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# THE SOCIAL CONSTRUCTION OF MARKETS IN A TRANSITIONAL ECONOMY: THE EXAMPLE OF THE SUGAR INDUSTRY IN CHINA

Louis AUGUSTIN-JEAN<sup>1</sup>

## Abstract

If the entry of China into the WTO, in 2001, has generated numerous researches, the organization of China's economy remains quite unknown. Current changes provide a unique chance to understand the role and the interaction of different agents in the (re)construction of a market.

For this purpose, a specific industry has been selected. The analysis of the sugar industry allows us to grasp its organization from the basic producer (the farmer) up to the final consumer (the food industry). It also allows us to take into account the changes that are currently underway in the international market of sugar, which exert considerable pressure on an industry that is undergoing complete restructuring in China.

The paper shows that, while China's central government seems committed to further liberalize its economy, the diverging interests of the stakeholders (farmers, mills, local authorities...) have reinforced the role of the various levels of government agencies. It also shows that all the measures taken to protect the most vulnerable agents have led to increased instabilities and uncertainties in a market which, nonetheless, has been continuously expanding for the last 25 years.

## Résumé

Bien que l'entrée de la Chine dans l'OMC, en 2001, ait généré de nombreuses recherches, l'organisation de l'économie chinoise demeure relativement mal perçue. Les changements actuels procurent une occasion unique de comprendre le rôle et l'interaction des différents acteurs dans la (re)construction du marché.

A cette fin, une industrie spécifique a été sélectionnée. L'analyse de l'industrie sucrière nous permet de saisir son organisation interne, du producteur (le paysan) jusqu'au consommateur (les industries agroalimentaires). Elle nous permet aussi de prendre en compte les changements actuellement en cours sur le marché international du sucre, et qui exercent une pression considérable sur une industrie en cours de restructuration. L'article montre que, alors que le gouvernement central semble décidé à poursuivre les réformes de libéralisation économique, les intérêts divergents entre les principaux acteurs (paysans, sucreries, autorités locales...) ont renforcé le rôle des différents niveaux d'agences gouvernementales. Le papier montre également que les mesures pour protéger les agents les plus vulnérables ont accru les instabilités et les incertitudes dans un marché qui s'est néanmoins fortement développé durant les 25 dernières années.

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One of the culminations of China's economic reforms – which started in 1978 – occurred in 2001 when she gained admission into the WTO after more than 13 years of intense negotiations.<sup>2</sup> This membership was perceived by the international community as a signal that China will continue her smooth transition towards a market economy. Nevertheless, while China's commitment to the international agreements she signed within the framework of the WTO cannot be questioned, the conclusion that she is leaning towards a (western style) market economy requires closer scrutiny.

China remains a socialist country, and her socialist institutional framework still shapes the decision making of individuals (one need only think of the role of the Communist Party, the one child policy, etc.). Market reforms were no more written on a “white page” than communism was, despite the wishes of Mao Zedong and perhaps the proponents of the Washington consensus. Therefore, it would be naïve to expect China to simply transform into a “market economy” – an expression that still has to be explained –, especially since even Western economies show considerable discrepancies in terms of economic organization (between an Anglo-American and a German or a French “model,” for example). Therefore, the focus is no longer on if the Chinese economy is transforming into a market economy, but on its structure, which is embedded in a social context (Granovetter, 1985) and is under the pressure of globalization.

Beyond the specific case of China, this question has very general and theoretical implications. In China, as in some other transitional economies, if market reforms did not replace the previous institutional framework, they significantly distorted it, reshaping former social groups and bringing about uncertainties. The behavior of individual actors in relation to their systemic positions somehow shaped the economic structure. As noted by Philippe Hugon

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<sup>2</sup> In this article, the word China exclusively designates the People's Republic of China (the PRC). It does not include the economies of Hong Kong, Macau, and Taiwan, which are separate economic entities.

(1995), in an environment characterized by risks and uncertainties, the decision making process is a first spot for the coordination. Institutional changes bring opportunities or threaten actors who react not only according to the predictions of the rational choice, but also to the blurred perception they have of these changes. The result is an alteration of the institutional framework beyond the original reforms that the Central Government engaged in to fulfill its international commitments – but in a way that is difficult to predict *ex ante*.

Thus, China offers an interesting case study, as it allows researchers to trace its changes as they occurred and give justification to the actors themselves (Bruno Latour, 1997; 2005, Boltanski and Thévenot, 1991). But then, what kinds of actors are pertinent to, and what constitutes the right level of analysis? Beyond the matter of size (the “Chinese economy” as a whole being inappropriate), the answer is not obvious, since “groups” are in reconstitution in China.

For this reason, the proper “size” cannot be defined *ex ante*, but is deducted from the density of interconnections linking different (kinds of) agents (Rallet and Torre, 2004) – or even “agencies” in the terminology of Latour (2005). The analysis of these interconnections should account for a description as faithful as possible of the economic structure and of the “laws of the market” (Callon, 2001). This market is no longer the ideal and undefined market of the Washington consensus; its perception arises directly from descriptions, linking institutional changes with networks and actors’ behaviors.

The industry level, with its blurred borders and intense interconnections between diversified agencies, provides a starting point for a contextual analysis. In order to join the WTO, China had to alter the institutional context of most of her industrial sectors, and due to these on-going changes, the traces left by various agencies have been made more visible. The thorny question of the reasons for institutional changes has then to be replaced into a broader perspective: with growing international pressure, what are the actions of the agents, and how do they account for the evolution of the institutional framework? In other words, the modification of the institutional context can be better understood by describing the actions of the agents at all levels, rather than linking it, as Douglass North did, to changes in relative prices or personal tastes (North, 1990; 1992). Thus, changes in the “rules of the game” are not only a governmental decision making process, but are determined by how agents play with these rules in a dynamic and interactive process. It is then possible to focus theoretically and

empirically on the organization of the market, which is shaped by the actions of individuals in the context defined by the state and the international environment, and depends not only on these individuals' interests, but even more so on their *perceived* interest. The results of these interactions will likely define a new mode of organization, possibly distant from a market economy, but also equally distant from the initial context.

While any industry may be suitable for this analysis, two further conditions influenced the choice. First, the industry should be relatively spatially concentrated, as dispersion would raise practical difficulties for an effective analysis due to the size of China and its economic fragmentation. Second, an agricultural industry includes a greater variety of actors – farmers, bureaucrats, businessmen, etc. It is then possible to see how their conflicting or cooperative strategies interact to provoke the evolution of the institutional framework.

With all these constraints in mind, the sugar industry has been selected. China is currently the world's third largest producer of sugar – a key industry for most agro-food sectors. Under the pressure of the international community, the PRC is committed to liberalizing this industry, even though sugar remains one of the most protected industries in the world. In this context and in order to prepare for WTO membership, China started to bring about progressive reforms at the end of the 1990s. These changes exerted pressure on some actors who believe their position to be threatened, while they brought new opportunities to others. In recent years, the production of sugar in China has been increasingly concentrated, with more than 60% of it occurring in the southwestern province of Guangxi.

Thus, the question raised in this article can be reformulated as such: how is the sugar industry in Guangxi Province constructed in relation to the institutional framework introduced by the state, the international context, and individual behaviors? To answer this question, the paper is divided into two parts. In the first one, the theoretical background is defined. Some elements of methodology are also introduced, as well as some fieldwork perspectives. The second part is devoted to analysing the main findings of this fieldwork. Due to space constraints, the findings below are largely restricted to the district level and will only occasionally introduce elements at the provincial or national levels.<sup>3</sup>

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<sup>3</sup> China is divided in 30 provinces, which are further divided into districts.

## **1. From Market Economy to Network Analysis: a theoretical assessment.**

The assumption that China's reforms propelled her to a market economy has led to a simple conclusion: there will be a convergence, in the unspecified "long run," between the Chinese and world economies. The adjustment of the socialist economic regime to globalization forces is then "automatic," and the questions of the organization of the market and the role of the actors within this organization are simply ignored. Nevertheless, the transformation of China's economy is more complex than one would think if we suppose that the actors have a role in shaping the market (Callon, 2001). This shaping process is important for explaining the performance of this market. This section presents the growth of the sugar market in China, and shows why this element of complexity has to be introduced.

### 1.1. The growth of the sugar market in China: an economic perspective and its limitations

At the end of the 1970s, China started to liberalize her economy by introducing internal and external measures.<sup>4</sup> In the countryside, the major one was the implementation of the "responsibility system". The land was contracted to farmers (although the State retained final ownership) who were free to cultivate whatever they wanted after they delivered their rice quota to the State. A decentralization program was also introduced, which gave leverage to the districts to design their own economic policies. These two measures combined to allow each district to make use of its comparative advantage instead of focusing only on grain production. Finally, China initiated the "open door policy," which aimed to attract foreign investment and promote export-oriented manufacturing in the coastal areas, especially in the southern province of Guangdong.

The consequences of these policies led to the establishment of a strong sugarcane production base in Guangxi. The province has a favorable climate for sugarcane growing, a weak industrial base (Guangxi is the 4<sup>th</sup> poorest province in China and has a cheap and available labor force) and a mountainous landscape poorly adapted to rice cultivation.<sup>5</sup> On the other hand, neighboring Guangdong (the traditional sugarcane growing province in China) lost its comparative advantage for producing this commodity: located at the Hong Kong border, it

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<sup>4</sup> In this paper, only the general insights of these measures will be introduced. For more details, cf. Augustin-Jean (2000; 2002) and Lin, et al. (1996).

<sup>5</sup> In 2004, the GDP per head of Guangxi was only 7,196 yuan (or just over 700 euros). Cf. China Statistical Yearbook, 2005, p. 61.

benefited from huge foreign investment in light industries (garments, toys, plastics, electronics, etc.). The combined effects of these factors prompted the displacement of the sugar industry to Guangxi.

The effects of the comparative advantages are obvious: in 1978, China produced 2.27 million tons of sugar, including 251,000 tons in Guangxi (11%). In 2004, the PRC was the third largest sugar producer in the world, with a production of over 10 million tons. In the meantime, production in Guangxi has multiplied by more than 40-fold, to reach 6.1 million tons (China Statistical Yearbook, 2005: 514). Guangxi is now one of the largest sugarcane producing zones in the world in the context of increased demand, due to improving incomes in China (Engel's Law).

Nevertheless, after a decade of smooth progress, difficulties appeared during the mid-1990s in the form of fluctuations in prices and production. This was interpreted as a short term growth crisis (with production increasing more quickly than consumption), and was linked to market deficiencies that could be restored with additional market reforms (He, 1999).

Nevertheless, the crisis became deeper. The imbalance in demand and supply could not hide the fact that, despite low salaries, production costs were high, and that Chinese sugar could not compete with overseas production.<sup>6</sup> The lack of mechanization, the small size of the fields, high transportation costs, a backward technology for the mills, the lack of economies of scales were (and still are) some of the most salient features of an industry that grew up too quickly. These problems were not mere economic or even organizational problems, but also social.

Thus, a systemic approach was necessary to account for these interconnections, as one minor change could have huge repercussions for the whole industry. For example, it may seem easy for the mills – or at least possible – to employ more advanced technologies to achieve economies of scale. But then, these mills could end up with excess production capacity, and there could be increased competition with potential negative side effects.<sup>7</sup> In other words, simply resorting to the “market” would not provide a suitable solution. “Full” liberalization

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<sup>6</sup> The dumping and export subsidies of the European Union and other developed countries helped contribute to this situation. Nevertheless, this phenomenon cannot account for the fact that production prices are lower in countries such as Thailand due to economies of scale and better technology.

<sup>7</sup> The crisis and subsequent reforms will be presented in detail in Section 2.

would also push down the price of sugarcane, at least in the short term, and create disturbances that could threaten social order and the survival of the sugar industry – Guangxi’s main industry.

During the mid-1990s, it was clear that the Central Government had to tackle these issues and undertake important reforms. These reforms were eased by the long trend of production growth and became urgent due to price declines, international pressure, and WTO negotiations. But before examining Chinese reforms and the reaction of the main actors, a theoretical assessment is necessary. This is the object of the next section.

## 1.2. From markets to networks, or the social construction of the markets

The previous section sketched some elements related to sugar production and to bottlenecks existing within the industry.<sup>8</sup> While the marketing of the commodity itself is even more complex, the problems that have been highlighted have led to the conclusion that the market is much more than a simple convergence between supply and demand. On the contrary, the production mechanism proves the complexity of the social organization of the market: a change in a single element could affect the overall stability of the system, as well as market performance – and, in the end, the price mechanism. This is a typical case of embeddedness (Granovetter, 1985), which provides an impetus for people to take action at a time when reforms are still being tested and implemented. The question has to then be examined theoretically, starting with the definition of the market itself.

Economists and other social scientists perceive the market differently. For the former, the market is just another “black box” like a household or enterprise. For sociologists or anthropologists, the market is the “location” of numerous interactions and networks that influence its performance, and is hence another type of organization (Callon, 1998).

In addition, these two perceptions also differ by their degree of abstraction. For economists, the market does not have a precise existence. Seldom defined in economic textbooks, it is simply the point of convergence between supply and demand, and its existence is materialized

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<sup>8</sup> The main product of the sugar mills in Guangxi is “white granulated sugar,” which is generally packaged into 50-kg bags. This sugar is usually produced for industrial use, such as confectionary and soft drinks (Coca-Cola, for example). Sugar for final consumption (in households and restaurants) needs further processing, which is often done outside the province (in Guangdong or Shanghai), as Guangxi does not have a huge refinery capacity.



by a price. Indeed, the price of oranges is determined in many places other than in a wet or wholesale market, most of which are intangible. On the contrary, sociologists and anthropologists have been concerned with the analysis of the physical market, and they have shown that its organization influences its functioning and, beyond, the market price.<sup>9</sup> These differences make it difficult to bridge the gap between the two parties.<sup>10</sup> Thus, while embeddedness and networks are a necessary condition, as will be seen below, they are far from sufficient for conciliating the two approaches. “Intangible locations” have also left a trace that needs to be studied.

More precisely, in the case of the sugar market, where is this market to be found? In the futures of New York, London, or Zhengzhou (in northern China), or at the factory gates or within trading companies, etc.? Also, is it necessary to analyze the whole production process, including the growing and sale of sugarcane? The question is rather complicated; even in the case of the flower market described by McMillan, it is not enough to say that flowers arrive fresh at a “spot” in Holland from everywhere before being dispatched within a matter of hours to other parts of the world (2002: 4). For the author, this is proof of the natural existence of markets, and explains the buildup of technological equipment, institutions, and organizations. But this seems to forget that without these very same technologies, institutions, etc., the market would be unable to work, and thus, the universality of the market *as a concept* remains debatable. In other words, like the bazaar described by Geertz (1979) and other “spot markets,” the flower market is made up of links between agencies – links that do not stop at the physical borders of the “spot markets”.<sup>11</sup>

This is a major issue that is related to the notion of embeddedness and the difficulty of analyzing networks. Granovetter, in his seminal article (1985), pointed out that the differences between the under-socialized *Homo economicus* and the over-socialized man of the sociological tradition were superficial, as both remain insulated, whether by the absence of a social structure or the “abundance” of it. He reminded us that the “social structure” is made of networks and relationships that are specific to each individual. In other terms, networks allow people to escape from deterministic patterns (in which their behavior is dictated by the social

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<sup>9</sup> For a classic example of this second approach, cf. Geertz and his analysis of the suq in Morocco (1979). For a more challenging and recent approach related to the New York Stock Exchange, cf. Abolafia, in Callon (1998).

<sup>10</sup> As demonstrated by McMillan, an economist who (unsuccessfully) tried to find concrete examples of markets to show the validity of the theoretical concept (2002).

<sup>11</sup> For an analysis of such “spot” markets in China, cf. the special issue of *Etudes Rurales* edited by Isabelle Thireau (2002).

context, like in Bourdieu). Nevertheless, if the author provides examples in the economic field,<sup>12</sup> showing how networks matter, he still would not address the fundamental question of how to analyze them.

Since this seminal article, other authors have tackled the issue. The tendency, among economists, is to search for a compromise between the transaction cost paradigm (Williamson, 1985) and the theories of local development.<sup>13</sup> The types of links analyzed by these scholars are mostly inter-enterprises networks, and many crucial links with other associations, such as trade unions, professional associations, etc., were discarded.<sup>14</sup> Clusters and industrial district specialists have been more inclusive due to the systemic nature of their analyses.<sup>15</sup> The work of Crévoisier is especially interesting, as it aimed to linking different kinds of organizations (enterprises, but also banks, professional organizations, trade unions, local governments, etc.) in order to understand local dynamics. Theoretically, the research has the advantage of deducting territories from the existing networks rather than from an already defined geographical space.<sup>16</sup> In addition, the emphasis of the author on specific industries (clock, microelectronics, etc.) provides a missing key for understanding market construction. Indeed, if markets reflect the convergence between supply and demand and are symbolized by prices, then their analyses should encompass the whole organization, as they are much more than abstract “spot markets” of economists or a physical market (also a “spot market,” but of a different kind) of anthropologists.

With this definition, networks can be more concretely analysed. They are not uniquely inter-enterprise networks, but they are tasked with encompassing the whole diversity of social relations. In a risky or uncertain environment,<sup>17</sup> these networks form a landmark for people who are integrated into them, and constitute a way to stabilize their environment by means of the creation of norms or conventions. In other words, what makes the environment more secure is the sense of familiarity based more on networks, norms, and conventions than on

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<sup>12</sup> These include the interlocking directorate, subcontracting, the reputation of workers inside and outside their enterprises, etc.

<sup>13</sup> Williamson himself noted the possibility for this compromise. Cf. for example the interview he gave to Richard Swedberg, in Swedberg (ed.), 1990.

<sup>14</sup> Inter-enterprise links were introduced to protect against transaction and organization costs.

<sup>15</sup> Cf., for example, the work undertaken by Becattini (2005) and Crévoisier in economics (Crévoisier and Gigon, 2000; Kébir and Crévoisier, 2004), or Benko in economic geography (1992).

<sup>16</sup> On this point, cf. also Rallet and Torre, 2004, and Louis Augustin-Jean, 2005.

<sup>17</sup> The difference between risk and uncertainty adopted in this paper follows Frank Knight’s classic definition: a probability can be attached to a risky event, but not to an uncertain one.

pure individual relationships. Within this pattern, cheating is no longer an analytical problem, as cheaters are restricted by a punishment that may exclude them from networks,<sup>18</sup> while the organization of the market remains.<sup>19</sup>

Then, how is it possible to conciliate this network analysis, which encompasses a great variety of networks, with a market organisation that is larger than the physical space of a wet market (i.e., with what can be termed the social construction of markets)? As networks cannot all be taken into account, the solution has to be selecting pertinent networks. It is worth noting that some critical economists have developed a tool that aims to insulate the various links that exist within a given industry: the value chain or a commodity chain analysis.<sup>20</sup> “The value chain describes the full range of activities which are required to bring a product or service from its conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumer, and final disposal after use” (Tallec, 2005, p. 3).<sup>21</sup>

In other words, the value chain is a powerful tool for insulating and analysing the different categories of agents that enter the organization of the market. The value chain also gives an important place to their relationships, and aims to understand the power relations that exist

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<sup>18</sup> There are many examples of this attitude. Cf., for example, the self regulation of Chinese tontines (Pairault, 1990; and for the case of Chinese restaurants in Paris, Augustin-Jean, 1995).

<sup>19</sup> The question of opportunistic behaviour was tackled by Granovetter: “the embeddedness argument stresses instead the role of concrete personal relations or structures (or “networks”) of such relations in generating trust and discouraging malfeasance.... The second [point] is to insist that while social relations may indeed often be a necessary condition for trust and trustworthy behaviour, they are not sufficient to guarantee these and may even provide occasion and means for malfeasance and conflicts on a scale larger than in their absence”. The author went on to describe the transactions for diamonds: “like other densely knit networks of actors, they generate clearly defined standards of behaviour easily policed by the quick spread of information about instances of malfeasances. But the temptations posed by this level of trust are considerable....” (Granovetter, 1991 [1985], p. 60-63).

In short, the argument of Granovetter is closed to the theoretical point addressed here. The problem – not addressed in this article – is the way norms and conventions arise, as Nee and Ingram have rightly observed. Nevertheless, the authors did not really focus on the creation of networks and the conventions that accompany them, but on group behaviours, which are a different matter: the “socialization” of human beings is at stake, and cannot be fully understood by means of the game theory. As useful as it is, game theory cannot supersede a direct observation of networks (cf. Nee and Ingram, in Swedberg (eds.), 2005, vol. 1, p. 86-112). This is why Latour, recalling Simmel, rightly remarked that individuals can calculate only if they are at least three (unlike in the basic prisoner’s dilemma game): with fewer people, the social dimension is simply absent, as coalitions are impossible (Callon, 1998, p. 9-10). Similarly, the multiplicity of networks that agents integrate multiplies their calculative capacity and the possibility of malfeasance. Since the major subject addressed in my article is the analysis of the networks, which are encompassed in market organizations, the origin of the production of norms was left aside.

<sup>20</sup> Or the “étude de filière” developed by the French scholars at INRA. To see the distinction between the two approaches, cf. Raikes et al. (2000).

<sup>21</sup> The differences between value chains, commodity chains, and *études de filière* will not be dealt with in this article.

within a given industry.<sup>22</sup> As such, it provides an indispensable complement to the network theory, as it can determine important networks and establish a hierarchy between them. Therefore, not only enterprises are related to each other (by means of contractual arrangements, as with the new institutional economics), but they are related to a whole set of organizations. In other words, the value chain encompasses the whole variety of agencies and networks that enter into the composition of the industry. The market is not anymore conceptual, like in the economic theory, or localized, like in anthropology, but is defined by this density of networks. It becomes then possible to understand the role of each category of agents in framing or, in the case of the Chinese sugar, reframing the industry according to their respective position and their power relationships. This is the object of the second part of this article.

## **2. Elements for a Social Construction of the Sugar Industry in Guangxi**

While the population of Guangxi totals 48 million, more than 20 million deal with cane or sugar production (i.e., over 40%). If farmers represent the highest proportion, a great diversity of agents is currently involved in the business: workers and managers in nearly 100 sugar mills, management teams at the sugar groups' headquarters, local and provincial authorities, consultants, wholesalers and retailers, and middlemen of all kinds. Some of these categories are new, or have been transformed by institutional changes: the end of the 1990s was a period of privatization, bringing new opportunities, as well as challenges, to an industry undergoing restructuring. The approach in this section is systemic and concentrated at the local level.

### **2.1. The Direction of the Reforms**

The social and economic changes experienced by the Chinese countryside since the start of the reforms in 1978 have been astounding, bringing about a new type of relationship between farmers and the local authorities. The increased demand for sugar has pushed up the production of sugarcane and prompted the creation of numerous small state-owned sugar mills (which numbered over 110 at the end of the 1990s).<sup>23</sup> Therefore, there was an

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<sup>22</sup> As it focuses on the notion of added value, it is also a powerful tool for determining the category (or categories) of agents who are making the largest profits. The proponents of this theory aim to propose a better sharing of profits, especially between agents located in developing and developed countries. On this approach, cf. Kaplinsky, 2000 and Daviron and Ponte, 2006, with respect to the coffee industry.

<sup>23</sup> Gu, 2000; Jiang, 2001.

interrelation between the local authorities and the state-owned enterprises (SOEs) on the one hand and farmers on the other hand. The interest of the first group was to maximize the profits for the mills:<sup>24</sup> in the context of decentralization, the local authorities, which were made responsible for their own budgets and could not rely on financial transfer from the Central Government, depended heavily on the profits of the sugar mills. Therefore, both sides had an interest to stimulate production, while at the same time keeping the price of sugarcane at its lowest possible level.

This system was sustainable as long as farmers could make limited profits. Social control mechanisms were implanted to ensure that farmers would continue to produce growing quantities of sugarcane and would not shift production to other crops. The state was the underwriter of the stability, controlling the prices of the sugarcane and sugar. During the mid-1990s, a crisis and international pressure prompted the Central Government to implement reforms, and changes in the relationships between farmers and the SOE/local authorities occurred.

At that time, most mills were operating at a loss. Production had grown faster than consumption, and this imbalance was aggravated by low international prices. The liberalization of sugar prices in 1991 (while the price of sugarcane remained fixed) put even more pressure on the mills, which were mostly using backward technology, even compared to other developing countries such as Thailand and Mexico (Ma, 2001). The result was to create huge tensions in the relationship between farmers and the local authorities/SOES. As the mills were losing money, they could not pay the farmers and issued “white tickets” (i.e., IOUs) to be paid at a later stage. This tension created the conditions for social strife, and the risk of this was especially high, since the problems of the industry were systemic and not short term.

Therefore, reforms were necessary. While the development of the sugar industry has been recent, adapting to the changes has been difficult in this poor province, as there are not many economic alternatives, and sunk costs have prevented a major change of the province’s industrial structure. Reforms also brought about new agents and changed the power

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<sup>24</sup> It is worth noting that the concept of profit was relatively new at that time, and was related to a change in the accounting system (this change at the enterprise level was later followed by a change in the national accounting system and the introduction of the notion of the GDP). This is the subject of a separate work. The modification of the firms’ accounting system was described by Chiappello and Ding, 1998.

relationship in this fundamental activity. The focus, then, has been on the consequence(s) of the actions of these agents. The parallel with North (1992) is clear – changes in relative prices provoked institutional changes<sup>25</sup> – but the parallel stops here, as these institutional changes have provoked an evolution of the agent’s behavior and, in turn, new institutional changes.<sup>26</sup>

In dealing with the situation, the Central Government had many conflicts of interest to take into account. First, there was a need to protect the interests of farmers, and to find a solution to absorb the “white tickets”. Second, the government had to find the right policy to restore the profitability of the industry in general and the mills in particular. This was not only a necessary condition to fulfill the first objective, but also a solution to guarantee enough revenue to local governments. Last, China also had to take into account the pressure from the international community. She was negotiating with her international partners for entry into the WTO, and the sugar industry was only a small slice of her international trade. In short, Beijing felt it necessary to fulfill her partners’ wishes and liberalize the sugar industry.

These constraints were included in the decision making process of the central leadership. From the beginning, it was understood that a full liberalization of the industry was not a practical solution. International prices were low, partly due to dumping and subsidies,<sup>27</sup> and China was not in a position to compete efficiently. At best, full liberalization would lead to a short term deterioration of the economic and social situation, and perhaps to unrest. Even though consumers would eventually benefit from cheaper prices, there was a danger for the very survival of the industry, which is so fundamental to the provincial economy. In short, the neoclassical argument that emphasizes overall gains arising from liberalization collapses as soon as the situation is described in its full complexity, including in its social and political aspects.

On the other hand, a certain dose of liberalization was necessary. Enterprises were badly in need of capital, which could not be injected by the Central or provincial governments. Major technological improvements were also needed. Partial privatization was thus seen as a

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<sup>25</sup> Despite these comments and nearly 15 years after Douglass North wrote his famous essay, it appears that changes in relative prices and in individual tastes are insufficient to explain institutional evolution. For a contradictory example in China, cf. Augustin-Jean, 2000; 2002.

<sup>26</sup> This is far from a tautology; it is simply a sign that changes are ongoing: networks and relationships create a situation in which an equilibrium is impossible to sustain.

<sup>27</sup> For example, the export subsidies of the European Union were considered dumping by a panel of the WTO in 2005. Subsequently, as well as for other reasons that are beyond the scope of this article, the EU has recently started to implement a deep reform of its sugar industry (*Le Monde*, 24<sup>th</sup> November 2005).

necessary evil, and the creation of groups was encouraged. Groups were seen as a way to save on costs, to create economies of scale, to ease the way for the introduction of new technologies, and, in the end, to restore profitability. In the short term, they were tasked with absorbing all the remaining “white tickets” and restoring the balance of the local budgets. In a few years, 15 major groups were constituted with the encouragement of the provincial government, including private groups from Guangxi and elsewhere in China, state groups (some listed on the stock exchange), and foreign groups (namely: British Sugar and the Guangxi Nanning East Asia Sugar Co., Ltd., part of the Mitr Phol Group in Thailand).<sup>28</sup> At the same time, there was the need, well understood by the government, to maintain social stability and protect farmers.

## 2.2. Control and Power: a tentative explanation of the direction of the reforms

The reforms described in the previous section had the effect of increasing the organizational complexity of the sugar industry, as well as multiplying the number of categories of agents who interact at the local and provincial levels. This evolution was not the product of a smooth transition towards increased efficiency, but was also due to competition and the conflicting interests of all parties, depending on their position within the system. It is worth noting that if some these categories of agents are new, they are generally composed of former bureaucrats or agents from the state system who previously worked in the industry. After the reforms, they maintained contact with their former employers.

Consequently, in this context of rapid changes and institutional reforms, there has been increasing confusion concerning the inclusion of individuals into predetermined categories or groups, which are becoming blurred and difficult to trace. In other words, agents are belonging to an increasing (and sometimes conflicting) number of groups, which they can manipulate according to their interests. As such, the modification of the institutional context was also due to a deal struck between agents, and there is no guarantee that this context would improve, as the embeddedness and networks of Granovetter are as competitive as they are collaborative. As indicated earlier, the multiplicity of groups that agents have integrated into has introduced greater uncertainty in relation to their actions, and in turn, has increased the

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<sup>28</sup> Cf. the website of British Sugar <http://www.britishsugar.co.uk/RVE2f631f8c15f044089c0a2739ba5c814f,..aspx> and of the Mitr Phol, [http://www.mitrphol.com/index\\_eng.htm](http://www.mitrphol.com/index_eng.htm).

potential instability of the industry. Decisions made by individuals to protect themselves from risks may paradoxically lead to an increase in these risks later on.

Therefore, the liberalization program did not lead to a simplification of the market, as predicted by neoclassical economists. At the same time, the provincial authorities wanted to keep control over the industry for two main reasons. First, the disengagement of the provincial authorities would probably cause great strain to the industry. During the WTO negotiations, sugar was seen by local agents as having been abandoned by the Central Government in order to grant greater advantages to other sectors.<sup>29</sup> Second, since sugar is one of the most important industries in Guangxi, it is a powerful tool for the provincial government to control its economy, as well as for the agents involved in its management.<sup>30</sup> Any change in Guangxi's sugar market is thus a sensitive and political issue and subject to all kinds of manipulation. With these constraints in mind, the remainder of the article deals with changes at the local level.

One of the most urgent tasks for the governments was to restore the confidence of the farmers. This was partly achieved in two ways. First, the price system remained unchanged, with sugarcane prices fixed by the provincial authorities. This measure aimed to guarantee and index farmers' profits to the prosperity of the industry.<sup>31</sup> When the market price of sugar increases, the minimum price of sugarcane automatically follows. The result of this system has been to integrate farmers more deeply into the organization of the production (which was seen as indispensable to stimulate their zeal for growing sugarcane), but also, in an industry in which the cost of the raw material (the sugarcane) exceeds 60% of the production cost, it has the disadvantage of suppressing an element of flexibility for the mills, which cannot easily adapt to changes in the economic situation.

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<sup>29</sup> This complaint was raised by nearly all agents (scholars to civil servant, consultants, factory managers, etc.) I met during my fieldwork from 2004 to 2006.

<sup>30</sup> The Central Government has not abandoned Guangxi province. Based on the comparative advantage theory, it decided that Guangxi has a location advantage as a China's door to Southeast Asia. In the past two years, the ASEAN-China exhibition was organized in Nanning (the capital of Guangxi) in order to attract investors. While this policy may have benefited Nanning and other cities, its effect on local and agricultural development remains to be seen.

<sup>31</sup> The success of this measure is partial, and sporadic social troubles are still in force. Many reasons are put forwards: expropriations by the local authorities, corruption, constraints linked to the business practices, etc. Nevertheless, farmers seem now regularly paid, which removes an important source of protest (interviews at the local level with farmers, local cadres and factories' managers, February and August 2005 and March 2006). Other reasons for protest will be detailed below.



The second means was a partial privatization. Some factories were sold to private groups, which were able to repay the IOUs to the farmers. Further mechanisms were implemented in order to guarantee swift and regular payments to the farmers for their sugarcane (payments had to be made no later than two weeks after the sugarcane was delivered to the mills). Nevertheless, these measures only displaced the problem: the long term survival of the industry also goes hand-in-hand with a certain level of profitability for the whole industry. Private or not, groups cannot inject money continuously to cover the losses of the sugar mills. This is a difficult matter because of the high fluctuations of sugar prices nationally and internationally, and because the mills cannot adjust according to the prices of their inputs (sugarcane, labor, energy, etc.).

Extra mechanisms were therefore added. For example, one of the functions of the state reserve was to create a buffer to partly insulate mills from fluctuations in the market. This reserve is a tool for managing sugar imports and stabilizing prices.<sup>32</sup> Yet, the reserve has merely been an element of macroeconomic control, as it cannot by itself guarantee the profitability of the industry. It has to be complemented by measures at the micro level of the firms.

Therefore, it was rational for firms to rely on economies of scale in order to lower their fixed costs and expand their production bases, and this decision was supported by the provincial government. This was partly accompanied by a technological upgrade, and indeed, average pressing capacity increased from 2,400 tons at the end of the 1990s (Ma, 2001) to over 4,000 tons by 2004.<sup>33</sup> Even before their perverse effects were known, these measures seemed necessary, but far from sufficient, to boost the productivity of the industry to allow it to compete at an international level. As Kaplinsky noted:

[I]n the context of the value chain, “when threatened by competition, there are four directions in which *economic actors* can move; these paths are not mutually exclusive:

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<sup>32</sup> In abiding by her WTO agreements, China lowered her tax on sugar imports. In the past few years, the low international price of sugar has meant tough competition for China’s sugar industry, resulting in the underproduction of about one million tonnes (covered by imports). In the context of low prices, the reserve ensured a swift sale of domestic production. Nevertheless, high prices during the 2005/2006 pressing season prompted the state to sell the stocks to cap prices. The results of this policy have been limited.

<sup>33</sup> This is still low compare to international practices, but the number of mills with a daily pressing capacity of over 10,000 tons is increasing.

- increasing the efficiency of internal operations such that these are better than those of rivals
- Inter-firms linkages can be enhanced to a greater degree than that achieved by competitors
- Introducing new products or improving old products faster than rivals
- Changing the mix of activities conducted within the firm or moving the locus of activities to different links in the chain (...)” (Kaplinsky, 2000: 31).

The third item is difficult to fulfill in the current situation, while the last one is under consideration and its results are far from guaranteed.<sup>34</sup> Therefore, changes have been mainly concentrated in first and second categories, which are “unlikely to realize a greater share of value chain returns” (*ibid.*). The second item (the constitution of groups) has already been scrutinized.

Concerning the first item, economies of scale and technological improvements have consequences that are far beyond the abilities of simple technological change to encompass the overall local economic and social organization. With economies of scale, an increased supply of sugarcane for the mills is necessary, which can only be obtained by increasing the production of sugarcane and/or by buying them from more distant locations. Both methods come with potential problems.

Under current cultivation methods, peasants find it difficult to increase their production enough to feed the mills, whose daily pressing capacity had sometimes been multiplied fourfold.<sup>35</sup> In order to stimulate their enthusiasm, and to prevent possible unrest, mill managers and local cadres are dispatched to the countryside. Some farmers have also been recruited by both parties during the year to organize the production (from seed distribution to harvesting and transportation to the mills) and to report on the general situation. This practice is facilitated by the fact that the brigades and teams of the Maoist period, which were formally dismantled in the 1980s, still informally exist, at least in some areas.<sup>36</sup>

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<sup>34</sup> Alcohol, paper and fertilizer are by-products of the cane sugar industry. Their production is extremely polluting, and subject to an intense competition. In the current situation of high international oil prices, the provincial government is pushing for the production of alcohol, copying the Brazilian experience (interviews with the provincial agricultural bureau, March 2006).

<sup>35</sup> From 2,500 or 3,000 tons per day to over 10,000 tons.

<sup>36</sup> The role of the “former” team leaders remains important (Wei, 2006). It is remarkable that the system and the solutions adopted are similar than during the collectivization era. The main changes are that farmers are not forced anymore to produce certain goods, only “strongly encouraged” to do so, and they produce economic crops instead of rice. They also get more financial rewards from their work, which is an important element for stability (Wei, 2006).

Despite these mechanisms, the production of sugarcane is still far from enough to fill the requirements of the mills. The other solution is to buy sugarcane from more distant locations, but this is curbed by competition and institutional constraints. More precisely, mills are administratively forced to buy their sugarcane from specified zones so that each one can secure a minimum amount of sugarcane for its operations. This policy is in direct contradiction with the economies of scale that should go with a reduction of the number of mills. The provincial authorities push for this rationalization, but with limited success. At the local level, the loss of a sugar mill entails lower revenues for the local government, and hence a greater difficulty for it to meet its expenses and a greater risk of social instability.

Consequently a genuine “sugarcane war” between mills has developed. The provincial regulation that specifies that peasants are only authorized to sell their sugarcane to a specified mill from which they receive inputs (seeds, fertilizer, etc.) has to be enforced by the police. Mills also have mechanisms by which they control each field under their supervision by computer (which is especially useful for organizing the harvesting and the collection of the sugarcane). Despite these measures, which are hardly in line with the principle of a liberal economy, the problem intensified during the 2005/2006 pressing season due to the high price of sugar and the related expected profits. Local governments implemented a coordinated cell, which included representatives from all bodies directly and indirectly concerned with the management of the pressing season (i.e., the sugar bureau, the tax office, the agricultural bureau, the police, etc.). Nevertheless, all these measures (among others) did not deter mills and farmers from “smuggling” sugarcane from one district to another.

Therefore, the pattern showed how these relaxation measures, like privatization and the determination of the price of sugar in the market, did not lead to a full liberalization of the industry, but rather to a reinforcement of governmental control. Many interests worked to jeopardize this supposed liberalization – which could eventually lead to the death of the industry. The interaction of these different interests explains the current shape of this industry – which will go through further modifications in the next few years.

For example, the traditional alliance between local authorities and mill managers is still strong, but has been eroded by partial privatization and the relationship of the mills with their headquarters. On the other hand, local authorities remain at the centre of the system, as they control rare resources and the population to a certain extent. Nevertheless, this population is

still better off than before, as it has seen some of the profits generated by the industry and because it can resort to Hirschman's paradigm, "voice" or "exit," two options that are feared by the mills and local authorities. In this situation, the social order remains precarious. Even in the context of growth, the future remains subject to uncertainties and risks.

Most interestingly, this evolution shows how a liberal system inspired by a neoclassical paradigm could not be fully implemented. The existing conditions at the local level prevailed and forced a compromise that led to increased uncertainty. In other words, the measures taken by the agents in order to protect against this uncertainty ended up increasing it. This situation can be understood only by focusing on the networks between the agents in a descriptive and systemic way. The multiplication of agents' categories, such as the local authorities, farmers, team leaders, the police, truck drivers, the private sector (or mill managers, to be more precise),<sup>37</sup> etc. inflates the networks and helps us understand the shape of the markets.

## **Conclusion**

In this article, it has been seen how the Chinese Government has been pushed by the international community, as well as by local conditions, to liberalize the sugar industry. This liberalization included the introduction of foreign capital, a certain level of privatization, the lowering of import taxes and duties, and resorting to the stock market. Nevertheless, the analysis demonstrated that these measures fell short of fulfilling their claimed objectives, due to existing social and economic constraints.

For example, the lowering of tax added to the competition. This seems a positive outcome of liberalization, but when nearly half of the population makes a living from cane sugar or sugar cane, the temporary pressure within the industry is likely to lead to social unrests. Similarly, the privatization was a way for the government to inject capital in the industry, but at the same time, there was a vital need for various authorities to control the industry. The price liberalization could not be complete, and some mechanisms were introduced in order to link the profits of farmers to those of the sugar mills. As it has been shown, the consequences have been increased social tension and the development of a "sugarcane war".

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<sup>37</sup> Many managers are former cadres from local governments. The links that exist between these two pillars of authority explain their coordination of action, and provide a stabilizing element to the system. The place lacks to develop this argument further.

In this context, the question of price is increasingly complex. At this moment, it is only possible to indicate clearly that many complex phenomena are at work to influence the evolution of the price, and further research is necessary to analyze this evolution more precisely. Extra elements, such as the behavior of food companies and the situation of the commodity and futures in China, also need to be added.<sup>38</sup> In any case, it is clear that, despite their fundamental importance, supply and demand are only one element in the puzzle.

Finally, this article showed how it is possible to integrate networks into the description of the markets. These markets were not theoretically or geographically located, but they constituted networks and interrelations. As such, they encompassed the whole value chain, from the manufacture of inputs (the sugarcane) to the sale of the sugar. Many agents, therefore, had to be included – farmers, local authorities, managers, as well as agents who did not appear in the context of this paper, such as shareholders, wholesalers, etc. They often have good, but sometimes conflicting, relationships with each other. The second type of relationship has often been neglected by scholars, but both are equally important and allow researchers to understand the shape of the market. This is of special importance in a transitional economy such as China's, in that its institutional context is always evolving, but is still influenced by its socialist roots.

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<sup>38</sup> The futures for sugar were created only last January. Their effects are still limited and unknown.

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