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Sustainability and Employability in the Time of COVID-19. Youth, Education and Entrepreneurship in EU Countries

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Abstract: This paper aims to identify several changes in the labor market structure in COVID-19 pandemic times. The context of the research is represented by the influence of the COVID-19 pandemic in the economic field, especially at the labor market level. This difficult situation could generate a negative impact in the sphere of traditional jobs and economic sectors. The main challenge for sustainable development in this new global situation is represented by human sustainability. Related to human sustainability, we emphasized the role played by the labor market and employability in mantling an optimal function at the social and economic level. For measuring the impact of the COVID-19 pandemic in the economic sphere, we used a quantitative design based on descriptive and inferential statistics. The research variables are represented by unemployment rates in the EU-28, employability rates, educational levels, gender, economic growth, labor mobility, material deprivation, economic freedom, and human development indicators. Empirical findings present the situation of a deep economic crisis generated by economic degrowth and by high levels of unemployment rates in the EU-28. Moreover, we have observed several predictors of employability in the new pandemic context as: material deprivation by age (in the field of young people), employment rate by education (tertiary education), and economic freedom. Another important finding is related to the gender perspective. Statistical correlations estimate a positive linear correlation between gender (women) and low rates of employability in the EU-28. All these empirical results could prove valuable for scholars interested in the relations between employability and sustainability and for political decision makers involved in the effort of reducing the negative effects of the COVID-19 pandemic within national and trans-national economic systems.

Keywords: sustainability; employability; COVID-19 pandemic; gender; social inequalities; education level



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1. Introduction

This paper presents the socio-economic framework related to the labor market in EU countries in the context of the COVID-19 pandemic. The COVID-19 pandemic determined imbalances both at social and economic levels. All these imbalances are influenced by political decisions for conserving public health and controlling the spread of the virus. In practice, scholars from different fields have identified social, economic, and psychological effects related to social isolation and distancing. The greatest part of scientific studies related to the social and psychological impact of social restrictions derive from the field of medical sciences [1,2]. Scholars from this field of research have analyzed systematically the impact of the pandemic on the physical and mental health of the population. From a social point of view, the COVID-19 pandemic has generated social anxiety and alienation [3–5].

Beyond the psycho-sociological aspects, this paper aims to identify the consequences of the COVID-19 pandemic in the fields of sustainable development and the labor market [6].

This paper aims to create an analytical framework for understanding the dynamics of employability in the EU-28 in the first two years of the COVID-19 pandemic. The introductory section is structured in two main parts which present the context of the research (economic systems in times of COVID-19) and the implications of the economic crisis for sustainable development. In this respect, we use a brief literature review related to the impact of the COVID-19 pandemic in socio-economic systems. Beyond this theoretical framework, we are interested in observing the main theoretical challenges related to economic dynamics and human sustainability. For defining and analyzing human sustainability, we use the theoretical background related to sustainability issues, aiming to emphasize the importance of individuals in the sphere of economic processes. The article aims to use a quantitative design for measuring the importance of education, entrepreneurship, and gender within the sphere of employability. Moreover, we use a comparative case study among EU-28 countries in a long-term statistical series.

1.1. Economic Systems in the Time of the COVID-19 Pandemic: A Brief Literature Review

Beyond the pressure put on the medical system, the COVID-19 pandemic produced structural changes with regards to the global economy, social dynamics, and public policies in all types of democratic or non-democratic political systems. In this context, the economic dimension was negatively affected by social restrictions and government policies. The economy was affected at micro and macro levels regarding consumption, the dynamics of the different types of markets, the equilibrium between demand and supply, business freedom, and the pace of the international trade of goods. Taking into account this complicated context, we aim to create a comprehensive analytical framework for understanding the impact of the pandemic at the socio-economic level, emphasizing the role played by the fluctuations of the labor market within the process. The main feature of the economic frame in the time of COVID-19 is “uncertainty”. The new challenges and changes both in national and international economies could be characterized by “uncertainty economy” and by a severe economic depression similar to the Great Depression (1929–1933) or to the Great Recession (2008–2012) [7]. Although the magnitude of the stock market volatility and certain financial aspects are similar to the indicators of the Global Financial Crisis (2007–2008), in practice “the unprecedented scale and nature of the COVID-19 crisis helps explain why it has generated such an extraordinary surge in economic uncertainty. It remains to be seen which uncertainty measures will prove most useful in explaining economic developments during and after the COVID-19 pandemic” [7] (p. 9). Social distancing, self-quarantine, and self-isolation [8], produced severe disequilibrium in the labor market in most parts of the socio-economic system. In practice, as far as public health strategy is concerned, these elements are seen as an optimal response for controlling the evolution of the pandemic. Long-term government responses should be more coherent for producing economic effects and creating opportunities for international cooperation in both the economic and health sectors [9–11].

The COVID-19 pandemic has determined negative effects in the sphere of the environmental economy. Several academic studies have stressed the role played by economic tools for controlling environmental issues during and after pandemic times [12]. We mention this environmental effect, taking into account the fact that the international socio-economic system could be seen as a complex puzzle, with high degrees of interactions between parts, including all the significant sectors of society. In this respect, “due to the very high degrees of interconnectiveness and specialization of productive activities, a breakdown in the supply chains and the circular flows will have cascading effects” [13] (p. 1018). It seems that in most political systems, governments have adopted protectionist economic policies to counteract negative economic growth, and increased levels of inflation and unemployment rates in a very fragile global context. This kind of public policy might be involved in creating a great delay in economic and social recovery [14].

Although many academic studies reveal a negative shock in the economic systems produced by governments' announcements regarding social distancing and "lock-down" measures, in practice it is very difficult to quantify the real impact of this political strategy [15]. Starting from current statistical data we can estimate only the economic impact upon different age categories [16]. This impact could be analyzed in terms of social costs or economic effects related to unemployment rates and job vacancies. The real impact is observable in the increasing rates of social poverty and material deprivation. At the global level, empirical findings reflect an increased rate of poverty in 2020 produced by economic turbulence associated with the COVID-19 pandemic [17]. Various types of material deprivation and poverty are related to psycho-sociological factors [18] and social and sustainable development [19]. From this point of view, we have to mention the fact that in emergent and stable economies, we witness to the deterioration of the financial and monetary markets. Starting from the beginning of March 2020, the US, France, Germany, the UK, the EU, and China have registered negative evolutions in their credit systems and increasing rates of governmental debt [19]. As UNDP (United Nations Development Program) analysis emphasized in 2019–2020, the restrictions on economic activity and the new forms of "teleworking" are related to low rates of performance and economic efficiency [19]. Studies based on econometric simulation through quantitative data estimate low rates of economic recovery [20]. In this context, one could argue that economic and governmental actors need to act together to reduce the "noise" and the turbulences induced within the economic system. "In terms of economics, controlling labor market impurities and backward support to industries and services sector by financial tools are essential" [21].

1.2. Rethinking Sustainability and Employability: A Theoretical Approach

The key-concept of this research is related to sustainability in the context of the COVID-19 economic crisis. Moreover, this phenomenon implies a new theoretical approach for understanding several limitations of the classical concept of sustainability. Social actors, political decision-makers, economic actors, and civil society are involved in creating the premises for long-term societal development. The classical premises regarding sustainability take into account a mix between environmental, social, entrepreneurial, and political variables [22–24]. Sustainable development is related to ecological perspectives, international trade, community development, health, and education [25–31].

The current pandemic crisis has determined the re-evaluation of the conceptual framework regarding sustainable development and public policies for creating sustainable societies. The threat created by the COVID-19 virus illustrates the limits of human intervention in maintaining an optimal framework for community evolutions. Several positive interventions in the field of environmental economy, as well as the efforts of reducing social and gender inequalities or disparities between different geographical areas, are affected by the current evolution of the pandemic. In 2020 and 2021 we can observe a complex set of imbalances that manifested within the global system at various levels: global economy and finance, education, healthcare, judicial, governmental, the NGO sphere, public affairs, business and entrepreneurship, political rights and civil liberties, family life, etc.

It seems that for the first time in contemporary history, humanity faces global threats and challenges. All these have produced radical shifts in public management and administration. Social accountability and the re-thinking of the limits within traditional areas of economic development could represent strategies for creating social and economic resilience [32]. Related to this fact, the UN suggested an innovative and coordinated strategy for global cooperation and solidarity regarding vulnerable groups and communities. In order to reduce inequalities, such an economic strategy could be directed towards low or middle-developed countries [33]. Re-thinking sustainability may imply social innovation, technological development, and research opportunities [34]. We acknowledge the fact that there is a stringent need for re-thinking sustainable development [34], but there are some important limits generated by this kind of approach: ethical issues related to technological development. In our opinion, the main goals for sustainable development should remain

as human security and sustainability. Technology and other innovative measures can be regarded only as tools for creating an optimal social and ecological framework for human sustainability [31]. In the field of academic literature, human sustainability is defined both by corporative and individual perspectives. Related to the corporative dimension, human sustainability is “the alignment of the interests and needs of the business with those of their most important asset, their staff, so that business success can be achieved and maintained” [31] (p. 80). Human sustainability reflects the congruence between individual interests and needs and the business success of different economic organizations. From the individual perspective, human sustainability “is essentially about psychological well-being, evidenced by a capacity for renewal, the nurturing of capability and an increasing capacity to cope with varied and unpredictable situations. Human sustainability has learning, growth, trust, freedom and choice as key elements. Outcomes include being able to take responsibility, make informed decisions based on information that is freely available, meeting the needs of self and others, and having relationships which contribute to identity and meaning for oneself and others” [31] (p. 81). From the second perspective, human sustainability could be seen as a manner for understanding human development, being related with human dignity, freedom, rights, and social responsibility. The scientific literature creates premises for linking human sustainability and human development, both perspectives being related to socio-economic and environmental factors [35]. In this respect, scholars have created a link between the Human Development Index and sustainability, emphasizing the role played by economic and environmental variables for creating a comprehensive framework of human sustainability [36]. Human sustainability could be related to organizational climate, work and life balance, leadership, and psychological well-being [37]. Related to the psychological dimension, human sustainability could be seen as a manner of human development and human resources in different economic organizations, or a manner to “enable more thriving at work” [38]. Empirical studies demonstrated that the relations between “human sustainability, ecological sustainability and overall sustainability performance” could be measured through quantitative indicators and, also, could be useful for understanding the country profile or index of sustainability [39]. For a better understanding of human sustainability, we emphasize the role played by human capital and human development for conserving the environment and shaping models of economic and social development [40].

During the 2005 World Summit on Social Development, sustainability was defined in terms of economic development, social development, and environmental conservation and protection. This trend allowed the UN to identify 17 Sustainable Development Goals in this regard; however, the current pandemic requires a new conceptual framework for sustainability. Why is there such a need for re-thinking sustainable development? In this paragraph, we will try to give an answer to such a normative challenge. First of all, the COVID-19 pandemic presents the risk of compromising “the ability of future generation to meet their needs” [41]. Changes in education, market, healthcare systems, and environmental protection could be seen as several markers for vulnerability. Another perspective on the need for re-conceptualization of sustainability could be shaped starting from healthcare public policies. Biological and medical risks should be taken into consideration when we define human security, human sustainability, and human development. Thus, scholars emphasized the role played by human health in developing theoretical and political strategies for sustainable development. In this respect, Marko Hakovirta and Navodya Denuwara have proposed the fourth pillar for defining sustainability: human health. “The emergence of public health issues that remain on the rise has reprioritized the sustainable development goals that the UN listed” [42] (p. 3).

The current COVID-19 crisis reflects the fact that past sustainable solutions became present challenges for the global system. Re-thinking global–local interactions and strategies for limiting economic degrowth are key concepts and guidelines for future development [43]. Moreover, we agree that, in order to complete the sphere of guidelines for sustainable development in times of pandemic crisis, it is necessary to follow sev-

eral directions: (i) interventions in the field of environmental economy; (ii) rethinking the functionality of the labor market through the mix between on-line and off-line work; (iii) redefining the tourism industry through “virtual experiences”; (iv) transferring most parts of services in the field of digital markets and economy; (v) socio-ecological resilience and global solidarity [44–46]. Related to the socio-ecological resilience and global solidarity, scholars have proposed new ways for adjusting to the new and challenging reality. Thus, at the transnational level, global cooperation, horizontal governance, polycentric management, and “glocalization” could be seen as important points for future sustainability [47]. In other words, emphasizing social accountability and corporate sustainability could be seen as important issues for a pandemic sustainable agenda [48,49].

With regard to sustainability in the COVID-19 pandemic crisis, we decided to focus on the relations between economic development and employability. Two of the main problems of this crisis are represented by negative economic growth and high rates of unemployment. The obvious effect of social distancing could be recognized in the decreased level of employability in most parts of the world. Several solutions arose as the on-line informing of stakeholders or the introduction of digital work from home had a quantifiable impact in maintaining the equilibrium within the labor market [50]. The biggest challenge for employability could be seen in the new technologies, especially in the development of AI (Artificial Intelligence). Moreover, ethical studies underline the necessity of rethinking the concept of work and the structure of professional skills in the new social and economic contexts [51]. Despite technological development, human sustainability as a goal [31] could be considered as the core of future evolutions. According to some authors, protecting and preserving an increased level of employability should remain the main goal for future economic policies, provided that employers have a critical contribution to social dynamics [51]. This shift in the work conditions indicates that teleworking could substitute several non-essential services and economic practices. Empirical studies emphasized the almost equal proportions between the number of individuals employed in essential services and the number of individuals involved in teleworking [52]. Regarding the proportion of employers by age and gender, we can observe that there are equal proportions between employment in essential (16%) and “teleworkable” (14.9%) services in the EU-28 [52] (p. 398). In accordance with this model of employment, in the academic literature we can distinguish between formal and informal economy. In this context, “the rise in home working and remote based operations due to the pandemic are likely to accelerate trends over coming years, potentially altering the balance between formal and informal employment” [53] (p. 1016). Most governments proposed both subsidies for covering the effects of the pandemic and the introduction of teleworking. Beyond the fact that such protectionist measures had several benefits for the economic system, there were critics regarding the impact of the economic policies on business economy [54]. Another perspective related to governmental assistance emphasized the fact that all the economic measures created benefits for employers only for few months, during the “lockdown” period of time (March–May 2020) [55]. Scholars criticized the real role played by these policies in saving the national economic systems [55].

In spite of the fact there were several remarkable economic interventions for sustaining the labor market, we have to observe that all fields of employment were affected by the pandemic, including the scientific field and the social research field [56]. In this context, academic literature pointed out that the pandemic created the premise for perpetuating gender inequality and limited the possibility for women to be involved in paid work [57,58]. Another point of difference generated by the COVID-19 pandemic refers to the inequities in employment influenced by race, ethnicity, and economic sector [59]. All these variables could be related to a model of “employment hysteresis” [60], with the maximum point of unemployment rates in the US in the middle of April 2020. Starting from the beginning of the “lockdown” period (March 2020) up to May 2020 in the US there were very low rates of employability registered (−30%) [60] (p. 3346). Thus, we have to register in the first part of the 2020s the biggest contraction at the labor market level [61]. This economic contraction

of the labor market could be interpreted from a point of view centered on the situation of young people, vulnerable groups, and gender (women) [62–65].

Synthesizing, all these theoretical aspects seem to reflect the image of a contracted global economy. The COVID-19 pandemic “gripped” the social and economic framework, generating both theoretical discussions related to the role played by governmental policies and empirical issues in vulnerable groups, deepening the former disparities among age, gender, and socio-economic status. In this theoretical framework, we continue to underline the importance of “human sustainability”, emphasizing the role played by employers for influencing future socio-economic evolutions.

2. Research Methods

Related to the brief literature review and theoretical framework, this article aims to emphasize the role played by human sustainability in the context of the COVID-19 pandemic, emphasizing the challenges and changes observed within the labor market. The labor market seemed to be one of the most affected economic markets since the beginning of the governmental restrictions for controlling and counteracting the negative effects produced by the virus.

2.1. Research Framework: Objectives, Questions and Hypothesis

For a better understanding of the employability dynamics in pandemic times we start the current analytical approach with several research questions: (i) what is the impact of economic policies for reducing economic imbalances within the labor market in EU countries?; (ii) in what way is the employment rate influenced by the level of education in pandemic times; (iii) what is the relation between gender, age, and economic policies for sustainable employability in EU countries?; (iv) could business freedom increase the employment rates in EU economic systems during and after the pandemic?

At the normative level in this paper, we aim to create a comprehensive model for a better understanding of the social and economic implications of the challenges produced by the COVID-19 pandemic in the sphere of employability in EU-28 countries. Starting from these premises, the research objectives of the study are:

Objective 1 (O₁): to analyze the dynamics of employability in EU-28 countries during the economic crisis generated by the COVID-19 pandemic.

O₂: to identify a specific pattern for sustainable development in the EU-28 during and post COVID-19 pandemic.

O₃: to analyze the correlation between education level and employability rates in the EU-28 during the COVID-19 economic crisis.

O₄: to determine the impact of the business freedom on the labor market in the EU-28 in the time of the COVID-19 pandemic.

O₅: to analyze the impact of the COVID-19 pandemic on the evolution of employability by age and gender.

Related to the theoretical approach, this study aims to test several hypotheses as:

Hypothesis 1 (H1). Social restrictions and economic degrowth associated with COVID-19 political and economic measures are associated with low rates of employability in the EU-28.

Hypothesis 2 (H2). Economic imbalances generated by the COVID-19 pandemic are strongly related to low levels of employment and deprivation among young people.

Hypothesis 3 (H3). The COVID-19 pandemic has determined low levels of employability among people with primary and secondary education.

Hypothesis 4 (H4). An increased level of economic freedom and entrepreneurship is positively related to an increased level of employability.

Hypothesis 5 (H5). An increased level of labor market imbalances generated by the pandemic is strongly related to a decreased level of employability among vulnerable groups selected based on gender criteria (women).

2.2. Data, Methods and Quantitative Design

For testing the research objectives, we propose a quantitative design based on associations between factors involved in the dynamics of the employment rate in the EU-28. The research method is based on an exploratory case study among economic systems of the EU-28. In this context, the research is based on quantitative data from secondary official sources as Eurostat, the World Bank, the United Nations Development Programme, and the Heritage Foundation. Data are collected from 2019–2021, estimating the impact of social restrictions of the pandemic in the field of employability. There are several limitations regarding the available information in 2021 about several indicators. In this respect, we have used data for 2021 related to unemployment rates in the EU-28, employability in the EU-28, business freedom, economic freedom, the Human Development Index, and the Gini Index of inequality. Table 1 presents the research variables, numerical values, and data sources:

Table 1. Research Variables.

	Variable	Symbol	Scale	Source
1.	Employment Rate	ER	[0–100]	Eurostat [66]
2.	Unemployment Rate	UR	[0–100]	Eurostat
3.	Economic Growth	EG	[−n; +n]	World Bank [67]
4.	Inflation Rate	IR	[−n; +n]	Eurostat
5.	Inactive Population	IP	[0–100]	Eurostat
6.	Material Deprivation by Age (Young)	MDY	[0–100]	Eurostat
7.	Employment Rate by Gender (Women)	ERW	[0–100]	Eurostat
8.	Employment Rate by Education (Primary and Secondary)	ERPS	[0–100]	Eurostat
9.	Employment Rate by Education (Tertiary)	ERT	[0–100]	Eurostat
10.	Labor Mobility	LM	[0–100]	Eurostat
11.	Labor Freedom	LF	[0–100]	The Heritage Foundation [68]
12.	Business Freedom	BF	[0–100]	The Heritage Foundation
13.	Economic Freedom	EF	[0–100]	The Heritage Foundation
14.	Human Development Index	HDI	[0–1]	United Nations Development Programme [69]
15.	Gini Coefficient of Inequality	GINI	[0–1]	World Bank

Variables were collected covering several fields of research: (i) economic context (EG; IR); (ii) labor market (ER; UR; IP; ERW; ERPS; ERT, LM); (iii) economic freedom (LF; BF; EF); (iv) human development and sustainability (HDI); and (v) poverty and socio-economic inequalities (MDY; GINI). We used labor market indicators as dependent variables for explaining employability rates related to the economic context, freedom, human development, and socio-economic inequalities.

Statistical design consists of estimating descriptive statistics for research variables. In this instance, we have estimated central tendency (mean, median, mode and quartiles), dispersion (variance and standard deviance), and distribution measures (Skewness and Kurtosis coefficients) for dependent and independents variables. This approach is useful

for creating a socio-economic radiography of the dynamics of employability in the EU-28. Moreover, the second level of the statistical analysis is related to correlations and linear regression through which we intend to observe several predictors of employment rates in the EU-28 during the COVID-19 pandemic. Related to this perspective, we use a linear equation of regression as:

$$Y = f(X) \quad (1)$$

where Y —dependent variable and X —independent variable:

$$Y = \alpha + \beta x_i + u_{ij} \quad (2)$$

where Y —dependent variable, X —independent variable, u_{ij} —residuals.

From (1) and (2) we used a strategy for analysis of the Multiple Linear Regression Equation as follows:

$$Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_n x_n + u_{ij} \quad (3)$$

For employability in the EU-28 during the COVID-19 pandemic, we used economic, social, and educational variables. In this respect, we intended to observe the relationships between employability and material deprivation, economic growth, and education. Furthermore, we integrated the study variables related to human development (Human Development Index), social inequality (Gini Index), and economic freedom. Our hypotheses test the relationship between employability, material deprivation (by age), educational level, gender, and economic freedom. At the statistical level we used Stepwise regression for identifying the significant predictors which are involved in the dynamics of employability during economic and social restrictions. For obtaining statistical results, we followed several steps: (i) estimation central tendency; (ii) estimation statistical variance and distribution; (iii) estimation of the statistical correlation and quantitative models; and (iv) testing the research hypothesis through parametric tests and levels of likelihood.

3. Results

In correlation with the methodological section, we emphasized the role played by social factors in explaining the impact of the COVID-19 pandemic in the sphere of EU employment. As we have already presented in the theoretical section, the EU-28 was affected by economic imbalances and by political decisions regarding the social aspects of the labor market. In this section we present, according to the methodological guidelines, the main empirical findings and statistical results related to the dynamics of employability rates in pandemic times. In this respect, this section focuses on the radiography of EU-28 economic issues, the influence of the social variables in the sphere of employability and labor market equilibrium, and the role played by the entrepreneurship perspectives for the future of the EU-28 economy in post-pandemic times.

3.1. Employability and Economic Imbalances in the EU-28

The image of the EU-28 during the COVID-19 pandemic is strongly related to the Great Recession. The beginning of the 2020s, through concerted political measures for counteracting the pandemic, showed the beginning of very severe economic degrowth and imbalances. In Table 2 are presented descriptive statistical values for economic variables related to the supposition of economic recession. In this context, the mean for economic growth is -4.79 during 2020, with $\sigma = 3.33$. The Bayesian statistics estimates for EG ($1 - \alpha$) with $p = 0.01$ values between $[-6.54; -3.04]$. The variable EG has normal distribution with Kolmogorov–Smirnov test > 0.05 (0.2). The image of economic recession should be completed by unemployment rate, with the mean = 6.64 and $\sigma = 3.02$. The most negative part is related to the fact that the upper bound of $(1 - \alpha)$, $p = 0.01$, is >7.46 . In this case, high rates of unemployment suggest disequilibrium in the labor market and signals economic recession in EU countries. Furthermore, the degrowth economy and the high levels of unemployment are related to material deprivation and middle values for the Gini coefficient of inequalities. In the case of material deprivation, the upper bound (11.27) of the confidence level with $p = 0.01$ reflects an increased process with the convergent

limit at 29.80. For the rest of the variables, values are normal distributed with relatively constant values. EG, UR, and MD have Skewness values with right asymmetry and high levels of likelihood for increased values. These statistical observations could conduct us to consider that the EU-28 faces a new and deep economic contraction with the epicenter in the labor market.

Table 2. Descriptive statistics for research variables ¹.

	Employment Rate 2020–2021	Unemployment Rate 2020–2021	Economic Growth	Inflation Rate	Economic Freedom	Gini Index	HDI	Material Deprivation—Young
Mean	74.09	6.64	−4.79	1.69	71.58	31.46	0.89	7.79
Median	75.20	6.15	−4.40	1.55	70.90	31.00	0.89	6.00
Mode	67	3.80	−6.30	0.60	60.90	25.20	0.89	1.90
Std. Deviation	5.09	3.02	3.30	0.93	5.00	3.92	0.03	6.71
Variance	25.99	9.15	10.93	0.86	25.09	15.37	0.00	45.08
Skewness	−0.98	1.61	0.85	0.46	−0.08	0.13	−0.37	2.07
Std. Error of Skewness	0.32	0.32	0.31	0.31	0.31	0.31	0.31	0.44
Kurtosis	0.50	3.09	2.35	−0.66	−0.64	−0.46	−0.57	4.02
Std. Error of Kurtosis	0.63	0.63	0.62	0.62	0.62	0.62	0.62	0.87
Range	21	13.70	16.70	3.50	20.50	16.20	0.14	27.20
Minimum	61	2.60	−10.80	0.30	60.90	24.20	0.82	1.90
Maximum	82	16.30	5.90	3.80	81.40	40.40	0.96	29.10
Percentiles								
25	72.10	4.66	−7.45	0.82	67.70	28.72	0.86	3.50
50	75.20	6.15	−4.40	1.55	70.90	31.00	0.89	6.00
75	77.80	7.80	−2.92	2.45	76.07	34.77	0.93	8.70

¹ Sources of data: Eurostat: https://ec.europa.eu/eurostat/databrowser/view/une_rt_m/default/table?lang=en (accessed on 18 January 2022); https://ec.europa.eu/eurostat/databrowser/view/lfsi_emp_q/default/table?lang=en (accessed on 18 January 2022); Heritage Foundation: <https://www.heritage.org/index/ranking> (accessed on 10 December 2021); World Bank: <https://data.worldbank.org/indicator/SI.POV.GINI> (accessed on 20 October 2021); UNDP: <http://hdr.undp.org/en/content/human-development-index-hdi> (accessed on 5 November 2021).

Regarding the unemployment rates in the EU-28 during the COVID-19 pandemic, we estimated a variation of +12.41% in 2020 compared to 2019. Data from 2021 reflect the fact that there exist several efforts for reducing imbalances in the labor market, but with low impact in the sphere of unemployment and employability. In Figure 1 are presented statistical values from 2019–2021 regarding the evolution of the unemployment rates in the EU-28. In Figure 1 we can observe that there are no significant differences between unemployment rates in 2020 and 2021. Spain and Greece registered the highest values of unemployment rates in 2019–2021.

Related to these assumptions, the highest rates of unemployment were registered in quartile 3 (Q3 = 7.95) in France (8%), Italy (9.2%), Spain (15.5%), and Greece (16.3). France, Spain, and Italy were the countries with the highest levels of COVID-19 infections in the first wave of the pandemic. Further, we estimate a weak negative relationship between economic growth and unemployment rate, with $r = -0.321$, $p = 0.09$. In Figure 2 we present the map of unemployment in the EU-28.

Geographical distribution reflects the cleavage between western and eastern countries, with high levels of unemployment in the western part of the European Union. The “red areas” are represented by the most medically affected systems from the southern part of the EU. Social restrictions and economic measures from the beginning of the 2020s generated a shock to the labor market. This shock is observable in economic degrowth,

unemployment rates, and decreased levels of employability. Related to employability in the EU-28, we determined the mean of the values of 74.09% at $\sigma = 5.09$. The lower bound of the confidence level of $p = 0.01$ reflects that employability rates have reduced values (71.26%). The minimum values of employability are registered in Greece (61%), Italy (62.6%) and Spain (65.7%). Italy and Spain seemed to be the countries most affected by the pandemic, with high levels of COVID-19 disease cases in the first semester of 2020. Figure 3 shows mapped employment rates in the EU-28.

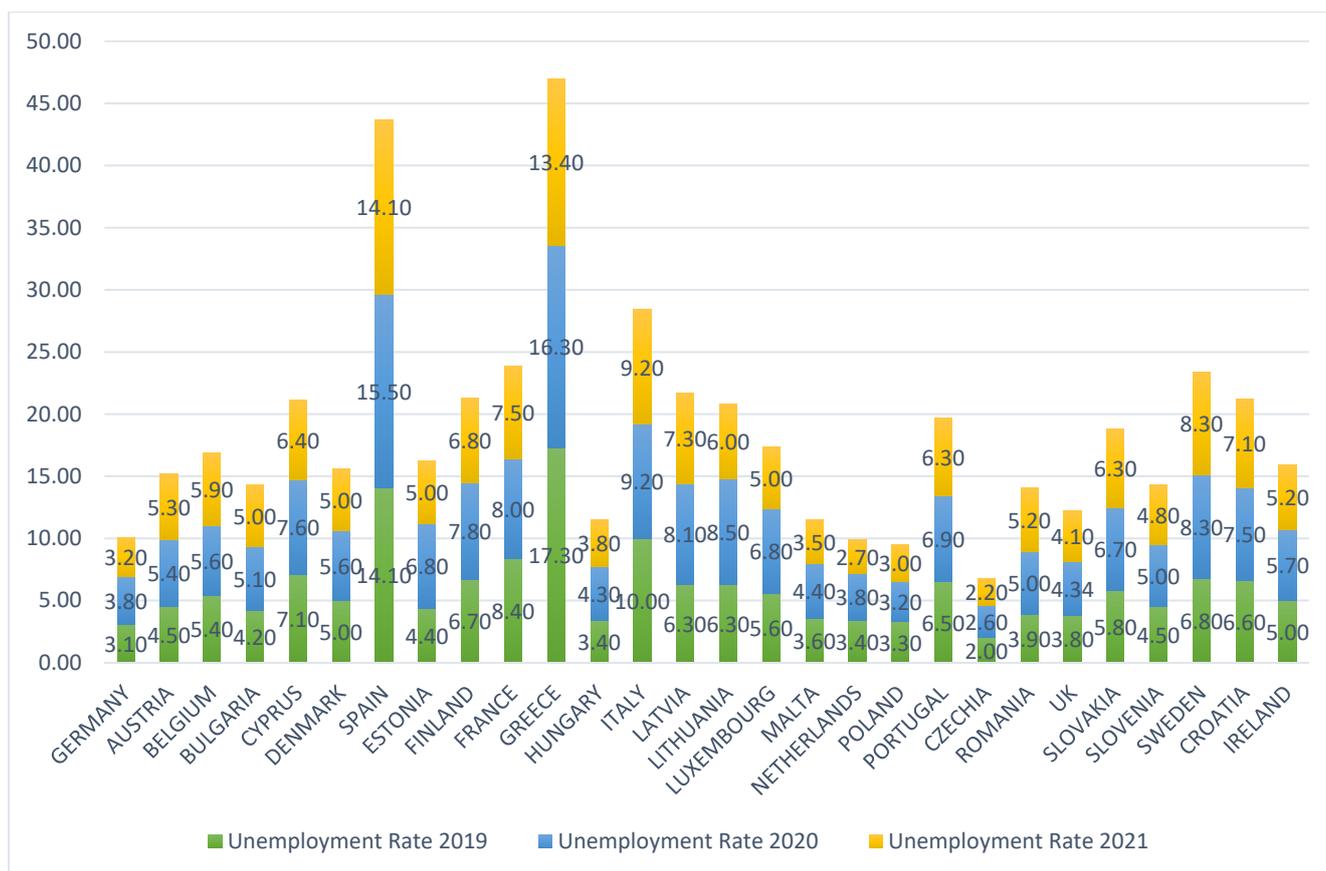


Figure 1. Unemployment rates in the EU-28. Comparison 2019–2020. Source of data: Eurostat: https://ec.europa.eu/eurostat/databrowser/view/une_rt_m/default/table?lang=en (accessed on 18 January 2022).

In Figure 3 we observe the geographical cleavage between the northern part of the EU and the southern part, with significant statistical differences in employment rates. The T-test for comparing means determined means of 79.03% in the northern part of the EU and 67.01% in the southern EU ($T = 27.6$, $p < 0.001$). Figure 4 presents the statistical confidence level of $p < 0.001$ for employability both in the northern and southern parts of the European Union. In the Figure 4 we underline the fact that the southern part of the EU was more affected by unemployment and low rates of employability. For example, Spain and Italy had high averages of unemployment (15.21% in Spain and 9.36% in Italy) and the lowest values related to employability (66.85% in Spain and 62.85% in Italy). Moreover, in the southern part of EU and the Balkans region, we can estimate a mean of unemployment rates over 7%, with significant values in Cyprus (7.64%) and Croatia (7.72%). In this context, Greece had the lowest value related to employability: 62.2%, with a significant negative impact of the COVID-19 pandemic in the fields of tourism and services.

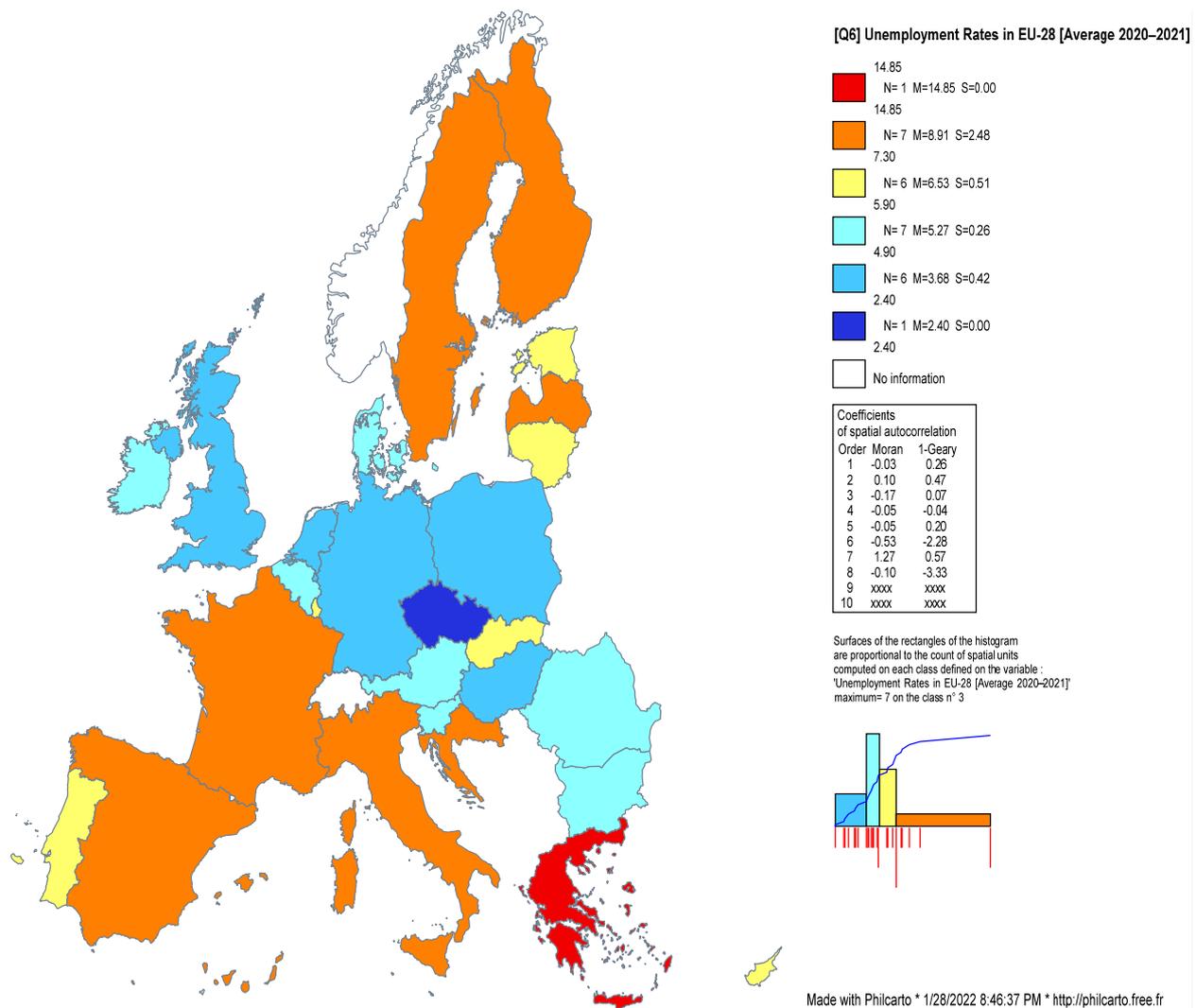


Figure 2. Map of unemployment in the EU during the pandemic (2020–2021). Author’s map in Philcarto based on available data at: https://ec.europa.eu/eurostat/databrowser/view/une_rt_m/default/table?lang=en (accessed on 18 January 2022).

The most important empirical finding for economic context and employability rates in the EU-28 refers to the probabilistic determination of the future dynamics of the labor market. Related to economic degrowth and economic policies for sustaining employability, there is statistically significant likelihood for an increased level of unemployment and a future economic deep crisis post COVID-19 pandemic. This finding could be seen as a “warning early unit” for limiting the effects of the “black swan” represented by the pandemic episode. While the study analyzed a single year in a cross-national approach, mathematical tools (Figure 5) could facilitate for us the forecast for conditional probabilities, relating economic degrowth and unemployment dynamics in the EU-28, with an upper bound level of unemployment over 7.46% ($p = 0.05$). Starting with the 24 months (2020–2021) analyzed through the temporal series, we can estimate for the following 12 months (the year 2022) a mean unemployment rate of 6.64%, with $(1 - \alpha) \in [5.86; 7.46]$. We can observe in 2020 the negative impact of the unemployment rate in national economies, with the upper bound of the confidence level over 8.5%. In 2021 the mean of unemployment rate in the EU-28 was estimated at 6.15%, with the upper bound of the confidence level over 7.75%. These statistical estimations could signify the fact that there is a kind of economic improvement in the sphere of the labor market. Although there are no significant statistical differences between 2020 and 2021, we can underline the fact that there are several tendencies that suggest

economic recovery. Our forecast could be useful for understanding both the tendency at the systemic (EU-28) and national levels. In this case we have observed 28 economic systems over 2 years, with significant geographical and economic differences. We observed that there were minor differences regarding the countries with highest unemployment rates, such as Spain (15.5% in 2020 and 14.92% in 2021) and Greece (16.3% in 2020 and 14.73% in 2021). In these countries the growth rate of unemployment was +0.056 in 2021, compared to 2020. Figure 5 presents the evolution of unemployment rates in 28 EU countries over 2 years. Fit values reflect the central tendency of unemployment in the whole statistical string, with an average of 6.64% and standard deviation (σ) over 3.02%. The highest values of the statistical range (13.70%), interquartile range (3.13%) and standard deviation (3.02%) create the image of a dynamic phenomenon with significant differences between analytical units. In this respect, several countries in 2021, such as Austria, Belgium, Cyprus, Romania, Italy, Sweden, and Croatia, registered increased values of employment rates compared to the values from 2019 and 2020. For the whole sample, the variation of unemployment rate is -0.019% in 2021 compared to 2020 and 2019.

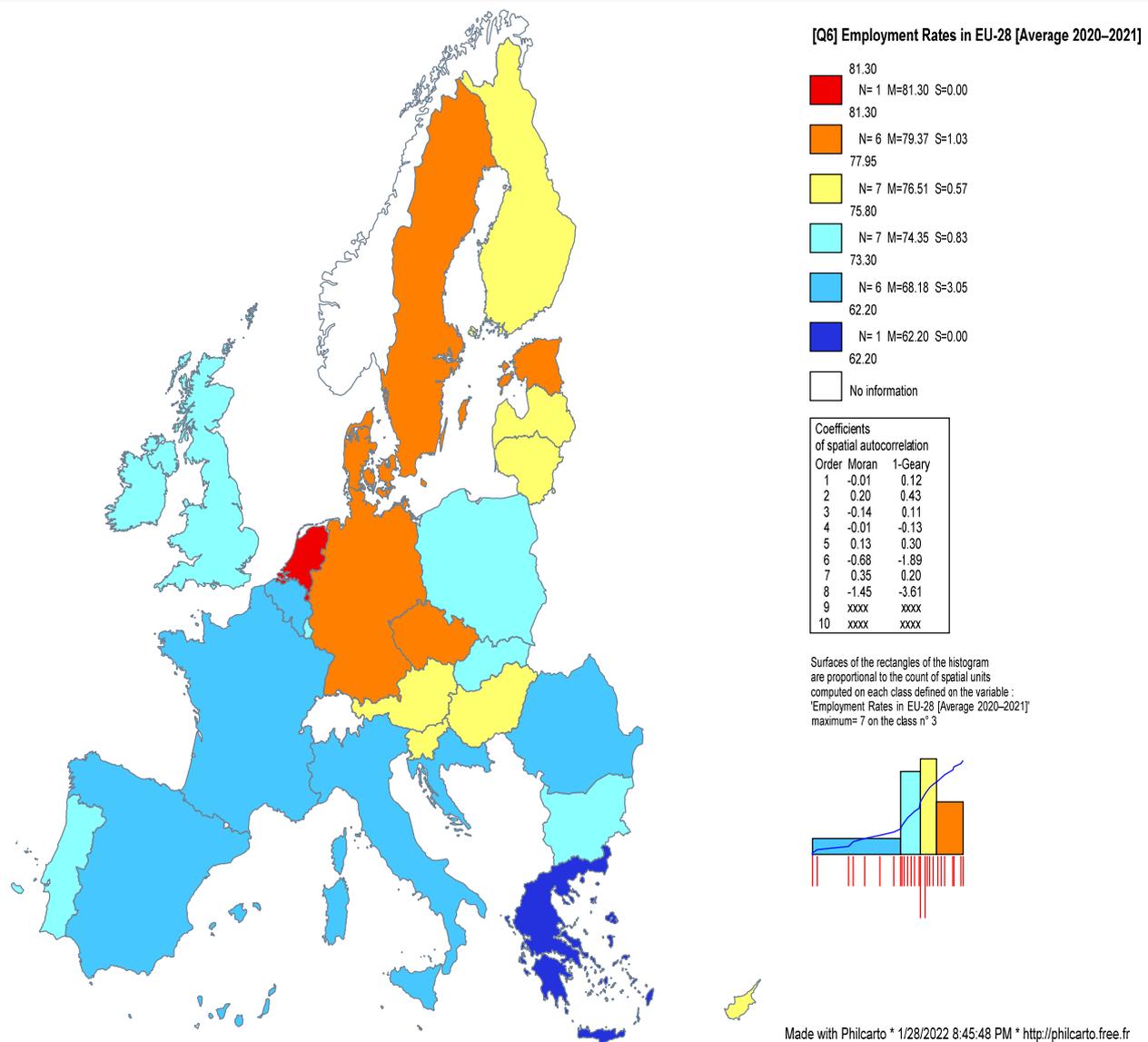


Figure 3. Map of employability in the EU during the pandemic (2020–2021). Author's map in Philcarto, based on available data at: https://ec.europa.eu/eurostat/databrowser/view/lfsi_emp_q/default/table?lang=en (accessed on 18 January 2022).

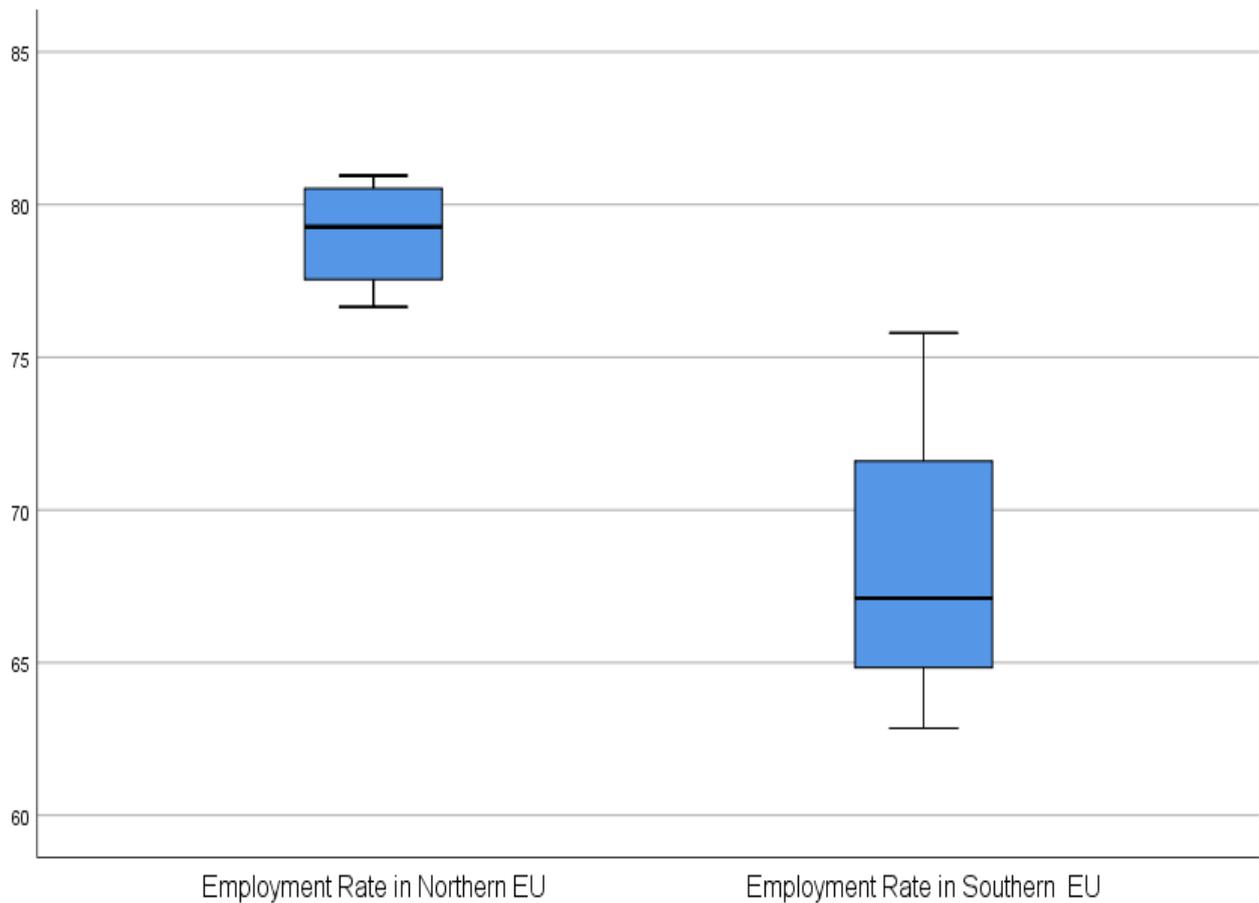


Figure 4. Boxplots for employability: northern vs. southern EU (Average 2020–2021).

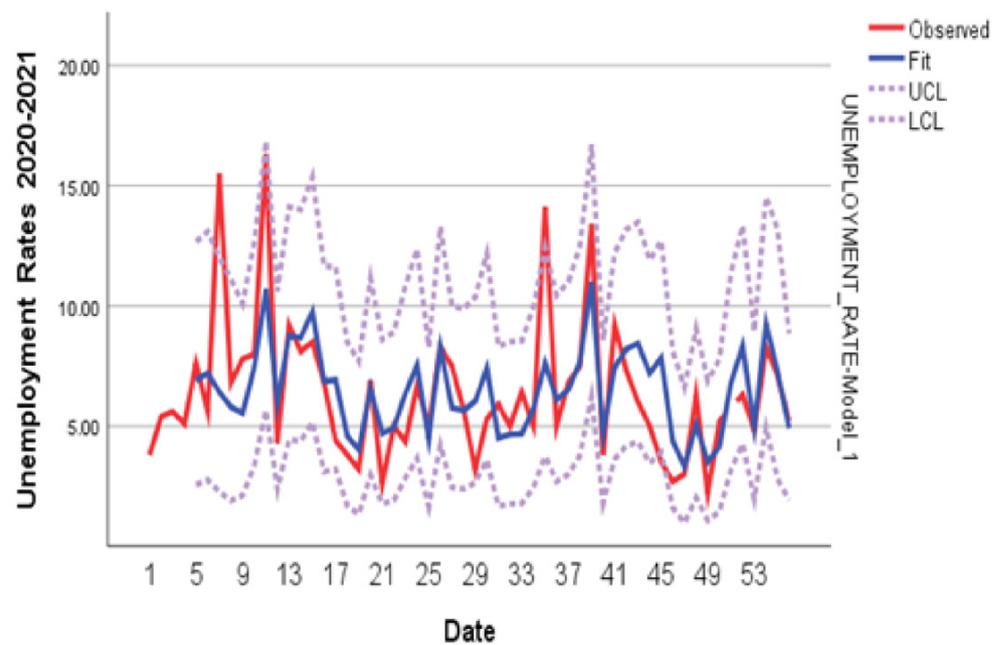


Figure 5. The dynamics of unemployment rates in the EU-28 in 2020 and 2021 ($p = 0.05$). Data sources: Eurostat ($p = 0.05$). Author’s estimation the forecast based on available data: https://ec.europa.eu/eurostat/databrowser/view/une_rt_m/default/table?lang=en (accessed on 18 January 2022).

Synthesizing, the radiography of the EU-28 during COVID-19, reflected in statistical measures, presents the image of current and future deep economic crises, with the epicenter in the sphere of employability. Related to this assumption, macro-economic indicators of economic growth confirm the socio-economic imbalances, obviously manifested within the labor market. From the point of view of human sustainability, the imbalances related to the labor market are the “epicenter” of the COVID-19 economic crisis.

3.2. Youth, Education and Economic Freedom: A Quantitative Model for Predicting Employability

Whilst for the research hypothesis H_1 we argued in the previous section that the economic context is involved in generating negative effects for labor market, for testing the hypotheses H_2 , H_3 , and H_4 , we used a multilinear equation of regression with the Stepwise method:

$$ER = \alpha + \beta_1 EG + \beta_3 MDY + \beta_4 ERT + \beta_6 EF + \beta_7 BF + \beta_8 HDI + \beta_9 IR + u_{ij} \quad (4)$$

The quantitative model (Model 3) has an adequate level of $R^2 = 0.765$, with $p < 0.01$ and Durbin–Watson = 2.288, with several, but limited, effects of residual auto-correlation. In practice, we obtained three models of multilinear regression, but Models 1 and 2 had residual autocorrelation effects. Only Model 3 is adequate for our research aim with normal coefficients for tolerance (<1.00) and Variance Inflation Factor ($VIF < 10.00$).

Starting from the values registered in Table 3, we proposed the following quantitative model for explaining and predicting the dynamics of employability in the EU-28:

$$EP = 16.38 - 0.401 \times MDY + 0.408 \times ERT + 0.243 \times EF \quad (5)$$

In this context, we found several predictors for employment rates in the EU-28: material deprivation by age (in the field of young people), with $\beta = -0.401$, $T = -3.136$, $p = 0.004$, employment rate by education (tertiary education), with $\beta = 0.408$, $T = 3.382$, $p = 0.002$ and economic freedom, with $\beta = 0.243$, $T = 2.101$, $p = 0.046$. As we observed within the theoretical framework, scholars argue that the most affected part of employment, by the economic imbalances of the COVID-19 pandemic, is represented by young people. In our case, we observed a negative weak relation with the employability rate. An increased rate of employability would diminish the negative effects and material deprivation for young people. The mean of material deprivation for young people is 7.79 and the upper bound of the confidence level of $p = 0.05$ is 9.99. The most affected countries in the field of young material deprivation are Romania (29.1), Greece (23.3), Bulgaria (22), and Hungary (11.1). We observed that in eastern European countries and Greece, high levels of material deprivation were registered in the sphere of young people. Thus, when we take into account the age of employers, we can remark on the fact that young people are affected negatively both by low levels of employability and high levels of unemployment rates. In contrast, Sweden and Finland registered the lowest rates of material deprivation for young people, with values of <2.5 . Moreover, by testing the relations between material and social deprivation among young people on one hand and social inequality controlled by employability on the other hand, we can estimate a middle positive linear correlation, with $r = 0.536$, $p = 0.005$. Thus, we can emphasize the fact that low rates of employability are related to material deprivation among young people, together with an increased level of social inequalities and inequities. The same magnitude of statistical correlation is estimated when we control the relation between young peoples’ deprivation and social inequalities measured through the Gini coefficient. Thus, although the quantitative value for material deprivation among young people indicates a low statistical correlation, in practice we can notice the fact that this age category received important shocks generated by the economic and social restrictions imposed during the pandemic.

Another important predictor with regard to the increase in employability rates is represented by educational variables. In this context, we estimated a middle positive statistical correlation between tertiary education (university, post-university studies, or Ph.D.) and high levels of employability in the EU-28. In contrast with primary and secondary education levels, we observed the fact that employability rates are related to high level of

education. Several sociological explanations could signify the relationship between education and employability. Individuals with high education could conserve their jobs much better in the context of significant changes on the labor market, such as the introduction of teleworking and the dissolution of parts of jobs from non-essential economic sectors. High levels of association between education level (tertiary) and employment rates are visible in Sweden, Germany, the Netherlands, and the Baltic states. In contrast, as can be seen in Figure 6, in Greece, Spain, and Italy, we estimated a strong association between low levels of tertiary education and low levels of employment.

Table 3. Equations of regression. Predictors for employability ¹.

	Model	Standardized Coefficients Beta	T	Sig.	Collinearity Statistics Tolerance	VIF
1	(Constant)	86.6	42.105	0.000	1.000	1.000
	YOUNG PEOPLE	−0.786	−6.484	0.000		
2	(Constant)	29.19	1.856	0.075	0.627	1.595
	YOUNG PEOPLE	−0.504	−4.003	0.000		
	EDUCATION LEVEL TERTIARY	0.462	3.676	0.001		
3	(Constant)	16.38	1.027	0.315	0.535	1.870
	YOUNG PEOPLE	−0.401	−3.136	0.004		
	EDUCATION LEVEL TERTIARY	0.408	3.382	0.002		
	ECONOMIC FREEDOM	0.243	2.101	0.046		

¹ Author's quantitative model based on statistical data presented in Section 2 (Research Methods).

Figure 6 presents an interesting statistical result: employability is related to a high level of education (tertiary education). In this respect, tertiary education could be seen as an important vector for increasing the quality of employability. Individuals with higher education are able to adapt to the new changes and challenges within the labor market (new types of services, digitalization, teleworkable services, etc.). Youth and education levels could be related to economic freedom for understanding and explaining the role played by entrepreneurship and free development strategies in creating optimal premises for human sustainability. In this respect, economic freedom could be associated with the entrepreneurial dimension and an individual's possibilities for economic investment and development. Given the fact that the EU-28 economic context is characterized these days by degrowth, economic freedom and entrepreneurship could be vectors for sustaining employability and human sustainability. At the empirical level, we estimate a middle correlation between economic freedom and employability. The relation is non-linear, being determined through a quadratic model, with $R^2 = 0.652$, $p < 0.001$. Sweden, Germany, the Czech Republic, and the Netherlands, are states with high levels of employability and economic freedom. In contrast, Romania, Belgium, France, Italy, Spain, Croatia, and Greece, are countries characterized by low levels of employability and economic freedom. The specific mean value for EF in the EU-28 is related to 71.58, with mode = 60 and $\sigma = 5.05$, being based on a mix between free economic systems and markets and partially free economies. These quantitative measures create the image of a hybrid economic model, with a middle level of governmental intervention in the fields of business and financial freedom (Figure 7).

Figure 7 presents the relations between employability and free economy. Beyond economic ideologies, we underline the fact that free economy and entrepreneurship could increase employability levels. Economic freedom could be seen in relation to business freedom, which emphasizes social actors' abilities to innovate and create new types of services or jobs in the economic sphere. Economic innovations and financial investments might be vectors for social stability and sustainable development.

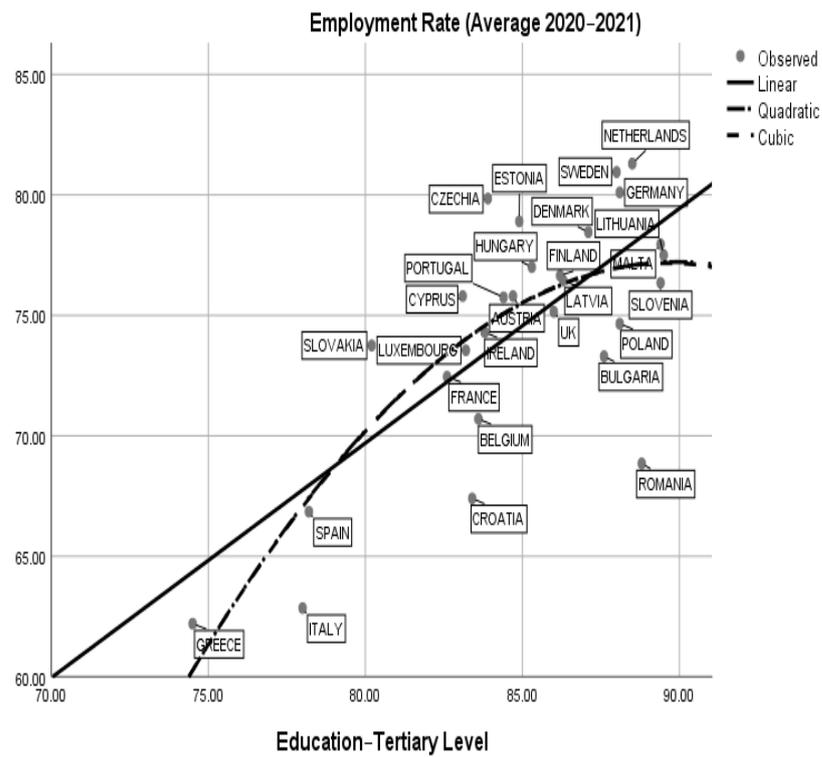


Figure 6. Correlation between tertiary education and employability in the EU-28. Author’s quantitative determination based on statistical data presented in Section 2 (Research Methods).

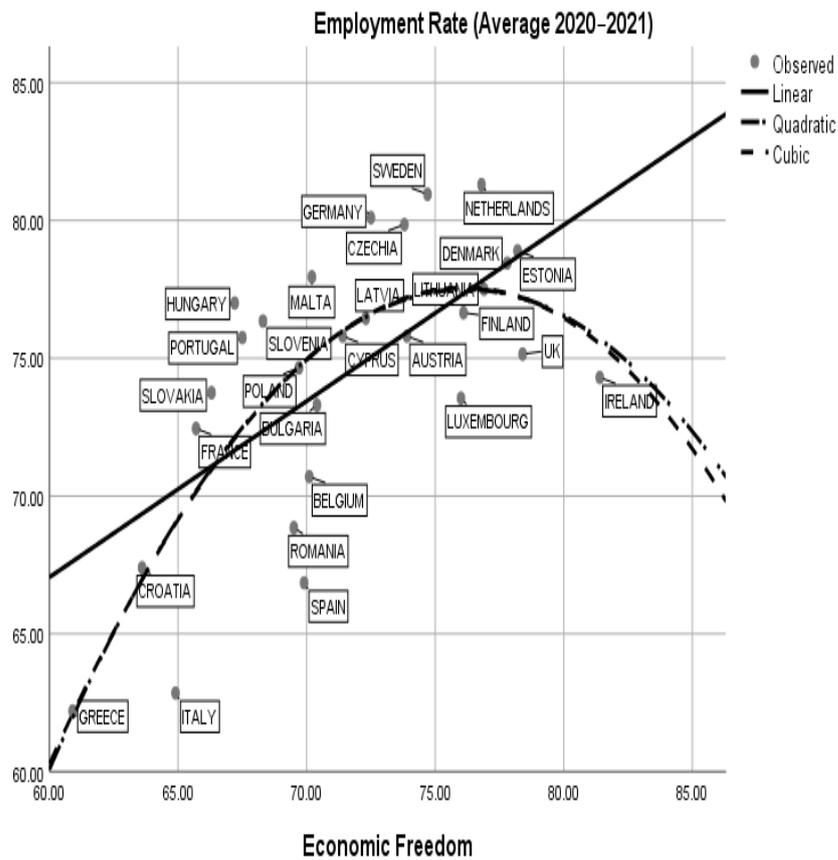


Figure 7. Correlation between economic freedom and employability in the EU-28. Author’s quantitative model based on statistical data presented in Section 2 (Research Methods).

3.3. Gender and Employability in EU-28

Regarding the social implications of employment, the empirical results reflect an important gap regarding gendered perspectives. Academic literature has emphasized the role played by gender in reducing social inequalities and increasing the level of employability. Our findings suggest that an increased level of women's involvement in different economic sectors could increase the rate of employability in the EU-28. In this respect, we estimate a linear model with $R^2 = 0.876$, $p < 0.001$ that correlates gender (women) with the low rate of employability during pandemic times. In practice, the pandemic increased the gap between genders at the labor market level. The COVID-19 pandemic is related to quite a deep economic crisis and social inequalities manifested in gender, living conditions, and material revenue. As we illustrated in Figure 8, northern countries are prone to creating equilibrium between gender and employability.

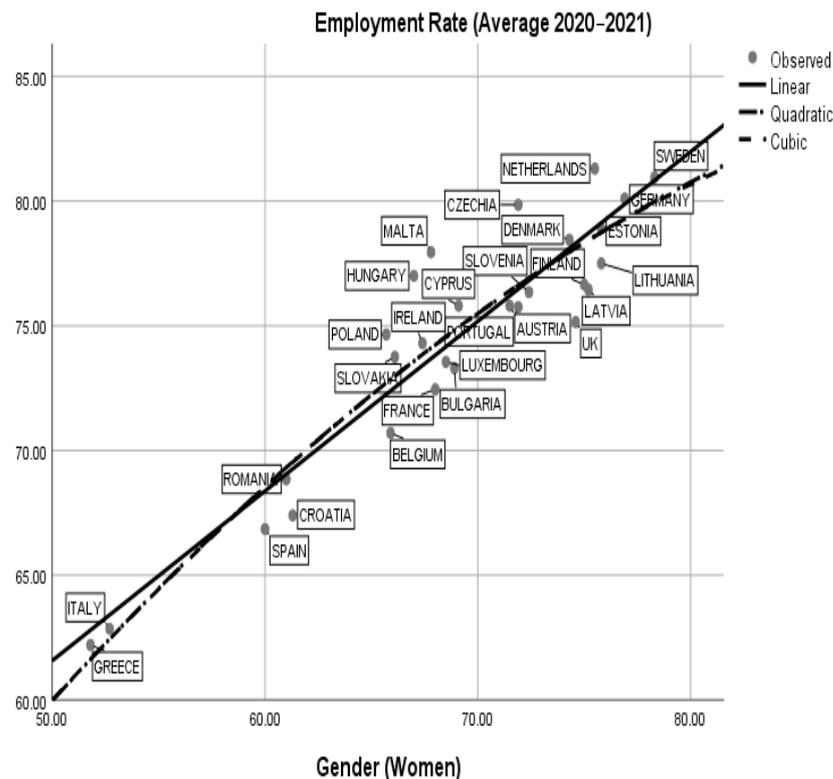


Figure 8. Correlation between gender and employability in the EU-28. Author's quantitative model based on statistical data presented in Section 2 (Research Methods).

Figure 8 presents in a linear regression the association among gender (women) and employability rates in the EU-28. Moreover, we can observe that a decreased level of employability is strongly related with women ($R^2 = 0.861$). The most affected gender category by the COVID-19 pandemic is represented by women. In spite of the fact that women were considered a vulnerable group, the immediate effect of the pandemic is translated in low rates of employability for this gender category. In contrast, in countries affected by medical and economic factors, such as Spain, Italy, Croatia, and Greece, we estimate very low levels of women's employability. Amid a deep economic recession, we observed a decreased level of employability and low rates of women's employability in different economic sectors. Figure 9 presents the nearest neighborhood among economic growth, gender, and employability rates in the EU-28.

In Figure 9 we can observe that in conditions of economic imbalance and degrowth, the employment rate is around 70–75%, with a negative impact in the field of women. The rate of employability related to gender (women) is around 55–65%. Moreover, this fact could be explained through statistical correlations, with $R^2 = 0.835$. Thus, we can underline

a strong association between vulnerable groups by gender, low rates of employability, and economic crisis.

Synthesizing, the statistical results present the employability in the EU-28 in terms of youth, gender, education, and perspectives for future development. Our findings emphasize a complex socio-economic framework related to the labor market, with multiple interactions among educational variables, entrepreneurship, gender, and employability. This model could be useful for understanding the impact of the COVID-19 pandemic in the field of human sustainability.

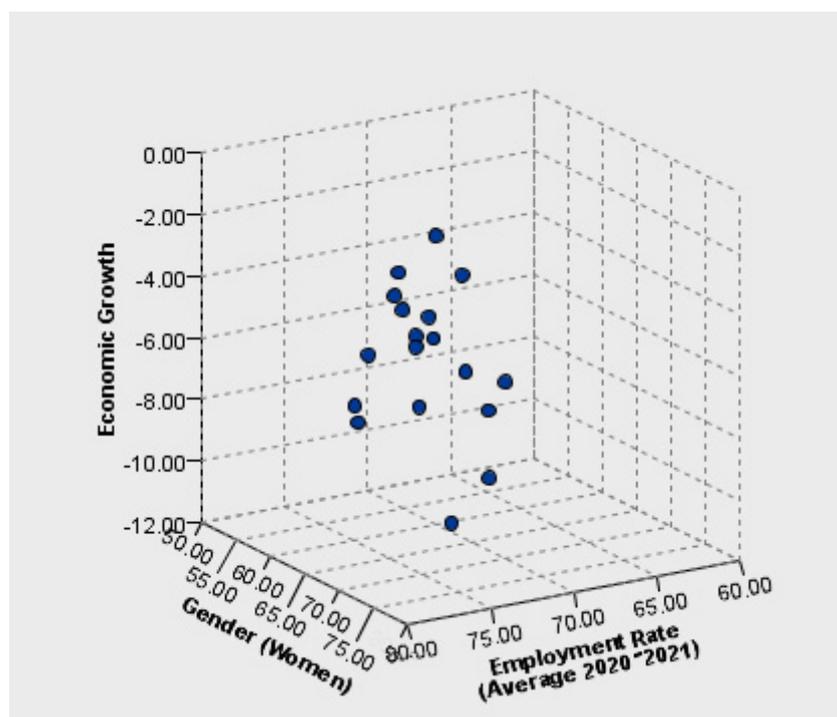


Figure 9. Gender, employability and economic growth in the EU-28. Author’s quantitative model based on statistical data presented in Section 2 (Research Methods).

4. Discussion

With regard to the literature review and the theoretical framework, this empirical study presents the situation of employability in the EU-28 in the conditions of the COVID-19 pandemic. Academic literature emphasized the role played by sustainable development for reducing future shocks in economic and social systems. Beyond the fact that sustainability is seen as a complex concept corresponding to a dynamic reality, we emphasized the role of sustainable development, starting from the challenges and shifts that were characteristic of the EU-28 labor market. In this respect, for a better understanding of the COVID-19 pandemic implications in the field of human sustainability, we propose a labor market analysis in the EU-28, starting from unemployment rates and employability. Moreover, scholars [31,51–53] emphasized a main shift produced in the EU-28 by “teleworking” and the volatility of traditional jobs in the new context based on digitalization. The first empirical result reflects an economic framework characterized by economic instability and a high level of likelihood for a future deep recession.

The beginning of 2020 brought significant shifts within the economic landscape both at national and international levels. Political measures associated with this crisis changed both economic behavior and the labor market. Thus, employability represents one of the parameters that suffered considerable changes due to the aforementioned health crisis. “In contrast, it is hard to overstate the extent to which the COVID outbreak has affected the world. All social groups, across all geographical regions, are at risk from contracting

the coronavirus if they leave their homes and mingle with potentially infected known or unknown people. Unlike any of the more recent pandemics, COVID control requires people who are not designated as ‘essential workers’ to spend long periods of isolation in their homes to protect against infection, which, in turn, has caused massive economic downturns. More than a health problem, COVID is a global crisis on a large scale. It has seriously affected all world regions, wreaking devastation on national economies and disrupting social life” [70] (pp. 16–17). The COVID-19 pandemic represented a global crisis with a deep impact on multiple levels, affecting contemporary society not only in medical terms, but also economically, politically, and so on. The very basic mechanisms of contemporary society were put under tremendous pressure, globalization becoming an unexpected vulnerability in the new pandemic context. At the same time, western societies, including European ones, proved to be more vulnerable in the face of the new pandemic in comparison with eastern ones [71]. One of the possible explanations is related to the complexity of western societies, in which competition among individuals is encouraged and the existence of divergent opinions which are publicly expressed represents an important rule of the democratic game [72]. Achieving sustainability, as far as the environment and economics are concerned, proved already to be a pretty demanding task in the past few years, given the recent economic crisis and the effects of climate change, but in the context of the new pandemic sustainability could be approached not only from an economical or an environmental point of view, but also from a public health perspective which is centered on broad coverage and durable egalitarian strategies regarding the access of populations to medical services [73].

An important issue for understanding the impact of employability fluctuations in the EU-28 is represented by material deprivation among young people. Eastern European countries are characterized by high levels of material deprivation among young people. In this context, Romania and Bulgaria have the highest rates of material deprivation, with values of >20%. It seems that approximately a quarter of young people from eastern countries are affected by the economic imbalances generated by the COVID-19 economic crisis. Employability of young people in Romania remained for many years a problematic one, with their real opportunities being in fact structurally constrained, which puts opportunities in contrast with the aspirations of the majority of young people with vocational studies. Therefore, one should hold the distinction between aspirations and expectations when analyzing the axiological tensions in which such socio-professional categories live [74].

Economic and business freedom should be seen as key concepts and strategies for decreasing the negative impact of economic restrictions and policies upon the labor market. Northern countries have adopted economic measures for sustaining entrepreneurship and minimal interventions in the field of economic affairs. Therefore, in the southern part of the EU, social restrictions and economic policies regarding the unemployment phenomenon have limited the positive effects of business freedom. Furthermore, traditional jobs and secondary education are limited in the economic context, which emphasizes the role played by ICT (Information and Communication Technology) in transferring traditional and non-essential jobs into “teleworkable” activities.

As far as gender inequalities are concerned, the COVID-19 crisis in the EU could be compared with the last economic crisis in the same region, a crisis that represented a considerable challenge for gender equality policies. Moreover, “there is little doubt that the times are not good for gender equality policies in the EU. [...] When asking what was gained and what was lost in terms of gender equality institutions and policies, we see that some institutions have persisted and resisted the downward spiraling trend in gender equality policy. Whilst discrimination against young women in the labor market has increased, [...] the anti-discrimination law banning this is still there” [75] (p.260). Similarly, one could easily take into account the same analogy as far as adaptive European policies in times of crisis are concerned”. The ad hoc and short-term policy responses to the crisis can be characterized as a reversion to type and a rejection of a legitimate position for gender equality policy in the main portfolio of employment policy. More broadly, the absence

of a gender perspective in key macroeconomic policymaking decisions is very clear in times of crisis but this was in fact the case during the benign economic period prior to 2008" [76] (p. 289).

As empirical findings suggest, youth could be considered an important variable for reducing the decreased level of employability. Associated with gender, young people are integrated in the sphere of vulnerable groups affected by the pandemic context. At the social and political level, the EU developed a strategy for reducing the gender and youth gap. Related to the COVID-19 pandemic, we have to mention the role played by the EU Youth Strategy 2019–2027 through 11 European Youth Goals [77]. In this context, the main objectives of the 11 European Youth Goals could be structured in three fields: engage, connect, and empower [77].

Human sustainability could be achieved through a stable labor market with high rates of employment by age and gender. For sustaining the job-to-job transition, the EU could take into account the possibility of vocational education and training for young people, as well as the creation of opportunities for business start-ups. In this context, reducing age and gender inequalities and inequities could be seen as representing the pillars for crystalizing EU policies related to the labor market. Life-long learning and business flexibility can be considered important strategies for increasing the level of employability in EU countries. In the pandemic context, countries that have developed economic strategies for sustaining flexible businesses as small and medium-sized enterprises (SMEs) are characterized by low rates of unemployment and positive values of economic growth.

Related to the research framework, this study emphasizes the negative impact of the pandemic on national economic systems [7,10]. Thus, for the research objectives O_1 and O_2 , we have confirmed H_1 in that the economic and social restrictions introduced during the pandemic were involved in economic degrowth (-6.7) and in high unemployment rates with the upper bound of >7.46 . For the research objective O_3 we estimated through H_3 that pandemic times represent a considerable challenge for people with secondary education. In the case of people with a high educational level (tertiary), we observed a positive relationship with increasing rates of employability. A good strategy for increasing employability should be life-long learning and the development of EU policies for sustaining academic education and new skills for flexible work. At the level of the theoretical approach, scholars have demonstrated the relationship between employability and sustainable development of future societies [11–14,18,19,25–27,30,31]. The research objective O_4 referred to the relationship between economic freedom and employability (H_4). Our statistical results estimated a middle relation between economic freedom and the increasing rates of employability in the EU-28. The core of this research states that vulnerable groups (by age and gender) and business freedom are predictors for employability. Economic freedom is related to business freedom and entrepreneurship, which are seen both by scholars and political actors as vectors for human and social development [22–25,37–39,48–53]. Moreover, the research objective O_5 is covered by H_2 and H_5 . Empirical results reflect the fact that the COVID-19 pandemic is strongly related to material deprivation in young people and decreased employability rates amongst women. There are two vulnerable categories which need to be supported through economic, social, and political measures by national and transnational decision-makers. High rates of unemployment and economic degrowth increased the level of social inequalities and material deprivation for young people in eastern European countries and Greece. The map of the EU-28 reflects an important cleavage between northern states interested in sustaining the youth and gender categories of people on one hand, and the other parts of the EU on the other hand, where there are significant differences related to vulnerable groups [54–65,71–77].

Synthesizing, the statistical results can be related to both the theoretical approach and political strategies for sustainable development in the EU system. Increasing education levels and reducing gender inequalities, and material and social deprivation, in young people should be correlated with economic freedom and increased opportunities for entrepreneurship.

5. Conclusions

Concluding, this paper aims to develop an exploratory and comprehensive framework for the relationship between human sustainability and the labor market in pandemic times in the EU-28. Political measures and economic strategies for survival during the crisis affected the labor market and the levels of employability. Macro-economic indicators present the frame of a deep economic crisis with high rates of economic degrowth and unemployment. In this respect, the aim of the paper was to analyze the labor market dynamics related to several predictors: material deprivation, economic freedom, education, and gender. Empirical findings estimated correlations with material deprivation among young people in the EU-28. The most affected socio-economic category by the economic effects of the COVID-19 pandemic is represented by young people with primary or secondary levels of education. Thus, educational level could be seen as an important variable that should be considered within the efforts for sustaining human development and for reducing imbalances generated by the economic crisis. We observe that a high level of education (tertiary education) is positively related to an increased level of employability. An important issue for analyzing employability in the EU-28 is represented by gender inequalities. Reducing the gender gap and socio-economic inequalities could be a good vector for solving the negative externalities of COVID-19 economic imbalances. Economic and business freedom could represent another predictor with regard to the increasing level of employability. By stimulating the individual resources and investment in the economy, entrepreneurship is involved in reducing unemployment and inflation rates. Economic freedom is related to workplace productivity, free choice, competitiveness, and real opportunities for increasing employability. The empirical findings presented within the paper could be useful in the effort of refining the theoretical approach of the aforementioned crisis and for political decision-makers interested in reducing the negative socio-economic effects generated by the COVID-19 pandemic.

Author Contributions: The authors have contributed and collaborated for the whole manuscript. However, the theoretical approach and conceptualization were realized by N.G. and H.C.C. The methodological part, formal analysis and empirical results were realized by S.-P.G. The introduction part, discussions and conclusions were realized by N.G., S.-P.G. and H.C.C. The supervision and coordination of the research project was realized by N.G. All authors have contributed substantially to the research work and paper. All authors have read and agreed to the published version of the manuscript.

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Data Availability Statement: Quantitative data were extracted and collected from secondary sources and archives as follows: *Employment Rate/Employment Rate by Gender (Women)/Employment Rate by Education (Primary & Secondary)/Employment Rate by Education (Tertiary)*: https://ec.europa.eu/eurostat/databrowser/view/lfsi_emp_a/default/table?lang=en (accessed on 15 October 2021); *Unemployment Rate*: https://ec.europa.eu/eurostat/databrowser/view/une_rt_a/default/table?lang=en (accessed on 15 October 2021) https://ec.europa.eu/eurostat/databrowser/view/une_rt_m/default/table?lang=en (accessed on 18 January 2022); *Economic Growth*: <https://ec.europa.eu/eurostat/databrowser/view/tec00115/default/table?lang=en> (accessed on 15 October 2021); *Inflation Rate*: <https://www.heritage.org/index/explore?view=by-variables&u=637761757502048382> (accessed on 10 December 2021); *Inactive Population*: https://ec.europa.eu/eurostat/databrowser/view/lfsq_igacob/default/table?lang=en (accessed on 15 October 2021); *Material Deprivation by Age (Young)*: https://ec.europa.eu/eurostat/databrowser/view/ILC_MDSD01__custom_1821082/default/table?lang=en (accessed on 15 October 2021); *Labor Mobility*: https://ec.europa.eu/eurostat/databrowser/view/lfst_lmbpcoba/default/table?lang=en (accessed on 15 October 2021); *Labor Freedom/Business Freedom/Economic Freedom*: <https://www.heritage.org/index/explore> (accessed on 10 December 2021); *Human Development Index*: <http://hdr.undp.org/en/countries> (accessed on 5 November 2021); *Gini Coefficient of Inequality*: <https://data.worldbank.org/indicator/SI.POV.GINI> (accessed on 20 October 2021).

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