

FINANCIAL STABILITY, THE OBJECTIVE OF DEVELOPMENT FINANCIAL MARKETS

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Abstract

In this paper is analyzed the degree of financial stability based on the evolution of the main stock market indices in Asia and the USA. I also considered it is appropriate to determine the volatility of these indices for a more eloquent analysis of the stability of these markets.

The modern financial system is characterized by an extremely complex structure and dynamics and, for this reason, any shock, imbalance manifests itself sharply, reaching the loss of stability. These aspects were argued by the consequences of the economic and financial crisis that destabilized the financial system that is still trying to recover.

The financial crisis has made us aware of the need to improve the analysis and management of the factors underlying the financial contagion and risk concentration, of interconnectivity.

Maintaining financial stability is a major concern for central banks and global financial sector supervisors.

Financial stability is also a constant challenge, largely due to the rapid pace of innovation and the ongoing structural evolution of financial systems. Relatively recent changes have included the development of a whole range of financial instruments and the increase in the number of new cross-sectoral market participants. These developments have generated an increasing number of possible channels through which economic and financial shocks can be generated and transmitted.

The stability of the financial system makes it necessary for its main components, namely the markets, the corresponding infrastructure and the financial institutions, to be able to absorb the disturbances together. Stability also requires that the financial system facilitate a flexible and efficient reallocation of the financial resources of those who save to investors, that financial risk be accurately analyzed and valued, and that it be managed efficiently.

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JEL Classification: *G00, G01, G10, G15, G19*

1. Introduction

International financial connections, new financial products and the wider distribution of risks have also increased the degree of international interconnection of financial markets. Therefore, skeptics have expressed concern about the sustainability of global financial integration, which is seen as a potential destabilizer of the world economy.

The global financial crisis revealed that existing instruments and models were not adequate to properly monitor the endogenous risks that arise within the highly interconnected network of the global financial system.

Following the global financial crisis and its consequences, financial stability has become a priority in almost all national jurisdictions. Despite all the events and consequences since 2008, there is still no agreement on the definition of the concept of financial stability.

The term has been defined in many ways by various authorities and academics. For example, the Board of Governors of the Federal Reserve System defines it as follows: "Financial stability means building a financial system that can work in good and bad times and absorb all the good and bad things that happen in the US economy at any time; it is not about preventing failure or stopping people or businesses from making or losing money. It's just to create conditions in which the system continues to work efficiently even with such events." Instead, the European Central Bank proposed an alternative definition: "Financial stability can be defined as a condition in which the financial system - which includes financial intermediaries, markets and market infrastructure - is able to withstand financial shocks and imbalances."

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Connectivity is also considered to be closely linked to the stability of the financial system. This stems from the assumption that financial connectivity can provide a means of risk-sharing between connected financial institutions, leading to increased stability of the system as a whole. In terms of connectivity between financial institutions, it has become an integral part of macro-prudential policies such as stress testing.

System-wide stress testing is now part of the financial authorities' toolkit and in many cases involves second-order effects and contagion effects. This has led to an increase in interest in this area, from academics to regulators and practitioners; however, this interest has focused mainly on the issue of risks or transmission channels arising from interconnection. While this is a natural thing and a dominant feature of connectivity, other important features require more attention to reach a maximum understanding of the nature of interconnection in the financial system.

The concept of final interconnection has been mainly associated with financial contagion, risk and financial fragility, this topic becoming of major interest after the global financial crisis. For example, Gai and Kapadia (2010) proposed an analytical model of contagion in financial networks which have an arbitrary structure, and Acemoglu et al. (2000) proposed a framework for studying the relationship between financial network architecture and the probability of systemic failures due to counterparty risk contagion.

In particular, Roukny et al (2014) study how the network structure of the interbank credit market introduces uncertainty in determining the individual default probabilities of banks, thus affecting the estimation of systemic risk. This result has important implications for measuring systemic risk, given that interconnection introduces an important source of complexity in calculating expected system-wide losses.

The study of the relationship between the network structure of a financial system and the stability of the system implies a compromise between the different forces of costs and the benefits of interconnections.

On the one hand, the diversification of risk exposures is inherent in a banking network, which can have a positive impact on a bank's stability. For example, in the housing context considered here, geographical diversification could allow a bank to reduce the impact of local market shocks.

On the other hand, in the event of a negative shock, the same interconnections could serve as channels of contagion. Which force dominates is an empirical question.

In order to clarify questions related to financial stability, it is essential to understand how individual agents or parts of the financial system sector interact with each other or with the real economy. A basic question concerns the effects on the financial system and the real economy when individual agents or certain market segments encounter difficulties. The significance of the interconnection is exemplified by the insolvency of Lehman Brothers in 2008, which it is considered a trigger for the global financial crisis. Although the bank was not very large, it was very interconnected within the global financial system. Its insolvency has exacerbated the turmoil in the markets and led to considerable losses worldwide. It jeopardized other banking and insurance institutions that were directly or indirectly connected to Lehman Brothers. Many institutions have been supported by extensive public rescue programs, which have led to increased public debt. Moreover, many countries have entered deep recessions.

From a financial stability perspective, an understanding of these transmission channels is vital in order to be able to measure the negative effects of the evolution of the financial system on the real economy and the financial system.

Losses can be amplified by side effects on the financial system and the real economy. If a shock occurs, the affected parties suffer immediate losses and transmit them through direct and indirect transmission channels, the shock spreading through the financial system

and the real economy as well. Often there are no losses due to a shock, but rather due to the side effects caused by an impact.

However, interconnection can also stabilize the financial system. How a shock is transmitted depends on the number of factors. In this regard, the degree of interconnection within system and shock size play a key role. Other relevant factors are the type of agent affected by a shock, such as banks or insurance corporations, and whether the shock affects assets, assets or liabilities, debt and equity.

The degree of interconnection determines the number of parts to which a shock is transmitted. Usually, a shock can be more resistant when it is spread everywhere to a large number of market participants. However, some studies (Acemoglu et al., 2015; Allen and Gale, 2000) show that if the magnitude of the shock exceeds a certain threshold, a strong interconnected system may be more fragile than a weakly interconnected system.

The number of specialized studies analyzing the issue of financial market interdependence is increasing.

Fratzscher (2002) is interested in the integration of European markets, and focuses on the role of volatility in the integration process. The analysis focuses on 16 markets, with markets that have adopted the single currency (Austria, Belgium, Finland, France, Germany, Italy, the Netherlands and Spain), markets that are part of the EU, but without adopting the euro (Denmark, Sweden and UK), respectively non-EU markets (Australia, Canada, Japan, Norway and Switzerland), from 1986 to 2000. Using a trivial GARCH model, which allows the governing coefficients of the process to be variable over time, Fratzscher (2002) suggests that European stock markets have become integrated since 1996.

Also in the author's opinion, European markets have replaced the US market as the dominant market in the world. Fratzscher (2002) also points out that the high degree of integration between markets can be explained by reducing exchange rate volatility and adopting a single currency.

Longin and Solnik (2001) are concerned with testing the hypothesis that correlations between markets increase in times of crisis, which is characterized by increases in volatility. Five countries, the United States, the United Kingdom, France, Germany and Japan; focuses on the links established between the United States and other markets. Their study covers a total period of 38 years, with monthly frequencies from January 1959 to December 1996. The authors use EVT to model the relationship between markets, and their results suggest rejecting the null hypothesis of multivariate normality in the negative queue, but not for the positive. Longin and Solnik (2001) indicate that cross-market dependencies are not related to levels of inter-market volatility, but are influenced by market direction, correlation coefficients increase in bear markets, but not bull.

Connor and Suurlaht (2013) examine the short- and long-term dynamics of variation and synchronization, as well as their response to changing macroeconomic variables, for 11 countries in the 19 euro area Member States. The authors highlight a trend towards more intense correlations in the analyzed period, as well as strong links between macroeconomic variables and the degree of synchronization between markets.

2. Methodology and data

To study the degree of financial stability, I performed an analysis of stock indices in the US and Asia. I analyzed the evolution of these stock market indices in the period 2010-2020. For a more conclusive analysis, we also determined the volatility, following the key moments in the financial markets. Specifically, I analyzed the evolution of the main stock market indices in Asia (Japan, Korea, Singapore, India, China) and United States of America.

The analyzed stock market indices are: N225E, KOSPI, STI, BSESN, CSI 300, DJI US.

3. Results

From the evolution of closing prices and the volatility of the main stock market indices in Asia, respectively USA (chart no.1 and no.2) it can be noted a high stability of the closing price of the index in Japan, followed by a relatively stable evolution of the one in India. Regarding the evolution of the closing price for the China-specific index, there is a peak in 2015. Korea has a strong instability followed by Singapore which shows periods of very high uncertainty and a corresponding financial risk.

In terms of volatility, Korea is highly volatile in the middle of 2011, falling to half in 2020. Singapore and China recorded a similar level of volatility in 2015. The Singapore stock market is found to be extremely affected by the current pandemic.

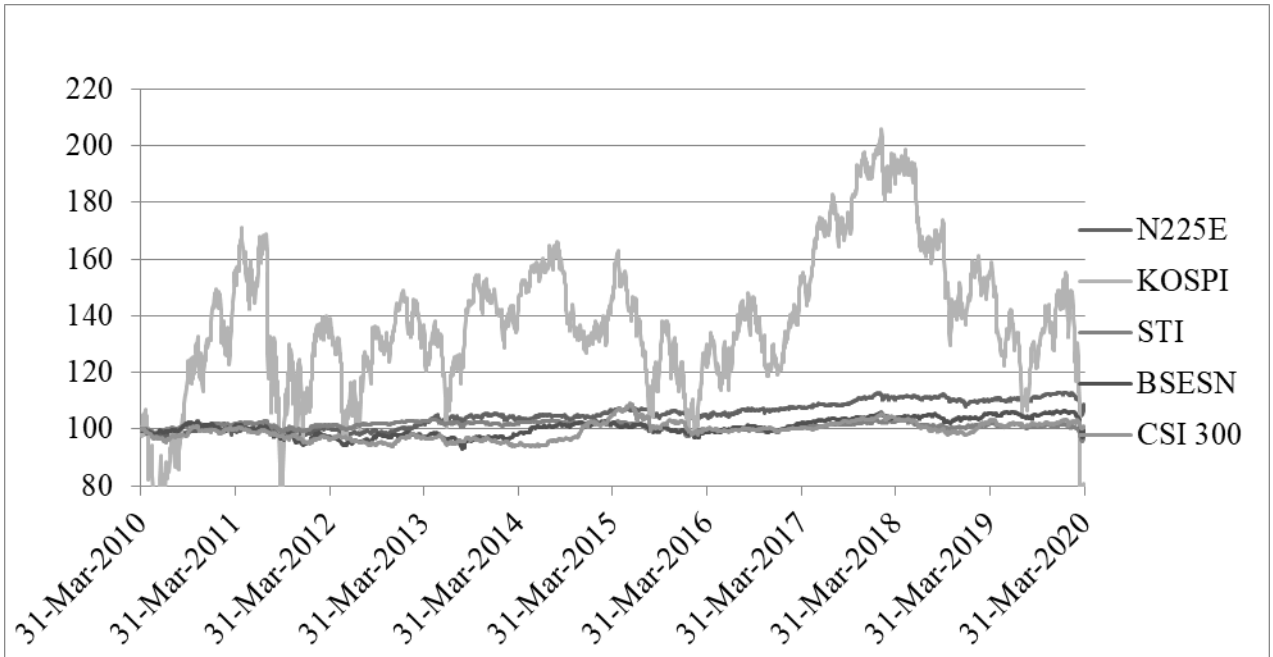


Chart 1 : Comparative evolution of closing prices for principals stock indices in Asia

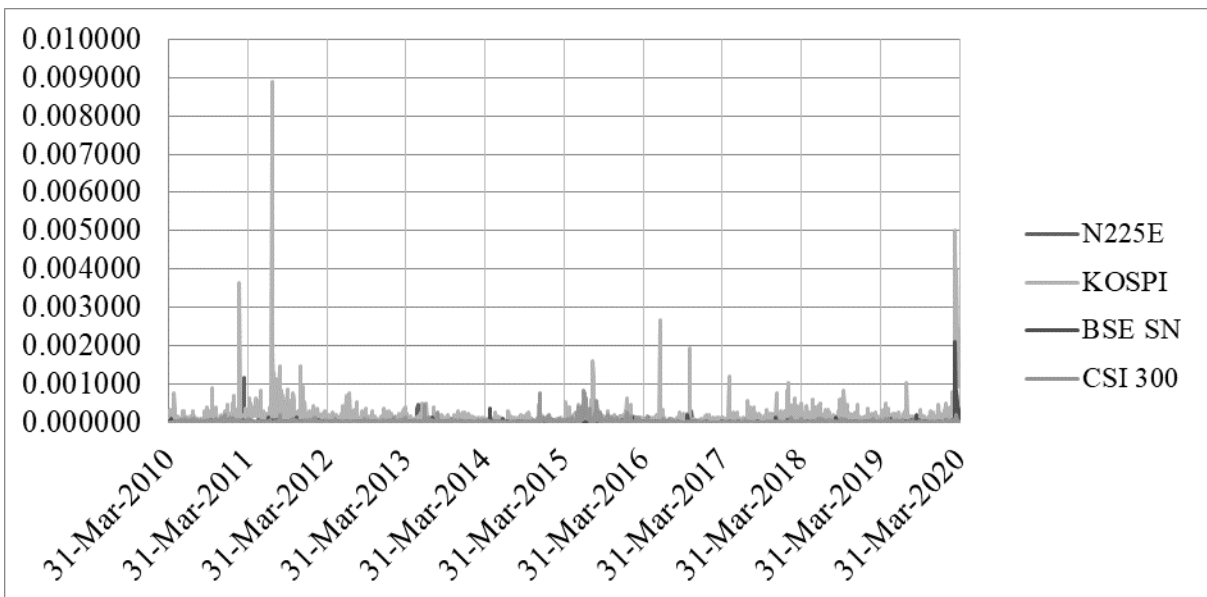


Chart 2: The comparative evolution of the volatility dynamics of the main stock indices in Asia

The evolution of the closing price and the volatility of the DJIUS index, (chart no.3), Dow Jones Industrial Average (DJIA), Dow Jones, or simply Dow, being a price-weighted measurement index of the 30 prominent companies listed on the stock exchanges. from the United States.

For most of the analysis period, there are periods of slow rise and fall in the reference price, with a maximum in 2020 and a minimum in 2010. Volatility is particularly high in 2018 and 2020. It is worth mentioning here the US trade war. China.

The end of 2020 brings, in the context of the current pandemic, a temporary crisis on the market, which appears after an intense period of growth.

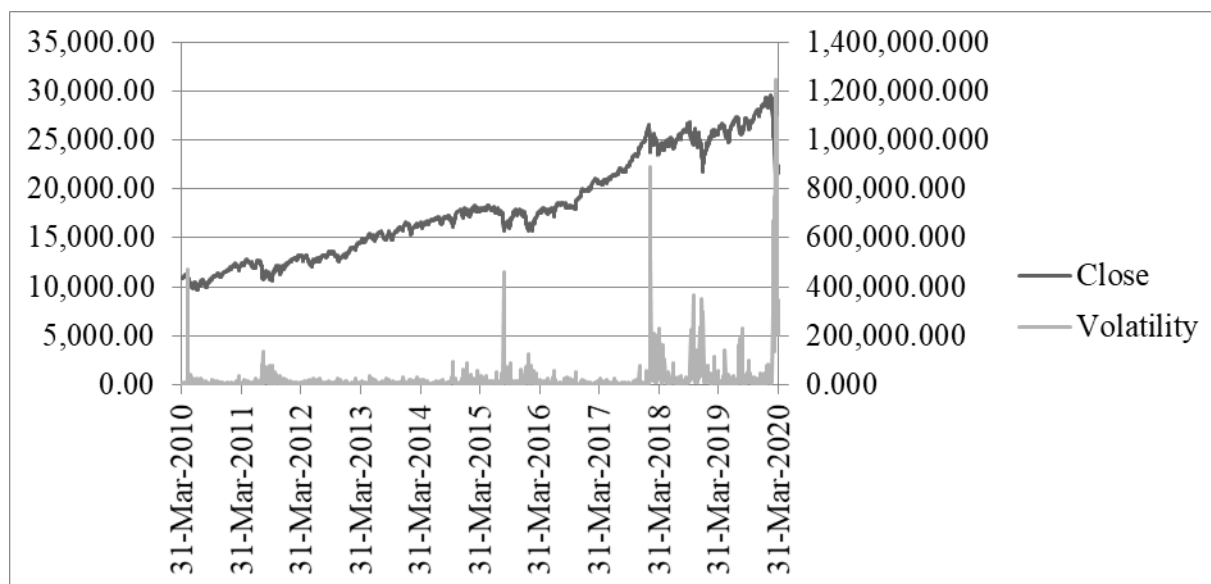


Chart 3: Evolution and volatility of the DJIUS index

We know that in times of crisis, regardless of economic fundamentals, investors act similarly. It has been observed that volatility is very sensitive in times of turbulence, namely the sovereign debt crisis, the Brexit referendum, the COVID-19 pandemic, which shows a high level of contagion during these events. The comparative analysis of volatility suggested to us how each country reacted, these aspects being previously detailed.

4. Conclusions

In recent decades, financial markets have faced many tensions generated by the global financial crisis and the sovereign debt crisis. Consequently, volatility, uncertainty and pessimism have characterized the financial market.

The international economic and financial crisis, the eurozone sovereign debt crisis, the Brexit referendum and, more recently, the economic crisis caused by the Covid-19 pandemic, as well as Community measures to strengthen the single market, have significantly influenced the European Union's financial markets. Under these conditions, many Member States have faced, since 2008, a high systemic risk, materialized in the development of economic and financial crises. Given this economic and financial context, it is extremely important to analyze the interdependence between financial markets.

From a financial stability perspective, an understanding of the transmission channels is needed in order to be able to measure the negative effects of the evolution of the financial system on the real economy and the financial system. Losses can be amplified by side effects on the financial system and the real economy. If a shock occurs, the affected parties suffer immediate losses and transmit them through direct and indirect transmission channels, the shock spreading through the financial system and the real economy as well. Often there are no losses due to a shock, but rather due to the side effects that have an impact.

This potential threat should be taken into account by the public authorities responsible for financial stability. Such a goal requires real-time monitoring of numerous uncertainty indicators to accurately assess the degree of uncertainty.

However, the policies needed to achieve such an objective are far from obvious and concern political actions (monetary, fiscal, international cooperation), but also regulation. No doubt this topic will fuel future research.

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