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Systemic Risk in TSE Banking Sector

Mohammad Ali Rastegar [1], Nasrin Karimi [2]

Abstract: Systemic risk is the risk of collapse in the financial system. Due to the financial crisis that hit the world economy in 2008, the study of systemic risk in the banking sector became more attractive for researchers. In this research we study systemic risk in the Iranian banking sector by using a conventional systemic risk measure, ΔCoVaR. To compute the measure, we employ dynamic conditional correlation model. For this purpose, we estimate the mentioned systemic risk measure of the seven Iranian banks from March of 2010 to March of 2015. Then using panel data regression, we investigate the relationships between the systemic risk measure and certain bank characteristic variables (i.e. VaR, size-Log of Equity, Leverage ratio). Our empirical findings shows that, the systemic risk contributions of banking sector is high and studied banks has different ranking based on ΔCoVaR. finally, the systemic risk contribution is closely related to mentioned bank characteristic variables.

Keywords: *ΔCoVaR, DCC, Systemic Risk.*

JEL: *G11 ،G21 ،G32*

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The Effects of Size and Revenue Diversification on Systemic Risk for Listed Banks in TSE

Seyed Farhang Hosseini [1], Seyedeh Fatemeh Mostafavi [2]

Abstract: This study aims to examine the relationship between size, revenue diversity, and their interactive effects on systemic risk in private banking. The systemic risk can be measured bases on the Marginal Expected Shortfall (MES). The MES is the average return on bank stocks on days when the return in the banking industry falls below the value at risk (VaR). The analysis of combined data from eight banks listed on the Tehran Stock Exchange during the period 1999-2012 is used to estimate the regression equation. The results reveal that the bank's revenue diversification measured by the non-interest income (NII) has a reverse impact on the systemic risk. In other words, banks with a higher share of interest income in their revenue portfolio show higher systemic risk and they are more risky for the financial system if a crisis occurs. Furthermore, larger banks will have a higher impact of revenue diversity on reduced systematic risks. In fact, such banks will benefit much more from revenue diversification, and any increase in the NII can lead to a significant reduction in the systemic risk. The results indicate that it is difficult to completely accept the size effect on the systemic risks for the banks under study.

Keywords: ***Bank Size, Potential Crisis, Diversification in Bank's Revenue, Systemic Risk, Marginal Expected Shortfal.***

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Determinants of Non-Performing Loans among Iranian Banks

Reza Eyvazloo [1], MohammadReza Aghamohammad Semsar [2], Mehdi Rameshg [3]

Abstract: Non-Performing Loans (NPLs) is considered as an index to assess asset quality of depository institutions and mostly is related with financial crisis and failures. An Increase in NPLs resulted risk enhancement in banks and expose them to credit risk and liquidity risk seriously which could lead to bank failure. This paper distinguished interbank and macroeconomic factors affecting NPLs among Iranian banks. This research uses GMM panel data to study sample banks between 2006 and 2014 results show that there is a significant relationship between bank specific factors and macroeconomic factors with non performing loans among Iranian Banks.

Keywords: ***Non-Performing Loans (NPLs), Credit Risk, Bank Failure, bank`s asset quality***

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Profitability of Maskan Bank Credit Cards: Markov Decision Process

Reza Habibi [1], Hasan Kouhi [2], Mohamad Shamani [3]

Abstract: Credit card is one of the most profitable instrument in almost every banking system. Indeed, the widely use of credit cards, during the last three decades, among consumers and businessman's is a sign of this claim. Thus, the profitability of credit cards of bank maskan is studied, in this paper. This paper considers an application of Bellman equation in determing the credit card caps. Under a Markov decision process (MDP) setting, the transition matrix are computed and they are used in Bellman equation. The time period of study is the starting day of 2011 to the last day of 2012. To this aim, first, using the Markov chain process, the transition probability matrix of consumers who have credit cards is computed, using their behavior score and after that the added value induced by consumers is calculated. This matrix is useful in determining the optimal policy of credit cards caps. Finally, by using the MDP, a suitable policy is chosen regarding the change of credit cards caps.

Keywords: ***Profitability, Markov Decision Process (MDP), Credit Score, Bellman Equation.***

JEL: C61; C65

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Robust Portfolio Optimization using Contamination Technique

Khadijeh Hassanlou [1]

Abstract: In this paper the robust optimization is used for portfolio opimization problem. using estimates in the portfolio optimization process, will cause estimation risk. Therefore, methods should be used that have ability to decrease estimation risk and robust optimization can be one of the proper methods in addressing uncertainty. In this research the contamination technique is used for assessing robustness of portfolio. Due to sharp icrease in Iran stock exchange indexes in 2013, this technique is used and these sharp changes are intered in model as contamination scenarios. It is assumed that the probability distribution of return has fluctuated then the effects of this fluctuation on optimal portfolio are discussed. Conditional Value at Risk is used for measuring the risk of portfolio. Portfolio robustness and sensitivity analysis showed that the probability of contamination scenario affects the function of minimum risk so it needs to be controlled. Finally after efficiency test of given portfolio showed that it is not efficient therefore the new one with less risk is determined.

Keywords: ***Conditional Value at Risk, Robust Optimization, Efficiet Portfolio, Contamination Technique.***

JEL: C61, G11

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Liquidity in Iranian Stock Market, Predicting Market Depth Using Intraday Data

Saeed Rahimian [1]

Abstract: Liquidity of an asset is a key concept in financial markets. Intuitively, liquidity can be interpreted as transacting an asset rapidly and at a low cost. Despite its importance, finding a precise measure for this concept is not an easy task. In this paper, by using tick-by-tick transaction and limit order book data, we calculate VNET measure of liquidity for 16 stocks in Iranian financial market.

This measure, introduced by Engle and Lang in 2001, measures the excess volume of buy and sell that leads to a specific price movement. The results show that the market depth for different stocks is time varying and the variation is significantly correlated with volatility. This is consistent with the prediction of asymmetric information models, in which higher volatility corresponds to higher probability of the presence of informed traders.

Keywords: ***Market Microstructure, Market Depth, ACD Model, Stock Liquidity.***

JEL: D82, G1

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A Comparison between Performance of Linear and Nonlinear Capital Asset Pricing Models in TSE

Mehdi Asima [1], Amir Ali Abbaszadeh Asl [2]

Abstract: Capital asset pricing model (CAPM) has been among the common models to estimate expected rate of returns. Since the linearity assumption is considered in the standard version of the capital asset pricing model, estimating beta in nonlinear setting will be inconsistent and bias-oriented. Therefore, in this study, predictive power of the Linear and Nonlinear Capital Asset Pricing Models in Tehran Stock Exchange in the period from 2006 to 2015 has been tested. Semiparametric method and local kernel regression are utilized in order to estimate nonlinear model. For this purpose, expected returns has estimated with regard to two above mentioned models during period of the study and the results have compared with realized returns. Mean absolute percentage error and especially Diebold-Mariano test are used to measure predictive power of the models. The results indicate that considering nonlinearity relation between stock returns and market returns increases predictive power of realized returns.

Keywords: ***Kernel Regression, Linear Capital Asset Pricing Model, Nonlinear Capital Asset Pricing Model, Nonparametric Model.***

JEL: C12, G14

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