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BETWEEN POLITICS AND ECONOMICS: FINDING DETERMINANTS IN INCREASING THE FINANCIAL STABILITY OF THE EUROPEAN CITIZENS

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Abstract
Recent developments in international economics have certainly increased the attention of European citizens to the phenomenon of financial stability. However, the present research aims to analyse the impact of different political and economic factors on the financial stability of European citizens in a pre-pandemic era. In order to determine whether or not such an impact exists, we have used panel data analysis covering 26 of the 27 EU countries over a 10-year period, between 2010 and 2019. The statistical research has indeed shown us the link between different variables, both economic and political, with the financial stability of European citizens, which can be taken into account by political decision-makers.
Keywords: *European Union; financial stability; institutions; doing business; infrastructure.*
JEL Classification: J6, K11.

1. INTRODUCTION

The contemporary era has been, and still is, the theatre of some quite disruptive social, economic and political events, including the effects caused by the 2008 financial crisis, the threats created by the refugee crisis that peaked in Europe in 2015 and, not least, the Coronavirus pandemic that started towards the end of 2019. All of these events, marked by their spectacular yet unpredictable nature, have called into question 21st century consumerism, a paradigm to which Western citizens had become accustomed, and then re-acclimatised after the effects of the 2008 crisis had been mitigated. So, the transition period between the 2008 financial crisis and the pandemic crisis of 2020 was not without its obstacles, but it led Western citizens (including politicians) to believe that they

would be better prepared for the re-emergence of unforeseen global events, but the reality proved otherwise.

With these premises in mind, the question of the present research will be: *which economic, political or structural factors can increase financial stability?*

Of course, from this research question, other sub-questions arise, such as:

Q1: What does "financial stability" mean?

Q2: How can it be quantified?

Q3: Are there significant differences at European level in the financial stability of citizens? If so, what are the causes for such differences?

For the first two sub questions we will undertake a short literature review (also citing one of our previous research projects), while for the third one we will utilize also statistical methodology.

Considering the questions presented above, the main objective in the present research is, in the first instance, to identify and quantify the variable of financial stability (we will try to draw a perspective on this area ourselves, both descriptive and quantifiable) and afterwards, once we have clearly established what we mean in this research by the term "financial stability", our objective will be to present a statistical model on this variable, trying to understand which factors can cause an increase in the financial stability of European citizens.

We also need to consider the following research hypothesis:

H1: There are tangible differences between EU countries in terms of financial stability, differences visible also at regional level

H2: An increase in technological progress can also lead to an increase in financial stability

H3: Increased economic freedom may lead to a higher degree of financial stability

H4: Better infrastructure ultimately leads to increased financial stability

H0: There is no link between an increase in the level of the above-mentioned variables and an increase in financial stability

To test these hypotheses, we will focus on data collection and elaboration (especially for Hypothesis 1) and then, using regression equations with panel data, we will retain which of the hypotheses are valid or, in extremis, whether *Hypothesis 0* is the one that represents reality.

2. LITERATURE REVIEW SUMMARY

Financial stability is a broad area and can be approached from both a macroeconomic and microeconomic perspective. Many authors and financial institutions have tried to deal with this phenomenon and, in this sense, we can present a summary of the different definitions and directions in which this concept is heading, comparing what researchers, financial specialists and various authors affirmed, with the definitions given by financial institutions.

A first definition could be found in the 1960s, when Smythe (1968) considered that the financial stability of a household mainly comprises the relationship between income, expenditures, and the ability to make provisions for handling sudden changes in the household's financial situation. Schinasi (2004**)**, on the other hand, affirmed that financial stability is a broad concept, encompassing different aspects of finance (and the financial system) - infrastructure, institutions and markets. We can therefore observe an initial difference in the approach to this concept, which is also highlighted by the definitions presented by Ramlall and Albulescu.

Ramlall (2018) underlines that financial stability can be defined as an example of how problems in the financial system can affect the economy, while Albulescu (2009) emphasizes that financial stability can be defined as the financial system capacity to carry out appropriately its functions during an undetermined period, by correcting the imbalances frequently occurring in its operational mechanisms. For Mande *et al.* (2020), financial stability (instability) from the perspective of the stock market activity is measured as the 360-day standard deviation of the return on the national stock market index.

We can therefore observe the flexibility that this phenomenon has among different researchers, which, de facto, is also reflected in the definitions offered by the world's main financial institutions and by the National Bank of Romania.

The European Central Bank (2016) considers the concept of financial stability as a synonym for a financial system that can withstand shocks without major disruption, while the Federal Reserve (2024) affirms that a financial system is considered stable when banks, other lenders, and financial markets are able to provide households, communities, and businesses with the financing they need to invest, grow, and participate in a well-functioning economy—and can do so even when hit by adverse events, or "shocks". Broadly speaking, we can affirm that the definitions offered by the two great "titans" of Western finance are relatively similar.

We retain also the World Bank (2016) definition, in where we found that a financial system is in a range of stability when it dissipates financial imbalances that arise endogenously or because of significant adverse and unforeseen events.

For reasons of geographical proximity, we will also take into account the definition given by the National Bank of Romania (Banca Națională a României, 2023): "Financial stability is a global public good, characterised by non-rivalry and non-excludability. This public good cannot be provided exclusively by the market, with the central bank and other state institutions playing an important role in ensuring financial stability. Also, given Romania's open economy nature, a cross-border approach is needed, through policy coordination in this area, to achieve financial stability at national level". A more apt definition of what we wish to undertake in this analysis (how exactly we wish to define financial stability) may instead be as the one we presented in previous research, it being:

"The financial stability of individuals is that ability to achieve an economic status, in their own household, which allows them, firstly, the access to minimum living conditions and, secondly, to financially survive at unforeseen economic circumstances" (Pricop, 2023). In this case, we are talking about a reworking of Smythe's definition and an adaptation to our times, using also the directions opened by all the authors and financial institutions cited above.

3. METHODOLOGY

In the present research we aim, through panel data analysis, to identify the independent variables that may cause a decrease or an increase in the level of financial stability of European citizens. To undertake this objective, however, it is necessary to quantify financial stability in our own terms, the first step being therefore to stipulate an aggregate indicator for calculating financial stability. In our view, a suitable indicator for calculating financial stability would be the following:

$$\text{Financial Stability} = 100 - (\text{Unemployment} + \text{Inability to make ends meet} + \text{Inability to face unexpected financial expenses})/3 \quad (1)$$

For example:

Table 2. Methodology of stipulating the aggregate indicator

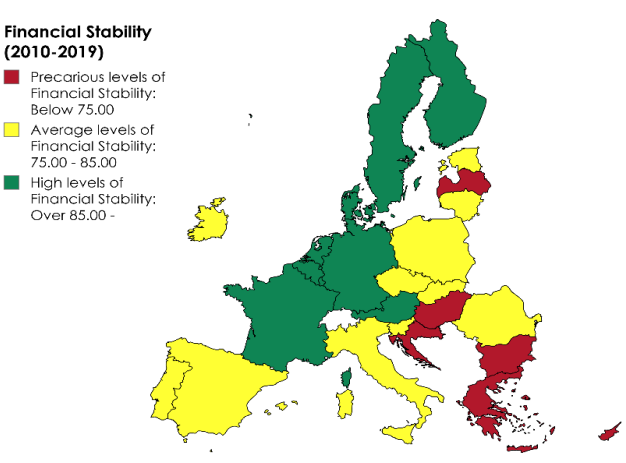
Country	Year	UNP	IMEM	IFUFE	FS Score
Austria	2010	3,4	5,9	25,0	88,6
Czech Republic	2015	3,3	7,8	36,0	84,3
Romania	2019	2,7	12,4	44,3	80,2

Source: own elaboration

The analysis covered 26 of the 27 EU countries, as there was insufficient data for Malta and our preference was to exclude it completely from the research, and the period analysed was between 2010 and 2019. A summary of the evolution of financial stability in the 26 EU countries under analysis can be seen in Figure 1.

When it comes to independent variables, things get a little more complicated because to a greater or lesser extent, everything can influence financial stability. But, to have a more comprehensive approach, we turned to the political and economic institutions, cause the institutions likewise financial stability doesn’t have a proper definition. Institutions in the general sense represent the rules of the game, and organizations are the players (North, 1991). Institutions set the framework for action; the organizations are agents of institutional change. In North D.C.'s conception (1990), institutions represent constraints created by people, to give form to human interaction (North, 2003),

to achieve a goal considered desirable by society, in this case ensuring financial stability (Mușchei, 2021).



Austria	89,64
Belgium	87,26
Bulgaria	70,20
Croatia	70,90
Cyprus	71,17
Czech Republic	84,93
Denmark	88,78
Estonia	83,25
Finland	88,14
France	85,76
Germany	87,81
Greece	68,40
Hungary	72,03
Ireland	77,14
Italy	80,58
Latvia	69,86
Lithuania	76,64
Luxemburg	90,16
Netherlands	89,87
Poland	80,84
Portugal	79,32
Romania	75,54
Slovakia	82,05
Slovenia	81,76
Spain	78,02
Sweden	90,32
European Union	80,78

Source: own elaboration

Figure 1. Financial stability means for the period 2010-2019

These rules are what determine the structure of incentives, which can either encourage human behavior to achieve a goal or discourage/limit this behavior. Most of the time, due to uncertainty in the socio-economic-political environment, unpredictable situations, imperfect information, and the presence of risk, people tend to create institutions, precisely to secure business, exchanges and finally stability in a general sense, even more so, financial stability in a particular sense, especially in our case. Other definitions of institutions can be: institutions represent laws/rules, which reflect codes of behavior that most individuals impose by their own will (Sugden, 1986), institutions are formal rules, compliance procedures and standard modes of operation that structure the relationship between individuals politically and economically (Hall, 1986), contemporaries such as Daron Acemoglu and James Robinson, for example, define institutions as a broad set of arrangements that influence various economic interactions between individuals, including relationships economic, political and social between households, individuals and firms. Institutions are also the rules, regulations, laws and policies that influence economic incentives (Acemoglu, 2008) or institutions are seen as establishing a framework of a structure that reduces uncertainty and promotes efficiency – thus contributing to economic performance (Iwanow, 2008). What is common to the definition of institutions, and which is the subject of the present study is: laws/rules/constraints-that influence human behavior between cooperation or division.

Depending on the criteria for classifying institutions, they can be formal/informal or official/unofficial. According to the field of analysis, institutions can be political, economic or social. In the present analysis, we focused our attention on formal/official institutions, which refer to written rules, adopted by the state, the legislative framework i.e. the laws of a state regarding a certain field, and on economic ones, rules that define the allocation of resources, the production and distribution of goods and services and those rules that shape the economic environment in which companies and individuals act.

Being too general, measuring and quantifying institutions becomes very difficult. Today, to a greater or lesser extent any database means a set of institutions. So, there are a multitude of methodologies for measuring institutions. However, to cover as wide a spectrum as possible of the institutional framework, we focused in this article on two different databases that measure the same rules of the game, from political and economic points of view.

Firstly, we used the database formulated by the "The Global Competitiveness Report". The GCI (Global Competitiveness Indicator) is a composite indicator made up of 12 other indicators, and these 12 indicators in turn are made up of other indicators. In total, there are 103 indicators distributed over 12 pillars. This database is unique and is used by most academic institutions. It measures the economic quality of each state, based largely on productivity (labor and capital), since productivity is the variable that best explains long-term economic growth and development. The GCI 4.0 is a compass for policymakers and other stakeholders: it guides what matters for long-term growth. The quality of the institution is numbered from 1 to 7, (1 – means a very low/bad quality of the institution, and 7 has the best quality).

So, the independent variables are: 1) Institutions, 2) Infrastructure, 3) Macroeconomic stability, 4) Health and primary education, 5) Higher education and training, 6) Goods market efficiency, 7) Labor market efficiency, 8) Financial market development, 9) Technological readiness, 10) Market size, 11) Business sophistication, 12) Innovation. For obvious reasons, we excluded pillar number 4: macroeconomic stability.

Secondly, we also focused our attention on the database from the "Doing business" reports that measure the quality, efficiency and effectiveness of the regulation. Like the Global Competitiveness Report, this Report plays an important role for decision makers, the economic environment, entrepreneurs and society in general. Over time, this report has inspired hundreds of reforms in terms of best practices, and there has even been a certain degree of convergence of best practices that are in favor of business. Without clear, well-established and above all respected rules, modern business cannot exist. Where, for example, the market fails to produce good results, a qualitatively regulated institutional framework can ensure fruitful results. So, this report measures the quality of regulation by measuring a set of 10 main indicators and others derived

from these 10 indicators, we analyzed the following: Starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting minority investors, paying taxes, Trading across borders, enforcing contracts and Resolving insolvency. Many important policy areas are not covered by the Doing Business Report, like the macroeconomic stability, the development of the financial system, the quality of the labor force, the incidence of bribery and corruption and the market size or lack of security.

4. RESULTS AND DATA INTERPRETATION

As mentioned above, we will test, through regression equations, both the variables provided by the World Bank and those in the Global Competitiveness Report. However, it is also necessary to describe the independent variables before undertaking the statistical analysis itself. For our analysis, we selected the following variables:

- **Resolving Insolvency** evaluates the efficiency, cost, outcomes, and recovery rate involved in the process of dealing with commercial insolvencies, along with the robustness of the legal framework that handles such cases. This metric includes two main components: the strength of the insolvency framework index, which looks at the quality of laws governing debtor, creditor, and court interactions, and the recovery rate, which examines the amount recovered by secured creditors, the present value of debts recovered, and the overall success rate of insolvency proceedings.
- **Enforcing Contracts** measures the duration and expense associated with settling a commercial dispute through a local trial court and includes an assessment of the quality of judicial processes. This indicator evaluates if each country has implemented best practices that enhance the efficiency and quality of the court system.
- **Paying Taxes** encompasses the number of payments, time, and total tax and contribution rate necessary for businesses to fulfill tax obligations, including post-filing activities. This indicator includes a wide array of taxes and contributions, such as corporate income tax, social security contributions, property-related taxes, transfer taxes, dividend taxes, waste collection fees, and other minor levies. It transcends traditional definitions of taxation by encompassing all compulsory charges that affect business financial statements, not merely government revenue. This measure reflects the aggregate number of payments, the modes and frequencies of these payments, the filing regularity, and the number of administrative bodies involved. It also tracks changes in the tax obligations and administrative burdens of medium-sized enterprises, focusing on the annual compliance with VAT refunds and tax audits.

- **Infrastructure** is a multifaceted indicator that evaluates the quality and extent of infrastructure, including roads, railways, ports, air transport, electricity supply, and telecommunications. This measure is critical for economies reliant on foundational factors. Comprehensive and efficient infrastructure is essential for economic functionality, enabling entrepreneurs to transport goods and services efficiently and securely, and facilitating workforce mobility. Dependable electricity and a robust telecommunications network are vital for uninterrupted business operations and effective information exchange, thereby enhancing economic productivity and decision-making efficiency.
- **Technological Readiness** examines the availability and adoption of the latest technologies, firm-level technology absorption, foreign direct investment (FDI) and technology transfer, internet usage, broadband subscriptions, internet bandwidth, and mobile broadband subscriptions. This indicator is key for economies driven by efficiency. It measures how effectively an economy adopts existing technologies to boost productivity, with a focus on information and communication technologies (ICTs) used in daily activities and production processes to improve efficiency and foster innovation. The origin of the technology is less important than the ability of firms to access, absorb, and utilize advanced products and designs. FDI plays a significant role in bringing foreign technology, especially in less technologically developed countries.

Considering this, descriptive statistics demonstrates us:

Table 3. Summary statistics of the observed variables

		FSMEAN	ENFCON	PAY TX	RES INS	INFRAS	TEH READ
N	Valid	260	260	260	260	260	260
	Missing	/	/	/	/	/	/
Mean		80.783	58.700	76.479	69.814	5.195	5.182
Median		81.583	67.704	76.470	73.615	5.390	5.145
Std. Deviation		7.919	21.368	17.503	13.832	0.736	0.653
Minimum		61.700	0.000	29.733	43.713	3.200	3.780
Maximum		91.966	85.245	100.00	93.894	6.580	6.500

Source: own elaboration

In the correlation matrix table, we can observe the followings results:

Table 4. The correlation matrix for all the variables

Variable/ Probability	FSMEAN	ENF CON	PAY TX	RES INS	INFRAS	TEH READ
FSMEAN	1.000					
ENF CON	0.355	1.000				
PAY TX	-0.209	0.015	1.000			
RES INS	0.553	0.023	-0.195	1.000		
INFRAS	0.674	0.219	-0.235	0.520	1.000	
TEH READ	0.616	0.436	-0.010	0.405	0.600	1.000

Source: own elaboration

Standard errors are mentioned in parenthesis, significance levels are *** for 1%, ** for 5% and * for 10%, so while performing both random and fixed effects analysis, we retain:

Table 5. Panel data regression estimation of Financial Stability (2010-2019)

	Model 1			Model 2		
Variables	OLS	Random effects	Fixed Effects	OLS	Random effects	Fixed Effects
Observations	260	260	260	260	260	260
Countries	26	26	26	26	26	26
ENF CON	0.065 (0.016) ***	0.057 (0.022) **	0.060 (0.027) **	0.049 (0.017) ***	0.048 (0.023) **	0.052 (0.028) *
PAY TX	-0.035 (0.018) *	0.077 (0.028) ***	0.135 (0.036) ***	-0.046 (0.019) **	0.077 (0.029) ***	0.138 (0.036) ***
RES INS	0.150 (0.027) ***	0.125 (0.034) ***	0.106 (0.039) ***	-	-	-
INFRAS	3.709 (0.595) ***	5.520 (0.510) ***	5.383 (0.548) ***	4.804 (0.590) ***	5.926 (0.506) ***	5.596 (0.549) ***
TEH RED	2.724 (0.679) ***	0.938 (0.480) *	0.809 (0.498)	3.505 (0.700) ***	1.251 (0.479) ***	1.017 (0.499) **
CONSTANT	35.720 (3.236) ***	29.147 (4.473) ***	27.261 (5.255) ***	38.362 (3.375) ***	34.715 (4.298)	32.726 (4.907) ***
ADJ R^2	0.588	0.412	0.873	0.541	0.384	0.870

Source: own elaboration

For Table 6, the probability being 0.0091, fixed effects specification is preferred the random effects

Table 6. Results for the Hausman Test (Model 1)

Correlated Random Effects – Hausman Test			
Equation: Model			
Test cross-section random effects			
Test summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	15.319389	5	0.0091

Source: own elaboration

For Table 7, the probability being 0.0035, fixed effects specification is preferred the random effects

Table 7. Results for the Hausman Test (Model 2)

Correlated Random Effects – Hausman Test			
Equation: Model			
Test cross-section random effects			
Test summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	15.682825	4	0.0035

Source: own elaboration

The analysis of the data performed above shows how both models presented fit with fixed effects. The analysis of the data performed above shows how both models presented fit with fixed effects.

Model 1 is a model in which there are five predictors: Of these, however, only the first four are statistically significant. On the other hand, in the second model presented, we have removed the variable "Resolving Insolvency" and we have observed how, in this case, the last variable presented (i.e. Technological Readiness) also becomes a statistically significant variable.

Therefore, we can explain this phenomenon through the two models.

5. CONCLUSIONS

The present research has shown us, first, how the phenomenon of financial stability is a phenomenon that requires in-depth study, as it is both complex and open to different interpretations. It was necessary to note the various specialist

opinions in the field on this concept and to consider the various areas of extension of the study of such a phenomenon. Then, in turn, we presented our understanding of financial stability, mentioning previous research we had undertaken, where we had laid the theoretical foundations. After answering the first research sub question through the procedure mentioned above, we went on to attempt to answer the other two sub questions, presenting our means of calculating financial stability and the observable differences, at the European Union level, that such a methodology entails. By doing so, we have partially answered the research question which economic, political or structural factors can increase financial stability. To fully answer the research question, it was necessary to undertake a statistical analysis using regression equations with panel data. In doing so, we identified 5 independent variables that can predict increasing or decreasing financial stability: enforcing contracts, paying taxes, resolving insolvency, infrastructure and technological readiness (the first three from the World Bank and the last two from the Global Competitiveness Index).

Therefore, we can say that financial stability can be estimated by both economic and institutional variables.

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