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Margin Changes Effects of Price and Return Volatility in Gold Coin Futures Market at Iran Mercantile Exchange

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Abstract

Supervisory institutes have paid a great attention to the use of margin as a control tool of excessive speculation in futures contracts market. Therefore, this paper studied margin changes effects on price and price volatility in Iran Mercantile Exchange (hereafter IME) using gold coin futures contracts data from November 2008 to July 2014. The US commodity futures trading commission (henceforth CFTC) has the authority to increase the margin to control speculators activities and prices in future contracts market. According to our research, based on information garnered from futures contracts market of Bahar-e-Azadi gold coin in IME, we concluded that any increase in margin results in higher open position costs, which begets price ascend. Considering our results, more amount of margin begets speculator providing liquidity out of the market, consequently surges price volatility. However, the results showed that there is no significant difference between effects of increased and decreased margins. Unfavorably, the effect of considerable margin change was smaller than that of small ones.

Keywords: Excessive Speculation, Futures Market, Margins, Volatility.

Introduction

Futures contract is a tool by which corporations can manage price volatility risks. In this type of contract, both seller and buyer make an agreement on exchanging a given asset, including goods, at a certain date in future and with a given price. As a result, the price which is determined to seller and buyer by state pricing system, is specified by seller and buyer themselves based on offer and demand status. Therefore, both seller and buyer maximize their profit in no-risk condition by applying the price in cost/income function.

The initiation of futures contracts can provide a proper infrastructure for switching from pricing system to market system and can provide appropriate tools for managing price risk. On this basis, futures contracts were initialized on July 2008 for the first time in IME[1] on a gold bar (weight =one ounce). Since the market was not welcomed by market actives, the deals of the exchange were stopped. Even so on November of the same year, futures contracts were practiced again on 10 gold coins (Full weight Bahar-e-Azadi coin). By the end of 2013, there were more than 73 million gold coin deals in the exchange.

Although futures contract can serve as a proper tool for managing price volatility risks in economics, it has been criticized some cases, including the influence of a group of dealers, so called speculators, on the market. In futures contracts market speculators are a group of dealers who deal based upon their prediction on the price of an underlying asset in the future. If the speculator predicts that the price of an underlying asset will rise in the future, he/she will purchase the asset at the present time. Conversely, if he/she predicts a price fall in the future, will sell the asset at the present time. Alongside with, if the speculator predicts prices correctly, will sell the contract which

[1] IME is one of four active exchanges in Iran. It was formed in 2007 after enactment of new legislation of IR.IRAN securities by merging Tehran metal Exchange and Iran Agricultural Exchange.

buys at present time (in a lower price) at a higher price in future. Conversely, he/she will buy the contract which sells in a higher price at present time in a lower price in the future and in this way will make profit by price difference.

Apparently, speculators welcome risk and gain opportunities proportional to their predictions on prices. In addition to creating a risk transfer mechanism, the presence of speculators in futures contracts market helps market liquidity. On the other hand, however, excessive speculation has disturbed some markets. For instance, U.S state data confirms that the presence of speculators in the oil market has increased oil price.

There are different opinions about the effect of futures contracts market on underlying asset's price in cash market[2], but the dominance of advocators of excessive speculation effects on prices in U.S cash market resulted in the development of regulations allowing CFTC. The administrative institute of futures contracts market that controls speculators activities in futures contracts market through margin change.[3]

Since the development of futures market in Iran is expectable, due to exchangeable commodities in futures contracts market covering a wide range of strategic commodities like oil and its products, base metals and agricultural goods, futures market in Iran in near future is expected to be initialized. Therefore, it is necessary to study and determine different aspects of margin change effect on futures contracts market to enable active exchanges of futures contracts as well as supervisory institute of Iran capital market to delineate the minimum margin required for futures contracts in accordance with the results of this study. Considering the main purpose of this study investigates the effects of margin changes required for futures contracts in the related market, the main question of this study is that whether margin change influences price in gold coin futures contracts (Bahar-e-Azadi) and also margin change affect price volatility in gold coin futures contracts or not (Bahar-e-Azadi)?

The remainder of this paper is organized as fellow. Section 2 studies literature and related background. In the 3rd section date gathering methodology is introduced. Section 4 discusses implementation process based on the study's background and literature mentioned in section 2. Moreover models are introduced and estimated besides results are revealed. Finally conclusion is illustrated in section 5.

Literature review

Traditionally, futures contracts exchanges use margin as a risk management tool as margins is considered a pledge with the capacity of eliminating credit risk (Telser, 1981) (Figlewski, 1984) (Kahl et al., 1985) (Gay et al., 1986) (Fenn and Kupiec, 1993) (Kroszner, 1999). According to this view, clearing houses of exchanges should have the ability to freely obtain a margin from both parties of a deal in order to manage default risk. However, they try to set the margin in an extent that does not impede market development. In other words, clearing houses establish a trade-off between credit risk management and market development.

Despite the fact that margin is traditionally a risk management tool for clearing houses of exchanges, according to introduction section, it has been recently considered as a market control

[2] Opinion 1: this opinion discusses that future market increases instability of cash market (Cox, 1976) (Figlewski, 1981). Opinion2: this opinion discusses that future market decreases instability of cash market (Powers, 1970) (Danthine, 1978) (Bray, 1981) (Kyle, 1985) (Stoll and Whaley, 1988) (Schwarz and Laatsch, 1991).

[3] Futures exchanges use margin as a tool for managing its clearing house risk as the margin is a security that can solve credit risk. When clearing house of the exchange believes that market risk has been changed it changes the margin as well. For example if price volatility changes margin committee increases margin value in response to risk increment (Chatrath et al., 2001).

tool in that following 2003-2008 commodity boom as well as recent energy price rise, it has triggered discussions about setting regulations for determining required margin and there are discussions about the concept that margin changes, as a political policy, can restrict speculation and shift market towards decreased prices (Markham, 1991).

The idea of developing legislations for margin is based on the argument that margin rise can adjust excessive speculation accepting unnecessary risk and results in market instability. Margin regulations can increase social welfare as they make speculators collectively select an optimal risk level (Gromb and Vayanos, 2002). On the other hand, objectors argue that this will deprive futures exchanges of margin funds which enable them to control their default risk against their members. In other words, margin has a desirable performance in preventing default risk and on this ground; it is not justifiable to set regulations (Gemmill, 1994) (Bates and Craine, 1998). However, the question of state authorities is that whether low margin can strengthen unnecessary speculation and increase volatility (Greenspan, 1990).

In the following, literature of margin change effects on different dimensions of futures contracts market is discussed. Firstly, the literature of margin change effect on return and price in futures contracts is discussed and then the effects on price stability in futures contracts are studied.

Margin Change Effects on Price and Return

As mentioned above, discussions about developing legislations for margin have been triggered after recent commodity boom, from 2003 to 2008, as three commodities including energy, base metals and agricultural tools experienced speculation and simultaneous price rise so that all of them break the record of top price in their data history (Helbling, 2008). There are two opposite visions about the role of speculators on price rise:

1. Commodities price rises due to the interest of speculators in investing on commodities as an investable asset (Tang and Xiong, 2011) (Singleton, 2012).
2. Deals in Futures exchanges do not affect price rice (Brunetti et al., 2010) (Stoll and Whaely, 2010) (Irwin and Saunders, 2011).

According to the second vision, fundamental changes such as dollar depreciation, offer recession and increased demand from China, India and other developing countries explaining the increase in price. Based on this vision, margin changes do not affect return. Therefore, in the process of investigating margin change effect on return in futures contracts, this question is posed that what are the effects of margin change on price and return in futures contracts?

Acharya et al. and Garleanu and Pedersen showed in their model that any change in required margin affects asset price. Both models have been set based on interaction between speculator and hedger behaviors. A hedger is more risk averse than speculator, while the speculator involves in more capital limitation restricting the capability in supplying financial resource to capture opportunities. In addition to this assumption, it is assumed that a hedger deals with lower financing limitations. Both models show that the speculator's behavior in capital constraints, explains margin change effect on price owing to required margin restricts open positions for the speculators with financing limitations (Garleanu and Pedersen, 2011) (Acharya et al., 2011).

Garleanu and Pedersen developed a Margin-CAPM model (Garleanu and Pedersen, 2011). This model predicted that in the cases where net positions of speculators are long, the increase of margin decreases price of underlying asset and vice versa. This is the product of capital constraint of speculators. In the other words, disability of speculators in supplying required financial resources for margin causes them to close-up long position which results in offer increase and consequently price decrease (Brunnermier and Pedersen, 2009). Therefore, the assets experiencing margin change are more risky.

Acharya et al. has developed a partial equilibrium model (Acharya et al., 2011), in which speculators with capital constraint respond producers' hedging requests. We have demonstrated in this paper that while speculators with capital constraint follow long position in Futures contracts market in response to hedging request, the price of Futures contracts increases due to increasing of the required margin and vice versa. Furthermore, both models have shown that if speculators are free from capital constraint or in other words they have sufficient large amount of capital, margin change will not affect the price of Futures contracts.

In an experimental study on margin change effect on price in Futures contracts, Hedegaard examined margin change effect on the price of 16 groups of Futures contracts. According to results, margin change does not affect the price of Futures contracts. He concluded that the dealers of Futures contracts of the studied commodity faced no capital constraint (Hedegaard, 2011).

Margin Change Effects on Price Stability

The second problem associated with margin change effects on Futures contracts market which was considered by scholars is that whether margin change affects price stability in Futures contracts market or not.

The literature of subject measures price stability through price volatility. There are three hypotheses as following (Fishe et al., 1990) (Ma et al., 1993). The first hypothesis assumes that margin rise, reduces price volatility begets speculators to quit from market. The removal of speculators causing the price volatility stabilizes the prices. As a case in point Xiong represented that speculators can cause price instability by buying the assets while prices are soaring and selling whilst prices are shrinking (Xiong, 2001). Unfavorably, Brunnermier and Pedersen denoted that margin rise; increases price volatility engenders speculators quit the market. This fact results in market liquidity decrease increasing price volatility (Brunnermier and Pedersen, 2009). According to the third hypothesis, there is no relationship between margin change and price volatility as the effects of the two previous hypotheses neutralize each other.

Different experimental studies on Futures contracts market have confirmed the three mentioned hypotheses did not find a significant relationship between margin change and price volatility (Hartzmark, 1986) (Fishe et al., 1990).Ma et al. studied silver Futures contracts and reflected a strong negative relationship between the former and the latter (Ma et al., 1993). Hardouvelis and Kim found a strong positive relationship between the aforementioned variables in metals Futures contracts market (Hardouvelis and Kim, 1995, 1996). We have another study observed a strong positive relationship between margin change and price volatility (Chatrath et al., 2001) (Adrangi and Chatrath, 1999).

The dataset

On July 2008, Futures contracts were initialized for the first time in IME on a gold bar (weight =one ounce). Since the market was not welcomed by market actives, the deals of the exchange were stopped. But on the November of the same year, Futures contracts were practiced again on 10 gold coins (Full weight Bahar-e-Azadi coin) and by the end of 2013 there were more than 73 million gold coin deals in the exchange.

From the date of initializing Futures contracts on Bahar-e-Azadi gold coin from November 2008 to July 2014, margins have been changed for 69 times (Figure 1). Since it is possible to deal 3 to 4 open end contract for every change, a total of 238 effects have been derived from the changes.

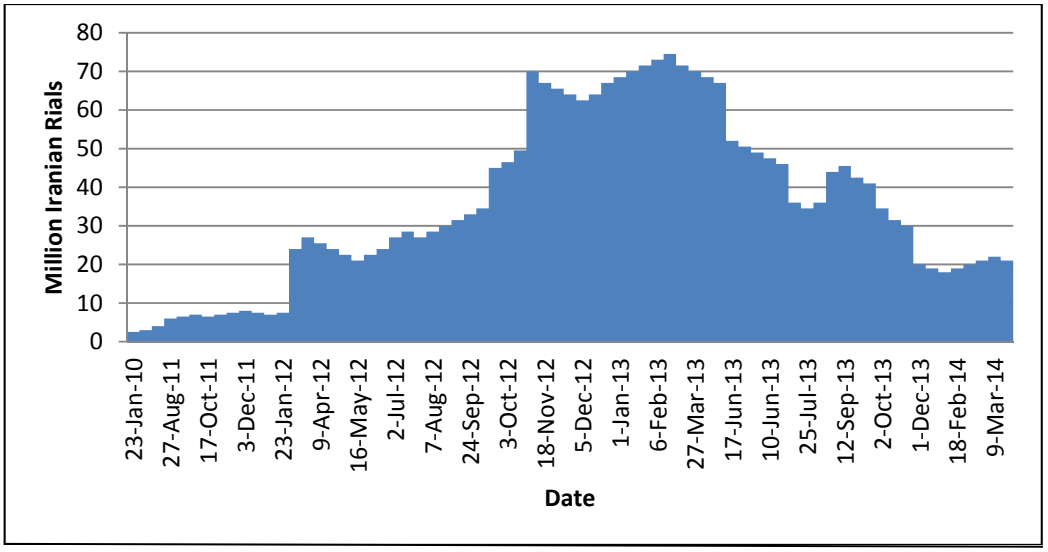

Figure 1: Gold coin futures contracts margin

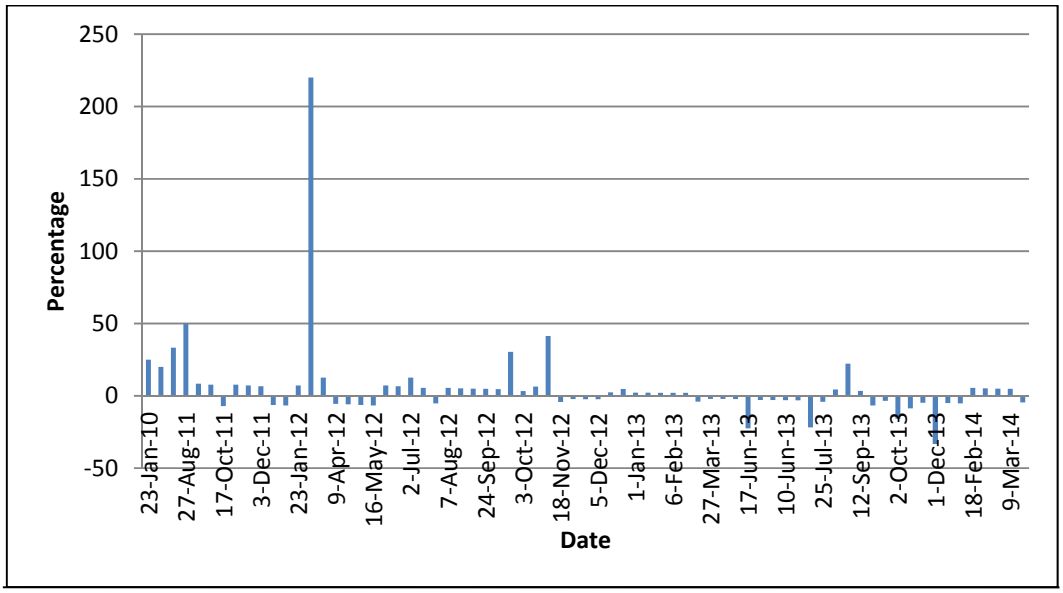

Figure 2: Gold coin futures contracts margin changes

Raw data of Bahar-e-Azadi gold coin deals was obtained from the official website of IME and following primary calculations, it was converted to data used in models. Furthermore, raw data of Bahar-e-Azadi gold coin price in cash market was garnered from the official website of Gold, Jewel and Coin and Exchanger Union and following primary calculations, it was converted to data used in employed models.

The effect of margin changes on price and return volatility

The event study methodology

To assess the impact of margin changes on the variables we isolated the days where margin changes and we examine their impact on gold coin futures market around those days. It is worth noting here that the margin changes are usually announced by the exchange only 24 hours in advance of the actual margin change. We examine the variables over a pre-event period that consists

of the last five trading days immediately before the margin change and a post-event period that consists of the five trading days immediately after the margin change.

The margin effect on the commodity futures prices

We assume that the following are all true for some market participants:

1. The market participants are subject to no transactions costs when they trade.
2. The market participants are subjected to the zero tax on all net trading profits.
3. The market participants can borrow money at the same risk-free rate of interest as they can lend money.
4. The market participants take advantage of arbitrage opportunities as they occur.

Note that we do not require these assumptions to be true for all market participants. Instead they should be true -or at least approximately true- for a few key market participants. We consider a forward contract on a commodity with price S_0 that provides no income, T is the time to maturity, r is the risk-free rate, and F_0 stands for the forward price. The relationship between F_0 and S_0 is presented as (1).

$$F_0 = S_0 e^{rT} \quad (1)$$

In Futures contract including margin the above equation is transformed as (2).

$$F_0 = S_0 e^{rT} + M e^{(r-i)T} \quad (2)$$

In equation (2), M is the margin and i is the interest rate who clearing house pay for margin. In IME, $(r - i)$ was greater than 10 present. So the increase/decrease of margin decreases/increases price of underlying asset. Data indicate interest rate 5 days before and 5 days after margin changes in our sample are constant, regardless of the impact of the changes to the time to maturity. We performed margin change effect on price level besides price growth (return) in order to determine margin change effect on price. To this end, the following equation will be estimated as (3).

$$\Delta Y_t = \alpha_0 + \alpha_1 \Delta \ln M_t + \alpha_2 \Delta YS_t + DUMPM_t + DUMLS_t + \varepsilon_t \quad (3)$$

Where $\Delta Y_t = \Delta lnP_t$ or ΔR_t, the former indicates the change of price average and the latter stands for change of return average 5 days before and after margin change at time t. $\Delta \ln M_t$ is change of margin average 5 days before and after margin change at time t. However, $\Delta YS_t = \Delta lnPS_t$ or ΔRS_t, which the former indicates change of underlying asset's average price in cash market and the latter stands for change of underlying asset's average return in cash market 5 days before and after margin change at time t.

To study robustness test result, the effects of increased and decreased margin were studied separately. Moreover, considerable and small margin change effects were studied. Dummy variable technique is used for this purpose. To separate small changes from considerable ones, we applied the approach employed by Hedegaard, Hardouvelis and Kim and Daskalaki and Skiadopoulos which considered the mean of margin changes (Hedegaard, 2011) (Hardouvelis and Kim, 1995) (Daskalaki and Skiadopoulos, 2012). Changes above the mean value were considered as considerable changes and vice versa.

It should be noted that the estimations can be used by margin adjustor in the market as it is important to the adjuster to know that whether considerable margin changes serve similar to small ones. Instrumental variable will be used to estimate the effects. Significant coefficient of instrumental variable implies an asymmetric effect.

Table 1 in the attachment shows the results of margin effects on price. Margin change effect on price and return in Futures contracts were investigated according to the previous section model. Generally, a positive/negative relationship was observed between margin change and mean price/return in future because of increasing/decreasing open position costs.

Table 1: Margin requirements and commodity futures prices

Number of obs	238	
F(4, 233)	284.0200	
Prob > F	0.0000	
R-squared	0.8298	
Adj R-squared	0.8269	
Root MSE	0.0218	
ΔlnP_t	Coef.	P>t [95% Conf.
$\Delta \mathbf{lnM_t}$	0.017681	0.069 -.0013805
ΔYS_t	1.150198	0.000 1.078957
$DUMPM_t$	-0.00553	0.116 -.0124513
$DUMLS_t$	-0.00587	0.041 -.0115159
_cons	0.002409	0.391 -.0031102
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity Ho: Constant variance chi2(1) = 2.34 Prob > chi2 = 0.1261		

Table 2 shows that margin rise decreases the rate by which future prices increase (fall of increasing rate of future prices).

Table 2: Margin requirements and commodity futures returns

Number of obs	238	
F(4, 233)	67.6700	
Prob > F	0.0000	
R-squared	0.5374	
Adj R-squared	0.5294	
Root MSE	0.8913	
ΔR_t	Coef.	P>t [95% Conf.
$\Delta \mathbf{lnM_t}$	-1.10766	0.005 -1.868561
ΔYS_t	0.49197	0.000 .4233906
$DUMPM_t$	0.091199	0.502 -.1759012
$DUMLS_t$	-0.74832	0.000 -.9791201
_cons	0.256166	0.024 .0332533
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity Ho: Constant variance chi2(1) = 17.79 Prob > chi2 = 0.0000		

Number of obs	238	Correcting for Heteroskedasticity with robust standard errors
F(4, 233)	43.7700	
Prob > F	0.0000	
R-squared	0.5374	
Root MSE	0.8913	
ΔR_t	Coef.	P>t [95% Conf.
$\Delta \mathbf{lnM_t}$	-1.10766	0.006 -1.88912
ΔYS_t	0.49197	0 0.388237
$DUMPM_t$	0.091199	0.467 -0.15568
$DUMLS_t$	-0.74832	0 -0.97955
_cons	0.256166	0.003 0.087502

According to the results, price change in cash market with an elasticity of >1 affects prices in Futures market while return change in cash market while an elasticity of <1 affects returns in Futures market.

Our results disagree with predictions of Gromb and Vayanos, Gârleanu and Pedersen ,Acharya et al., Brunnermier and Pedersen and Ajiyagari and Gertler models where margin rise decreases price (Gromb and Vayanos, 2002) (Garleanu and Pedersen, 2011) (Acharya et al., 2011) (Brunnermier and Pedersen, 2009) (Ajiyagari and Gertler, 1999). However our findings agree with Hedegaard and Daskalaki and Skiadopoulos studies (Hedegaard, 2011) (Daskalaki and Skiadopoulos, 2012).

Tables 1 and 2 shows, the effect of considerable margin changes on price change are smaller than small ones. This result indicates that even though margin rise increases prices in Futures contracts, the increasing trend decreases as margin change increases. This disagrees with the result of Daskalaki and Skiadopoulos (Daskalaki and Skiadopoulos, 2012), which is important for supervisory purposes as it influences the decision that whether considerable or small margin change to be applied or not.

Additionally, tables 1 and 2 indicate that there is no significant difference between the effects of positive and negative changes. This agrees with the result by Daskalaki and Skiadopoulos's results (Daskalaki and Skiadopoulos, 2012). This is important for supervisory purposes as political circles emphasize that required margin should be more applied on future commodities.

The margin effect on the futures returns volatility

Similar to the model used by Hardouvelis and Kim and Daskalaki and Skiadopoulos, the following regression model was estimated in order to study margin change effect on return volatility in Futures contracts (Hardouvelis and Kim, 1996) (Daskalaki and Skiadopoulos, 2012).

$$\Delta lnVol_{\mathrm{t}} = \alpha_0 + \alpha_1 \Delta \ln \mathrm{M_t} + DUMPM_t + DUMLS_t + \varepsilon_{\mathrm{t}} \quad (4)$$

Where $\Delta lnVol_{\mathrm{t}} = \ln(\mathrm{Vol_{A,}}_t/\mathrm{Vol_{B,t}})$ in which $\mathrm{Vol_{B,t}}$ and $\mathrm{Vol_{A,t}}$ are mean of daily return volatility 5 days before and after margin change at time t, respectively. $\Delta \ln \mathrm{M_t}$, is change of mean margin 5 days before and after margin change at time t. To compute daily return volatility, three different estimators were used in order to assure results robustness. Garman and Klass, Rogres and Satchell and Alizadeah et al. estimators were used as follows (Garman and Klass, 1980) (Rogres and Satchell, 1991) (Alizadeah et al., 2002).

$$V_{GK,t} = 0.5(lnH_t - lnL_t)^2 - (2ln2 - 1)(lnC_t - lnO_t)^2 \quad (5)$$

$$V_{RS,t} = (lnH_t - lnO_t)(lnH_t - lnC_t) + (lnL_t - lnO_t)(lnL_t - lnC_t) \quad (6)$$

$$V_{R,t} = (lnH_t - lnL_t) \quad (7)$$

In equations (5), (6) and (7), H_t, L_t, C_t and O_t are the highest price, the lowest price, close price and open price, respectively.

The first two measures are traditional calculations integrating the highest price, the lowest price, close price and open price. Both estimators assume that prices are in accordance with geometric Brownian motion. They differ in that the Garman and Klass estimator assumes a zero drift while Rogres and Satchell estimator is independent from drift. Alizadeah et al. use logarithmic area as an efficient tool for determining volatility as it demonstrates volatility on daily basis. However, they disagree with the use of buy and sell prices in fundamental calculations and conviction that the prices are under a severe influence of microstructural effects.

Similar to the previous section, the influence of decreased and increased margin were separated in this section in order to study robustness of results. Nonetheless, the effects of considerable margin changes and small ones were studied separately.

Table 3: Margin requirements and volatility of daily futures returns with Garman and Klass estimators

Number of obs	218		
F(4, 233)	8.6300		
Prob > F	0.0000		
R-squared	0.1079		
Adj R-squared	0.0954		
Root MSE	0.9550		
$\Delta \boldsymbol{lnVol_t}$	Coef.	P>t	[95% Conf.
$\Delta \mathbf{lnM_t}$	0.784778	0.069	-0.06251
$\boldsymbol{DUMPM_t}$	-0.08368	0.573	-0.37603
$\boldsymbol{DUMLS_t}$	-0.64368	0.000	-0.90084
_cons	0.210356	0.089	-0.0324
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity Ho: Constant variance chi2(1) = 1.17 Prob > chi2 = 0.2801			

Table 4: Margin requirements and volatility of daily futures returns with Rogres and Satchell estimators

Number of obs	118		
F(4, 233)	5.2		
Prob > F	0.0021		
R-squared	0.1203		
Adj R-squared	0.0971		
Root MSE	0.9756		
$\Delta \boldsymbol{lnVol_t}$	Coef.	P>t	[95% Conf.
$\Delta \mathbf{lnM_t}$	1.85795	0.075	-0.19337
$\boldsymbol{DUMPM_t}$	-0.48039	0.049	-0.95874
$\boldsymbol{DUMLS_t}$	-0.59676	0.001	-0.95324
_cons	0.224019	0.2	-0.12014
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity Ho: Constant variance chi2(1) = 0.40 Prob > chi2 = 0.5292			

Table 5: Margin requirements and volatility of daily futures returns with Alizadeah et al. estimators

Number of obs	218		
F(4, 213)	7.77		
Prob > F	0.0001		
R-squared	0.0982		
Adj R-squared	0.0856		
Root MSE	0.48273		
$\Delta \boldsymbol{lnVol_t}$	Coef.	P>t	[95% Conf.
$\Delta \mathbf{lnM_t}$	0.243759	0.263	-0.1845
$\boldsymbol{DUMPM_t}$	-0.00702	0.926	-0.15479
$\boldsymbol{DUMLS_t}$	-0.31509	0	-0.44507
_cons	0.087617	0.161	-0.03508
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity Ho: Constant variance chi2(1) = 4.32 Prob > chi2 = 0.0378			

Tables 3, 4 and 5 show margin change effect on return volatility in Futures contracts. Effects of margin change on three measure of return volatility in Futures contracts were investigated using the previous sections models. As it can be observed, there is a positive relationship between margin change and volatility.

Evidences about margin change effect on volatility agree with the findings by Hardouvelis and Kim and Daskalaki and Skiadopoulos (Hardouvelis and Kim, 1995) (Daskalaki and Skiadopoulos, 2012). The results can be based on the principle that margin rise make those speculators who increase market liquidity to quit the market increasing volatility in Futures contracts [40].

Tables 3, 4 and 5 in the attachment show that effect of considerable margin change on return volatility is smaller than that of small one. This result indicates that even though margin rise increases return volatility in Futures contracts, the increasing trend decreases as margin change increases. This disagrees with the result of Daskalaki and Skiadopoulos's results (Daskalaki and Skiadopoulos, 2012). This is important for supervisory purposes as it influences the decision that whether considerable or small margin change to be applied.

Furthermore, tables 3, 4 and 5 indicate that there is no significant difference between effects of positive and negative changes. This agrees with Daskalaki and Skiadopoulos's results (Daskalaki and Skiadopoulos, 2012), which are significant for supervisory purposes as political circles emphasize that margin, should be more applied on Futures commodities.

Conclusions

Moving towards releasing a part of prices in the 3rd economic development plan of Iran provided the infrastructure for the formation of commodity exchanges in Iran. Releasing prices and pricing based on offer and demand mechanism introduced a new risk to economy actives; so called price risk. Futures contract is a tool via which corporations can manage price risk. Even though Futures contract can serve as a tool for managing price risk, it has been criticized some cases. In addition to creating a risk transfer mechanism, the presence of speculators in Futures contracts market endorses market liquidity; however on the other hand, excessive speculation disturbs some markets. As an illustration, U.S. state data confirms that the presence of speculators in oil market has resulted in oil price ascend (Greenspan, 1990). Therefore CFTC, as the supervisory institute of Futures contracts market, was allowed to control speculators activities in the market using margin change.

With this fact in mind, this paper investigated margin change effect on price and return volatility using data of Bahar-e-Azadi gold coin in Futures market in IME. According to results, although CFTC has the authority to control speculators activity in the market by increasing margin, this increase has increased the price Bahar-e-Azadi gold coin in Futures market in IME because of rising open position costs. However, there are evidences witnessing that margin change rise reduces the rate by which future prices increase (fall of increasing rate of future prices).

Our results contradict with the predictions of the models by Ajiyagari and Gertler, Gromb and Vayanos, Brunnermier and Pedersen, Garleanu and Pedersen and Acharya et al. where margin rise decreases prices. On the other hand, our results support Hedegaard and Daskalaki and Skiadopoulos researches.

According to models' estimations, there is a positive relationship between margin change and volatility. This result subscribes the findings by Hardouvelis and Kim and Daskalaki and Skiadopoulos. The evidences are based on the principle that margin rise makes speculators who increase market liquidity to quit the market which in turn increases volatility in Futures contracts. According to the results, margin change increases price instability in Futures contracts market.

However, robustness tests revealed that effect of considerable margin changes is less than smaller ones. This result implies that even though margin rise increases price in Futures contracts, the increasing trend decreases as margin change increases. Even so, the results show that the effect of considerable margin changes on return volatility is lower than smaller ones. This implies that even though margin rise increases return volatility in Futures contracts, the increasing trend decreases as margin change increases.

Nonetheless, robustness test shows that there is no significant difference between effects of positive and negative changes. By and large, even though the CFTC has the authority to rise margin to control speculators activities and prices in futures contracts market, this rise has resulted in price leap, owing to rising open position costs and increasing volatility in futures contracts market of Bahar-e-Azadi gold coin in IME.

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