



SUB-SAHARAN AFRICAN COTTON POLICIES IN RETROSPECT

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Comments and additional information are very welcome

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Abstract

Calls for liberalizing cash crop sectors in sub-saharan Africa have been voiced for decades. Yet, the impact of reforms remains elusive in empirical studies. This paper offers new opportunities to solve this problem by creating precise and consistent market organisation indices for 25 African cotton markets from 1961 to 2008. The aggregation of scores reveals interesting trends: markets are not more competitive today than in the late 1990s, 50% of production still originates from markets with fixed prices and reforms are giving rise to a new type of regulated markets with mixed ownership both in East and West Africa.

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Claire Delpuech & Antoine Leblois¹

1. INTRODUCTION

Cotton is a key crop in sub-saharan Africa (SSA): it is a major source of foreign currency for a number of countries, the primary cash-crop for millions of rural households and one of the only export products for which the continent's market share in global trade has increased over the past decades (Boughton et al., 2003; Baffes, 2009b). Being grown mainly by smallholders, it is believed the cotton market plays a key role in development and poverty reduction (Badiane et al., 2002; Moseley and Gray, 2008).

Since the late 1980s, Africa's 'white gold', as which cotton is sometimes known, has been central to a harsh debate on how best to encourage its production and, particularly, on the role governments should play in this process. Indeed historically, markets in many countries have been organised around public or para-public companies, referred to in the literature as boards in eastern and southern Africa (ESA) or parastatals in west and central Africa (WCA), enjoying a monopoly on cotton transformation and export and a monopsony on related activities such as input provision and transport. However, reforms have been adopted in a large number of countries, since the late 1980s and, increasingly since the mid-1990s.¹ The nature of reforms has widely varied across countries and regions, ranging from far-reaching market and price liberalizations to only very marginal adjustments.

¹ The authors would like to thank Catherine Araujo Bonjean, Valerie Kelly, Emmanuel Mbetid-Bessane, Patrick Messerlin, Marcelo Olarreaga, Colin Poulton, Renata Serra, David Tschirley and the participants to the 3rd AAAE & 48th A.E.A.S.A Conference (Cape Town, September 19-23) for extremely useful comments on earlier drafts (all remaining errors are ours).

Because reforms have not always yielded the expected impacts and because several countries are still considering different reform options, the institutional puzzle remains unsettled. As a result, the literature on cotton sector reforms has dramatically expanded over the past decade. While in the 1980s and 1990s it was prospective and consisted mainly of recommendations, numerous retrospective assessments have been performed over the past few years. Reform processes have, however, been studied primarily on a case-by-case basis (notable exceptions being Goreux et al., 2002; Araujo-Bonjean et al., 2003; Tschirley et al., 2009 and 2010; Delpuech et al., 2010), and concentrate on a small number of countries.² Moreover, policy changes have often been studied only shortly after their implementation and, while institutional and regulatory changes are sometimes described in detail, most of the existing literature primarily evaluates the impact of these changes rather than characterises them.

This paper thus aims at giving a full panorama of how market organisation has evolved in all SSA cotton producing countries from the early 1960s, that is, before the independence of many countries in the region, to the present time. We refer to ‘market organisation’ to describe market structure, the nature of ownership, and the regulatory framework understood as the set of rules which govern market entry, pricing, and all aspects of cotton production, transformation and sales. Based on an extensive review of the literature we compile indices describing the evolution of market organisation in 25 countries from 1961 to 2008.³ This enables us to make two contributions to the literature.

First, by computing average degrees of competition, private ownership and price intervention at different sub-regional levels, we verify whether the trends in cotton market organisation identified in the literature hold true when expanding the study period and the sample of countries under consideration. With a series of nuances, we confirm key findings for the different periods until the late 1990s, which suggests that cotton policies were highly uniform at the sub-regional level: public ownership was greater and competition weaker in WCA until the independences; markets then became increasingly regulated in ESA during the 1970s and 1980s; in the early to mid-1990s significant reforms took place in the latter region, leading to both increased participation of the private sector and greater competition again. However, we find that this first wave of reforms was not the start of a process, contrary to claim: such

reforms have not been mirrored by other countries in the following decade. A second wave of reforms has followed in WCA, yet they have led to the creation of hybrid markets with mixed ownership and regulation but no competition. Besides, liberalization and privatisation have even been reversed in a number of marginal producing countries. As a result, markets are increasingly diverse across SSA but competition remains limited: over fifty percent of total production still originates from non-competitive markets where prices are fixed.

Secondly, expanding the information available to the largest possible array of countries and reporting key policy or institutional changes with precise time indications, and in a consistent manner for 25 countries, brings new opportunities for quantitative empirical work on the link between market structure and performance in African cotton sectors or the political economy of cotton policies.

The paper is organised as follows. In section 2 we comment on the methodology adopted to review cotton policies: we outline the criteria chosen to characterise cotton markets and reforms and describe our sources of information. In section 3, we identify patterns and trends in cotton sector organisation at the SSA level and for sub-groups of countries. We conclude in section 4.

2. METHODOLOGY: CREATING INDICES

2.1 Characterising cotton markets

Building on the literature assessing the links between market organisation and performance, we have identified a number of links between market organisation and performance that we use as guidelines to characterise markets and describe their evolution.⁴ The works by Tshirley et al. (2009 and 2010) were particularly useful as a means of assessment as they rest on a typology of cotton markets against which a number of performance indices are examined.

To understand how market organisation has evolved it is important to recall that market organisation in SSA cotton markets is closely related both to the SSA rural context and to the specific requirements of cotton production (Poulton et al., 2004). Cotton farming requires costly inputs (fertilizers, pesticides, herbicides and occasionally seeds) – especially in WCA where agro-climatic conditions are

less favourable. Yet farmers face strong cash constraints as credit markets are almost non-existent in rural areas. As a result, production occurs almost exclusively through interlinked transactions whereby inputs are provided on credit by the ginning companies.⁵ Changes in market organisation have specific implications in such a context of imperfect markets and prevalence of linkages between input and output markets; especially since formal contract enforcement institutions are typically absent in many countries of SSA⁶ (Delpeuch et al., 2010; Poulton et al., 2004).

The first key dimension of market organisation is the degree of competition. It is believed to impact the share of the world price received by farmers, which in turn influences the area under cultivation and the amount of effort that farmers invest in production. Yet, competition also increases the scope for side-selling, whereby farmers sell their cotton to other buyers at harvest, rather than to the company that has pre-financed their inputs. This subsequently impacts the sustainability of input credit systems and thus ultimately yields and areas under cultivation (Delpeuch et al., 2010; Poulton et al., 2004). In addition, competition is believed to influence firms' efficiency through the creation of cost minimization incentives or, conversely, the suppression of economies of scale or the introduction of new transaction costs (Delpeuch et al., 2010). Finally, Larsen (2003) and Poulton et al. (2004) have identified a strong link between competition and the ability of companies to coordinate on quality issues; for example, avoiding mixing seed varieties in different regions or enforcing strong quality requirements. Our first set of indices thus reports whether markets are monopsonistic, regulated (implying that firms operate as regional monopsonies or that supply is administratively allocated among firms), limitedly competitive (implying that two or three firms with large market shares exert price leadership) or strongly competitive (implying that many firms compete on prices).

Another key aspect of market organisation is price fixation: fixed prices that apply across the country and throughout the year (i.e. pan-territorial and pan-seasonal prices) have been heralded as a risk mitigation and spatial redistribution instrument (Araujo-Bonjean et al., 2003). However, they discourage production from the most productive farmers, and conversely encourage production by less efficient farmers. Besides, price fixation by the government most often results in (implicit) taxation or,

alternatively, in unsustainable subsidies (Baffes, 2009b). Our second set of indicators reports whether prices are fixed pan-territorially and pan-seasonally, whether the government or a public body announces an indicative price at the beginning of the season or whether prices are solely determined by market forces.

Finally, we look at the nature of ownership. Private sector involvement in ginning and cotton-related activities is indeed often seen to improve efficiency through the removal of soft budget constraints, excessive employment or political interference in management (Baffes, 2009b). Our third set of indices therefore reports whether the ginning companies are entirely public, whether ownership is mixed or whether it is entirely private.

A series of control variables, which will be useful in the context of quantitative work, as well as a number of additional indices reflecting on more hypothetical determinants of performance are also included in our dataset. For example, good performance is sometimes attributed to the involvement of colonial enterprises or their counterparts after independence either directly or through lagged effects of past interventions (Tschirley et al., 2009). From this perspective, we report colonial ties and years during which ex-colonial institutions continued to operate. Several empirical studies also recognise the potential importance of producers' collective ownership in the ginning companies, which is often coupled with participation in sector management. Ownership by producers' organisation is thus also captured by one of our indices. These indices however are not commented upon in what follows, as we aim to concentrate on key patterns and trends. Table 1 summarizes the content of our database.

2.2 Sources and information compilation

As much as possible, we attempted to document our indices with 'objective' information such as official law and regulation documents or reports of international organisations. The latter are indeed more comparable across countries and time than interview or survey-based information (Conway et al., 2005). Objective information sources were however not available for all the countries under scrutiny. We thus also used information emanating from the local and international press, interviews and the literature.⁷ This

enabled us to account for the fact that poor rule enforcement and/or informal rules also impact market organisation.⁸ For example, establishing the actual degree of competition of a market ideally requires information not only on the number of firms active in the market and their respective market shares, but also on their strategic behaviour and on the degree of ownership concentration behind firms with different names. Similarly, the role of regulatory bodies is at times difficult to assess without knowing the context in some detail. Based on such additional information, we report the date of effective changes, rather than the date of the official decisions underlying these changes, in cases where they differ.

When compiling the information, we refrained from using composite indices in order to be as transparent as possible. In this respect, our indices are different from those in Giuliano and Scalise (2009), the sole other agricultural market regulation indices of which we are aware. In their paper, government intervention in cash crop markets is given a score between one and four.⁹ Alternatively, in this paper, (i) different indices are reported for the different dimensions of market organisation, identified in the above section and (ii) degrees in each of these dimensions are reported as separate dummy variables rather than scores.

3. COTTON POLICIES IN SSA 1960-2009

3.1 1960s-1980s: An era of regulation

To describe an average market organisation at different points in time, we compute annually (i) the number of countries per level of competition, per degree of private sector ownership and per pricing system in addition to (ii) the share of production emanating from each of these groups of countries. Graphs are drawn first at the SSA level (Figure 1), but also differentiate between WCA and ESA (Figures 2 and 3, respectively) and between former French and British colonies (Figures 4 and 5).

As pictured in Figure 1, market organisation varied across SSA in the early 1960s although over half the countries already had monopolistic markets (Figure 1-A) and no private ownership (Figure 1-C).

In WCA, competition was absent in almost 90 percent of markets and a majority were monopolistic (Figure 2-A). The Democratic Republic of the Congo, The Gambia and Togo were the only

countries in which cotton sectors were not monopolistic but regulated or moderately competitive and where some private ownership was allowed. Prices were fixed everywhere, except in Togo (Figure 2-E).

By contrast, in ESA over three markets out of four were competitive at the beginning of our study period (Figure 3-A) and only two were monopolistic (Madagascar and Malawi). Private ownership was also much higher in ESA than in WCA: it was null only in the two monopolistic markets and the Sudan (Figure 3-C). Prices were fixed in around half the countries: Madagascar, Malawi, the Sudan, Tanzania and Uganda (Figure 3-E).

Figures 4 and 5 illustrate how differences in market organisation across regions in fact directly reflect on colonial policies: there was almost no competition and private ownership in all former French colonies, including in ESA (Figure 4) and much more in former British colonies, including those of WCA (Figure 5).

However, looking at average market organisation in terms of production shares originating from different types of markets offers a somewhat different picture. During the 1960s and the 1970s, competitive markets accounted for only a marginal share of production in ESA and in ex-British colonies as a whole (Figure 3-D and 5-D) and production overwhelmingly originated from countries where prices were fixed (Figures 2-F and 4-F). Differences between ESA and WCA, or ex-French and ex-British colonies, were thus less marked than may be perceived when looking solely at markets.

As shown in figure 3, market organisation remained very stable in WCA after the independences (that is from the mid to late 1960s to the late 1980s), and even more so in former French colonies (Figure 4).¹⁰ Conversely, changes were important in ESA: competition declined and regulated markets were transformed into monopolies while public ownership increased very significantly. By the early 1980s, almost three markets out of four were monopolistic and entirely public in ESA (Figures 3-A and 3-C).¹¹ As early as the mid-1970s prices were fixed in all areas except Mozambique, where the prices announced were only indicative (Figure 3-E).

While broadly confirming patterns identified in the literature (namely market uniformity within SSA sub-regions and a higher initial degree of regulation in WCA), our indices highlight the fact that

market organisation quickly became similar in WCA and in ESA. Between the late 1970s and the mid-1980s, competition and private ownership were, on average, as little in ESA as they were in WCA. Besides, our indices suggest that the commonly used distinction between WCA and ESA should not be understood as a geographical distinction but rather as a shortcut denomination for colonial ties.

3.2 Late-1980s-early 2000s: Different reform paths

Returning to Figure 1, this shows how cotton market organisation in SSA began to change in the mid-1980s, with a drastic acceleration of reforms in the mid-1990s. The number of monopolistic and publicly owned markets indeed continuously declined until the mid-2000s (Figures 1-A and 1-C). Prices were also liberalized in a number of countries, although the decrease is less important and stopped in the mid-1990s (Figure 1-E). This difference between market reform and price reform reflects the fact that the decrease in the number of publicly-owned monopolistic markets resulted from two different waves of reform: the first wave gave rise to privately operated and competitive markets where prices were liberalized and the second to hybrid markets characterized by mixed ownership, regulation and continued price fixation. This can be seen in the parallel increase of the number of regulated and competitive markets and the increase of entirely and partially privately operated markets in Figure 1-A and 1-C. Trends in terms of market share (Figures 1-B, 1-D and 1-F) are relatively similar. We document more precisely the timing and the places where the different types of reforms took place by looking at sub-regional levels.

Changes were very different in ESA and in WCA, or rather in former British colonies and in former French colonies. Indeed, contrary to common belief, the first breakthrough occurred in WCA and not in ESA, with the liberalisation of markets and prices in a number of non-French WCA countries in the mid-1980s (the Democratic Republic of the Congo in 1978, Ghana in 1985 and Nigeria in 1986). This first wave of liberalisation continued a decade later in ESA as illustrated by the huge shifts in trends in the mid 1990s, shown in Figure 3. By 1995, markets were completely privatised and liberalised in all the former British colonies of the region: Kenya (1993), Malawi, Uganda, Zambia, Zimbabwe (1994) and

Tanzania (1995). Competition and prices thus remained constrained only in Madagascar and Mozambique (respectively former French and Portuguese colonies) and Madagascar was the sole country where the cotton sector remained monopolistic and purely state-owned. Production shares followed similar trends: in the mid-1990s, the shares of monopolistic and regulated markets dropped sharply (to almost nothing in the late 1990s) to the benefit of competitive markets (Figure 3-B). Similarly, the shares of production emanating from publicly-owned markets and from markets with fixed prices shrank drastically at the same time (Figure 3-D).

In contrast, in non-Anglophone WCA, reforms have been much more recent and much more restricted in scope: the number of monopolies has declined only gradually, to the benefit of regulated markets but not to the benefit of competitive markets (Figures 2-A and 2-B). Public ownership has also declined with an acceleration of this trend in the late 1990s, but very few markets have become fully operated by private agents (Figures 2-C and 2-D).¹² Prices have not been liberalised (Figures 2-E and 2-F). The most important changes occurred in Niger and Guinea Bissau, where parastatals were privatised (in 1989 and 2000) before competition was introduced (in 1998 and 2002). Competition remained limited, however, except in Niger, where it was re-enforced by new entry after 2003. In Benin, Togo, the Ivory Coast and Burkina Faso, private investors were allowed to enter ginning (in 1995, the late 1990s, 1999 and 2003), yet governments remained major shareholders of the former parastatals that continued to operate, competition remained strictly constrained and price fixation was not challenged. Conversely, the Central African Republic, Guinea, Senegal and Madagascar completely privatised their parastatals (in 1990, 2000, 2003 and 2004), but continued to guarantee their monopoly position (or failed to attract competitors in the Central African Republic). Finally, public monopsonies still operate in Mali and Cameroon where market organisation was not challenged at all. As a result, by the end of the 1990s, the private sector was operating in only around half the markets of WCA and competition remained restrained in over three countries out of four. About 80 percent of production continued to originate from markets where prices were fixed.

Regarding the “structural adjustment” period, our results again broadly confirm the key results found in the literature, namely that of prompter and deeper reforms in ESA. The nuance identified in the preceding section still holds, however: patterns again strongly reflect colonial origin rather than geography (as illustrated by comparing Figures 2 and 3 with Figures 4 and 5). This observation suggests a strong path-dependence of institutional history.

3.3 Since the early-2000s: A halting of reforms?

The clear trend towards more competition identified in the above section vanishes in the 2000s. To make this clearer, in Figure 6, we graph the number of countries and their share of production according to whether markets display any level of competition (i.e. moderate or strong) or none (i.e. being monopolistic or regulated). As shown in Figure 6-A, the combined number of monopolistic and regulated markets in SSA has in fact increased in the first half of the 2000s and thus returned to its level in the mid-1990s. This is also true at the sub-regional level: competition was suppressed in ESA in the early 2000s (Figure 6-E) and in WCA in the late 2000s (Figure 6-C). Liberalisation attempts have indeed been reversed in Mozambique (in 2000), Guinea Bissau (in 2004) and the Democratic Republic of the Congo (in 2006) and regulation was re-introduced in Uganda (between 2003 and 2008). Similar patterns appear in terms of market share: the share of non-competitive markets has increased over the first half of the 2000s and has returned, today, to the level of late 1990s in ESA and is only slightly inferior that level in WCA (Figures 6-D and 6-F). In addition, we also observe a partial reversal of the privatisation trend in WCA: the private sector no longer operates in the Central African Republic (since 2007), The Gambia (since 1996) and Guinea (since 2008).

Building on our country-case studies, we find that the observations described above are the result of three types of reform reversal: state driven and private sector driven regulation and market concentration caused by market exit. In some cases, several of these trends have been at work simultaneously or successively. However, in WCA, market exit is the primary explanation for increasing state ownership or declining competition: cotton production has collapsed in marginal producing

countries where private agents have exited the sector.¹³ Conversely, as noted by Tschirley et al. (2010), state driven and private sector driven regulation have been the main drivers of declining competition in ESA. Fluctuations in the degree of competition in Zambia and Zimbabwe have resulted from reinforced regulation of the ginning sector in Zimbabwe (Poulton and Hanyami-Mlambo, 2009) and informal cooperation by the two biggest firms in Zambia, in an attempt to limit the scope for side-selling (Brambilla and Porto, 2009).

As a result of reform reversal and of the limited scope of reforms in WCA, we find that, on average, cotton markets in SSA remain largely publicly-owned and scarcely competitive: only nine countries out of the 25 under consideration have achieved some level of competition and over half of total SSA production still originates from markets where prices are fixed (Figures 6-A and 1-E).¹⁴

Moreover, according to some analysts, even the most competitive African cotton markets would be far from perfectly competitive – especially when the scope of reforms is put into perspective with the more general institutional and political context of the countries examined (Cocksey, 2004; Van de Walle, 2001). Looking at the cotton sector in Tanzania, understood to be amongst the most competitive in SSA, Larsen (2005) reports that private agents have to obtain licences from the marketing board and other administrations to enter the different segments of the cotton sector.

Finally, we observe that the recommendations formulated to countries where reforms have not been adopted or implemented yet are increasingly cautious and context-specific. Privatisation is seen as insufficient or even undesirable under certain conditions and competition as having to be controlled in certain market contexts (Baghdadli et al., 2007). Hence, while Baffes (2005) advocated further privatisation of the parastatals in WCA as well as further liberalisation of all sub-sectors, Tschirley et al. (2009 and 2010) conclude that no market sector type seems to have performed so well that it can be considered best under all circumstances.¹⁵ Perhaps as a consequence, countries in which markets have barely evolved over the past three or four decades (Cameroon and Mali) seem to envision reforms that would lead to regulated rather than competitive markets.

4. CONCLUSION

The aim of this paper is to offer a comprehensive view on cotton market organisation and regulation evolution all over SSA. Notwithstanding a series of nuances, we find that the trends in policy evolution identified in the literature broadly hold when expanding the sample of countries under consideration in the pre-reform period and in the aftermath of reforms. This suggests that cotton policies were relatively uniform at the sub-regional level.

However, our findings for the last decade significantly alter the conclusions commonly accepted. We show that the trend towards more competition and less public ownership engaged with reforms in some countries in the 1990s was not mirrored by other countries in the following decade. We also find that the reform processes have even been reversed in some respect in almost half the countries under consideration. While cotton sectors are commonly described as moving towards increased more competition and private ownership, we thus show that trajectories are in fact less linear. Of course, this is not to say that reforms have failed everywhere; they have been reversed primarily in the smallest producing countries (hence with limited impact on trends in terms of production shares). However, while this paper does not intend to comment on the desirability of reforms, it describes the difficulty of achieving competition: fifteen to twenty years after reforms were initiated, in many countries, markets are far from stable.

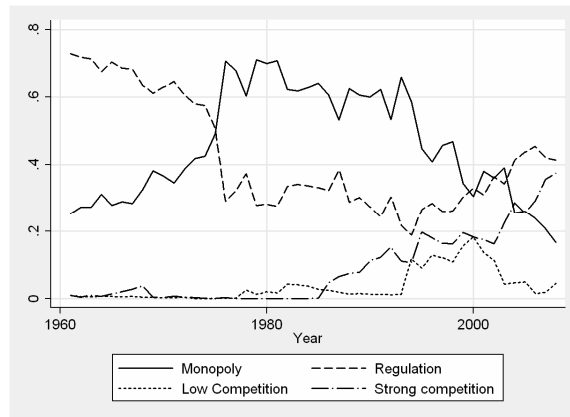
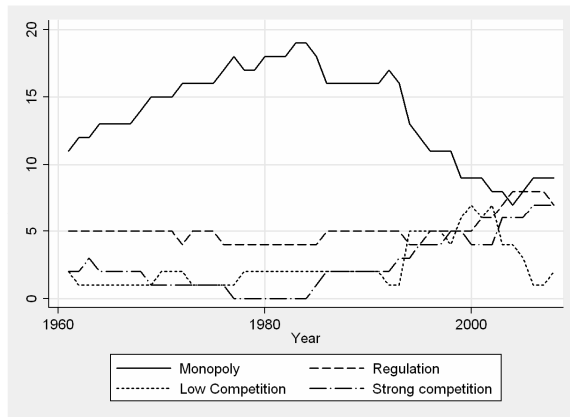
This finding is crucial when it comes to explaining the performance of markets' post-reforms or the determinants of policy choices. As they provide comparable information for 25 countries with relatively similar economic contexts and histories over 46 years, our indices offer promising opportunities for future quantitative empirical work. Analysing the impact of reforms at the sector level, with detailed information on their pace and scope, might, for example, help solve the difficult identification of supply response in the African context (Kheralla et al., 2002).

Finally, our findings also point to the crucial need for additional research into the modalities of state intervention in African agricultural markets. Indeed, there are reasons to believe that what we observe for cotton reforms could be similar for the reforms of other cash crops.

Table 1. Market organisation indices

Indices	Description
Degree of competition	
Strong competition	Several firms compete on prices to purchase cotton from farmers
Limited competition	2 or 3 firms enjoy a large combined market share & exert price leadership
Regulation	Several firms operate but there is no competition because of regional monopsonies or administrative allocation of supply among them
Monopoly	One company buys cotton from farmers & sells cotton lint
Price fixation	
Fixed prices	Prices are fixed pan-territorially and pan-seasonally
Price indication	An indicative (non-binding) buying price is announced at the start of the season
Free market price	Prices fluctuate according to local supply and demand
Ownership ¹⁶	
No private capital	Private investors are not allowed to enter ginning
Some private capital	Both the public and the private sector are active in ginning
Only private capital	The state does not intervene at all in ginning
Col. institution as a monopoly	A colonial institution is the sole ginner
Ex-col. institution majority shareholder	An ex-colonial institution remains the majority shareholder in the ginning sector
Ex-col. institution shareholder	An ex-colonial institution retains shares (any) in the ginning sector
Producers shareholders	Producers have shares (any) in some of the ginning companies
Controls	
French colony once	The country was a French colony once (any time)
British colony once	The country was a British colony once (any time)
CFDT once	The CFDT has operated as a ginning monopoly (any time)
British board once	A British Board has operated as a ginning monopoly (any time)
Other or no colonizer	The country never was a French or a British colony.

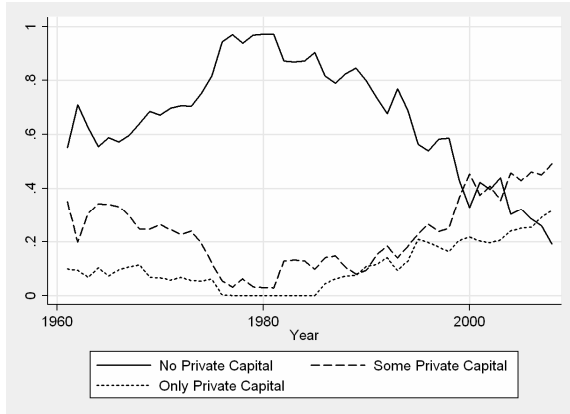
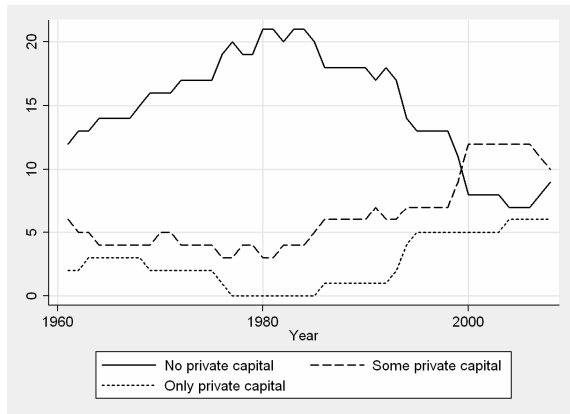
Figure 1. Market organisation in SSA (1961-2008)



1-A Nb of countries by d° of competition in SSA

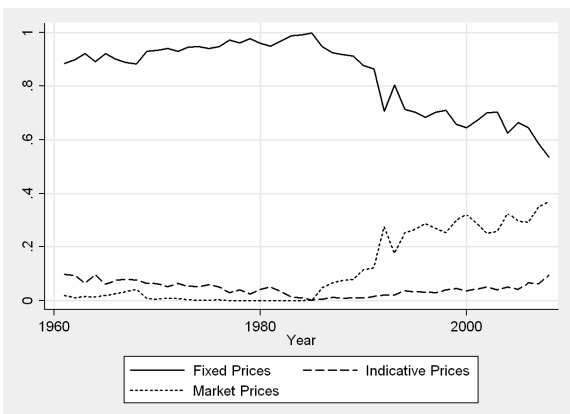
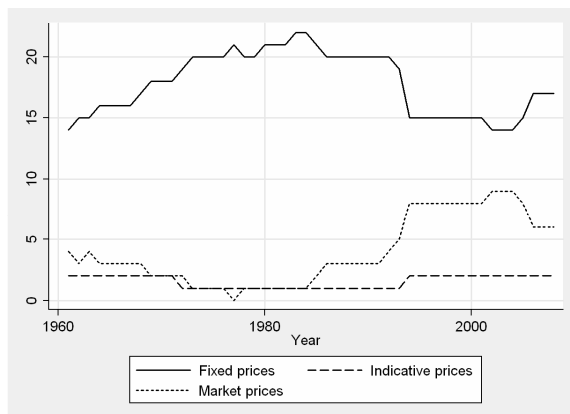
1-B Production share by d° of competition in SSA

Competition is 'strong' if many firms compete on prices and 'limited' when 2 or 3 firms with large market shares exert price leadership. 'Regulation' implies that firms operate as regional monopsonies or that supply is administratively allocated.



1-C Nb of countries by d° of ownership in SSA

1-D Production share by d° of ownership in SSA



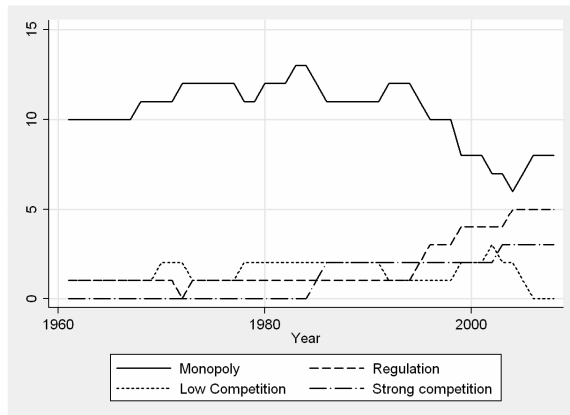
1-E Nb of countries by price system in SSA

1-F Production share by price system in SSA

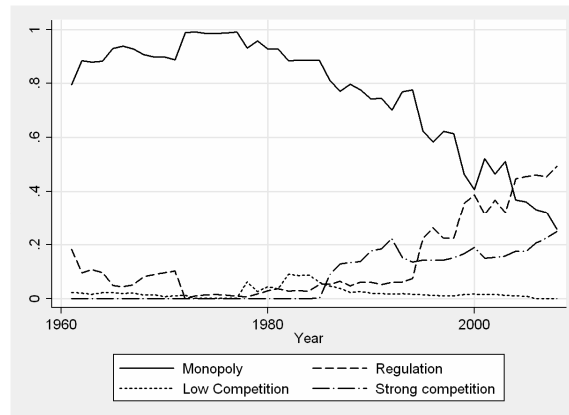
SSA includes Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Democratic Republic of the Congo, The Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Kenya, Madagascar, Malawi, Mali, Mozambique, Niger, Nigeria, Senegal, Sudan Togo, Uganda, United Republic of Tanzania, Zambia and Zimbabwe.

Source: compilation by the authors

Figure 2. Market organisation in WCA (1961-2008)

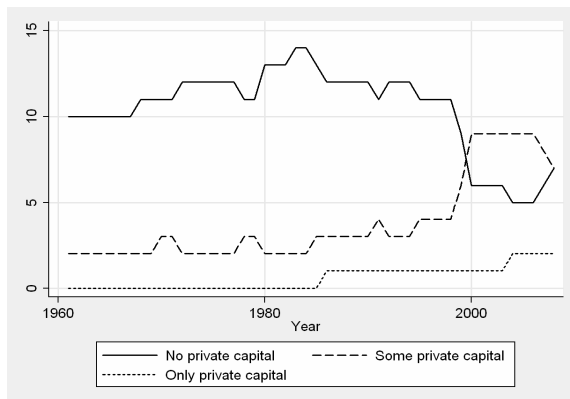


2-A Nb of countries by d° of competition in WCA

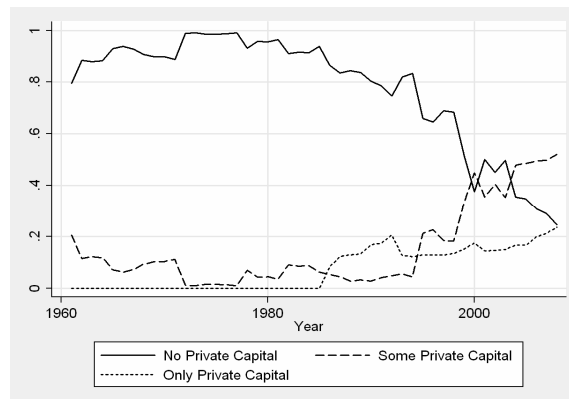


2-B Production share by d° of competition in WCA

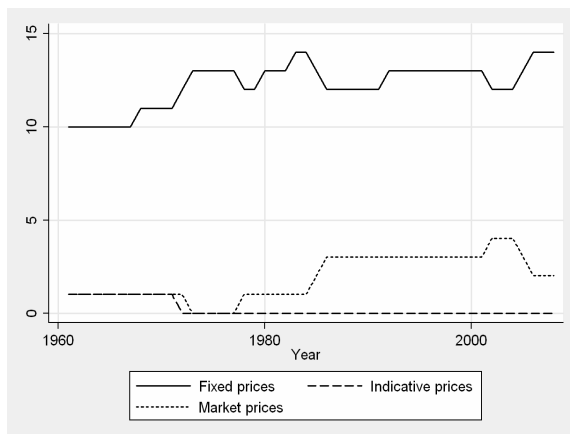
Competition is 'strong' if many firms compete on prices and 'limited' when 2 or 3 firms with large market shares exert price leadership. 'Regulation' implies that firms operate as regional monopsonies or that supply is administratively allocated.



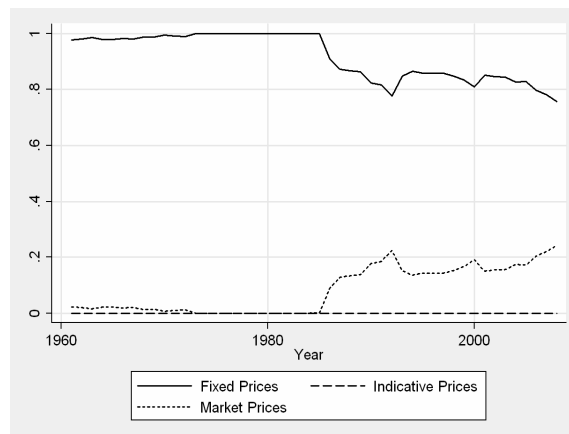
2-C Nb of countries by d° of ownership in WCA



2-D Production share by d° of ownership in WCA



2-E Nb of countries by price system in WCA

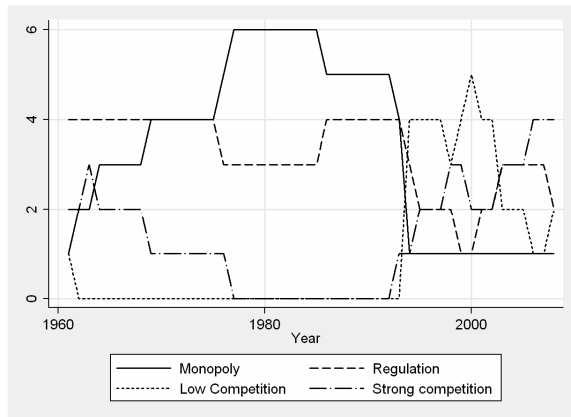


2-F Production share by price system in WCA

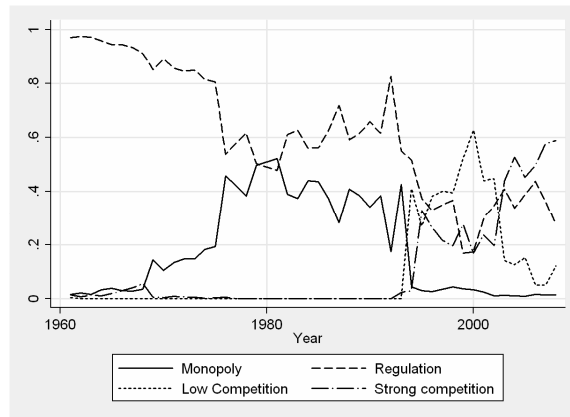
WCA includes Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Democratic Republic of the Congo, The Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Mali, Niger, Nigeria, Senegal and Togo.

Source: compilation by the authors

Figure 3. Market organisation in ESA (1961-2008)

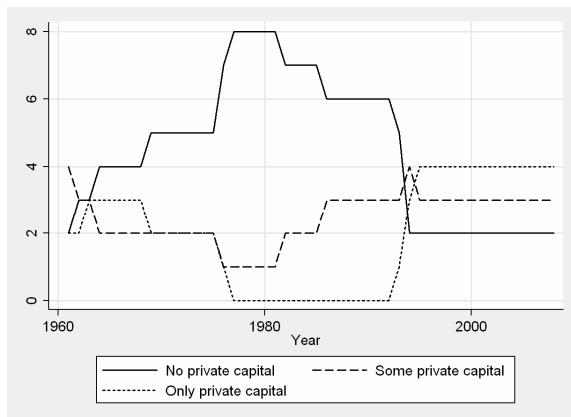


3-A Nb of countries by d° of competition in ESA

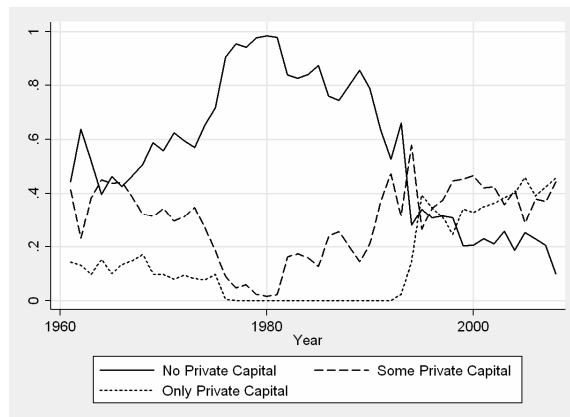


3-B Production share by d° of competition in ESA

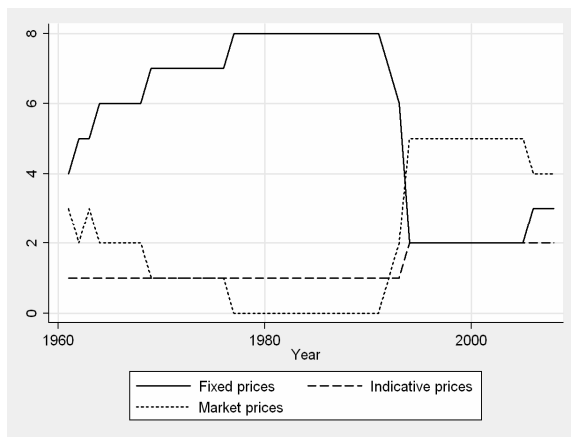
Competition is 'strong' if many firms compete on prices and 'limited' when 2 or 3 firms with large market shares exert price leadership. 'Regulation' implies that firms operate as regional monopsonies or that supply is administratively allocated.



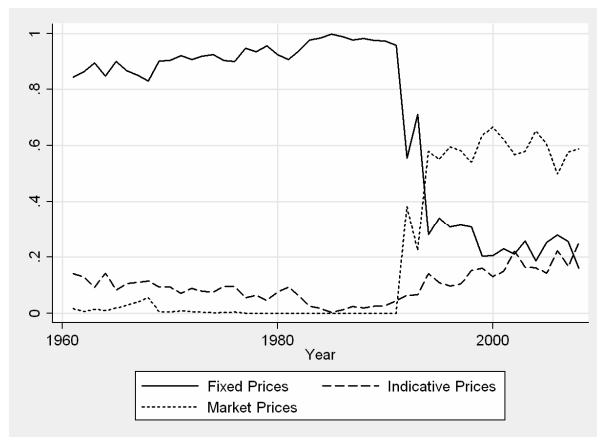
3-C Nb of countries by d° of ownership in ESA



3-D Production share by d° of ownership in ESA



3-E Nb of countries by price system in ESA

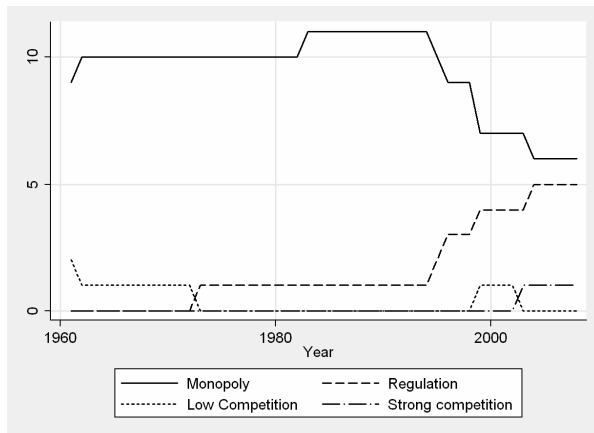


3-F Production share by price system in ESA

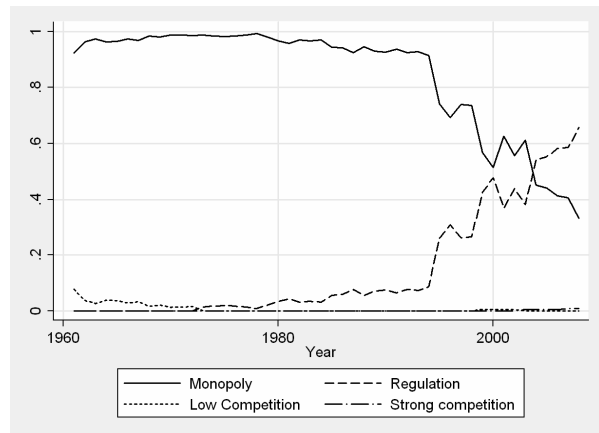
ESA includes Kenya, Madagascar, Malawi, Mozambique, Sudan, Uganda, United Republic of Tanzania, Zambia and Zimbabwe.

Source: compilation by the authors.

Figure 4. Market organisation in Former French Colonies (FFC) (1961-2008)

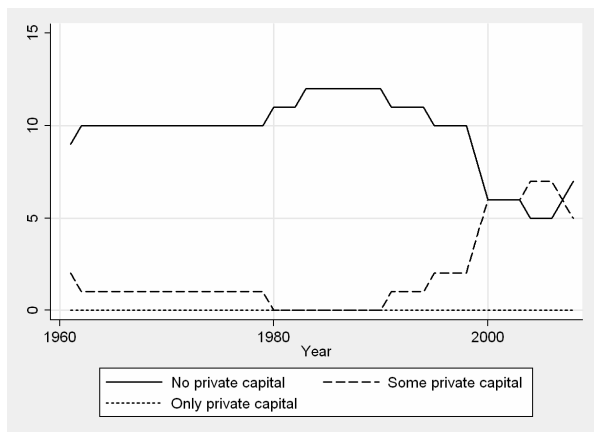


4-A Nb of countries by d° of competition in FFC

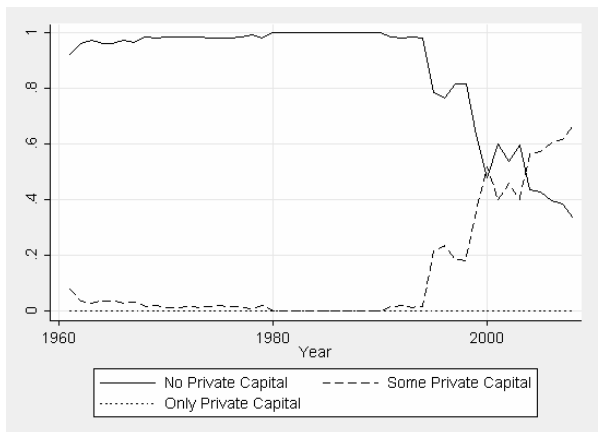


4-B Production share by d° of competition in FFC

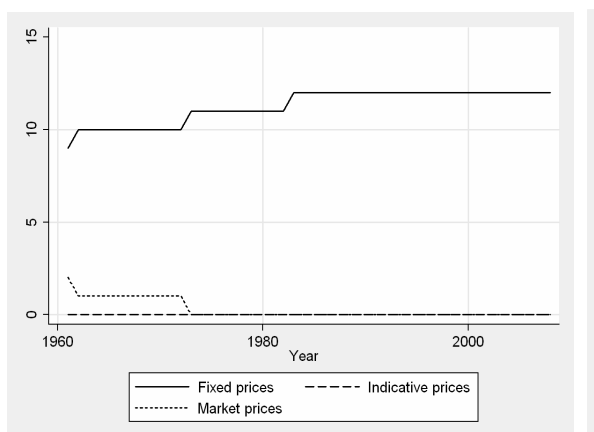
Competition is ‘strong’ if many firms compete on prices and ‘limited’ when 2 or 3 firms with large market shares exert price leadership. ‘Regulation’ implies that firms operate as regional monopsonies or that supply is administratively allocated.



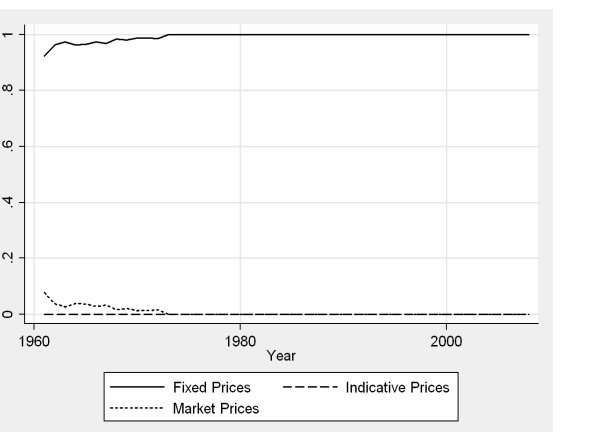
4-C Nb of countries by d° of ownership in FFC



4-D Production share by d° of ownership in FFC



4-E Nb of countries by price system in FFC

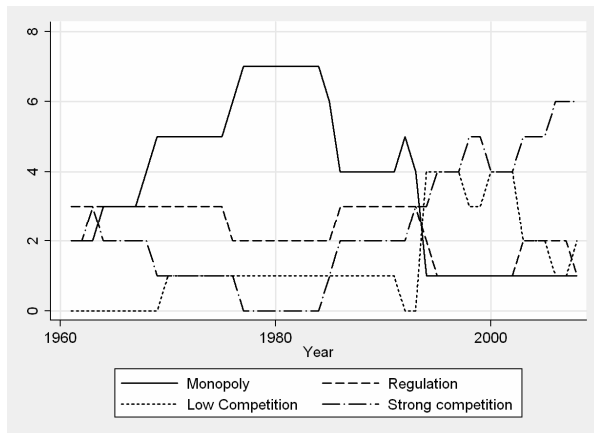


4-F Production share by price system in FFC

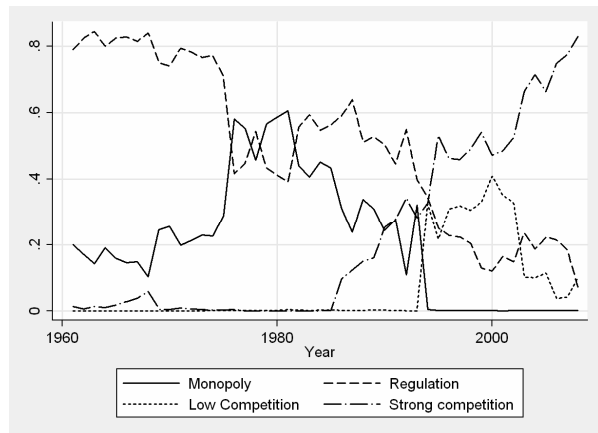
Former French colonies include Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Guinea, Ivory Coast, Madagascar, Mali, Niger, Senegal and Togo.

Source: compilation by the authors

Figure 5. Market organisation in Former British Colonies (FBC) (1961-2008)

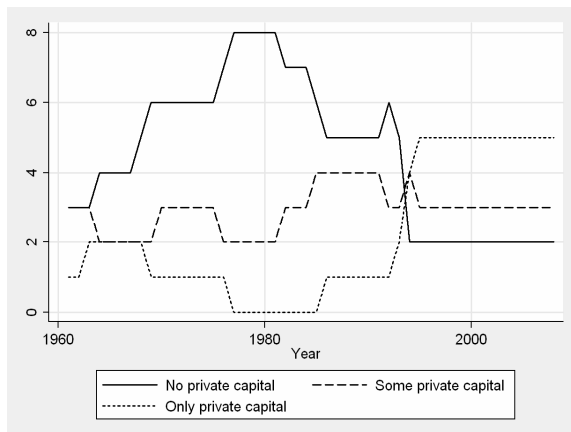


5-A Nb of countries by d° of competition in FBC

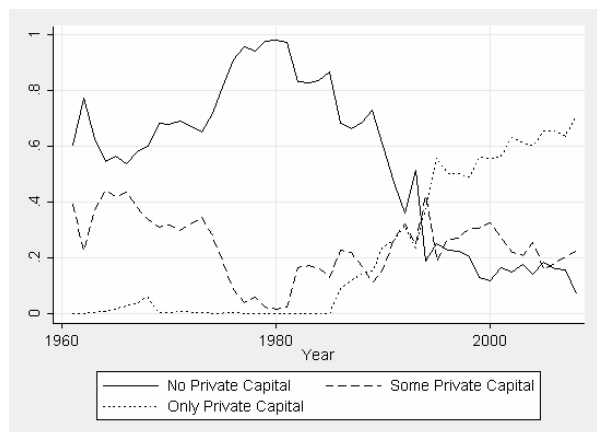


5-B Production share by d° of competition in FBC

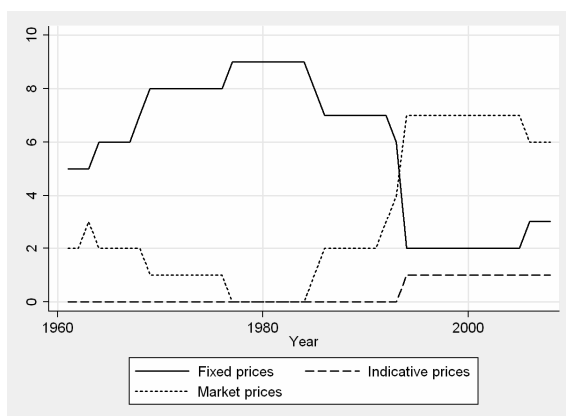
Competition is 'strong' if many firms compete on prices and 'limited' when 2 or 3 firms with large market shares exert price leadership. 'Regulation' implies that firms operate as regional monopsonies or that supply is administratively allocated.



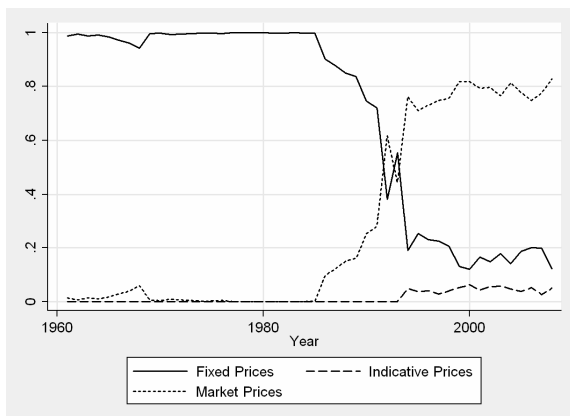
5-C Nb of countries by d° of ownership in FBC



5-D Production share by d° of ownership in FBC



5-E Nb of countries by price system in FBC

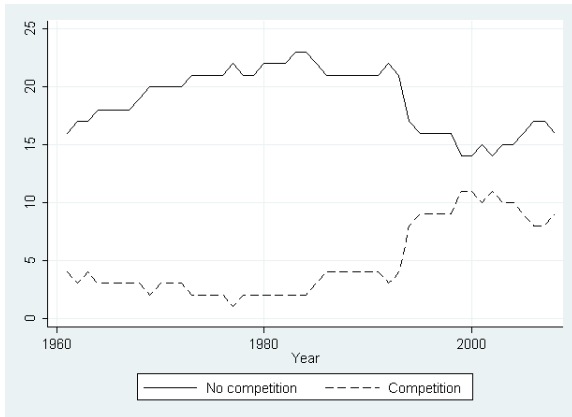


5-F Production share by price system in FBC

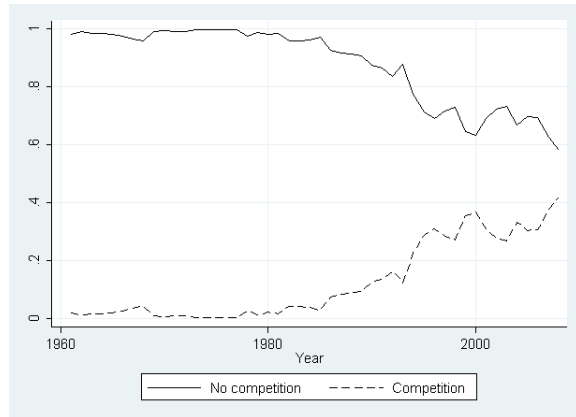
Former British colonies include The Gambia, Ghana, Kenya, Malawi, Nigeria, Sudan, Uganda, United Republic of Tanzania, Zambia and Zimbabwe.

Source: compilation by the authors

Figure 6. Competition in African cotton markets (1961-2008)

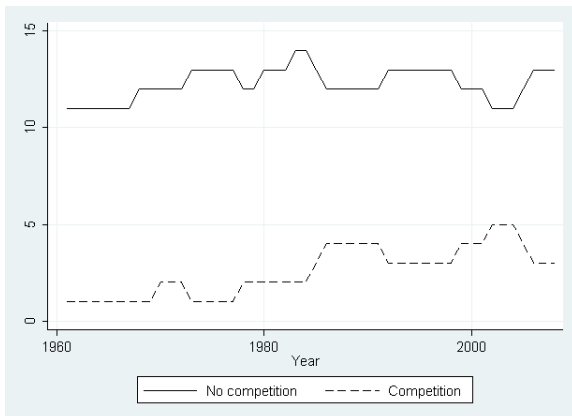


6-A Nb of competitive countries in SSA

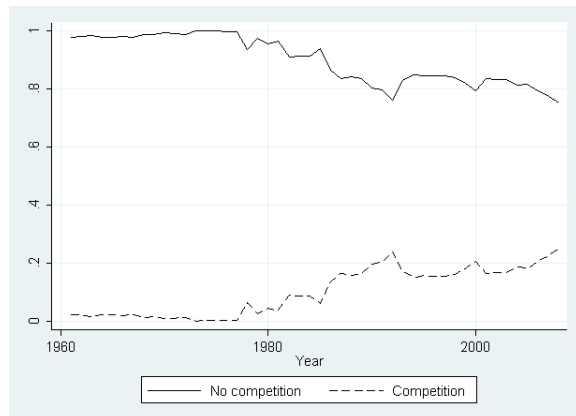


6-B Production share of competitive countries in SSA

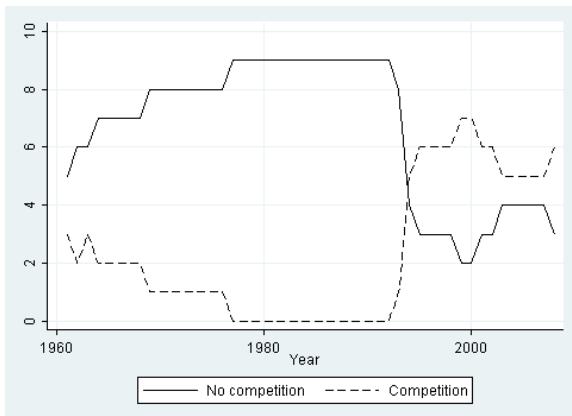
Countries are considered competitive if markets have achieved 'strong' or 'limited' competition



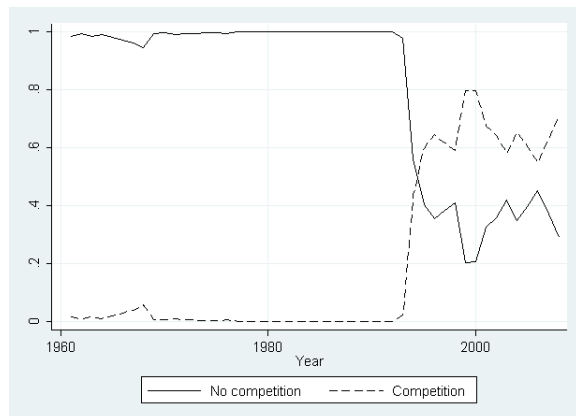
6-C Nb of competitive countries in WCA



6-D Production share of competitive countries in WCA



6-E Nb of competitive countries in ESA



6-F Production share of competitive countries in ESA

Source: compilation by the authors.

ENDNOTES

¹ The privatisation and liberalisation of all the cotton sub-sectors were advocated by the World Bank and the International Monetary Fund, originally in the late 1980s, and increasingly since the mid-1990s, with the objective of strengthening their competitiveness, ensuring their financial sustainability and allowing a fair distribution of the profits between producers and ginners (Badiane et al., 2002).

² Numerous studies look at the historically biggest producers in Eastern and Southern Africa (ESA) (Mozambique, Tanzania, Uganda, Zambia and Zimbabwe) and in WCA (Benin, Burkina Faso, Chad and Mali); countries where production has declined over the last decade (such as the Ivory Coast, Nigeria and Sudan) or smaller producers (such as Kenya, Madagascar, Senegal or Togo) are rarely examined.

³ These countries include Kenya, Madagascar, Malawi, Mozambique, Sudan, Uganda, United Republic of Tanzania, Zambia and Zimbabwe in ESA and Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Democratic Republic of the Congo, The Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Mali, Niger, Nigeria, Senegal and Togo in WCA. According to FAO statistics, 32 countries produced over 1000 tons of cotton at some point between 1961 and 2009. However, we still have not found sufficient information to document our indices for the following countries: Angola, Burundi, Botswana, Ethiopia, Somalia, South Africa and Swaziland.

⁴ Given the large geographical coverage of the paper, it concentrates only on the production of seed cotton and its transformation into cotton lint; the production of by-products, oil and cakes, is not addressed in what follows.

⁵ Among current significant producing countries, Tanzania is the only country where this is not the case at all.

⁶ Among other reasons this is due to the oral nature of many arrangements, the geographical dispersion of agents and the weakness of judiciary systems.

⁷ Among these studies, see in particular, Kaminski (2009); Savadogot and Mangenot (forthcoming) *on Burkina*; Minot and Daniels (2005); Gergely (2009a) *on Benin*; Gergely (2009b) on Cameroon; Gafsi and Mbetid-Bessane (2002) *on the Central African Republic*; Mbetid-Bessane et al. (2010); Azam and Djimtoingar (2004) *on Chad*; and Makdissi and Wodon (2004) *on the Ivory Coast*; Tefft (2003); Vitale and Sanders (2005) *on Mali*; Larsen (2006) Poulton and Hanyani-Mlambo (2009) *on Mozambique*; Dercon (1993); Gibbon (1999); Cooksey (2004a and 2004b); Baffes (2004); Larsen (2006); Poulton (2009) *on Tanzania*; Lundbæk (2002); Poulton and Maro (2007); Baffes (2004 and 2009a) *on Uganda*; Brambilla and Porto (2008); Kabwe and Tschirley (2009) *on Zambia*; Boughton et al. (2003) *on Zimbabwe* as well as Araujo-Bonjean et al. (2003); Goreux (2003); Bourdet (2004); Baffes (2009) *on WCA* and Tschirley et al. (2009) *on SSA*.

⁸ For clarity, we quote country-specific sources only in the country-case summaries (available upon request).

⁹ Their database contains information for the major cash crop in 88 developing countries from 1960 to 2003.

¹⁰ The increase in the number of monopolistic markets with public ownership and fixed prices in figure 2-A, 2-C and 2-E is not due to shifts in market organisation but to the emergence of new producing countries (Ghana in 1968, The Gambia in 1970, Guinea in 1983 and Guinea Bissau in 1983).

¹¹ Production shares followed similar trends, however, noteworthy is the existence of a time-lag between the peak of production emanating from monopolistic and publicly-managed sectors, which both occur in the late 1970s, and the share of such markets, which continued to increase, respectively, until the mid and late 1980s. Similarly, while the number of regulated and mixed ownership markets has remained relatively stable from the 1960s to the mid-1980s, their market shares have significantly declined. Interesting patterns in terms of performance are therefore to be explored.

¹² Note that companies have been privatised in 2009, i.e. after the end of our study period, in Madagascar and Senegal.

¹³ Similar issues arise in bigger producing countries too. In Burkina Faso, for example, the state has re-increased its ownership share in the ex-parastatal to over 65 percent because the French private investor has refused to engage in the needed recapitalisation.

¹⁴ The reversal of reforms might be even more significant than indicated by our indices. Indeed, regulatory bodies and policies are being created and implemented in a number of countries, the impact of which remains difficult to estimate and thus is not taken into consideration in our indices (for example the Cotton Development Authority in Kenya). Besides, we have found indications that public spending through subsidies seems to be increasing in a number of countries.

¹⁵ The somehow limited completeness of reforms achieved in reforming countries might have participated in the softening of reform recommendations, on the grounds of realism.

¹⁶ We consider ownership by ex-colonial institutions as 'public' when these firms are owned by ex-Metropolitan states.

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