Usefulness Of Derivative Instruments In Emerging Markets: Turkish Experience

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ABSTRACT

This article presents an overview of derivative markets, definitions of derivative investment instruments, development of global derivative markets and the applicability of derivative markets in Turkey, given their economic value added to the Turkish economy. Readers will acquire insight into investing in various investment instruments and hedging against risk. Turkish derivative markets will be described, supportive statistical data will be presented, and readers will be introduced to the development and current status of these derivative markets in the Turkish emerging market. Finally, the contribution of derivative instruments and derivative markets to the Turkish economy will be discussed.

INTRODUCTION

Finance theory recognizes an entirely distinct class of financial instruments called derivatives. These financial instruments are completely different than fundamental securities, such as stocks and bonds. First known futures transactions were made at the Japanese Dojima Rice Market and at Antwerp's Grain Market. The first regulated futures market was established in Chicago in 1848, where cash-settlements and futures transactions of wheat and corn were made. By 1865, Chicago Board of Trade (CBOT) had established the general principles of futures markets, stepping into the modern world of derivatives. After these developments, the New York Cotton Exchange started to implement futures markets transactions in 1872 (Donmez, et al, 2002, p. 1).

Derivatives and hedges started to attract global attention as countries began to shift from fixed exchange rate systems to flexible exchange rate systems in early 1970s after the collapse of Bretton Woods agreement in 1971. As a result of this shift, demand and supply conditions became the principal determinants of foreign exchange rates, forcing market participants to protect themselves against this new risk (Erol, 1999, p. 103). Consequently, the Chicago Mercantile Exchange (CME) established the International Money Market (IMM) in1972 to engage in currency futures transactions by structuring derivatives (Donmez, et al, 2002, p. 19).

A derivative is a financial instrument or security whose payoff depends on a more primitive or fundamental good. For instance, a gold futures contract is a derivative instrument because the value of the futures contract depends upon the value of gold that underlies the future contract (Kolb, 1999, p.2). A financial derivative is slightly different than a commodity based derivative due to its underlying asset type. A financial derivative is a financial instrument whose payoff depends on another financial security or instrument (Kolb, 1999, p. 2).

While hedging instruments are mainly designed to offset risk, many people use those instruments for speculative reasons. Our area of concern will be the role of hedging instruments in managing financial risks. Some of the main reasons for individuals/companies to manage financial risks are given in Table 1. Tables 2 and 3 describe the statistical data released by the Bank for International Settlements concerning the Global OTC

Derivatives Market transactions for the 2001-2003 period. Figure 1 presents the statistical information included in Tables 2 and 3, giving a visual perspective.

Table 1: Primary Reasons for Managing Risks

• ***Debt Capacity:*** Risk management can reduce the volatility of cash flows, decreasing the probability of bankruptcy.
• ***Financial Distress:*** This includes stockholder concerns, increasing interest rates on outstanding debt, customer defections or bankruptcies, and is associated with having cash flows that fall below expected levels.
• ***Borrowing Costs:*** Firms can sometimes reduce input costs, especially the interest rate on debt, through the use of derivative instruments called 'swaps.'

Source: Eugene Brigham, Louis C. Gapenski, Michael C. Ehrhardt, *Financial Management: Theory and Practice*, Ninth Edition, USA: Harcourt College Publishers, 1999, p. 910

Table 2: Global OTC Derivatives Market by Number of Transactions (a)

	Notional Amounts					**Gross Market Values**		
	End-Dec 2001	End-Jun 2002	End-Dec 2002	End-Jun 2003	End-Dec 2001	End-Jun 2002	End-Dec 2002	End-Jun 2003
Grand Total	**111,178**	**127,509**	**141,679**	**169,678**	**3,788**	**4,450**	**6,360**	**7,908**
Foreign Exchange Contracts	**16,748**	**18,068**	**18,460**	**22,088**	**779**	**1,052**	**881**	**996**
Outright Forwards and Forex swaps	10,336	10,426	10,719	12,332	374	615	468	476
Currency Swaps	3,942	4,215	4,503	5,159	335	340	337	419
Options	2,470	3,427	3,238	4,597	70	97	76	101
Interest Rate Contracts (b)	**77,568**	**89,955**	**101,658**	**121,799**	**2,210**	**2,467**	**4,266**	**5,459**
FRAs	7,737	9,146	8,792	10,270	19	19	22	20
Swaps	58,897	68,234	79,120	94,583	1,969	2,213	3,864	5,004
Options	10,933	12,575	13,746	16,946	222	235	381	434
Equity-Linked Contracts	**1,881**	**2,214**	**2,309**	**2,799**	**205**	**243**	**255**	**260**
Forwards & Swaps	320	386	364	488	58	62	61	67
Options	1561	1,828	1,944	2,311	147	181	194	193
Commodity Contracts (c)	**598**	**777**	**923**	**1,040**	**75**	**79**	**86**	**110**
Gold	231	279	315	304	20	28	28	22
Other	367	498	608	736	56	51	58	88
Forwards & Swaps	217	290	402	458	…	…	…	…
Options	150	208	206	279	…	…	…	…
Other (d)	**14,384**	**16,496**	**18,330**	**21,952**	**519**	**609**	**871**	**1083**
Gross Credit Exposure (e)	…	…	…	…	**1,171**	**1,317**	**1,511**	**1,750**
Memorandum item: Exchange-traded contracts (f)	23,760	24,031	23,810	38,217	…	…	…	…

(a) All figures are adjusted for double-counting. Notional amounts have been adjusted by dividing positions with other reporting dealers by two. Gross market values have been calculated as the sum of the total gross positive market value of contracts and the gross negative market value of contract with non-reporting counter parties.
(b) Single currency contract only,
(c) Adjustments for double-counting estimated.
(d) Estimated positions of non-regular reporting institutions.
(e) Gross market values, after taking into account legally enforceable bilateral netting agreements.
(f) Sources: FOW TRADE data; Futures Industry Association; various futures and options exchanges.

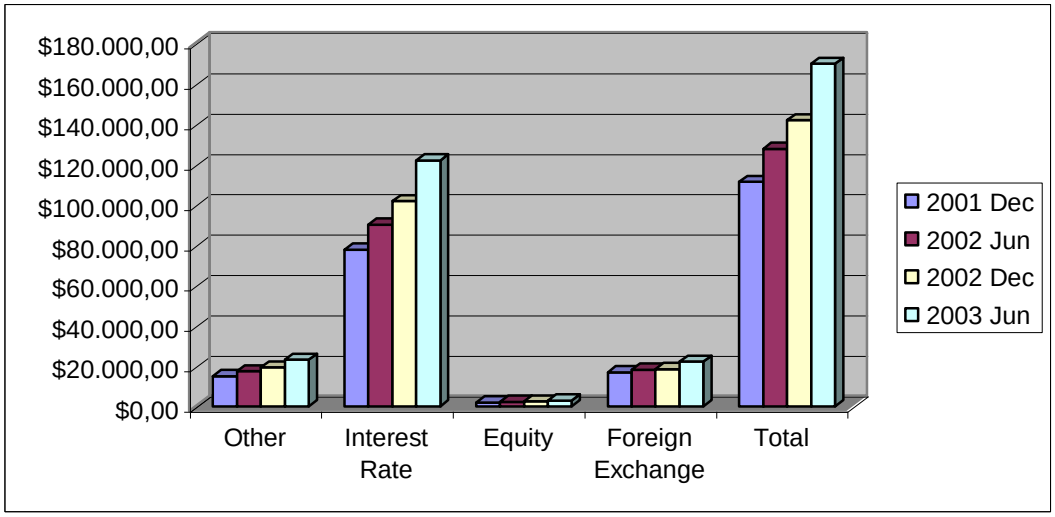
Source: Bank for International Settlements, http://www.bis.org [05/14/2004]

Table 3: Global OTC Derivative Markets by numbers (in billion $)

	2001 Dec	2002 Jun	2002 Dec	2003 Jun
Other (a)	$14.982,00	$17.273,00	$19.253,00	$22.992,00
Interest Rate	$77.568,00	$89.955,00	$101.658,00	$121.799,00
Equity	$1.881,00	$2.214,00	$2.309,00	$2.799,00
Foreign Exchange	$16.748,00	$18.068,00	$18.460,00	$22.088,00
Total	**$111.179,00**	**$127.510,00**	**$141.680,00**	**$169.678,00**
(a) Estimated positions of non-regular reporting institutions.				

Source: Bank for International Settlements, http://www.bis.org [05/14/2004]

Figure 1: Global OTC Derivatives Market by Graph



Source: Bank for International Settlements, http://www.bis.org [05/14/2004]

DERIVATIVE INSTRUMENTS AND THEIR USE IN TURKEY

Forward Contracts

A forward contract is a bilateral agreement where one party agrees to buy a commodity at a specific price on a specific future date and the other party agrees to make the sale (Brigham, Gapenski, Ehrhardt, 1999, p. 924). Forward contracts are similar to futures contracts. However, forward and futures contracts have some basic differences that are summarized in Table 4. All explanations in Table 4 are derived from the main characteristics of the Chicago Mercantile Exchange (CMEX).

Forward market transactions are also made by several banks in Turkey. Table 5 indicates the dollar forward rates given by the HSBC Bank in Turkey for a specific period. These rates were collected on March 3, 2004 and are not binding, being indicators of forward rates only. Exchange rates change daily depending upon the length of the expiration period, changes in dollar exchange rates, and changes in interest rates.

In Turkey, investors and businessmen usually tend to choose forward contracts to hedge risk. The reason behind the popularity of forward contracts is their flexibility. For instance, while both the quantity and expiration dates of forward contracts are agreed upon between customers and banks, futures contracts, being the next available hedging instruments, do not have flexibility in terms of expiration dates and quantities.

Table 4: Forward and Futures Contract Characteristics

Forward Contracts	Futures Contracts
• Traded by phone or telex	• Traded in an exchange
• Self-regulating market	• Market regulated by CFTC *
• More than 90% of all contracts are settled by actual delivery	• Less than 1% of IMM futures contracts are settled by delivery **
• Individually tailored and tend to be more than standard futures contracts	• Standardized in terms of currency amounts
• Banks offer forward contracts for delivery on any date	• Available for delivery on only a few specified dates a year
• Contract settlement occurs on the date agreed on between the bank and the customer	• Contract settlements are made daily via the CMEX's Clearing House; marking to market principle applied on a daily basis
• Generally quoted in European terms	• Quoted in American terms
• Transaction costs of contracts are based on bid-ask spread	• Contracts entail brokerage fees
• Margins are not required	• Margins are required of all participants
• Credit risk is borne by each party to a forward contract; credit limits must be set for each customer	• CMEX's Clearing House becomes the opposite side to each futures contract in order to reduce credit risk sustainability
*Commodity Futures Trading Commission (CFTC) regulates futures markets trading rules, including the daily permitted maximum price fluctuations, certain futures of delivery process, and minimum price fluctuation limits. **International Monetary Market (IMM), a division established by the Chicago Mercantile Exchange in 1972 in order to provide an outlet for currency speculators and for those looking to reduce their currency risks.	

Table 5: Spot and Forward Rates Given by a Bank in Turkey

Date: 03.03.2004	**Spot exchange (Bid):** 1,324,602	**Spot Exchange (Ask):** 1,335,400
Maturity	**HSBC Bank Dollar (Bid)**	**HSBC Bank Dollar (Ask)**
03/10/2004	1,328,300	1,329,900
04/05/2004	1,348,100	1,351,100
06/03/2004	1,391,800	1,399,300
09/03/2004	1,456,600	1,474,000
03/03/2005	1,580,000	1,620,800

Source: HSBC, http://www.hsbc.com.tr [05/18/2004]

Futures Contracts

As stated above, futures contracts are similar to forward contracts. However, they have some important differences in quantity, size, expiration dates, and places where they are traded. **Futures contracts** are traded in an exchange, where everything is standardized and cannot be customized according to the needs of the parties. A futures market conducts trades of futures contracts, in which the seller agrees to provide a certain standardized commodity to the buyer on a specified future date at an agreed-on price (Mishkin, 2002, p. 234).

In Turkey, futures transactions are made in the Istanbul Stock Exchange's Futures Market (ISEFM) division, an unregulated entity. However, individuals and institutions do not tend to trade futures contracts due to their rigidity in terms of expiration dates and quantities. For example, one has to buy a minimum a $100,000 contract (the minimum established by the ISEFM) even if only a $90,000 contract is needed. Thus, Turkish investors often choose the option of buying forward contracts where they can tailor those contracts to their needs.

Also, contracts are either for 3-month or 6-month periods, providing another reason to investors not to trade in futures contracts. In Turkey, where the value of the dollar cannot even be forecasted for the end of a given week, investors will not risk their money by trading in futures contracts. Finally, there is a lack of understanding concerning accounting and risk management issues. Thus, the main reasons why futures contracts are not attractive for Turkish investors are:

- Lack of related legal framework and tax law.
- Participants' lack of knowledge concerning derivatives accounting.
- Immaturity of financial markets and products except in the area of forward contracts.
- A general lack of understanding concerning the issues related to risk management.

Option Contracts

An option is a financial instrument that gives the holder the right -but not the obligation- to sell or buy another financial instrument at a set price and expiration date (Shapiro, 1999, p. 179). Call options give the right to buy and put options give the right to sell contracts at their expiration dates. In an option contract, investors pay a premium for the call or put price instead of purchasing the financial instrument. Thus, only the premium amount is lost at the expiration of the contract if the worst case scenario occurs. Currently, as a result of this characteristic and increasing exchange rate risk, demand for currency options is strong in Turkey. However, there are no official options markets and exchanges where standardized transactions can take place. As a result, banks engage in these transactions in an informal and unregulated fashion.

Swap Contracts

A swap contract is what the name implies – two parties agree to swap something, generally obligations to make specified payment streams. Most swaps today involve either interest payments or currencies (Brigham, Gapenski, and Ehrhardt, 1999, p. 925). An interest rate swap is an agreement whereby one party exchanges one set of interest payments for another. In the most common arrangement, fixed-rate interest payments are exchanged for floating-rate interest payments over the same time period (Madura, 2001, p. 374). A currency swap is an arrangement whereby currencies are exchanged at specified exchange rates and at specified intervals (Madura, 2001, p. 395).

For example, assume that a Turkish firm wants to invest in Germany and, at the same time, a German firm wants to establish an automobile factory in Turkey. Both firms need the currencies of the countries where they want to invest in. If both firms have good credit in their own country, they can borrow funds at a low costs (usually the rate charged to the lowest risk customers) in their own countries and then swap the loans among themselves. Bonds will be issued by each firm in their own currencies to implement the swap. Turkish firm will have Euros and the German firm will have Turkish Liras at hand as a result of this swap of debts to engage in the desired investment activities.

After the swap contract is signed, the Turkish firm will make principal and interest payments in Euros during the period of the loan and the German firm will make payments in Turkish Liras. Thus, both firms will have access to the required type and amount of currencies (see Figure 2). The main differences and similarities between swaps, forwards, and futures contracts are described in Table 6.

Figure 2: The Currency Swap

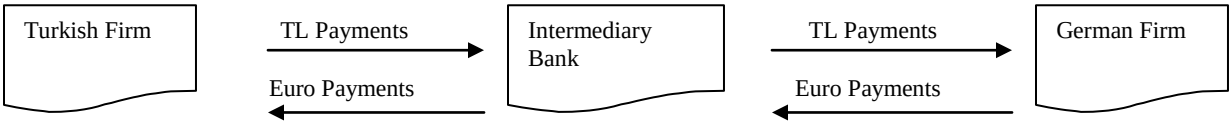


Table 6: Differences and Similarities between Swaps, Forwards, and Futures

• There is no speculative goal in swap contracts, whereas there is a speculative goal in future and forward contracts.
• Swap contracts are mostly medium and long-term contracts. However, future and forward contracts are mostly short-term.
• Even they do not equally benefit, both parties in the swap contract may benefit to some extent. In future and forward contracts, one of the parties lose, while the other gains.
• A three-way relationship exists between parties in a swap contract. Both future and forward contracts exist between a buyer and a seller, whereas a bank is and intermediary in swap contracts.

DERIVATIVE INSTRUMENTS IN EMERGING MARKETS

Role of Derivative Products in Emerging Markets

Emerging markets that have introduced trading in various derivative products receive a larger share of total global foreign direct investment than those emerging markets that have not. The existence of an active market in financial instruments attracts domestic and foreign savings because these instruments increase the options available to those who want to invest in these capital markets, complementing their risk and return profiles.

If we consider two financial markets that are the same in all respects, except that one includes financial derivatives and the other does not, the market with financial derivatives will allow traders to better shape the risk and return characteristic of their portfolios, thereby increasing their welfare and the enriching the economy in which they operate (Kolb, 1999, p. 6). In addition, efficiency, profundity, and fluidity will be enhanced in the emerging markets which have derivative products, allowing investors to insure their financial risks adequately (Korkmaz, 1999, p. 253).

Derivative Products in Emerging Markets

Argentina, Brazil, Mexico, Philippines, Hungary, Israel, Malaysia, and South Africa are countries which are most active in the means of volume amongst the emerging markets where trading in derivative instruments is practiced. The list below describes the derivative instruments that are traded in emerging countries:

- Agricultural Products
- Indexed Derivative Products
- Precious Metals
- Swap Contracts
- Equity Securities Derivative Instruments
- Energy Derivative Products

In this article, indexed derivative products and derivative products based on equity securities are emphasized because they are the most widely used derivative products in Turkey. A stock index futures contract allows for the buying and selling of a stock index for a specified price at a specified date (Madura, 2001, p. 317). These stock index futures contracts allow speculators and hedgers to trade in futures that mirror the movements of the associated cash market indexes. Thus, pension funds and other large investment portfolios of stocks can avoid large losses by selling stock index futures. These funds also employ stock index futures as a temporary substitute for eventual purchases/sales of stocks, since traders can execute futures transactions quickly and inexpensively (Daigler, 1993, p. 19).

Another strategy used by traders is called portfolio insurance that involves hedging against stock market declines by selling stock index futures. The strategy assures that when stock prices fall, stock index futures prices fall with them, so investors can obtain capital gains on the futures that offset the losses on the stocks they are holding. This feature of stock index futures markets would enable small investors to protect themselves against risk, thus attracting investments from all sectors of the society.

For example, assume that when the index stands at 1500, an investor decides to invest in the S&P index futures with a December settlement date. The value of the contract is quoted at $250 times the index. Investor decides to purchase S&P 500 index futures. Assume that the S&P 500 index rose to 1600 on the settlement date. The resulting profit would be $25,000 [250 (1600 – 1500)].

Another derivative, being implemented in emerging markets, is stock options. A stock option is a contract which conveys to its holder the right, but not the obligation, to buy or sell shares of the underlying security at a specified price on or before a given date. Following their implementation, exchange-traded stock options had substantial impact on the existing stock markets.

In the stock exchanges of emerging countries, equity options are one of the most widely regulated and used structural devices. The aim is to increase demand by removing ambiguity from stock markets, which leads to demand deficiency. Table 7 below shows the dates when futures and options markets were first established in various countries.

Table 7: Establishment of Futures/Options Markets in Various Countries

Countries	Exchanges	Beginning
Austria	OTOB	1991
Belgium	BELFOX	1992
Denmark	FUTOP	1990
French	MONEP	1987
Germany	DTB	1990
New Zealand	NFZE	1990
Norway	Oslo S/E	1990
Sweden	OMLX	1985
Switzerland	SOFFEX	1988
United Kingdom	LIFFE	1992

Source: The World's Futures and Options Markets, The EFFAS European Bond Commission, Chicago, 1993.

DEVELOPMENT OF TURKISH FUTURES MARKETS

Futures markets management was established in Turkey on May 3, 1994 in order to provide individual and portfolio investors with opportunities to hedge themselves against risk and to present opportunities for efficient portfolio management. Since 1995, by the contribution of several professors from various universities, many education programs have been arranged for market participants. In 1997, following the evaluations of these programs which indicated that the trade of futures and options were well established as a medium of exchange, electronic transaction principles were introduced and the development of necessary software programs began.

First step was the implementation, testing and simulation of a buy-sell system that was the result of a partnership established with a foreign company. This system became effective on July 19, 2001, when published in the Official Bulletin of the Turkish Government Register (#24467), establishing the legal basis of the market's infrastructure (ISE, 2004). Since the launch of futures markets in Turkey, only a few transactions have taken place. Because of this low transaction level, futures contract specifications were changed to attract a higher number of participants and increase the transaction volume.

In addition, the first private derivative exchange, TURKDEX, was established in İzmir in 2001. It started its operations after the company was registered in the Official Bulletin of the Registry of Commerce on July 4, 2001. TURKDEX's main objective is to provide financial instruments that will assist in the effective management of risks against abrupt price swings of the volatile business environment in Turkey. Tables 8, 9, and 10 provide information about the ISE and TURKDEX.

CONCLUSIONS AND RECOMMENDATIONS

Futures and options exchanges are one of the main institutions of liberal economic systems. In a free market economy the prices are determined by the market. In Turkey, privatization has been gradually taking hold as the government implemented policies to provide such a free market. In addition, the flow of capital among countries is being encouraged and restrictions on such activities are being lifted. As a result, Turkish companies are constantly influenced by global financial developments. Thus, the need for the use of risk management tools and for the establishment and unfettered operation of derivatives exchanges in Turkey is clear.

Table 8: Futures Contracts Specifications at ISE Futures Market

Contract definition	**:**	TL/USD, TL/EURO.
Contract size	**:**	10,000 USD, 10,000 EURO.
Price increments	**:**	1000 TL. Thus, each price increment has a value of 100 million TL. (1000*100,000 = 100 million TL).
Daily price limits	**:**	± 20%. The base price used in the calculation of price movements is the settlement price of the last session. The upper and lower price limits are rounded to the next and previous price increments, respectively.
Initial margin		1.75 billion TL for TL/USD contracts, 2.0 billion TL for TL/EURO contracts (approximately 12 % of the contract value). In addition to cash TL, TL denominated bonds, foreign currencies and foreign currency denominated bonds are also accepted as collaterals. At least 30% of the initial margin must be in cash TL. Calendar spreads are margined at 1 billion TL for both types of contracts.
Maintenance margin		80% of the initial margin.
Last trading day	**:**	The last third business day of the month. The day after the last day of a contract a new futures contract begins.
Contract months	**:**	Nearest month and the nearest month of the March cycle.
Settlement day	**:**	Trades are cash settled at T+0.
Settlement process	**:**	Takasbank handles all settlements. Margin calls should be met by 16:30, otherwise accounts and firms are in default.
Trading hours	**:**	One continuous auction session between 10:00-14:00 with a one hour lunch break between 12:00-13:00.
Maximum order quantity	**:**	100.
Market commission	**:**	0.005% of contract value for both buyer and seller.

Source: ISE, http://www.ise.org/markets/derivatives.htm, (05/18/2004)

Table 9: Shareholders & Paid –in Capital Structure of TURKDEX

1. The Union of Chambers of Commerce, Industry, Maritime Trade and Commodity Exchanges of Turkey	% 25
2. Izmir Mercantile Exchange	% 18
3. Istanbul Stock Exchange (ISE)	% 17
4. Is Investment Securities	% 6
5. Kocbank	% 6
6. Vakifbank	% 6
7. Garantibank	% 6
8. Akbank	% 6
9. Industrial Development Bank of Turkey	% 6
10. ISE Settlement and Custody Bank	% 3
11. The Association of Capital Market Intermediary Institutions of Turkey	% 1
Paid-in Capital	6,000,000,000,000 TL

Source: http://www.vob.org.tr/vob/english/aboutus/profile/struct.htm, (05/24/2004)

As stock options are introduced in Turkey, they will:

- Lead to a reduction in the volatility of investment returns.
- Help the Turkish capital markets complete the reform process, achieve a high level of quality, and establish a professional reputation in the international arena
- Have a positive impact on stock trading volumes.
- Enhance stock market efficiency and liquidity.
- Speed up the price-adjustment process
- Give rise to a substantial decline in bid-ask spreads.
- Provide impetus for and accelerate the process of privatizing the giant holding companies controlled by the Turkish government.
- Enable fund and portfolio managers to diversify their risks.
- Provide a high comfort level to foreign investors who wish to trade in Turkish stock options, leading to an increase in long-run and/or permanent foreign direct and portfolio investments flowing into Turkey.

Table 10: Realized Transactions of Futures Contract by Banks Authorized to Operate at the ISE Futures Exchange

Yapi Kredi Bank*	2,453.1
Türkiye Ekonomi Bank (TEB)*	1,852.1
Pamukbank*	1,787.1
HSBC Bank*	1,243.4
Alternatif Bank*	625.2
Garanti Bank*	595.0
Koc Bank*	317.0
Finansbank*	309.5
Fibabank*	0
Vakıf Bank*	0
Türkiye Dış Ticaret Bank*	0
Denizbank*	0
Türkiye İş Bank*	0
Tekstilbank*	0
ABN Amro Bank N.V*	0
BNP AK Dresdner Bank*	0
Total	**9,183.2**

Source: Mustafa Kemal Yılmaz, Currency Futures, Istanbul: Der Yayınları, 2002, p. 130

Exchange-traded stock options have many benefits including providing flexibility, leverage, and limited risk to investors provided they employ appropriate strategies and trade in the Istanbul Stock Exchange Derivatives Market. Countries that have derivative markets enjoy increased liquidity in spot markets and stability in transaction volumes (Yilmaz, 1999, p. 234). Stock options allow investors, especially portfolio and fund managers, to participate in price movements without committing the large amount of funds needed to buy the stock outright and lead to more permanent and long-run foreign capital investment in the Istanbul Stock Exchange Stock Market as foreign investors take advantage of this new hedging instrument.

The establishment and development of financial markets in emerging countries have always been a difficult task. In the formative periods of these markets, governments and regulatory authorities should be well aware of the possible impact of these new markets on the macro-economic performance of their country. Thus, initial/formative stages of implementing financial markets in emerging countries require high levels of attention and contingency planning. The following list contains the main precautions that can be taken in this regard:

- In order to increase investor participation in these markets, tax incentives should be provided.
- Attention must be given to the establishment of rules and regulations that will ensure the provision of transparent, reliable, high quality, and full financial information to market participants who engage in derivative product transactions.
- Buy-sell misalignments in the foreign exchange, bond, and stocks markets should be addressed and eliminated so that these markets are settled on a sound basis and as frequently as necessary.
- Standardization of contracts traded in these futures markets should be completed immediately, with special attention given to the needs of small investors, to ensure adequate trading volume and participation.
- Company executives must be educated and trained in the risk management aspects of derivative products to increase the use of these financial instruments.
- Legal regulations should be transparent, comprehensible, devoid of contradictions, and not subject to change through short-run tinkering. There should be no ambiguity in the mind of investors concerning the permanence of these regulations over their decision-making horizons.
- Technological infrastructures appropriate for efficient functioning of these markets should be established and implemented nationwide.

- The international accounting standards and principles that will be used by accountants to calculate and recognize profit/loss on derivative transactions must be established and publicized, with competing procedures prohibited.
- Educational seminars should be provided to individual and institutional participants who will trade in these markets.

Development, establishment, and implementation of derivative markets support the securitization process in Turkey and advance it to the next stage. As a result, the main goal of facilitating the flow of funds between cash hungry and cash rich units controlled by the government and sectors of the economy is achieved. Thus, it is appropriate to remove all current and potential barriers that would impede the speedy development and efficient functioning of these markets.

SUGGESTIONS FOR FUTURE RESEARCH

Future research will study the quantitative and qualitative approaches used in market and credit risk management at financial institutions. In addition, risk management techniques and applications conducted in emerging markets in accordance with Basel II principles will be addressed in future studies. Finally, improvements in the risk management processes undertaken by institutions and governments in emerging markets will be presented in this context.

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