An Eye on the Future:

 Can the Ethiopia Commodity Exchange Succeed Without Futures?

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This brief note addresses the central question of the day: Can the Ethiopia Commodity Exchange (ECEX) be successful in the sense that it attracts and retains significant market players, improves market performance, and expands the size and scope of the market ***without*** offering contracts for future delivery to its clients?

The simple answer is No.

This concept note proceeds to explain why. In order to do so, the note will address four simple questions:

 1. *What* is the purpose of a commodity exchange?

 2. *How* does a commodity exchange add value to the market?

3. *How* does futures contracting enable risk management?

4. *Which* market actorswant to use futures contracts?

***1. What is the purpose of a Commodity Exchange?***

*“In the new liberalizing world, farmers need to be savvy enough to use market tools to survive downturns and reassert themselves in the marketplace without the support of subsidies. We call it smart finance. The farmer that is smart on finance as well as on fields and food is the farmer that survives.” Lord Mayor of London, 2005*

A Commodity Exchange is fundamentally designed to provide service and add value to all market actors. A Commodity Exchange adds value to the market by addressing two types of risk:

- **contract performance risk:**  the risk of contract default on physical delivery or payment

- **market risk**: the risk of adverse unforeseen price movements or changes in supply and demand in the future.

The presence of both of the above types of risk is welfare-reducing to society.

Contract performance risk is due to the uncertainty of the behavior of other players in the market. In other words, it is not possible to know beforehand if someone intends to cheat. The presence of contract performance risk implies that market players are unwilling to engage with unknown trading partners, that search for trustworthy partners becomes costly, and that ultimately market responsiveness and the extent of market participation is limited.

Market risk exists due to the uncertainty brought about by the time lag between production and sales or between purchase and sales of any given product, which opens up market players to the risk of unforeseen market movements. The presence of market risk implies that market players will attempt to reduce their exposure to adverse price movements by making sub-optimal decisions regarding their investments in production for market and their commercialization. For example, farmers who face uncertain output prices tend to under-invest in modern production inputs and therefore are less productive and tend to retain more of their production for their own consumption, thus reducing their level of commercialization. Similarly, processors or exporters who are uncertain of purchase prices or the availability of supply in the future for their raw commodity inputs tend to hold more inventory, thus locking up their capital, which in turn means that they invest less in processing activities, and thus result in sub-optimal production decisions. Just as importantly, in order to cushion themselves against market risk, traders and processors are likely to pass on higher cost to customers and offer lower value to producers.

Therefore, a Commodity Exchange adds value to the market players involved and ultimately enhances global economic welfare by providing the means to minimize both types of risk which are detrimental to the market and to economic welfare because of the fact that they both lead to misallocation of scarce economic resources.

***2. How does a Commodity Exchange add value to the market?***

*“Risks can be managed with foresight. Damage can be controlled with hindsight. Your choice.”*

*Coopers and Lybrand advertisement, 1995*

The way that a Commodity Exchange addresses the problem of **contract performance risk** is by ensuring that products that are traded are as standardized as possible, that the products are receipted and certified, that market information is disseminated to all, and that payment and delivery are guaranteed to both parties of the transaction (buyer and seller) through a clearing and settlement system.

We recognize that market players currently operate in a second-best world. That is, they have already developed informal or traditional mechanisms to address this risk. These mechanisms are the use of *dembegna* (regular trading partners), or trading within well-known circles or networks, or through vertical integration with agents. These second-best options limit market players from expanding their operations beyond their narrow circles. So, the value added by a Commodity Exchange is in its ability to dramatically expand the options and opportunities for market players to trade with the assurance that the contract will be guaranteed.

With regard to **market risk**, the way that a Commodity Exchange addresses the problem of the uncertainty brought about by time is by enabling market actors to lock in or “hedge” the value of their trading positions. For example, a flour factory that needs to continuously run its processing plant in order to offer a particular processed product to its clients will want to be assured of a steady stream of commodity input supply at a known price. Analogously, an exporter who relies on the global market as a benchmark to make domestic purchase decisions will need to lock in the domestic supply price and quantity in order to meet export obligations.

The way that a Commodity Exchange enables market actors to lock in their positions is through offering contracts of a pre-specified quantity for future delivery at a pre-specified price, or what are known as “futures contracts”. Unlike the case of forward contracts conducted bilaterally between two partners, a Commodity Exchange ensures that the futures contract will actually be honored and thus able to add real value to market participants through the following mechanisms:

* Futures contract terms are highly standardized with pre-fixed delivery locations and delivery periods, in order to ensure that a maximum number of buyers and sellers are competing for each transaction;
* Futures contracts require initial cash payments to fulfill margin or deposit requirements (a portion of the full contract amount) and daily settlements to adjust changes so that neither party is taking risk during the period before the future period expires;
* Futures contracts are guaranteed by the Exchange, in particular through its “clearinghouse” which acts as the buyer to every seller and vice versa. The Exchange clearinghouse manages this process by requiring initial member deposits, setting maximum trading limits for each member, imposing margin deposits for each transaction, and undertaking daily reconciliation to avoid undue risk exposure;
* Finally, futures contracts have the additional feature that they can be liquidated through offsetting one position (such as a purchase) against an opposite position (such as a sale) for the same commodity.
1. ***How do futures contracts enable market risk management?***

*“Risk management is the strategy of expecting the unexpected.”*

Market risk management using futures contracts is based on the idea of “**hedging”** through the principle of **“offsetting”**. First, it is extremely important to distinguish simple forward contracting from the concept of hedging.

Here an example can be used to illustrate. Let us start with a simple forward contract. A forward contract is simply the agreement (in the off-Exchange market) between two parties to undertake a sale or purchase for delivery and payment for a physical good at a future point in time.

*Example 1: Simple Forward Contracting \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

*Let’s say that at time T (May), Seller A agrees to deliver Quantity A of commodity to Buyer B at time T+1 (July) for a pre-specified Price P\_A of 100. In May, the spot price of that commodity is 80. Come July, let us say that the current spot price is 90. Thus, during the time period from T to T+1, the actual spot price has fallen below the contracted price of P\_A.*

*In this case, the buyer is likely to default on the contract on which he loses 10. In the converse case, where the July spot price increases to 110, the seller is likely to default. Either way, with the simple forward contract described above, the risk brought about by the time lag continues to be faced by both buyer and seller. So the simple forward contract offers limited value in terms of reducing market risk. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

Hedging is a way to eliminate the market risk. **Hedging involves the notion of “offsetting” which actually involves two transactions**, not just one as in the example described above. Offsetting means that, in order to hedge market risk, a market actor will balance one transaction (such as a purchase or a sale) in the spot market with one transaction in the opposite direction in the futures market.

*Example 2: Hedging with Futures Market\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

*As before, suppose that at time T (May), Seller A wants to sell Quantity A of commodity at time T+1 (July) for a pre-specified price of 100, which is the futures price for July delivery in May. At that time (in May), the spot price of that commodity is 80.*

*With a futures market, in order to lock in the July price of 100, Seller A will* ***sell*** *his commodity for July delivery on the Exchange at the futures price of 100. Come July, let us suppose that the spot price is actually 90, and not the 100 that Seller A wanted.*

*In July, the July futures price converges to the spot price, so it is also 90. In July, Seller A will sell his commodity on the spot market for 90. However, he will simultaneously* ***buy*** *the same quantity of his commodity on the future market at the price of 90. Since he had previously sold his commodity in May for July delivery at the futures market price of 100, he will have made a profit of 10 on the future market. Thus, Seller A* ***offsets*** *his futures market net position against his spot market position, in order to effectively lock in the price of 100 for his commodity in July, as he wanted. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

A simple forward contract would not have gotten him the same result for two reasons:

a) he may not have found a buyer willing to take physical delivery of his commodity at the price of 100 in July

b) had he found a buyer, his buyer would have been tempted to default when the price in July fell from 100 to 90.

In contrast, with the futures contract on the Exchange, Seller A was able to guarantee his price of 100 on the spot market in July because of his ability to sell the July future contract in May and then buy the July future contract in July and thus offset his spot market position with both the sale and purchase on the futures market. The risk of default is eliminated because the Exchange acts as a clearinghouse for both sides of the transaction.

While this operation may seem counter-intuitive and difficult to understand for non-market actors, market actors do already practice these kinds of hedges, even in informal markets, as a way to protect themselves, and can and will quickly grasp these concepts. What is extremely important to note is the close relationship between the spot and the futures market and that the **futures market enables risk management on the spot market**. What makes this link possible is that both spot and futures contracts are ultimately based on physical delivery of the commodity which creates the convergence between the spot and the futures price at the time of the contract expiration (at July in our example above).

***4. Which market actors want to use futures contracts?***

*“He who lives by the crystal ball will soon eat broken glass.”*

There are two types of market actors interested in futures trading in an Exchange. First, there are those interested in the physical commodity itself, such as farmers, processors, exporters, institutional buyers, or consumers. These actors either have a product they want to sell, or they wish to buy a product for a particular purpose. Typically, these actors are *least* willing to take risk and actively seek to reduce their risk to as little as possible so, if they can, they prefer to pass on their risk to someone else in the market. They are the primary client of the futures market.

The key point to bear in mind is that it may or may not be smallholder farmers who have the necessary skills to actually engage in hedging operations as described above. However, if their buyers (traders, processors, or exporters) are themselves able to hedge their risk using the futures market, then these buyers can offer the simple forward contracts to small producers. In fact, this is exactly how farmers in the United States and all over the world benefit from futures markets.

Second, there is a group of market actors who are less interested in the physical commodity, but who are willing to take risks based on their predictions or informed guesses about the direction of the market. These actors can be called *investors.* These actors are willing to take risk because they are interested in the possibility of making a profit on the basis of their expectations about the direction of the market. In order to reduce their purely speculative or gambling tendencies, it is extremely important that the mechanisms for margin deposit and position limits as described above are managed by the Exchange.

Investors play a key role in the market because they provide the market with signals about the future based on their ability to judge market trends and are willing to take a risk on their judgment. Thus, they enable those who do not want to take risks to transfer their risks to them. Put another way, those who want to protect themselves from future price movements can only do so because there are others who are willing to take a risk on those price movements. This enables risk-averse actors, such as farmers, exporters, and processors, to *hedge* their risk by selling or buying at a future price from someone willing to take a risk, that is, the investor.

The above example would not be possible in the context of a simple forward market where Seller A would sell to Buyer B. The ability to hedge depends on the presence of investors who provide liquidity and the possibility of offsetting opposite market positions.

So a Commodity Exchange provides service to all market actors, and, by doing so, expands the range of choices and opportunities available to all, thus allowing risks to be transferred from the hedgers to the investors. The value added to the market is that these choices exist, which ultimately increases economic welfare in the society.

**IN SUM,**

**Can the Ethiopia Commodity Exchange be successful without futures contracts?**

This concept note has demonstrated that there are two important types of risk that are detrimental to market performance and economic welfare. Therefore, an Exchange that only offered spot trading would mean that the Exchange could **not** fulfill a central function to all Exchanges which is to address market risk. This would first and foremost compromise the fundamental value that the Exchange would offer to market actors.

Second, even if the Exchange sought to offer some form of forward contracting in which the possibility of offsetting positions was not possible, then the simple forward contracting mechanism would be unsustainable because of the extreme pressure to default (when faced with no choices other than to deliver) and the fact that there would much less liquidity in terms of interested buyers or sellers willing to take the risk off the hedger. Thus, a forward type of Exchange contract where physical delivery is imposed for each and every transaction, without the possibility of offsetting or transferring, is an untenable option.

In fact, the same argument can also be made for the spot market. Even within the shorter delivery period of the spot market, it would be untenable for the Exchange to prohibit the possibility of offsetting or transferring one’s position. This essentially limits choices available to market actors, and corners them into positions where there would extreme pressure to default. For example, even on a spot contract, a buyer may be unable to take delivery for some unforeseen reason (such as accident, machinery breakdown, etc) even within the 15 days delivery period, that would require that he transfer his purchase obligation to another actor. Not allowing offsetting and transferability on either the spot or the future market would greatly stifle the market.

Finally, if the Exchange were to only offer spot contracts, then its value added to the market would only be in addressing contract risk and not market risk. However, it has been noted that there are already many “second-best” options to manage contract risk that are currently available at little cost to market actors which have been in practice for a long time. This suggests that the scope for attracting market participants only on the basis of reduced contract risk will be relatively limited, especially if participation in the Exchange also incurs costs, in the form of membership fees, Exchange transaction fees, and the implications of entering into a more transparent system.

Common sense suggests that it will be very difficult to attract market participation on a voluntary basis for only spot trading, when a “second best” but still functioning spot market already exists. However, in the case of futures trading, such a mechanism does not exist elsewhere, and the great benefits of both hedging for those in the physical trade and of investment gains for others will clearly attract market participation in the Exchange.

For these four reasons, it is quite clear that an Ethiopia Commodity Exchange without the possibility to enable market risk management through offering futures contracts has limited chances for success.

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