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**Vugar F. Namazov<sup>1</sup>**

## **STRUCTURED FINANCIAL PRODUCTS TRADING AND ITS IMPLEMENTATION PERSPECTIVES IN EMERGING ECONOMIES**

*The main objective of the research is to examine key aspects of the structured trade financing instruments and to analyze prerequisites for its existence. Hereby, the main focus is concentrated around developing economies. The research was carried out based on research methods such as comparative analysis, empirical approaches and logical generalization. Also, for the research purposes the current market situation, infrastructure, opinions and recommendations of international organizations were analyzed, and an optimal model and market conditions were generated. As a result of research an importance of the derivative financial instruments, organization of spot markets and warehouse receipt systems were investigated. The main factor limiting the study is a variable statistical need and mathematical modeling based on the economic specifications of each economy, as each market will need more country-oriented research and solution rather than general model that suits all. The practical significance of the research is to ensure synergies between financial and commodity markets and to develop a sustainable risk management tool, as well as to enhance access to capital by introducing an alternative financial instrument and market environment for local producers, including small and medium size entrepreneurs.*

**Keywords:** *financial markets, financial instruments, commodity trading, derivatives, warehouse receipt*

Structured Commodity Finance is important as it allows businesses to get funding when the standard financing tools are not economically efficient. Considering the fact that, in a standard borrowing model, to finance the business, borrower must own an asset of a greater value than their lending requirement. This problem is especially stressful within the commodities world, where volumes are high but margins are

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typically low. Structured finance instruments allow normally "un-fundable" trades to be viable.

According to Robert W. Kolb and James A. Overdahl [5], structured products are financial instruments that combine cash assets and/or derivatives to provide a risk/reward profile not otherwise available or only available at high cost in the cash market.

Referring to the research materials provided by the United Nations Conference on Trade and Development (UNCTAD) [13], in order to compensate for the higher risks in developing countries, financial institutions routinely charge more than they would charge for similar entities in a developed country while granting loans. One way to mitigate this problem and considerably enhance finance possibilities is through increased use of collateralization, which in terms leads to the securitization in a framework of structured products.

According to Robert W. Kolb and James A. Overdahl [5], investors in securitized loans face default and prepayment risk, among other risks, passed through by original loan issuer. According to Neil C. Schofield [8], from an investor's perspective, the three main credit-related issues are highlighted - default probability (likelihood that an asset will default over a given period of time), default correlation (the tendency of assets to default together) and default severity (the amount of loss in the event of a default).

According to John D. Finnerty and Rachael W. Park [9], in terms of an effective risk management, instruments must be structured properly. Referring to UNCTAD [13], in global markets the value of a collateral depends on the degree of certainty that, in case of default, the credit provider can take possession and realize a fair price on its sale.

According to the United Nations Food and Agriculture Organization (FAO) [10], warehouse receipt financing is a proven instrument for allowing farmers, traders, processors and exporters to obtain finance secured by goods deposited/collateralized in a warehouse. A well-functioning warehouse receipt financing system based on public warehouses therefore has the potential to reduce risks and transaction costs in collateralized financing, which may result in broad-based access to such financing and low costs. However, for this to be achieved, an enabling legal environment and institutional set-up need to be in place to instill trust in the system among financiers and commodity market participants and to safeguard its integrity.

According to another research conducted by FAO [4], an effective warehouse receipt system also benefits financiers. The system can reduce the risks of lending to farmers and other agricultural producers by creating secure collateral. The way to utilize an effective financing structure via warehouse receipt system is a commodity repo model. According to Robert W. Kolb and James A. Overdahl [5], repo is a "synthetic loan of the security", meaning that it is just a forward contract combined with a sale of the underlying asset in the spot market. Commodity repos use a warehouse receipt as an underlying collateral, which is, in broader terms, a right to the commodity rather than commodity itself.

According to Robert W. Kolb and James A. Overdahl [5], even though repos carry out the characteristics of a derivative instrument, they are relatively simple products rather than typical derivatives, so referring to FAO [4], the ease of use creates an opportunity of their implementation in cases where standard financing models are hard to apply.

A research conducted by Neil C. Schofield [8] reveals that some of the structures analyzed using Monte Carlo techniques can be decomposed into their constituent elements, but the solutions that are modelled can be very difficult to analyze. It is possible, however, to present a relatively simple framework that will allow an investor to analyze any product with which he/she is faced.

The **objective of the study** is to examine optimal characteristics of the commodity based structured financing instruments, in terms of the developing market conditions or when standard financing models are ineffective to apply. The research was carried out based on generalization of case studies and comparative analysis.

According to the author's research, structured commodity finance is implemented when a simple and straightforward bilateral lending is not effective. Structured commodity transactions create an alternative way for trade security and lending. An example of this is structured commodity finance in relation to oil transactions and taking security around assignments of off-take agreements.

It is important to analyze commodity-based transactions based on fundamental elements of the market like trading cycles, products, buyers, sellers, risk management and time periods of trades. In this context, the role of financial institutions as a provider of financing risk management tools as well as supporting clearing and hedging of FX risks plays an important role.

Structured Commodity financing mechanisms includes:

- Pre-export Finance
- Letters of Credit
- Export credits
- Inventory Finance
- Barter and Inventory Finance

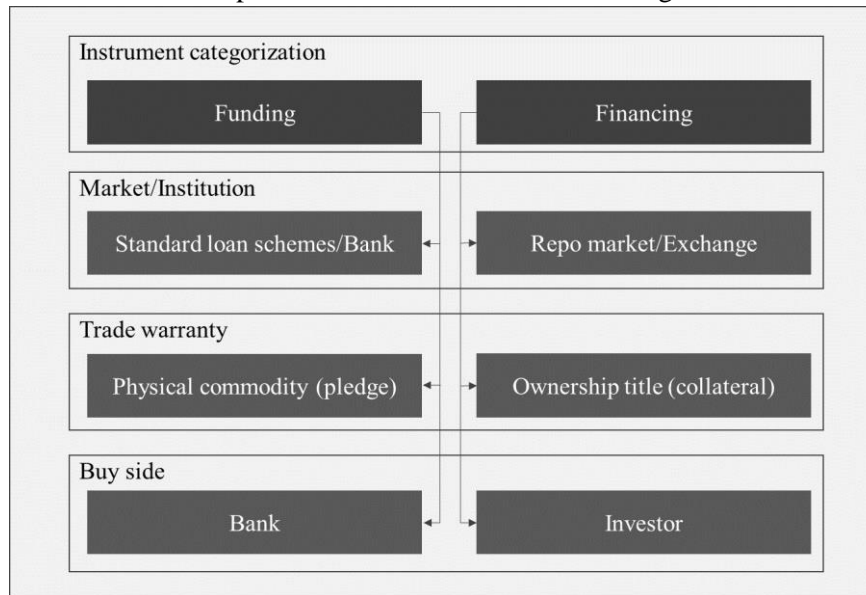
The privilege of the structured commodity finance is the possibility to use wide range of commodity products as a base. The product can be constructed depending on investors' preference for main lending parameters like commodity class, leverage ratio, jurisdiction, collateral structure etc.

An important aspect for structured finance is the accuracy of the construction of the lending collateral base, or saying another way, the structure of the assets to be used as a warranty for the fulfillment of obligations. Within this framework, parties can still utilize standard, generally accepted risk mitigation tools.

In a competitive environment, financial institutions developed tailored solutions to meet the client's exact needs for all sizes of transactions.

According to the research, agency finance, structured commodity trade finance (SCTF), syndicated trade loans, trade receivables finance, and commodity repos are the typical forms of structured financing instruments in the market. A general market

model is provided in figure 1. Figure shows how contracting environment, warranty mechanisms and institutional investors categorically change for the commodity-based transactions in comparison with traditional bank funding model.



**Figure 1. General characteristics of the commodity-based finance structures showing traditional bank funding (left side) versus commodity-based financing (right side)**

Source: The author.

**Agency Finance** - The advantages of an Export Credit Agencies (ECAs) and/or Private Risk Insurance companies (PRIs) covered transaction include availability in situations where stand-alone financing would not be feasible. It provides relatively long repayment periods (including a grace period), coverage into most convertible currencies, fixed interest rate options, security of payments for suppliers, significant country risk mitigation and standardized documentation processes.

The core products of **SCTF** rely on self-liquidating cash flows generated from the trading of commodities to support the finance structure and mitigate associated credit and transfer risks. In practice, the commodities covered may include exchange-traded commodities across the energy, metals and softs complexes, along with certain mainstream non-exchange traded commodity complexes such as ferrous metals (including across all steel products), ores and tobacco.

**Syndicated trade loans** are provided by a group of lenders to a borrower. They are structured, arranged, and administered by one or several commercial or investment banks known as arrangers and because they allow the sharing of credit risk between various financial institutions, they are a significant source of international financing.

**Trade receivables** are generated from the sale of goods or services to another company. Trade receivables finance enables a company to finance against these trade



receivables in order to increase day-to-day cash flow, improve its ability to fulfill further orders and meet the daily operating costs of the business<sup>2</sup>.

**Commodity Repos** provide a sale of a commodity, and its repurchase at a later stage, considering the difference between the purchase price and repurchase price as an interest income for the borrower. Repo contracts link commodity assets directly to the capital market by bypassing the banking system. It matters when financing thru the banking system is economically inefficient for both lender and borrower. Also, it bypasses the pledging routine for both borrower and lender.

#### **Perspectives of implementation of commodity repos in commodity financing**

Considering a) the wide implementation of repo instruments in financial markets for which adequate legal, technical and institutional environments are already in place, and b) procedural easiness of its implementation in commodity markets, this instrument requires a separate further research, especially from the emerging economies' perspective.

Commodity repos have long been used by public sector market players in commodity trade as an alternative financing instrument. Hereby, the interest income is structured under sale and re-purchase agreements of the underlying asset. A subject for the repo agreement may vary from securities to commodity. A nature of the repo instrument is mainly financial, in a broader context it is a financial market instrument. Applying it for the commodity market creates a bridge between financial and commodity markets [5].

To put it simply, a repo is equivalent to a cash transaction combined with a forward contract for the purchase/sale of the underlying asset or commodity (further it will be referred to as commodity meaning the underlying asset). The cash transaction results in the transfer of money to the borrower in exchange of a legal transfer of the underlying asset/commodity to the lender. The forward contract ensures repayment of the loan to the lender and the return of the collateral to the borrower.

The difference between the forward price and the spot price is the interest on the loan and the settlement date of the forward contract is the maturity date of the loan. The party who originally buys the commodity effectively acts as a lender and the party who originally sells the commodity acts as a borrower. Here, commodity is used as a collateral for a secured cash loan or in other words, warranties the execution of the second leg of the transaction on a repo maturity date.

A repo transaction is based on sale of a commodity (commonly represented by warehouse receipts) for cash, and its repurchase at a later stage on the repo maturity date. Period between first and second leg transaction is classified as a repo duration, which may be fixed or open depending on the repo agreement [12].

Hence, by signing a repo agreement the lender does not provide a loan, but purchases commodities against a cash from the borrower. At the same time, the borrower (normally a spot commodity market participant) obliges to repurchase the

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<sup>2</sup> <https://www.cib.db.com/solutions/trade-finance/structured-trade-finance.htm>



commodity back at a prespecified date and price from the lender (normally a financial institution).

Difference between purchase and the repurchase prices (other way, repo opening and repo closing prices) generates a repo interest rate.

The main problem of calculating the second leg price or the maturity price of the commodity-based repo transaction is the cost associated with carrying a commodity through time (storage costs) and the cost of borrowing a physical asset in an arbitrage (spot market price at the date of maturity).

From the perspective of effectiveness of the inventory management, commodity repos provide operational liquidity to those companies, which otherwise would have been tied up to inventories.

As a tradeable market instrument, repos are more flexible, they provide faster financing than commercial bank loans with usually lower interest rates involved.

Legally, the underlying asset for repo is not treated as a pledge, but is conducted as a collateral which in turns requires less legal routine and no liquidation risk. While a pledge-based commodity, financing carries liquidation risk and legal procedure (usually requiring the settlement via a court) in case of the borrower's default.

In commodity repo transactions, a lender has an actual title, but usually not possession, of the commodities financed. Thus, commodity repo structure carries various risks, mainly related to legal framework and safekeeping of the commodities [12].

As an example, in case of bankruptcy of the borrower, a court decides that the repo was not a true sale, but rather a hidden loan. And with this regard, it reclassifies the repo transaction as a loan, and any claims the lender has are part of the overall bankruptcy proceedings. Which means they are so no longer secured. This may happen if the repo price radically deviates from the market price, or if the borrower has kept effective control over the commodities [12].

Another example, in case of the warehouse's failure of the commodity delivery at the date of repo maturity, the borrower demands the return of the physical commodity, rather than the title (warehouse receipt), form the lender as a prerequisite to fulfill its payment obligations or in other words to return the loan [6]<sup>3</sup>. Once the repo transaction is signed, financing is provided on the condition of a transfer of warehouse receipts, rather than a transfer of physical commodity. Keeping in mind that, the warehouse receipt represents the commodity instead. Within the repo duration, the warehouse where the actual commodities are stored may become

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<sup>3</sup> Citi vs Mercuria case which relates to whether the transfer of warrant certificates really does constitute a "delivery" of the commodity in question. Mercuria started legal proceedings against Citi in June, after the US bank demanded the early repayment of \$270m extended under a 'repo' agreement. The dispute over the repos flared up after Chinese authorities have sealed the warehouse facilities at Qingdao and Penglai linked to a financial fraud. The financing was thus provided to Mercuria on the condition of a transfer of depository receipts, rather than a transfer of physical commodity, and which could be terminated upon the redelivery of the warrants to Mercuria by Citi. Mercuria, however, are arguing that because a delivery of warrants doesn't amount to the delivery of physical metal, they are not obliged to return the financing since Citi has not fulfilled its terms. *Source: Financial Times, December 3, 2014, "Markets Equities Citi vs Mercuria, a.k.a when commodity repos go wrong", Izabella Kaminska [6].*

insolvent. And on the date of maturity the borrower may argue that, since delivery of the title doesn't mean delivery of the physical asset, they are not obliged to return the financing since the lender has not fulfilled its terms.

Considering obstacles that, first, most financial institutions would rather choose not to go through the routine of having own warehouses, just to be able to provide financing to commodity traders, and second, delivery of warrants doesn't constitute the same thing as delivering physical commodity significantly increase the risk associated with repo transactions for banks. So, the safekeeping issues of the commodities within the repo term become even more important.

All repo terms and conditions are fixed in a Repo Master Agreement. The main purpose of having master agreements in the context of repos is to facilitate the margining of transactions across the portfolio of transactions and offer a pre-agreed exit strategy on a close-out in case one of the parties' defaults [9].

While the close-out procedure, where parties do want to net off repo either against stock lending positions or against positions in OTC derivatives, they are likely to use the Cross-product Master Agreement. In common practice it is not widely used as it is not generally permitted for regulatory capital purposes to net off positions on off-balance sheet transactions (i.e., OTC derivatives) with on-balance sheet transactions (which include repo and stock lending transactions) [9].

According to the FAO and World Bank research, in countries with a highly efficient financial sector, the gains for lenders are small while, for borrowers, the gains primarily depend on the terms at which they usually access finance. In countries with well-developed corporate rating systems and a strong legal system, farmers, processors and traders often already have good access to finance at acceptable rates [3]. For these reasons, commodity repo systems are not widely used in those markets.

For instance, history of agricultural finance in the United States shows that, with the improvement of financial record keeping in agriculture, the role of warehouse receipt finance declined strongly. Specifically, in countries of the EU and countries that will soon access the EU, a repo system for agricultural finance may have only limited benefits [3].

Another important aspect of repo transaction is a taxation dilemma. As legally, repo contracts are not loans, but purchases and sales, at some extent they can be considered as subject to VAT. VAT for the repo-based finance has been a real problem, for example, in the Russian Federation, where banks had to set up special vehicles to deal with this issue [3].

Generally, if a VAT policy is too complex or VAT reimbursements are very slow, there will be hard to impossible to find a reliable or workable solution. Also, there might be a lack of market infrastructure or adequate means to deal with the VAT implications of repo trade.

### **Warehouse receipt and its role in structured commodity financing**

According to the study provided by United Nations Food and Agriculture Organization's (FAO) [12], in a commodities world, warehouse receipt system is





usually used as a warranty mechanism for the commodity-based financing transactions. This is because putting a commodity itself as a collateral is usually not effective, due to the additional constraints such as cost, time, transportation and facility management issues. But having a receipt that legally approves and validates the rights on commodity appears to be a good solution widely accepted by lenders. With these regards, a good commodity-based financing model requires an adequate warehouse receipt system.

According to the FAO's classification [12] and empirical research, warehouse receipt can be used in a structured commodity financing structure: a) as a pledge on the commodity (classing lending scheme), b) to shift ownership title of the commodity (repo transactions).

The use of warehouse receipts as a pledge instrument is more common in practice. The use of warehouse receipts as in a classic pledge based-lending scheme theoretically means that the commodities are no longer in the possession of the borrower, and hence, if the borrower defaults, the lender shall have an easy access to the commodities [13]. But there is an additional risk to the lender, as a transfer of the warehouse receipt does not always or necessarily mean a transfer of the possession. Even if the warehouse receipt has been transferred from the depositor to the lender, the warehouse operator may still release the commodity to the original depositor in case of the information asymmetry [12] or imply limitations on the rights due to the legislative obstacles [6].

This type of legal ambiguity is usually addressed through tripartite arrangements among the lender, the borrower and a warehouse, whereby the warehouse operator explicitly acknowledges that it is holding the commodities on the lender's behalf, which is equivalent to possession. This tripartite arrangement makes a warehouse receipt functionally equivalent to a title document and allows quick access to the commodity if the borrower defaults [13].

One of the triggers for supporting commodity producers and economic growth in general is a proper credit system. Like in agriculture, postharvest loans in the form of structured commodity finance based on warehouse receipts play a critical role, especially for the emerging economies [12].

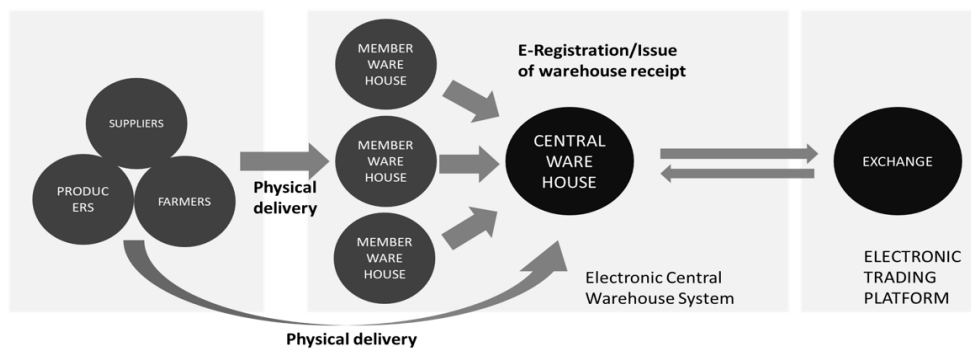
Warehouse receipt financing especially suits small and medium size enterprises, which are often unable to secure their borrowing requirements due to the lack of necessary collateral [12]. Therefore, warehouse receipt systems can mobilize credit for the agricultural sector and improve agricultural trade [4].

This type of finance allows farmers to avoid selling directly after harvest, when prices are normally below the expectations. Having a tool to attract a new financing, farmers get an incentive to invest in production by pushing the production forward.

Even though implementation of the warehouse receipt system has a long tradition in the developing world, in most Europe and Central Asia (ECA) countries it has only been introduced since the collapse of the Soviet system [12].

Based on existing warehouse systems, an optimal model can be proposed for the developing countries or as a base model in the economies where trading thru the warehouse receipt system is a way to be established (figure 2).

As warehouse receipt financing mechanisms are modernized, electronic warehouse receipt systems are being deployed. Which makes it flexible with various complicated financial schemes. Hence, according to the legal framework under which the warehouse receipts are issued and contractual specifications of counterparties it is possible to determine whether the holder is allowed to transfer, sell or pledge the commodity as a cascade financing mechanism.



**Figure 2. Licensed Warehouse System Model**

Source: The author.

In general, compared to unsecured finance, commodity finance scheme structured by warehouse receipts requires relatively much paperwork, higher management costs [13] and risks associated with legislative implications [6], [4].

An ownership-based warehouse receipt finance is often structured as repurchase agreements (repos), which was discussed earlier.

In addition to the recommendations of the World Bank's and the FAO [3], there is a matured role model of warehouse receipt system in Turkey [1] and newly established but trustworthy warehouse receipt implementation (with licensed warehousing infrastructure) in emerging African countries [2]. In both scenarios, new opportunities for farmers and local producers can be clearly observed.

### **The role of the commodity exchanges**

A good warehouse receipt system needs a good and trustable price information and forecasting mechanism. Commodity exchanges with an adequate volume of spot, forward and futures contracts is the most comprehensive solution. Systematic role of the commodity exchange is also important in terms of facilitation of the quality assurance, delivery and transparency for commodity warehouses [3].

An alternative solution could be an independent price information system with a transparent operational environment [12]. Hence, it is necessary to find alternative ways of acquiring price information where there is no reliable spot or futures market.

In general, reference price availability is the essence for the proper operation of warehouse receipt financing schemes. It is absolutely up to the economic model whether it is a commodity exchange or price information system, which plays the role of the price aggregator or "transmitter".



One way to establish a price discovery network is to connect buy and sell quotes via a client-bank system, where banks will use these prices to determine the commodity value for the collateral on a daily basis. As a role model, there is a successful prototype market information system introduced in Bulgaria via the USAID-funded Grain Industry Development Project complementing development of the warehouse receipt system [7].

In line with the support of developing economies, commodity exchanges can serve a variety of functions related to financing, risk management and marketing. These functions include [3]:

- Managing price risk. By offering forward or futures contracts, exchanges can facilitate the risk management through forward contracts and derivatives;
- Reducing counterparty risk. Having an adequate due-diligence mechanism for trade participants, and through financial guarantees, exchanges can reduce or even entirely remove the risks that one faces when dealing with unknown counterparties;
- Enhancing price transparency. Exchanges implement special tools and mechanisms for the price discovery, which enables the fair trading by reducing information asymmetry;
- Reducing risks related to the collateral value. Because of the greater price transparency and pre and post trade mechanisms on an institutional level, financiers can be more confident about the value of the commodities that they finance;
- Certifying quality of commodities. Exchanges set and enforce quality standards for the commodities traded through their platform;
- Access to the repo market through capital markets. Exchanges provide direct access to capital markets through repos, which is guaranteed by their clearing systems. This also leads to higher integrity between the domestic financial and commodity sectors;
- Facilitating physical trade. Additionally to forward or futures trading, exchanges play a central role in physical commodity trading by implementing guarantee mechanisms all over the commodity chain and supervising/having inspection function over the warehousing;
- Fast trade execution platform for buyers and sellers. In line with business incentives, from an institutional perspective, exchanges are the subject of the governmental regulations. In a world of competition, with advanced technologies and expanding regulations, trading systems became time efficient both for buyers and sellers;
- Guarantee on the logistics of trade. Having a subjective control mechanism over the warehouse system, and a membership model with the trade participants, exchanges enhance the logistic issues via integrated information platforms.

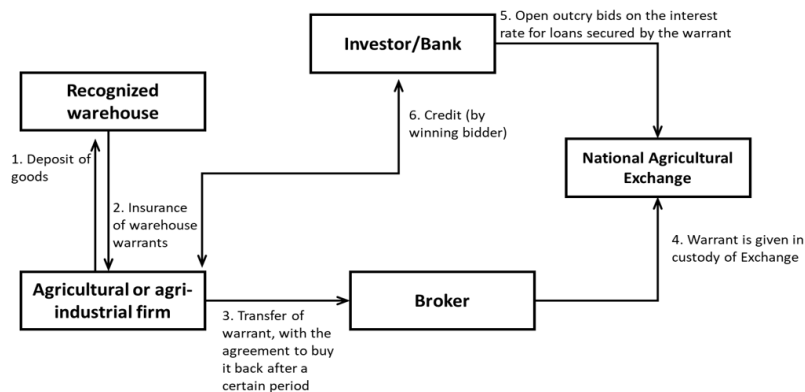
The state's policy of control over commodity exchanges is of special importance in the formation of an organized market [11]. Although there is no single approach, in practice there is a replacement of strong state control at the initial stage with a softening in the later stages of development. In countries with a successful development in this area (Hungary, Romania and Russia), exchanges were

established as representatives of the private sector on the principle of public-private partnership.

Governmental support is directly observed through the formation of an organized market and support for market infrastructure in all across the Europe and Central Asia (including post-Soviet countries). For example, in Belarus and Uzbekistan, the state commodity exchange acts as the main driving force by regulating export channels. In Russia, government agencies encourage the creation of new exchanges. In particular, the Moscow Stock Exchange, of which the Central Bank is a major shareholder, provides the necessary support for the creation of new instruments on commodities, while offering a single platform for joining regional exchanges. Also, in addition to the state support, Kazakhstan, Tajikistan, Turkey have the support of donor organizations.

In certain cases, developing a commodity exchange with a regional outlook may be feasible, especially, in terms of implementations of a common electronic trading platform and a common set of delivery specifications. There is a good example of EEX<sup>4</sup> for the Europe, DGCX<sup>5</sup> for the Dubai markets, and an initiative for the ETS<sup>6</sup> for the Euro-Asian commodities markets.

A generalized working model of the repo trade thru the exchange is given in figure 3 [3].



**Figure 3. The exchange-traded agricultural repos process**

Source: Commodity exchanges in Europe and Central Asia, A means for management of price risk, working paper, prepared under the FAO/World Bank Cooperative Programme, 2011.

### Conclusion

For the developing economies, where commodity trading needs a systematic approach in order to reveal the potential of the further growth of the commodity

<sup>4</sup> European Energy Exchange (EEX), as part of EEX Group, is the leading energy exchange in Europe which develops, operates and connects secure, liquid and transparent markets for energy and related products. EEX offers contracts on Power and Emission Allowances, as well as Freight and Agricultural Products. Source: <https://www.eex.com/en/eex-ag/part-of-eex-group>.

<sup>5</sup> Dubai Gold and Commodities Exchange (DGCX), is a subsidiary of Dubai Multi Commodities Centre (DMCC). DGCX offers a range of products from the precious metal, base metal, energy and currency sectors. Source: <https://www.dgcx.ae/dgcx/about-dgcx>.

<sup>6</sup> Eurasian Trade System Commodity Exchange (ETS), is designed for spot and derivatives trading in on-exchange commodities. ETS mainly focuses to the Russian and Kazakhstan commodities markets.



markets and to support market participants by promoting new financial instruments, the role of the governmental support is critically important. Also, governments in these countries often have a limited knowledge of commodity market regulation and could be tempted to adopt inappropriate laws (as was the case in Kazakhstan, where the new Law "On Commodity Exchanges" severely limits the chance of success of commodity exchange ventures, among other things because it stated that exchanges should be not-for-profit). With these regards, focusing on awareness-raising and promotion thru the incentives by the government will create a natural market environment for the growth.

As a result of the study, when standard financing models are ineffective, the following major findings could be highlighted as prerequisites in order to achieve the objective of an effective financing infrastructure thru commodity based structured instruments:

1. A well-developed warehousing system with a warehouse receipt mechanism in order to provide an adequate risk management mechanism. Because a classic commodity collateral has its minuses such as additional cost, time and operational issues with physical commodities.

2. Commodity trading information system or commodity exchange in order to provide a reference market price for the financing conditions and to eliminate information asymmetry.

3. Marketable, scalable and simple instruments such as repos, which are widely used by financial institutions in capital markets because of its ease of structuring without a need for the classic pledge routine. There is also an existing investor base in financial repos, which makes its implementation for the commodity markets even more promising.

4. Governmental support, such as a sustainable legislative framework, investor protection and competitive market environment.

As an outcome, over a long-term period, an exchange traded commodity repo shows a perspective as a commodity-based financing solution for the developing economies. But it requires an above described necessary market environment, to be in place. Key characteristics of the exchange traded repos can be summarized as following:

- Electronic and bilateral cash funding;
- Standardized, bilateral or tailor-made financing opportunities;
- Trades may be organized according to open outcry system based on the best price execution mechanism or Requests-for-Quotes (RFQ) can be sent to a preferred potential counterparty or counterparties;
- Multiple standard terms from overnight until several month;
- Possibility to manually choose among the available collaterals;
- Automatic allocation of collateral and real-time substitution of collateral within clearing system;

Three-party repos with the participation of clearing agent and/or warehouse makes the arrangement much more trustworthy.



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## **ТОРГІВЛЯ СТРУКТУРОВАНИМИ ФІНАНСОВИМИ ПРОДУКТАМИ ТА ПЕРСПЕКТИВИ ЇЇ ВПРОВАДЖЕННЯ В НОВИХ ЕКОНОМІКАХ**

*З допомогою таких методів дослідження, як порівняльний аналіз, емпіричний підхід та логічне узагальнення, досліджено ключові аспекти структурованих інструментів фінансування торгівлі, передумови їх виникнення та особливості функціонування. Основну увагу в цьому аспекті зосереджено на економіках, що розвиваються. Також для дослідницьких цілей проаналізовано поточну ситуацію на ринку, інфраструктуру, думки та рекомендації міжнародних організацій, розроблено оптимальні модель та ринкові умови. Визначено значення похідних фінансових інструментів, а також простежено організацію спотових ринків та системи складських розписок. Основним фактором, що обмежує це дослідження, є брак статистичних даних і математичних моделей, які б враховували особливості конкретної економіки. Кожна країна потребує специфічних досліджень та рішень, а не загальної моделі, яка підходить усім.*

*Практичне значення дослідження полягає у забезпеченні синергії між фінансовим та товарним ринками та розробленні стійкого інструменту управління ризиками, а також розширенні доступу до капіталу шляхом запровадження альтернативного фінансового інструменту та ринкового середовища для місцевих виробників, включаючи малих та середніх підприємців.*

**Ключові слова:** фінансові ринки, фінансові інструменти, товарна торгівля, деривативи, складські розписки

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