



Economic Insecurity, Inflation and Labour Market Dynamics: A Panel Analysis for EU countries

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Abstract: In the context of the global economic and financial downturns and social and political instability, the concept of economic insecurity has become a major concern for both researchers and policy-makers. Generally defined as the perceived or actual risk of financial instability and the awareness of the inability to address it, the economic insecurity has a great impact on both individual well-being and macroeconomic prosperity. Therefore, the purpose of the present paper is to analyse the impact of inflation and labour market dynamics on the economic insecurity within the European Union (EU) countries. To measure the economic insecurity, we used an index that was previously developed and which takes into account six variables: Inability to afford paying for one-week annual holiday away from home, Inability to face unexpected financial expenses, Children aged 0-17 living in jobless households, Arrears, Housing cost overburden rate and Inability to make ends meet. The analysis was conducted by using three different types of regression: OLS, Fixed Effects and Random Effects, and then it was validated by three types of robustness tests: the first one is regional decomposition, the second one is based on economic insecurity levels and in the third one we added institutional variables. The final results show robustness for six variables: Inflation rate, Household final consumption expenditure, Unemployment for 15-24 and 55-74 and Part-time and Vulnerable employment.

Keywords: economic insecurity; inflation; unemployment; labour market dynamics; European Union.

JEL classification: E24; I30; R20.

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1. INTRODUCTION

The 2007-2008 global economic and financial crisis and the COVID-19 pandemic, which increased the inequality and poverty, brought into light the significance of the economic insecurity, as a crucial aspect of the well-being. Insecurity was generally seen as the anxiety generated by the anticipation of future economic losses and the awareness of one's inability to address them (Rohde and Tang, 2018). The economic dynamics that contribute to this insecurity are complex, but two variables play a particular role: inflation and labour market conditions. Apart from eroding the purchasing power, particularly for low- and middle-income households who often experience the brunt of price increases in essential goods (Blanchard, 2017), inflation increases the economic uncertainty, making it difficult for households to plan their finances and, thus, leading to greater anxiety about their economic futures. In addition, the labour market's response to the external economic shocks, such as the 2007-2008 global crisis and the COVID-19 pandemic, has raised the employment instability and deepened the disparities in wages. All these labour markets' shortcomings, together with the inflationary pressures, create a feedback loop, where the increased economic insecurity exacerbates the labour market volatility (Vasile *et al.*, 2023).

Among the EU states, the structure of the labour markets varies widely, with disparities in job quality, employment stability and wage growth (Kalleberg, 2009). While some countries have relatively robust welfare systems and labour protections, others face higher rates of precarious work, including part-time and temporary employment, which contribute to rising economic insecurity. Furthermore, the external economic shocks, as it was the case of the global financial crisis and of the COVID-19 pandemic, have exacerbated these disparities, affecting labour market stability across the region (Eurofound, 2020).

Despite the significant socio-economic implications of the interaction between economic insecurity, inflation and labour market outcomes, this relationship is underexplored in the context of the European Union (EU) countries. The present paper intends to fill this gap by investigating the impact of inflation and labour market dynamics on the economic insecurity within the EU states. Our analysis includes 26 of the 27 countries of the European Union (Luxembourg was excluded due to the lack of data) and focuses on the period 2014-2022, thus including the years when the 2009 sovereign debt crisis started to affect the European countries (in particular the PIIGS countries) and also the pandemic period. In this study, we will measure the economic insecurity of EU households with the help of an index that was previously developed, which is composed of two main dimensions: Lack of savings and leisure time and Households' predisposition to risk (Pricop and Diaconu (Maxim), 2025).

As independent variables, we considered the following: the compounded and disaggregated unemployment rate (disaggregated into the three age groups of the working population: 15-24, 25-54, and 55-74), the annual inflation rate, the share of part-time jobs in the total share of jobs, job vulnerability and household final consumption expenditure. In order to validate the various statistical models resulting from the interaction of these variables with the composite index of economic insecurity, we use different robustness tests.

The first tests will cover the regional breakdown as presented by Eurovoc (Northern Europe comprising six countries, Western Europe comprising six countries, Central and Eastern Europe comprising eight countries and Southern Europe comprising six countries). The next tests will focus on the division between countries with low and very low levels of economic insecurity (eighteen countries) and those with medium, high or very high levels of

economic insecurity (eight countries). Finally, on the same premises as in the study carried out by [Zouita and Mohamed Salah \(2021\)](#), the baseline model will be tested by adding various institutional variables provided by the World Bank to observe their impact on the model.

The novelty of our study derives precisely from the use of this new index of economic insecurity that was previously developed ([Pricop and Diaconu \(Maxim\), 2025](#)) in relation with the variables reflecting inflation and labour market conditions and, also, by validating the model using various robustness tests.

2. THEORETICAL BACKGROUND AND RESEARCH HYPOTHESES

All the economic, political and social downturns that occurred since the beginning of the 21st century have conducted numerous debates among researchers that tried to quantify and analyse the economic security. Many of these studies attempted to develop theories of economic security and, more than that, to suggest various economic measures that can lead to its enhancement. While some considered economic security to be synonymous with 'resilience' to various attacks that can disrupt the financial system ([Zuleeg, 2023](#)), others argued that it may also mean physical or national security ([McCaffrey and Poitiers, 2024](#)). All these studies have the roots in the classical economic theory according to which the individuals maximize their utility (well-being) based on income and consumption. Therefore, the economic insecurity reduces the disposable income or raises the uncertainty, decreasing, thus, the well-being. Taking into account all these aspects, in the present study we associate the economic security with all the issues encompassed by the well-being of a household ([Hacker et al., 2012](#); [Pricop and Maxim, 2024](#)). Consequently, the opposite of economic security, the economic insecurity, synonymous with poverty and perpetual indebtedness, reduces the life satisfaction ([Diener et al., 1999](#)).

One of the causes the most often associated with poverty is inflation ([Easterly and Fischer, 2001](#)), some authors arguing that an increase in inflation increases the poverty ([Blank and Blinder, 1986](#); [Paul and Sharma, 2019](#)), while others advocating the idea that, de facto, rising inflation corresponds to decreasing poverty rates ([Cutler and Katz, 1991](#); [Headey and Hirvonen, 2023](#)). Another theory is that inflation would not affect those already below the poverty line ([Cardoso, 1992](#)).

All these arguments have to be taken into account in our analysis which we intend to conduct it for the European Union states during 2014-2022, period that can be divided into three interconnected phases: the mitigation of the effects of the economic crisis of 2008-2009, the economic recovery phase and the pandemic era. Thus, a key element of this period for many EU countries is austerity, often associated with a state of fear and insecurity ([Autto et al., 2021](#)). Economic insecurity can be determined based on an index developed in a recent study ([Pricop and Diaconu \(Maxim\), 2025](#)) formulated by means of Principal Components Analysis (with the Kaiser selection criterion) and composed of two dimensions: the first one being "Lack of savings and leisure time" while the second one "Household's predisposition to risk". The names of the two dimensions were derived from the results obtained by PCA, considering that the first dimension (Lack of savings and leisure time) was composed of the variables *Inability to afford paying for one-week annual holiday away from home* and *Inability to face unexpected financial expenses*, while the second (Household's predisposition to risk) was composed of *Children aged 0-17 living in jobless households*, *Housing cost overburden rate*, *Arrears* and *Inability to make ends meet*. The complete formula of the index was:

$$\begin{aligned} \text{Economic insecurity of European households} = & (0.400 \times \text{Inability to afford paying for one-week} \\ & \text{annual holiday away from home} + 0.405 \times \text{Inability to face unexpected financial expenses}) \times \\ & 0.4597 + (-0.410 \times \text{Children aged 0-17 living in jobless households} + 0.515 \times \text{Housing cost} \\ & \text{overburden rate} + 0.450 \times \text{Arrears} + 0.424 \times \text{Inability to make ends meet}) \times 0.1941 \end{aligned}$$

It also can be simplified in:

$$\begin{aligned} \text{Economic insecurity of European households} = & 0.4597 \times \text{Lack of savings and leisure time} + \\ & 0.1941 \times \text{Household's predisposition to risk} \end{aligned}$$

We consider this index appropriate to describe the economic insecurity because it broadly covers much of what we mean by household “insecurity”, namely the lack of savings to enable either survival against unforeseen situations or recreation, but also the structural composition of the household in which we live.

Inflation, on the other hand, fell from 2014 to 2016 due to the austerity policies, which have often been criticized for their impact on citizens' welfare (Dowell-Jones, 2015). However, since 2017, it started to increase again, showing how the shock of the UK's exit from the European Union has had inflationary effects not just for Britons (Breinlich *et al.*, 2017) but also for the European countries. Broadly speaking, however, we can say that the period 2014-2020 (until the pandemic) was one in which citizens gradually enjoyed economic security once again, while on the other hand the European governments had to 'live with' an almost constant but sustainable rise in inflation. Even after the COVID-19 pandemic it was noticed that households perceived the rising inflation as a sign of improving the macroeconomic conditions, which could improve their expectations about labour markets and reduce the perceived insecurity (Coibion *et al.*, 2022). Based on these findings, our first research hypothesis is:

H1: *In periods when inflation has small increases (such as post-crisis years), citizens' economic insecurity tends to reduce.*

Unemployment is also an important phenomenon. What can be noted is that the 'more sensitive' segments of society, such as the young (aged 15-24) or older (aged 55+), tend to be less resilient to unemployment (Eichhorst *et al.*, 2013), being more sensitive to changes in the economic conditions (O'Higgins, 1997; Johnson, 2009). Among the events that have played a key role in spreading youth unemployment we certainly include the 2008 economic and financial crisis, which had devastating effects for the Mediterranean countries (Eichhorst *et al.*, 2013). The 2008 crisis also had particularly important effects for the older population too. Willing to mitigate the disastrous economic effects, many countries resorted to raising the retirement age, directly correlated with the unemployment among the ageing population (Arranz and Garcia-Serrano, 2023). Apart from the 2008 crisis, we can also mention the consequences of the COVID-19 pandemic on the unemployment. According to the EU's *Employment and Social Developments in Europe (ESDE)* report released in 2022, young people were among the most severely impacted by employment losses during the COVID-19 pandemic (EU, 2022). By 2021, youth unemployment remained about 1 percentage point higher than pre-crisis levels. Young people also experienced volatile labour income since almost 46% of young workers were on temporary contracts (EU, 2022). Considering all these aspects, the second hypothesis is:

H2: *Rising unemployment among the more 'sensitive' segments of society (young and elderly) tends to have a greater effect on overall economic insecurity (compared to the 25-54 segment).*

Another aspect that should not be neglected is that of part-time jobs, which often represent a real alternative to the classic "9-17" system for many individuals. Part-time jobs have started to become increasingly common in the Western economic set-up since the 1990s, with broadly positive economic effects and contributing to greater flexibility in the labour market (Buddelmeyer *et al.*, 2004), although it cannot be neglected that there are differences between countries in the dynamics and legislation of part-time jobs (Fagan and O'Reilly, 1998). Other studies argue that part-time jobs have emerged as a solution for married women or to fill a labour shortage niche, a practice that has been more successful in northern European countries than anywhere else on the continent (Smith *et al.*, 1998). Although initially this practice was popularized among females, over the years it has gained popularity among males as well (Buddelmeyer *et al.*, 2004), external constraints on choosing a part-time job playing a key role (Fagan *et al.*, 2014). It must be said that getting a part-time job is not always synonymous with avoiding poverty (Brülle *et al.*, 2019; Vaalavuo and Sirniö, 2022) but this is largely determined by the composition of the household, with part-time jobs being more prevalent in households with more than one employee (Horemans *et al.*, 2016). In recent years we have seen an increase in the number of people using two part-time jobs to avoid poverty, with flexibility being a key factor in choosing such a solution (Scott *et al.*, 2020). Although sometimes the psychological effects of a part-time job, especially a "non-desired" one, may not always be the most positive (Beck *et al.*, 2024), it was also spread the idea according to which a part-time job is still better than no job at all (Walwei, 1998). The increase in the rate of part-time jobs out of all jobs in the labour market does not necessarily mean that full-time jobs have decreased in number, but rather that new part-time jobs have emerged, providing opportunities for those employees who require more flexibility and who are voluntarily engaged in such a contract. It is very important to make this distinction between the voluntary and involuntary part-time jobs, since the last ones may involve lower income, limited social protections and job instability, all these representing factors that exacerbate the economic insecurity. However, in a downturn period, the involuntary part-time jobs seem to prevail. As noticed by Hipp *et al.* (2015), an economic crisis increases the share of involuntary part-time and precarious jobs, especially in weaker labour protection regimes. Between 2008 and 2013, the share of involuntary part-time workers augmented across almost all EU member states, the highest increases being noticed in the Southern Europe (Eurofound, 2018). A study that investigated the poverty risk associated with part-time employment across Europe after 2008 crisis reveals that involuntary part-time workers (those working fewer than 30 hours a week, while seeking more) faced a poverty risk comparable to the unemployed persons (Horemans *et al.*, 2016). This risk proved to be statistically significantly higher than that faced by the full-timers or voluntary part-timers. Another research investigating the labour market instability in the period after COVID-19 shows that the job insecurity generated by the temporary contracts and the part-time jobs is associated with lower well-being and social exclusion, aspects that foster the economic insecurity (Eurofound, 2023). Considering all these aspects, our third hypothesis is:

H3: *Increasing the share of part-time jobs as a share of total jobs in post-crisis periods can increase economic insecurity.*

One of the most debated topics in the area of household economic research is the choice that individuals make between consumption and savings (Krusell and Smith, 2003). Among the most interesting perspectives, we can find that of the economist John Maynard Keynes, according

to which income growth will lead to consumption growth 1936. In contrast, we find the Kuznets paradox stating that consumption growth falls when income increases (Palley, 2008). One explanation for Kuznets' paradox was formulated by Duesenberry (1949), who argued that as consumption increases in a society, households feel the social pressure to also increase their consumption in order to maintain their status. Thus, he stated that people don't just care about how much they consume in absolute terms, but rather how their consumption compares to others', especially to those in their social group or status level. Therefore, even though income rises, the motivation to consume more weakens when there is no relative gain in social status. Duesenberry (1949) also suggested that once a certain standard of living is achieved, people will be more tempted to save the additional income rather than spending it. However, we consider Milton Friedman's approach to be the most comprehensive, as he makes a valid distinction between permanent income (that which the household expects to have most of the time) and transitory income (Friedman, 1957). Parallel to permanent and transitory income, we have permanent and transitory consumption, and the conclusion he assumed is that both permanent and transitory consumption are independent of transitory income and that transitory consumption in any period is independent of permanent income (Parker, 2010). Meanwhile, according to Milton Friedman's permanent income theory (Friedman, 1957), households consume based on their expectations regarding the long-term income stability. A period of monetary expansion leads to transitory increases in income, especially for the early recipients. However, according to Cantillon effect (Cantillon, 1931), in this context many households may be pushed to increase their consumption without a simultaneous rise in permanent income. This disconnection can lead to greater economic insecurity, as families face rising costs and unstable financial planning.

Taking into account that the index used to determine economic insecurity has a "Lack of savings and leisure time" component, we will tend to consider that consumption growth in times of material deprivation, as it was the period that followed the 2009 crisis and the COVID-19 crisis, can be positively correlated to economic insecurity, thus formulating hypothesis 4:

H4: *Households consumption growth in times of material deprivation increases economic insecurity.*

The economic crises that occurred in the beginning of the 21st century and the subsequent political reforms focused on employment flexibilization increased the use of non-standard employment (Bosmans *et al.*, 2023), which involves work arrangements that lack security, benefits, regular hours, or long-term stability. Therefore, they may be considered vulnerable employment which, due to poor quality, uncertain and low-return employment, usually fails to reduce the poverty (Yerrabati, 2022). Starting from the definition offered by World Bank to vulnerable employment (see Table 1), the ILO (2018) argues that citizens in vulnerable employment (own account workers and contributing family workers) are more prone to have informal work arrangements and less likely to have social security coverage and to benefit from social dialogue (ILO, 2018). A study conducted on households from Spain and Portugal found that employed adults lacking secure jobs faced a significantly higher risk of material deprivation (Pérez-Corral *et al.*, 2023). This effect increased in the period after 2008 crisis and in the aftermath of COVID-19. Based on these previous findings, we expect a positive correlation between job vulnerability and economic insecurity and, thus, the hypothesis 5 is:

H5: *Job vulnerability increases economic insecurity.*

3. METHODOLOGY

Table no. 1 shows the variables used, their description and their function.

Table no. 1 – Variables description

Variable	Description	Source	Function
Economic Insecurity Index	Aggregate bi-dimensional index on the economic security of European Citizens	(Pricop and Diaconu (Maxim), 2025)	Dependent
Inflation Rate	It is based on annual fluctuations in HICP (Harmonised indices of consumer prices)	Eurostat (2025a)	Independent
Unemployment	Unemployment rates represent unemployed persons as a percentage of the labour force. It can be divided in three age categories: 15-24, 25-54 and 55-74.	Eurostat (2025b)	Independent
HFCE (Household final consumption expenditure)	Is the market value of all goods and services, including durable products (such as cars, washing machines, and home computers), purchased by households. It excludes purchases of dwellings but includes imputed rent for owner-occupied dwellings.	WB (2025a)	Independent
Part time employment (% total employment)	Part time employment refers to regular employment in which working time is substantially less than normal. Definitions of part time employment differ by country.	WB (2025b)	Independent
Vulnerable employment (% total employment)	Vulnerable employment is contributing family workers and own-account workers as a percentage of total employment.	WB (2025b)	Independent
Control of corruption	Control of corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.	WB (2025c)	Independent (for robustness only)
Government effectiveness	Government effectiveness captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.	WB (2025c)	Independent (for robustness only)
Regulatory quality	Regulatory quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.	WB (2025c)	Independent (for robustness only)
Rule of Law	Rule of law captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.	WB (2025c)	Independent (for robustness only)

Variable	Description	Source	Function
Voice and accountability	Voice and accountability captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.	WB (2025c)	Independent (for robustness only)

Source: own elaboration

Based on the data and variations in economic insecurity, we can divide the statistical models into at least four variants. In the first variant we could use the 15-24 age group exclusively.

$$E_{iit} = \alpha + \beta_1 HFCE_{it} + \beta_2 INF_{it} + \beta_3 PTE_{it} + \beta_4 VE_{it} + \beta_5 UNMP15-24_{it} + u \quad (1)$$

For the second variant we exclude, among the independent variables, Unemployment 15-24 and replace it with Unemployment 25-54.

$$E_{iit} = \alpha + \beta_1 HFCE_{it} + \beta_2 INF_{it} + \beta_3 PTE_{it} + \beta_4 VE_{it} + \beta_5 UNMP25-54_{it} + u \quad (2)$$

For the third variant we will use the last age category available to us in the Eurostat: 55-74.

$$E_{iit} = \alpha + \beta_1 HFCE_{it} + \beta_2 INF_{it} + \beta_3 PTE_{it} + \beta_4 VE_{it} + \beta_5 UNMP55-74_{it} + u \quad (3)$$

In the latter model, however, we no longer differentiate by age but simply use the unemployment rate for the whole working population.

$$E_{iit} = \alpha + \beta_1 HFCE_{it} + \beta_2 INF_{it} + \beta_3 PTE_{it} + \beta_4 VE_{it} + \beta_5 UNMP_{it} + u \quad (4)$$

The models presented above will be tested in Table no. 4 using OLS, Random Effects and Fixed Effects regression equations. Until then, we need to statistically describe the variables (Table no. 2) and also to present the correlation matrix (Table no. 3).

Table no. 2 – Descriptive statistics

Variable	Mean	Median	Min	Max	SD
EC. INS.	14.71	13.96	5.85	30.89	6.21
HFCE	53.80	54.08	23.62	69.53	8.37
INF	2.21	1.20	-1.60	19.40	3.51
PT JOBS	32.31	30.31	9.47	60.52	10.91
VU EMP	11.56	10.94	4.77	30.93	4.97
UN 15-24	19.05	17.10	5.60	53.20	9.77
UN 25-54	7.09	6.00	1.80	26.10	4.12
UN 55-74	5.97	5.10	1.30	19.40	3.42
UN	7.87	6.80	2.00	26.60	4.25

Source: own elaboration

Table no. 3 – Correlation matrix

	EC INS	HFCE	INF	PT JOBS	VU EMP	UN 15-24	UN 25-54	UN 55-74	UN
EC INS	1.00								
HFCE	0.624	1.00							
INF	-0.204	-0.052	1.00						
PT JOBS	-0.696	-0.545	-0.047	1.00					
VU EMP	0.513	0.414	-0.078	-0.283	1.00				
UN 15-24	0.605	0.529	-0.271	-0.211	0.496	1.00			
UN 25-54	0.610	0.519	-0.314	-0.181	0.428	0.919	1.00		
UN 55-74	0.542	0.475	-0.306	-0.145	0.309	0.814	0.930	1.00	
UN	0.588	0.492	-0.326	-0.141	0.415	0.932	0.994	0.943	1.00

Source: own elaboration

4. RESULTS AND DISCUSSIONS

As mentioned in the previous paragraph, we proceed with testing various models (with different unemployment variables), by using OLS, REM and FEM regressions. Finally, we will select the model that we consider the most appropriate to explain the economic insecurity variable.

Table no. 4 – Regression equations with OLS, RE and FE

Variable	OLS Model	REM Model	FEM Model
HFCE	0.057 (0.035)	0.302 (0.050) ***	0.407 (0.060) ***
Inflation	-0.214 (0.062) ***	-0.162 (0.033) ***	-0.153 (0.034) ***
Part time employment	-0.311 (0.023) ***	-0.148 (0.036) ***	-0.102 (0.046) **
Vulnerable employment	0.182 (0.050) ***	0.208 (0.099) **	0.264 (0.149) *
Unemployment 15-24	0.218 (0.028) ***	0.245 (0.029) ***	0.246 (0.034) ***
Constant	15.884 (2.227) ***	-3.509 (3.160)	-11.321 (3.646) ***
Adj R	0.730	0.621	0.931
Observations	234	234	234
Hausman test			19.88 (0.0013)
Variable	OLS Model	REM Model	FEM Model
HFCE	0.033 (0.034)	0.264 (0.049) ***	0.354 (0.060) ***
Inflation	-0.166 (0.061) ***	-0.123 (0.034) ***	-0.118 (0.034) ***
Part time employment	-0.319 (0.022) ***	-0.146 (0.035) ***	-0.074 (0.045)
Vulnerable employment	0.202 (0.046) ***	0.187 (0.095) *	0.141 (0.153)
Unemployment 25-54	0.582 (0.064) ***	0.632 (0.069) ***	0.662 (0.084) ***
Constant	17.099 (2.153) ***	-1.136 (3.112)	-8.024 (3.665) **
Adj R	0.752	0.639	0.934
Observations	234	234	234
Hausman test			19.46 (0.0016)
Variable	OLS Model	REM Model	FEM Model
HFCE	0.052 (0.034)	0.263 (0.050) ***	0.344 (0.061) ***
Inflation	-0.193 (0.063) ***	-0.135 (0.033) ***	-0.131 (0.034) ***
Part time employment	-0.315 (0.023) ***	-0.145 (0.035) ***	-0.086 (0.045) *
Vulnerable employment	0.270 (0.046) ***	0.325 (0.091) ***	0.378 (0.136) ***
Unemployment 55-74	0.594 (0.074) ***	0.636 (0.070) ***	0.631 (0.080) ***
Constant	15.847 (2.201) ***	-2.047 (3.123)	-8.857 (3.634) **
Adj R	0.735	0.638	0.934
Observations	234	234	234
Hausman test			18.24 (0.0027)

Variable	OLS Model	REM Model	FEM Model
HFCE	0.035 (0.033)	0.265 (0.049) ***	0.345 (0.059) ***
Inflation	-0.158 (0.061) **	-0.121 (0.033) ***	-0.177 (0.033) ***
Part time employment	-0.326 (0.022) ***	-0.145 (0.034) ***	-0.066 (0.045)
Vulnerable employment	0.203 (0.046) ***	0.182 (0.094) *	0.111 (0.150)
Unemployment total	0.564 (0.061) ***	0.598 (0.062) ***	0.634 (0.075) ***
Constant	16.907 (2.137) ***	-1.392 (3.071)	-7.722 (3.602) **
Adj R	0.754	0.648	0.936
Observations	234	234	234
Hausman test			19.64 (0.0015)

Notes: Significance levels are *** for 1%, ** for 5% and * for 10%

Source: own elaboration using EViews 12 SV

The results of the various regression equations show that, based on the fixed-effects models, youth unemployment (15-24) and elderly unemployment (55-74) are better fitted to the general model than general unemployment or middle-aged unemployment (25-54), since we want a model in which all variables are significant (in the 25-54 unemployment model, the variables related to part-time and vulnerable jobs lose statistical significance, a case that is replicated for general unemployment). For this reason, in order to obtain a final model in which all variables are statistically significant, we formulate a joint model for ages 15-24 and 55-74, in the following form:

$$Elit = \alpha + \beta_1 HFCEit + \beta_2 INFit + \beta_3 PTEit + \beta_4 VEit + \beta_5 UNMP15-24it + \beta_6 UNMP55-74it + u \quad (5)$$

The final variant of the model that we propose is the fixed effects model (so urges the Hausman test) that can be seen in [Table no. 5](#), thus merging the two extremes of the age groups in terms of unemployment into the model.

Table no. 5– Final selected models

Variable	OLS Model	REM Model	FEM Model
HFCE	0.037 (0.034)	0.267 (0.050) ***	0.350 (0.060) ***
Inflation	-0.180 (0.062) ***	-0.131 (0.033) ***	-0.127 (0.033) ***
Part time employment	-0.317 (0.022) ***	-0.141 (0.035) ***	-0.081 (0.044) *
Vulnerable employment	0.217 (0.050) ***	0.238 (0.098) **	0.240 (0.145) *
Unemployment 15-24	0.113 (0.041) ***	0.110 (0.043) **	0.119 (0.046) **
Unemployment 55-74	0.375 (0.108) ***	0.439 (0.103) ***	0.429 (0.111) ***
Constant	16.466 (2.181) ***	-2.301 (3.110)	-8.852 (3.584) **
Adj R	0.742	0.646	0.935
Observations	234	234	234
Hausman test			18.05 (0.0061)

Notes: Significance levels are *** for 1%, ** for 5% and * for 10%

Source: own elaboration using EViews 12 SV

Hypothesis 1 (In periods when inflation has small increases (such as post-crisis years), citizens' economic insecurity tends to reduce) is confirmed by the presented model, albeit to an extremely small extent since the effect is only -0.127. Inflation can sometimes be synonymous with poverty reduction (Cutler and Katz, 1991; Headey and Hirvonen, 2023),

but only if, we tend to argue, it is sustainable (such as the 2% rate that the European Central Bank is advocating). The same discourse cannot be applied to [Hypothesis 3](#) (Increasing the share of part-time jobs as a share of total jobs in post-crisis periods can increase economic insecurity), considering that the hypothesis is not confirmed (having a low negative correlation of -0.081). Also, the variable part-time jobs have, in the final model, a very low significance (close to the 0.10 cutoff) compared to the other variables. Therefore, we may argue that part-time jobs can be a temporary solution to combat economic insecurity but this very much depends on the household structure ([Horemans et al., 2016](#)) and on the voluntary or involuntary characteristic of the part-time job ([Horemans et al., 2016](#)). Thus, we reiterate that only in some cases a part-time job can be a solution, when the other option would be the complete lack of the job ([Walwei, 1998](#)). Also, considering that the correlation is not a stronger one, we could also relate on the opposite idea, according to which part-time jobs may undermine income's stability, since they involve little or no wage progression, limited or no fringe benefits and little control over work activities or schedules, making them precarious and insecure ([Kalleberg, 2011](#)). Moreover, due to these aspects, the households become more vulnerable to external shocks ([Kalleberg, 2009](#)).

[Hypotheses 2 and 5](#) are confirmed, taking into account the fact that, indeed, unemployment among the most vulnerable segments of society tends to play a major role in generating economic insecurity (with the mention that we consider the final regression model, in which all independent variables utilized are statistically significant). Both the young persons (due to inexperience) and the elderly ones (due to physical capabilities) tend to have a low resilience in such a case, being prone to longer periods of unemployment ([Eichhorst et al., 2013](#)). On the other hand, we observe how more vulnerable jobs may imply a greater predisposition towards economic insecurity. Our results are in line the findings of previous studies that concluded that workers in vulnerable jobs face various challenges, from employment and financial instability to marginal status, which heighten the susceptibility to economic insecurity ([Vanroelen et al., 2024](#)) and undermine their well-being ([Irvine and Rose, 2022](#)).

Regarding [Hypothesis 4](#), we will reject the Kuznets paradox and consider the [Duesenberry \(1949\)](#)'s relative income theory to be more appropriate for our analysis, as we observe a positive correlation between consumption growth, probably because of the social pressure, and increased economic insecurity (as European citizens tend to diminish savings in this way). As people adjusted their lifestyles upward, they became locked into consumption patterns they could not easily reverse, further deepening the debt dependency. On the other hand, we admit that this analysis could also be explained by Milton Friedman's theory, given that the uncertainty-filled period of the study (2014-2022) was targeted by a negligible volatility of European household incomes.

Since the Hausman test shows that the fixed effects model is preferable to the random effects model, we propose, subsequently, three robustness tests. The first test, presented in [Table no. 6](#), concerns the regional decomposition on the Eurovoc model. The second test, visible in [Table no. 7](#), aims at differentiating countries between those with a very low or low degree of economic insecurity from those with a medium, high or very high degree.

The last test, following the study of [Zouita and Mohamed Salah \(2021\)](#), aims to introduce institutional variables to observe whether there are major changes in the baseline model.

Table no. 6 – Robustness test excluding various EU regions

W/o Western Europe	OLS Model	REM Model	FEM Model
HFCE	0.215 (0.051) ***	0.312 (0.068) ***	0.365 (0.080) ***
Inflation	-0.225 (0.063) ***	-0.167 (0.037) ***	-0.161 (0.038) ***
Part time employment	-0.349 (0.030) ***	-0.233 (0.047) ***	-0.183 (0.060) ***
Vulnerable employment	0.045 (0.055)	0.141 (0.106)	0.205 (0.161)
Unemployment 15-24	0.210 (0.046) ***	0.133 (0.049) ***	0.125 (0.052) **
Unemployment 55-74	0.062 (0.115)	0.375 (0.119) ***	0.405 (0.127) ***
Number of countries	20	20	20
Adj. R-Squared	0.775	0.678	0.930
Hausman Test		7.15 (0.3067)	
W/o Eastern and Central Europe	OLS Model	REM Model	FEM Model
HFCE	0.055 (0.029) *	0.353 (0.040) ***	0.466 (0.048) ***
Inflation	-0.143 (0.062) **	-0.065 (0.029) **	-0.060 (0.030) **
Part time employment	-0.296 (0.025) ***	-0.054 (0.031) *	-0.005 (0.036)
Vulnerable employment	0.551 (0.058) ***	0.303 (0.108) ***	0.121 (0.169)
Unemployment 15-24	-0.036 (0.037)	0.026 (0.037)	0.053 (0.040)
Unemployment 55-74	0.394 (0.101) ***	0.393 (0.084) ***	0.360 (0.090) ***
Number of countries	18	18	18
Adj. R-Squared	0.819	0.695	0.964
Hausman Test		37.06 (0.0000)	
W/o Northern Europe	OLS Model	REM Model	FEM Model
HFCE	0.035 (0.039)	0.249 (0.057) ***	0.307 (0.068) ***
Inflation	-0.200 (0.085) **	-0.138 (0.044) ***	-0.131 (0.044) ***
Part time employment	-0.297 (0.027) ***	-0.091 (0.041) **	-0.034 (0.049)
Vulnerable employment	0.170 (0.058) ***	0.192 (0.114) *	0.169 (0.154)
Unemployment 15-24	0.134 (0.051) **	0.146 (0.050) ***	0.159 (0.053) ***
Unemployment 55-74	0.349 (0.130) ***	0.400 (0.115) ***	0.369 (0.122) ***
Number of countries	20	20	20
Adj. R-Squared	0.709	0.657	0.933
Hausman Test		12.51 (0.0514)	
W/o Southern Europe	OLS Model	REM Model	FEM Model
HFCE	-0.073 (0.038) *	0.203 (0.059) ***	0.293 (0.073) ***
Inflation	-0.134 (0.065) **	-0.111 (0.037) ***	-0.110 (0.037) ***
Part time employment	-0.357 (0.023) ***	-0.169 (0.039) ***	-0.116 (0.054) **
Vulnerable employment	0.146 (0.057) **	0.370 (0.113) ***	0.511 (0.171) ***
Unemployment 15-24	0.153 (0.050) ***	0.099 (0.056) *	0.076 (0.061)
Unemployment 55-74	0.550 (0.164) ***	0.725 (0.154) ***	0.735 (0.166) ***
Number of countries	20	20	20
Adj. R-Squared	0.738	0.630	0.923
Hausman Test		17.39 (0.0079)	

Notes: Significance levels are *** for 1%, ** for 5% and * for 10%

Source: own elaboration using EViews 12 SV

Following the robustness test carried out on regional premises, we can note several interesting aspects. First of all, the effect of the independent variables remains unchanged regardless of the excluded region, which confirms the robustness of the model. Secondly, we observe how excluding from Central and Eastern Europe countries the share of part-time jobs

becomes almost insignificant (only -0.005), showing how relevant such jobs are in this part of Europe. It can even be argued that, in order to increase the economic security, they have now become more relevant in Central and Eastern Europe than in Northern Europe, as they were originally (Smith *et al.*, 1998), although the exclusion of Northern European countries also has a significant impact on the role of part-time jobs. Moreover, inflation seems to be quasi-irrelevant, if we exclude Central and Eastern Europe, since, in the short run, it led to an increase in consumption and, thus, in the economic growth. However, the short-term positive effects of inflation in these contexts may hide deeper distributional dynamics, especially if we consider the Cantillon (1931) effect, according to which inflation disproportionately advantages the early recipients of new money. Moreover, limiting our analysis to consumer price indices overlooks parallel trends in asset price inflation, debt accumulation and relative income pressures, all of which contribute to increased economic insecurity, despite the illusion of prosperity. We can also note how unemployment among the 55-74 age group obtains a relatively higher correlation if the Southern European countries are excluded, emphasizing how, for the other age groups, it plays a greater role in the link between unemployment and economic security (perhaps even the 15-24 category, given that excluding Southern Europe it remains with a correlation of only 0.076). Also, excluding the Mediterranean area, Vulnerable employment reaches 0.511, demonstrating that job vulnerability does not play a major role in economic insecurity in that region.

On the other hand, excluding Western Europe, the results remain almost unchanged, showing how these countries follow, more or less, the same trend. Next, in Table no. 7, we proceed with the differentiation based on the economic insecurity.

Table no. 7 – Robustness test based on economic insecurity levels

W/o Low E.I. countries	OLS Model	REM Model	FEM Model
HFCE	0.239 (0.111) **	0.240 (0.181)	0.256 (0.196)
Inflation	-0.391 (0.116) ***	-0.232 (0.081) ***	-0.222 (0.082) ***
Part time employment	-0.179 (0.061) ***	-0.240 (0.109) **	-0.216 (0.125) *
Vulnerable employment	0.124 (0.101)	0.115 (0.199)	0.109 (0.256)
Unemployment 15-24	0.201 (0.108) *	0.136 (0.108)	0.133 (0.111)
Unemployment 55-74	-0.294 (0.247)	0.317 (0.268)	0.357 (0.277)
Number of countries	8	8	8
Adj. R-Squared	0.514	0.602	0.799
Hausman Test		2.06 (0.9134)	
W/o Medium-High E.I. countries	OLS Model	REM Model	FEM Model
HFCE	-0.032 (0.026)	0.218 (0.040) ***	0.350 (0.052) ***
Inflation	-0.110 (0.053) **	-0.089 (0.031) ***	-0.084 (0.031) ***
Part time employment	-0.232 (0.020) ***	-0.076 (0.030) **	-0.052 (0.039)
Vulnerable employment	0.248 (0.056) ***	0.424 (0.117) ***	0.575 (0.202) ***
Unemployment 15-24	0.073 (0.032) **	0.086 (0.038) **	0.097 (0.044) **
Unemployment 55-74	0.653 (0.111) ***	0.574 (0.097) ***	0.487 (0.105) ***
Number of countries	18	18	18
Adj. R-Squared	0.690	0.650	0.908
Hausman Test		33.88 (0.0000)	

Notes: Significance levels are *** for 1%, ** for 5% and * for 10%

Source: own elaboration using EViews 12 SV

Differentiation by economic insecurity scores (Pricop and Diaconu (Maxim), 2025) also yields interesting results. Excluding countries with a medium or high degree of economic insecurity (Latvia, Bulgaria, Croatia, Croatia, Hungary, Cyprus, Spain, Romania and Greece), we observe how part-time jobs and inflation lose importance, showing how they are a good antidote to increasing economic insecurity for countries in distress (we reiterate that we are talking about sustainable inflation, synonymous with a period of economic growth). Vulnerable employment and unemployment 55-74 also increase if countries with a higher degree of economic insecurity are removed from the model, demonstrating how such variables have a greater impact in countries where households enjoy more security.

Table no. 8 – Robustness test with institutional variables

Variable	OLS Model	REM Model	FEM Model
HFCE	0.033 (0.033)	0.288 (0.048) ***	0.409 (0.062) ***
Inflation	-0.200 (0.058) ***	-0.126 (0.032) ***	-0.122 (0.032) ***
Part time employment	-0.161 (0.037) ***	-0.110 (0.038) ***	-0.067 (0.043)
Vulnerable employment	0.203 (0.054) ***	0.224 (0.099) **	0.440 (0.148) ***
Unemployment 15-24	0.047 (0.045)	0.113 (0.041) ***	0.114 (0.045) **
Unemployment 55-74	0.521 (0.114) ***	0.471 (0.100) ***	0.417 (0.106) ***
Control of corruption	1.620 (0.970) *	-1.333 (0.938)	-1.639 (1.028)
Government effectiveness	0.495 (1.504)	-0.648 (1.040)	-1.089 (1.115)
Regulatory quality	0.478 (1.175)	1.219 (0.996)	0.871 (1.050)
Rule of Law	-3.396 (1.444) **	-3.342 (1.227) ***	-4.417 (1.392) ***
Voice and accountability	-5.352 (1.847) ***	6.261 (1.673) ***	10.558 (1.888) ***
Constant	18.875 (2.404) ***	-7.158 (3.267) **	-19.617 (3.837) ***
Adj R	0.777	0.665	0.944
Observations	234	234	234
Hausman test			43.38 (0.0000)

Notes: Significance levels are *** for 1%, ** for 5% and * for 10%

Source: own elaboration using EViews 12 SV

We consider the introduction of institutional variables necessary to test the robustness of the basic model and, moreover, to capture the relationship between the quality of institutions and the economic sector, which are often closely correlated. Broadly speaking, the model remains stable, but we can also note two new significant correlations: a negative one with Rule of Law, which shows us exactly how poverty can be fought by transparent and functional legal frameworks (Dessie, 2014; Chirwa *et al.*, 2020), and another one with extremely positive with Voice and Accountability, which leads us to believe that citizens tend to be much more vocal in times of economic insecurity, through protests and such other manifestations (Kriesi *et al.*, 2020).

Previous robustness tests confirm the main model, with small variations in the impact that some variables have.

5. CONCLUSIONS

The analysis carried out in this research was focused on, two major dimensions of the economic insecurity: *Lack of savings and leisure time* and *Household's predisposition to risk*. These two dimensions were chosen because they capture both the material and psychological aspects of insecurity: chronic time and financial constraints together with a deeper structural

pressures rather than personal choice. Therefore, these two variables reveal not only the immediate vulnerabilities, but also the long-term exposure to instability, making them relevant for understanding how households experience and adapt to economic uncertainty.

We considered the index to be both comprehensive and relevant and, thus, we proceeded with the testing of various independent variables, including Inflation, Household final consumption expenditure, Part time employment, Vulnerable employment and Unemployment divided into various age categories (15-24, 25-54 and 55-74). The result of the statistical analysis, which involved OLS, Random Effects and Fixed Effects regressions and had a total of 234 observations (26 countries and 9 years), proposed a model with six variables. The statistical results allowed us to confirm three of the five hypotheses developed based on the literature review (the other two being only partially confirmed).


First of all, we observed how a slight increase in inflation (which, sometimes, as it was in our case, can be synonymous with periods of post-crisis economic growth) can lead to a decrease in economic insecurity (recall that among the index's variables we also find a negative correlation with children in jobless households, which could also imply financial contributions from the state). The hypothesis that is not confirmed is the third one (regarding part-time jobs), as the correlation is showing the opposite (even not being a strong one). On the other hand, the variables with a stronger correlation are Household final consumption expenditure (since we have argued that the consumption-saving dichotomy is still a relevant one) or Vulnerable employment, since it is self-evident that job vulnerability restricts the horizons of economic security. Hypothesis 2 is confirmed, underlying that the more vulnerable segments of the society (the young and the elderly persons), once unemployed, would have lower resilience, which would force them to remain in this state, thus causing an increase in the economic insecurity.

Subsequently, we undertook a regional and then economic decomposition to test the robustness of the model. In both cases, the model proved to be robust, with small differences. As for the differentiation between low/high economic insecurity countries, we can say that the model retains its significance especially among the low economic insecurity countries, and vulnerable employment increases its correlation in this case. On the other hand, the addition of the institutional variables does not lead to a change in the correlations of the model, but adds two new correlations, a negative one with the rule of law and a positive one with voice and accountability.

In conclusion, we can state that the presented model, validated by the robustness tests, comprehensively explains the phenomenon of the economic insecurity, showing how inflation, household consumption and various labour market dynamics play an essential role in shaping it. We also state how both the used index and the regression models can be improved.

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