la France

Angola: Anuario Estatístico (1897-1901; 1933-)

Benin: Annuaire Statistique (1965-)

Burkina Faso: Bulletin Annuaire Statistique et Economique (1960-)

Botswana: Statistical Abstract (1966-)

Burundi: Annuaire Statistique (1962-)

Cameroon Annuaire Statistique (1938-1958); Note Annuelle de Statistique (1964-)

Central African Republic: Annuaire Statistique (1962-)

Chad; Annuaire Statistique (1966-1976)

Congo: Annuaire Statistique (1963-)

Ethiopia: Statistical Abstract (1963-)

Gabon: Annuaire Statistique (1964-)

Ghana: Digest of Statistics (1953-); Statistical Yearbook (1961-1970)

Ivory Coast: Situation Economique (1960)

Kenya: Statistical Abstract (1955-)

Madagascar: Bulletin Mensuel de Statistique (1955-)

Malawi: Statistical Yearbook of Nyasaland (1949-1952); Statistical yearbook (1965-)

Mali: Annuaire Statistique (1960-)

Mauritania: Annuaire Statistique (1968-)

Mauritius: Yearbook of Statistics (1946-1959); Biannual Digest of Statistics (1961-); The national income and national accounts of Mauritius 1948-1954

Mozambique: Anuario Estatístico (1928-1973)

Niger: Annuaire Statistique (1962-)

Nigeria: Nigeria handbook (1924-1927); Digest of Statistics (1951-); Annual Abstract of Statistics (1962-)

Rhodesia and Nyasaland: Monthly digest of Statistics (1953-1964)

Rwanda: Bulletin de Statistique (1964-)

Senegal: Bulletin Statistique trimestriel (1953-1958); Situation Economique (1962-)

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Zaire/Democratic Republic Congo: Annuaire Statistique de la Belgique (1908-1959); Annuaire Statistique (1971-)

Zambia: Economic and Statistical Bulletin (1948-1954); Monthly Digest of Statistics (1964-); statistical yearbook (1967-1971)

Zimbabwe: Official Yearbook (1925-1952); Economic and Statistical Bulletin (1933-1954); Statistical yearbook (1938, 1945, 1947); Monthly Digest of Statistics (1964-); Economic Survey of Rhodesia/Zimbabwe (1967-)

The above-mentioned volume series, are weighted on the basis of 1960 price levels to a sector level. Prices are derived from the sources mentioned above.

For the period 1910-1960 the sectors are weighted on the basis of the 1961 shares, which were derived from the World Development Indicators (downloadable at [www.worldbank.org](http://www.worldbank.org)).

The GDP series for the 1910-1960 period are linked to Maddison's dataset which is downloadable at <http://www.ggd.net/maddison>.

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