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INVESTIGATION OF COMBINED USE OF FUTURES COMMODITY EXCHANGE AND PUBLIC WAREHOUSE IN VIETNAM

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1. Introduction and the Goal of the Research

During my professional scientific and educational activities, I have been dealing with the establishment; operation and combined use of the institutions, mentioned in the title, for 25 years; my scientific publications in this period were published in this theme, as well.

I have been examining the possibilities of introducing and operating of these two market institutions in Vietnam since 2012. I have been travelled to Vietnam at several times in the last 7 years and in 5 other ASEAN countries too and I have examined the research topic from a market point of view. I contacted a lot of companies, involving banks, brokerage firms, traders, warehouses, ports and producers to explore the market possibilities; collected data made deep interviews with specialists of financing exchange trading warehousing and investment.

As a result of my research work in recent years I have verified that there is a market demand for the two institutions in Vietnam and some neighboring countries. During my last research trip 04.2019 I examined the relevant regulatory and economic policy background to complete the research and be able to compile the research material and publish this thesis.

1.1. The Goal of the Research

My main goal with this research was to draw attention of Vietnamese research partners, market participants and try to help Vietnamese decision-makers in making relevant economic policy decisions taking the necessary regulatory steps with contributions of these partners. All this would create a new commodity/trade finance facility in Vietnam.

The market demand for the appearance and operation of the two institutions indicated in the title is obvious for me. I have carried out my own investigations and personal experiences during last 7 years in Vietnam. The most important barriers to market entry are recognizing the benefits of using institutions on the Vietnamese market; consequently, the lack of economic policy decisions and the lack of the necessary regulatory framework.

The actual research focuses on the examination of these factors and the necessary legislative background, the areas to be transformed and to be developed. To do this, in addition to direct stock exchange and public warehousing issues, in-depth analysis of related areas is required to produce a study based on a complex information base.

I have determined intention to introduce the subject in complete form, starting with the necessity and actuality; explaining the present situation based on the research and finally describe my arguments for implementation of these institutes.

Finally, I give a suggestion for commodity financing with the present regulatory system. I am convinced that the biggest problem of Vietnamese agriculture market is the lack of financing. The possibility of introduction of the mentioned institutions is the best solution to solve the financing problem, at the same time I am aware that changing basic rules is a very complicated procedure in a so called 'socialist' economy comparing European or American free market situation. Regarding the free market characteristics of Vietnamese Economy against political system; my last suggestion is based on the present regulatory situation.

This solution can solve the financing problems raised without complicated regulatory change and the result could be similar of the solution given by market institutes introduction. This can be convenient for market participants especially for financial banks. From governmental point of view the introduction of market institutes is the relevant solution because of minimum two reasons: in one hand these institutes can help for regulating and stockpiling strategy, on the other hand these are the best channels for monitoring one of the most important territory of the national economy of Vietnam.

1.2. Method of Research

The research consists of primary and secondary parts, and the conclusions and recommendations are based on the synthesized result of the two closely related investigation and the evaluation of the results thus obtained.

The database is based on secondary research, such as national statistics, regulatory and current economic policy information background, banking, financing databases; the HOSE Stock Exchange information basis; the Vietnam Singapore Industrial Park VSIP, as the biggest inventory and industrial park, information basis and other information backgrounds, such as a few local thesis and article.

As a primary research, I made a lot of interviews and professional conversations with experts from different areas of the research topic. I cannot name these as classical Deep Interviews but long detailed and deep professional conversations. These conversations lasted one- or two-hours, giving information about the way of thinking of decisionmakers, historical and present situation of economic policy, limitation facts of market liberalization, difficulties of introduction of new or little-known institutions and solutions and so one.

Based on my seven-year-long connection building I had the opportunity to talk with the Director of International Connections of HOSE (HCMC Stock Exchange); the Vice President of VSIP; the former Chairman of State Committee for Finance and Monetary Supervision; The President of a Singaporean Investment Company, in warehousing, logistics, finance, regulatory and economic policy areas.

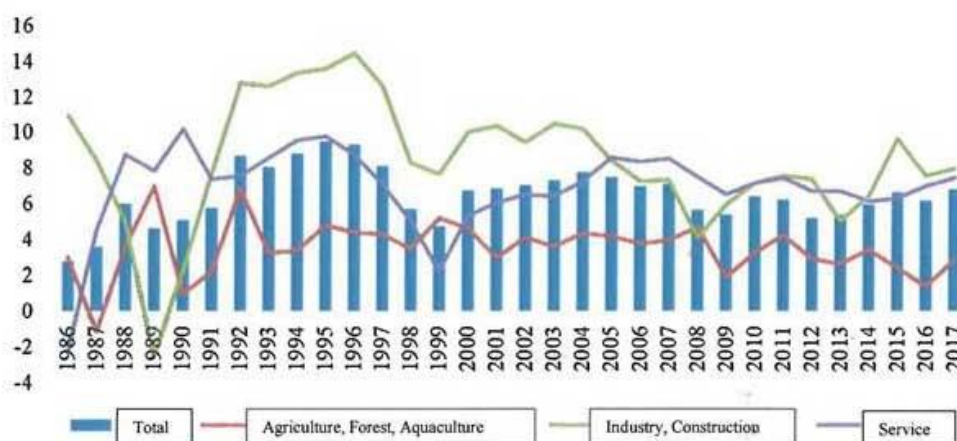
2. Vietnamese Agriculture; Focusing on Exchange Commodities

2.1. The Current Situation

Appropriate and motivational policies have activated potential advantages of Vietnamese agriculture. This significantly contributes to the development of the national economy, particularly to the agricultural and rural sector. Vietnam's agricultural growth has been relatively high and stable an average growth rate of approximately 3.3% per annum. This growth not only meets the demand for food supply and raw materials in the domestic industry and service development but also contributes to the export market (about 50% of agricultural-forestry-aquatic products were produced for export in recent 5 years). Agriculture is the only sector that experiences trade surplus, which reached over US\$ 8 billion in 2018. With abundant supply and extensive international integration, Vietnam's agriculture has been closely linked to changes in the world market.

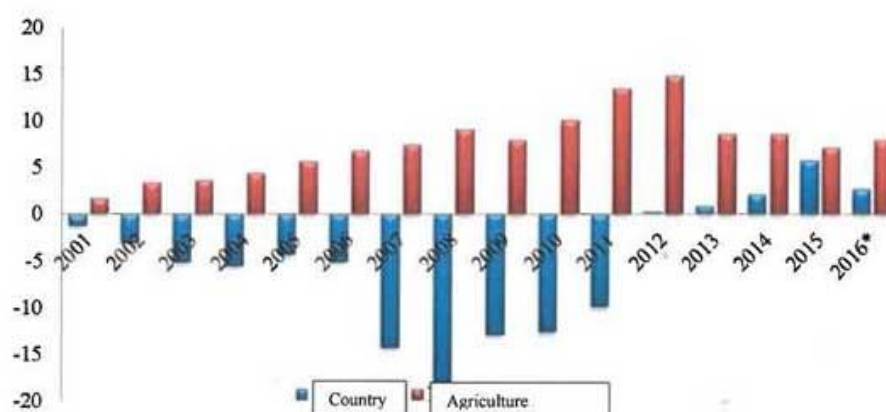
Vietnam's agriculture has taken part in the process of world globalization and integration with generations of free trade agreements (FTA). These FTAs began with the first generation of FTA that focused on liberalization of goods trading, including tariff reduction, and non-tariff barrier removal. Vietnam has signed 12 FTAs with 56 countries and economies in the world, 10 of which have entered into force and Vietnam has fully implemented all WTO commitments. In that global playing field, Vietnam has accepted non-protection commitment, and complied with most of the standards required by member countries and world market. International integration in the future requires Vietnam to accept immediate competition and abide by standards set by countries in terms of economic, social and environmental fields.

Figure 1: GDP growth by economic sector, 1986-2017



Source: GSO, 2017

Figure 2: National Trade Balance and Agricultural Trade Balance



Source: GSO and MARD, 2017

With good supply, Vietnam has gradually asserted itself in the global agricultural – forestry - aquatic products (AFAP) market. Vietnam has also witnessed impressive growth in exports over the past few years through international economic integration, and participation in bilateral and multilateral FTAs. The total value of AFAP exports in 2017 reached US\$ 36.4 billion, an increase of 14 times compared with that of 1995 when Vietnam joined in ASEAN, marking an annual growth rate of 12.9%. Several AFAP have high export value in the world, including cashews, peppers, pangasius, coffee, wooden furniture, and rice. However, export prices are relatively low as most exported goods are raw products such as rice, peppers and cashews (Table 1).

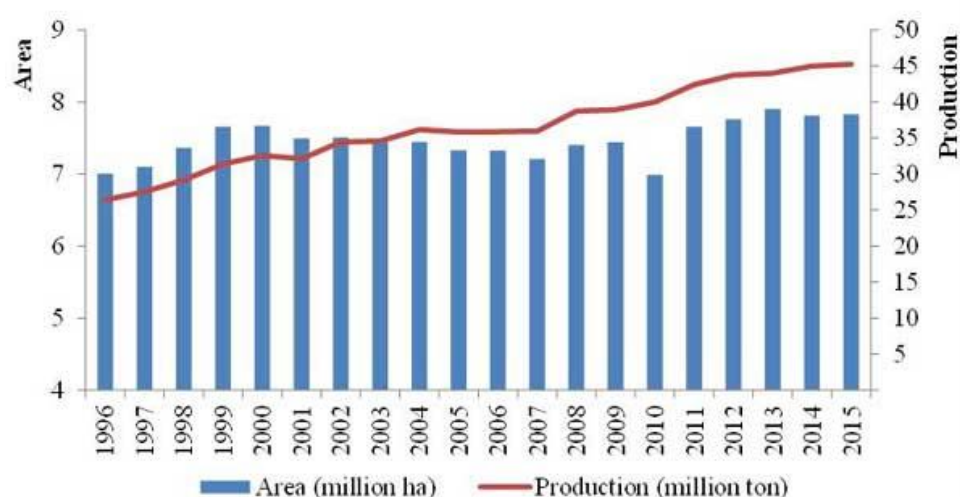
Table 1. Position of Vietnamese agricultural exports in the world

Category	Global Exports (Billions of USD)	Vietnam Export Share (%)	Vietnam export value ranking	Export Price ranking
Rice	20.1	11.3	3	10
Fruits and vegetables	177.6	2.1	19	15
Coffee	30.9	10.5	2	10
Pepper	4.7	23.9	1	8
Cashew (raw)	7.5	46.8	1	6
Rubber	170.2	11.4	3	10
Tea	7.3	2.2	9	10
Shrimp	18.6	16.9	1	2
Pangasius	1.8	95.0	1	1
Wooden Furniture	127.8	6.0	2	4

Source: ITC-Trade map, GDVC, 2017

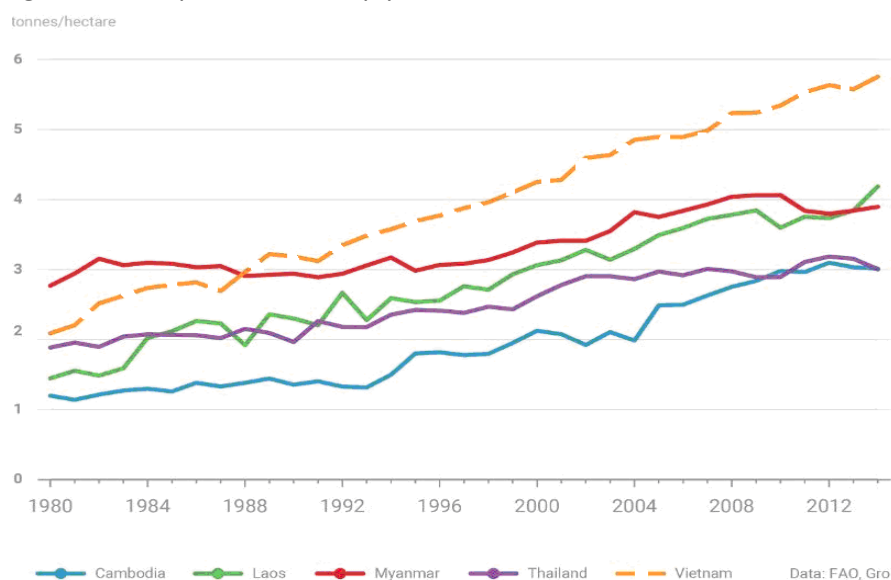
The country has a huge production basis, one of the world leader producers and exporters in case of rice and coffee and the productivity shows increasing trend (Figure 3; 4).

Figure 3: The rice production area and quantity in Vietnam (1996-2015)



Source: Ministry of Agriculture and Rural Development (MARD)

Figure 4: Rice production, crop yields in Southeast Asian countries. 1980-2014



Source: FAO

Based on the current (2019) information available the potential Public Warehouse market can only be described in terms of agricultural products with the following numbers (Table 2):

Table 2: The potential Vietnamese Public Warehouse market

Product	Production/year	Price	Value
	1.000 tons	\$/ton	Million \$
Coffee	1.800	~2.300	4.100
Rice	46.000	~ 500	23.000
Corn	6.000	~ 260	1.600
Summa	53.800	-	~ 28.700

Source: Self-made; based on ICE; NASDAQ; IG UK; CME Group and FAO

The research-based picture about Vietnamese Agri-Product market, as well as the evidence above helps in outlining some general insights on the development trends of global agricultural, especially rice and coffee market and the position of Vietnamese agriculture as follows:

- Vietnam's agriculture possesses strong supply capacity, and has been participating in international integration, and is increasingly dependent on the world market.
- The world has witnessed a strong growing demand for rice and coffee trading along with economic growth particularly since the beginning of the 21st century.
- Prices of these commodities have closely linked to the changes in oil price and other financial investment channels as well, and the tendency of short-run fluctuation has become increasingly frequent.
- The Vietnamese agriculture sector suffers of the lack of financing. The production sector has serious loss because of the partial lack of enough storage capacity, which causes more than one million tons of wastes just in case of rice, even more than the effect of the low dumping prices of both the rice and the coffee too. Vietnam has the highest production level in ASEAN region as clearly illustrated in Figure 4, but it is not reflected in revenues, as Vietnamese average export prices are 20% lower than the same of Thailand despite the fact that the registered exchange market price is higher, according to Figure 5.

Figure 5: Historical exchange prices of Asian rice producer countries

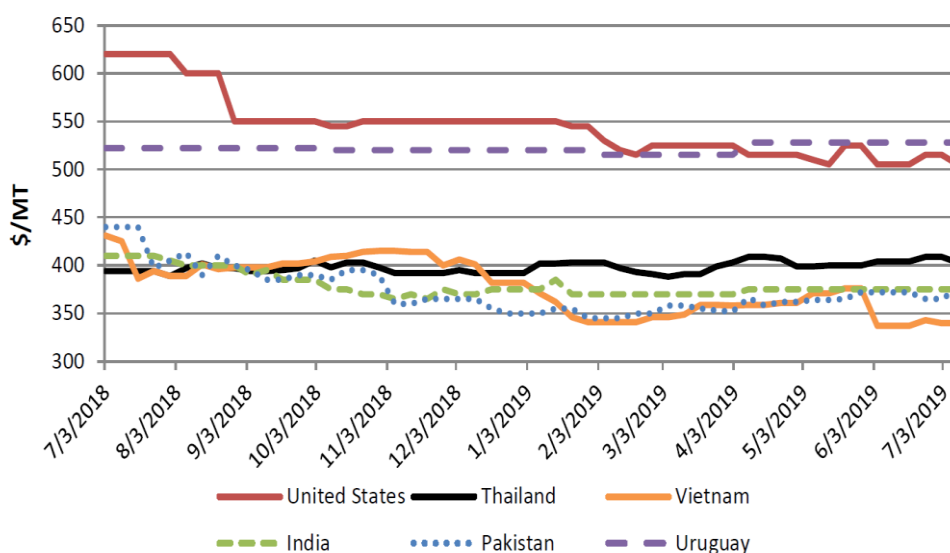
Key: [W] = Weekly Prices, [D] = Daily Prices



Source: <https://livericeindex.com>

The information of Figure 5 and Figure 6 shows that the Vietnamese rice production and export market has a relatively high 'price reserve' and possible profit reserve for producers, traders and the whole national economy, based on it! The situation is similar in case of coffee; corn, pepper and other strategic product of Vietnamese agricultural market as well!

Figure 6: Weekly FOB Long Grain Rice Export Quotes: Last 12 Months



*Note on FOB quotes: Thailand - 100B, India - 5%, Vietnam - 5%, Pakistan 5%, United States - #2/4 (long grain), Uruguay - 5%

Source: USDA Office of Global Analysis July 2019

Over the past month, export quotes from the Western Hemisphere have remained elevated, with Uruguay reflective of the tightening regional supply situation at \$528/ton. U.S. quotes rose slightly then returned to \$505/ton. Likewise, Thai prices rose and then fell back to \$404/ton amid currency fluctuations. Thai quotes have remained elevated above other Asian origins for the past several months, hampering Thai export competitiveness. Indian and Pakistani quotes remained around \$375/ton. Meanwhile, Vietnamese quotes rose slightly to \$340/ton on continued buying interest from the Philippines.

2.2. The Agriculture Restructuring Policy

The Prime Minister Promulgated Decision 899/QĐ-TTg dated 10 June 2013 approving the restructuring of the agricultural sector projects aiming at enhancing added value and sustainable development.

2.2.1. Three Major Themes that the Project Aims to Achieve Include

- Develop a market-oriented agricultural production, promoting products with advantages, connecting with industry and agricultural supporting services;

- Reorganize in ways of large-scale production, develop cooperatives, and foster chain linkages. Encourage private investments and improve public investment's efficiency; and
- Promote the application of science and technology, create new good quality varieties, develop fine and comprehensive processing technology, innovate technology, reduce exploitation of resources, reduce negative impacts on the environment.

2.2.2. Most Important Limitations of the Restricting Program

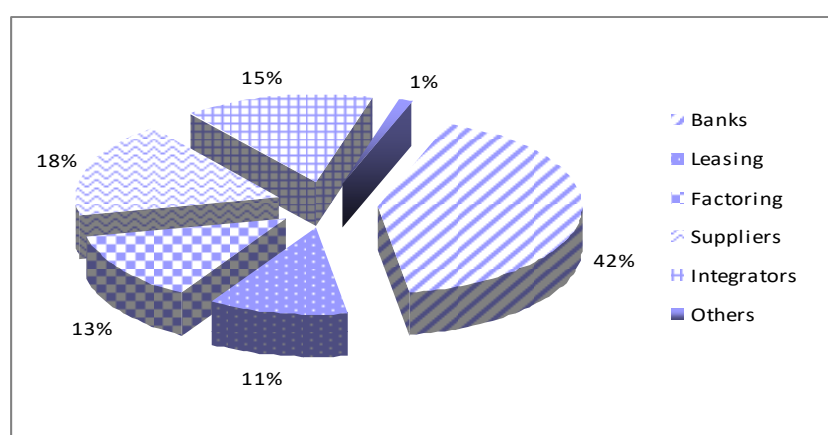
- The restructuring process is slow while several localities have no clear plan to identify the appropriate structure and advantages; production is beyond plan and in movement.
- Income and living conditions of people, especially in remote and mountainous areas encounter great difficulties with slow improvement; the rate of poor households remains relatively large.
- New rural development is uneven with large gaps amongst localities and regions. Regarding implementation, most localities have focused on improving infrastructure facility whereas the development of production, cultural lifestyle, and environmental protection have not been paid proper attention to.
- Waste water and waste gas pollution in industrial parks and craft villages are directly deteriorating the environment, endangering the sustainable livelihood of the people, and depleting natural resources.
- The market is unpredictable while statistics and forecast work is still weak, and prices usually fluctuate. Agricultural products for export are primarily raw, and the quality is often hard to categorize 80% of agricultural products have not built any brand, logo or label.
- Underfunding, partly in the case of production; but even more so in case of inventory and market access.
- Market risks which can be more important limiting factor than production limiting factors, such as whether; soil; plant health problems etc.
- Financial problems of agricultural enterprises as the main limitation factor of the restricting program as well as the biggest impediment of development of the most important sector of Vietnamese economy.

2.3. Financers of Agricultural Enterprises

Unlike in Vietnam, there has not been developed specialized network for institutional agricultural financing. The sector's financing is being done mainly by commercial banks, based on their own regulations and evaluating system.

Presently, the liability of private enterprises and corporations in agriculture is close to fifty billion USD. The leading role of commercial banks is evident as shown in Figure 7. – it illustrates the sharing of the most determining financing forms within the sector.

Figure 7: Financers of Vietnamese agricultural enterprises



Source: Own figure

As most indirect financers of the sector such as factor companies, leasing companies, and integrators, are also re-financed by commercial banks, the leader position on the market gains even more importance. I must mention that in many cases the banks are present on the credit market as intermediaries, when the primary financer is the state. The interests of the sector and of the national economy are in many cases contrary to the profit orientation of the financers: the bank sphere will only grant credit on strictly commercialized basis for agriculture as well, by guaranteeing the due profit of the credited amount. Thus, even though public utility, no preferences can be introduced into the credit system.

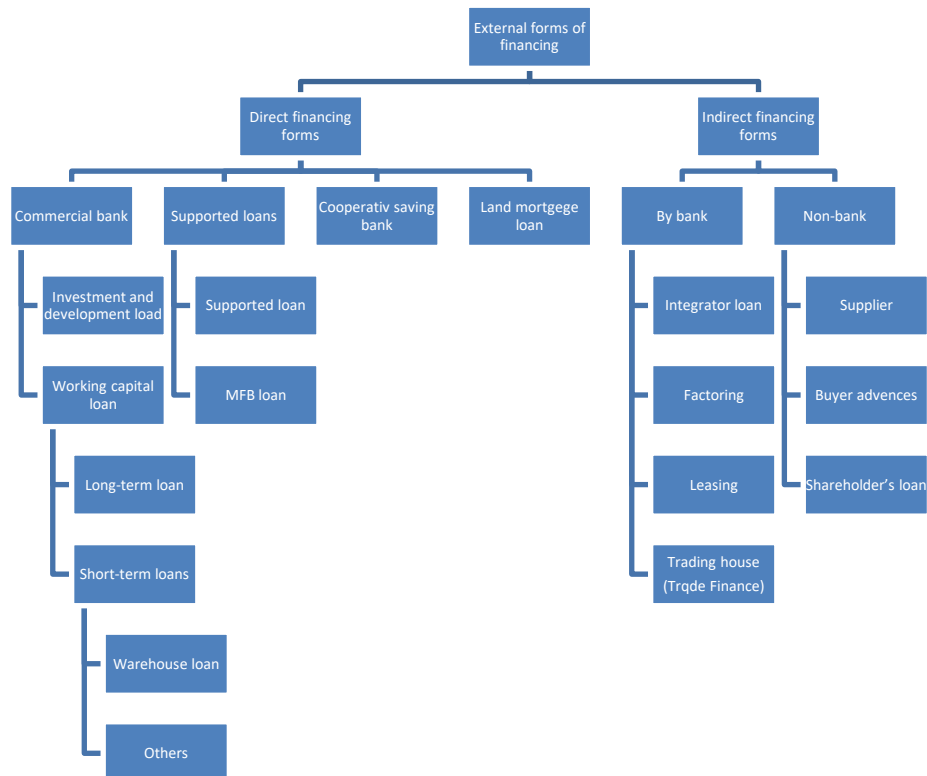
Because of their volume and because they can be turned into one's own capital, state subventions are to be regarded one of the most important elements in financing agricultural enterprises. To the enterprises, these resources are unencumbered and/or work as own resources either indirectly – as they have been accounted as other incomes 'or directly' as a result of placing them into capital in excess in par. The system of criteria according to which these subsidizations can be obtained, as well as their form and size is elaborated corresponding to the agro-political directives depending on the budgetary policy of the given year.

On further examining the diagram, it is obvious the high percentage of financing provided by contractors. By means of this, the enterprises depending on their size and economics can delay the fulfillment of their commitment towards their contractors which results in significantly increasing liquidity. A matter of further study would be the growth rate of the days financed by the contractors, and respectively their co-relationship with their winding ups within the sector. Even the logistical aspects play an important role in it.

2.4. Financing Forms of Agriculture

Regarding its provenance, financing has its internal and external forms (Fig. 6). The latter one plays a significant part mainly in the first stage of existence of an enterprise, because of the poor possibilities of obtaining credit loans. The most common types of internal resources are accounting depreciation expenses and laughing back profit. Characteristically, these resources are to be found on an extremely limited scale in the agricultural sector, which is explainable by the low profitability. Financing through internal accumulation is impeded by the fact that the owners usually withdraw the most part of the produced profit from the production in order to achieve an investment generating higher profit, as at the moment the ROE profitability of the sector does not reach even the yield of the government securities.

Figure 8: Different external financing forms of agriculture



Source: own figure

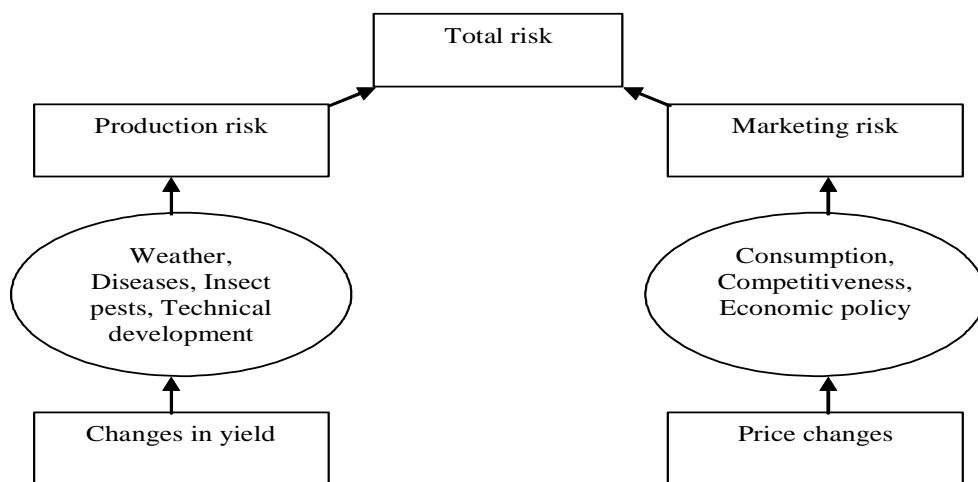
The financing choices offered by the merchant banks differ in their terms 'the aim of the loan, interest, duration, currency, security structure' and show a rather heterogeneous image. In case of investment and developmental loans the banks examine first their income producing capacity on the long run. Another type is the working capital loan when the efficiency of the economy is examined, and the parameters of the collaterals play a decisive role. The shorter the duration, the more important the value of the collateral, its stability and salability opposed to the economic indexes of the enterprise.

3. Risk Management Applying Futures Trading

3.1. The Possible Risk Factors in Rice and Coffee Sectors

Because of the nature of agricultural production, there are several different risks producers must handle. These risks can be production (natural and technical) or economic risks. The probability of the risk causes a problem for the market participants day by day. The risks of agricultural firms can be divided into two big groups, according to their nature, as shown in Figure 9.

Figure 9: Risk factors and their effect in agriculture



Source: Otmaier, 1972

Managers of agricultural firms use the two categories of uncertainty and risk as synonyms. The risk management strategies of agricultural enterprises according to Castle, Becker, and Nelson (1992) are the following:

- Flexibility
- Tenancy
- Marketing possibilities
- Financial management alternatives
- Insurance

Price risk has become a more immediate issue for both farmers and agribusiness companies in the United States and around the World, due to WTO.

Modern futures trading started in Chicago. The Chicago Board of Trade was founded in 1848; trading with futures contracts started in 1865. Exchange had hundreds of members, and the turnover in grain futures contracts are in millions of tons. This is one of the oldest and existing risk management method in the World.

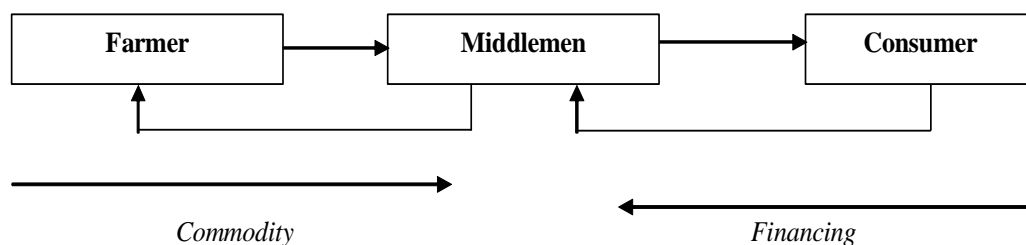
Vietnam is an agriculture-oriented country; more than 60% of the population have direct connection of production, manufacturing or trading of agricultural commodities.

3.2. The Possible Handling of Risk Factors with Futures Commodity Exchange

As it was presented above Vietnamese market players are ready and the Vietnamese grain, rice, coffee, pepper, etc. market needs a real commodity exchange, with as high turnover as possible. To reach this goal there are minimum two very important 'labor-intensive task'!

The traditional way of commodity marketing is shown in Figure 10.

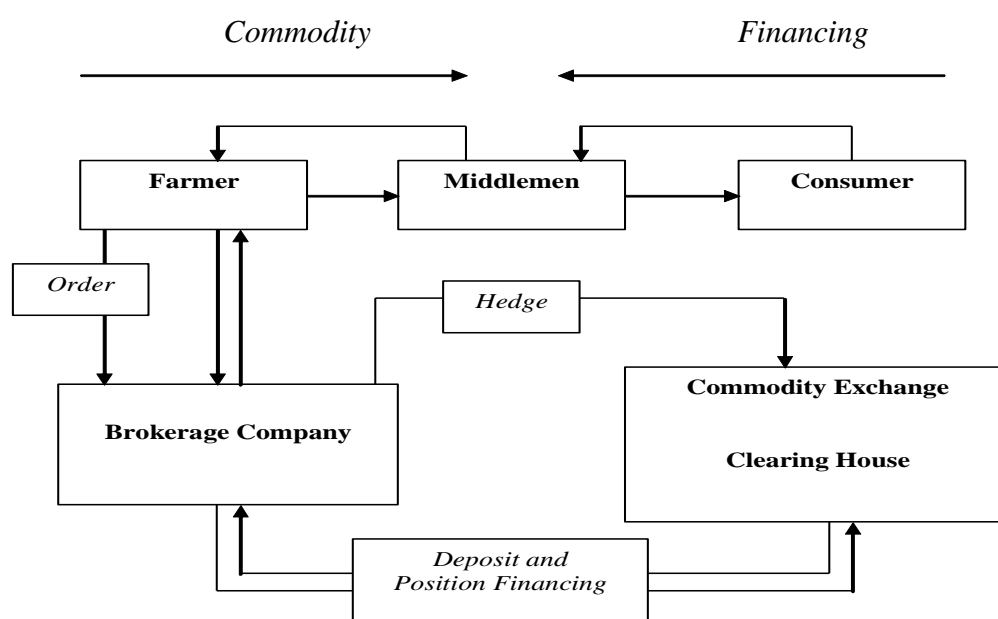
Figure 10: Traditional commodity marketing



Source: Own figure

The Commodity Exchange business is in a special situation in Vietnam. There is a 'so called' commodity exchange in the country but it is unsuitable to handle the needed risk management of the most important commodities, such as rice, coffee, pepper, corn etc. Because of this present situation, the interested participants: traders and manufacturers are using American exchanges, its service, technique, organization and guaranties. The entire market uses the prices of the given Commodity Exchange as target prices, but producers do not have needed information about this risk management solution. The traditional method of commodity marketing with a short hedge is shown in Figure 11.

Figure 11: Traditional commodity marketing with a short hedge



Source: Own figure

3.3. Current Situation of Stock Exchange Trading and the Market and Regulatory Issues of Derivatives

Vietnam has two stock exchanges in this moment, one of them is in Hanoi: Hanoi Stock Exchange (HNX) in the capital of Vietnam and the other one is in Saigon/(Ho Chi Minh City)Ho Chi Minh City Stock Exchange Stock Exchange (HOSE) in the business center of Vietnam.

Beside stock market, both have derivative market, indexes and treasury bonds. In one hand the organization and the activity of these exchanges are professional, both are suited to introduce the most important derivatives, such as commodities and currencies!

There is no real reason to exist two stock exchanges in the same market parallely on the other hand! This is a very typical example of the so called 'socialist' economy regulation! The only reason to exist HNX is the self-consciousness: the center of the system must have been the strongest in any territories! I am convinced that it must be close doors soon!

HOSE is the real exchange with long term future, I think. We can see the newest transaction information for 12 months of HOSE in volume and value below in Table 3; Figure 12-13.

Table 3: The transaction size of HOSE

TRADING SCALE IN 12 MONTHS

Unit: Vol - 10 shares, Price - 1000 VND, Value: VND mil

Month	Order matching		Put-through	
	Vol.	Val.	Vol.	Val.
08/2019	100,604,844.00	22,166,325.04	40,267,910.30	13,726,586.41
07/2019	290,139,571.00	66,394,361.83	68,099,406.70	19,224,238.29
06/2019	227,524,501.00	50,267,280.57	88,784,984.80	21,833,235.09
05/2019	268,118,953.00	59,185,149.52	79,295,309.30	25,696,397.98
04/2019	240,416,052.00	49,550,598.99	70,365,599.90	15,471,521.08
03/2019	363,160,623.00	76,402,783.37	88,124,425.10	21,966,448.01
02/2019	252,496,189.00	54,567,326.24	36,815,283.30	9,964,482.19
01/2019	232,408,977.00	43,803,319.59	58,267,041.20	14,709,266.57
12/2018	270,881,502.00	56,583,064.03	104,854,282.80	25,905,051.23
11/2018	274,184,262.00	55,665,336.87	51,861,269.20	17,204,551.25
10/2018	382,081,042.00	84,440,333.61	62,797,334.40	31,394,619.28
09/2018	336,953,133.00	74,543,839.11	45,961,187.50	12,177,466.75

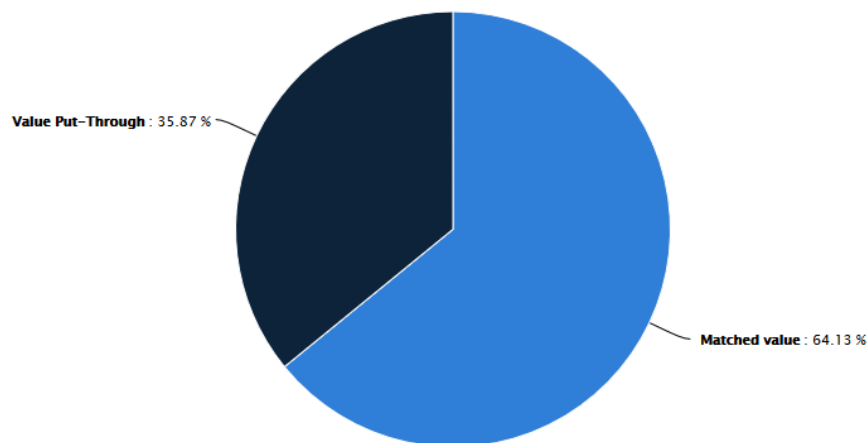
Source: HOSE

Figure 12: The transaction size of HOSE

Trading Data - Stocks

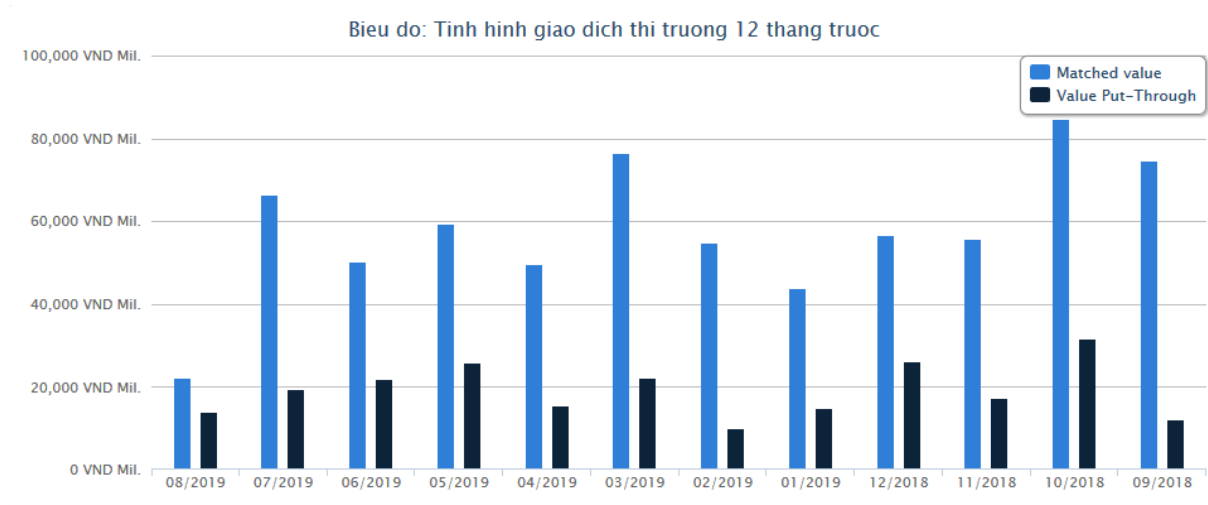
Volume / Value		Order matching		Put-through		Total	
<div>< <div></div> ></div>							
Deal							
Unit: Vol - 10 shares, Price - 1000 VND, Value: VND mil							
Trading Scale		Trading Scale - OM		Bid		Ask	
Volume	Value	Volume	Value	Bid vol.	Bid vol.	Ask vol.	Ask vol.
18,634,858.30	4,515,733.59	13,109,212.00	2,895,721.38	81,380.00	25,546,985.00	77,468.00	24,977,589.00

Bieu do: Quy mo giao dich



Source: HOSE

Figure 13: The transaction size of HOSE



Source: HOSE

My current research focuses on derivatives; primarily commodity exchange futures trading possibilities, I will ignore the analysis of stock exchange securities trading.

Based on the information collected with the help of Mr. Huynh Dang Khoa the Director of International Connections of HOSE, the stock market institution, technical background and professional skills provide the background for the expansion of the derivative market, even for the most important commodities and currencies.

Beside the two major stock exchanges the **BCCE** ~ Buon Ma Thuot Coffee and Commodity Exchange opened this door in 2015. The BCCE, formerly known as the Buon Ma Thuot Coffee Trading Centre, has a total charter capital of VND75.5 billion (US\$3.5 million), including 42 per cent sourced from the People's Committee of Dak Lak Province. The exchange trades in two products: spots and futures, for Robusta coffee and connect to global commodity exchanges, such as the Chicago Mercantile Exchange.

Tran Thanh Hai, BCCE general director, stated that Viet Nam coffee export is less effective than other coffee-growing countries, especially Robusta coffee. Viet Nam accounts for about half of the world' Robusta coffee output, but the other coffee-growing countries could gain three times more from coffee exports each year. The trading of Vietnamese coffee at the BCCE creates conditions for farmers to sell directly to buyers at the London Coffee Exchange, to help Vietnamese farmers avoid being forced to sell at low prices.

In 2008, the Buon Ma Thuot Coffee Trading Centre had no efficient operation because it lacked capital and a good operational mechanism, while many farmers could not conduct transactions at the center. The establishment of the BCCE is expected to solve problems for commodity transactions and help seize

business opportunities. Additionally, feasible deposits in cash or coffee are considered a suitable solution for small business households in the Central Highland region.

Following Robusta coffee, BCCE plans to trade in black pepper and rubber. This is a relatively small market in main the coffee production region which is not suitable for being the commodity and currency futures market of Vietnam in its present status; but this is the first professional initiative in this direction the Vietnamese market participants and professionals are definitely understand the market situation and problems. They are ready for establish the futures derivative market of Vietnam, in the frame of HOSE or independently as well. The only real limitation is the positive political decision.

The newest Exchange is the brand new **MXV Mercantile Exchange of Vietnam**.

Mercantile Exchange of Vietnam (MXV) is a joint stock company, licensed and managed by the Ministry of Industry and Trade to purchase and sell goods. 28/12/2006, Prime Minister issued Decree no. 158/2006/ND-CP detailing the Commercial Law on the establishment of a commodity exchange and commodity trading activities through commodity exchange. 1/09/2010, Ministry of Industry and Trade issued license no. 4596/GP-BCT establishing the first commodity Exchange in Vietnam – Vietnam Commodity Exchange (MXV) (DBA: VNX). VNX was granted permission to trade coffee, rubber and steel. 09/04/2018, Prime Minister officially signed Decree no. 51/2018, amending and supplementing Decree 158/2008, detailing the Commercial Law on goods transactions through commodity exchange. 08/06/2018, Ministry of Industry and Trade signed the document to allow the official name of “Mercantile Exchange of Vietnam” to be used in domestic and international transactions.

After the approval, MXV has officially brought Vision Commodities system into operation, through which widely supplies to all investors that have demand for trading commodity derivatives inside and outside of Vietnam.

The relevant registered commodities are the following: Corn; Whet; Soybean and oil; Robusta Coffee; Arabica Coffee; Rubber, Cocoa, Sugar; Cotton as agricultural products and different metals and energy sources. Interesting that rice is not among the listed commodities!

There are now real futures turnover on the exchange registered in this moment on MXV. The Institute is established, technically ready; cooperates with the world's leading exchanges and offers service for members and partners in market information and risk management.

Based on the investigation on the Vietnamese exchange trading and institutional background particularly focusing on derivatives especially commodities; I can conclude that the system is ready to start the real futures trading and market participants will be in the fortunate situation to create risk management and investment business on MXV in case of different commodities in the near future.

4. Advantages of Public Warehousing in Commodity Financing

4.1. Current Situation of Warehousing Market in Vietnam

Rice and coffee are the two most important agricultural products in volume and value. Vietnam is one of the world leaders in both products in quantity of production and exports as well. Price volatility is one of the biggest problems in Vietnam, which is true for both domestic and export markets.

Warehousing capacity regarding the main agricultural products is very 'colorful' regarding the size and the quality, as well as the storage technology. We can find the outdated, malfunctioning and the cutting-edge robotics technology parallel. Warehousing Market in Vietnam is developing extremely fast and it is expected to reach over USD 8 Billion by the year ending 2022 according to analysts of Ken Research.

Warehousing facilities plays a vital role in the overall supply chain process. In Vietnam, the companies operating within this segment were witnessed to adopt a warehouse management system that supports multi-location management, through effective order management, auto-refilling of inventory, auto generate purchase order to supplies and receiving automatic updates against inbound orders.

Vietnam warehousing market is expected to register a positive CAGR of 13.4% during the forecast period 2018-2022. The market is further expected to be driven by continuous flow of FDI from foreign multi-nationals and the government's efforts towards the development of logistics infrastructure and consistent economic growth.

Despite the situation mentioned above, the leading producer role, the price and storage risks and the fast-developing logistic background, Vietnam does not have Public Warehousing system and there is no current legal solution for PW. This is a regulatory shortage. The government should act as a bridge between local businesses, business organizations and markets, and large processing and trading companies by providing market information.

4.2. Example for a Rice Stockpiling Action in Vietnam

According to a Ministry of Industry and Trade report, Vietnam shipped more than 223,000 tons of rice to China in the first five months of 2019, tumbling nearly 74% compared with the same period last year. China used to be Vietnam's largest rice importer, accounting for 40% of Vietnam's total rice exports, but it now ranks third after the Philippines and Malaysia, representing only 8.1% of the total. Deputy Minister of Industry and Trade Tran Quoc Khanh said that local exporters have faced many difficulties this year as major traditional markets such as China, Indonesia and Bangladesh have slashed imports. Between January and May, the three markets imported a combined 239,000 tons of rice from Vietnam, down over 83% year-on-year.

However, Vietnamese exporters have been exploring new markets for the staple food. As a result, the nation's rice export volume hit 2.76 million tons, down just 6.3% year-on-year, whereas Thailand reported a 16% decrease. Khanh predicted further challenges for local firms in the coming days. For 2019, the Chinese government has granted a rice import quota of 5.32 million tons, but the actual volume might be as low as 3.5 million tons, one million tons lower than last year.

China's customs statistics showed that rice imports reached 850,000 tons in the first four months of 2019, down 24.4% year-on-year. Meanwhile, its export volume soared 112.4% to nearly 830,000 tons in the period. Major rice exporters such as Thailand and Indonesia have considered China a new rival. The nation is forecast to become the fifth largest exporter in the world after offloading its stockpile.

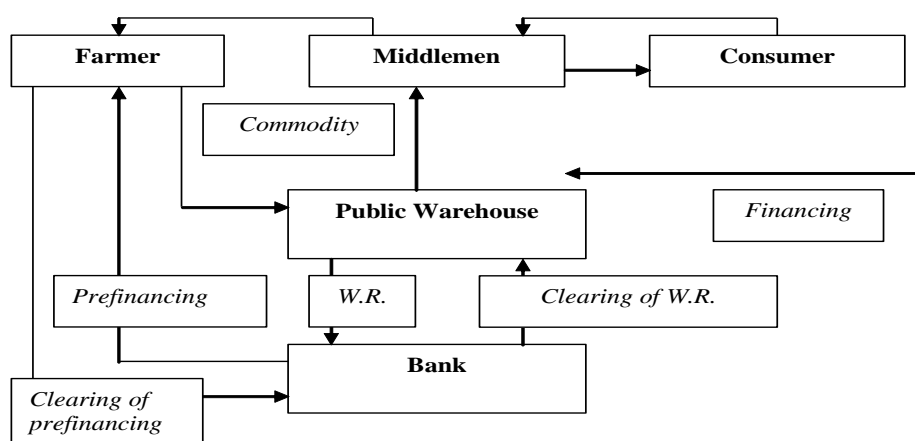
Under the direct instruction of the Prime Minister, MARD buys 200,000 tons of rice in 2019, for instance directly from producers for central stockpiling and with price increasing goal.

In the case of a purchase through a functioning futures exchange such as MXV, this quantity could be a much greater market impact and it should help market products at the convenient price as well.

4.3. Advantages of Introducing Public Warehousing in Vietnam

The public warehouse-based Lombard financing could have great importance in financing the rice coffee and other agricultural commodities market in the future in Vietnam. The method is very similar to the characteristic of US or European methods; presented in Figure 14.

Figure 14: Public warehouse-based commodity marketing



Source: Own figure

Vietnam needs new regulation to be able to the Public Warehouse as a new market institution for two reason!

On one hand a well-managed Public Warehousing system, which is existing according to the method above, could force commercial banks to step into the commodity financing on the other hand it could

support governmental stockpiling activity. I am convinced that market-based regulation can be used and the best solution to achieve pricing, regulatory and stock piling goals.

5. Suggestions

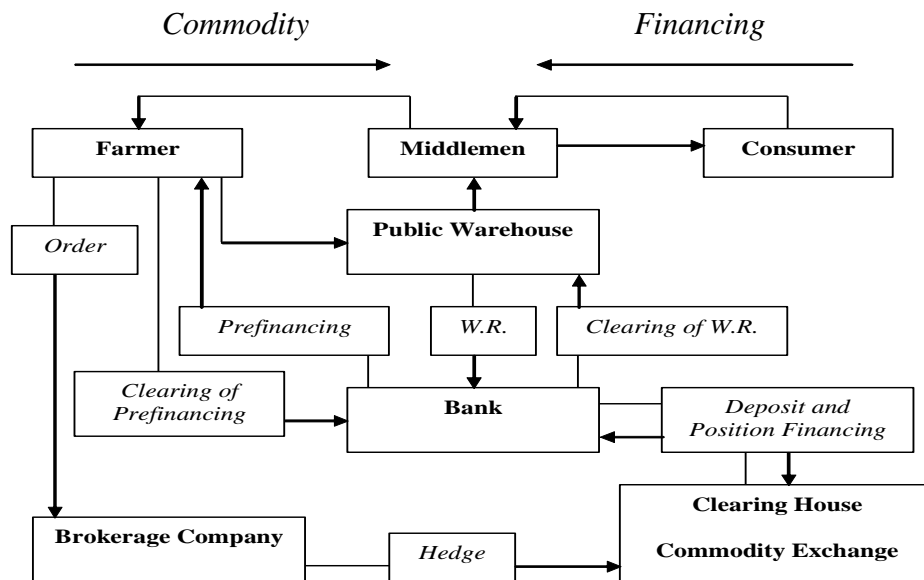
5.1. Combined Use of Market Institutions in the Vietnamese Market

Based on the introduction of new market institutions: public warehouse and further development of the Vietnamese commodity exchange VXM all of advantages would be available for the participants on the rice, coffee, corn, pepper; etc. markets in Vietnam.

The combination of possibilities offered by the two institutes gives the biggest chance to eliminate price risks. In the case of Lombard credits, it gives the best opportunity for both the borrower and the bank, namely: the borrower can have the highest credit amount as the lowest risk for the bank. This construction is called as a Lombard credit with a futures hedge background.

The method of commodity marketing by combination of public warehouse and a short hedge is shown in Figure 15.

Figure 15: Public Warehouse-based commodity marketing with a short hedge



Source: Own figure

The institutes and the possibility to use the combination of advantages offered by them are available to all producers, traders and consumers.

The most important basic information required to do business is the price of the commodity. This determines the profit of the business. There is no such a thing as „average” price information, because

of the parity, storage, finance and logistics. Knowing the special conditions of a given market, it is possible, however, to prepare precise price calculations for selling, purchasing or production decisions for that market.

The three main agricultural products are worth nearly \$ 29 billion according to Table 2. and are growing year by year. The country imports an additional 5-6 million tons of table wheat, worth \$ 1.5 billion and there are several more agricultural products are possible to be included in public storage.

The Hungarian grain market is 10-12 million tons, cca, the value is \$ 2.8 billion, less ten percent of Vietnam's, grain market and \$ 1.2 billion less than the Vietnamese coffee market. In the years before the EU accession, about 200 billion HUF (\$ 0.7 billion) of liquidity was provided to Hungarian agricultural market due to lack of resources with Public Warehouse based Lombard Credits, which was a great help for the production sector, which at that time was difficult to finance with traditional banking instruments.

Based on the Hungarian and European experience, 65% of the total storage and financing of the crop has been solved by producers, traders and manufacturers, cca. 35% of it is the potential quantity for Public Warehousing and Lombard Financing. In the United States it is over 50%. There are no accurate statistics for Vietnam, but the ratio is likely to be much worse - that is, the Public Warehousing and Lombard Financing ratio is higher, which could cca. be \$ 15 billion.

5.2. Introducing a New Commodity Financing Method with Existing Regulations

Over the past years the stock financing market – providing the capital demand that is the result of stockpiling and the characteristic strong seasonality observed in the agricultural sector – had increasingly grown and became more “practiced” by the market participants. Its size had reached an annual value of 1 billion USD in Hungary, of which the agricultural products had received the largest proportion through the various market participants (producers, integrators, traders, feed producers, mills). In the meantime this market had become part of the competition between the commercial banks that are the largest financiers of the sector, due to which the financing credit institutions had undertaken increasing risk levels, with respect to both degree of financing and the VAT financing related to stockholding.

The practice of commodity financing shoves colorful picture in these days. Considering the exceptional degree fall in prices and the actions of companies totally disregarding business ethics it seems necessary to reveal the full scope of risks inherent in commodity financing. The primary aim is to ensure the prudent operation of refinancing commercial banks.

In the shortage of Public Warehousing legal background in Vietnam there is an alternative solution for commodity financing suggestible which can providing a similar guarantee to the financier, while at the

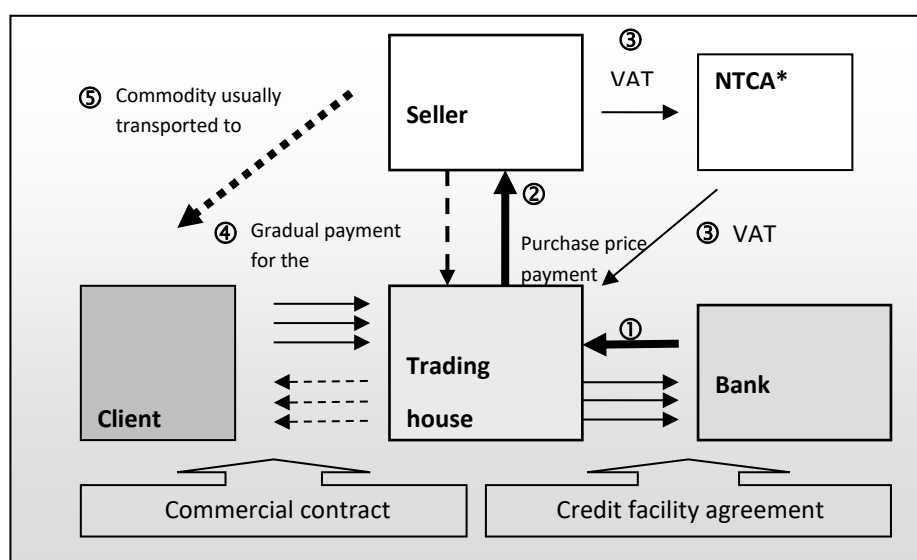
same time providing the commodity owners with the necessary resources, thus ensuring the right market prices are achieved, with the ability to sell at the right time.

The inherent risks in trade financing – as they had been proven by the experiences internationally – are not primarily found in the goods themselves, but rather at the actual storage facility and also emerge in relation to the clients; and the inadequate and ineffective risk management of price volatility by the financiers. Therefore, the establishment of banking risk management and risk prevention techniques, the development of new procedures become indispensable, minimizing all types of risks that had emerged in previous years.

The optimal combination of applicable banking collaterals in the area of structured commodity finance and commercial transactions allow the client to receive funding even if the client's financial situation and capitalization would otherwise not allow the establishing of a financing limit or if the client is loss-making however the stocks are available in large, homogenous volume, immediately marketable at a traceable price.

Trading House financing also represents a huge competitive advantage for banks, similar then the Public Warehousing and Lombard Financing, considering that the ownership of the goods acting as collateral provide greater loan security over most banking type (eg. mortgage right) collateral, and the option of disposal over the goods are immediate. It is a further positivity that the clients may be financed over the financing limit and - when necessary - for transactions that are at the stage of work-out and the prior, intensive (restructuring) management can be dealt with rapidly and flexibly (collateral transfer).

Figure 16: Methods of Trading House financing model



Source: Own figure

*National Tax and Customs Administration

It permits banks to enter the financing of such companies where the company – due to existing banking relations – cannot offer classic type collaterals (eg. real estate), however with the buy-out of certain assets and stocks additional financing may be provided, with lending of considerably higher yield than applicable to other business sectors, that further expands the market options of banks.

Trading House - similar to banks' other such type companies, e.g. leasing practice – is a typically project type company, that can perform invoiced commercial activities, acting as an instrument in such financing transactions where the acquisition of the ownership right of goods is preferred or is the only lending method (Figure 16).

It is also important from the prudential supervisory viewpoint, that the banks' commodity financing activities that are carried out through trading companies are performed with the involvement of such companies where the controlling, refinancing credit institution can exert an exclusive competence regarding the management of risks.

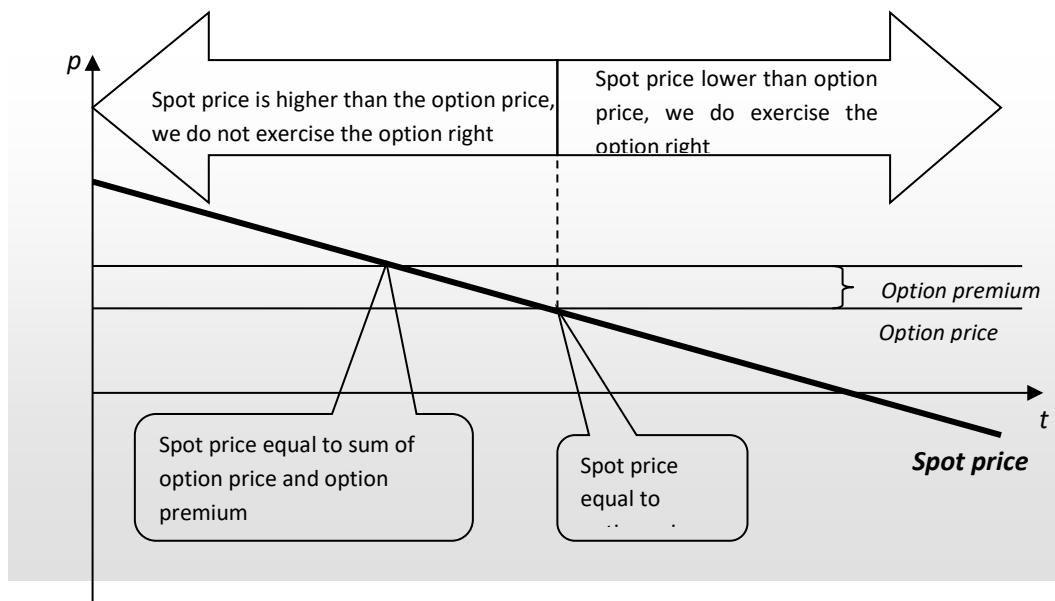
The applied workflow during the activities are in every case dependent on the composition of the structure, and the type of goods, however the source of repayment is in all cases are the future cash flow from the sale of the goods.

The financing of the client is carried out against a revolving credit facility provided to the Trading House by the refinancing bank. Its degree is determined based on the client's previous financial year's procurement- stock levels- and sales data that are provided by the client. The Trading Company has disposal over the credit facility following the presentation of conditions and documentation proving the closed nature of the construction. In the case of this type of credit facility the repayment schedule is fixed, the repaid amounts may be used again according to the conditions set out in the financing structure.

During the transaction the Trading Company acquires 'acquires ownership rights' the goods/stocks from the Client, and each time obtains loans from the refinancing Bank for the financial settlement of the gross purchase price. The determination of the purchase price plays a highly important role in every financing facility.

Trading House structured business model is basically based on the price difference of purchased goods and their resale price. Based on the model, the trading house receives the stocks at a specified - compared to the value of goods at a pre-fixed rate, reduced price - that the seller (client) intends to repurchase during the provided option period but at the latest at the last day of the option period, that is maximum one year. The implementation of the option ensures the contractual collateral that – in the case of sufficiently quick reaction - may prevent the loss generating devaluation of stocks (Figure 17). Thus, both the refinancing and the Trading House capital are protected from possible price depression.

Figure 17: Methods of exercise long put option right



Source: Own figure

At the time of goods purchase, the Trading House – simultaneously with the purchase-sale contract – also concludes two option contracts. On the one hand the trading house provides a short call option right to the seller of the goods for the repurchase during the term; on the other hand, establish a long put option right to reduce its risks. The latter means a purchase obligation to the seller.

In the case that the Trading House experiences the unplanned increase in risks regarding a given transaction, acting within the options allowed by the contractual framework, utilizing its option right may call upon the client for the repurchase of the goods, in the event of non-compliance by the seller, the trading house the option to sell the stocks on the open market without any sanctions.

With the establishment of the call option it remains the trading house's discretionary right that in case of default or fraud event steer the closing of the transaction towards commodities risk (possession, sale), or in the case of better borrowing capacity clients placing emphasis on company risk utilizing the put option forcing the client to repurchase the goods.

5.3. The Practice of Commodity Financing Method by Trading House

The possibility of risk management role of the Trading House, a practical solution is introduced bellow. If the Trading House is involved in the financing business it means, that the credit arrives to the real client 'the producer or any other commodity owner' indirectly. The bank grants the credit to the Trading House who buys the stocks from the client. The Client collects the credit as the revenue of selling and gets a right or an obligation 'depending on the market situation' to buy the stocks back.

What is the main reason of the involvement of the Trading House? The answer is simple: ownership is the strongest collateral! It is forbidden to be stock owner, for financiers. Because of this, the Bank controlled Trading House became the owner of the credit cover stocks 'instead of the bank' assured the collateral of the credit.

There are two solutions for the bank, controlling Trading House:

1. The Trading House is owned by the Bank in 100 p.c.: In this case the control is absolute; the Trading House became the part of the Bank group system. This solution a little bit anxious from the supervising authorities' point of view. The Trading House activity seems crediting activity, which is the privileged pursuit of banks.
2. The Trading House is an independent company. In this case the anxious above is eliminated, but ensuring the absolute control is a bit complicated. The solution is the following: The Trading House has to be involved in the business with its owned resources in 5-10 p.c. as well, at the same time the bank get option to buy majority of Trading House's shares. This solution is much more market friend! Because of the independent position of the Trading House the basis of the potential partners is much wider. In this case the guarantee background of the financing construction must be precisely solved particularly from price risk management point of view.

There are two possibilities of ensuring of the price of stocks and the value of the collateral at the same time: Pre-contracted selling positions for the whole stock with large valuable buyers or hedge in the futures market.

The practical solutions of the financial construction:

Firs solution: This is necessary to establish a 'buying-consignee' contract between the Trading House and the Client (seller of the stocks). In the framework of this agreement the Client takes responsibility to sell the stock 'owned by the Trading House' in his name, but in favor of the Trading House for a pre-contracted valuable buyer.

Second solution: The Trading House sells the stock directly to a pre-contracted valuable buyer on his own right. Calculation of the buying price 'the valuation of the collateral and the volume of the credit' of stocks:

BASIC PRICE (buying price of the pre-contracted valuable buyer)

- profit of Trading House;
- fee of quality control;
- costs of warehousing;
- cost of stock insurance;
- cost of stock manipulation;
- consignee fee;

- cost of delivery;
- costs of documentation
- = BUYING PRICE

Third solution: The Trading House hedge the selling price of the stock in the futures market. The calculation of the buying price in this case:

BASIC PRICE (the hedged price in the futures market)

- costs as above
- costs of the Exchange
- cost of position financing on the Exchange
- = BUYING PRICE

This solution theoretically works any futures market in case of any commodity. In case of Vietnam the door will open for the third solution soon hopefully with the development of futures Commodity Exchange on Vietnam Mercantile Exchange!

6. Summary

This study is based on seven-year-long history of connection building, lecturing and investigation, Vietnamese and international sources, furthermore, based on direct information from several university and non-university experts and renowned market participants in the examined market.

Vietnam has one of the strongest agricultural production potential and effective production on several field of agriculture. In case of Coffee and Rice production one of the leaders of the World and one of the biggest exporters at the same time. The economy of the country is developing very fast and has up-to-date technology in plenty of cases, logistics and logistics are among them, but there are two areas to be improved such as the Commodity Exchange Futures Trading and the Public Warehousing, together with the agricultural commodity based Lombard Financing.

Based on the several years long international experience and investigation on the Vietnamese market, after presenting the current market situation, this Study makes an attempt to propose the introduction, in case of Public Warehousing, and development, in case of Commodity Exchange.

The Combined use the functions of these institutes could help for grain market participants, such as producers, manufactures, traders, and financiers for convenient business decisions, price and credit risk management, and able to involve extra financing resources to the Vietnamese agriculture on 10 Billion USD size. Over market participants advantages, these solutions can help to reach market regulation and stockpiling strategy goals for Vietnamese Government. These techniques offer relatively new solutions but could contribute to the further development of these fields.

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