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**Endogenous Economic Reforms and Local Realities:  
Cotton policy-making in Burkina Faso**

by

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# Endogenous Economic Reforms and Local Realities: Cotton policy-making in Burkina Faso

Jonathan Kaminski and Renata Serra \*

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## Abstract:

This paper explores the case for believing endogenous reforms to be more developmental than externally-imposed reforms, by drawing on the recent unorthodox experience of cotton sector reform in Burkina Faso. We address questions about reform emergence, feasibility, developmental impact, and sustainability. Our analysis, which carefully incorporates local social and political realities, suggests that the urban elites dominating the Burkinabè state favoured a particular cotton reform process, because it provided them with higher rents; while allowing for some rent distribution to the rural world which secured national consensus around reform. Endogenous reforms, though more feasible, are not necessarily more sustainable over time. In Burkina Faso, the initial reform benefits were eroded after 2006. We interpret this as due to the inability of the new institutional equilibrium to win over the pressure from changed stakeholder incentives, as well as to a loss of responsiveness of the rural leadership to its base.

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## 1. Introduction

The notion that successful economic institutions and policies are endogenous, emerging out of a complex web of social, political and cultural factors internal to societies and communities, has acquired increasing prominence. Recent literature argues that institutions depend on past history (Acemoglu, Johnson and Robinson, 2001), on the role and character of the state (Leftwich 1996), on the balance of incentives facing different groups within society (Baland, Moene and Robinson 2009), and on underlying power relationships (Hyden 2008). Undoubtedly, disagreement arises among the different positions, especially regarding the degree to which the intentionality and rationality of the actors involved matter for the emergence of institutions, and the extent to which politics is the key element. Nonetheless, this literature has been fundamental in changing perceptions about the adoption and implementation of economic reforms in African countries.

Over time, both researchers and donors have started to pay greater attention to the role of internal institutions and political economy factors (see Rodrik, 2008 for instance) in shaping reforms that were part of various economic restructuring programs promoted by the IMF and the World Bank. While respected critiques of earlier structural adjustment programs, such as Cornia, Jolly and Stewart (1987), attacked the modalities and effects of externally imposed reforms, other work has also argued that many African governments, especially after the democratic transition, either did not implement, or only weakly implemented, externally recommended economic measures (van de Walle 2001). In the context of agricultural reforms specifically, Jayne *et al.* (2002) dispute the widely held premise that agricultural market liberalization and privatization measures were carried out to any significant extent in Eastern and Southern Africa. Assessments by researchers close to the World Bank concluded, on the basis of several case studies, that countries' experience with reform has varied considerably due to internal distinct economic, political and social factors; and thus aid and conditionality cannot induce by themselves economic reforms (Dollar and Svensson 2000; and Devarajan, Dollar and Holmgren 2001). In fact, partial implementation of reforms is a strategy used by leaders to create new rent-seeking opportunities (van de Walle, 2001); and conditionality is useful only at certain key stages, to favour internally generated processes of change.<sup>1</sup>

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<sup>1</sup> Unfortunately, this understanding has not always led to a change in donors' practices, with studies showing the widespread persistence of conditionalities by the IMF and the World Bank despite changes in the rhetoric (Oxfam 2006).

Amidst this greater and renewed appreciation for domestic determinants of economic reforms, however, insufficient attention has been paid to the most notable cases of endogenous reforms in Africa, of the specific conditions for their emergence, their implications for development, and their chances of achieving sustainability. This paper addresses all these questions by analyzing the recent experience with unorthodox cotton reform in Burkina Faso. We propose a political economy interpretative framework of the cotton reform process, which explicitly considers the role of the political, economic and social realities prevailing in the country to explain the chosen reform path, its distinct modalities and its developmental outcomes.

The paper adds to the existing literature on the political economy of reforms in developing countries by recognizing that domestic actors not only have the choice of whether to accept or refuse a given policy package, but can shape the reform content itself. Whereas previous models allow for the endogeneity of just the policy adoption choice (Adams 2000) and regard reform emergence as a function of the benefits and costs of different groups and the balance of power between them (Rodrik 1993 and 1996; Fernandez and Rodrik 1993), we analyze an instance of endogenous policy formulation *and* implementation, which includes consultation among stakeholders and the elaboration of alternative reform scenarios. Decision-makers then select the reform package that has the greatest support of key stakeholders, while satisfying their own interests. Indeed in Burkina Faso, while donors' pressures for privatizing and liberalizing the cotton sector provided the initial impetus in the early 1990s, the government undertook early on a policy dialogue with other stakeholders, which resulted in the implementation of a distinct reform package in a unique sequence, including early institutional reforms, a limited degree of liberalization, and, subsequently, an unconventional privatization of the cotton parastatal.

With the Burkina cotton reform departing from the conventional donor recommendations for agricultural reforms, our paper also contributes to recent literature on African agricultural sectors, which has questioned the wisdom of adopting standard liberalization and privatization measures when there are not only widespread market failures (incomplete markets, high transaction costs, information asymmetries) but also significant coordination and governance failures (e.g. limited contract enforceability). These failures require, besides market corrections, innovative institutional arrangements that provide non-market coordination, through, for instance, vertical integration and relational contracting (Dorward et al. 2009). In

the context of African cotton sectors, for instance, the now established notion of a trade-off between coordination and competition suggests that market structures allowing limited competition are best positioned to provide the best range of services along the value chain (Tschirley et al. 2009). Implicitly or explicitly building upon the theory of second-best (Lipsey and Lancaster 1956), these contributions remind us that policies that could be desirable in an ideal world may actually be counter-productive (and decrease Pareto efficiency) if implemented in a context of imperfect markets and institutions.

The notion that the unconventional, piecemeal and gradualist approach to cotton reforms in Burkina Faso could be regarded as one of the most appropriate policy responses to the cotton problem (Baffes 2005) should clearly be assessed from such second-best perspective. We therefore ask the question of whether endogenous reforms lead to better developmental prospects than externally-imposed reforms, due to their potential to combine welfare-improving outcomes with greater political feasibility. We find this is true for the first period (1999-2006), because not only does endogenous policy formulation better deal with stakeholders' reluctance to implement reform, but it also leaves greater scope for second-best institutions to be adopted.

The role of local institutional realities is here crucial for enabling aid-induced reform packages to adapt to the specific needs and characteristics of a given country. Thus we show that prevailing political practices (including corruption and rent-seeking), power configurations, customary norms and relationships between different social groups explain key aspects of the internal formulation of the reform path and outcomes in the Burkinabe cotton reforms. Unfortunately, such local realities are rarely examined before implementing development interventions, leading to missed opportunities in terms of poverty reduction, as argued by the Africa Power and Politics Program (see, for instance, Hyden 2008, Kelsall 2008, and Olivier de Sardan 2009).

While endogenous reforms are better positioned to incorporate local realities, they are not necessarily more sustainable over time. In Burkina Faso, the setbacks in the country's cotton sector after 2006, linked to the recapitalization of the cotton parastatal by the State, increased company's mismanagement, and detachment of rural leadership from its base, show that the vulnerability of the new institutions to changes in the underlying incentives and the failure to improve representation of peasant interests may backfire. Endogenous reforms may thus

exhibit similar problems of second-generation controls, which others have found in more conventional reforms in the agricultural sectors (Jayne et al. 2002).

While rent-seeking is typically regarded as a deleterious political practice, leading to economic inefficiency (Krueger, 1974), we examine under which circumstances it may help foster the adoption of welfare-improving reforms or, alternatively, it is socially-detrimental. Particular rules of rent-sharing can, for instance, contribute to buy the compliance of otherwise disruptive social or political forces, such as the rural elites and cotton farmers associations. However, when urban elites change the rules of the game and become more rapacious in a context of falling world prices, the rents accruing to rural elites and cotton farmers diminish, leading to the counterproductive outcomes and diminished margins for market coordination experienced from 2007.

The paper is organized as follows. Section 2 presents the distinctive process of reforms in the Burkina Faso cotton sector, and its related outcomes, in particular tracing market coordination over time, on the basis of primary and secondary evidence. Section 3 lays out a game theoretic framework to analyze key actors and choices; and then proceeds to explain the emergence of the endogenous reform formulation, the early institutional reforms and the unconventional privatization, through a political economy analysis of rent-sharing rules, and of the costs and benefits associated with alternative outcomes. Section 4 is devoted to sustainability issues and the analysis of reasons for recent reversals, providing some reflections on the possible limits of endogenous reforms. Section 5 concludes.

## **2 Cotton reform in Burkina Faso**

This section reviews the main features of the cotton sector reform in Burkina Faso, which will enable us to identify the main questions for analysis. Fieldwork for this project took place in spring 2009 and 2010. Open-ended interviews with key national cotton stakeholders, including representatives from the government, the cotton companies, the farmer organizations and donors, sought to uncover their roles and positions in the reform process, their assessment of market coordination (as defined below), and their opinions on potential for actors' interest convergence or conflict. Thirteen different villages were also visited in the main cotton-producing regions (centre west and southwest), which constitute the old cotton basin accounting for most national cotton production. Individual interviews were conducted

with a small sample of producers in each village, local technical agents, local administrators of the concerned municipalities, and regional cotton leaders; while focus groups were held with representatives of village associations, the management boards of 32 cotton farmers' groups, and village banks' members. This part of the fieldwork provided evidence on rural village dynamics, the interaction between indigenous groups (Bobo and Bwaba) and immigrant Mossi populations, and the issues facing farmer groups both internally and in their relationship with other cotton stakeholders.<sup>2</sup> Research previously carried out by Kaminski during spring 2006 provided additional evidence on temporal dynamics.

## 2.1 A distinctive process of reforms

In African cotton sectors, market and institutional failures have been traditionally dealt with by particular organizational structures emerging in the immediate post-colonial period, centred on a parastatal company and an integrated commodity-chain model (Tschirley et al 2009). Such structures provided self-enforcing contractual arrangements with smallholders, market coordination and sufficient public good provision (quality grading, labelling and reputation on the world market, research and extension services) that are required for the effective functioning of these sectors. In most countries, this model was challenged by both external factors (international price decline) and internal factors (governance problems; weather shocks; soil depletion), especially since the early 1990s. Governance failures, especially in the form of the huge deficits of the parastatals<sup>3</sup> and implicit taxation of smallholders, attracted the greatest attention of international consultants and multi-lateral donors. Reform recommendations thus included privatization of the cotton parastatals and liberalization of the markets for inputs, ginning and transport, in order to induce cotton firms to reduce their costs, become more competitive and offer better prices to cotton producers.

As in other sub-Saharan African countries, the context for reform in Burkina Faso was provided by a macro-economic and balance of payment crisis, which led the government in 1990 to agree with the international financial institutions to the first structural adjustment program, adopted the following year. In the same period, international pressures from donors for more democratic opening (Bates 1994) reinforced internal demands for political change, and led to the adoption of a new constitution in 1991 and the establishment of a presidential-

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<sup>2</sup> The quantitative analysis of the role of village local realities on cotton production dynamics and village market coordination is deferred to another paper (Kaminski et al. forthcoming).

<sup>3</sup> See Tangri (1999) for an analysis of the politics of patronage and parastatals' management in Africa.



style formal democracy.<sup>4</sup> Unlike other countries in the region, this transition was partial in Burkina Faso, since Blaise Compaoré managed to retain a monopoly of political power, with the establishment of real democracy never being on the government agenda (the country is considered only ‘partly free’ by the Freedom House). Nevertheless, Compaoré promoted several administrative reforms, including decentralization, and allowed greater political space to civil society.

The Burkinabe cotton parastatal company (SOFITEX, *Société Burkinabé des Fibres Textiles*) showed signs of financial difficulties from the late 1980s, partly due to mismanagement and corruption of company executives. The political use of company funds for financing Compaoré’s party and its allies indeed enhanced problems of mismanagement and corruption. The price paid to producers declined from 1988 to 1992, which compounded existing problems with input credit repayment, due to low levels of peer monitoring within village farmer groups (the GVs, or *Groupements Villageois*). As a result, GVs started to accumulate high levels of debts; and input credit—which is crucial for cash-constrained smallholders given the information and transaction costs inhibiting rural credit markets—became highly rationed.

The deteriorating conditions in the rural areas led producers to establish their first union (FENOP) to better defend their interests. Cotton farmers in Dédougou called for a general boycott of production in 1991, which was only partly successful. As response, however, the government started a new process of dialogue among national stakeholders, to address the crisis in the cotton sector. The initial debate led to the “Contrat-plan Etat-SOFITEX” in 1993, which committed the State not to interfere with the management of SOFITEX, and laid out a plan to streamline the accumulated debts of producers and of the parastatal. The plan also envisaged the establishment of new village farmer organizations to replace the malfunctioning GV system. The new entities, the GPCs (*Groupements Producteurs du Coton*), favored free adhesion of farmers to groups of their choice as well as the possibility of excluding non-compliant members, thus reinforcing the effectiveness of the peer group monitoring mechanism, which, together with local credit committees, led to better management and monitoring of the input credit schemes (see Kaminski 2007 for supporting evidence).

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<sup>4</sup> This was called the ‘rectification’ period when the modern Weberian political institutions were established through a new constitution open to a multi-party system.

An umbrella organization for the GPCs was created in 1998, the national union of cotton producers (*Union Nationale des Producteurs de Coton du Burkina*, UNPCB), which became the main actor representing producers' interests in policy settings, thus sidelining the more political FENOP. The UNPCB was also identified as new shareholder of the to-be privatized SOFITEX company, acquiring in 1999 30% of the shares in the company (while 35% remained with the state, 34% with the then French state company DAGRIS and 1% with local banks). The government of Burkina Faso, while accepting early on the idea of privatization of the cotton parastatal (unlike Mali), took the untypical step of restricting entry by private investors (domestic or foreign), a feature which is amply analyzed in Section 3.

**Table 1: Reform steps in Burkina Faso**

Institution building –up	<p>1992-1993: SOFITEX allow producers' representatives to participate in the reform debate. The "Contrat-Plan Etat SOFITEX" is signed.</p> <p>1994: amendment on the laws pertaining to the establishment of farmer groups.</p> <p>1996-1999: free-adhesion based mechanisms to local groups of cotton farmers is introduced; GPCs replace GVs as new market oriented cotton cooperatives.</p> <p>1996-2001: progressive establishment of the national cotton union (UNPCB), with the support of the AFD, the government, and SOFITEX.</p> <p>1998: the Accord Inter-professionnel (Interprofessional Agreement) between SOFITEX, the State, the UNPCB, donors, and banks replace the "Contrat-plan" defining the reallocation of responsibilities.</p>
Progressive reallocation of responsibilities towards new institutions	<p>1999: Partial withdrawal of the State from SOFITEX: almost half of the government's share is transferred to the UNPCB (overall amounting to 30%).</p> <p>2000-2006: progressive delegation of economic functions from SOFITEX and the government to UNPCB: provision of cereal input credit, management assistance of cotton groups and participation in quality grading, financial management and price bargaining. The state downsized its involvement in public good investment (research and extension services).</p> <p>2002-2006: progressive liberalization in input provision, transport and ginning, with the entry by SOCOMA and FASOCOTON.</p> <p>2004-2006: establishment of an inter-professional association (AICB) within the Inter-professional Agreement framework with cooperation among well-represented stakeholders: cotton farmers, banks, private stakeholders, government, and research institutes. Establishment of an association of cotton firms (APROCOB) interacting with the UNPCB.</p> <p>2006: change in the price-setting mechanism for better alignment with world price levels; a new smoothing fund becomes operational in 2008, managed by an independent organization.</p>

Source: Adapted from Kaminski et al. (2011).

From 2000 on, the state transferred some economic functions to producer organizations and to private operators, which were allowed to enter the transport, input and the ginning sector. Two new private cotton companies were created in 2004, SOCOMA and FASOCOTON, which were granted monopsony and monopoly rights in their respective regions of operations, but

whose joint production was only 15% of the total. Liberalization in the ginning sector therefore was, and still remains, limited, in line with the position of the government, which sternly advocated the emergence of local monopolies, rather than full liberalization of the ginning sector. Multiple field missions by stakeholders (sometimes including Blaise Compaoré himself) to the main cotton-growing areas (ICAC, 1998), as well as to neighbouring countries, had convinced Burkinabè officials of the ills of liberalization *à la Béninoise* (in the Benin style) and the superiority of the Ivorian zoning approach, which resulted from the parastatal CIDT splitting into three cotton firms, each retaining a vertically integrated structure and enjoying a monopoly position in its exclusive geographical zone.<sup>5</sup>

In order to pursue this option, the government had to overcome various levels of resistance internally and externally. While initially producers were fearful of contracting with new private actors who commanded limited trust, and SOFITEX opposed entry by other traders, the government managed to persuade national stakeholders that zoning was the only option which they could agree on, and at the same time ensure support by external partners. While the World Bank and IMF pressed for more liberalization, the differences of opinion with other donors gave the government greater scope for manoeuvre, as later argued. Finally, possible opposition by dissenting rural organizations and other interest groups (which are for instance relevant in Mali) could not pose a significant electoral threat, due to the political hegemony of the ruling party.

The creation in 2004 of the Interprofessional Association of the cotton sector (AICB), representing the main cotton stakeholders, was another decisive institutional innovation, which contributed to the success of reforms, and helped improve market coordination along the value chain. The AICB oversees crucial tasks, such as distributing inputs and credits to each cotton production zone, investing in research and extension services, creating financial and development plans, implementing price formulae, and tackling quality and security issues.

Table 1 summarizes key reform steps, which were implemented over several years, taking a piecemeal approach. According to main stakeholders and experts interviewed during our fieldwork, sequencing and gradualism were key elements of success, because they enabled

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<sup>5</sup> Because of different local realities and ineffective institutions, the zoning option led to coordination failures in Côte d'Ivoire. The particular sequence of institutional reforms in Burkina Faso made zoning a more viable option.

consensus-building, participation, progressive delegation of responsibilities to producers, discrete adjustments to change, and slow entry of new investors. The careful sequencing and the attention paid to the phase of institutional build-up during 1992-96 appear to be particularly crucial. Kaminski et al. (2011) demonstrate that production and farmers' income increases during 1996-2006 were substantial and largely driven by the reforms themselves, while external shocks (such as the Ivorian Crisis) accounted for only one third of the observed variation.

## 2.2 Market coordination outcomes

Market coordination may be defined as a public good that every cotton sector should provide for the benefit of all stakeholders, without which cotton value chains cannot function well (see Poulton et al. 2004; and Tschirley et al. 2009, for comparative evidence across African countries). It is a multi-dimensional variable, which may be disaggregated into various components, including: timely delivery of high-quality inputs to farmers, reliable systems of credit delivery with low default rates, efficient and cost-effective systems for cotton grain grading, quality control and transport services, high ginning ratios and competitive quality of cotton fiber. Market coordination can be provided by the state, the private sector, or a set of actors working together: its public good nature reflects the fact that, once provided, all stakeholders in the cotton sector will benefit from it.

Market coordination is a more suitable performance variable against which to assess the effectiveness and desirability of cotton sector reforms (Serra, 2009) than, for instance, production levels, which may be more dependent on exogenous factors such as weather conditions and international prices. Moreover, improved market coordination, by enhancing the effectiveness of operations along the cotton value chain, has potential impacts on overall welfare. Lastly, an improved market environment for farmers is likely to be associated with greater poverty reduction, which is one of the goals that national governments of main African cotton producing countries assert they want to achieve via their cotton sector reforms.

Table 2 shows our selected components of market coordination averaged over distinct time intervals, corresponding to distinct reform phases, during 1990-2010: payment delays, credit repayment rate, input access, grading/weighing, and picking. The first two variables are derived from SOFITEX documents, measuring respectively the number of days of payment

delays and the recovery rate of the volume of credit extended to farmers. The other three are categorical variables based on the team's expert evaluation of the degree of coordination, with scores on a five-point scale (input delivery) or three-point scale (all others). It can be seen that most aspects of market coordination improve during the late 1990s-early 2000s, after the implementation of some of the reforms.

**Table 2: Performance variables in the Burkina Faso cotton sector 1990-2010**

Indicators	Periods						
	1990-93	1993-96	1996-2000	2000-2004	2004-2008	2008-2009	2009-2010
<i>Market Coordination components</i>							
Payment delays (days)	95	115	65	45	35	70	110
Credit repayment rate	50%	35%	50%	85%	90%	75%	70%
Input access/deliveries	Good -	Low	Low +	Good	Good +	Good	Good -
Grading/weighing	Average	Unfair	Average	Fair	Fair	Average	Fair
Picking	Late	Very late	Late	Standard*	Standard	Standard	Standard
<i>Production (tons)</i>	201,400	147,500	281,900	379,700	665,800	390,000	550,000
<i>Farmers' price share</i>	.66	.59	.66	.76	.82	.67	.70

Note: \*but large delays in 2003.

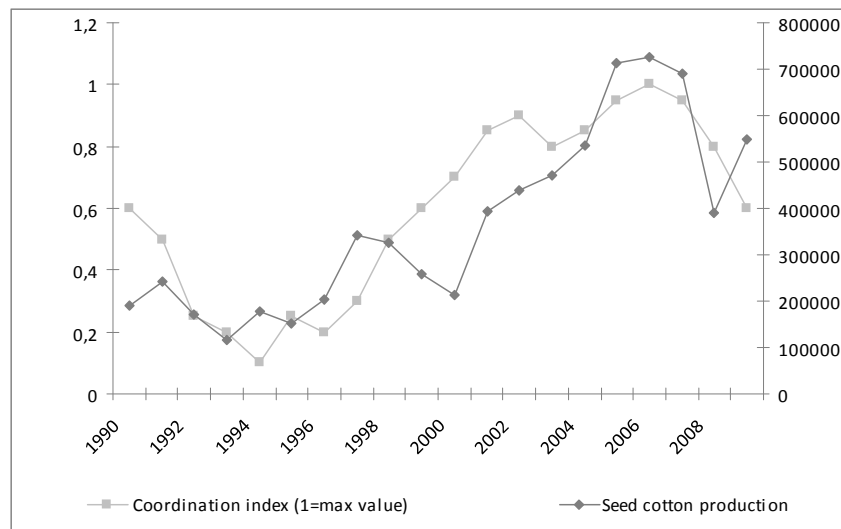
Sources: SOFITEX (2006; 2010), Ministry of Agriculture (2006; 2009), Kaminski (2006); APP (2009;2010)

Two other variables are reported in the bottom part of Table 2. The first is production of cotton grain, which reaches record high levels during 2004-08, making Burkina Faso the number one cotton exporter and producer in sub-Saharan Africa. The second is the farmers' price share index, calculated as the ratio of the farm-gate price over the Liverpool price index, which is a good indication of the extent to which farmers benefit from the value added generated along the cotton value chain. The evident increases in farmers' bargaining power from 1996 to 2008 represents one key aspect of the early reform process, as discussed below and in Section 3.

The market coordination index is derived by aggregating through a simple weighted average the scores obtained on the five dimensions, with weights corresponding to their relative importance in farmers' land-use decisions, as calculated on the basis of farmer individual production data (see Kaminski and Thomas 2011 for details) and according to the statements made by technical assistants and SOFITEX executives regarding the problematic issues in market coordination: the weights are 3 (payment delay), 2 (credit repayment and input access), and 1 (grading/weighing and picking). Figure 1 shows the evolution over time. Market coordination reversed its previous downward trend after the first phase of the reform

in 1993, revealing continuous improvement during 1996-2006 (except a drop in 2003 concomitantly with the Ivorian crisis). However, it has declined afterwards, bouncing partially in 2009/10.

**Figure 1: Production and coordination indicators**



The reversal from 2007 onwards appears dramatic and is supported by our interviews with stakeholders at all levels, pointing to an increase in SOFITEX internal deficits, and induced financial difficulties for farmers, all with a visible impact on market coordination at all scales. The recent upward trend in market coordination in 2009/10 production is attributable to a more transparent implementation of the pricing formula (which reduces the scope for arbitrary interferences on prices) and a better operation of the newly-constituted smoothing fund, in addition to the current depreciation of the euro and recovery in cotton world prices (Kaminski et al. 2011). However, the weakening of market coordination is a real threat.

Production levels seem to be strongly correlated with market coordination early on; but from 2003, production continues to go up, while market coordination shows an uncertain pattern, before declining decisively from 2006. This may suggest that an increase in production in the context of uncertain or declining market coordination is destined to be short-lived and unsustainable. Our subsequent analysis aims to uncover the mechanisms behind these trends, especially the improvement in market coordination during 1996-2006 and the subsequent reversal.

### **3. Implementation of the endogenous reform: political enforceability and developmental potential**

The description of the key phases of the Burkinabè reform raises several key questions: Which configurations of power distribution among social groups enabled the endogenous formulation of the policy framework? How did the Burkinabè model incorporate local political and social realities and what made it politically enforceable? Which factors led to the particular reform sequencing mode?

#### **3.1 A sequential game analytical framework**

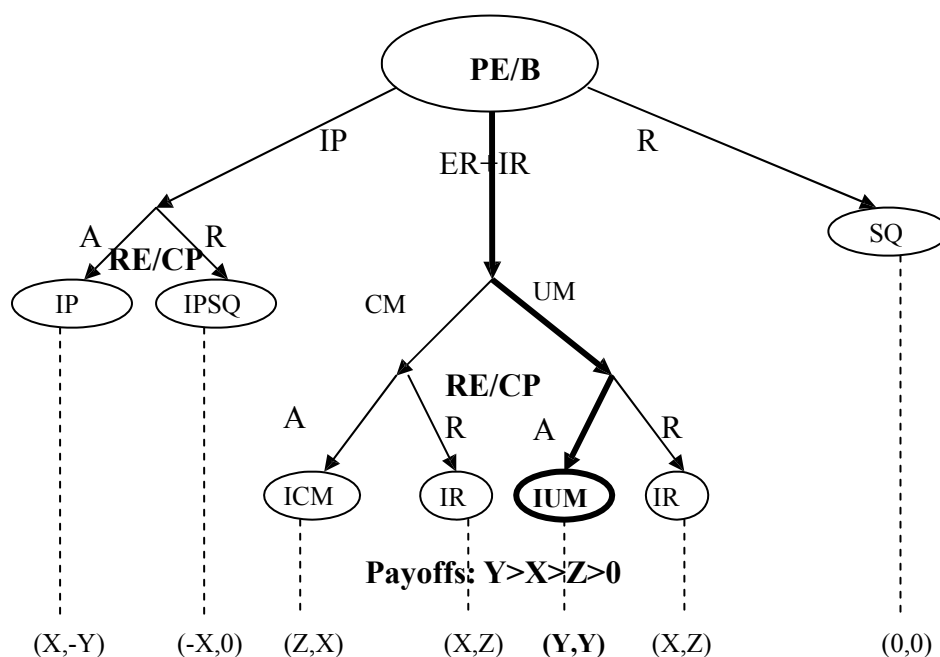
As a way to represent and analyze the reform path in Burkina Faso, we use a game-theoretic framework. The main domestic actors in the Burkinabè reform process are: political elites, who run the government; top bureaucrats in the SOFITEX parastatal; rural leaders/elites and cotton producers. The following assumptions are introduced, which, though simplistic, will appear realistic in the light of considerations introduced later on: political elites and bureaucrats share the same interests and agree on the same strategies; and rural leaders co-opt farmers and thus may be treated as a single agency in this game. These two assumptions enable us to consider a very simplified game with two players: political elites/bureaucrats (PE/B) and rural elites/cotton producers (RE/CP).

The game as depicted in Figure 2 starts with an impetus for reforms, from external donors. Political elites, who have the first move, choose whether to accept imported recommendations for reform (IP); reject reform (R); or start a consultation process for endogenous reforms. The latter implies some preliminary institutional reforms to lay out new rules of the game (ER+IR). If these institutional reforms are introduced, then political elites/bureaucrats have another move, and choose whether subsequent market reforms follow the conventional, orthodox recommendations (CM) or are unconventional in some extent (UM), like privatizing the cotton parastatal by ceding shares to the farmer national union and/or introducing a zoning model. After any reform decision by political elites, rural elites/cotton producers can choose whether to accept (A) or reject (R) them. This ends the game in each situation.

This game, admittedly, is highly simplistic in some dimensions, since it assumes that the interests and payoffs to each player are well defined; all actors have a clear knowledge of the

nature of the game, and the strategies by other players; there is no uncertainty; and the interests between political elites and bureaucrats, on the one hand, and of rural elites and cotton producers on the other hand, are collapsed (but we will analyze cases of divergence in Section 4). Nonetheless, this framework is useful as analytical tool, because it explicitly recognizes: i) the existence of alternative reform paths, identifying their respective key steps; and ii) the importance for the government to anticipate reactions by rural elites and cotton producers, in order to make the best decision. It also incorporates the notion that powerful political elites have the advantage of the first move (as in a Stackelberg leadership model).

**Figure 2: The game sequential framework and associated payoffs**



If we are to explain why Burkina Faso followed its actual reform path (which is represented by the bold trajectory in Figure 2) we need to give reasons why, whenever they reached a decision node, the actors concerned chose the strategy along this path rather than the alternative. In a pure game-theoretic framework this question has a simple answer. Assuming perfect knowledge of the game, the payoffs of the game should be such that the set of strategies along the path along the bold line constitutes a sub-game perfect equilibrium, that is, each strategy is a best response in every sub-game. The relative payoffs proposed in Fig. 2 are such that the set of strategies (**ER+IR**, **UM**, **A**) is a sub-game perfect equilibrium and is the only pure dominant strategy for both players.



A game such as the one in Figure 2 is solved by backward induction, starting from the end and then moving upwards. This means attributing to the political elites sufficient knowledge and foresight to make them realize that, given the actors and interests at stake, going along the path marked in bold is both self-serving and feasible: political elites obtain the highest possible rents, given that other actors will choose the strategy with the highest pay-offs to themselves. For instance, the political elites anticipate that rural elites will accept both conventional (selecting to go to ICM rather than IR) and unconventional market reforms (IUM rather than IR), once institutional reforms have been undertaken;<sup>6</sup> but they will reject externally imposed reforms (which generate negative payoffs equal to  $-Y$ , corresponding to expected rent losses). Knowing this, political elites thus initiate a process of internal consultation and institutional reform, since the payoffs of  $Z$  (under the ICM scenario) and  $Y$  (corresponding to IUM) are both greater than  $-X$  (the cost of trying orthodox reforms without succeeding) or 0 (the status-quo).

However, this looks like a rationalization ex-post of what we observe. If one is to understand why Burkina adopted its particular reform course, and with what implications, one needs to go beyond the pay-offs in Figure 2, and ask: why should they have taken the form that they did? More specifically, why did political elites choose to initiate a process of internal consultation, instead of accepting the externally imposed reforms? Why were institutional reforms undertaken prior to market reforms? And why did the elites select the unconventional rather than the conventional models of liberalization and privatization?

The following three sub-sections address these questions in turn, drawing on an analysis of significant local social, economic and political features. These next sections therefore logically and temporally precede the framework in Figure 2: the proposed pay-offs are not a priori based on some theoretical postulates about what the actors should do; but are rather the product of the empirical evidence and reasoning presented in the rest of the paper. However, having the game structure in mind can help one understand where one is going. It is our attempt to make sense of the evidence later examined and discussed. With this in mind, we proceed to make sense of the key causal mechanisms of cotton policymaking design and implementation in Burkina Faso.

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<sup>6</sup> These payoffs reflect the fact that the greater bargaining power acquired by rural elites under institutional reforms will more than compensate the losses under market reforms, as shown in section 3.3.

### 3.2 The endogenous reform process

The endogenous process of reform formulation and implementation appears to be a distinctive feature of reform process in Burkina Faso. Faced with the choice between accepting an externally-recommended set of reforms, (weakly or wholly) refusing to implement it, and initiating a process of national consultation to come up with a different plan, Burkina Faso went down the latter path. Evidence from interviews carried out with key national-level stakeholders in Ouagadougou and Bobo Dioulasso during 2009-2010 and interpretation of secondary evidence suggests the following hypothesis.<sup>7</sup> The state, led by the urban Mossi elites, promoted a process of consensus-building as a key framework for obtaining wide adhesion to the reform (and thus minimizing the risk that rural elites could reject proposed reforms), since they knew they could retain ample control of the reform process, thanks to two key factors:

- i) the existence of divergent opinions, especially between the World Bank and the French cooperation agency (AFD, *Agence Française de développement*), about the desirable content of the cotton sector reforms, which assisted the State to impose its own view;
- ii) the rather unchallenged nature of the state power, and its ability to centralize rents.

One key point of contention on the cotton reform was the issue of liberalization of the ginning sector. Multilateral donors initially pushed for full privatization of the cotton parastatal and liberalization of the ginning sector, in order to favour a more competitive environment that would lead cotton firms to become more efficient. However, key representatives from the government and farmers' organizations, such as the Ministry office charged with overseeing the cotton sector (*Comité de Suivi de la Filière Coton Libéralisée*), and the leadership of the UNPCB and the FENOP, were opposed, as they feared that liberalization would precipitate coordination problems, given market failures and weak governance systems. During our interviews, such actors gave a very clear picture of the issues at stake, arguing that the main objective of a cotton sector is to provide market coordination as key public good, a goal which needs to be balanced against strict management performance criteria.

The AFD supported the local monopoly model, and disagreed with the arguments by the World Bank in favor of liberalization. The French position was vulnerable to critiques for

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<sup>7</sup> The background field report relating the key points from all interviews entertained with key national stakeholders in Burkina can be obtained upon request.

being self-serving and politically motivated, since the then CFDT, a major French state company (later renamed as DAGRIS, then privatized and now going under the name of Geocoton) was a key shareholder in SOFITEX, as in several other African cotton companies. Nonetheless, the French support for the government's refusal to break the vertical integrated model and liberalize horizontally played a crucial role. The opposing stances of the World Bank and the French cooperation created some political space for an internally generated policy response to emerge. This made it easier for the government to push through the zoning option and the unconventional privatization, which better responded to the interests of both urban and rural elites, as later argued.

The second element that favoured a state-piloted endogenous reform process was the state's ability to centralize rents. In turn, this is at least partly due to the nature of, and relationships between, the urban and rural elites. Urban elites are dominated by the Mossi, who constitute the backbone of the ruling party and control the main economic rents, for instance representing the majority of executives in state companies, including SOFITEX. The main cotton areas, located in the West, have been traditionally dominated by the Bobos and Bwabas. Embedded in the cotton world, these rural elites possess the needed organizational capacity, social capital, and historical relationships with the very numerous producers to effectively control production. Yet, these rural elites have had traditionally limited access to the main centres of power. Over time Mossi elites have had to establish alliances with the rural elites in order to effectively manage the cotton sector. However, while making some concessions in terms of rent allocation to the Bobo and Bwaba rural cotton elites, the Mossi have been able to maintain control of the centres of power.

Through their alliances with rural elites, the state has been able to co-opt the majority of the rural world and assure its compliance with its reform program. Recognizing the urgency of reforms and the emergence of politicized farmers as important players in the decision-making process, the State has taken measures to keep farmer organizations in check, limiting their ability to wage protests and production boycotts. In a key step, the first farmer union, the FENOP, was isolated from its base and a less politicized, more technical and industry-friendly organization of farmers, the UNPCB, was constituted. The close relationship between Campaoré and François Traoré (the undisputed president of the UNPCB since its origin until 2010) cemented the cooperation between the state and the rural cotton world within well-defined rules.

Other key social realities also help to explain the inability of the rural base to significantly challenge their own leaders or the government. Recent waves of migrations to cotton areas (including by impoverished Mossi) have increased ethnic and social fractionalization within rural regions, thus reducing farmers' capacity for collective action. Resistance to the introduction of the GPC model of profit-oriented village farmer groups was limited in rural areas, since growing ethnic minorities regard GPCs as providing a fairer access to inputs, while more productive farmers, who benefit the most, became more powerful. The new GPCs gave also the possibility to change the local peasant leadership, since non-satisfied members of former GVs exited and established their own group.

By succeeding in marginalizing the dissident voices, while representing the needs of other rural groups, such as ethnic minorities and the most productive farmers, the government enabled key stakeholders to get on board and enhance reform ownership. The role of producer associations in improving consensus-building and facilitating the main steps of the reforms was repeatedly mentioned in our interviews with not only farmers' representatives but also executives of the cotton companies. The UNPCB contributed to the success of zoning by convincing producers in the new concession areas (notably in the East) to contract with the new cotton firms (FASOCOTON AND SOCOMA); and supported the arguments of the state and the AFD, and against the World Bank, for an unconventional privatization and liberalization, all aspects that are considered to be instrumental to the early reform success.

In conclusion, ethnic and socio-political features of both rural and urban areas have enabled the state to continue to centralize and distribute rents, even after a reform in which it ostensibly opened up to new actors, ceding to them some of its powers. With the state investing in consensus-building and favouring adhesion of other stakeholders to the reforms, new connections were created between policymakers, cotton farmer leaders, and the rural base.

### 3.3 Introducing institutional reforms, rent creation and distribution

The aim of this sub-section is to show that political elites chose to undertake institutional reforms that empowered farmer organizations and rural elites, because this was expected to enhance the benefits they could reap under market reforms. This is so, since, political elites anticipated that rural actors would accept market reforms if institutional reforms were undertaken, but would boycott conventional market reforms otherwise. It is also the case that political elites could not maximize their expected rents without introducing prior institutional reforms (which translates into the higher payoffs from market reforms when subsequent to institutional reforms in Figure 2). In order to see this, we need to analyze the amount and distribution of rents in the cotton value chain generated under institutional reforms, to compare it with the alternative of no reform.

The issue of rent distribution in commodity chains of developing countries is discussed in the seminal models by Kranton and Swamy (2008) and Swinnen and Vandeplas (2009), recently extended to the context of cotton by Delpeuch and Vandeplas (2010). In these models, a firm (the principal) gives capital to farmers who only own labour (the agents), to carry out production; the firm will then buy the output from the farmers. The basic idea is that a commodity chain potentially generates a rent  $R$ , the size of which depends in part on features of the export markets, and this will be shared between the producers and buyer(s) of the agricultural commodity according to a given rule. We build upon this by showing how changes in the institutional framework lead not only to different amount of rents, but also to different rules for rent distribution and rent creation. We continue to assume that the parastatal bureaucrats collude with the government to the point that their interests are one and the same; and that rural elites co-opt farmers and are therefore the main actors whenever farmer agency is concerned.

In the absence of market and institutional failures, production will take place as long as farmers earn at least their opportunity cost of labour  $l$  (positive marginal revenue of labour) and the parastatal at least its opportunity cost of capital  $k$  (positive marginal revenue of capital). Rents are the profits above the normal earnings of factors of production in case of positive production levels, that is  $R - k - l \geq 0$ . If all the bargaining power rests with the parastatal, and farmers' organizations have limited political weight or voice, it can be assumed that the (exogenous) rent  $R$  is shared according to the rule that the parastatal gives farmers just enough

to make contracts self-enforcing (that is, their opportunity cost of labour  $l$ ), with all the remaining surplus going to the parastatal. But under imperfect enforcement (institutional weaknesses) and asymmetric information, farmers are able to retain some benefits or additional rent by diverting, or embezzling the capital provided by the parastatal. Hence, an incentive-compatible contract should include an additional payment for farmers above their labour opportunity costs.<sup>8</sup> Moreover, farmers may also retain some benefits if there are opportunities for selling the commodity to other buyers than the original one (side-selling),<sup>9</sup> which explains the lower payoffs associated with conventional market reform strategies in Figure 2.<sup>10</sup>

In the basic principal-agent representation of rents in a value chain, production occurs only when  $P > P^*$ , the share of the rent for farmers is fixed at the minimum amount ( $Y_{min}$ ) satisfying the farmer incentive compatible constraint (which may include the opportunity cost of labour and the efficiency premium) and the share for the parastatal is increasing in  $P$ . This rent-distribution rule is depicted in Figure 3 by the bold line. The kink entails an inefficiency loss, since, when price is low (such that  $k+l < P < P^*$ ), production would be socially desirable (because it more than would cover its opportunity costs) but the parastatal cannot enforce it on account of the market and enforcement failures described above. The government can restore efficiency when international prices are low through a subsidy, which encourages producers to plant and thus reach the socially desirable level of production. In Figure 3, for instance, a subsidy equivalent to  $c$  would do exactly this for prices falling between  $k+l$  and  $P^*$ . The case for a political subsidy is clearly the highest when the international price for cotton is lowest. However, overly generous subsidies (depicted by  $a$  and  $b$ ) would induce production even when  $P < k+l$ , leading to inefficiency and excessive deficits in the parastatal and government budgets. These instances have been all too common in African cotton sectors, including Burkina Faso.

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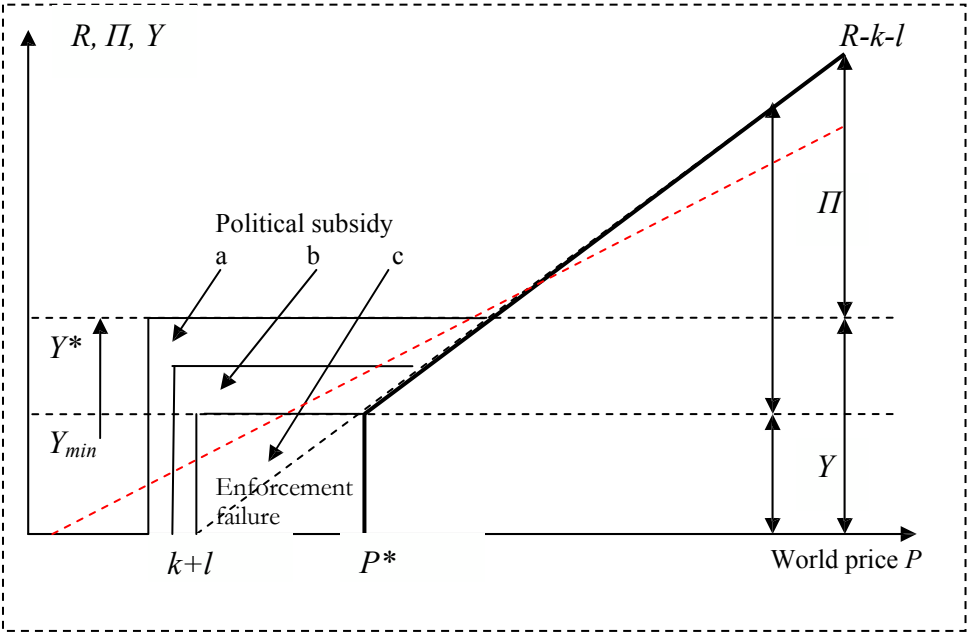
<sup>8</sup> These asymmetric information problems may be partly overcome by designing farmers' groups through free association of members and social collateral mechanisms in a way that will render peer monitoring effective. This will induce an (imperfect) level of control and informal enforcement at no cost for the parastatal, which may be welfare-improving (Kaminski 2007).

<sup>9</sup> These competitors can clearly offer farmers an attractive net price because they do not need to recoup the cost of input provision. Side-selling can be contained by cartel-like organizations (like business associations for instance), which spread information-sharing among buyers or processors, as it was done in Chile in the fruit sector (Conning 2000), or in Benin and Uganda for the cotton sector (see Goreux 2003).

<sup>10</sup> Lastly, the parastatal itself may also default by paying farmers late or lower than what was agreed *ex ante*. In case of defaulting, both parties may incur a reputational loss, which corresponds to future profit losses.

The reforms implemented during 1993-99 produced three main changes affecting rents and their distribution between the parastatal and the farmers: an increase in the share of rents accruing to farmers (as also reflected by the increase in price share index in Table 2), a reduction in political subsidies in correspondence to low international prices, and greater efficiency in market operations. All these are shown in Figure 4.

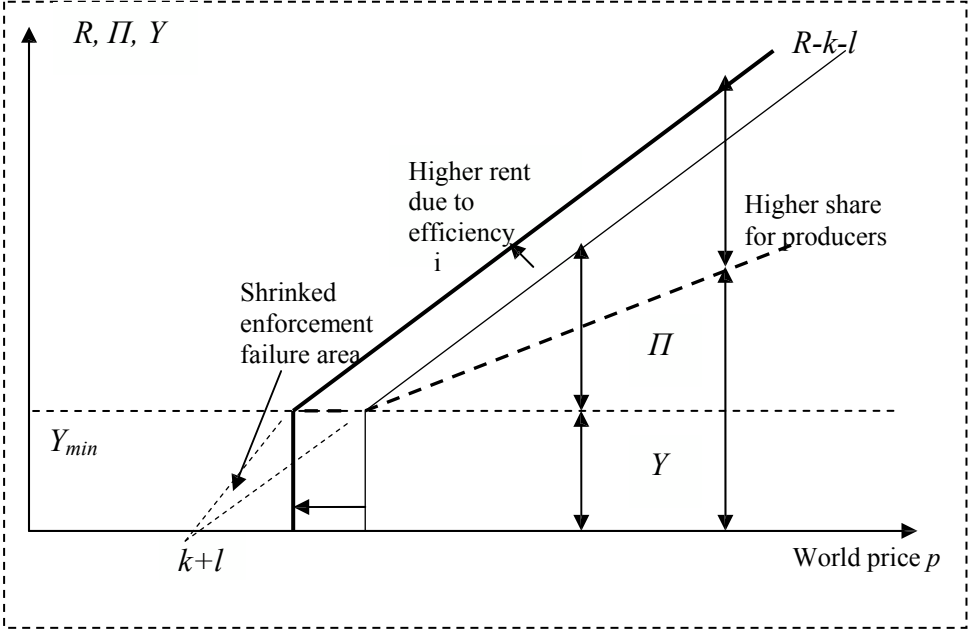
**Figure 3: Rent-sharing rules and political subsidy**



As mentioned earlier, prior institutional reforms, which established new village farmer groups and the UNPCB as key partner, gave farmers organizations greater political leverage. This implied a shift from the previous principal-agent scenario, where the cotton firm offers farmers the minimum incentive-compatible rent, to one where the parastatal and farmer representatives negotiate the rent distribution rule. When farmer leaders have increased bargaining power, their rents become higher and also increase as a function of cotton prices, as depicted by the positively sloped dotted lines (which substitute for the horizontal one). This outcome was reflected in Table 2, showing that the share of the price going to producers did indeed increase from 2000.

During the same period that rent-sharing evolved in favour of producers, political subsidies decreased (Baffes 2007), even though world prices were quite low. This came about as a result of the *contrat plan* between the state and SOFITEX in 1993, when the former committed to lower its interference in the company, adhere to stricter rules of fiscal disciplines and thus reduce government budget support to SOFITEX (Table 1). We have no subsidy in Figure 4.

**Figure 4: The new rent-sharing mechanism implied by the reform**



Thirdly, by inducing cotton cooperatives to adopt better membership criteria and assume key functions such as credit delivery and input distribution, institutional changes favoured new improved contractual relationship with the parastatal, lowering marketing and delivery costs. This cost savings and greater efficiency can be graphically represented by a leftward shift in the  $R-k-l$  line, leading to a diminished scope for enforcement failures (represented by the shrinking triangle area). Efficiency gains therefore lead to a higher amount of rent generation, as represented by the outward shift of the  $R-k-l$ . The peculiarity of the Burkina case is that these effects were not produced by the usual market reforms involving privatization and liberalization but by the institutional innovations earlier described. Liberalization would have entailed cost reduction and higher rent shares for the farmers but also larger coordination failures (due to side-selling) and more likely contract breakdown. An increase in bargaining power associated with upgraded institutional arrangements can therefore produce the same



effect as an increase in firm competition while at the same time limiting the scope of coordination failures normally associated with liberalization.

The above outcomes were facilitated by the nature and role of the elites in Burkina Faso. We have emphasized earlier that the urban Mossi elites, while maintaining control of political and economic rents, needed to strike a bargain with rural elites in order to govern the cotton world. We argue that this interdependence between these two unequal sets of elites has lowered the amount of rent re-distribution that was required for the reforms to be attractive to rural actors. In other words, while the institutional reforms, especially the constitution of the UNPCB, gave a stake to rural elites in the new cotton governance architecture, it did not prejudice urban elites' rent control. The Mossi dominating the bureaucracy and the political elites thus continued to maintain a relatively centralized rent system and consolidate prevailing power configurations, by proposing a reform that yielded limited, yet sufficient, rents to other social groups to keep them loyal.<sup>11</sup> Despite some redistribution of power, the State, due to the political hegemony of the ruling party and its ethnic identity, has maintained a strict control of main rents, with the Bobos and Bwabas never managing to credibly challenge the Mossi's hold of political power.<sup>12</sup> Maintaining authoritarian power through reforms that allow more rent-distribution to other social groups is in line with the strategies of regime persistence in sub-Saharan Africa identified by Mc Bride (2005).

### 3.4 Enforcing the unconventional privatization model

Once the institutional reforms were undertaken within a context of persistent state-controlled centralized rent system, the next step to be explained is why political elites found it more advantageous to undertake an unconventional path of market reforms, in particular involving the transfer of shares in SOFITEX to the UNPCB rather than to private investors.<sup>13</sup>

In contrast to prevailing beliefs that privatization of state-owned enterprises decreases corruption and scope for rent-seeking, more recent literature shows the relationship between

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<sup>11</sup> Likewise, prevailing analyses of the politics of recent decentralisation and democratisation reforms in Burkina Faso suggest that the government has allowed the sharing of some power with other groups, in both central and local governments, in ways that do not threaten its hold on power. While these other groups are dependent on the central government, the latter does not need them to rule (Santiso and Loada, 2003).

<sup>12</sup> Schwartz (1996) provides an analysis of the ethnic relationships in cotton areas.

<sup>13</sup> In terms of Figure 2, this amounts to explaining why pay-offs are higher under IUM than ICM for both sets of elites.

corruption and privatization to be sensitive to the context, with privatization sometimes increasing corruption (Harriss-White 1996; Arikan 2008). Different systems of corruption and types of rent-seeking can be associated with different paths of privatization, generating different outcomes (Laffont and Meleu 1999). Moreover, though rent-seeking is often responsible for economically sub-optimal political choices, under certain circumstances, self-interested politicians can pursue welfare-improving decisions. This section aims to explore this possibility by using the case of the privatization of the cotton parastatal SOFITEX.

The main argument is that the prior implementation of institutional reforms such as the establishment of the GPCs and the UNPCB restricted the choice of market reforms by tilting the balance in favour of a privatization option centred on farmers' organizations as key private shareholders instead of another private capitalist (as per the outcomes depicted in Figure 2). The support for such an unconventional privatization option was eased by some of the distinctive social and political Burkinabè realities already mentioned, such as the greater ability by the government to retain rent control given informal alliances between urban and rural elites; the strength of the rural elites in the cotton areas and resulting weakness of the basis of farmer organization; and the capacity of the new cotton governance system to produce greater overall rent, given the improved coordination and resulting enhanced efficiency. An external private investor could have instead severely curtailed the shares of rent accruing to bureaucrats and politicians,<sup>14</sup> as well as also possibly lowered rents to the rural stakeholders.

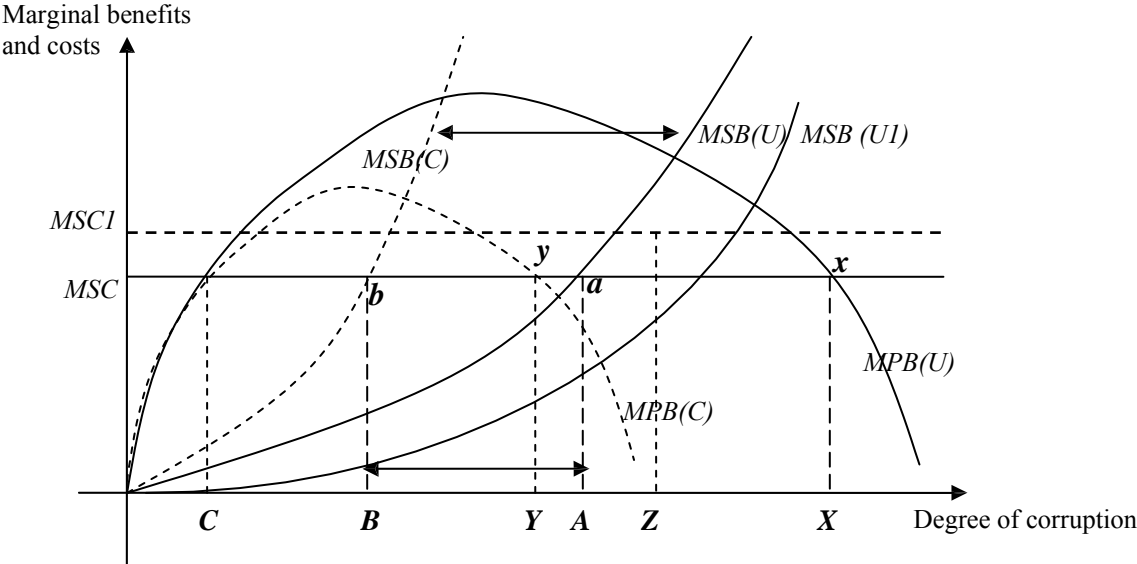
We use a variant of the model proposed by Laffont and Meleu (1999) for understanding incentives to privatization in sub-Saharan Africa. The key assumption is that the ownership structure of a firm influences politicians' ability to extract rents, but not necessarily the firm's efficiency. Rent extraction under public ownership decreases the parastatal's efficiency, by generating deadweight losses, but privatization also entails social costs (relating to regulation and provision of incentives to the firm for efficient production). The marginal social benefits from privatization increase with the level of corruption (see for instance the curve MSB(C) in Figure 5), so that privatization becomes socially desirable when such marginal efficiency gains are greater or equal to the social cost of privatization (assumed constant at MSC), that

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<sup>14</sup> Interestingly this is very much context-dependent. In Benin, for instance, the sale of control shares to private investors did not decrease the share of political rents because of collusion between key private actors and the state.

is, for levels of corruption  $B$  or higher. However, politicians' private marginal gains from privatization follow an inverted U-shape (as in the  $MPB(C)$  curve). At low corruption levels, private gains from privatization are limited since current management is close to optimal regulation. Then, benefits increase, since the transfer of ownership induces efficiency gains and thus higher rents for the politicians. However, when corruption is very high, rent losses far outweigh any efficient rent appropriation in the privatized firm (Laffont and Meleu 1999). In conclusion, privatization is politically attractive at intermediate levels of corruption, for instance between  $C$  and  $Y$  under the  $MPB(C)$  curve.

**Figure 5: The conventional and unconventional privatization**



The government of Burkina Faso faced two types of privatization for SOFITEX, which we call, respectively, conventional privatization, implying entry of private (domestic or foreign) capital, and unconventional one, involving shareholding by the national farmer union (respectively CM and UM strategies in Figure 2). Our key argument is that the unconventional privatization, though yielding lower marginal social benefits for any corruption level, is politically more feasible and attractive to political elites, especially following the institutional reforms described in the previous section.

In Burkina Faso, the marginal benefits to politicians of the unconventional privatization are higher than those corresponding to the standard situation, because the government is able to control rural elite more than private investors (as argued earlier). Thus the  $MPB(U)$  curve

(where  $U$  stands for ‘unconventional’) will lie to the right of  $MPB(C)$  curve (where  $C$  stands for conventional). However, the unconventional privatization generates lower marginal social benefits, for any level of corruption, because it leads to greater rent capture, as shown by the respective position of the  $MSB(U)$  and  $MSB(C)$  curves. From Figure 5, it is clear that, while the length of the interval under which privatization is socially desirable decreases, when moving from the conventional to the unconventional model (from the area right of point  $B$  to the area right of  $A$ ), the margin for political acceptability instead increases (from the distance  $CY$  to the interval  $CX$ ), because private benefits to politicians are greater. In other words, though the conventional privatization is socially desirable for a wider range of corruption levels (that is from point  $B$  on), it is not politically enforceable when corruption levels are greater than  $Y$ . Given the relatively high corruption levels in Burkina (possibly between  $A$  and  $X$ ), it should be no surprise that the government leaned for the unconventional privatization path.

Furthermore, this type of market reform can produce socially desirable outcomes when preceded by institutional reforms that enhance market coordination and lead to greater overall rents within the cotton sector. Such improvements were exemplified by an outward shift of the  $R-k-l$  curve in Figure 4 from last section. In Figure 5, greater social benefits from the unconventional privatization lead to a leftward shift of the  $MSB(U)$  curve towards the  $MSB(C)$ . This implies that institutional reforms prior to market reforms can increase the efficiency of the unconventional privatization without reducing the scope of its political enforceability.

The previous analysis leads us to the following tentative conclusions. First, under the particular political conditions of Burkina Faso (high level of corruption and centralized rent-seeking), there was a positive rationale for political support of the heterodox market reform model that would have not existed for the conventional one. Second, cotton market reforms generate welfare-improvement if measures are put in place to increase market coordination and achieve a fairer rent-sharing rule, such as through institutional reforms that give farmers higher prices and a stake in SOFITEX. In other words, rural elites clearly preferred the option with the UNCPB as shareholder. Knowing this, political elites found that their own rents would have increased with appropriate institutional reforms to start with and thus found it profitable to initiate them. This is again consistent with the backward induction solution to the game in Figure 2.

#### 4. Sustainability issues and the pitfalls of the endogenous reform process

Efficiency increases from institutional reforms were due to a decreasing scope for enforcement and coordination failures, allowing higher overall rents along the cotton value chain. The opportunities for gains for a wide range of actors, the ruling political and urban elites, the rural elites and the farmers, generated wide stakeholders' support and adhesion for the reform process.

Things, however, reversed after 2006. Our key informants, such as the leaders of farmers' regional unions, lamented deterioration in the provision of both public goods (research and extension) and market coordination within the cotton sector. Management practices of SOFITEX deteriorated, state interference became more pernicious and corruption activities increased, thus weakening institutions for efficient contracting (Laffont, 2001). This section aims to show that the recent setbacks in the cotton sector have to do with the inability of the institutional reforms to deal with changes in the initial political equilibrium and in the incentives for dominant elites. The goal is to explain why institutional reforms which had initial positive effects on market coordination could not sufficiently contain the increasingly negative effects of rent-seeking, which soon overwhelmed the positive effects of greater political feasibility.

Coming back to the analysis of the implementation of the unconventional privatization (and to Figure 5), it appears that politically feasible reforms that are initially welfare-improving may turn out to be efficiency-reducing when there are changes affecting social benefits and costs of the reform. These may be exogenous, such as a decline in world cotton prices or poor rainfall patterns, or associated with a drop in performance of the newly-designed farmer institutions and with additional rent capture by politicians in the privatized firm. In Figure 5, if marginal social benefits decline (leading to a new  $MSB(UI)$  curve) and/or marginal costs increase (as in  $MSCI$ ), the chance that a reform is politically sustainable but no more socially desirable increases, as exemplified by point  $Z$ . We then need to examine the difficulties of ensuring reform sustainability, which is of particular importance in the Burkinabè case.

A key factor is that the rent control provided by the new representative institutions (such as the AICB) weakened in the late 2000s, through two channels: the elite capture of the farmer

organizations, leading to the collusion of farmer leadership with public officials; and the renewed state interference in the management of the still dominant SOFITEX company. Both elements entailed a drop in the social benefits associated with the reform and the newly-designed institutions.

With regard to the first channel, the lack of independence of the farmer leadership coincided with a progressive disconnection of rural leaders from the many smallholders in a context of limited grassroots democracy. According to Fok (2008), the new competences awarded to producers “provide[s] farmers capacity building far beyond the technical areas of production”. This transfer of competences therefore only concerns a limited number of farmers or leaders in situations in which “transparency and democracy are not yet enough consolidated in the farmers’ institutions (Bingen 1996)”. This likely explains how the rural elites progressively isolated themselves from the farmer basis after a first honeymoon period of smallholders’ inclusion and participation in the decision-making process. Although the establishment of the UNPCB has advanced the defense of producers’ interests around cotton grain quality control and weighing issues, most farmers interviewed in 2009 and 2010 felt increasingly abandoned by their national representatives,<sup>15</sup> lament the corruption and the collusion of interests between the union’s and government’s leaders (Gray, 2008),<sup>16</sup> and point to a generalized lack of leaders’ accountability.<sup>17</sup> They find it particularly disturbing, and a sign of scarce respect for democratic procedures, that the top leaders have remained the same since the establishment of the UNPCB in the late nineties. Most characteristically, while the top leaders have required better governance rules at the bottom levels of the organization, promoting free elections and renewal of offices at the level of GPCs, they have not hesitated to strengthen their dominant position by renewing their own mandate.

Concomitantly, state interference in the management of SOFITEX has widened, following the departure of DAGRIS (the former French company) from the capital of SOFITEX in 2007.

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<sup>15</sup>At the local and provincial levels, most of the unsolved litigious issues between smallholders and SOFITEX are reported as not handled at the upper level.

<sup>16</sup>GPCs do not receive the same amount of management and technical support from their regional unions and several GPCs and villages are not linked anymore to their departmental unions. Sometimes, the bonuses (*ristournes*) are not redistributed to GPCs.

<sup>17</sup>The lack of an independent and ‘democratically-accountable’ (Bingen 1998) farmer agency also hampers the ability of farmers to organize collective action on a large scale. For instance, the Banfora farmers boycotted the production in 2007, when they were offered very low prices. However, the action had only a local impact, since the UNPCB leadership managed to contain the propagation of the boycott. In this regard, UNPCB representatives acted as if they shared the same interests than political elites.

After this withdrawal, the state recapitalized SOFITEX with the alleged aim of shoring up the sector before new private investors could come on board.

The resulting power configuration, with the state reacquiring the position of the largest shareholder, has created new anxieties relative to the politicization of companies' management. Most observers conclude that this move has reversed the company's recent management improvements, and reduced the benefits from privatization. SOFITEX executives are still nominated by the government, and its employees still benefit from overly generous advantages. Several farmers interviewed during 2009-10 denounced increased financial diversion, rent-seeking behaviour, and misallocation of resources, inefficient investments and corruption. In 2004, one of the few independent observers (Barry, *L'indépendant*) revealed the enduring practices of fictive input commands and fictive farmers, input parallel markets served by SOFITEX agents, abusive underrating (as a means of embezzlement and blackmailing smallholders) or overrating (agents corrupted by the large producers) of cotton quality, questionable weighing (illicit arrangements with producers and GPCs), and racketeering by truck drivers.<sup>18</sup> These claims are in sharp contrast with evidence of improved governance during 2000-2006 (Kaminski 2006). Counterfactual analysis shows that the recent difficulties in the Burkinabè cotton sector cannot be solely attributed to deteriorating external conditions (low international cotton prices and currency overvaluation) but that governance is also an issue (Kaminski et al. 2010). The departure by DAGRIS (now called GeoCoton) has thus coincided with increased rent-seeking activities and rent capture out of SOFITEX profits.

The relevant question is which factors were responsible for the break-up of the previous consensus around reforms and repartition of rents. One hypothesis is that the 2005 presidential elections and 2007 legislative elections represented a blow to the President's consensual political management and success in co-opting political oppositions. According to some observers of Burkinabè politics, both the watershed victory by Campaoré in the 2005 presidential elections and the recapture of a strong majority by the dominant CDP party in the 2007 legislative elections represented a set-back to previous trends towards a more consensual and open political system (Hilger, 2010; Loada, 2006). After the killing of the prominent

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<sup>18</sup> In 2004, a significant amount of the Ivorian cotton produced in the rebel area was smuggled by SOFITEX who participated in the racket of the Ivorian cotton firms. Consequently, there was a shortage of available trucks to pick up the cotton of Burkinabè farmers and delays caused quality deterioration. SOFITEX compensated farmers by awarding the best quality rate to everybody.

journalist Norbert Zongo, the president had made moves towards greater inclusion and national reconciliation, with some concrete reforms and concessions, including decentralisation. The revision of electoral codes and commission, for instance, allowed opposition parties to gain almost 50% of the votes during the 2002 legislative elections (Santiso and Loda, 2003). The subsequent years were characterised by the cooptation of opposition parties into the government, which allowed an orderly and consensual distribution of rents.

More recently, however, actual politics seems to have become more polarised, even while Campaoré regained a monopolistic hold on formal power. Increasing demands from discontent urban elites may have put pressures on the system, in turn accounting for the greater difficulties by the political elites to maintain the centralized rent system. In this context, the vacuum left by the departure of DAGRIS opened new opportunities for personal gains, which induced political elites to distribute cotton rents to new groups of local bureaucrats in the cotton regions, in addition to the ones claimed by the company executives.

The resurgence of politicized management in the cotton sector thus highlights the difficulties for endogenous policy processes to tackle underlying institutional weaknesses, so to ensure sustainable outcomes. The failure of the initial reform design to endure changes in the wider political equilibrium or deal with long-term institutional weaknesses, for instance of farmers associations, makes the system susceptible to reversal, following a small perturbation, such as a decline in cotton prices or the withdrawal of DAGRIS. A diminished capacity for the cotton sector to generate new rents, or increased rent-seeking activities at the levels of SOFITEX or UNPCB can induce dysfunctional features in the rent-distribution system. These factors are likely to have negatively impacted market coordination as a whole, leading to enforcement failures, financial shortages for input deliveries or late payment to farmers.

One wonders about the circumstances under which the state would intervene and steer a different course. Under which scenario would the state encourage deeper reforms, such as reducing political interference in SOFITEX, promoting better management practices and supporting greater accountability within rural grassroots organizations? Is it necessary for the State to become more broad-based, distinguishing its own interests from those of the urban Mossi elites? Or is it sufficient for policy-makers to realize that their own rents may suffer



under the present predicament, and more substantial, deep-seated changes are needed to improve cotton sector governance?

Though none of these conditions appears to be on the horizon, it is too early to say. One should not discount the role of the base of farmer organizations, of private investors, and changes in social and political dynamics, both at local and national level. As the analysis in this paper suggests, reform processes with positive outcomes can occur due to particular, innovative combinations of factors.

## **5. Concluding Remarks**

From the mid-nineties, Burkina Faso has followed a distinctive process of reforms, which included an institutional-building phase, whereby producers were turned into professional partners through the empowerment of their associations (though under a top-down modality), and a later phase of market reforms. The latter departed from the recommendations under the Washington consensus by embracing limited liberalization, pursuing the zoning approach, and enacting an unconventional privatization model, where shareholding of SOFITEX was offered to farmer organizations (led by the rural elites) rather than to private investors.

Our analysis of this distinct process shows that: (i) departures from the orthodoxy of economic reforms, in particular the delayed implementation of market reforms and the unconventional privatization, were required by the political economy and social realities prevalent in Burkina Faso; (ii) such departures from the Washington consensus were responsible for the initial success and welfare outcomes of the cotton reforms in Burkina Faso, (iii) but failures to preserve the new beneficial institutional arrangements in the face of changes in stakeholders' incentives as well as to promote increased accountability of leadership within farmer organizations have had a boomerang effect, as attested by the recent setbacks in the Burkinabè cotton sector.

Our paper emphasizes the role of specific local and national political and social realities in explaining reform process and outcomes. For instance, centralized rent-seeking by the State has favoured a mutually beneficial agreement between urban and rural elites, enhancing political support for reform. The nature and needs of the State, the features and power

configurations of urban and rural elites, as well as the social features of the rural world, are all crucial factors when accounting for reform uptake and success, as well as latest difficulties.

Our conclusions support the APP thesis that reforms based on incorporating local realities have more chances to bring improvements in the lives of the poor (e.g. cotton farmers). This principle also implies that reform sustainability can be ensured only by taking care of second-generation problems associated with the reforms. In particular, further deepening of institutional reforms, to increase downward accountability at all levels (Sklar 1996), renew the top leadership in farmers' organizations, improve auditing of management practices, and reduce the scope of corruption, may be required in Burkina Faso in order to ensure more sustainable outcomes in the cotton sector.

## References

- Acemoglu, Daron, Simon Johnson and James A. Robinson (2001). The Colonial Origins of Comparative Development: An Empirical Investigation. *American Economic Review*, December, 91, 5, 1369-1401.
- Adams, R.H.Jr., 2000. The Politics of Economic Policy Reform in Developing Countries. World Bank Policy Research Working Paper 2443, World Bank, Washington, DC.
- Akiyama, T., Baffes, J., Larson, D., Varangis, P., 2001. *Commodity Markets Reforms: Lessons of Two Decades*. World Bank ed., World Bank: Washington, DC.
- Arikan, G.G., 2008. How Privatizations Affect the Level of Perceived Corruption. *Public Finance Review* 36(6): 706-27.
- Baffes, J., 2005. The "Cotton Problem". *The World Bank Research Observer* 2005 20(1):109-44.
- Baffes, J., 2007. Distortions to Cotton Sector Incentives in Distortions to Cotton Incentives in Benin, Burkina Faso, Chad, Mali and Togo. World Bank research working paper, World Bank, Washington, DC.
- Baland, J-M., K. O. Moene, and J. A. Robinson, 2010. "Governance and Development" in Dani Rodrik and Mark Rosenzweig (eds.), *Handbook of Development Economics*, Vol. 5, Amsterdam: North Holland.
- Bates Robert H (1994) "The Impulse to Reform in Africa," in Jennifer Widner (ed.), *Economic Change and Political Liberalization in Sub-Saharan Africa* Baltimore, Md.: Johns Hopkins University Press.
- Bingen, J.R., 1996. Leaders, Leadership, and Democratisation in West Africa: observation from Cotton Farmers Movement in Mali. *Agricultural and Human Value* 13(2):24-32.
- Bingen, J.R. (1998) "Cotton, Democracy, and Development in Mali" *The Journal of Modern African Studies*, 36(2):265-85.
- Conning, J., (2000) "Of Pirates and Moneylenders: Product market competition and the depth of lending relationships" Working Paper Department of Economics, Williams College, Williamstown, NJ.
- Cornia, Giovanni A., Richard Jolly and Frances Stewart (1987) *Adjustment with a Human Face*, Oxford: Clarendon Press.
- Crawford G. (2001) *Foreign Aid and Political Reform*, Basingstoke: Palgrave.
- Dorward, Andrew R. Johann F. Kirsten, S. Were Omamo, Colin Poulton, and Nick Vink (2009) "Institutions and the Agricultural Development Challenge in Africa" in Johann F. Kirsten,

- Andrew R. Dorward, Colin Poulton, and Nick Vink (eds.) *Institutional Economics Perspectives on African Agricultural Development*, Washington: IFPRI.
- Delpuech, C., Swinnen, J.F.M., and A. Vandeplas, 2010. Revisiting the “Cotton Problem”, a new look at the link between market structure and performance in West and Central Africa. GEM Working paper, Sciences Po: Paris, France.
- Devarajan S. and D.R. Dollar and T Holmgren, eds. (2001) *Aid and reform in Africa: Lessons from ten case studies* Washington: The World Bank.
- Dollar D. and J. Svensson (2000) “What Explains the Success or Failure of Bank-Supported Adjustment Programs”, *The Economic Journal* 110 (October), 894-917.
- Fernandez, R., and D. Rodrik, 1991. Resistance to Reform: Status-Quo Bias in the Presence of Individual-Specific Uncertainty. *American Economic Review* 81:1146-1155.
- Fok, M., 2008. Cotton policy in Sub-Saharan Africa: a matter of Institutional Arrangements related to Farmers’ Constraints. “Integrating Social Sciences into Cotton Reform Implementation” Conference: Rationales of Cotton Policies, CIRAD: Montpellier, France.
- Goreux, L., (2003) “Reforming the Cotton Sector in Sub-Saharan Africa“ World Bank working paper, Washington, DC.
- Gray, L.C., 2008. Cotton Production in Burkina Faso: International Rhetoric versus Local Realities [in] Moseley, W.G., and L. Gray, 2008 (eds.), *Hanging by a Thread*, Ohio University Press, Global and Comparative Studies 9, Ohio, US.
- Harriss-White, B., 1996. Liberalization and corruption: Resolving the paradox (A discussion based on South Indian material). *IDS Bulletin* 27 (2): 31-39.
- Hilgers, Mathew (2010) “Evolution of Political Regimes and Evolution of Popular Political Representations in Burkina Faso” *African Journal of Political Science and International Relations* 4(9), pp. 350-359.
- Hyden, G., 2008. Institutions, power and policy outcomes in Africa. APPP discussion paper 2, ODI, London, UK.
- International Cotton Advisory Committee, 1998. "Statement of France" and "Statement of the World Bank," Statements of the International Cotton Advisory Committee at the 57<sup>th</sup> plenary meeting in Santa Cruz, Bolivia, Washington, DC.
- Jayne, T. S., Govereh, J., Mwanaumo, A., Nyoro, J. K., and A. Chapoto, 2002. False Promise or False Premise? The Experience of Food and Input Market Reform in Eastern and Southern Africa. *World Development* 30(11): 1967-85.
- Jefferson, G.H., and T.G. Rawski, 1999. China’s industrial innovation ladder: a model of endogenous reform in G.H. Jefferson and I. Singh, eds, *Enterprise Reform in China: Ownership, Transition and Performance*, Oxford: Oxford University Press, pp. 65-88.
- Kaminski, J., 2006. Database of 300 cotton-producing households in representative regions of Burkina Faso, 15 GPCs, and interviews with national stakeholders, ARQADE: Toulouse School of Economics, France.
- Kaminski, J. 2007. Interlinked Agreements and Institutional Reform in the Burkina Faso Cotton Sector. Paper presented at the NEUDC Conference held in Harvard University, November 2007, Boston, MA.
- Kaminski, J., and A. Thomas, 2010. Land Use, Production Growth, and the Institutional Environment of Smallholders: Evidence from Burkinabè Cotton Farmers. Forthcoming in *Land Economics*.
- Kaminski, J., Headey, D., and T. Bernard. 2010. The Burkinabè Cotton Story: 1992-2007: Sustainable Success or Sub-Saharan Mirage? In press in *World Development*.
- Kaminski, J., Tiemtoré, A., Bambio, Y., and R. Serra, forthcoming. Réalités locales, capital social, et performance de la coordination contractuelle de la filière cotonnière au niveau local: une histoire de cinq villages Burkinabés. Forthcoming as an APP working paper, ODI, London, UK.
- Kelsall. T., 2008. Going with the Grain in African Development? APPP Discussion Paper 1, ODI, London, UK.
- Kranton, R., and A. Swamy, 2008. Contracts, Hold-Up and Exports: Textiles and Opium in Colonial India. *American Economic Review* 98(3):967-989.

- Krueger, Anne (1974) "The Political Economy of the Rent-Seeking Society" *American Economic Review* 64 (3): 291–303.
- Laffont, J-J., 2001. Enforcement, Regulation, and Corruption. AERC meeting, Nairobi, Kenya.
- Laffont, J-J., and M. Meleu, 1999. A Positive Theory of Privatisation for Sub-Saharan Africa. *Journal of African Economies* 8 AERC Supplement:30-67.
- Leftwich, Adrian (1996) (ed.) *Democracy and Development: Theory and Practice*, Cambridge: Polity.
- Lipsey, R.G., and K. Lancaster, 1956. The General Theory of Second Best. *The Review of Economic Studies*, 24(1):11–32.
- Loada, Augustin (2006) "L'élection présidentielle du 13 Novembre 2005: un plébiscite par défaut" *Politique Africaine*, 101: 19-41.
- Mc Bride, M., 2005. Crises, Reforms, and Regime Persistence in Sub-Saharan Africa. *European Journal of Political Economy* 21(3):688-707.
- Olivier de Sardan, J-P., 2009. The Eight Modes of Local Governance in West Africa. APP Working Paper, ODI, London, UK.
- Oxfam (2006) "Kicking the Habit: How the World Bank and the IMF are still addicted to attaching economic policy conditions to aid", Oxfam Briefing Paper No. 96, London.
- Rodrik, D., 1993. The Positive Economics of Policy Reform. *American Economic Review* 83(2), Papers and Proceedings of the 105<sup>th</sup> Annual Meeting of the American Economic Association:356-61.
- Rodrik, D., 1996. Understanding Economic Policy Reform. *Journal of Economic Literature*, 34: 9-41.
- Rodrik, D, 2008. Second-Best Institutions, *American Economic Review*, 98 (2): 100-104.
- Santiso Carlos and Loada Augustin (2003) "Explaining the unexpected: Electoral reform and democratic governance in Burkina Faso" *Journal of Modern African Studies*, 41(3): 395-419.
- Schwartz, A. 1996. Attitudes to cotton growing in Burkina Faso: different farmers, different behaviours In Benoit-Cattin M., Griffon M., and Guillaumont P. (ed.) *Economics of agricultural policies in developing countries*. *Revue Française d'Economie*:341-363.
- Serra, R., 2009. Business and Politics II, progress report for the "Africa, Power, and Politics" project, University of Florida.
- Sklar, R.L., 1996. Towards a Theory of Developmental Democracy [in] Adrian Leftwich (ed.), *Democracy and Development: Theory and Practice*, Polity Press, Cambridge, UK.
- Swinnen, J.F.M., and A. Vandeplas, 2009. Rich consumers and poor producers: Quality and Rent Distribution in Global Value Chains. IFPRI Discussion paper 932, IFPRI, Washington DC.
- Tangri, R., 1999. *The Politics of Patronage in Africa: Parastatals, Privatization, and State Enterprises*. James Currey (ed.), Oxford, UK.
- Tschirley, D., Poulton, C., and P. Labaste, 2009. *Organization and Performance of Cotton Sectors in Africa. Learning from Reform Experience*. World Bank (ed.), Washington, D.C.
- Van de Walle, N. (2001) *African Economics and the Politics of Permanent Crisis*, New York: Cambridge University Press.

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