# RISKS TO FINANCIAL STABILITY OF CROATIA IN INTERNATIONAL COMPARISON

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## ABSTRACT

The paper examines systemic risks affecting the financial stability in a small open economy. Its concrete expression in terms of examining relevant financial stability risks of Croatia represents the subject of the research. The objective of this paper is to expand the knowledge on systemic risk levels which might affect the financial stability of Croatia. As such, a scope of various financial stability risks for the national economy and key sectors is being defined including the state, households, companies and the banking sector. The international comparison focuses on the position of Croatia in the European Union in terms of observed risks. Research findings contained in the answers to posed research questions expand the knowledge on systemic risk levels relevant for the financial stability of Croatia and indicate the need for further research in this area. This particularly concerns the need to examine the connection between potential as well as already materialized risks and applied economic policies and the regulation of a single national economy.

*Keywords:* *financial stability; Croatian economy; international comparisons; systemic risk indicators*

## 1. INTRODUCTION

Potential financial stability risks of a respective national economy are not easily identified. Apart from various financial system-related risks that may affect the financial stability of a national economy, numerous risks to which in-

dividual sectors are exposed are also relevant including the government, retail and non-financial corporate sectors. Changes in the global environment can also significantly affect financial stability as witnessed in the period as of the emergence of the 2007 financial crisis.

Scientific research and publications issued by central banks on financial system stability risks show the non-existence of an integral financial stability risk identification and measuring model. Various scoreboards are being applied, although still featuring limited possibilities for recognizing all relevant factors of systemic risk generation, accumulation and materialization. There is a significant insufficiency of all necessary information in international institution databases on a global level which may serve as a basis for gaining insight into the relevance of individual systemic risks for the financial stability of a particular national economy by means of a comparative analysis.

This paper examines systemic risks affecting financial stability in a small open economy. Its concrete expression in terms of examining Croatia's relevant financial stability risks represents the subject of the research. The objective of this paper is to expand the knowledge on systemic risk levels which might affect the financial stability of Croatia. As such, the international comparison of selected indicators is carried out and the level of key systemic risks determining the financial stability of Croatia examined.

In order to achieve the set objective of the research, the following research questions are raised: 1. What is the position of Croatia in the European Union according to financial stability risk indicators set for the entire national economy and the government sector? 2. What is the position of Croatia in the European Union according to financial stability risk indicators set for the corporate and retail sectors? 3. What is the position of Croatia in the European Union according to financial stability risk indicators set for the banking sector? What is the correlation between the level of economic development expressed by GDP per capita and the rate of economic activities expressed in growth rates and other financial stability risk indicators?

The theoretical framework in Chapter 2 follows this introduction. Data sources and research methodologies are defined in Chapter 3. Chapter 4 examines and shows the international position of Croatia according to financial stability risk indicators for national economies and the government sector as well as the international comparison of selected indicators for the corporate, retail and banking sectors, respectively. The correlation between the level of economic development and the rate of economic activities on one side and other financial stability risk indicators has been researched and shown. This chapter discusses said findings in comparison with the results of the existing research. Chapter 5 reports the Conclusion.

## 2. THEORETICAL FRAMEWORK

The expectation of modern financial systems operating in line with the *efficient market hypothesis* has been seriously questioned as of the emergence of the 2007 global financial and economic crisis. The *inherent instability of the financial system* thesis (Minsky, 1992, 2008), according to which the financial markets do not optimize *automatically*, are not stable, and do not always produce the optimal resourse allocation, has become relevant. The period of creating the *asset bubble* during the loan supported exonomic expansion has been replaced by a period of credit squeeze and asset price deflation i.e. the financial and economic crisis. These experiences have encouraged widespread discussions on financial stability risk accumulation in the past several years. The importance of new macro financial concepts in the macro risk management has become relevant (more on said concepts in Gray and Malone, 2008).

There are various definitions of financial stability (more in Schinasi, 2004). Starting from the Deutsche Bundesbank (2003) definition according to which financial stability describes the condition in which the financial system efficiently carries out its key economic functions (resourse allocation, risk management, payment system operation) even under shocks, stressful situations and deep structural changes, this paper assumes such condition as optimal for the operation of all financial system components. Theoretical considerations often emphasize that financial stability can contribute to the macroeconomic stability, even be its key condition. However, one must not forget the existence of the financial and real economy interaction. The development of financial institutions and the market can have a positive effect on the overall economic efficiency, the economic growth and social development while the financial system deformations may also lead to aggravating the condition of the economic real sector. On the other hand, the financial sector cannot be maintained stable in the national economy which real sector is burdened by various macroeconomic imbalances (discussed in Gertler (1988), Pagano (1993), Levine (1997, 2004) and Demirgüç-Kunt and Levine (2008)).

The starting point of the financial and real sector interrelation analysis in Hartmann et al. (2007) is the conceptual framework of the financial system shown in Picture 1. The first tier thereof consists of slow-changing financial system elements which are seen as fundamentals by market participants. According to empirical literature, the quality of such fundamentals is of great importance for the efficiency of the financial system and its contribution to the economic development and growth.

**Picture 1:** The conceptual framework of the financial system
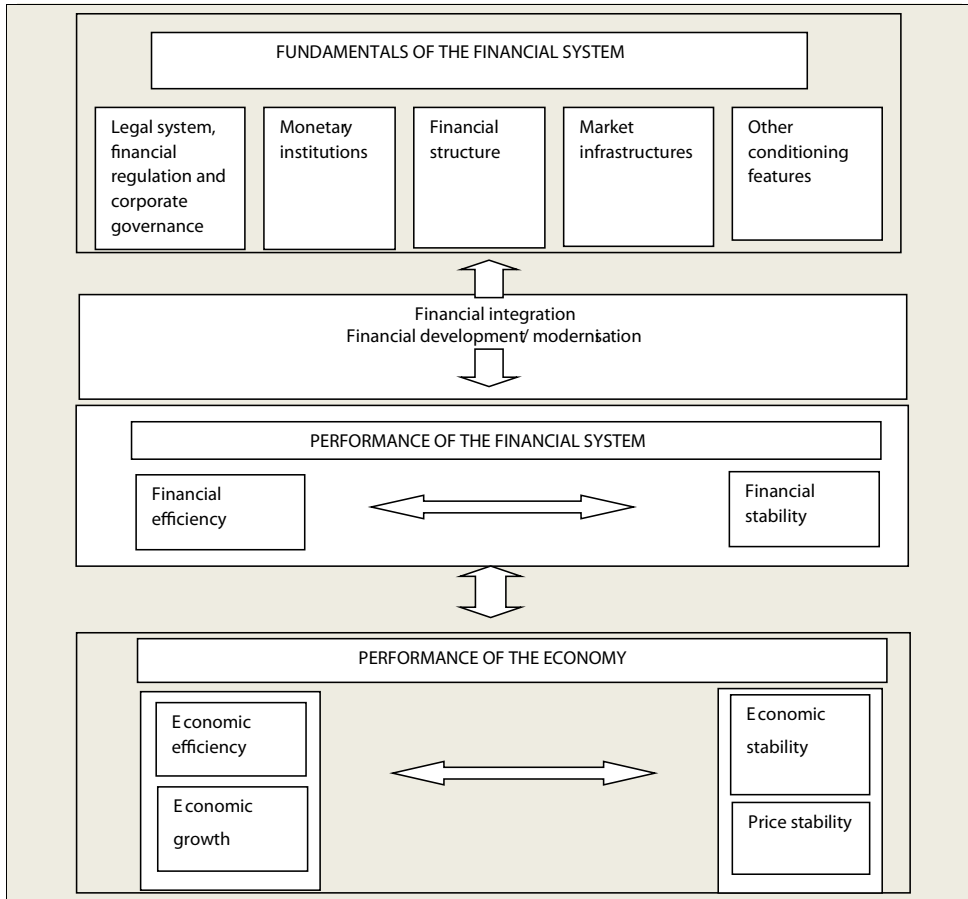


*Source: Hartmann et al. (2007: 12) adjusted.*

The second tier discusses the outcomes/results of the financial systems i.e. how well they carry out their functions or what their performances are whereby the importance of two basic categories is observed: efficiency and stability. The third tier regards the performance of the economy as a whole. It takes standard economic categories into consideration: economic efficiency, economic growth, economic stability and price stability. Financial system performances are affected by first tier fundamentals (connected with financial development) and third tier interrelation i.e. the performance of the economy as a whole.

The above suggests that the comprehensive understanding of financial stability factors and risks requires a significant implementation of the interdisciplinary approach. Apart from the above, the risk arising from the financial

system must be supplemented by the macroeconomic environment risks on the level of the national economy as well as globally.

Hartmann et al. (2007: 16) defined several indicator groups for measuring the efficiency of financial systems regarding the size of capital markets and the financial structure, financial innovations and market completeness, transparency and information, corporate governance, legal system, financial regulation, supervision and stability, competition, openness and financial integration, economic freedom, political and socio-economic factors. Such a definition of a scope encompassed by indicator groups points by itself to the complexity of measuring the efficiency of financial systems as well as assessing their stability.

The literature primarily discusses financial stability research in individual sectors of national economies in terms of the effect made by some systemic risks. *Composite indices* formed from various macroeconomic, financial and other indicators are also used. The overview of the most often used financial stability measures based on integrated research papers written by individual authors and reports made by respective central banks was given in Gadanecz and Jayaram (2009).

Individual research studies and examinations carried out by international institutions connected with monitoring the financial market conditions use the *monetary conditions index* and *financial conditions index* (see e.g. the use of financial conditions index in Mayes and Viren, 2001). The *monetary conditions index* (MCI) is a synthetic indicator of monetary restriction in the economy based on several key variables, primarily the interest and exchange rates, respectively. The *financial conditions index* (FCI) is a measure encompassing a wider scope than the MCI as it also includes financial conditions restriction indicators with which the economic entities are faced, and which are affected by, but need not be set by the monetary policy (IMF, 2004).

There are two relevant components of the *European Semester* present in observing the imbalances and risks of national economis in EU member states: the Excessive Deficit Procedure - EDP) and the Macroeconomic Imbalances Procedure - MIP). The MIP is based on a defined scoreboard. When the performance analysis of an EU member state finds the reference value of a respective indicator higher than set, the European Commission initiates the conduct of the In-Depth Review – the IDR of its economy to identify excessive macroeconomic imbalances (Krnić, 2015a). The majority of macroeconomic imbalances and risks indicators for national economies points to various aspects of financial stability.

The International Monetary Fund, the European Commission, the World Bank, as well as central banks have developed various indicator systems of

which some are used for monitoring financial stability. Publications issued by central banks on the financial stability of respective national economies provide an insight into various scoreboards. The effect of systemic risks on financial stability is analyzed in Croatia in a separate issue of the Croatian National Bank (such as e.g. CNB (2016)).

Risks of Croatia's financial stability have been researched by the author from various aspects and by implementing various methodologies. The identification of disproportions in the level and the rate of change of financial results and the economic condition of companies and banks in Krnić (2013) reveals that the poor performance of the Croatian economy represents a source of risk for financial stability. This can also be concluded from observing the scope of corporate performance indicators in Croatia during a multi-year period, including the analysis of their financial stability, liquidity, leverage, asset turnover ratio, short-term debt collection and profitability. Apart from the above, the indicators of the value adjustment of partially collectible and nonperforming bank loans for debt granted to companies have also been given as evidence.

The research of potential causes for the emergence of macroeconomic imbalances in Croatia and their effect on macroeconomic stability presented in Krnić and Radošević (2014) and based on the monetary and real trends indicators finds that the imbalance between the financial and real economy represents a key factor of the poor performance of the Croatian economy. Therefore, a wider scope of change is proposed in order to achieve the macroeconomic stability and set up the economic model which will facilitate the economic growth and the development of the national economy on a sustainable basis.

Krnić (2015a) researches the financial aspect of imbalances and risks of the Croatian economy and the Croatian position in the European Union according to MIP basic and additional indicators as well as according to set reference values. The MIP indicator improvement is also proposed.

Dumičić (2015), taking the example of Croatia, constructs two composite indices reflecting systemic risk accumulation and materialization processes. This, it is emphasized, contributes to creating the basis for making decisions on the use of the macroprudential policy and the construction of an efficient framework for the prevention and mitigation of crisis situations and for strengthening the system resilience. It also directs attention to factors affecting the process of systemic risk accumulation and prompts preventive behaviour.

The financial stability research studies, which overview was given in Gadanecz and Jayaram (2009) and partly in Dumičić (2015),  show that most papers focused on scoreboard construction which may, based on their high frequency, help central banks to efficiently recognize systemic risk accumulation and conduct various corrective activities in the macroprudential regulation

and policy. Intended to reduce systemic risks, the goal also aims at increasing the transparency in public relations. However, the overview of the existing papers shows the lack of an integral research which uses financial stability risk indicators for recognizing the level of systemic risks in a specific national economy based on the comparison with other countries. If the financial stability-relevant economic performance of a national economy is researched in a comparative analysis i.e. in the international comparison, it can be used for identifying the areas in which a specific economy lags behind. This creates the basis for considering financial stability risks of a specific national economy in further research in terms of their correlation with the applied economic policy and regulation as well as other conditions and restrictions from which they arose. Such a focused research of the financial stability risk level in individual national economies in the context of integral international comparisons is still missing. This has served as a motivation for conducting such a research on the example of Croatia and in line with the objective defined in the introduction.

## 3. RESEARCH DATA AND METHODOLOGY

The definition of the research methodology starts from the non-existence of a single scoreboard and the method of its implementation in the existing research of financial stability (provided in Gadanecz and Jayaram, 2009 and partly in Dumičić, 2015). Various individual indicators are used as well as differently formed composite indices. The majority of the existing financial stability-related papers written by individual authors and the reports compiled by central banks has been focused on creating indicators which will enable the monitoring and timely identification of the financial system vulnerability in case of individual national economies. Therefore, special attention is placed on the frequency of use and signal options of financial stability measures as well as their inclusion in composite indices.

The selection of indicators in this paper, however, has primarily been adjusted to the research objective i.e. the identification of the systemic risk level in Croatia in comparison with EU member states. The purpose is to gain insight into systemic risk levels compared to risks in other national economies and to disclose the connection between such risks, the level of economic development and the rate of economic activity. In order to achieve said purpose, various national economy and key sector operation-related indicators has been selected. They mostly follow the scope set by existing research studies but discuss it in terms of international comparisons and include deliberations on the economic and financial performance specific for Croatia i.e. some indicators which have so far mostly been neglected or observed in a different scope. This primarily regards the indicators which reflect specific long-term issues of

the Croatian economy such as the unemployment as well as the employment rate, loan interest rates, and expressed macroeconomic imbalances. With that in mind, the scope defined in this paper has encompassed not only the indicators included in the author's research and central bank reports but also some MIP indicators as well as indicators which were suggested in Krnić (2015a) for improving the MIP indicator system.

While defining the financial stability risk scoreboard herein, a significant restriction arouse in the form of unavailability of some data in international institutions databases. Indicators developed by the International Monetary Fund (Financial Soundness Indicators) and the World Bank (World Development Indicators) are still not fully available for all countries. This fact has somewhat reduced a potentially more comprehensive scoreboard applied to international comparisons.

Financial stability risk indicators have been created for national economies and the government sector expressing a level of economic development by GDP per capita, as well as financial stability risk indicators for corporate and retail sectors, and financial stability risk indicators for the banking sector. The form of data expressing as well as its source was given for each indicator. This served as a basis for processing a defined scoreboard.

Data processing used basic measures of descriptive statistics: average, minimum and maximum values, standard deviation, median, quartiles i.e. Qtl1 and Qtl3, and rank. The correlation matrix explored the correlation between a level of economic development expressed in GDP per capita and a rate of economic growth on one side and other financial stability risk indicators on the other.

The scoreboard interpretation for Croatia is conducted in comparison with EU member states (EU-28) and countries with comparable features herein called EU-8. Countries with comparable features are characterized by a similar transition process and a level of economic development measured by GDP per capita, which is significantly lower than in EU developed countries. The scope of observed countries could have been even wider by including countries possessing the same characteristics such as Latvia and Lithuania. However, these two have not been included as it was assessed that a selected group of countries was reflecting differences between developed and less developed EU member states in a sufficient manner. The EU-8 included the following countries: Bulgaria, the Czech Republic, Croatia, Hungary, Poland, Romania, Slovakia and Slovenia.

EU member states have sometimes herein been referred to by Eurostat abbreviations: BE–Belgium, BG–Bulgaria, CZ–Czech Republic, DK–Denmark, DE–Germany, EE–Estonia, IE- Ireland, EL–Greece, ES–Spain, FR–France, HR–Croatia,

IT-Italy, CY–Cyprus, LV-Latvia, LT- Lithuania, LU–Luxembourg, HU–Hungary, MT–Malta, NL–Netherlands, AT-Austria, PL–Poland, PT–Portugal, RO–Romania, SI-Slovenia, SK–Slovakia, FI-Finland, SE–Sweden, UK–Great Britain.

## 4. FINANCIAL STABILITY RISK INDICATORS

### 4.1. FINANCIAL STABILITY RISK INDICATORS FOR NATIONAL ECONOMIES AND THE GOVERNMENT SECTOR

Table 1 below shows financial stability risk indicators for national economies and the government sector.

**Table 1:** Financial stability risk indicators for national economies and the government sector with the indicator of the level of economic development

| Indicator | Source of data |
|---|---|
| A01 – GDP per capita*; PPS: EU-28 = 100; for 2014 | Eurostat |
| A02 – GDP, annual growth rates; for the period 2007 until 2014 | Eurostat |
| A03 – HICP – inflation rate, average annual rate of change in %; for the period 2007 until 2014 | Eurostat |
| A04 – Net foreign debt in % of GDP for 2014 | Eurostat |
| A05 – Current account balance of the balance of payment in % of GDP, a three-year average stated in 2014 | Eurostat |
| A06 – A share in world export, five-year percentage change stated in 2014 | Eurostat |
| A07 – Unemployment rate, a three-year average stated in 2014 | Eurostat |
| A08 – CDS (Credit default swap) spread for government securities (5 year) in base points | Deutsche Bank |
| A09 – Public debt in % of GDP for 2014 | Eurostat |
| A10 – A share of public debt in GDP, change (increase/decrease) in % in the period 2005 – 2014 | Eurostat |
| A11 – A share of public debt in GDP, members with a share ≥ 50%, change in % in the period 2005 – 2014 | Eurostat |
| A12 – Total expenses of general government in % of GDP in 2014 | Eurostat |
| A13 – Net loans (+)debt (–) consolidated general government in % of GDP in 2014 | Eurostat |
| A14 – Bank loans to general government in % of total retail bank loans in 2015 | IMF (FSI) |
| A15 – Long-term interest rate spread and Bund (in base points) in 2014 | EC, Country Report |

\* Included in the scope as an indicator of the level of economic development
*Source: Author*

Results of descriptive statistics for indicators from Table 1 are shown in Table 2.

Table 2 provides the answer to the first research question by setting Croatia's position in the EU according to financial stability risk indicators defined for national economies and the government sector as well as according to the indicator of a level of economic development expressed in GDP per capita. Croatia is ranked 26th of 28 EU member states according to GDP per capita in 2014, and 26th according to the average annual GDP growth rate in the period 2007 – 2014. Its -0.7 rate makes Croatia the only country in the EU-8 scope which recorded a negative average rate of economic growth in the observed period.

Croatia's share of net foreign debt in GDP is twice as high than the 27 EU countries average, which is also higher than in all EU-8 countries. With its 69% share of net foreign debt in GDP, Croatia has crossed the upper limit of foreign debt set in Reinhart et al. (2003) for developing countries at 50%. A quarter of EU member states records a negative share of net foreign debt in GDP of -6.7% and more, while Croatia falls in the group of 25% of EU member states which share exceeds 55.4%.

With a five-year percentage change of share in the world export of -17.8%, i.e. three times higher than the reference value set under MIP (-6%), there are only two EU member states which rank lower than Croatia according to said indicator.

**Table 2:** Financial stability risk indicators for national economies and the government sector in EU member states with the indicator of the level of economic development

|     | Average | Min | Max | Stdev | Median | Qtl1 | Qtl3 | HR | Rank | * |
|-----|---------|-----|-----|-------|--------|------|------|-----|------|-----|
| A01 | 97,8 | 47,0 | 266,0 | 40,9 | 84,5 | 73,5 | 122,0 | 59,0 | 26 | 28 |
| A02 | 0,8 | -3,2 | 3,6 | 1,3 | 0,9 | -0,1 | 1,6 | -0,7 | 26 | 28 |
| A03 | 2,5 | 0,8 | 4,8 | 1,0 | 2,1 | 1,8 | 2,8 | 2,5 | 9 | 28 |
| A04 | -75,9 | -2204,6 | 132,3 | 435,6 | 31,4 | -6,7 | 55,4 | 69,0 | 5 | 27 |
| A05 | 1,2 | -4,9 | 10,9 | 3,6 | 0,8 | -1,4 | 2,7 | 0,5 | 16 | 28 |
| A06 | -5,6 | -26,7 | 35,3 | 14,8 | -10,9 | -15,5 | 5,0 | -17,8 | 26 | 28 |
| A07 | 10,8 | 5,2 | 26,2 | 5,2 | 9,6 | 6,9 | 12,9 | 16,9 | 3 | 28 |
| A08 | 83,3 | 19,0 | 269,0 | 68,5 | 63,0 | 29,0 | 116,5 | 269,0 | 1 | 24 |
| A09 | 73,6 | 10,4 | 178,6 | 37,1 | 71,6 | 43,3 | 98,4 | 85,1 | 10 | 28 |
| A10 | 85,6 | -6,8 | 311,9 | 84,2 | 55,2 | 21,3 | 131,2 | 109,1 | 10 | 28 |
| A11 | 73,9 | -2,6 | 311,9 | 75,7 | 48,3 | 23,3 | 109,1 | 109,1 | 5 | 19 |
| A12 | 46,3 | 34,8 | 58,3 | 6,5 | 45,4 | 42,1 | 51,6 | 48,2 | 13 | 28 |
| A13 | -3,0 | -8,9 | 1,5 | 2,4 | -2,9 | -4,7 | -1,6 | -5,6 | 23 | 28 |
| A14 | 4,0 | 0,1 | 15,7 | 3,9 | 2,7 | 1,3 | 6,2 | 15,7 | 1 | 25 |
| A15 | 145,4 | 0 | 364,6 | 112,9 | 120,4 | 41,4 | 238,8 | 288,8 | 3 | 17 |

*Number of ranked EU member states

Annual growth rates of some countries in some years for A02 have been marked as preliminary or estimated in the source of data on the date of access (24 March 2016). A04 for HR refers to Q2/2015. As the UK data was not available, the EU-27 data was analyzed. A08 is shown without data for CY, EL, LU and MT. The A14 data was taken from Europe Latest Available Data (FSI) for various quarters 2015. Data for FI, FR and SE was not available. A15 calculations were made only on the basis of data for 17 countries.

Source: Eurostat, Deutsche Bank, IMF  (FSI), EC Country Report and author's calculations

The average three-year unemployment rate in Croatia is the third highest rate in EU-28. The reference value of this indicator within the MIP is set at 10%, the EU-28 median is 9.6%, and the unemployment rate in Croatia is 16.9%. Croatia has one of the smallest workforce in the European Union and at the same time belongs to the countries with the highest unemployment rate.

All EU-8 countries have a lower risk level (according to the CDS spread), a lower percentage of public debt in GDP, and a lower percentage of the consolidated general government net debt in GDP, except for Bulgaria. Croatia's insurance premium against the credit risk for government bonds is four times higher than the observed EU 24 countries median. This does not affect only the price of sovereign debt but also the interest rates for corporate and retail loans.

Its 85.1% of public debt in GDP in 2014 ranked Croatia 10th in EU-28 having the highest EU-8 percentage. It recorded twice the increase of the public debt percentage in GDP in the period from 2005 until 2014 (by 109.1%) compared to the EU-28 median (55.2%). This difference becomes even more visible if EU-28 countries with a share lower than 50% are excluded from median calculations. Compared to the 60% MIP reference value, Croatia shows a significant inner macroeconomic imbalance under said indicator. This imbalance becomes even more expressed under the fiscal sustainability risk criterion set in Baldacci et al. (2011) at 42.8% of GDP for the so-called emerging market economies. The accelerated growth of the general government debt in the observed period represents a significant source of Croatia's financial stability risk. According to 2015 data (CNB, 2016), public debt denominated in foreign currency represents 78.5% of total public debt, which is significantly higher than the limit set under the fiscal sustainability risk indicator, which was set for the countries with similar characteristics as Croatia at 40.3% (Baldacci et al. (2011). Public debt size and structure affects the level of interest costs for its servicing as well as impacts the economic liquidity, investment activities and the rate of economic trends.

Out of 25 EU countries with available comparable data, Croatia has the highest share of bank loans granted to general government in the overall loans

to residents. In the environment of increased risk of granting private sector loans and their repayment, the banking sector compensates for the lack of loans by significantly funding the state.

## 4.2. FINANCIAL STABILITY RISK INDICATORS FOR CORPORATE AND RETAIL SECTORS

Table 3 shows financial stability risk indicators for corporate and retail sectors.

**Table 3:** Financial stability risk indicators for corporate and retail sectors

| Indicators | Source of data |
|---|---|
| B01 – Gross profit earned by non-financial companies in value added in % in 2014 | Eurostat |
| B02 – Rate of investment in fixed asset in % of gross added value in 2014 | Eurostat |
| B03 – ROE (net profit and equity ratio) in % in 2014 | Eurostat |
| B04 – Gross available household income per capita in PPS in 2014 | Eurostat |
| B05 – Private sector debt, consolidated, in % of GDP in 2014 | Eurostat |
| B06 – A share of private sector debt in GDP, consolidated, increase/decrease in %, 2005 – 2014 | Eurostat |
| B07 – Private sector debt, unconsolidated, in % of GDP in 2014 | Eurostat |
| B08 – A share of private sector debt in GDP, unconsolidated, increase/decrease in %, 2005 - 2014 | Eurostat |
| B09 – Bank interest rates for company loans under 1 year in December/2015 | ECB |
| B10 – Bank interest rates for company loans from 1-5 years in December/2015 | ECB |
| B11 – Bank interest rates for company loans above 5 years in Decemebr/2015 | ECB |
| B12 – Bank interest rates for housing loans in the retail sector above 5 years in December /2015 | ECB |
| B13 – A share of loans to non-financial companies in total bank loans in % in 2015 | IMF (FSI) |
| B14 – A share of retail loans (other domestic sectors) in total bank loans in % in 2015 | IMF (FSI) |
| B15 – Price index of housing real estates, a three-year percentage change stated in 2014 | Eurostat |

*Source: Author*

Results of descriptive statistics for indicators from Table 3 are shown in Table 4.

Table 4 provides the answer to the second research question by setting Croatia's position in the EU according to financial stability risk indicators defined for corporate and retail sectors. According to available comparable data, Croatia is ranked 26th among 27 EU member states by a share of gross profit in added value of non-financial companies i.e. it has the lowest share among EU-8 countries with comparable characteristics. According to 2014 data, ROE

in non-financial companies in Croatia is four times lower than the EU-28 median calculated for 24 EU member states. In terms of current and potential entrepreneurs in Croatia, this represents a significant limitation.

**Table 4:** Financial stability risk indicators for corporate and retail sectors in EU member states

| Indicator | Average | Min | Max | Stdev | Median | Qtl1 | Qtl3 | HR | Rank | * |
|---|---|---|---|---|---|---|---|---|---|---|
| B01 | 44,9 | 29,4 | 60,7 | 8,0 | 42,9 | 40,1 | 51,0 | 29,7 | 26 | 27 |
| B02 | 22,2 | 10,5 | 28,7 | 4,5 | 23,1 | 19,3 | 26,1 | 26,0 | 7 | 25 |
| B03 | 19,5 | -15,9 | 64,1 | 16,3 | 15,3 | 12,7 | 22,1 | 3,7 | 22 | 24 |
| B04 | 18077,4 | 9152,0 | 27191,0 | 4878,7 | 16537,0 | 14222,3 | 22846,8 | 12339,0 | 22 | 24 |
| B05 | 148,9 | 52,5 | 348,3 | 74,1 | 128,8 | 97,3 | 183,4 | 120,8 | 17 | 28 |
| B06 | 29,8 | -14,0 | 84,6 | 24,3 | 27,8 | 9,0 | 51,4 | 51,2 | 8 | 28 |
| B07 | 167,4 | 56,7 | 402,7 | 81,6 | 144,6 | 109,2 | 214,6 | 142,1 | 15 | 28 |
| B08 | 32,0 | -11,6 | 87,4 | 23,8 | 30,1 | 10,7 | 52,9 | 53,5 | 7 | 28 |
| B09 | 3,5 | 1,5 | 10,6 | 1,8 | 3,0 | 2,3 | 4,2 | 5,4 | 4 | 28 |
| B10 | 3,3 | 1,6 | 5,5 | 1,1 | 3,2 | 2,3 | 4,1 | 5,3 | 2 | 28 |
| B11 | 3,3 | 1,6 | 5,9 | 1,0 | 2,9 | 2,5 | 3,8 | 4,4 | 5 | 28 |
| B12 | 3,1 | 1,2 | 6,5 | 1,3 | 2,9 | 2,1 | 3,8 | 5,5 | 3 | 28 |
| B13 | 28,5 | 3,3 | 53,5 | 12,2 | 32,3 | 18,3 | 36,4 | 33,8 | 10 | 24 |
| B14 | 35,0 | 5,1 | 55,7 | 11,5 | 33,5 | 27,0 | 44,9 | 46,4 | 4 | 25 |
| B15 | 0,1 | -27,1 | 35,0 | 13,5 | 0,3 | -8,9 | 8,9 | -17,7 | 26 | 28 |

\* Number of ranked EU member states

B01 has no data for LU. Data for BG is taken from 2013. B02 has no data for BG, LU and MT. B03 has no data for BG, LU, MT and RO. B04 has no data for BG, LU, MT and NL. The comparability of B09, B10, B11and B12 can be reduced due to differences in loan currency (in euro or denominated in domestic currency) and the method of interest rate reporting (AAR/NDER), i.e. average or effective rates. The 2015 data for B13 and B14 is partly from various quarters, data for BG refers to 2014. Data is not available for FI, FR and SE for B13 and B14, and for ES for B13. A part of B15 is temporary or estimated.

Source: ECB, Eurostat, IMF (FSI) and author's calculations

According to the gross available household income per capita, Croatia is ranked 22nd among 24 EU countries. The shown level of gross available household income per capita limits domestic demand and the capability of a household to repay its obligations. Among EU-8 countries with comparable characteristics only Bulgaria has a higher share of consolidated private sector debt in GDP than Croatia, which was twice increased in the period from 2005 until 2014 compared to the EU-28 average. However, Croatia has an exceptionally high pecentage of overall debt in GDP if the general government and private sector debts are observed jointly.

Despite their significant decrease compared to 1990s, bank interest rates for corporate and retail loans are still, in all observed categories, above the EU-28 median, which makes them among the highest in all EU-8 countries with comparable characteristics (which confirms the findings in Krnić, 2015b). Along with Bulgaria, and some loan categories in Romania and Hungary, these are the highest rates in the EU-8 scope. Apart from the above, a debt structure of non-financial companies and households according to currency and the possibility of interest rate change still indicates their high exposure to the currency and interest rate risk. Interest rates in Croatia also reflect a still relatively high premium for the country risk (CNB, 2016).

A share of loans granted to non-financial companies in total bank loans in 2015 is at an average level calculated on the basis of data for 25 EU countries. However, according to a percentage of retail loans granted, Croatia is ranked 4th among 25 EU member states. Some EU-8 countries such as Poland and Slovakia have a higher percentage than Croatia. Due to accumulating significant risks in doing business with the corporate sector, banks in Croatia focused on stronger retail lending for a long period. Despite a changed structure of loan allocation in past several years, accelerated growth was achieved with large companies which primarily used said loans for foreign debt repayment.

According to CNB data (2016), a multi-year debt repayment trend by non-financial companies and households from bank loans continued in Croatia in 2015. Financial results recorded by non-financial companies in 2014 contributed in part to said debt repayment in light of a partial funding from own retained profits. The growth of public debt indicates that companies partly use foreign funding sources which price is more favourable than loans in Croatia, while banks consider lending to the state more profitable under current circumstances (CNB, 2016).

Croatia is also one of the countries with the highest decrease of housing property according to a three-year average change in price index. This indicator is usually observed together with the stock market index (here omitted). Their decrease actually reflects a deflation of previously emerged price bubbles. In view of no significant change in demand, real estate prices have continued to decrease (CNB, 2016).

## 4.3.  FINANCIAL STABILITY RISK INDICATORS – BANKING SECTOR

Table 5 shows financial stability risk indicators for the banking sector

**Table 5:**  Financial stability risk indicators for the banking sector

| Indicators | Source of data |
|---|---|
| C01 – Banking sector asset and GDP ratio in 2014 | ECB, EC |
| C02 – A share of banking sector asset in total financial sector asset in % in 2014 | ECB, CNB |
| C03 – A share of foreign ownership in the banking sector in % of total asset in 2014 | EC, Country Report |
| C04 – Deposit and loan ratio in banks in % in 2015 | IMF (FSI) |
| C05 – Asset share of top 5 banks in total asset in % in 2014 | ECB |
| C06 -  A share of bad loans in total borrowings in % in 2015 | IMF (FSI) |
| C07 – A share of bad loans in GDP in % in 2014 | IMF |
| C08 – Interest spread in total income in  % in 2015 | IMF (FSI) |
| C09 – Noninterest expenses in total income in % in 2015 | IMF (FSI) |
| C10 – Regulatory capital to risk weighted asset in % in 2015 | IMF (FSI) |
| C11 – Equity/asset ratio in % in 2015 | IMF (FSI) |
| C12 – Staff cost/noninterest cost ratio in % in 2015 | IMF (FSI) |
| C13 – Difference between reference active and passive interest rates (base points) in 2015 | IMF (FSI) |
| C14 – Liquid asset in total asset in % in 2015 | IMF (FSI) |
| C15 – Liquid asset/short-term liabilities ratio in % in 2015 | IMF (FSI) |
| C16 – A share of foreign currency loans in total loans in % in 2015 | IMF (FSI) |
| C17 – A share of foreign currency liabilities in total liabilities in % in 2015 | IMF (FSI) |
| C18 – A share of foreign currency net open position in equity in % in 2015 | IMF (FSI) |
| C19 – ROA in % in 2015 | IMF (FSI) |
| C20 – ROE in %in 2015 | IMF (FSI) |

*Source: Author*

Results of descriptive statistics for Table 5 indicators are given in Table 6.

Table 6 provides the answer to the third research question by setting Croatia's position in the EU according to financial stability risk indicators defined for the banking sector.  The banking sector in Croatia has the highest share of foreign ownership in the percentage of total assets (90.1%) among 18 EU member states, which is the lowest in the banking sectors of developed countries. For example, this share amounts to 6.9% in the Netherlands, 8.5% in Sweden, 8.5% in France, 12.7% in Italy, and 11.7% in Germany. Apart from the above, the banking sector in Croatia has the largest concentration of all such sectors in EU-8 countries. However, only concentration measures are not sufficient for estimating the real competition in respective banking sectors. Sophisticated methods as well as a direct testing of economic variables are needed (more in

Krnić and Radošević, 2014). However, competition in this sector is important as it contributes to reducing interest rates and bank service prices as well as to a more efficient loan allocation. It also contributes to strengthening the position of Croatian companies on the global market.

**Table 6:**  Financial stability risk indicators for the banking sector of EU member states

| Indicator | Average | Min | Max | Stdev | Median | Qtl1 | Qtl3 | HR | Rank | * |
|---|---|---|---|---|---|---|---|---|---|---|
|  | 3,3 | 0,6 | 19,6 | 3,7 | 2,7 | 1,1 | 3,8 | 1,3 | 17,5 | 25 |
|  | 63,1 | 19,8 | 92,3 | 20,0 | 71,2 | 52,5 | 73,4 | 72,8 | 7,5 | 20 |
|  | 36,5 | 6,9 | 90,1 | 26,0 | 32,5 | 11,2 | 65,7 | 90,1 | 1 | 18 |
|  | 100,2 | 31,4 | 157,0 | 27,5 | 94,9 | 85,1 | 116,0 | 90,4 | 12 | 21 |
|  | 61,0 | 32,0 | 94,1 | 17,0 | 59,9 | 47,8 | 71,9 | 72,3 | 7 | 28 |
|  | 10,2 | 1,0 | 45,6 | 10,3 | 5,7 | 3,9 | 13,9 | 16,3 | 5 | 25 |
|  | 9,9 | 0,9 | 48,0 | 12,0 | 5,5 | 2,7 | 11,9 | 8,1 | 9 | 23 |
|  | 59,2 | 17,1 | 90,9 | 16,0 | 58,7 | 49,7 | 68,7 | 64,5 | 9 | 24 |
|  | 62,1 | 42,1 | 94,4 | 12,9 | 60,7 | 50,9 | 67,2 | 94,4 | 1 | 24 |
|  | 18,6 | 11,2 | 28,0 | 3,8 | 18,1 | 16,4 | 21,0 | 21,0 | 7 | 27 |
|  | 8,6 | 5,6 | 14,0 | 2,5 | 7,6 | 6,7 | 6,7 | 12,7 | 3 | 24 |
|  | 47,4 | 24,4 | 73,9 | 10,5 | 47,5 | 40,9 | 54,5 | 24,4 | 22 | 22 |
|  | 301,5 | 2,8 | 603,7 | 140,8 | 299,8 | 196,6 | 355,4 | 494,4 | 3 | 18 |
|  | 27,9 | 9,8 | 56,1 | 10,5 | 26,4 | 20,0 | 34,2 | 34,2 | 5,5 | 22 |
|  | 72,0 | 17,5 | 178,5 | 47,7 | 51,7 | 36,8 | 94,0 | 51,7 | 12 | 23 |
|  | 25,7 | 1,2 | 71,4 | 20,0 | 24,5 | 9,7 | 36,3 | 71,4 | 1 | 19 |
|  | 27,4 | 3,0 | 65,3 | 25,3 | 25,3 | 10,4 | 39,8 | 65,3 | 1 | 18 |
|  | 12,7 | -11,9 | 74,9 | 16,7 | 1,2 | 0,3 | 4,5 | 12,5 | 3 | 20 |
|  | 0,8 | -1,8 | 4,4 | 1,1 | 0,7 | 0,3 | 1,1 | -1,1 | 25 | 26 |
|  | 6,8 | -22,4 | 24,1 | 8,0 | 7,2 | 3,8 | 10,9 | -7,8 | 27 | 28 |

* Number of ranked EU member states

*C01 has no data for CZ, DK and PL. C02 has no data for BG, CZ, DK, HU, PL, RO, SE and UK. C03 has no data for CY, CZ, DK, EL, LV, LT, LU, MT, PL, SK. C04 data comes from various quarters 2015 or late 2015. BG data is from late 2014. Data for FI, FR, HU, IE, NL, SI and SE is missing. C06 has no data for FI, DE and LU. C07 has no data for CZ, DE, PL, SE and UK. C08 and C09 data is from various quarters 2015 or late 2015. BG data is from late 2014. Data for FI, FR, DE and SE is missing. C10, C11 and C12 data is from various quarters 2015 or late 2015. BG data is from late 2014. C10 calculations exclude FI data, C11 has no data for FI, HU, SI and SE, C12 has no data for FI, FR, DE, HU, SI and SE. C13 data is from various quarters 2015 or late 2015.The calculation does not include data for BG, FI, FR, HU, IE, LU, NL, SI, SE and UK. C14, C15, C16 and C17 data is from various quarters 2015 or late 2015. BG data is from late 2014. C14 calculations do not include FI, FR, IE, LT, LU and ES data, C15 has no data for FI, IE, LT, LU and ES,  C16 is without data for BE, CZ, FI, FR, HU, IE, LT, SI and*

*SE, and C17 without BE, CZ, EE, FI, FR, HU, IE, LT, SI and SE data. C18 data is from various quarters 2015 or late 2015. The calculation excludes data for BG, EE, FI, FR, LU, NL, PT and ES. C19 data is from various quarters 2015 or late 2015. BG data is from late 2014. Calculations do not include FI and DE data. C20 data is from various quarters 2015 or late 2015. BG, DE, FI and SE data is from 2014.*

Source: ECB, EC (Country Report), CNB, IMF (FSI) and author's calculations

The Croatian banking sector (along with the banking sector of Bulgaria) stated the biggest percentage of bad loans in total 2015 loans. Banks in Croatia also stated the highest share of noninterest expenses in 2015 compared to the overall income in EU-8. At the same time, despite value adjustments and bad loan provisions and thanks to the capital increase conducted before the financial and economic crisis, banks in Croatia, if observed across the sector, are still stating the highest percentage of regulatory capital in risk-weighted assets than all EU-8 banking sectors. The cost of staff in percentage of noninterest expenses is the lowest in 22 EU countries with available data. However, one must take into consideration that the banking sector in Croatia also shows a high level of noninterest expenses in 2015.

The currency structure of received deposits and granted loans by the banking sector shows a very high level of euroization of Croatian economy. The currency exposure does not result only from foreign currency loans or deposits but also from HRK loans and deposits with a currency clause. This is why here observed foreign currency receivables and liabilities indicators also include receivables and liabilities in domestic currency with a currency clause. Among all EU countries with related indicators available from said sources, the banking sector in Croatia also shows the highest pecentage of foreign currency loans in total loans, the highest pecentage of foreign currency liabilities in total liabilities and the highest pecentage of the foreign currency net open position in equity. Non-exporting companies or companies which are not net exporters and populations that earns income only in HRK are significantly more exposed to the currency risk. The currency structure and the sector exposure to the currency risk means that even a relatively small change of HRK currency rate towards its depreciation affects the banking balance sheet asset due to non-perfoming loans granted to companies and the retail sector which are inadequately hedged against currency risk. This is why the maintenance of a relatively stable exchange rate has remained a permanent lever in the preservation of Croatia's macroeconomic stability.

In terms of financial stability, in the bank-centric systems such as the Croatian one, it is necessary to achieve an adequate level of bank profitability in order to maintain their capitalization at the level which ensures the system resilience to shocks and the materialization of various risks. From the time the

crisis emerged in 2008, bank profitability decreased significantly in EU member states. According to observed 2015 data, the banking sector in Croatia achieved negative returns on equity and assets i.e. the worst in EU-8, which was the result of large conducted value adjustments due to bad loans, the cost of Swiss francs denominated loan conversions as well as negative effects of the private sector repayment process.

### 4.4. THE CORRELATION BETWEEN THE LEVEL OF ECONOMIC DEVELOPMENT AND THE RATE OF ECONOMIC GROWTH WITH OTHER FINANCIAL STABILITY RISK INDICATORS

In order to gain insight into the correlation between a level of economic development expressed in GDP per capita and the rate of economic growth with other financial stability risk indicators, the correlations between said indicators were calculated. However, out of a total of 50 indicators which were compared in this paper in international terms, 21 indicator was included in the correlation matrix in Table 7 i.e. only those indicators with available data for all 28 EU member states. The objective was to gain an initial insight into correlation coefficients of such complete indicators and thus indicate the possibility to research all relevant financial stability indicators upon achieving complete data availability. The relevance of the Pearson linear correlation coefficient for all coefficients from 0.5 up would then be conducted in order to achieve the reliability of research findings.

**Table 7:** The correlation matrix of the correlation between the level of economic development and the rate of economic growth with other financial stability risk indicators

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | | | | | | | | | | | | | | | | | | | | |
| 2 | 0,1 | 1 | | | | | | | | | | | | | | | | | | | |
| 3 | 0,4 | 0,2 | 1 | | | | | | | | | | | | | | | | | | |
| 4 | **0,5** | 0,1 | 0,3 | 1 | | | | | | | | | | | | | | | | | |
| 5 | 0,1 | **0,5** | **0,7** | 0,1 | 1 | | | | | | | | | | | | | | | | |
| 6 | 0,4 | **0,6** | 0,1 | 0,4 | 0,1 | 1 | | | | | | | | | | | | | | | |
| 7 | 0,1 | **0,7** | **0,5** | 0,2 | **0,6** | **0,6** | 1 | | | | | | | | | | | | | | |
| 8 | 0,3 | 0,0 | 0,2 | 0,1 | 0,3 | 0,2 | 0,1 | 1 | | | | | | | | | | | | | |
| 9 | 0,2 | **0,5** | **0,5** | 0,1 | **0,7** | 0,0 | 0,4 | **0,5** | 1 | | | | | | | | | | | | |
| 10 | 0,4 | 0,3 | 0,2 | **0,5** | 0,4 | **0,5** | **0,6** | 0,0 | 0,2 | 1 | | | | | | | | | | | |
| 11 | **0,6** | 0,2 | **0,5** | 0,2 | 0,4 | 0,0 | 0,2 | 0,2 | 0,2 | 0,2 | 1 | | | | | | | | | | |
| 12 | 0,1 | 0,2 | 0,1 | 0,2 | 0,2 | 0,2 | 0,2 | 0,2 | 0,2 | 0,1 | 0,0 | 1 | | | | | | | | | |
| 13 | **0,7** | 0,1 | **0,5** | 0,2 | 0,4 | 0,1 | 0,1 | 0,2 | 0,3 | 0,1 | 1,0 | 0,0 | 1 | | | | | | | | |
| 14 | 0,0 | 0,3 | 0,0 | 0,2 | 0,1 | 0,1 | 0,1 | 0,1 | 0,2 | 0,0 | 0,0 | **0,9** | 0,1 | 1 | | | | | | | |

| 15 | **0,5** | 0,2 | 0,3 | 0,3 | 0,2 | 0,1 | 0,0 | 0,1 | 0,3 | 0,1 | 0,0 | 0,2 | 0,1 | 0,1 | 1 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | **0,6** | 0,1 | 0,4 | 0,4 | 0,2 | 0,2 | 0,1 | 0,0 | 0,4 | 0,3 | 0,2 | 0,3 | 0,3 | 0,2 | **0,7** | 1 | | | | | |
| 17 | **0,5** | 0,0 | 0,4 | 0,4 | 0,1 | 0,1 | 0,0 | 0,1 | 0,3 | 0,4 | 0,1 | 0,3 | 0,1 | 0,2 | 0,5 | **0,8** | 1 | | | | |
| 18 | 0,3 | 0,1 | 0,2 | 0,0 | 0,1 | 0,1 | 0,1 | 0,3 | 0,1 | 0,2 | 0,1 | 0,3 | 0,1 | 0,3 | 0,1 | **0,5** | **0,7** | 1 | | | |
| 19 | 0,3 | 0,4 | 0,2 | 0,1 | 0,4 | **0,6** | **0,6** | 0,1 | 0,2 | 0,5 | 0,0 | 0,3 | 0,1 | 0,3 | 0,1 | 0,1 | 0,1 | 0,2 | 1 | | |
| 20 | 0,4 | 0,2 | 0,1 | 0,1 | 0,1 | 0,3 | 0,0 | 0,1 | 0,0 | 0,0 | 0,1 | 0,1 | 0,1 | 0,0 | 0,4 | 0,3 | 0,0 | 0,2 | 0,1 | 1 | |
| 21 | 0,1 | **0,7** | 0,3 | 0,2 | 0,4 | **0,6** | **0,7** | 0,1 | 0,3 | 0,4 | 0,1 | 0,1 | 0,0 | 0,1 | 0,1 | 0,1 | 0,2 | 0,2 | **0,7** | 0,1 | 1 |

*Negative coefficients are underlined. Coefficients are rounded to one decimal.*

Indicators arranged by ordinal numbers in the matrix:

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A01 | A02 | A03 | A05 | A06 | A07 | A09 | A10 | A12 | A13 | B05 | B06 | B07 | B08 | B09 | B10 | B11 | B12 | B15 | C05 | C20 |

*Source: Author's calculation from the indicators for EU member states according to data stated in Tables 1, 3 and 5*

The reply to the fourth research questions given in Table 7 establishes the correlation between the level of economic development expressed in GDP per capita and the rate of economic growth with other financial stability risk indicators for EU member states. There is a medium-strong positive correlation between the GDP level per capita and the current account balance in the balance of payment in percentage of GDP, consolidated and unconsolidated private sector debt in percentage of GDP, and a medium strong negative correlation with bank interest rates on corporate loans under 1 year, from 1 to 5 years, and above 5 years. Furthermore, annual GDP growth rates for the period from 2007 until 2014 have a medium strong positive correlation with a five-year percentage change of the world export share and the return on banking sector equity as well as a medium strong negative correction with a three-year average unemployment rate, public debt in percentage of GDP and overall expenses of general government in percentage of GDP. Average annual inflation rates from 2007 until 2014 have a medium strong positive correlation with a five-year average change of percentage in the world export and a medium strong negative correlation with public debt in percentage of GDP, overall expenses of general government in percentage of GDP and consolidated and unconsolidated private sector debt in percentage of GDP. Other correlations are visible from Table 7. Obtained results mostly confirm theoretical and empirical expectations as well as a substantial part of the research findings from Krnić (2015a). The finding which indicates a medium strong positive correlation between average annual inflation rates in the observed period and the five-year percentage change of the world export share is one of few which may indicate the need for further analysis.

Despite conducting the correlation research on a reduced sample of 21 indicator due to data unavailability, the correlation matrix results lead to significant conclusions which may contribute to understanding the interdependence in accumulating and materializing specific financial stability risks. This can contribute to recognizing necessary changes in the regulation, economic policy and financial management at macro level. Obtained results also indicate the need to complete data in international institutions databases so as to provide the possibility for conducting such research with all relevant indicators for all EU-28 countries.

## 5. CONCLUSION

The purpose of this research was to widen knowledge on risk levels which may affect the financial stability of Croatia as a small and open economy. With that in mind, the financial stability scoreboard was created for the national economy and the government sector, corporate and retail sector, and the banking sector. The international comparison of defined indicators within EU countries was conducted as well as the research into the correlation between the level of economic development and the rate of economic growth with other financial stability risk indicators. It served as a basis for research findings which were given as answers to set research questions.

Some weaknesses were found during the research including incomplete databases of international institutions for conducting such comparisons. It limited the reliability of comparisons according to specific indicators. Despite the above, the Croatia's position in the EU, by most indicators, was set to reflect the true state of affairs by applying reliability. Due to unavailability of data for all EU member states, the correlation of risk indicators with the level of economic development and the rate of economic growth was conducted on a reduced sample. The results of the correlation matrix lead to significant conclusions on the correlation of observed variables which may significantly contribute to understanding the interdependence in accumulating and materializing individual financial stability risks and defining required changes in financial management at macro level, regulation and the economic policy.

As relevant economic literature contains almost no original research papers on financial stability in a wider international comparison, and especially with a scoreboard and the method od indicator

processing as it was implemented herein, the scientific contribution of this paper is confirmed in the scope in which obtained findings expand the existing knowledge on financial stability risks. With that in mind, it is estimated that this research findings may contribute to a better understanding of real issues of a small and open economy in terms of systemic risk impact on financial stability as well as encourage various further reserach. The research into the correlation between potential and already materialized risks of respective national economy and applied economic policies and regulations would be of particular importance. As the paper was focused on the research of quantitative indicators and primarily on their interpretation in terms of achieved levels and the rate of change, further research would find it useful to determine Croatia's departure from the EU-28 and EU-8 medians in the context of their potential causing factors.

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## RIZICI FINANCIJSKE STABILNOSTI HRVATSKE U MEĐUNARODNOJ USPOREDBI

### SAŽETAK RADA:

Istraživanje sistemskih rizika koji utječu na financijsku stabilnost u maloj otvorenoj ekonomiji istraživački je problem ovog rada. Njegova konkretizacija u smislu istraživanja relevantnih rizika financijske stabilnosti Hrvatske predmet su istraživanja. Cilj je rada proširiti spoznaje o razinama sistemskih rizika koji mogu utjecati na financijsku stabilnost Hrvatske. U tu se svrhu definira obuhvat različitih pokazatelja rizika financijske stabilnosti za nacionalnu ekonomiju i ključne sektore, kao što su: država, kućanstva, poduzeća i bankovni sektor. U međunarodnoj usporedbi istražuje se pozicija Hrvatske u Europskoj uniji s aspekta razine razmatranih rizika. Nalazi istraživanja sadržani u odgovorima na postavljena istraživačka pitanja proširuju spoznaje o razinama sistemskih rizika relevantnih za financijsku stabilnost Hrvatske i upućuju na potrebu daljnjih istraživanja na ovom području. To se osobito odnosi na potrebu istraživanja povezanosti potencijalnih i već materijaliziranih rizika s primijenjenim ekonomskim politikama i regulacijom u pojedinoj nacionalnoj ekonomiji.

***Ključne riječi:*** *financijska stabilnost; hrvatska ekonomija; međunarodne usporedbe, pokazatelji sistemskih rizika*