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# The impact of financial globalisation on stock market volatility in European Union countries

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This study examines the impact of financial globalisation on stock market volatility in 24 countries, based on yearly observations from 1993 to 2019. Previous research shows that growing global financial linkages are decreasing countries' stock market volatility. The financial globalisation composite index consists of two indices. The first is the de facto index, which measures the actual activities and flows between a country and other parts of the world, and the second is the de jure index, which expresses the conditions and policies that enable these activities and flows. According to the authors' results, the de facto index has no significant effect on countries' stock market volatility, while there is a significant negative relationship between the de jure index and stock market volatility, underlining the importance of policies and conditions conducive to financial globalisation.

KEYWORDS: financial globalization indices, stock market volatility

Financial globalisation is an inevitable result of the economic openness generated by the liberalisation of international trade, accompanied by major developments in international capital markets and the removal of legal and regulatory barriers to financial exchanges. The globalisation of financial markets has been facilitated by the great advances of information, communication and automation technologies that have enabled the allocation of significant capital to countries (which attract capital) at very low financing costs, replacing indirect financing with direct financing as a result of a significant reduction in the role of intermediaries.

## 1. Literature review and hypothesis development

Financial globalisation indicates the interdependence of financial and monetary systems between different countries. This phenomenon, whose first roots date back to the 1960s and 1970s, developed rapidly in the 1980s (*Kose et al.* [2009], *Forster–Vasardani–Ca'Zorzi* [2011]), which was reflected in the application of fiscal liberalisation procedures, the removal of barriers in the United States and Great Britain between 1979 and 1982. In addition, this period has witnessed many aspects of global integration, such as the creation of the EU (European Union), signing of the North American Free Trade Agreement (NAFTA), and increase in trade turnover (*Vastag–Whybark* [2003], *Caliţoiu* [2003]). The financial liberalization practices in other countries (e.g. in Europe and Japan) have been driven by the interests and competitive pressures of the United States and Great Britain to achieve financial openness (*Helleiner* [1994]).

Financial globalisation has two opposite effects. On the one hand, it brings many benefits to countries, for example, risk-sharing, increased investments, economic growth, specialisation in productivity, and increased market efficiency (*Caliţoiu* [2003], *Hardouvelis–Malliaropulos–Priestley* [2001], *Stulz* [2005]). On the other hand, it also has negative effects, such as high volatility in the flow of capital from and to countries. Several studies have found a strong link between financial globalisation and the spread of crises across countries (e.g. *Bekaert–Wang* [2009], *Obstfeld* [1998]). Moreover, in some cases, as capital markets become more complex due to technological development and integration with other markets, the relationship between markets and the real economy turns more volatile or even disrupt (*Chami–Sharma–Fullenkamp* [2009], *Stavarek–Repkova–Gajdosova* [2011]).

Capital markets are places in which long-term financial instruments with a maturity of more than one year are traded. In fact, there is a strong interaction between the development of capital markets and economic growth. When developed financial markets duly play their role, they facilitate the transfer of resources from savers to investors and make the economy more resilient to shocks by sharing risks (*Stulz* [1995]). The level of development of stock markets can be measured by various indicators, including the total value of shares traded as a percentage of gross domestic product (GDP) and market capitalisation of listed domestic companies as a percentage of GDP, which are used in this study.

The benefits of cross-country financial integration are increasing the depth, breadth and efficiency of capital markets, by raising the level of control over the performance of capital markets and reducing transaction costs (*Obstfeld* [1998], *Stavarek–Repkova–Gajdosova* [2011]). The evolution of the financial structure promotes successful financial integration with other countries (*Broner–Ventura* [2016]) and is theoretically assumed to increase the positive effects of financial globalisation

and reduce vulnerability to crises. However, several studies have found that financial openness with other parts of the world can lead to greater volatility in capital markets (*Broner–Ventura* [2016], *Kose et al.* [2009]). Based on this argument, our hypotheses are as follows:

*H*1: *Increasing a country's financial globalisation index has a negative effect on stock market volatility.*

The financial globalisation index consists of the de facto and de jure globalisation indices. The *de facto index* measures the actual activities and flows between a country and other parts of the world, while the *de jure index* measures the conditions and policies that allow activities and flows (*Gygli et al.* [2019]). To test the impact of each component of the financial globalisation index on stock market volatility, we propose the following hypotheses:

*H*2: *Increasing a country's de facto financial globalisation index has a negative effect on stock market volatility*.

*H*3: *Increasing a country's de jure financial globalisation index has a negative effect on stock market volatility.*

## 2. Research method and analysis

### 2.1. Data source and collection

We collected national macroeconomic data from the World Bank database and information on country-level financial globalisation indicators from the KOF Swiss Economic Institute database. The final sample includes 421 country-year observations from 24 countries between 1993 and 2019.

### 2.2. Models and variables

To test the hypotheses, dynamic panel regression models were used with country and year fixed effects:

$$\begin{aligned} Volatility_{i,\,t} = \beta_0 + \beta_1 Volatility_{i,\,t-1} + \beta_2 KOFFiGI_{i,\,t} + \\ + \sum Control\ variables + \sum Fixed\ effects + e_{i,\,t}; \end{aligned} \tag{1}$$

$$Volatility_{i,\,t} = \beta_0 + \beta_1 Volatility_{i,\,t-1} + \beta_2 KOFFiGIdf_{i,\,t} + \\ + \sum Control\ variables + \sum Fixed\ effects + e_{i,\,t}; \tag{2}$$

$$Volatility_{i,\,t} = \beta_0 + \beta_1 Volatility_{i,\,t-1} + \beta_2 KOFFiGIdj_{i,\,t} + \\ + \sum Control\ variables + \sum Fixed\ effects + e_{i,\,t}. \tag{3}$$

The first hypothesis was tested with Model 1 to determine whether the countries' financial globalisation affects their stock market volatility. Models 2 and 3 examine whether the components of the countries' financial globalisation have an impact on their stock market volatility. The dependent variable for each model is *Volatility* for country *i* in year *t*, as measured by the annual change in the countries' S&P (Standard and Poor's) global equity indices, which indicate the percentage change in stock market prices expressed in US dollars. The variable *KOFFiGI* refers to the composite financial globalisation index for country *i* in year *t*. *KOFFiGIdf* is the de facto financial globalisation index and *KOFFiGIdj* is the de jure financial globalisation index for country *i* in year *t*. We controlled for the following factors that, according to previous studies, may affect a country's stock market volatility (*Esqueda–Assefa–Mollick* [2012]): *1*. the one-year lagged value of the variable *Volatility* (variable *Volatility–1*) and *2*. the level of stock market development that is measured by two variables: *a*) *Stock traded* calculated as the total value of stocks traded as a percentage of the country's GDP, *b*) *Market capitalisation* calculated as the market capitalisation of the listed domestic companies as a percentage of the country's GDP. Similarly, we controlled for the variables *GDP growth* measured as the annual growth of a country's GDP, *Inflation*, and *Economic openness* defined as the sum of a country's imports and exports divided by GDP.

# 3. Results

## 3.1. Analysis of financial globalisation and stock market development in EU countries

All EU countries except Estonia, Latvia and Lithuania were analysed (data on the variables of interest are missing for these three countries).

In general, capital markets (bonds and equities) in Europe are small compared to developed markets such as the United States (*Broner–Ventura* [2016]). Following

financial integration between EU countries, bond markets grew after the introduction of a single currency, but the stock market remained still less integrated and the secondary market was illiquid and less transparent (*Broner–Ventura* [2016], *Stavarek–Repkova–Gajdosova* [2011]).

The financial integration of EU countries has resulted in capital flows from EU countries to Central and South-Eastern Europe. In addition, the increased development of the financial sector in the Central and South-Eastern European countries has contributed to the growth of loans supporting the real sector in these countries until the onset of the financial crisis (*Gardó–Martin* [2010], *Lund et al.* [2017]). Since the beginning of the analysis period, we have seen an increasing trend in the countries' financial globalisation, although few countries have been negatively affected by economic crises such as the 1994 financial crisis in Mexico, 1997 Asian financial crisis, and 1998 Russian debt crisis (*Esqueda–Assefa–Mollick* [2012]).

Tables 1–3 illustrate the financial globalisation index for the 24 EU countries from 1993 to 2019. (As indicated earlier, there was insufficient information on Estonia, Latvia, and Lithuania.)

Financial globalisation has declined globally since the last financial crisis, with a clear negative impact on the world economy in late 2007 and early 2008 (*Szijártó* [2014]). According to Tables 1–3, the financial globalisation index in EU countries also declined as a result of the crisis but has risen in recent years.

Table 1 shows that the highest value of the financial globalisation index for the analysis period is in Luxembourg, followed by Ireland. According to the averages, Hungary is the 14$^{th}$ country in terms of the financial globalisation index. As shown in Table 3, Poland, Croatia and Romania have the lowest indicators on average.

If we examine the time series data of the tables every year, we can notice that Hungary was the 15$^{th}$ country in 1993 and 17$^{th}$ in 2019. (See Figure 1.) During the analysis period, Luxembourg was the first among the countries, while the position of others, especially the Central and Eastern European countries, changed significantly. Slovakia, for example, was 24$^{th}$ in 1993 and 16$^{th}$ in 2019. Cyprus also improved its position by moving from 17$^{th}$ to 10$^{th}$ place between 1993 and 2019. Meanwhile, Italy changed from 11$^{th}$ to 18$^{th}$ place during the period considered.

Table 1

*Financial globalisation index in some European countries (1)*

| Year | Luxembourg | Ireland | Netherlands | Belgium | Sweden | Denmark | Finland | Austria |
|---|---|---|---|---|---|---|---|---|
| 1993 | 88.70 | 81.79 | 83.72 | 83.61 | 75.49 | 80.97 | 73.82 | 74.58 |
| 1994 | 89.53 | 83.71 | 83.72 | 84.34 | 77.69 | 81.83 | 75.65 | 75.60 |
| 1995 | 90.26 | 85.61 | 84.11 | 84.59 | 79.61 | 82.57 | 74.39 | 76.94 |
| 1996 | 91.53 | 86.49 | 85.29 | 85.59 | 79.59 | 83.84 | 74.82 | 77.89 |
| 1997 | 92.88 | 87.37 | 87.04 | 86.92 | 81.29 | 84.80 | 77.56 | 79.59 |
| 1998 | 94.23 | 88.67 | 88.34 | 88.66 | 82.83 | 84.43 | 80.14 | 81.21 |
| 1999 | 95.65 | 89.30 | 89.02 | 89.40 | 84.93 | 84.86 | 82.37 | 81.99 |
| 2000 | 96.65 | 90.08 | 90.70 | 90.22 | 87.28 | 88.02 | 86.32 | 84.64 |
| 2001 | 97.74 | 90.62 | 91.37 | 91.27 | 87.91 | 88.10 | 87.23 | 85.37 |
| 2002 | 95.55 | 91.37 | 86.35 | 87.11 | 85.83 | 83.23 | 84.70 | 82.39 |
| 2003 | 95.33 | 90.20 | 89.14 | 89.11 | 85.83 | 84.26 | 85.13 | 82.96 |
| 2004 | 98.03 | 92.43 | 90.62 | 88.91 | 87.23 | 83.61 | 86.97 | 84.71 |
| 2005 | 96.49 | 92.67 | 91.15 | 89.90 | 87.94 | 86.71 | 86.15 | 86.52 |
| 2006 | 95.96 | 92.84 | 91.43 | 90.30 | 89.32 | 86.77 | 87.26 | 88.55 |
| 2007 | 97.20 | 93.11 | 91.48 | 90.35 | 90.17 | 88.01 | 88.36 | 88.56 |
| 2008 | 94.71 | 89.51 | 89.96 | 88.72 | 88.67 | 86.20 | 87.17 | 87.23 |
| 2009 | 94.20 | 89.31 | 89.00 | 88.42 | 89.58 | 83.78 | 86.04 | 85.53 |
| 2010 | 95.88 | 90.03 | 88.59 | 87.55 | 88.41 | 83.65 | 83.50 | 82.86 |
| 2011 | 94.67 | 90.51 | 88.95 | 87.73 | 85.94 | 83.07 | 83.53 | 82.87 |
| 2012 | 94.64 | 91.03 | 88.43 | 86.97 | 85.75 | 82.92 | 84.23 | 82.74 |
| 2013 | 94.78 | 91.46 | 88.97 | 85.62 | 85.04 | 84.25 | 83.17 | 81.28 |
| 2014 | 95.43 | 91.75 | 89.56 | 88.96 | 88.66 | 85.81 | 86.85 | 84.74 |
| 2015 | 95.41 | 91.66 | 89.38 | 88.88 | 87.98 | 86.47 | 86.42 | 83.09 |
| 2016 | 95.27 | 90.18 | 89.55 | 89.41 | 87.41 | 86.50 | 86.39 | 83.88 |
| 2017 | 95.35 | 90.43 | 89.73 | 89.54 | 87.67 | 86.71 | 86.85 | 83.85 |
| 2018 | 95.67 | 90.66 | 89.91 | 89.30 | 87.70 | 86.35 | 86.84 | 83.71 |
| 2019 | 96.07 | 90.82 | 90.19 | 89.54 | 87.85 | 86.54 | 87.76 | 84.31 |
| Average | 94.73 | 89.76 | 88.73 | 88.18 | 85.69 | 84.97 | 83.69 | 82.87 |

Table 2

*Financial globalisation index in some European countries (2)*

| Year | France | Germany | Malta | Portugal | Spain | Hungary | Czech Republic | Cyprus |
|---|---|---|---|---|---|---|---|---|
| 1993 | 78.10 | 72.58 | 60.23 | 64.00 | 63.46 | 52.81 | 48.51 | 49.29 |
| 1994 | 73.56 | 72.76 | 68.54 | 67.39 | 65.45 | 55.38 | 50.48 | 49.66 |
| 1995 | 73.58 | 72.98 | 70.90 | 70.87 | 67.14 | 59.90 | 53.98 | 55.37 |
| 1996 | 74.66 | 74.23 | 65.82 | 74.00 | 69.91 | 68.61 | 55.53 | 48.68 |
| 1997 | 78.41 | 77.78 | 66.77 | 77.00 | 72.63 | 70.59 | 59.46 | 53.12 |
| 1998 | 81.05 | 80.31 | 68.84 | 80.00 | 75.56 | 71.19 | 63.41 | 44.97 |
| 1999 | 80.95 | 82.56 | 71.35 | 80.72 | 77.88 | 71.61 | 66.86 | 55.62 |
| 2000 | 83.89 | 85.85 | 71.87 | 83.88 | 81.58 | 72.66 | 71.81 | 57.24 |
| 2001 | 84.71 | 85.71 | 71.63 | 85.39 | 82.71 | 77.21 | 75.12 | 57.74 |
| 2002 | 81.37 | 82.97 | 71.95 | 77.63 | 79.17 | 76.14 | 73.64 | 58.80 |
| 2003 | 81.17 | 83.92 | 69.02 | 80.64 | 80.06 | 77.24 | 73.34 | 65.89 |
| 2004 | 82.56 | 84.45 | 84.38 | 81.66 | 81.36 | 81.01 | 77.59 | 75.51 |
| 2005 | 82.79 | 85.45 | 86.06 | 83.65 | 80.82 | 82.33 | 78.78 | 80.15 |
| 2006 | 84.84 | 86.58 | 88.72 | 85.35 | 82.60 | 86.23 | 79.48 | 83.27 |
| 2007 | 85.49 | 86.31 | 89.54 | 84.72 | 82.24 | 86.95 | 80.68 | 86.07 |
| 2008 | 82.91 | 84.31 | 88.15 | 80.92 | 79.61 | 85.62 | 77.26 | 86.32 |
| 2009 | 83.77 | 83.60 | 86.42 | 81.71 | 80.88 | 87.18 | 77.52 | 85.15 |
| 2010 | 84.04 | 80.40 | 87.59 | 79.88 | 79.29 | 85.24 | 77.18 | 84.40 |
| 2011 | 82.25 | 80.50 | 86.79 | 78.76 | 78.60 | 83.32 | 77.15 | 84.86 |
| 2012 | 82.27 | 81.10 | 87.26 | 77.69 | 78.42 | 82.74 | 79.73 | 81.47 |
| 2013 | 81.88 | 80.62 | 87.05 | 77.86 | 78.35 | 81.87 | 79.31 | 80.41 |
| 2014 | 83.53 | 81.41 | 89.33 | 81.88 | 80.15 | 84.30 | 80.95 | 85.68 |
| 2015 | 83.33 | 80.68 | 87.75 | 82.34 | 80.46 | 79.84 | 81.57 | 81.75 |
| 2016 | 84.51 | 82.15 | 88.50 | 83.14 | 80.91 | 79.72 | 82.18 | 84.23 |
| 2017 | 84.87 | 82.59 | 88.78 | 83.42 | 81.60 | 79.81 | 84.34 | 84.73 |
| 2018 | 85.20 | 82.55 | 89.03 | 83.11 | 81.47 | 78.50 | 82.76 | 85.59 |
| 2019 | 85.87 | 82.81 | 88.87 | 83.03 | 81.86 | 78.76 | 82.85 | 85.62 |
| Average | 81.91 | 81.38 | 80.04 | 79.65 | 77.93 | 76.92 | 73.02 | 71.54 |

Table 3

*Financial globalization index in some European countries (3)*

| Year | Italy | Greece | Slovakia | Bulgaria | Slovenia | Poland | Croatia | Romania |
|---|---|---|---|---|---|---|---|---|
| 1993 | 65.90 | 51.79 | 33.68 | 42.97 | 38.05 | 38.10 | 35.46 | 34.50 |
| 1994 | 66.54 | 53.64 | 34.68 | 45.31 | 39.23 | 43.74 | 36.86 | 36.37 |
| 1995 | 68.41 | 54.71 | 34.06 | 46.81 | 39.71 | 44.53 | 37.57 | 34.64 |
| 1996 | 69.46 | 58.11 | 36.11 | 57.48 | 41.61 | 36.38 | 38.61 | 36.60 |
| 1997 | 73.42 | 58.63 | 41.01 | 61.35 | 50.19 | 37.78 | 43.00 | 43.04 |
| 1998 | 76.12 | 62.09 | 44.83 | 59.65 | 51.32 | 41.96 | 45.52 | 43.69 |
| 1999 | 77.87 | 65.51 | 44.70 | 60.36 | 51.55 | 42.94 | 47.63 | 44.23 |
| 2000 | 79.24 | 69.14 | 49.02 | 63.27 | 57.96 | 47.04 | 49.75 | 46.74 |
| 2001 | 78.90 | 68.23 | 50.53 | 59.07 | 58.83 | 47.40 | 51.68 | 48.53 |
| 2002 | 70.30 | 62.63 | 52.00 | 49.73 | 53.98 | 56.89 | 51.63 | 50.16 |
| 2003 | 67.38 | 66.60 | 64.88 | 59.39 | 56.62 | 56.12 | 59.33 | 49.96 |
| 2004 | 68.59 | 69.03 | 76.73 | 60.88 | 61.20 | 66.58 | 62.69 | 57.55 |
| 2005 | 70.13 | 68.01 | 77.40 | 60.95 | 62.84 | 61.04 | 64.32 | 60.83 |
| 2006 | 72.44 | 71.18 | 78.17 | 70.19 | 67.79 | 65.31 | 67.81 | 65.91 |
| 2007 | 72.97 | 72.81 | 78.85 | 73.23 | 71.92 | 67.99 | 70.44 | 66.64 |
| 2008 | 70.68 | 72.69 | 75.36 | 70.57 | 71.44 | 65.36 | 66.96 | 63.25 |
| 2009 | 72.03 | 72.39 | 77.35 | 69.42 | 66.77 | 66.46 | 66.58 | 63.42 |
| 2010 | 70.40 | 68.49 | 77.67 | 67.71 | 63.67 | 65.67 | 65.05 | 62.99 |
| 2011 | 69.45 | 67.70 | 77.92 | 67.21 | 64.71 | 64.83 | 64.75 | 62.01 |
| 2012 | 69.05 | 66.43 | 76.37 | 67.04 | 62.83 | 67.49 | 65.93 | 63.90 |
| 2013 | 69.14 | 67.51 | 75.91 | 70.05 | 62.01 | 68.11 | 63.97 | 65.32 |
| 2014 | 70.43 | 71.84 | 79.92 | 69.92 | 66.71 | 68.61 | 66.24 | 65.84 |
| 2015 | 71.85 | 69.35 | 79.00 | 70.33 | 67.06 | 69.71 | 64.08 | 66.84 |
| 2016 | 71.59 | 68.55 | 79.23 | 71.31 | 68.60 | 69.42 | 62.30 | 67.01 |
| 2017 | 72.75 | 69.12 | 81.30 | 71.67 | 68.75 | 69.37 | 62.53 | 67.12 |
| 2018 | 72.61 | 69.27 | 80.71 | 68.97 | 68.58 | 68.00 | 67.17 | 66.10 |
| 2019 | 73.18 | 71.73 | 81.18 | 67.90 | 69.36 | 67.41 | 68.00 | 66.48 |
| Average | 71.51 | 66.19 | 64.39 | 63.06 | 59.38 | 57.94 | 57.25 | 55.54 |

*Figure 1. Development of the financial globalization indicator in the examined EU countries*

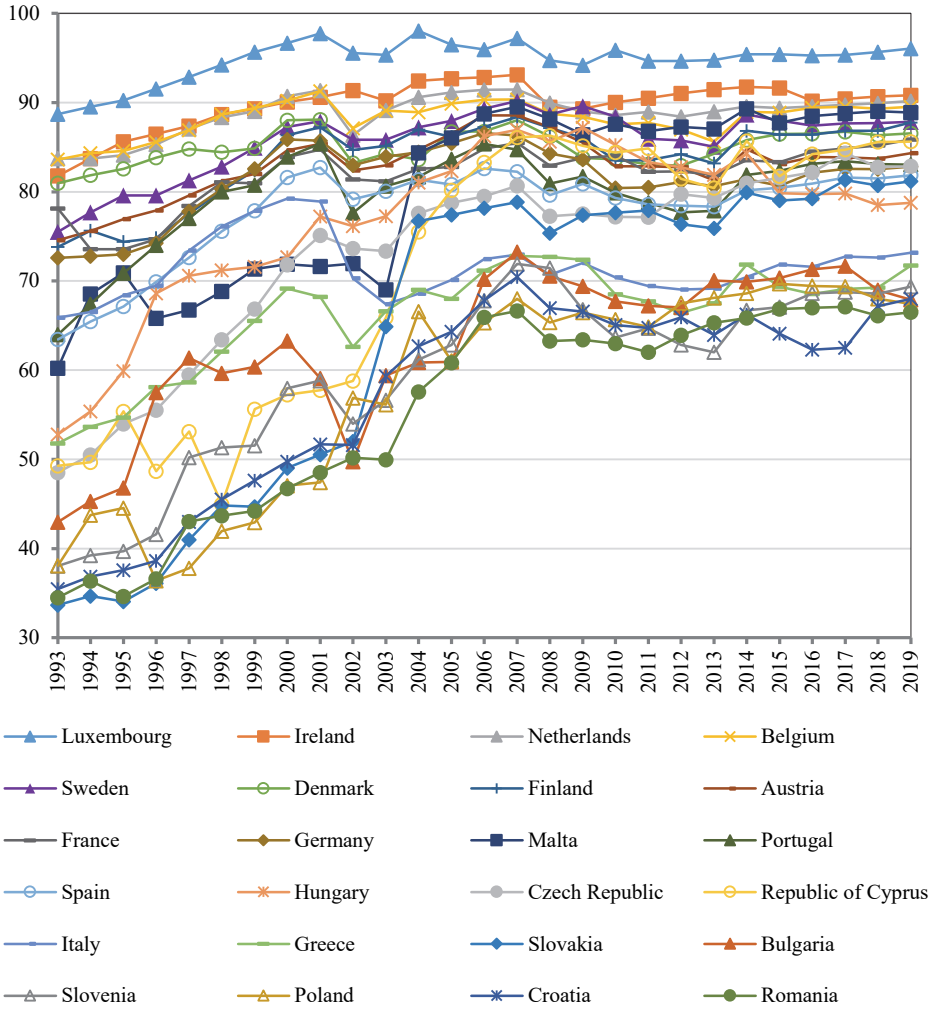
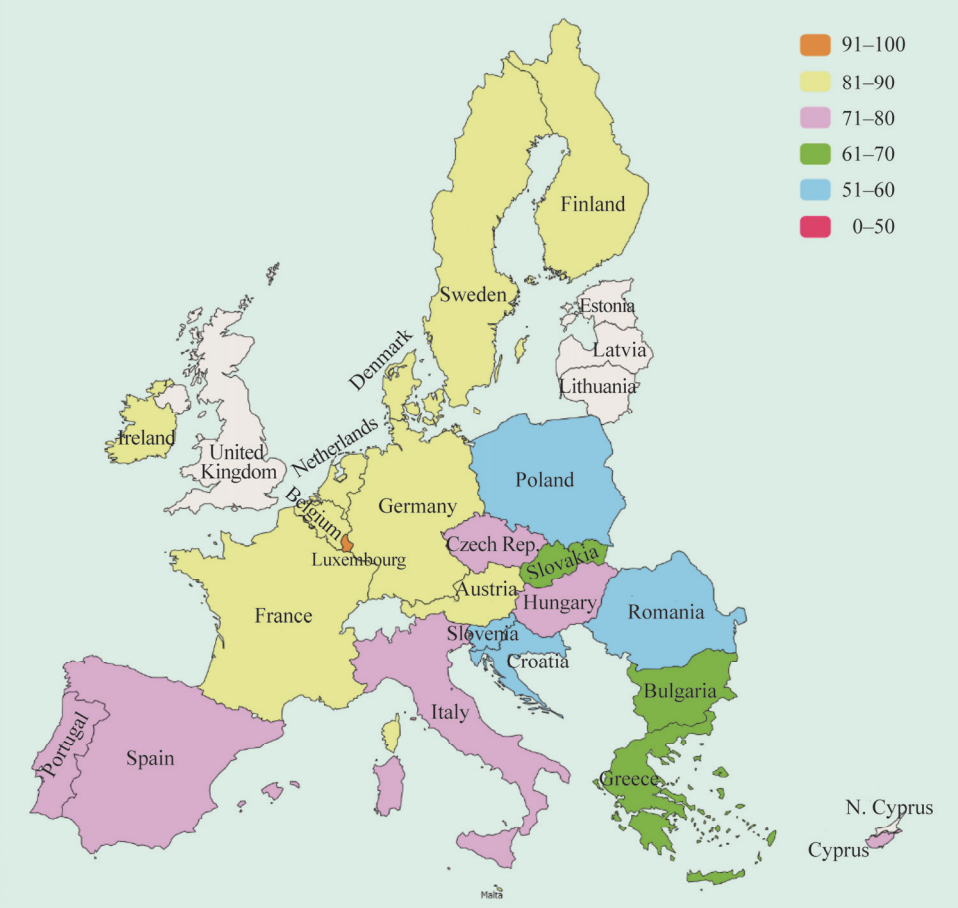



Figure 2 presents the distribution of EU countries by the average financial globalisation index (except for Estonia, Latvia, and Lithuania). The average is between 80 and 90 in the western and northern countries of the EU; Hungary and the Czech Republic belong to the same category as Italy, Spain, and Portugal, between 71–80.

*Figure 2. Distribution of EU countries by average financial globalization index, 1993–2019*




## 3.2. Summary of statistics

Table 4 presents the number of observations (*N*), mean, standard deviation, minimum, 25$^{th}$ percentile, median, 75$^{th}$ percentile, and the maximum of the dependent/independent/control variables of the empirical models. The dependent variable, *Volatility*, fluctuates from –72.18 to 189.23, with an average of 9.10. For the independent variable, *KOFFiGI*, the mean value is 76.43, and the range in the sample is between 36.38 and 97.20. The means of the other independent variables, *KOFFiGIdf* and *KOFFiGIdj* are 75.35 and 77.48, respectively, with *KOFFiGIdf* ranging from 30 and 99 and *KOFFiGIdj* ranging from 35 to 94. The results show that the control variables have sufficient variability.

Table 4

*Summary of statistics*

| Variable | Mean | Standard deviation | Minimum | 25th percentile | Median | 75th percentile | Maximum of the dependent/ independent/ control variable |
|---|---|---|---|---|---|---|---|
| *Stock traded* | 26.62 | 35.82 | 0.01 | 3.08 | 12.87 | 39.33 | 265.1 |
| *Market capitalization* | 42.38 | 35.13 | 0.02 | 17.03 | 33.97 | 58.57 | 326.36 |
| *Volatility* | 9.10 | 33.90 | –72.18 | –12.69 | 8.59 | 29.26 | 189.23 |
| *KOFFiGI* | 76.43 | 11.88 | 36.38 | 68.01 | 79.72 | 84.84 | 97.20 |
| *GDP growth* | 2.43 | 3.17 | –10.15 | 1.04 | 2.50 | 4.13 | 25.18 |
| *Inflation* | 3.15 | 5.08 | –4.48 | 1.40 | 2.18 | 3.52 | 59.10 |
| *KOFFiGIdf* | 75.35 | 15.37 | 30.00 | 67.00 | 76.00 | 86.00 | 99.00 |
| *KOFFiGIdj* | 77.48 | 11.14 | 35.00 | 69.00 | 81.00 | 86.00 | 94.00 |
| *Economic openness* | 100.91 | 56.54 | 36.95 | 62.06 | 83.67 | 125.15 | 380.10 |

*Note*. Here and in Table 5, *Stock traded* is the total value of the stocks traded in a country, expressed as a percentage of GDP. *Market capitalisation* refers to the market capitalisation of listed domestic companies as a percentage of a country's GDP. *Volatility* indicates the percentage change in stock market prices in US dollars and *KOFFiGI* denotes the composite financial globalisation for country *i* in year *t*. *GDP growth* is measured as the annual growth of a country's GDP; *Inflation* is the percentage change in consumer prices; *KOFFiGIdf* is the de facto financial globalisation index of country *i* in year *t*; and *KOFFiGIdj* is the de jure financial globalisation index of country *i* in year *t*. *Economic openness* is measured by dividing a country's imports and exports by its GDP.

Table 5 presents the empirical results of the dynamic panel regressions with country and year fixed effects. Each model shows the coefficients and *p*-values. Model 1 demonstrates the effect of the control variables on *Volatility*. The lagged value of *Volatility* directly and positively affects the dependent variable (*p*-value = 0.002). We can also notice in Table 5 that *GDP growth* and *Market capitalisation* have a positive significant impact on *Volatility* (*p*-value = 0.000 and *p*-value = 0.006, respectively), while *Stock traded* has a significant negative impact on the dependent variable (*p*-value = 0.003).

Model 2 in Table 5 shows the significant negative effect of *KOFFiGI* on *Volatility* (*p*-value = 0.032). This result supports our first hypothesis that an increase in a country's financial globalisation as measured by the composite index reduces the country's stock market volatility.

According to Model 3, the impact of *KOFFiGIdf* on *Volatility* is negative, although it is not significant ($p = 0.270$). Hence, this result does not confirm our second hypothesis that a country's de facto financial globalisation index, which measures the actual activities and flows between the country and other parts of the world, is negatively related to stock market volatility as measured by *Volatility*.

Model 4 presents the negative significant effect of *KOFFiGIdj* on *Volatility* ($p = 0.024$). This result supports our last hypothesis that a country's de jure financial globalisation index, which measures the conditions and policies that allow activities and flows between the country and other parts of the world, reduces the risk of stock market volatility measured by *Volatility*.

Table 5

*Results of dynamic panel regressions*

| Denomination | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| *Volatility–1* | 0.152*** | 0.143*** | 0.149*** | 0.143*** |
| | (0.002) | (0.003) | (0.002) | (0.004) |
| *KOFFiGI* | | –0.693** | | |
| | | (0.032) | | |
| *KOFFiGIdf* | | | –0.300 | |
| | | | (0.270) | |
| *KOFFiGIdj* | | | | –0.531** |
| | | | | (0.024) |
| *GDP growth* | 2.317*** | 2.316*** | 2.286*** | 2.377*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| *Inflation* | –0.550 | –0.883** | –0.658* | –0.871** |
| | (0.105) | (0.018) | (0.063) | (0.018) |
| *Market capitalization* | 0.185*** | 0.223*** | 0.197*** | 0.221*** |
| | (0.006) | (0.001) | (0.004) | (0.001) |
| *Stock traded* | –0.176*** | –0.162*** | –0.165*** | –0.173*** |
| | (0.003) | (0.007) | (0.006) | (0.004) |
| *Economic openness* | –0.076 | 0.033 | –0.049 | 0.041 |
| | (0.536) | (0.804) | (0.699) | (0.758) |
| Year fixed effects | Yes | Yes | Yes | Yes |
| Country fixed effects | Yes | Yes | Yes | Yes |
| Constant | –2.976 | 43.299* | 15.621 | 34.998* |
| | (0.800) | (0.078) | (0.447) | (0.087) |
| Observations | 421 | 421 | 421 | 421 |
| Adjusted $R^2$ | 0.603 | 0.607 | 0.603 | 0.607 |
| Number of countries | 24 | 24 | 24 | 24 |

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$.

*Note*. In each model, the dependent variable is *Volatility*. *Volatility–1* is the one-year lagged value of *Volatility*.

## 4. Conclusion

The globalisation of capital markets influences the sensitivity of stock returns to changes in local and global markets (*Stulz* [1999]). Financial globalisation has two different effects on capital market risk: *1*. diversifying risk across countries, thereby reducing a country's systematic risk; *2*. contributing to the spread of the financial crisis between countries. Our results suggest that an increase in the financial globalisation of a country has a positive effect on its stock market and a negative effect on the volatility of its stock market index, which supports our first hypothesis. More specifically, improving the conditions and policies that allow activities and flows between the country and other parts of the world is the most effective means of reducing volatility of the country's stock market, which supports our third hypothesis. Ultimately, according to the previous literature, integration between European countries is higher than integration between European countries and other parts of the world; thus, in order to diversify risks more, European countries need to increase their openness to the rest of the world to reap the benefits of financial globalisation.

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