IS A PUBLIC REGULATION OF FOOD PRICE VOLATILITY FEASIBLE IN AFRICA? AN ARCH APPROACH IN KENYA

Elodie Maitre d'Hôtel (CIRAD, France)

Tristan Le Cotty (CIRAD, France)

Abstract

The 2007-2008 food crisis and current food price swings led economists to re-evaluate the potential for policy instruments to manage food price volatility. Despite a consensus on the need for a price volatility regulation, we have to recognize the actual difficulty for many countries to achieve a reasonable price stability. Drawing from the case of maize prices in Kenya, we show that the ability of a stabilization policy to lower food price volatility does not depend on the nature of the policy instrument only, but also on the institutional conditions of its enforcement. The predictability of the policy for economic agents appears key factor of price stability. To test this, we elaborate an autoregressive conditionally heteroskedastic model of price determination in which prices and prices volatility are jointly estimated, using monthly data over the 1994-2009 period in Kenya. We find that policy predictability -approximated by the import tariff policy stability - decreases price volatility, whereas the stock level does not appear to play a significant role on volatility. Our results appeal for a better integration of institutional conditions in the analysis of food prices stabilization policies.

1. The regulation of food markets in developing countries (introduction)

The 2007-2008 sharp rises in food prices and the food crisis that followed in developing countries brought food price volatility at the heart of political debates. Food price volatility can have negative effects both on consumers and producers[1], and there are probably more voices in favor of volatility management than before 2007.

The regulation of food price volatility: the feasibility debate

Despite the existence of a consensus on the adverse effects of instability, the way to manage food price volatility is an issue that has long been dividing economists about the role that regulatory institutions should play. To reduce food price volatility, the question whether we should primarily

[1] These negative effects are likely to be more important in African countries, where markets are spatially segmented and where food expenditures account for most of household expenditures.

rely on markets[2] or whether markets require a direct public intervention (like public storage policy) corresponds to a long standing debate. Beyond this "first best policy" debate stands another debate, on the "feasibility" of such a policy (Poulton, Kydd et al. 2006). Indeed, many countries did intervene in the regulation of their food markets, and many still do. This observation is the starting point of our paper that analyzes the pragmatical conditions for success of such a public intervention.

A new stage for stabilization policies in developing countries

In the context of food crisis, while the international scientific and political community has focused on promoting safety nets in the short run and fostering agricultural production in the long run (Abbott 2010), most developing countries' governments tend to reinforce their intervention in the functioning of their food markets, through tighter control of trade and marketing functions (Demeke, Pangrazio et al. 2008). The food crisis set a new stage for stabilization policies in developing countries. Many policies have been pursued, among which:

- Trade policies : reduction of import tariffs and fees, restriction and prohibition of exports
- Marketing policies: reduction of taxes, release of public stocks, administration of prices

These policies aimed at lowering food price volatility have been accompanied by policies aimed at lowering the negative effects of food price volatility (safety nets).

Inefficiencies and credible commitment problem

A study led in 14 different developing countries brought to light that, under certain circumstances, pursued policies could fail to lower food price volatility, and even increase it (Gérard, Alpha et al. 2010). This paper addresses the ability of stabilization policies to effectively lower food price volatility in Africa, considering that policies could be characterized by a low predictability, and a low effectiveness.

- The predictability is defined as the State capacity to implement transparent policies, and is related to the ability for economic agents to anticipate correctly the pursued policy (which is different from agents' ability to anticipate prices).
- The effectiveness is defined as the State capacity to actually enforce the use of the instrument in the way it is supposed to be: effectiveness is closely linked to public financial and enforcement control capacities.

The low predictability and effectiveness of policies may lead to the credible commitment problem. If stabilization policies are not credible, they may be inefficient to lower food price volatility. To test

[2] In this case, the State role would be limited to the promotion of a regulatory framework and to investments in public goods

the central hypothesis that policy effectiveness and predictability are determinant in the capacity of these policies to lower food price volatility, we build an ARCH model adapted from Barrett (1997), where we have added policy characteristics (predictability and effectiveness).

The rest of the paper is organized as follows. In section 2, we present a literature review on the influence of pursued domestic policies on food price volatility, highlighting that credible commitment problems can arise. In section 3, we present the Kenyan case study and describe the ARCH model and the data used to test this model. In section 4, we present the results. A discussion follows on the policy recommendations that can be derived from these results.

2. The effects of State led regulation on food price volatility (literature review)

Agricultural and food policies are one among the many factors[3] that are likely to influence food price volatility (Abbott 2010; Gilbert and Morgan 2010; Roache 2010). Before entering the literature on these influences, we give a definition of price volatility. We then further develop that there is no consensus in the economic literature on the impact of policies pursued at national level on domestic food price volatility.

Price volatility definition and measure

We need to agree on a definition of food price volatility before entering the debate on the effect of policies on this volatility. We rely on the Organization for Economic Cooperation and Development definition of price volatility, defined as "*variations of such a frequency and scale that instead of constituting market signals to agents, they exceed agents' capacity to adapt*".

A common indicator to measure price variations is the coefficient of variation, which corresponds to the unconditional variance. However, some part of these variations is predictable (for example, seasonal price variations), and indeed necessary for the functioning of markets. To take into account these predictable factors, conditional variance indicators have been developed (price forecast models). In this paper, we define price volatility as the unanticipated component of price instability, ie the conditional variance, while instability could be defined as the unconditional variance in food prices over a time period[4].

[3] Some of these factors enter our model (see section3, presentation of the data used)

[4] Researchers have often resorted to compare price coefficient of variation across different periods characterized by varying policy regimes, but in our literature review we will only consider analyses that have been made with conditional estimates of price sensitivity.

Table1. Food price instability vs. food price volatility

	Definition	Measure
Instability	Unconditional variance (predictable and unpredictable components of price variations)	Coefficient of variation
Volatility	Conditional variance (unpredictable component of price variation)	ARCH models (squared forecast error)

The effect of economic reforms on food price volatility

Most of the analysis on food price volatility deal with international markets, and as a result relatively little information is available on domestic markets. However, domestic food prices can differ substantially from international prices because of transport and transaction costs and because of the insulating effect of trade and marketing policies. So far, the literature on domestic markets has not reached a consensus on the effects of policy on food price volatility. Over the past twenty years, some authors have considered the relationship between agricultural liberalization reforms and food price volatility, with different results. Some findings indicate that the liberalization has caused an increase in cereals price volatility (Barrett 1997; Yang, Haigh et al. 2001), while other findings stand that market-oriented measures tend to reduce cereals price volatility (Crain and Lee 1996; Shively 1996). Now, considering the recent renewal of policies to deal with food price volatility in the context of food crisis, we didn't find studies addressing their effect. This could be related to a short delay between food crisis, policy responses and the present time. This paper is motivated by the absence of any clear relationship between the recent renewal of public intervention to cope with food price volatility and the evolution of food price distributions in developing countries.

Low policy effectiveness and predictability may entail policy ability to lower food price volatility

A growing literature on price stabilization policies deals with the concrete mechanisms trough which policies are implemented. Part of this literature points out that the capacity of public intervention to regulate food price volatility may be entailed by governance problems (Poulton, Kydd et al. 2006), governance failures (Jayne and Schirley 2009) or coordination failures (Dorward, Kydd et al. 2005). Seminal empirical studies have demonstrated that, in a context of prices leap, a public intervention aimed at containing the leap could indeed result in having no effect on it (Galtier 2010), or worse, in an aggravation of it (Nijhoff, Jayne et al. 2002; Mwanaumo, jayne et al. 2005; Chapoto and Jayne 2009). These inefficiencies can be due to:

- A lack of policy effectiveness. It has been highlighted that, in some cases, government could announce a food stabilization policy but fail to effectively implement it, because of (i) deficient enforcement control and/or (ii) low financial capacities. Examples from Western Africa are given in the appendix. These low effectiveness problems are more likely to occur in low income countries.
- (iii) A lack of policy predictability. When governments intervene in a discretionary and unpredictable way, the private sector cannot correctly anticipate government actions and may decide not to operate on food markets (crowing out effect), making prices even less stable (Byerlee, Jayne et al. 2006). In such a situation, public intervention is seen as depressing efficiency by limiting local competition and private sector development. Drawing from the analytical work of the Food Security Research Program, examples from Eastern Africa countries are given in the appendix.

These analyses, applied to prices stabilization policies, are consistent with more general analyses on governance forms that prevail in the elaboration and implementation of policies and that insist on the capacity of diverse players (government, private actors…) to satisfy their objectives (Kaufmann, Kraay et al. 2010). The World Bank has developed governance indicators to evaluate "*the capacity of the government to effectively formulate and implement sound policies*" (Kaufmann, Kraay et al. 2010, p4). Somewhat summarized, these works suggest that "*the precise policies may be less important than the fact that they exist and that main stakeholders find them credible*" (Schirley and Jayne 2010). These inefficiencies, based on the interactions between public and private actors, have been widely described in the Southern Africa's food crisis context by Shirley and Jayne (Schirley and Jayne 2010). They are related to what has been coined in the new institutional economics literature as the "*credible commitment problem*" (Shepsle 1991; North 1994). The situation can be resumed as follows: government and traders have different interests, they are dependent on each other and - because of imperfect information- they must base their behavior on expectations about the behavior of the other. In this situation, they cannot correctly anticipate what the other will do and are unable to make credible commitment to each other: at the end both government and traders behave in ways that undermine the interests of both, leading to inefficiencies (Schirley and Jayne 2010). Policy credibility should, therefore, be considered as an important factor in the empirical studies dealing with the effects of policies on food price volatility. Our contribution to this literature consists in measuring the relative influence of policy credibility (approached by policy predictability and policy effectiveness) on food price volatility.

3. The regulation of maize market in Kenya (model and data)

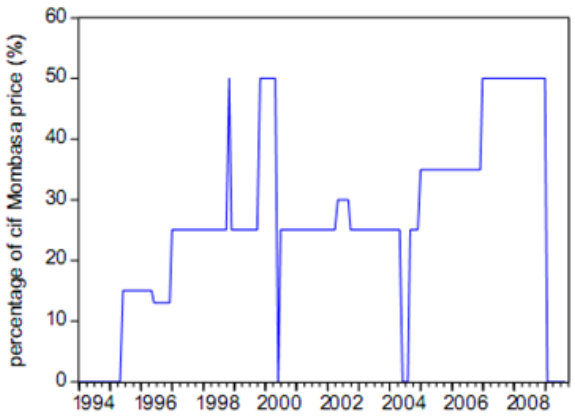
Our aim is to test the influence of the recent renewal of public intervention to cope in the distribution of food prices, focusing on the effectiveness and predictability of this intervention. The decision to work on the case of Kenya is primarily driven by the existing data on government programs. These empirical data were mainly obtained through the recollection of studies led within the Food Security Research Project by the department of Agricultural Economics of Michigan State University, in collaboration with representatives of the agricultural sector in Esatern and Southern Africa. We are grateful to Thomas Jayne who facilitated us price data access.

Maize trade and marketing policies pursued in Kenya

Maize prices are a crucial social and political issue in Kenya, maize being the main staple food, accounting for 36% of total food caloric intake in the country (Ariga, Jayne et al. 2010). Besides being the main staple food, maize is also the most common crop grown by rural poor households(Nyoro, Kiiru et al. 1999).Kenyan government has been widely intervening on the functioning of maize markets trough trade and marketing policies, even in the so-called liberalization period, and reinforced its intervention in the last ten years.

Trade policies. Except in good harvest years, Kenya requires substantial maize imports. These imports, mainly coming from Uganda and Tanzania accounted for more than 10% of domestic consumption in the last ten years (WorldBank 2009).

Figure1. Maize import tariffs at Mombasa Port (from Kenyan Ministry of Trade and industry)

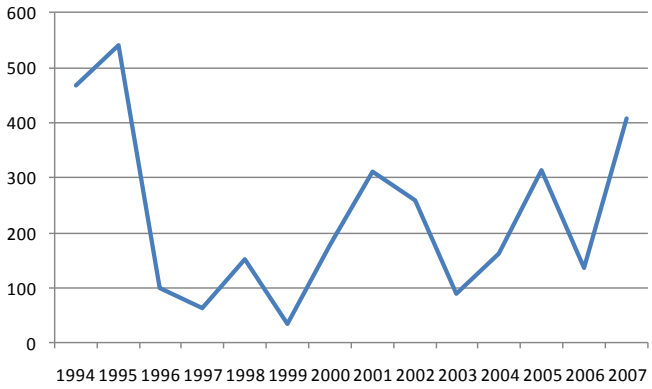


Government imposed high tariffs on maize imports from 1994, but these tariffs have highly fluctuated since then, as it is represented in Figure1. Since 2005 however, maize trade policy has slightly stabilized: imports from countries that are not part of either the East African Community or the Common Market for Eastern and Southern Africa are taxed at the rate of 50%. In addition to

these tariffs, numerous non-tariff barriers to regional trade remain, as food quality and safety standard certificates (Ariga, Jayne et al. 2010).

Marketing policies. The National Cereals and Produce Board (NCPB) was created in 1979, to regulate maize markets trough the administration of prices, the purchase of domestic maize production and the management of a public buffer stock. With the liberalization reform, between 1995 and 2000, the NCPB scaled back his purchases, providing greater scope for private sector to operate. However, since 2000, the government has gradually increased NCPB's purchases (Ariga, Jayne et al. 2010). The NCPB remains a dominant player in the maize market, purchasing in normal or good years around 25-35% of the total domestically marketed maize, most of all from large scale farmers (Jayne, Yamano et al. 2001). .

Figure2. NCPB maize purchases (MT) (from (Ariga, Jayne et al. 2010))



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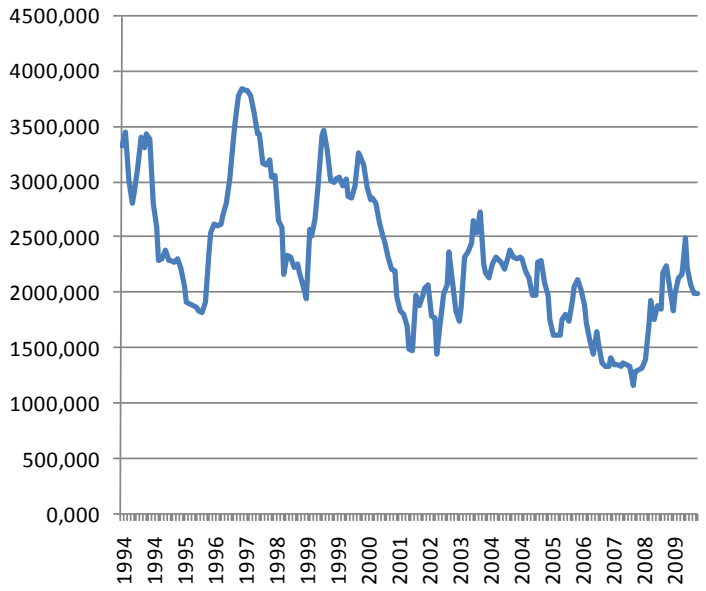
The evolution of maize trade and marketing policies in Kenya has been marked by frequent and usually unanticipated changes in trade tariffs, NCPB prices set and volumes purchased (Ariga, Jayne et al. 2010). Seminal empirical studies showed that these discretionary policies raised market uncertainties for private stakeholders (crowing out effect) and led to inefficiencies (Chapoto and Jayne 2009; Schirley and Jayne 2010).

Prices. The evolution of Nairobi maize wholesale prices from January 1994 to December 2009 is depicted in Figure 3. Nominal data were deflated by the traditional consumer price index to construct the series. Prices seem more stable in the recent period that corresponds to reinforcement of maize marketing and trade policies. Indeed, we calculated the coefficients of variation corresponding to the period 1994-1999 (liberalization) and to the period 2000-2009 (renewal intervention). This choice has been motivated by the fact that 2000 corresponds to a reinforcement of maize marketing and trade policies. It appears that prices are more stable in the 2000-2009 period (CV = 19%) than in the 1994-1999 period (CV = 24%). However, if the coefficient of variation is a meaningful measure of price variations, we saw that it does not account for the predictable component of volatility.

Figure3. Nairobi maize wholesale real prices in Kenya (KSH/kg)



Towards an ARCH modelization of food price distributions in Kenya

ARCH modeling allows simultaneous estimation of temporal variation in the conditional mean and variance of a dependent variable (maize deflated price). The analysis of the error term of the mean equation at any time t can exhibit useful properties when one wants to interpret price predictability. In particular, when the conditional variance of the error term of the mean equation is not homoscedastic, this variance can be interpreted as the price unpredictability (Shively 1996; Barrett 1997). Therefore, significant explanatory variables of conditional variance are valuable explanatory factors of price unpredictability. This price unpredictability is not exactly synonymous of volatility, it captures the unpredictable share of price volatility.

The ARCH model general structure is as follows.

$$p_{it} = \beta_0 + \sum_{k=1}^{s} \beta_k p_{i,t-k} + \gamma' X_{it} + \varepsilon_{it} \qquad (1)$$

$$\varepsilon_{it} \qquad iid\mathrm{N}(0, h_{it})$$

$$h_{it} = \alpha_0 + \sum_{k=1}^{r} \alpha_k p_{i,t-k} + \sum_{k=1}^{q} \eta_k h_{i,t-k} + \lambda' Z_{it} + \nu_{it} \qquad (2)$$

$$\nu_{it} \qquad iid\mathrm{N}(0, \sigma)$$

Where the subscripts *i* and *t* stand for region and monthly period respectively. Equation (1) is the mean equation, that determines the maize price p_{it} process as an autoregressive process of *s* periods,

and a vector X_{it} of exogenous variables explaining the level of maize price. A least square estimation of such a process generate a heteroscedastic error term and biased estimates. Equation (2) determines the conditional variance of the error term of equation (1), as an autoregressive process of q periods, by past prices, and by a vector of exogenous variables explaining price unpredictability. The observed price for a month is a linear function of a constant, the previous month's price, a monthly time trend, the real exchange rate, the international price, maize buffer stock release, and a dummy variable

Data

Many factors are likely to influence food price volatility, and a subset of these factors will enter our model. The choice is made on the basis of empirical studies and data availability. Basically, food price volatility is related to supply and demands fundamentals, which are likely to include market-specific and broader economic factors (Roache 2010), and changes in these factors may have large effects because the short run supply and demand elasticities of food prices are typically low (Balcombe 2009). The following factors are taken into account in our analysis.

- Past prices. There are periods of relatively high and low price volatility, though the underlying unconditional volatility remains unchanged. This principle underlines the choice of an ARCH model. Nominal data were deflated by Kenyan consumer price index to construct real price series for maize from January 1994 to December 2009.
- Inflation. Inflation has an obvious direct effect on food price volatility: to account for this effect, we have been working on consumer price index deflated price series.
- Stock levels. Stocks have an important role in theoretical models of commodity pricing (Williams and Wright 1991; Deaton and Laroque 1992). In theory, when stocks are low, volatility is expected to increase; empirical evidence, so far, has been mixed. To account for this potential effect, we used data of the United State Department of Agriculture (USDA PSD database) to include stocks levels in our model.
- Exchange rate. Volatile exchange rates are likely to induce a higher volatility in food prices, as the riskiness of returns increases (Balcombe 2009). Exchange rate data, obtained from the Kenyan Bureau of Statistics, are included in the first step of our model.
- International price. International price was calculated as prevailing international market prices, extracted from the database of United Nations Conference on Trade And Development (UNCTAD) converted into KSH at the nominal exchange rate and then deflated by Kenyan CPI.

Other economical factors that potentially influence food price volatility were not included because of lack of data or redundant information, such as weather patterns[5], oil price volatility[6], and speculation[7]. Added to these common economical factors, we integrate in our model two "institutional" factors:

- Policy unpredictability that we approximate by the variability of import tariffs policies in Kenya. A dummy variable is constructed from Ministry of Trade and Industry data and takes the value 1 for years with tariff changes and 0 for years with no tariffs changes.
- Policy effectiveness that we approximate by the « government effectiveness » indicator developed by the World Bank that measures "the quality of public services, the quality of the civil service and the degree of independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies" (Kaufmann, Kraay et al. 2010).

Table 2. Explanatory variables used

Variable name	Variable description	Sources
Past prices	Nairobi maize wholesale real prices (ZMK/kg)	Bureau of Statistics (CPI), Ministry of Agriculture (nominal prices)
Stock levels (STOCK)	Stock level (MT)	USDA PSD data base
Exchange rate (ER)	ZMK/USD	Bureau of Statistics
International price (IP)	Maize real international price (USD/kg)	US Bureau of Labor Statistics (US CPI), UNCTAD (nominal prices)
Policy unpredictability (UNPREDI)	Import tariffs variability	Calculations from Ministry of Trade and Industry data
Policy effectiveness (EFFEC)	Government effectiveness	Worldwide Governance Index

[5] Extreme weather events (drought, floods) are directly affecting agricultural productivity (Haile 2005). Thus, these events are one important source of food price volatility and extreme climate indices are used to analyze the impact of climate volatility on poverty (Ahmed et al 2009).

[6] Recent empirical work has suggested a transmission of prices between oil and food prices, trough the channel of fertilizer prices, mechanized agriculture and freight costs (Balcombe 2009). To account for this effect, some authors introduce the US CPI deflated petroleum spot price (International Monetary Fund data).

[7] The impact of speculation on food price volatility is a controversial debate (Roache 2010). Roache, S. (2010). What explains the rise in food price volatility? . I. W. P. WP/10/129, International Monetary Fund.

Roache, S. (2010). What explains the rise in food price volatility? . I. W. P. WP/10/129, International Monetary Fund.

Empirical model specification

Above data have been collected in 6 areas in Kenya, and we thus have 6 time series for price. We introduce a dummy variable for each of these areas (but one to avoid multicollinearity), both in mean and variance. We also introduce a dummy variable for the post-harvest season to capture seasonal regularities in prices and in price unpredictability. We also introduce a monthly trend in both processes. The level of stock at the beginning of each year (STOCK) is also an explanatory factor both for the price level (with a negative effect expected) and for price unpredictability (with a negative effect expected). Mean and conditional variance specific variables are international price level (IP), the yearly exchange rate (ER), the level of stock (STOCK), the policy unpredictability (UNPREDI) and policy effectiveness (EFFEC). The coefficients β1 and α_1 prove significant, which means that the price evolution and the conditional variance evolution are autoregressive processes.

$$p_{it} = \beta_0 + \beta_1 p_{it-1} + \gamma_1 IP_t + \gamma_2 ER_t + \gamma_3 STOCK_t + \gamma_4 TREND_t + \gamma_5 UNPREDI_t + \gamma_6 EFFEC_t + \sum_{s=1}^{2} \theta_s S_s + \sum_{r=1}^{6} \phi_r R_r + \delta h_{it}^{1/2} + \varepsilon_{it} \quad (3)$$

$$h_{it} = \alpha_0 + \alpha_1 h_{it-1} + \alpha_2 p_{it-1} + \lambda_1 IP_t + \lambda_2 ER_t + \lambda_3 STOCK_t + \lambda_4 TREND_t + \lambda_5 UNPREDI_t + \lambda_6 EFFEC_t + \sum_{s=1}^{2} \rho_s S_s + \sum_{r=1}^{6} \mu_r R_r + \nu_{it} \quad (4)$$

Positive coefficient for UNPREDI, $\lambda_5>0$, means that the tariff policy unpredictability tends to favour more volatile prices.

4. Results

Results from the ARCH model estimates from maximum likelihood estimation are found in Table 3.

The mean equation shows that the maize price is clearly an autoregressive process with a strong monthly autocorrelation. In average, maize price in Kenya appears significantly decreasing. There is no significant effect of international prices on price level. As expected, the exchange rate tends to increase domestic price, and the level of stock has a significant decreasing effect on price level. Highly significant seasonal effects are as expected, and correspond to post-harvest times. These results are consistent with others found in the literature (Shively 1996; Barrett 1997). Concerning the level of stocks, our results are consistent with the ones of Barrett, but are not consistent with Jayne findings that state out that NCPB activities have raised maize average prices in Kenya (Jayne, Myers et al. 2008)).

Table 3. Estimates of ARCH model

	OLS	ARCH-M	
Independent variable	**deflated standardized price**	**Mean equation**	**Conditional variance equation**
Constant	-0.0339 (0.0570)	-0.0263 (0.0781)	0.003469 (0.007024)
Lagged price	0.8939*** (0.0151)	0.8952*** (0.0972)	0.0152*** (0.002056)
International price	0.000423 (0.000397)	0.000348 (0.000424)	1.174E-23 (0.0000417)
Exchange rate	0.002217*** (0.000779)	0.002204** (0.000820)	0.0000609 (0.0000981)
Stock	-0.000134*** (0.0000454)	-0.000118** (0.0000473)	-5.17E-26 (5.0992E-6)
trend	0.000202 (0.000258)	0.0000806 (0.000271)	-3.02E-23 (0.0000277)
Unpredictability	0.003422 (0.008539)	0.008671 (0.0190)	0.002465** (0.000979)
Effectiveness	0.000855 (0.000844)	0.000454 (0.000938)	-7.65E-24 (0.000105)
Post harvest dummy	-0.0531*** (0.008376)	-0.0441** (0.0223)	0.003037*** (0.001067)
Regional dummies			
KIT	-0.003450 (0.0125)	-0.002565 (0.0219)	1.558E-21 (0.001093)
NAI	0.001445 (0.0124)	-0.000416 (0.0128)	5.771E-24 (0.001276)
MOM	-0.004097 (0.0125)	-0.002937 (0.0131)	1.339E-23 (1.1056E-6)
KIS	-0.002336 (0.0128)	-0.003884 (0.0122)	0.003041*** (0.001164)
ELD	-0.002958 (0.0124)	-0.004214 (0.0113)	-2.11E-21 (9.014E-13)
ARCH1			0.000380 (1.3336)
DELTA		0.0121 (0.0154)	
N	912		
R^2	0,87		

Standard errors in parentheses. *** highly significant (at the 1% level). ** significant (at the 5% level)

* lowly significant (at the 1% level)

Regarding the analysis of the conditional variance, the most interesting result is the highly significant positive effect of tariff policy unpredictability, showing that unpredictable policies tend to generate more volatile prices. Stocks and policy effectiveness do not appear to have a significant effect on food price volatility. We do not have convincing explanation for the absence of any significant effect of stock on food price volatility. This finding stands in contrast with Jayne, Myers and Nyoro's observations that NCPB activities have stabilized maize prices in Kenya (Jayne, Myers et al. 2008) and with Barrett results (Barrett 1997). It could be interpreted in another way: it may be less the choice of the policy (public storage) than the fact that this policy is implemented in a transparent way that matters. Indeed, the structural effect of institutions (policy unpredictability) has a potentially greater role than short term environment, including stock level. The absence of significant effect of policy effectiveness may be related to the proxy used in this paper: this proxy, extracted from the World Governance Indicators database, is not specific to maize price policies implemented in Kenya, and encompass a rather large set of policies (to better address institutional factors, our paper may benefit from a fieldwork research in Kenya).

5. Conclusion

In the last twenty years, the debate has shifted from whether State led regulation is better than market led regulation, to one in which the major issues concern the way in which state and market can be integrated to provide the most effective coordination (Dorward, Kydd et al. 2005). Drawing from the Kenyan case, we found that a low predictability of policies could entail the capacity of these policies to lower food price volatility. These factors are likely to be more accurate in the context of fragile states. The fact that these factors may influence policy results does not mean that no public intervention is needed to manage food price volatility but rather, that government actions should be as rule-based and transparent as possible (Poulton, Kydd et al. 2006). In the current context of price swings, governments may be tempted to implemented policies that were successful in tackling food price volatility in other contexts. Our results indicate that « context matters » and suggest to care together about the nature of the policy tool and the institutional conditions of its enforcement.

Our results appeal for a better integration of governance issues in the analysis of food prices stabilization policies, and some important research questions arise. How to reinforce policy predictability and policy effectiveness? How to design institutions that engender greater trust between public and private actors? Empirical policy analysis set out that concertation between different stakeholders could facilitate policy credibility (David-Benz, Rakotoso et al. 2010). The

implementation of consultative processes involving a broad range of stakeholders should be recommended, even if "*the policies emerging from such a process are not likely to approximate first best recommendations*" (Schirley and Jayne 2010).

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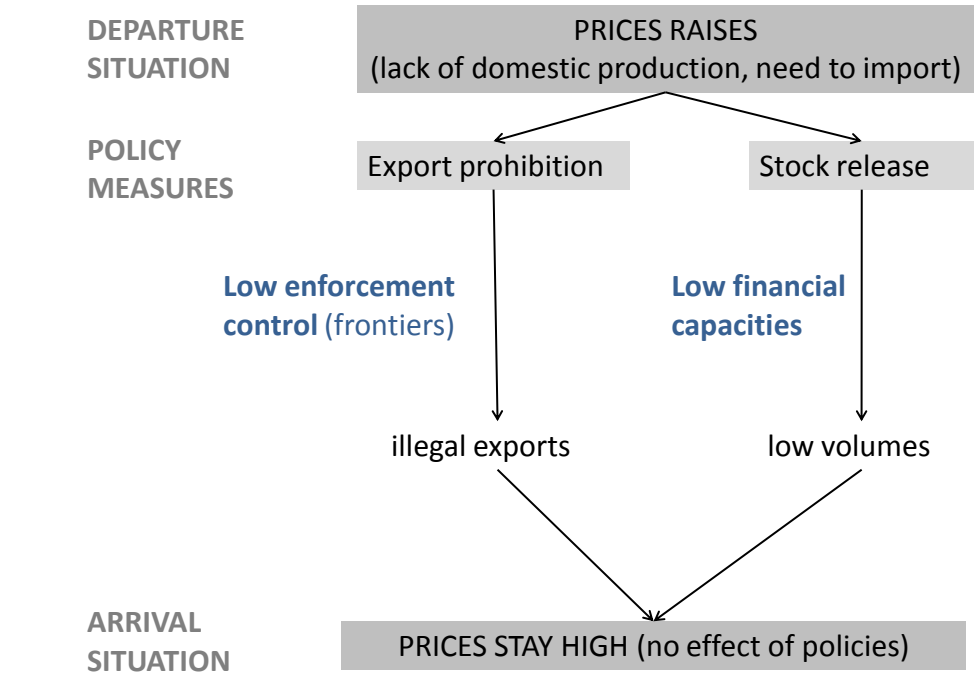
Policy effectiveness. The example of Mali (2005, 2008)



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Policy predictability: The examples of Zambia (2001,2002), Malawi (2005) and Kenya (2008)