

Cross-listing Opportunities for the Turkish Derivatives Markets

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Abstract

Over time, organizations have expanded globally for many different reasons, including additional market exposure, access to natural resources, access to labor, and access to capital. In effect, organizations pushed across borders to increase the efficiency of their operations on a global scale. Among the many benefits of a global environment the increased availability of capital has led to the advent of cross-listing of both commodities and securities. Cross-listing has many benefits, including a more liquid market, increased shareholder base, improved visibility of corporate disclosure. This paper investigates the viability of cross-listing the Turkish hazelnut on several global derivative exchanges, concluding that it represents a great opportunity for the growers of the hazelnut, the buyers of the hazelnut crop, those that finance the farmers, and the derivative exchanges themselves.

Keywords: hazelnut, derivatives, commodities, Turkdex, CME Group, cross-listing, Turkey.

1. Introduction

Financial instruments have been circulating within an increasingly smaller world due to the specialization of markets and each nation's suitability of resources to produce a given asset or service. Throughout time, transnational companies have evolved and for operational reasons spread out, crossing borders and pushing up the efficiency of their production on a global scale. This expansion created a need for additional capital and also created a viable market for the cross-listing of equity, whereby the ownership, governance and investing of funds have entered a global stage, assuring a more liquid market and transforming the business scene to one that offers a bigger playground for funding strategies and trading.

During the past several decades, the pace of globalization in capital markets has accelerated and broadened in scope to make ownership and trading in securities from around the world easier. Consider that in 1980 total cross-border portfolio flows of capital between residents of the U.S. and all other countries represented less than 1% of U.S. Gross Domestic Product (GDP) according to the U.S. Treasury. Today, they comprise of almost 30% and total \$3.5 trillion. There have been a wide set of studies conducted towards investigating the benefits and drawbacks of cross-listing strategies.

2. Background

The rapid integration of global markets gained significant momentum with the concept of cross-listing any financial products not only with company common stocks but also with several derivatives contracts that are currently trading in significant volumes in security markets.

According to Mittoo (1992), through cross-listing, companies gain access to foreign markets and ease their ability to raise capital. Foreign listing also helps companies enlarge their shareholder base and increase their liquidity by expanding the trading activity into larger capital markets.

Among other investor benefits of cross-listing it offers them improved visibility of corporate disclosure, which helps companies enhance recognition and public image. Coffee (1999, 2002) and Slutz (1999) introduced the “bonding hypothesis,” suggesting that during the post-cross listing period, foreign companies strive to improve corporate governance by forcing the firm to respect minority shareholder rights and increasing the amount of information that is disclosed about the firm. Thus, a company from a country with low investor protections can “bond” itself with the United States, where investor protections are high. In turn, this could lower the firm’s cost of capital and allow it greater access to capital markets. However, some challenge the bonding hypothesis because enforcement actions by the Security and Exchange Commission against cross-listed firms are rare.

Evidence shows that particularly in, although not limited to the United States, investors require information transparency, relatively qualified accounting standards, and strong legal safety guarded by well-established laws and regulations. Therefore, cross-listing brings a certain level of costs, and requisite procedures might be something companies consider before taking the action of cross-listing. According to Mittoo (1992), reporting and compliance requirements, the costs of improved investor relation programs, and legal, listing and investment banking fees comprise the major components of foreign listing expenditures.

According to Karolyi (2006), the number of foreign companies physically operating within the United States reached 4,700 by 1990. As Roosenboom and Van Dijk (2009) suggest, the major motivations behind cross-listings include market segmentation and market liquidity. Financial organizations, such as derivative exchanges, can benefit from cross-listing in order to expand their potential investor segments. Offering the same financial instrument in different financial markets in different time-zones gives investors 24-hour trading availability and flexibility. On the other hand, it allows the organized exchanges to increase trading volumes in a particular financial product. When it comes to market liquidity, there is a significant connection between cross-listings and market liquidity through an increased trading volume effect, which directly cultivates competition among organized exchanges.

The advantages of cross-listing can be identified at two different levels: those for the investor, either institutional or individual, and the major participants in the actual cross-listing transaction.

Examples of some benefits of cross-listing derivatives have been investigated and identified in prior research:

- Reduced market-segmentation problems (Foerster & Karolyi, 1999).
- Lower cost of capital and improved liquidity (Domowitz, Glen, & Madhavan, 2001).
- Strengthened investor protection (Coffee, 1999; Slutz, 1999).
- United States exchanges generate a significant valuation gain vis-à-vis those that do not have a foreign listing (Doidge, Karolyi, & Stulz, 2004, 2009; Gozzi, Levine & Schmulker, 2008).
- Positive impact of cross-listing on the firm value (Cetorelli, Nicola, & Stavros-Peristiani, 2012).
- Enhanced firm visibility and lessened informational asymmetries which could be translated to utilization of commodities as a strategy to access a broader market, increasing accessibility and exposure of the producers (Baker, Nofsinger, & Weaver, 2002).

Some of the main benefits of cross-listing an agricultural commodity include:

- 1) Management of price risk: plantation companies, producers, processors, exporters and millers can use derivatives contracts to manage risk and hedge against the risk of unfavorable movements in the price of the underlying commodity in the physical market;
- 2) Speculation: traders can use the derivatives contract to gain leveraged exposure to movements in prices;
- 3) Immediate exposure to the commodity market: global fund managers and proprietary traders are able to be part of the active commodity market instantaneously.

Examples:

Scenario 1: Hedging

Agricultural companies are perpetually having stock on hand; therefore, their risk exposure to the market would be enhanced in declining markets. A hazelnut producer knows that in three months his crop will be ready for. However, the producer is worried that prices may fall by the time he can sell the hazelnuts. He chooses to trade on a derivative market and hedges his position by selling his derivative contract. In doing so, he has effectively locked in his selling price three months later.

Scenario 2: Arbitrage

A trading house realizes that the correlation prices of the physical hazelnut and the derivative market have deviated from the usual spreads and that the hazelnut contract is selling at a premium to the physical market. The trading house decides to sell hazelnut derivative contracts and buy physical hazelnuts to arbitrage. The position will be liquidated later once the spread of the prices between both markets returns to normal.

Scenario 3: Trading

A hazelnut processor has received an order to produce 10,000 tons of hazelnut candy. However, he only has enough hazelnut to fulfill 60% of that transaction and has a shortfall of 4,000 tons. He therefore turns to the physical market to cover this shortfall but is unable to find any sellers in a bullish market. As the market is anticipating higher prices, he prefers to buy at a current price to protect his profit margin. He turns to a cross-listed derivative and buys several hazelnut contracts at the prevailing price. He has now effectively locked in his buying price and will wait for the tender process to transpire to receive physical delivery of hazelnut.

Commodity: A basic good used in commerce that is interchangeable with other commodities of the same type. Commodities are most often used as inputs in the production of other goods or services. The quality of a given commodity may differ slightly, but it is essentially uniform across producers. When they are traded on an exchange, commodities must also meet specified minimum standards, also known as a basis grade.

Future: A financial contract obligating the buyer to purchase an asset (or the seller to sell an asset), such as a physical commodity or a financial instrument, at a predetermined future date and price. Futures contracts detail the quality and quantity of the underlying asset; they are standardized to facilitate trading on a futures exchange. Some futures contracts may call for physical delivery of the asset, while others are settled in cash. The futures markets are characterized by the ability to use very high leverage relative to the stock markets.

The hedging of agricultural commodities provides all market participants—from farmers, producers and dealers down to the processing industry—with an opportunity to reduce the increased price risks in their business. Investors benefit from the low correlation between commodity markets and traditional asset classes if they use agricultural futures for purposes of broader risk diversification. They can take advantage of both rising and falling price developments in the markets to stabilize or raise profits and yield independently of the capital market development.

Futures can be used to either hedge or speculate on the price movement of the underlying asset. For example, a producer of corn could use futures to lock in a certain price and reduce risk. On the other hand, anybody could speculate on the price movement of corn by going long or short using futures. **Warehouse Receipt:** A receipt used in futures markets to guarantee the quantity and quality of a particular commodity being stored within an approved facility. **Repurchase Agreement (repos):** A form of short-term borrowing for dealers in government securities. The dealer sells the government securities to investors, usually on an overnight basis, and buys them back the following day. For the party selling the security (and agreeing to repurchase it in the future), it is a repo; for the party on the other end of the transaction (buying the security and agreeing to sell in the future), it is a reverse repurchase agreement.

3. Commodity exchange and derivatives

A commodity exchange is a market in which buyers and sellers trade commodity-linked contracts on the basis of rules and procedures laid down by the exchange. In developed countries, such exchanges typically act as a platform for trade in future contracts or standardized contracts for future delivery. In the developing world, a commodity exchange may act in a broader range of ways to stimulate trade in the world sector. This may be through the use of instruments other than futures, such as the cash or “spot” trade for immediate delivery, forward contracts on the basis of warehouse receipts or the trade of farmers’ repurchase agreements, also known as “repos”. Alternatively, it may be through focusing on facilitative activities rather than in the trade itself, as in Turkey where exchanges have served as a center for registering transactions for tax purposes.

While derivatives instruments have become more sophisticated in both form and application, it is important not to lose sight of the fact that commodity exchanges perform important functions that benefit the producers, processor, traders and users of commodities in both developed and developing worlds. As a focal point for trade in a sector, the concentration of buyers and sellers in one place reduces the transaction costs that would have been incurred during the search for a suitable counterparty.

The trade that ensues enables the exchange to act as a vehicle for “price discovery,” with the price level accurately reflecting the underlying conditions in the market--the neutral and authoritative price level. For those exchanges that also offer forward or future contracts, risk transfer is a fourth function of benefit to market participants: By locking in the price for future delivery, they can “hedge” against unfavorable price movements that may occur before the delivery date.

The utility of these functions is central to the foundation of many of the world’s most prominent and prestigious exchanges. For example, the London Metal Exchange was founded by metals traders in the City of London at the height of the Industrial Revolution in 1877 to manage their price risk. With goods transported by ship, traders who had purchased large volumes of metal from distant parts of the world faced significant risk as they did not know what price they would obtain for their cargo upon its arrival in London several months later. By negotiating forward contracts in their products at the newly-established exchange, metals traders could hedge the risk of a serious decline in prices while the goods were at sea (Holbrook Working, 1977).

Another example is the Chicago Board of Trade (CBOT), which was situated in premises above a flour store for its first four years after being founded in 1848 by a group of Chicago Merchants keen to establishing a central market place for trade. Before that time, farmers all too often found no buyers for the grain they transported to Chicago. Given the high transport costs, they were left with little choice but to dump the unsold produce in the lake. Futures contracts followed at CBOT in 1865. In Chicago, where dealing in forward contracts first took on the essential characteristics of the modern futures market, dealing in futures was initially regarded as a disreputable speculative business in the grain trade itself and for more than a decade the Chicago Board of Trade refused to allow such transactions in its quarters (Holbrook Working, 1977).

Over time, however, virtually all developed country exchanges moved toward futures trade (a mechanism for risk transfer), as their services in physical trade (spot and forward) became superfluous. Most of the exchanges that were not able to make this change disappeared; the rare exceptions include the Dutch flower auction and the cheese exchange in the United States. The factors underlying this shift have been summarized as follows:

- Improvements in communications technology, which made it less important for traders to gather in one place;
- The growing concentration of trade in the hands of a few large firms, making it easier for these firms to gather information directly;
- Because of the improved creditworthiness of firms active in the commodity exchange, longer-term forward contracts became possible;
- The introduction of a futures market itself, however small it may have been in the beginning, reduces the relevance of an exchange act as a reference for price negotiations between buyers and sellers, and so the latter no longer needs to buy or sell physical goods through the exchange.

Similar factors are to influence, in the future, those developing country exchanges that now focus on physical trade: When their underlying physical markets change (partly because of the impact that the exchange itself has), these exchanges have to evolve in order to survive.

While times and technology have moved on and exchanges often perform much broader roles than those for which they were established, the essential functions of commodities exchanges – reduced transactions costs, price discovery, price transparency and risk transfer – remain as relevant today as in the past. Indeed, with the liberalization of agricultural trade and the withdrawal of government support from agricultural producers there is a new need for risk management, price discovery and even physical trading mechanisms in many countries, requirements that can be often be addressed by commodity exchanges (UNCTAD, 2006).

The commodity derivatives have experienced a massive increase over the past decade – growth that far outstrips the growth in commodity production and the need for derivatives to hedge risk by commercial producers and users of commodities. During the past decade, many institutional portfolio managers added commodity derivatives as an asset class to their portfolios. This addition was part of a larger shift in portfolio strategy, a shift away from traditional equity investment and toward derivatives based on assets such as real estate and commodities. Trading in commodity derivatives also increased along with the rapid expansion of trading in all derivative markets (Basu& Gavin, 1993). Looking back, the industry enjoyed a solid increase in trading activity during 2011.

The number of futures and options traded on exchanges around the world rose 11.4% to a total of 24.97 billion contracts. That 11.4% rate of growth was a lot slower than what was in 2010, but it was more or less on par with the growth rate in the years preceding the 2008 crisis. As always it helps to put things into a longer-term perspective. Looking back over the last five years, global volume has grown by 60.9%. The bulk of that growth has come from the emerging markets of Brazil, China, India and Russia, which have been marching forward year by year, relatively unaffected by the turmoil of 2008 and 2009. Yet, even in the United States, the total number of exchange traded futures and options contracts has risen 33.3% over the past five years (Acworth, 2002).

Global Futures and Option Volume			
Based on the number of contracts traded and/or cleared at 81 exchanges worldwide			
	2010	2011	% Change
Futures	12,049,275,638	12,945,211,880	7.4%
Options	10,375,413,639	12,027,190,688	15.9%
Combined	22,424,689,277	24,972,402,568	11.4%

4. Cross-listing of commodity derivatives

All around the world, the cross-listing of commodity derivatives seems to be gaining momentum, backed by the conditions of an interconnected globalized world; each economy has developed certain level of specification, especially when considering emerging markets that exploit a competitive advantage on producing a given commodity in massive quantities and the challenge rises when introducing that product to multiple locations around the globe. Brazil, the second largest world producer of soybean, through its financial and futures exchange BM&BOVESPA (the largest equity and futures exchange in Latin America) recently made a deal with the CME Group, the world's leading and most diverse derivatives marketplace. On March 6th, 2012, they announced a cross-listing and cross-licensing agreement of mini-size soybeans and light-sweet crude oil futures. The agreement also provided the companies the opportunity to license additional products in the future.

The CME Group has developed a trading platform, CME Globex, through which they have attempted to reach several markets in a bid on global growth, fostering innovative product development, continually enhancing technology and the highest level of service available. Now as a global company it has been building bonds among keys exchanges, from Dubai to Singapore and passing through South Africa. For instance, the CME group, similar to what they did with BM&BOVESPA, is utilizing CME Globex as its electronic trading platform for futures with Bursa Malaysia Derivatives (BMD), including the global benchmark crude palm oil futures (FCPO) contract. Customers can more easily engage in spreading and arbitrage opportunities between the CME CPO and the BMD FCPO contracts. This arrangement offers unparalleled global distribution through CME Globex's multiple access points: nine international telecommunication hubs worldwide, one of which is located in Kuala Lumpur.

Five exchanges, BM&FBOVESPA from Brazil, the Open Joint Stock Company MICEX-RTS from Russia, BSE Limited from India, Hong Kong Exchanges and Clearing Limited (HKEx) as the initial China representative, and JSE Limited from South Africa, announced the formation of their alliance on October, 12th 2011 at a World Federation of Exchanges conference in Johannesburg, South Africa. In an initial stage of cooperation, the exchanges aimed to expand their product offerings beyond their home markets and give investors of each exchange exposure to the dynamic, emerging, and increasingly important BRICS economies. The listing of benchmark equity index derivatives on the boards of each of the alliance members marks the implementation of the first phase of the alliance.

The reality is our world is getting smaller and smaller every day, where high competencies in locating products on a global scale is crucial to secure a modern and up-to-date business, embracing the opportunities of cross-listing financial instruments across borders. Strategic alliances are taking place already; perhaps one of the most ambitious and relevant from a geo-economical perspective is the BRICS Exchanges Alliances' announcement on March 30th, 2012 at the Futures Industry Association Conference in Boca Raton, Florida to begin cross-listing benchmark equity index derivatives on each other's trading platforms.

5. Turkish agricultural potential to cross-list hazelnut

Turkey is the most important country of origin for hazelnuts in the world. Very few countries in the world have a climate as favorable for hazelnut production as that of Turkey.

Their hazelnuts are cultivated in an area spread densely all along the coast of the Black Sea, and the orchards extend up to 18 miles inland. Turkey produces approximately 70-75 percent of the world’s hazelnut crop, and is also the largest exporter of hazelnuts supplying roughly 80 percent of the world’s hazelnut exports. The majority of exports are shipped to countries of the European Union, with Germany being the leading importer of processed and unprocessed Turkish hazelnuts with a share of 27 percent of the total, followed by Italy, France, Belgium, Switzerland, Russian Federation, Austria, the Netherlands, Ukraine and the U.K. Far East Latin American and Scandinavian Countries have emerged as potential markets for Turkish hazelnuts as well (Babadogan, 2010).

Currently Turkey generates approximately \$1.04 billion through hazelnut exports. Turkey exported 131,438 tons of hazelnuts in the 2011-2012 period, according to a statement by the Black Sea Exporters’ Union.

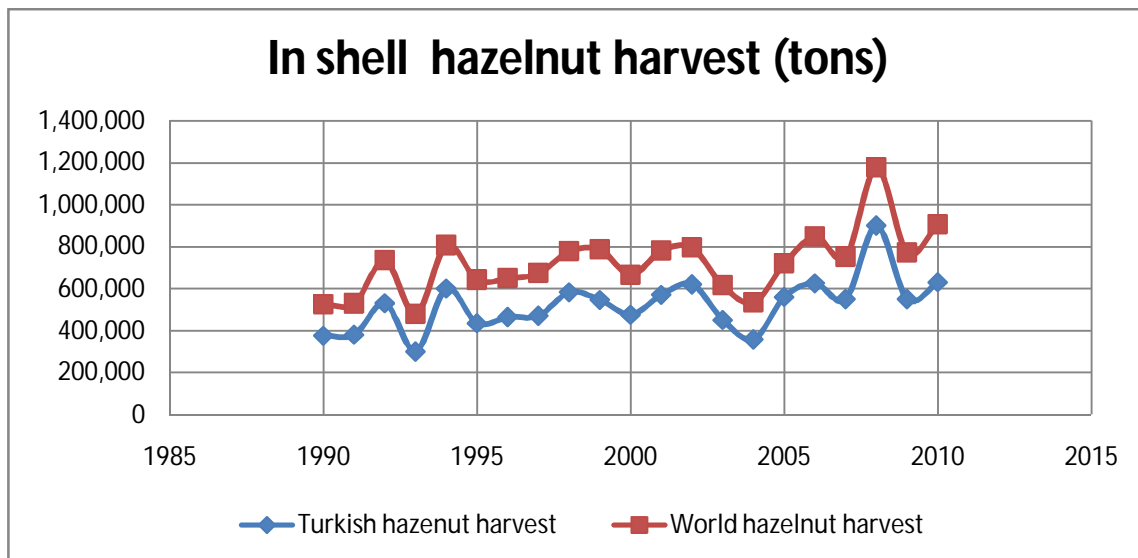
Why would Turkish producers’ cross-list hazelnuts?

Agriculture by itself is a risky business and requires attentive risk management practices in order to protect the investor and producer’s wealth. Functioning in a similar manner to any other insurance, hedging can protect against the three risks that more or less threaten all agricultural businesses: bad crops, exchange rate risk and market risk. All agricultural businesses except sustenance farms are subjected to these risks (Rata, 2012).

For instance, during 2012 sales of Turkish hazelnuts in Europe were sluggish despite slightly lower price levels compared with those earlier in the season, as buyers monitored the all-important bloom period and hoped for further price reductions. The first signs of the 2012 crop were very good, and demand from the European market was low. This was probably due to buyers trying to delay their demands as much as possible in order to benefit from decreasing prices, a strategy backed up by the good 2012 crop expectations. Therefore, prices had decreased heavily since January with raw hazelnut kernels offered at approximately USD7.40-7.50/kg in Western Europe, whereas in early December prices were seen at around USD8.50-8.60/kg. Apparently, Turkish hazelnut exports were lower earlier in this year due to the shorter crop and related high prices. Although there was confidence that higher production in Turkey would be achieved at the end of the period, and demand would return, many buyers refrained from purchasing with an expectation of lower prices in the future. Over the coming months, buyers would find out if the decision to wait paid off, as firmer ideas emerged about the size of the crop. With a hedge mechanism farmers would have been protected against low prices, assuring a minimum set price throughout the crop season; on other hand, buyers would have benefited from getting an agreeable price at the time crops go bad and the market price goes up.

There is evidence to support the idea of a hedging mechanism that would prevent major fluctuations of hazelnut prices due to the uncertain nature of agricultural commodities markets. One can perceive the complexity of price determination in global markets where variation of one component of this multifactorial system could spontaneously and dramatically affect the value of the crop of an export producer, as demonstrated by the up-and-down behavior in the following figure.

Figure 1.



Having hazelnut crops hedged would have a positive impact on reducing the uncertainty for producers and processors' businesses since loss would be minimized in the case of unforeseen economic downside or sudden changes in demand. For example, if all of a sudden the demand for hazelnut increased, producers would be protected against an unpredicted rise in prices; however, if such a level of demand does not disappear in the long run, the derivatives will be price speculative as they are traded at a new higher price.

6. Actual listing of hazelnuts in Turkey

The *Giresun Commodity Exchange* (1926) was established to handle the purchase and sale of the in-shell hazelnut, hazelnut kernel, processed hazelnuts, hazelnut oil, wheat and wheat flour quoted in the commodity exchange market and to determine, register and declare the prices of those goods in the market. The commodity exchange consists of 332 hazelnut and hazelnut production firms, seven wheat and wheat flour firms and one poultry firm, which total 340 firms. Trading volume on the exchange is approximately \$805 million US, of which about \$790 million US comes from hazelnut and hazelnut products.

Figure 2

TURKISH HAZELNUT EXPORTS THAT IS REGISTERED BETWEEN 01/09/2011-30/06/2012 (END OF SEASON)				
	2011 crop(Tons)	2010 crop (Tons)	Total (Tons)	Value (\$)
EU COUNTRIES	92.696,8	6.566,6	99.263,4	798.094.945
EUROPE COUNTRIES OUTSIDE THE EU	13.755,6	725,9	14.481,5	113.640.063
OVERSEA COUNTRIES	13.296,1	268,5	13.564,6	113.159.218
OTHER COUNTRIES	4.348,6	289,1	4.637,7	35.932.074
BLACKSEA TOTAL	124.097,1	7.850,1	131.947,2	1.060.826.300
EU COUNTRIES	42.864,4	2.321,5	45.185,9	357.599.982
EUROPE COUNTRIES OUTSIDE THE EU	6.364,3	268,6	6.632,9	52.745.832
OVERSEA COUNTRIES	5.378,1	152,2	5.530,3	45.762.329
OTHER COUNTRIES	5.452,8	1.939,1	7.391,9	55.707.119
İSTANBUL AND OTHER EXPORTERS' UNIONS	60.059,6	4.681,4	64.741,0	511.815.262
GENERAL TOTAL	184.156,7	12.531,5	196.688,2	1.572.641.562
exports in the same month as 2010/2011 season			265.678,0	1.535.923.306
exports in the same month as 2009/2010 season			195.022,4	1.223.378.851
AVERAGE PRICES OF JUNE		2011/2012 season	2010/2011 season	Amount of exports between 01/09/2011- 30/05/2011
Standard hazelnut kernels	(FOB \$/quintal)	783,00	713,00	
Whole processed hazelnut kernels	(FOB \$/quintal)	872,00	770,00	
Chopped, diced hazelnut	(FOB \$/quintal)	809,00	757,00	
Hazelnut paste, meal, oth.	(FOB \$/quintal)	667,00	618,00	
				180.002,8 tons
				\$1.442.467.200

Source: Blacksea Exporters' Union

Cross-listing an agricultural commodity such as the hazelnut would mean the capitalization of other benefits besides the hedging effect, such as increased trading volume within the market. As expressed by Holland and Fremault, future contract success is highly correlated with the size of the underlying spot market, and to a lesser extent with its volatility. Where contracts are listed on more than one exchange, there appears to be a first-mover advantage which, in the case of simultaneously traded contracts, is reinforced by the creation of new arbitrage trading opportunities (1997). In the particular case of Turkey, the cross-listing of hazelnuts would mean the capitalization of an enormous advantage as the top producer of that valuable commodity in the world.

7. Analysis

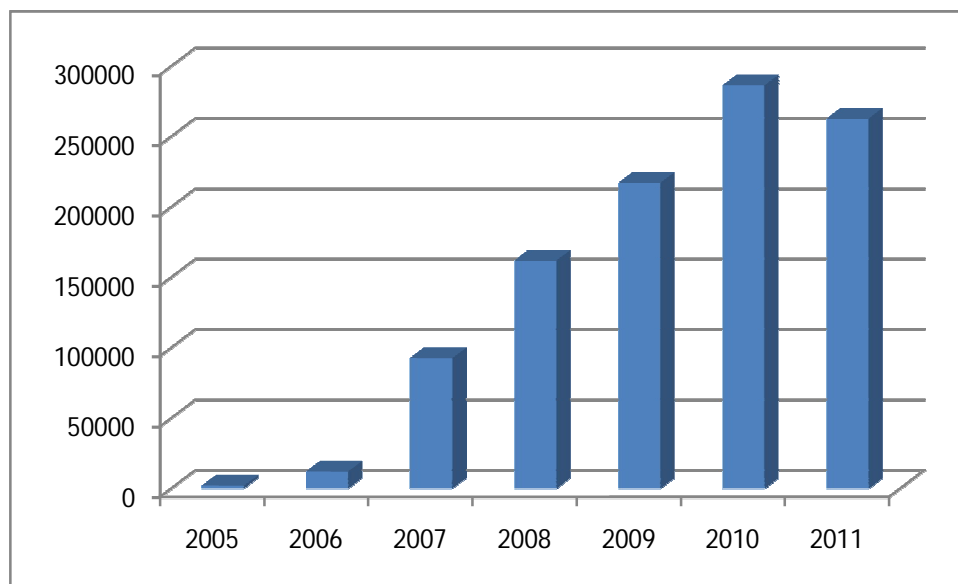
TurkDEX – The Turkish Derivatives Exchange

The most significant factors preventing the development of derivatives exchanges in Turkey have been economic and political instability and high inflation. The founding of TurkDEX, the only entity authorized by the Capital Markets Board (regulatory agency in Turkey) has created an environment in which the cross-listing of derivatives, with all the associated benefits, can thrive.

TurDEX has experienced a tremendous increase in trading volume, as shown in the figure below. The platform is a fully electronic exchange with remote access, offering a very liquid and transparent mainframe for futures contracts and reporting an average daily trading value of \$1.2 billion US.

Figure 3

Yearly Total Trading Volume 2011 (in millions of USD)



http://www.turkdex.org.tr/VOBPortalEng/Docs/Turkdex_in_Brief.pdf

Traded on the Turkdex, among others, are equity index futures, interest rate futures, currency futures, commodity futures and energy futures.

Looking at the commodities listed on the Turkdex, it is evident that the agricultural commodities of wheat and cotton have a powerful meaning to the Turkish market. Through listing of futures on the Turkdex, traders of cotton and wheat as well as buyers of those commodities can hedge the price risk inherent to these commodities.

Strengths of TurkDEX

- A new fast-developing market
- Not a non-profit organization (open to innovations)
- Sound risk management system
- Strong surveillance system
- Total electronic exchange
- Product diversification

The present proposal is founded on the assumption that TurkDEX would consider, on first instance, to include the hazelnut among its list of commodities based on the high potential that it would represent as was explained earlier in this paper. To cross-list the hazelnut, Turkdex would have to find an exchange to partner with.

Even though the NYSE Euronext covers the geographic areas where most importer countries of the Turkish hazelnut are located (Germany, Italy UK, Belgium, France, etc.), there is no precedent of any major partnership with other exchanges; therefore, the CME group seems to be a reasonable choice in order to cross-list commodities derivatives with the greatest chance of success. As well, CME group's corporative guidelines are oriented to step up the search for expansion opportunities abroad to bulk up profits, and being the world's largest futures market mainly on U.S. soil, it was slow to expand internationally in the past, even as other U.S. companies raced to tap foreign markets. Now, CME management, which next year will hand the CEO title to a foreign-born leader, Phupinder Gill, is chasing growth beyond its borders with increased urgency, as a mature American market, increased federal regulation and the fallout from MF Global's bankruptcy crimp growth at home. It also outstrips NYSE's growth rate, increasing its total volume of futures and options traded in 2010 to 3,080,497,016 and 3,386,986,678 in 2011, and representing 9.9% growth, superior to that of the 6% growth of NYSE Euronext.

Figure 4
CME Group Global partnerships.

<i>Exchange</i>	<i>Start. Date</i>	<i>Country/Region</i>	<i>Summary</i>
<i>BM&BOVESPA</i>	September 2008	Brazil	Commercial agreement based on order routing, cross investment and future business development relationships
<i>Bursa Malaysia Derivatives Berhad</i>	September 2009	Malaysia	Commercial agreement based on cross investment, settlement price licensing of BMD Crude Palm Oil (FCPO) futures and listing of BMD contracts on CME Globex
<i>Dubai Mercantile Exchange</i>	February 2009	United Arab Emirates	Joint venture with Tatweer and the Oman Investment Fund (OFI) establishing the Middle East's first futures exchange
<i>Johannesburg Stock Exchange</i>	September 2009	South Africa	Licensing agreement of various CME Group exchanges' settlement prices including corn, platinum, gold, and crude oil futures
<i>Kansas City Board of Trade</i>	August 2008	United States of America	Commercial agreement to list KCBT product on CME Globex
<i>Korea Exchange</i>	July 2010	South Korea	Market linkage agreement to list KOSPI 200 futures on CME Globex outside of KRX operating hours
<i>MexDer</i>	August 2011	Mexico	Commercial agreement based on order routing and future product development and clearing opportunities
<i>Minneapolis Grain Exchange</i>	January 2008	United States of America	Commercial agreement to list MGEX product on CME Globex
<i>Multi Commodity Exchange of India Ltd</i>	October 2005	India	Licensing agreement for CME Group's settlement prices on WTI oil and Natural Gas
<i>National Stock Exchange of India Ltd.</i>	July 2010	India	Cross-listing arrangement that includes license agreements for benchmark indexes for US and Indian equities.
<i>Osaka Securities Exchange</i>	February 2004	Japan	Cross-listing arrangement for benchmark indexes for US and Japanese equities
<i>RTS</i>	--	Russia	Licensing agreement for CME Group's settlement prices on wheat
<i>Singapore Exchange Limited</i>	--	Singapore	Mutual Offset System (MOS) providing around-the-clock trading of Eurodollar and Euroyen futures and Options

To demonstrate the impact of cross-listing the Turkish hazelnut between Turkdex and CME and how that alliance would be beneficial to the Turkish Market; we identified the case of JSE cross-listing at CME as a good model to validate the initial assumption.

Since January 28th 2009, the Johannesburg Stock Exchange has been collaborating with the Chicago Mercantile Exchange Group to trade Maize (corn). The appeal of this alliance is that it offers local investors exposure to the US agricultural market – it is a global product that is easy for local investors to access. On the other hand, it gives South African agricultural derivatives traders an additional tool to hedge price risk as well as an opportunity to better assess patterns in the global maize market.

Comparing what happened between world's trade trends and JSE's trade trends (within 2002-2011) one can get an idea of how the cross-listing feature helped even out major price fluctuations on commodities traded.

Figure 5

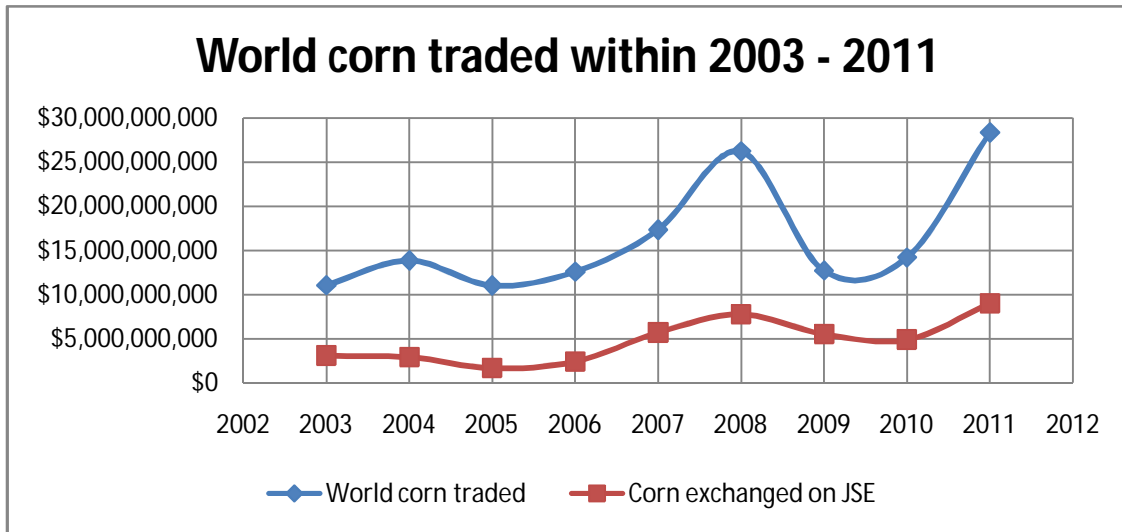
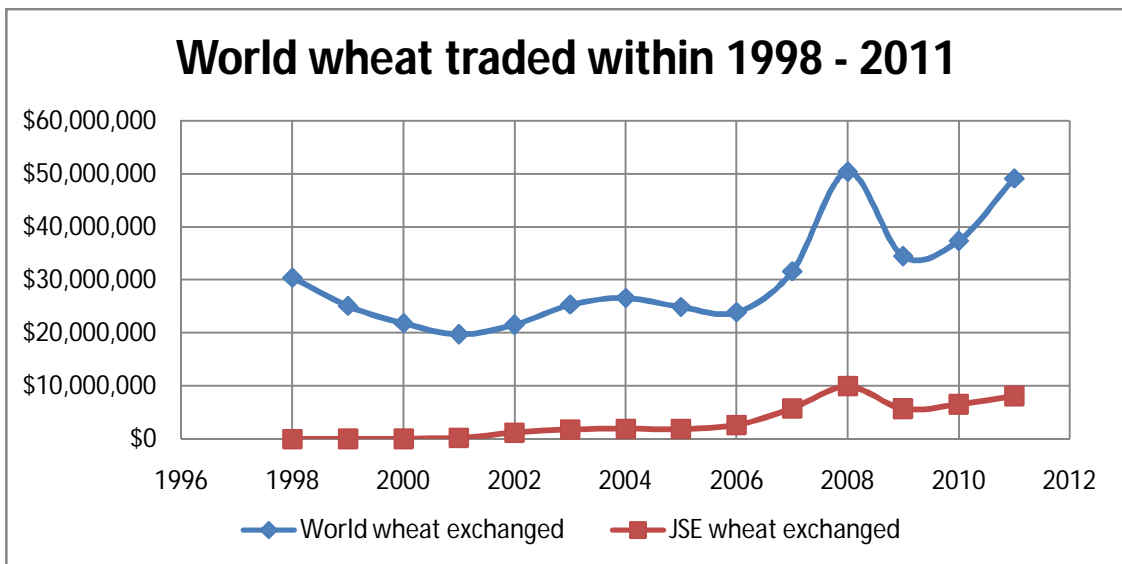


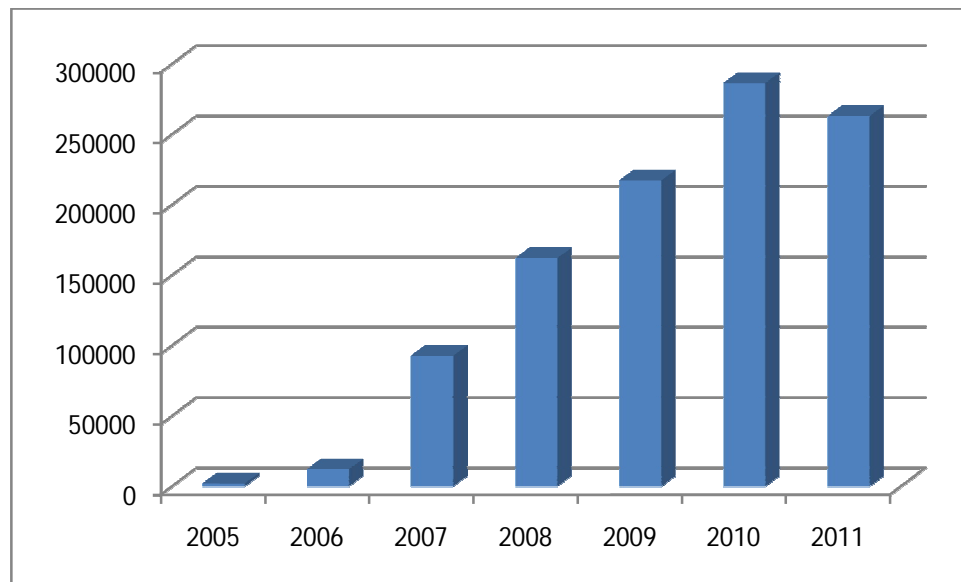
Figure 6



	Corn (\$ +E8)		Wheat (\$ +E5)	
	World	JSE	World	JSE
Coefficient of Variation	32.8	5.4	15.3	4.6
Proportion of Variability	16.88%		29.86%	

Evidently the trade of wheat has a bigger fluctuation than corn traded (16.88% versus 29.86%), which depicts the cross-listing ability to hedge crop values during recession or unexpected market drops. Futures and options exchanges are one of the main institutions of liberal economic systems. Although negative developments impacted the financial markets in recent years, trading volumes of futures exchanges have continued to increase during that period, which enhances the proposal that listing financial products on a global scale mitigates the effect of such economic troughs, as can be seen in the following trends.

Figure 7
Yearly Total Trading Volume 2011 - Turkdex (in millions of USD)



8. Cost and liabilities of cross-listing commodities

Cross-listing the hazelnut does not imply greater outlays than those that are currently standing in regard to the exchange of agricultural products across borders and the specific restrictions of each country for the physical market, so there are not major obstacles other than clearing fees that could come into place. In contrast, the cross-listing of equities generally requires major structural modifications in order to meet stringent accounting and auditing standards.

An extensive warehouse system is fundamentally necessary to back a platform of massive trading in bulk agricultural commodities; therefore, its existence is a relevant factor in regards to launching a commodity in a derivatives exchange. There are significant advantages to having an extensive warehouse system, among which are the potential for income from warehouse receipt trading, buyers and sellers of the product will be brought to a bigger platform to contribute to the formation of real price, there will be an increase in trading volume, electronic trading may develop providing a modern platform for trading, and there will be a possibility to market other countries' products located in the same geographical region increasing trading share and profit.

Turkey has already entered into a large-scale warehousing system which would mitigate the potential expense of cross-listing the hazelnut. The Hazelnut Licensed Warehouse Regulation was put into effect on August 2, 2006 and the Agricultural Sales Co-operative and TGB have increased their capacities; a project has been executed in order to integrate these institutions into the licensed warehouse system. With the leadership of the Turkish Union of Chambers and Stock Exchanges (TOBB), enterprises have been initiated in order to build effective and widespread operating licensed warehouse institutions to meet various sectors' needs (www.sanayi.gov.tr). In this way, the necessary infrastructure has been completed to enable trading in many products and have efficient operations of the derivatives exchange and product specific markets (Ulas, 2007).

9. Conclusion

Under current legislations in Turkey, there are no legal obstacles restricting Turkish producers and capital markets from cross-listing their stocks or financial instruments on other exchanges. Cross-listing hazelnuts will provide a wider stage for Turkish production, increasing its distribution potential within the European market while providing more flexible and extended trading opportunities for buyers. The fact that both parties in the trade agreement can benefit from cross-listing commodities makes it a must in today's volatile markets. The cross-listing of commodities using derivatives spreads out the risk by offering exposure on more than one market while hedging price to mitigate sudden market price fluctuations.

There is a very strong and healthy platform for Turkish producers to cross-list their hazelnut crops on other commodities exchanges around the world; Turkey's position as a world leader among hazelnut producers offers them a competitive advantage that could be capitalized upon if the product is more easily available around the globe.

The World's third fastest growing derivatives market, the Turkish Derivatives Exchange (TurkDEX) can benefit from the advantages of cross-listing procedures extensively. TurkDEX has already entered into a consolidated warehousing system and is expanding that system. For instance, Turkey is hosting a licensed warehousing system of the London Stock Exchange (LME for the one of the world's most prestigious steel providers).

Turkey is, by far, the largest producer and exporter of hazelnuts in the world and the infrastructure is not only in place but growing allowing Turkey to take advantage of further cross-listing opportunities with the prestigious derivative exchanges around the world.

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