Futures Contracts And Financial Innovation: The Initial Years Of BMSP (1917-1958), The First Futures Exchange of Brazil

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Abstract

One of the most important aspects of commodities and futures exchanges is the launching of a new contract. There are some studies analyzing the reasons for success or failure of new contracts, based on the financial literature. This paper utilizes the tools of economic history to analyze the development of a futures contract for cotton by the São Paulo Commodities Exchange (BMSP), during the period 1917-1958. The research used statistical records of the BMSP archives. Most mature economies, like the United States, evolved from the trading of forward contracts to the trading of derivatives contracts. Developing countries, like Brazil, tried to jump from cash markets to futures markets in commodities, without first developing forward markets, as shown by the history of the cotton contract. The main conclusion is that in a developing country, in addition to all relevant factors applying to advanced countries, it is necessary to organize the production chain of the business, and coordinate efforts in the areas of learning, innovation, technology and, institutional development.

Resumo

Um dos temas mais importantes da bolsas de mercadorias e futuros é o lançamento de um novo contrato. Existem alguns estudos que analisam as razões do sucesso ou fracasso de novos contratos, com base na literatura financeira. Este artigo utiliza as ferramentas da história econômica para analisar o desenvolvimento de um contrato de futuros para o algodão pela Bolsa de Mercadorias de São Paulo (BMSP), durante o período de 1917-1958. A pesquisa utilizou os registros estatísticos de arquivos BMSP. Em economias mais maduras, como os Estados Unidos, essa evolução se deu a partir da negociação de contratos futuros para a negociação de contratos de derivativos. Os países em desenvolvimento, como o Brasil, tentaram saltar de mercados à vista para os mercados futuros de commodities, sem primeiro alcançar o desenvolvimento de mercados a prazo, como mostra a história do contrato de algodão. A principal conclusão é que, em um país em desenvolvimento, além de todos os fatores relevantes que se aplicam a países avançados, é necessário organizar a cadeia do negócio de produção e engajar os esforços nas áreas de aprendizagem, inovação, tecnologia e desenvolvimento institucional

GENERAL OBJECTIVES

The derivatives markets (forward, futures, options and swaps) are gaining importance in the Brazilian economy, repeating a phenomenon which happened in some of the most important market economies of the world. Brazil today is one of the top three world producers and exporters of the most important agricultural commodities, and doubtless the commodities and futures exchanges have played a role in this process.

A commodities exchange dealing with a whole set of financial instruments – that is, going beyond the spot and physical markets and becoming apt for trading derivatives - may be regarded as an organization based on management models and norms of conduct and performance, which offers services for trading, hedging, and price discovery.

The São Paulo Commodities Exchange (BMSP) was the pioneer derivatives exchange of Brazil. It constitutes a fascinating case study, since the exchange was very important in the cotton business and in the trading of agricultural commodities.

During 75 years, from 1917 to 1991, the BMSP traded contracts in several agricultural commodities, and, during its last years, also in financial instruments. Nevertheless, BMSP, during its existence, played a more significant role in the negotiation of cotton market instruments (spot, forward and futures), with spillovers in several aspects of the production and commercialization of cotton.

This paper will focus on the trading of cotton contracts during the initial years of the BMSP. It will examine, in particular, the efforts made by the BMSP to organize the cotton market in order to stimulate the demand and supply of cotton futures contracts.

The theoretical problem we want to focus in this paper is related to the advantage of being a backward country trying to set up a modern institution – in this case, a commodity exchange – without going first through all stages of downstream and upstream links in the value chain that were the experience of the developed countries when they organized their commodities exchanges. In other words, we want to use the experience of BMSP as an example of a creation of an institution that jumped the “natural order” of the usual structure of a market chain based on a primary commodity (cotton).

We intend to show that in a developing country, in addition to all relevant factors applying to advanced countries, it is necessary, in order to launch a new futures contract, to organize some of the downstream and upstream segments of the production chain of the business.

Before the contract is offered to the market, it is necessary “to create the market”. In other words, the exchanges in developing countries have to offer services and organize sections of the production chain of the commodity; otherwise the contract will not attract liquidity. In order to make viable the trading of cotton contracts, the BMSP had to engage itself in the areas of learning, innovation, technology and institutional development.

Of course, as shown by the history of the BMSP, this action may be a necessary condition, but not a sufficient condition for the continuous negotiation of the contract in the long term. In the 1950s, the government promoted several economic policies (like price supports) and also promoted changes in taxation, that resulted in the cotton futures market loosing considerable ground, and practically caused it to disappear.

Interestingly, however, in spite of the economic importance of these institutions, there are almost no published studies about the economic history of the derivatives markets. There are also no published studies directed to the development of the derivatives markets that use the concepts and tools of economic history. The present paper is an effort in that direction.

The BMSP's economic history can be useful for two additional objectives. First, as a general view of the role of institutions in economic growth, in particular what is called in this literature as the diffusion of knowledge, spillover effects, and the strengthening of a production value chain. Second, as a case study of a financial institution from a developing country attempting to replicate – and having to adapt to local circumstances - an organizational model designed for a developed country.

THE BACKGROUND OF THE BMSP: BRAZILIAN ECONOMY AND FINANCIAL DEVELOPMENT

During the Portuguese Colonial period (1500-1822) and from Independence until the end of First World War (1822-1918), Brazil was a country specialized in commodities. From the arrival of the Portuguese, beginning with Brazilian hard wood ("Pau Brasil"), and moving to sugar cane, gold, diamonds, rubber, coffee, and other agricultural or mineral commodities, what is today Brazil always had a presence in the international commodities market.

During the 19th century, coffee was by far the major crop and source of revenue for the country. There was a fortunate – and rare – conjunction of a rising world demand, availability of suitable lands, and adequate supply of labor, and therefore a rising domestic supply of coffee, and an upward trend of coffee prices in real terms in the international coffee market.

With a growing population, an increase of GDP, the occupation of virgin lands further away from the coast, and European immigration (in addition to Portuguese, there was a considerable influx of Germans, Italians, Spaniards and Japanese immigrants), by the end of the 19th century economic forces created the conditions for industrialization. Cotton production and manufacturing would play an important role in the new stage of Brazilian economic growth.

Brazil was part of the British economic area of influence during the 18th and 19th centuries and until the First World War. Therefore, the financial development of the country followed basically the same patterns and progress as in other parts of the world under the influence of Free Trade and the gold standard.

This financial support was largely for international trade related activities. The financing of exports and imports, management of external debt, capital inflows and outflows, and exchange rate transactions, required – and received – specialized support from institutions in Great Britain and other European countries.

With the beginning of industrialization in Brazil, and with the increasing economic importance of the domestic market, there was a demand for domestic financial and capital markets. This market segment would be occupied basically by Brazilian domestic institutions.

The first Brazilian commercial banks were created in the second half of the 19th century, and the coffee plantation economy began to stimulate and demand specialized financial institutions and instruments.

The first stock exchange was created in Rio de Janeiro in 1850, and other exchanges followed. There was a boom in capital markets activities raising funds for infrastructure projects including railroads, street cars, ports and electricity, sugar factories, and textiles. Some of the public offerings of company shares were made simultaneously in the Rio and the London stock exchanges.

On balance, it is reasonable to argue that the domestic financial sector, if not ahead of demand by the real economy, also was not lagging in the supply of institutions and instruments adequate for the changing Brazilian economy.

One aspect that is worth mentioning, since it is an important feature even today in Brazil's financial development, is that the country followed with attention the financial modernization taking place in Europe and the United States, and tried to emulate and adapt – with a time lag as short as possible – the financial innovations taking place in these more advanced countries.

The creation of a specialized exchange for price hedging in agricultural commodities would fit in this scenario.

COTTON MARKET IN BRAZIL

The state of São Paulo was at the beginning of the 20th century – and still is today – the most important economic region of the country. It was the major coffee producer in the world. After the turn of the century, however, the coffee economy was showing signs of overproduction and market stagnation.

The coffee economy had been in a crisis since 1909, and coffee planters used their political leverage to receive price support. As a result, coffee stocks had to be purchased and stored by the government, and paid by the issue of new currency.

There was a concern in the state of São Paulo that with a trend of production rising much above international demand, coffee prices and income would decline. The 1929 Crisis hit heavily the Brazilian coffee economy.

Meanwhile, at the end of World War I, the cotton supply was growing. Cotton was replacing decaying coffee plantations in several areas of the state of São Paulo. In 1923, São Paulo already accounted for nearly a quarter of the Brazilian cotton production. This process of agricultural diversification away from coffee, however, was prematurely abandoned due to the recovery of coffee prices in the 1920s. It would return, with force, only in the mid 1930s.

During the period 1880-1930, the industrialization of Brazil was based on non-durable consumer goods, especially textiles. Much of the capital investment in industry came from coffee plantations.

By 1920, 31 percent of the Brazilian manufacturing sector was located in São Paulo, with a significant proportion of textile companies. From then on, São Paulo would consolidate its position as the nation's economic powerhouse. The 1930s and 40s, therefore, were the golden decades of the cotton agribusiness in the State of São Paulo.

INSTITUTIONAL BACKGROUND FOR LAUNCHING A NEW CONTRACT

Launching new contracts for trading in the futures markets is an expensive and risky business. The literature about the derivative markets has discussed this topic almost entirely from a financial view point. This article innovates, and uses the economic history approach and methods to analyze the development of a futures contract for cotton by the São Paulo Commodities Exchange.

The economic history of commodities exchanges in countries like the United States, Japan, and Holland shows that there is a long time span in the institutional process of derivatives market creation.

There is a long time interval between the beginning of the spot market, which in general is followed by the development of a forward market, and after a further lag, by the creation of a futures (and options) market.

In these countries, the long institutional process of the consolidation of the exchanges was done in tandem with the development of futures operations.

Developing countries like Brazil observe the institutions of developed countries, and try to emulate and introduce similar entities in their domestic economy. They attempt to do so in a much shorter time interval.

There are advantages in being latecomers, but there are also problems related to the "skipping" of stages in the process. In the case of BMSP, the problems perceived were in the areas of learning, training of specialized labor, and cotton production.

Trading began as part of the development of civilization. Most modern practices of trade were developed in Europe from the eleventh to fourteenth centuries. The first move from cash to forward markets appeared with the trading of letters de faire in Europe, initially between first buyer and seller. Later on, there developed forward markets in which these instruments could be traded among third parties before delivery occurred.

Modern futures trading through organized exchanges started at the Chicago Board of Trade after the Civil War. Futures represented a stage of revolution in the secular experience of forward grain contracts. These contracts had forward commitments calling for deferred delivery, specifying a standard quality commodity at an agreed price to be paid on delivery. Although contributing to reduce risks of pricing and financing, they had several risks related to transaction costs.

The principal transactions costs were the counterparty risk for delivery and payments, and in addition the difficulties of barter related to contract size, maturity date, quality specification, and place of delivery.

The system of forward contracts continued to develop and evolve, and gradually transformed into futures contracts, in a process that lasted about fifty years. In order to make them distinct from forward contracts, the futures contracts standardized several features (contract size, grading definitions, delivery procedures), and began to be traded on an exchange with governance, offering open reports, and requiring margin deposits in order to guarantee performance.

Later on, in the 1880s and 1890s, the market created an instrument for offsetting a contract before maturity, and organized a specialized clearing house as third party for all transactions.

The new exchanges, in the developed countries, were organized under corporate laws strictly to trade futures contracts, but these contracts were basically financial derivatives.

Developing countries, like Brazil, have strong cash agricultural and other commodities markets. Is it possible to start trading futures in these commodities without first evolving from forward contracts?

This article tries to answer this question by presenting the history of the futures contract for cotton in the São Paulo Commodities Exchange.

THE ECONOMICS OF LAUNCHING A NEW CONTRACT

A futures contract is a standard agreement between two parties, that obliges one party to sell and the other to buy a certain quantity and quality of cotton at a given price, at or before a certain date in the future.

A standard contract of cotton needs to present several specifications, and each is important to allow regular trade and credibility. They are shown on Table 1:

TABLE 1 – Specifications of a Standard Contract

SPECIFICATIONS	COMMENTS
object of the contract	Cotton
type of market	Future
size of contract	quantity volume standard set by the exchange, in general related to the typical cargo, like the capacity of a truck or train wagon
type of pricing	example : Brazilian currency/ unit of weight
settlement calendar	expiration or maturity date
number of maturities dates	examples: cotton futures contracts for May, June, July, August, etc.
last day of trading	in general, from 3 to 5 days before expiration
quality of cotton	in accordance with benchmark standards
date of delivery	of the cotton sold
location of delivery	To be specified by the contract
settlement mechanism	To be specified by the contract

Source: organized by the author, based on his experience as director of agricultural contracts of BM&F, 1991-95.

In addition, there are detailed procedures established in the contract for the delivery of cotton when the contract expires. Most contracts are settled without delivery, by the buyer selling another contract, or by the seller buying another contract for the same maturity date.

The key word is standardization. All the conditions under which the cotton will be transferred from seller to buyer are established by the exchange before the transaction begins. The only thing left for the parties to trade and fix is the future price.

Exchanges, in general, follow basic rules about margins of guarantee and daily margin adjustments, due to changes in prices from the starting day of negotiation to the expiration date of the contract. Everything else is organized and set by the exchange under certain standards.

It is very important that no ambiguity exists, and that all the items and conditions are understood and agreed by the parties involved in the negotiation of the contract. Contracts, in general, have several pages and long lists of details.

The economic literature points to a list of requirements for a contract to be successful. One fundamental question is to ask if the existing economic conditions are favorable for the introduction of a new derivative contract. This is the question that is the focus of the article[1] .

The world experience shows that several commodities and financial instruments, in principle, can be negotiated in the futures market. There are no precise formulas to indicate ex ante which commodities or financial instruments will succeed. The exchanges, after undergoing the huge investments for the building, trading pits, advertisement, organization, clearing houses, and other areas, have considerable economies of scope for launching new contracts.

The major problem, however, is not how to design a new contract. The real problem is how to acquire liquidity, how to have a substantial number of hedgers and speculators engaged in daily negotiations.

The accumulated experience of exchanges located in different countries points to several factors to be taken into account. There must exist a large and active market for the physical commodity, since the larger the market, the higher the likelihood of success of the derivatives contract. The participants in the physical market need to have a link with the futures market, and vice versa, in order to allow a logical and consistent connection between spot and futures prices.

The market needs to be competitive in all links of the production chain. Ideally, there must exist large numbers of producers and consumers in both the agricultural and the industrial sectors of the cotton agribusiness, to guarantee a free formation of prices. If in one of the chains there is a "price maker", this will violate the free formation of market prices.

The product must be homogeneous and undifferentiated, to allow interchange during delivery or trading. The market should be free or have minimum government intervention regarding price formation and commerce of commodities. Price controls, minimum prices, intervention in the commercialization, granting of subsidies, restrictions on the demand and other government policies, if conducted without moderation, can destroy a market for derivatives.

The product should not be too perishable, since this would make difficult the establishment of rules and norms about maturity dates and delivery. The market rules and the "rules of the game" must be stable. If they change often, it becomes very difficult to design contracts, since there will be a strong element of risk, or even uncertainty.

The price of the commodity needs to show a volatile nature, in order to attract market players seeking to avoid the frequent changes in the prices, and making them willing to manage these risks. There must be transparency, abundant and timely information for the market participants.

Finally, in addition to this extensive list, we must add that the commodity needs to be stored at reasonable costs, allowing decisions about selling immediately or holding, in accordance with rational market strategies. The commodity also needs to be fit for general uses. If too specific, it will narrow down the user base of the commodity, and fragment it into sub-commodities, each with its own special market. This will impede minimum market size, or a feasible market threshold.

Uncertainties or major changes in the

1 A second fundamental question is about the continuity through time of a contract successfully introduced, and this is the focus of another work in progress by the author. This work will study the external macroeconomic and institutional factors, the internal factors of the architectural organization and the decision making process of the Exchange, with the focus on the causes of the growth and decay of trading in cotton contracts.

institutional macro-environment, which happens in developing countries like Brazil, can also affect the market[2]. There are also microeconomic factors repeling new entrants, like the financial mechanics of futures contracts, reflected in the need for cash flows and close follow-up by market participants; or the intricacies of the written contracts, that are sometimes considered too complex by cotton producers.

THE ROLE OF A COMMODITY EXCHANGE FOR HEDGING AND PRICE DISCOVERY

BMSP, as an active exchange, played a role similar to other exchanges in the world as regards trading operations. The difference, as will be shown, was in the extended services offered in order to have liquidity in the contracts negotiated in the open outcry.

The origin of modern exchanges lies in the volatility of market prices, the expectation by market participants of potential gains or losses resulting from the volatility, and hedging and speculative moves.

Why is there volatility? The reason is that prices are determined by forces of supply and demand, and these forces are always changing. For instance, the cotton market chain (agribusiness) in Brazil suffered substantial impacts in the period 1917-91, caused by changes in exchange rates, taxes, government policies for cotton, technology of textile production, credit conditions for financing imports and exports, trends in the demand for textile fabrics, industrial organization, concentration of cotton manufacturers, and so on.

2 It happened in BMSP during 1986, when the government decreed a freeze in all prices as a desperate attempt to eliminate hyperinflation. The futures market for the months ahead, however, was signaling rising prices, in particular for live cattle contracts. The government became upset with the market behavior and intervened with police force, shutting down the BMSP for a few days.

The important consideration is that the volatility is not caused by the derivatives markets. On the contrary, derivatives can be an important tool to insure and manage the risk of price volatility.

The derivatives exchanges usually play several roles. The principal role is to transfer or manage the price risk of cotton. For this, it finds and discovers prices of cotton in the months ahead, as a result of transparency in the way buyers and sellers compete for better prices.

The exchange helps to attract significant amounts of capital outside the production chain of cotton, seeking profits and willing to take risks. This attraction makes it possible to harmonize and fill gaps in the financial amounts provided by market players for hedging from the buyer side and from the seller side.

Exchanges provide low transactions costs and facilities for entry and exit from the market, and create liquidity. They also produce better disclosure concerning futures prices of commodities, disseminating information. They allow better strategic planning by producers and buyers of cotton, due to the use of hedging operations. They attract competitive forces in the cotton production chain, and have considerable numbers of cotton producers and consumers trading on the market.

The main players for trading in cotton futures are the hedgers and the speculators. Hedging operations are made by market participants. For instance, cotton producers and importers are afraid that prices may fall in the future, and usually they sell, or are "short" in the futures markets. Cotton textile producers and exporters, on the other hand, are afraid that prices may go up in the future, and usually they buy, or are "long" in the futures markets. Speculators are investors, bringing capital from outside the industry, that bet on future price behavior, and act as counterparts of hedgers, assuming risks[3].

Other aspects to be considered are the "basis", that is, the difference in prices that are pertinent to hedgers in a certain location, and the price set by the market. This difference, caused mainly by transportation costs and differences in the quality of cotton, creates the basis risk. Arbitrage are operations of buying and selling in the spot, forward, and futures markets, that result in more efficiency in the market price/risk structure. Finally, price discovery accounts for the social benefit of the future market, since it provides information for the development and regulation of the cotton industrial chain.

THE CREATION AND GOVERNANCE OF BMSP

BMSP (Bolsa de Mercadorias de São Paulo) was the first modern commodity exchange in Brazil. It was founded on October 26, 1917, and closed in 1991, when it was acquired and merged with the BM&F (Commodities and Futures Exchange)[4].

In contrast to the image usually associated with exchanges – that they are strongly linked to and inspired by financial markets and speculative activities – the BMSP had its origins and history strongly linked to the process of industrialization and to the development of a commercial agriculture in São Paulo. Only during its final years of existence, when the BMSP was competing with the BM&F before its acquisition, the exchange increased its ties to the financial market.

3 There are also "implicit" speculators, like the market participants electing to hedge partially or not to hedge at all.

4 BM&F, today merged with Bovespa, is placed at the end of 2012 among the five largest commodity and futures exchanges in the world. It trades 22 contracts of commodities (including alcohol, coffee, corn, cotton, sugar, feeder and live cattle, soybeans, rice, and gold) and 27 contracts of financial derivatives(including index, interest rates, currencies/exchange rates, sovereign debt instruments, OTC swaps and OTC flexible options).

The BMSP by-laws were approved on November 8, 1917. The effective functioning began in March of 1918, and the trading pits started to operate in August of 1919. Among its 259 founders were owners and executives of industrial, agricultural, commercial, and banking companies.

In its original by-laws, the BMSP established that it would be formed by commercial firms with the following objectives[5]:

to promote commerce and the development of food production in the country, as well as other agricultural products;

to organize the classification of the products, and promote its service in the entire state, using associations and members firms, and mail;

to maintain a specialized building for the exchange, with suitable space and facilities, to foster trade;

to regulate the conditions and instruments for buying and selling commodities in the exchange;

to act as an arbitration court to settle trade disputes;

to represent the commodities sector when dealing with the government authorities;

to organize and publish statistics about the commodities traded in the exchange;

to organize and regulate the commodity brokerage houses;

to create a chemical laboratory to verify the quality of the commodities traded in the exchange;

5 Based on research on the original Minutes of the BMSP.

to establish a special registration for all contracts to buy and sell commodities, regarding type, quality, and samples.

INITIATIVES OF THE BMSP TO CREATE MARKET CONDITIONS

To create a new exchange is like setting up a new theater building. It can be very expensive, but every country, even if very underdeveloped, can do it. But an exchange needs a product to sell: the financial contract. Without it, the exchange will be an empty building, like a theater without actors, play, and audience. Very few countries are able to launch and sustain a viable contract for many years.

As a pioneer exchange in a developing country, the BMSP, in addition to its functions listed above, had to intervene into other areas, an effort not commonly made by exchanges belonging to developed countries.

The BMSP promoted several activities and took initiatives to develop the market, such as:

the activities supported financially and with personnel of the “Instituto Tecnológico de Campinas”, a leading research center in cotton agriculture in São Paulo and in Brazil, for obtaining new varieties of cotton and to increase technical expertise in cotton agriculture;

educational campaigns to spread the cultivation of cotton in the state of São Paulo (note: São Paulo was, and still is, the leading state in the country; it has an area equivalent to Spain, and a GDP of more than US$ 300 billion today);

the development of a classification system for cotton, in accordance with business standards;

training of human capital and provision of professional education for developing and managing the classification system;

creation of a “Trade Justice Court” to arbitrate disputes involving the trading of cotton, including disputes about the classification of cotton;

development of an industrial sector throughout the state in order to transform raw cotton into cotton for manufacturing and exports;

fostering of trade links and commercial connections between cotton processors and derivative brokers of the exchange;

development of cultural activities sponsored by the BMSP to attract good will for the Exchange;

creation of links and common objectives between government and the BMSP, including the special permit to act as an “ad hoc” government agency for educational and classificatory activities in the cotton business;

STRATEGY AND INITIAL YEARS OF the BMSP

As a result of its linkages with production, the BMSP’s founders saw the exchange not as an end in itself, but as a conduit and tool to expand the whole market.

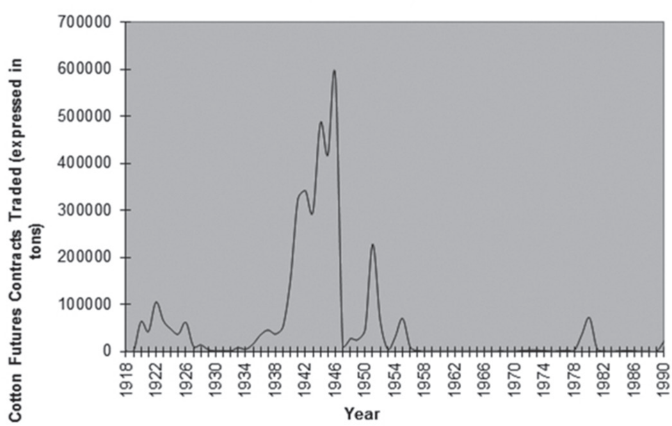
Therefore, since its beginning the BMSP was concerned with the creation of incentives for the production and commerce of products in Brazil, and for establishing standards for classification of products (with emphasis on cotton), as well as for attracting investors with capital to use in the futures markets in order to have both sides (buyers and sellers) in the market and allow price hedging, and, finally, with establishing a Court of Arbitration to settle disputes among members, or among members and third parties.

During its entire existence, the number of contracts (spot, forward, and future) traded in the BMSP showed violent fluctuations, in some years almost without trading, and in others trading eight times the size of the cotton crop.

In general, the BMSP showed, during the 74 years of its existence, an initial period of growth, followed by two booming decades in the 1930s and 1940s, and a downward trend after that, with very irregular years of trading performance.

Figure 1 presents the evolution of the futures contract traded in the BMSP, measured by the amount of cotton transacted.

Figure 1 - Development of the Cotton Futures Market (1918-1990)



Source: Data collected by the author, BMSP Archives.

The period 1930-1958 therefore marked the golden age of the BMSP, in which the main objective of the BMSP was to develop trading in a cotton market, since by that time Brazil already had an important textile sector, and was also engaged in cotton exports.

The heart of any exchange is the registration, clearing, and settlement system. Futures markets are much leveraged in general. For instance, the cotton contract traded in the BMSP, in some years, traded in a volume several times that of the cotton crop of that year.

The registration, clearing, and settlement system gives the guarantee the buyers will receive the cotton in accordance with the terms negotiated, and the sellers will receive on time the payment negotiated.

This system, in the BMSP, evolved over the years. It started with the creation of the "Caixa de Liquidação de Mercadorias de São Paulo" in 1918, later substituted by the "Caixa de Liquidação de Santos", and replaced by the "Sistema Paulista de Compensação". This last System was later on called "Sistema Nacional de Compensação de Negócios a Termo S.A.", which evolved in to the system that would last till the end of BMSP, called "Caixa Nacional de Liquidação de Negócios a Termo e Disponível S.A.".

The BMSP clearing house made the recording, compensation, and guarantee of the liquidation of contracts, and in the 1920s an average of 60 thousand tons of cotton was negotiated annually in the pits. For the BMSP, the clearing house was vital for the success of the contracts traded, and it made an effort, little by little, to build an efficient and reputable infrastructure for the classification, standardization, and public disclosure of cotton future contracts trading.

The Clearing House of the BMSP earned several distinctions in the 1930s and 1940s. From the United States Ministry of Agriculture, it received the title of "the best organization specialized in cotton in the world". The Vargas government of Brazil, in September of 1941, as recognition of the BMSP's role in the development of both agriculture and industry, granted the Exchange the duties of "official technical and advisory organ".

The Exchange became a prominent member of the International Cotton Institute (ICI) and also became the official representative in Brazil of the Association for International Cotton Emblem (AFICE).

THE ROLE OF THE BMSP FOR THE ORGANIZATION OF THE COTTON AGRIBUSINESS AND VALUE CHAIN

Cotton trading is part of a set of economic activities centered on the production of raw cotton, which is called the production chain of cotton, or the cotton agribusiness, as shown in Figure 2.

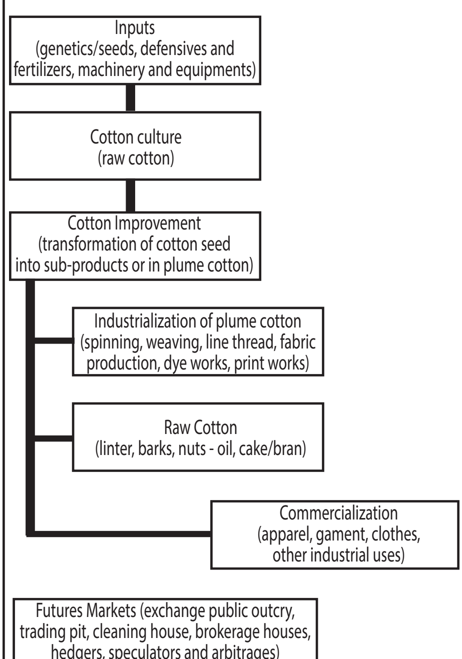
The initial industrialization of São Paulo was based on the production of non-durable consumer goods, especially textiles. This industrial process posed more stringent technological and financial requirements for the purchase of cotton, the most important input. For both requirements, the BMSP could play an important role.

The cotton spinning and weaving industry is highly sensitive to the quality and homogeneity of the type of cotton used as input, and, in addition to this technological factor, there is also the need for a steady and standardized supply of cotton during all months of the year.

The industry, in general, does not inspect all of the cotton employed in the factories. They use samples, based upon the credibility of a system of classification based on quality categories. The industry also depends on the existence of formal procedures and courts to settle any disagreements in a fast and reasonable way, and to get marginal price adjustments in order to align the price to be paid to the market value of the quality grade of the cotton bought.

The BMSP created a classification system already in 1918, and later on expanded the system and increased training and educational activities for specialized labor in cotton classification. It opened a specialized school for this purpose.

Figure 2 - The Cotton Agribusiness



Source: author

In the following decades, the BMSP would become more active in the research of new cotton seeds, their dissemination among cotton planters (at that time, running small family farms), the search for types of cotton more appropriate for the consumer demand and productive capacity installed, and the support for several agricultural centers.

In addition, the BMSP was very active in the promotion and marketing of the cotton trade, and innovative in developing communication with the public, and even organized a special radio program using the commercial radio network. The "Exchange Hour" was aired by the Excelsior Radio Station on a daily basis, and the program was produced by a specific department of the BMSP – the "Radio Department".

The structure of promotion, in 1937, already had the following sectors and departments, in addition to the ones specifically dealing with clearing and trading activities:

the Museum, with permanent exhibit samples of different types of cotton produced in São Paulo;

the school of cotton classification, established in 1922, from which 40 or more specialists would graduate every year;

laboratory and classification sectors, which would examine and certify the bales of the São Paulo cotton crop, in accordance with international quality and regulatory standards;

standardization sector, with the task of defining and organizing samples of the diverse commodities, including cotton, negotiated on the trading floor;

cotton statistics department, which collected, classified, and filed all the data about cotton production, price, and trading;

agricultural department, which supplied technical information to the producers and disseminated knowledge among them of new seed varieties, and even encouraged them to use new planting technologies;

RAW COTTON IN SÃO PAULO

During the period 1900 to 1960, Brazil exported a small number of primary commodities. The export activities were highly concentrated in 8 products, representing more than two thirds of all exports. Table 2 shows the main export products of Brazil, 1901-1960.

Table 3 shows the main statistics about raw cotton production and futures trading of cotton on the BMSP, during the total period of

TABLE 2 – MAIN EXPORT PRODUCTS OF BRAZIL, 1901-1960 (in %)

PERIOD	COFFEE	RUBBER	COTTON*	OTHER PRIMARY PRODUCTS**	SHARE OF PRIMARY PRODUCTS IN TOTAL EXPORTS OF BRAZIL
1901-1910	51.3	28.2	2.1	13.6	95.2
1911-1920	52.4	11.4	2.0	18.4	84.2
1921-1930	69.6	2.5	2.4	14.0	88.5
1931-1940	50.0	1.1	14.3	12.2	77.6
1940-1950	43.2	1.1	11.3	11.0	66.6
1951-1954	63.8	0.2	9.9	9.0	82.8
1955-1960	60.0	0.1	4.5	10.7	75.3

Source: IBGE, Estatísticas do Século XX, p. 418; * "raw cotton"; ** cocoa, tobacco, sugar, leather and matte tea the BMSP is existence.

LEARNING EXPERIENCES

The writing of this paper about the economic history of the BMSP had four objectives in view: (1) to examine the process of the development of futures contracts for commodities in developing countries, and the role of forward contracts; (2) use a case study of long duration in order to investigate the reasons why a derivative contract becomes viable and attracts liquidity in a sustainable way[6]; (3) to have a long institutional view of the development of the derivatives markets in the country, since Brazil, although a developing country, is very strong in the agro-business sector, and it is important to increase the financial knowledge about forward contracts; (4) to know more about the BMSP experience in financial innovation. The BMSP was involved with a large set of activities, in addition to the trading of derivatives. These activities – several of them in the areas of learning, product innovation, institutional development, and the discovery of new technologies- were conducted to support the main business of the derivatives exchange.

Thus it can be an important study about the larger requirements – in comparison with other economies – that are needed in order to create a derivatives exchange in a developing country, and can offer an international comparative perspective.

6 Since the launching of a new contract is a very expensive investment (today, around US$ 10 million), and since the rate of failure (9 failures out of 10) is very high, the study can add the perspective of an economic history case study for a growing theoretically focused literature.

TABLE 3 - RAW COTTON
Cotton Production and Futures Trading on the Trading Floor, BMSP, 1918-1990.

YEAR	Production (tons)	Futures Contracts (in tons)	Futures Contracts (number of contracts)	YEAR	Production (tons)	Futures Contracts (in tons)	Futures Contracts (number of contracts)
1918	13 913	608	81	**1955**	231 837	70 310	9 375
1919	49 617	900	120	**1956**	199 156	10 110	1 348
1920	20 647	63 383	8 451	**1957**	136 227	1 720	229
1921	25 904	42 578	5 677	**1958**	143 830	130	17
1922	13 188	105 143	14 019	**1959**	187 975	10	1
1923	13 599	64 973	8 663	**1960**	197 467	-	-
1924	25 371	47 423	6 323	**1961**	197 967	30	4
1925	26 896	36 945	4 926	**1962**	276 705	-	-
1926	16 58	61 733	8 231	**1963**	226 011	-	-
1927	8 644	11 040	1 472	**1964**	227 210	-	-
1928	9 987	13 890	1 852	**1965**	199 097	-	-
1929	4 435	3 960	528	**1966**	270 722	-	-
1930	3 934	383	51	**1967**	167 331	-	-
1931	10 500	1 163	155	**1968**	247 865	540	72
1932	21 271	743	99	**1969**	313 612	203	27
1933	34 748	8 065	1 075	**1970**	304 173	8	1
1934	102 296	4 850	647	**1971**	265 494	1 538	205
1935	98 207	15 795	2 106	**1972**	270 234	2 640	352
1936	176 810	35 498	4 733	**1973**	247 471	2 865	382
1937	202 618	45 420	6 056	**1974**	207 483	1 425	190
1938	248 296	37 088	4 945	**1975**	189 841	105	14
1939	273 264	52 695	7 026	**1976**	118 009	668	89
1940	305 377	153 615	20 482	**1977**	212 839	2 850	380
1941	380 767	324 780	43 304	**1978**	157 059	2 528	337
1942	282 665	341 513	45 535	**1979**	196 170	36 525	4 870
1943	375 098	296 993	39 599	**1980**	202 810	71 745	9 566
1944	463 193	485 655	64 754	**1981**	217 486	6 548	873
1945	232 674	417 450	55 660	**1982**	213 458	608	81
1946	173 349	584 880	77 984	**1983**	180 772	304	44
1947	175 255	120 113	16 015	**1984**	191 836	544	145
1948	149 138	26 993	3 599	**1985**	272 967	2 066	551
1949	221 661	25 110	3 348	**1986**	261 130	570	118
1950	165 149	46 710	6 228	**1987**	205 989	82	11
1951	230 571	227 910	30 388	**1988**	249 918	53	7
1952	350 790	66 660	8 888	**1989**	187 159	-	-
1953	235 504	5 253	700	**1990**	178 099	22 163	1 744
1954	220 201	30 180	4 024				

Source: Bolsa de Mercadorias de São Paulo, Annual Reports and Statistical Reports.

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