

Revealing the Causes of Long-Term Youth Unemployment in Croatia – A Mixed Method Study *

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Long-term unemployment rates, especially among the young, are at record low levels in the EU. However, despite continuously posting economic growth rates above the EU-27 average and low unemployment rates, Croatia's long-term youth unemployment rate remains above the EU-27 average. The aim of this paper is to explore the predictors of long-term youth unemployment in Croatia in order to gain a deeper insight into the reasons for this adverse outcome. Our results suggest that higher adaptive problem solving, numeracy and literacy skills are associated with a significantly lower probability of prolonged unemployment among young people who had not participated in training over the previous 12 months. In addition, better social skills are also associated with a lower probability of suffering long-term unemployment, with their importance being recognized by both young people and Croatian Employment Service case workers.

Keywords: long-term youth unemployment, Croatia, soft skills, semi-structured interviews.

INTRODUCTION

Regardless of the business cycle phase, the prevalence of long-term unemployment continues to be one of the key concerns for policy makers. While unemployment itself might be viewed as a failure to appropriately use available human resources, long-

term unemployment additionally exerts detrimental effects on individuals and society. The need to prevent long-term unemployment has been particularly emphasized in the European policy context (Machin and Manning, 1999; Borghouts-van de Pas et al., 2021). Efforts to prevent long-term

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unemployment, in particular through the extensive use of active labour market policies, have been justified by the detrimental effects of unemployment on individuals' employability prospects (McQuaid and Lindsay, 2005). It has been suggested that the mechanisms affecting the duration of unemployment operate through skills depreciation (O'Higgins et al., 2023). An unemployed person has few opportunities to practice previously acquired skills and even fewer opportunities to gain new work-related skills, making extended periods of unemployment a strong negative signal to potential employers. This is particularly important for youth as new labour market entrants.

Youth labour market outcomes present a special concern for policy makers. While it has been acknowledged that young people frequently transition into and out of the world of labour and are prone to job-hopping (Forsythe, 2022; Soares and Berg, 2022; Breunig et al., 2024), the literature also suggests that youth encounter more barriers when entering the labour market, due to their lack of specific work- or job search experience (Pastore, 2023). Consequently, there is a vast literature documenting obstacles in successful school-to-work transitions.

While the focus of analyses of the youth labour market has recently turned to the NEET (*Not in Education, Employment, or Training*) population, aiming to capture the reasons for the economically unproductive use of young people's time in general, we aim to revert the focus to long-term youth unemployment. Thus, we are specifically interested in factors contributing to the inability of youth explicitly seeking work to successfully enter the world of labour in low-unemployment environments. Having in mind the importance of the topic for policy makers, the scarcity of literature analysing this spe-

cific target population is alarming. The primary contribution of this paper is to provide insight into this issue for Croatia, a country with long-lasting youth unemployment issues, at a time when the long-term youth unemployment rate has significantly declined from its peak in 2013, but remains above the EU27 average. The second contribution of the paper is to ascertain the predictors of long-term youth unemployment, by resorting to multiple data sources, thus enabling more in-depth insights than previous studies. Our analysis reveals that higher skills in adaptive problem solving, numeracy and literacy are linked with a significantly lower probability of prolonged unemployment, but only among those long-term unemployed who did not participate in formal training during the previous 12 months. We have established that extraversion is associated with lower likelihood of long-term unemployment, and that young people are aware of their soft skills deficiencies, which contributed to their positive assessment of the related activation measures provided by the Croatian Employment Service (CES).

The paper adopts the following structure: the next section briefly summarizes the relevant literature. Section 3 explains the methodology and data sources, while section 4 presents the results of the analysis and discusses how these relate to previous findings in the literature. The final section offers conclusions.

LITERATURE REVIEW

Studies of long-term unemployment frequently emphasize the importance of its adverse effects on individuals and society as a whole. The experience of unemployment is likely to lead to negative employment prospects in the future, which has been labelled 'a scarring effect'. The reasons why this occurs have been put forward within three major labour market

theories: the human capital, the signalling, and the job search theory.

The human capital theory sees individuals participating in the labour market as agents carrying specific sets of skills, which can be associated with their (potential) productivity (Pissarides, 1992). Prior to employment, individuals acquire skills through education. The theoretical explanation of the association between education and skills is the education production function (Hanushek, 1979), where time and effort are inputs and skills are outputs. Lower educational attainment is subsequently associated with lower effort. Individuals with lower educational attainment are thus perceived by potential employers as low productivity agents, leading to a higher risk of unemployment (Bell and Blanchflower, 2011). Employment, on the other hand, enables the acquisition of firm-specific skills that directly influence the positive productivity increase spiral and additionally increase an individual's capacity to renegotiate their remuneration for the work they perform. A lack of labour market attachment thus implies the depreciation of existing skills, while in some cases, the individual's skills become obsolete. Furthermore, being unemployed makes it impossible to gain the new skills that peers who remain in employment have access to, which leads to lower wage offers in subsequent employment engagements. Throughout their life, an individual with multiple spells of unemployment is likely to accumulate fewer earnings, which makes the scar of unemployment visible. An interesting implication of human-capital theory is emphasized by Struffolino and Borgna (2021). They explain that low-educated individuals are more likely to endure longer unemployment spells because the opportunity costs of their non-participation, i.e. their potential wage, are lower on average.

The signalling theory places the labour market demand side in focus (Spence, 1973; Vishwanath, 1989; Lockwood, 1991). When hiring, employers are not observing the productivity of potential employees, so they make their decisions based on the observable 'signals', such as previous work experience, whether the potential employees have had unemployment spells, duration or frequency of unemployment spells. This directly contributes to the unemployment hysteresis, as unemployed individuals are less likely to be hired, and if the employers perceive their productivity to be lower, they are more likely to be offered lower wages. The signalling theory is particularly suited to the explanation of the disproportionate disadvantage of youth during economic downturns. Since young people are first-time entrants, they have no prior work experience, and the 'signal' of their potential productivity is not evident to the employers. Given that economic crises bring an abundance of job seekers to the market, some with strong productivity 'signals', employers are less likely to choose youth.

The job search theory brings into focus the outcome of the interplay between labour supply and demand, i.e. the quality of the job-match as a result of the job search process. In this setting, young people's job-hopping, frequently observed in empirical studies, is perceived as a search for a better match, possibly leading to increased earnings (Burdett, 1978; Mortensen, 1988). It is also possible that an unemployment spell is not associated with a long-lasting scar if the unemployment period is utilized to search for a better match. This theory enables the discussion of active labour market policies and the role of the efficiency of job market intermediaries, as their activity is closely related to the quality of the job match. For example, if the active labour market poli-

cies are not targeting the relevant population, i.e. if the measures are only available to highly employable individuals, this misdirection could contribute to the persistence of aggregate unemployment.

Relying on these theoretical frameworks, empirical studies aimed to identify predictors of adverse labour market outcomes. They usually focus on three groups of factors contributing to adverse (youth) labour market outcomes: individual characteristics, family background and economic environment.

The staple individual characteristics in the labour market outcomes analysis include age, sex and educational attainment. In the case of youth, age and educational attainment are highly correlated, with education strongly affecting youth labour market outcomes (Rahmani and Groot, 2023). Educational attainment is closely related to human capital, defined as ‘the knowledge, skills, competencies and other attributes embodied in individuals that are relevant to economic activity’ (OECD, 1999). Thus, higher educational attainment is positively associated with employment prospects. Deming (2017), however, emphasizes that in addition to traditional skills like literacy, numeracy and problem-solving, which can be acquired through the educational system, modern labour markets seek social and emotional skills, such as communication or collaboration skills. Recent studies also include disaffection, i.e., the negative attitudes that youth have towards education or the labour market (Eurofound, 2017), in the overall skills mix relevant for employment.

Empirical studies frequently establish that certain demographic groups, such as youth, women, people belonging to ethnic minority groups, immigrants, people with disabilities or suffering from chronic illnesses, are in a more disadvantaged position on the labour markets (Eurofound,

2017; Quintano et al., 2018; Mascherini, 2019). However, the relative disadvantage of each subgroup is not always persistent over time and varies with different macroeconomic conditions. For example, Pastore (2023) argues that, although studies usually find that women are more penalized due to their caregiving roles, there are countries and periods when young men experienced a more disadvantaged position. This suggests that the importance of specific predictors is an issue that should be resolved empirically.

There are many mechanisms through which family backgrounds influence youth labour market outcomes (Rahmani and Groot, 2023). Young people who are children of immigrant, poor or unemployed parents have more difficulty accessing high-quality education and fewer chances of participating in informal skill-gaining activities, because their parents have limited access to financial resources and relevant networks (Kerschbaumer et al., 2024). On the other hand, relatively more affluent parents can provide access to resources and extend the job search period until their child finds an appropriate job (Medgyesi and Nagy, 2019).

Overall economic conditions influence the job-finding prospects of both youth and their parents. The Great Recession has clearly revealed the disadvantages faced by young people during the crisis (Chung et al., 2012; Eichhorst et al., 2013; Caporale and Gil-Alana, 2014), particularly in southern and eastern European countries (Pastore, 2018), revealing the long-lasting effects on the new entrants (Schmillen and Umkehrer, 2018; De Fraja et al., 2021). This prompted discussions both on the country level and regarding local business environment conditions that affect the specific labour market conditions. For example, school-to-work transitions have been found to be affected by national factors

such as the welfare system, employment protection legislation and specific active labour market policies (Blokke et al., 2023), and local factors, such as residing in rural areas (Quintano et al., 2018; Mascherini, 2019). Since this paper focuses on a single country during a specific period of time, we do not explore the overall business conditions in detail. More attention is given to the individual and household conditions. The details of our approach are presented in the following section.

METHODOLOGY AND DATA SOURCES

In order to provide a comprehensive answer as to the factors contributing to youth long-term unemployment in Croatia, we use both quantitative and qualitative methods. We start with the analysis of the Labour Force Survey (LFS), the most frequently utilized data source for the analysis of labour market outcomes. The empirical analysis is based on the latest available EU-LFS microdata for the year 2023, enabling access to individual anonymized responses. The overall sample is restricted to persons aged 15-29.¹ Based on the preliminary analysis of the data, which revealed that the EU-LFS Croatian sample does not include youth unemployed for longer than 12 months, we formed two subsamples. In the first category, we have included unemployed persons who had been looking for a job for longer than 6 months (i.e., long-term unemployed) and young persons who were employed in 2022 and 2023 (i.e.,

long-term employed).² In the second, we include unemployed youth who had been looking for a job for less than 6 months (i.e., short-term unemployed) and youth employed during 2023 (i.e., short-term employed). The rationale for creating these subsamples is that we wish to compare unemployed youth with their peers who had made a successful transition into the labour market in a similar economic environment.

This segment of the analysis is devoted to answering following research questions:

1. Which individual, household and economic environment factors predict young people's (long-term) unemployment status during favourable macroeconomic conditions in Croatia?
2. Are there any differences between predictors of short-term and long-term unemployment?

The list of potential factors contributing to youth unemployment is inspired by the relevant literature and the availability of EU-LFS data. Subsequently, we include a set of individual characteristics (sex, educational attainment, migrant status), household characteristics (number of household members, presence of children in the household, presence of partner in the household, presence of parents in the household, share of unemployed household members) and general conditions in the economic environment (degree of urbanisation). The descriptive statistics, along with the definitions of variables, are presented in Table 1.

¹ While the most used definition of youth encompasses those aged 15-24, in the Croatian case, policies aimed at supporting youth employment, such as the Youth Guarantee, adopted a definition of 15-29 to accommodate for the specificities of the Croatian labour market.

² This was assessed using the variable capturing tenure with the same employer.

Table 1

Short- and long-term unemployed and employed youth in Croatia: LFS descriptive statistics

Variable	Definition	Sample	Sample means (standard errors)			
			Short-term unemployed	Long-term unemployed	Short-term employed	Long-term employed
Sex	=binary variable, male reference	Male	52.1	38.71	52.37	51.70
		Female	47.9	61.29	47.63	48.30
Education	=categorical variable, low education reference	Low	4.55	12.90	2.89	2.34
		Medium	74.48	77.42	67.11	65.30
		High	20.98	9.68	30.00	32.36
Immigrant	=binary variable, non-native born reference	Native born	97.55	93.55	98.16	97.77
Parents in household	=binary variable, no parents reference	Parents present	90.21	87.10	86.84	88.86
Children in household	=binary variable, no children reference	Child present	5.59	3.23	5.53	4.92
Partner in household	=binary variable, no partner reference	Partner present	6.99	3.23	9.47	7.97
Household size	=number of people in the household	Number of people	4.10 (1.57)	3.48 (1.23)	3.86 (1.39)	3.95 (1.36)
Unemployed household member share	=share of unemployed adults in the household	Share	0.32 (0.17)	0.41 (0.22)	0.03 (0.09)	0.03 (0.08)
Degree of urbanisation	=categorical variable, cities reference	Cities	18.18	19.35	25.79	22.04
		Towns	32.17	29.03	28.16	28.72
		Rural	49.65	51.61	46.05	49.24
Number of observations			286	31	380	853

Source: authors, based on EU-LFS.

Since our main focus is long-term unemployment, it has to be emphasized that the data offers a relatively low number of young unemployed individuals. This suggests that all the subsequent conclusions based on this dataset should be taken with caution, as the statistical power of the presented results is limited. In addition, we can notice that the structure of the sample is as expected, revealing that young women's share in long-term unemployment is higher, while the employment share is

higher for people with higher educational attainment. To enable discussion on the predictors of long-term unemployment, for each of the previously discussed subsamples (short-term unemployment and employment, and long-term unemployment and employment), we estimate the probability of being unemployed against the list of potential predictors. This implies that two probit models with the same list of covariates were estimated. To ease the interpretation, the results section presents

marginal effects after the estimates in Table 3.³

While LFS-based analysis enables insight into standard labour market outcome predictors, having in mind a stronger emphasis on skills deficiencies in the literature, but also in the public discourse, we further seek to explore the association between skills and personality traits, and long-term unemployment. To that end, we have formulated the following research questions:

3. To what extent are specific skills and personality traits related to the probability of long-term unemployment?
4. Are long-term unemployment predictors different for youth receiving additional training through measures supported by public employment services?

In order to see if and how differences in skills contribute to long-term unemployment among youth, we use data from the Survey of Adult Skills (SAS), conducted as part of the Programme for the International Assessment of Adult Competencies (PIAAC). Data collection was scheduled from 1 September 2022 to 30 April 2023; however, in the case of Croatia, the survey was completed by the end of June 2023. The SAS has been conducted among adults aged 16-65, providing data about their skills in literacy, numeracy and problem solving (OECD, 2024). In addition, we also utilized the personality characteristic extraversion, as one of the Big Five dimensions that can be more easily observed by an employer during job interviews. While the careful survey design of the SAS guarantees that results can be meaningfully compared across countries and economies, the standardisation of the

IRT-derived skills use indices implies that comparisons across skills domains should be taken as merely suggestive. Thus, there is no strict comparison between the observed proficiency in numerical skills and proficiency in literacy.

We constrained our sample to people aged 16-29 and separated it into four categories. Contrary to the EU-LFS sample, which does not include youth who had been unemployed for longer than 12 months, the PIAAC sample enables this type of analysis. Therefore, we define the short-term unemployed as those respondents who state that they had been unemployed for less than 12 months. The 'employed' category contains respondents who were employed at the time of the interview. The long-term unemployed respondents are those who had been unemployed for 12 months or more, and the ones who had no working experience, but had finished their education more than 12 months previously.⁴

Additionally, we wish to explore the relationship between long-term unemployment and certain active labour market policy measures aimed at upgrading skills. In Croatia, the most frequently used active labour market policy is the training measure, particularly the "Voucher-based Training for the Acquisition of Competencies Required for Employment" (Croatian Employment Service, 2025). Since such training can last up to 12 months and possibly prolong the duration of unemployment, we have created an additional set of long-term unemployed people who have not taken any formal training over the previous 12 months. Furthermore, we have extended the previously described

³ The original estimates of the models are presented in Table 5 in Appendix A

⁴ We thank an anonymous reviewer for pointing out the distinct trajectories within the long-term unemployed group. Additional analyses accounting for this heterogeneity were conducted. The results do not differ from the main conclusions and are available from the authors upon request.

potential predictors of young people's unemployment status, augmenting them with the specific skills and personality charac-

teristics available in PIAAC. The descriptive characteristics of the PIAAC sample are presented in Table 2.

Table 2

Short-term unemployed, long-term unemployed and employed youth in Croatia: PIAAC descriptive sample

Variable	Definition	Sample	Sample means (standard errors)			
			Short-term unemployed	Long-term unemployed	Long-term unemployed without training over the previous 12 months	Employed
Age	=number of years	Years of age	21.38 (3.72)	20.36 (3.69)	23.58 (3.89)	25.10 (3.10)
Sex	=binary variable, male reference	Male	60.86	44.97	35.08	54.07
		Female	39.14	55.03	64.92	45.93
Education	=categorical variable, medium education reference	Low	0.00	1.49	3.81	0.34
		Medium	83.45	92.87	83.65	72.73
		High	16.55	5.65	12.54	26.93
Immigrant	=binary variable, non-native born reference	Native born	98.12	97.02	95.87	96.41
NUTS2	=categorical variable, City of Zagreb reference	Northern	11.43	19.82	14.22	24.94
		Pannonian	21.82	25.34	33.02	22.73
		Adriatic	49.34	26.80	36.56	34.90
		City of Zagreb	17.41	28.04	16.20	17.43
Number of children	=number of children	Children number	0.05 (0.28)	0.12 (0.57)	0.51 (1.11)	0.24 (0.66)
Partner in household	=binary variable, no partner reference	Partner present	8.14	7.28	25.81	27.18
Household size	=number of people in the household	Number of people	4.12 (1.50)	4.03 (1.30)	3.95 (1.29)	3.53 (1.48)
Employed partner	=binary variable, unemployed partner reference	Partner employed	4.88	5.85	22.76	22.87
Health status below average	=dummy variable, above-average reference	Health status good, fair or poor	16.23	10.52	27.19	11.75
Adaptive Problem Solving score decile rank	=decile ranking of the Adaptive Problem Solving score	Deciles	6.15	6.72	5.34	6.16
Numeracy	=decile ranking of the Numeracy score	Deciles	6.05	6.34	5.10	6.18
Literacy	=decile ranking of the Literacy score	Deciles	5.81	6.54	5.43	6.23
Extraversion	= z-score; compared to the average	Z-score	0.077 (0.967)	0.002 (0.973)	-0.221 (0.978)	0.141 (0.916)
Number of observations			117	468	99	485

Source: PIAAC, weighted.

Descriptive statistics reveal interesting differences in characteristics of the long-term unemployed when considering whether they had participated in the training. Thus, it can be noticed that the long-term unemployed with family obligations (indicated by the presence of a partner in the household, having more children or the respondent being female) are more represented among the population that does not participate in training. At the same time, it can be seen that this population obtained the lowest scores in all the skills aspects considered. This points to the important role that the family environment plays for young people, particularly women, in their entry into the labour market. Furthermore, the descriptive statistics highlight that the long-term unemployed with the lowest observable skills are the least included in the skills-attainment programmes offered by the Croatian Employment Service.

To investigate these factors in more detail, we explore the predictors that significantly contribute to the probability of a young person being long-term unemployed and the probability of being long-term unemployed without training over the previous 12 months. For that purpose, we have formulated two subsamples. First, we contrasted the long-term unemployed and the employed, similar to the analysis based on the EU-LFS sample, with the distinction that the long-term unemployment in this case is for a period longer than 12 months. Second, precisely because the LFS sample does not allow for the analysis of long-term unemployment for a period of more than 12 months, we additionally explored the differences between those unemployed for a period longer than 12 months and

those unemployed for less than 12 months. This analysis enables investigation of the long-term unemployment predictors for the most vulnerable group on the labour market. As potential predictors, we include the variables listed in Table 2.

To supplement our quantitative findings, we have also conducted a number of semi-structured interviews⁵ with young unemployed persons registered with the Croatian Employment Service, Croatian Employment Service case workers, employers and NGO organizations focused on youth. The interviews were conducted during the period November 2024 – February 2025. The interviews with young unemployed persons and CES case workers were held in CES premises. Based on CES data on registered unemployed persons, 6 cities representing the counties with the highest number and/or highest share of registered long-term unemployed young people were chosen (Bjelovar, Osijek, Sinj, Sisak, Vukovar, Zagreb). The unemployed persons were identified by the CES case workers based on their availability and were not necessarily residents of the visited cities, some of them being from the adjacent rural areas. In total, interviews with 12 unemployed persons and 6 CES case workers were conducted until saturation has been achieved (Saunders et al., 2018).

We also conducted interviews with 3 NGOs and 1 employer. While the responsiveness of the NGOs was satisfactory, saturation was achieved relatively quickly. On the other hand, the responsiveness on the employers' side was not satisfactory. For this reason, the results section does not include employers' perspectives.

⁵ The Survey was approved by the Ethical Committee of the authors' institution, the approval formally issued on November 12, 2024, prior to conducting the interviews. All participants were fully informed about why the research is being conducted, that their anonymity is assured and how their data will be used. The Survey contained an opt-out option for all the participants. The interviews were recorded, anonymised and transcribed, and subsequently analysed by the authors.

To analyse the responses, we conducted a thematic analysis. The interview guides, which differed across the types of respondents, already included pre-defined main topics, identified through the literature review. After transcription of the interviews, two authors independently reviewed the transcripts and produced the initial codes. Each author subsequently identified preliminary themes based on the identified patterns in the data. The authors compared their coding and thematic structures, discussed discrepancies, and refined the preliminary identified themes until they reached consensus.

The results of the analysis are presented in the following section.

RESULTS AND DISCUSSION

The EU-LFS data analysis on recent Croatian data does not offer novel insights into the predictors of youth long-term unemployment. When compared with peers employed for a longer period, not a single covariate was found to be significant for predicting youth unemployment over more than 6 months. The situation is somewhat different when we focus on those who have been unemployed for shorter periods in comparison to recent employees. It seems that (short-term) unemployed are more frequently found among women, those living in larger households and households with a higher share of unemployed adults. While this largely confirms previous findings from the literature, that family background can adversely affect young people's initial job search efforts (Rahmani and Groot, 2023; Kerschbaum et al., 2024), it is somewhat puzzling that the same effects are not sustained over longer periods.⁶

Table 3

Marginal effects after probit estimation predicting youth unemployment vs. employment based on LFS data

Variables	Long-term unemployed	Short-term unemployed
Female	0.002 (0.001)	0.122** (0.061)
Edu Medium	-0.003 (0.002)	-0.128 (0.192)
Edu High	-0.004 (0.003)	-0.176 (0.196)
Native born	-0.000 (0.001)	-0.078 (0.112)
Parents present	0.002 (0.002)	-0.227 (0.175)
Number of people	-0.000 (0.000)	0.126*** (0.024)
Unemployed share	0.017 (0.014)	3.567*** (0.363)
Child present	-0.001 (0.001)	0.008 (0.213)
Partner present	0.004 (0.004)	0.211 (0.206)
Urban	0.001 (0.001)	0.025 (0.078)
Rural	0.001 (0.001)	-0.093 (0.072)
N	884	666

Source: authors, based on EU-LFS. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Our quantitative results are in accordance with the usual findings from the literature, which emphasize the difficulties the female population encounters when searching for jobs because of caring responsibilities (for example, Kelly et al., 2012). Furthermore, this has also been emphasized by our interviewees. For example, a young woman specifically mentions that caring responsibilities are an obstacle for her effective job search:

⁶ Part of the explanation could be related to the relatively small number of long-term unemployed in the EU-LFS sample.

“For me, the biggest challenge is how to find a job when I have no experience ... and where to leave my child for child-care... I can’t get kindergarten. Priority for kindergarten is given to those whose father and mother are both employed, and they probably think that I can take care of the child and look for a job at the same time. ... I have a small child and I tell the counsellor that I can’t go anywhere because I have no one to leave him with and she tells me that then she will delete me from the records. Once I had to take him with me to public works and to a meeting with the counsellor. I don’t have any family here, so I don’t have anyone to step in for me.” (P12)

The PIAAC data enabled further analysis of longer-term unemployment (beyond 12 months) and also explored the effects of skills and personal characteristics. To that end, long-term unemployed youth (with and without training) were compared with their employed peers, as well as with their short-term unemployed peers. This differs somewhat from the EU-LFS estimates, which compare unemployed youth only with their employed peers. However, since the EU-LFS predictors were not consistent over the duration of unemployment, we additionally explored the differences between short and long-term unemployed youth. Although this distinction is not sufficiently clear, as each young person classified as short-term unemployed can go on to become long-term unemployed, we still believe that this additional layer of analysis can provide interesting insights. The results of the marginal effects after the probit estimates are presented in Table 4.⁷

We will first turn our attention to the results where long-term unemployed are compared with their employed peers. Similar to the empirical analysis based on LFS

data, we find that young women have higher probabilities of being long-term unemployed. The previously emphasized caring responsibilities are here confirmed by the strong positive effect of the presence of children in the household on the long-term unemployment probabilities. The results portray interesting family roles. When a partner is present in the household, the probability of long-term unemployment is lower. However, when a partner is employed, the probability of long-term unemployment without training is higher. While this issue deserves further investigation, it seems that there are important heterogeneities among young households. In some cases, supporting mechanisms imply joint job search efforts. However, in other cases, support mechanisms can imply that the employment status of one partner enables persistence by the other partner in their prolonged search for a job, where they ‘stick’ to their preferred profession regardless of the current labour market demand. As examples from a young man and a young woman show, they are dedicated to searching for a job within their specialization:

“I don’t want to work outside my profession; I didn’t graduate from college for nothing.” (P13)

“I decided on the profession because it always interested me. I would try to look for a job in the profession a little longer. I mean, after so many years of studying and now changing my profession completely... when I was struggling and all that... I hope something will happen soon. ... If I found myself in a situation where I had to change location or profession, I would really have to think carefully.” (P5)

When compared to their employed peers, higher education is associated with a lower likelihood of long-term unemploy-

⁷ The original estimates of models are presented in Table 6 in the Appendix A.

ment, suggesting the safeguarding role of education against the duration of unemployment. However, when we focus on the long-term unemployed without training, this effect disappears. It could be the case that the additional training activities are mostly recognized and utilized by those with higher education, who can identify the potential of gaining additional references through training. Indeed, our interviewees generally positively assess the new training offer provided by the CES, as documented by two young females:

"I hope that this will make it easier for me to find a job, even if it's outside my field." (P8)

"Those vouchers are a good thing, there are really all kinds of possibilities. I just have to find a job with them." (P12)

Our skills-based analysis provides interesting results, somewhat contrary to previous findings in the literature. Kelly et al. (2012), based on data from Ireland, suggest that those with a high risk of long-term unemployment have very low educational attainment, and a considerably higher proportion of them have literacy/numeracy problems. However, it seems that compared to their employed peers, Croatian youth in higher deciles of adaptive problem-solving skill rankings have a significantly higher probability of being long-term unemployed,⁸ but the sign of their personality characteristic, extraversion, is opposite. This points to a segment of the youth labour market where individuals with high skills believe that they have invested significant effort in their education and are willing to remain in unemployment for longer periods waiting for

the appropriate job position.⁹ Also evident from the interviews is that in such cases, youth enjoy extensive support of their families in their labour market choices.

Thus, the composition of our sample of long-term unemployed youth is very different from the Irish sample, suggesting that labour market conditions should be carefully considered when discussing the position of youth in the labour market. Instead of the more traditional predictors related to educational attainment, which seem to sufficiently act as predictors of long-term unemployment in the economic boom phase, the low-unemployment environment is not strictly associated with the safeguarding role of educational attainment and gives a stronger role to personality characteristics. Our interviews have confirmed that young people are aware that their self-confidence issues may create an important obstacle in their job search efforts. For example,

"Sometimes I'm uncomfortable in those interviews, so I get a little confused..." (P21)

"But then when the interview comes, I don't know how to introduce myself and I get stuck. I think that's a big problem for me, those communication skills, and that's why I love this activation workshop where we talk about that too." (P22)

"What helped me was this activation workshop, it made me realize that I need to have more confidence in myself. I have a really big problem with not applying for jobs that I think I won't get or that I don't have the necessary knowledge for." (P21)

It was also clear from the interviews that unemployed youth appreciate the

⁸ Due to the high correlation between adaptive problem solving, numeracy and literacy scores, we decided to keep only the adaptive problem solving decile rank in the model. When run separately, both the higher literacy and the higher numeracy decile ranks are associated with significantly higher probabilities of being long-term unemployed compared to being employed.

⁹ We would like to thank an anonymous reviewer for pointing to this issue.

training activities that help them to gain communication skills. This aligns well with the literature claiming that soft skills are in high demand on the labour market (Heller and Kessler, 2022). Young people's positive

response to these programmes is encouraging because existing evidence from the literature suggests that participation in these types of programmes increases employability (Schlosser and Shanana, 2025).

Table 4

Marginal effects after probit estimation predicting youth long-term unemployment vs. employment and vs. short-term unemployment

Variables		Employed		Short-term unemployed	
		Long-term unemployed	Long-term unemployed without training over the previous 12 months	Long-term unemployed	Long-term unemployed without training over the previous 12 months
Age		-0.056*** (0.003)	0.002 (0.003)	-0.009 (0.006)	0.020*** (0.004)
Female		0.069** (0.028)	0.045** (0.021)	0.113*** (0.039)	0.058** (0.028)
Education	Low	0.142 (0.176)	0.200 (0.154)	-	0.254* (0.138)
	High	-0.076* (0.045)	-0.020 (0.028)	-0.162 ** (0.082)	-0.039 (0.040)
Immigrant		0.111 (0.068)	-0.012 (0.042)	0.090 (0.071)	-0.061 (0.067)
NUTS2	Adriatic	-0.159*** (0.043)	0.024 (0.032)	-0.171*** (0.057)	0.022 (0.040)
	Pannonian	-0.142*** (0.045)	0.021 (0.032)	-0.045 (0.0558)	0.048 (0.041)
	Northern	-0.192*** (0.040)	-0.019 (0.029)	-0.002 (0.054)	0.026 (0.040)
Number of children		0.119*** (0.031)	0.060*** (0.018)	0.170** (0.066)	0.150*** (0.050)
Partner in household		-0.265** (0.111)	-0.188** (0.074)	-0.253* (0.145)	-0.366** (0.166)
Household size		-0.007 (0.012)	0.002 (0.007)	-0.020 (0.015)	-0.007 (0.010)
Employed partner		0.065 (0.104)	0.162** (0.067)	0.143 (0.166)	0.418*** (0.148)
Health status below average		0.076* (0.045)	0.130*** (0.045)	-0.062 (0.061)	0.117** (0.054)
Adaptive Problem Solving score decile rank		0.012** (0.005)	-0.006 (0.004)	0.005 (0.007)	-0.012** (0.005)
Extraversion		-0.024* (0.015)	-0.011 (0.011)	-0.014 (0.020)	-0.004 (0.014)
N		950	950	575	581

Source: authors, based on PIAAC. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

When the long-term unemployed are compared with the short-term unemployed, most of the predictors remain of the same sign, although the significance is not always confirmed, probably due to the smaller sample size. One of the most intriguing is the one related to the skills indicator. While the relationship between higher skills and long-term unemployment is positive but not significant, the results indicate that those with higher skills are less likely to be long-term unemployed without training.¹⁰ This points to a unique group that we have discovered during our interviews, that is, a group of young unemployed persons registered as unemployed, but waiting for a chance to utilize the re-skilling programmes offered by CES in order to change their profession and increase their chances of pursuing an alternative career path instead of the one designated by their original educational attainment:

"I am currently unemployed and looking for a job, but I spend most of my time waiting for these vouchers..." (P17)

This finding is also supported by the views of CES case workers:

"They came [i.e. registered] specifically for training. ... He heard about it somewhere in the media and he specifically applied to the CES to receive training." (P1)

We have to emphasize the strong congruence of the findings from our interviews with the results of Bežovan et al. (2019), who focused on the NEET population in the City of Zagreb. For example, young unemployed persons and NGO representatives emphasize their lack of experience as a major obstacle when searching for a job:

"Employers prefer people with experience. I had one [job application] too,

like... I met all the [other] criteria and the qualifications and everything and the school, but I didn't have years of work experience and so I was rejected." (P5)

"...they won't hire me because I don't have a single day of work experience in that profession. And how can I have one when no one will give me a job?" (P12)

"I hear a lot of people complaining: 'I've had some young people come to work who don't know how to do anything.' I know they don't. These people don't know how to enter a [document] class and a registration number. You can't expect people to know everything, you have to be aware that whoever comes to you, you have to have a mentor for that person who will guide them by the hand for the next 6 months. No one is born with this knowledge." (P14)

Furthermore, Bežovan et al. (2019) indicate that young people are aware of illegal methods of employment. A number of our interviewees listed this as a potential problem, which they argue that is even more pronounced in smaller communities:

"Maybe the problem is that my profession is closely related to public administration and that's where I'm only looking for a job, and for that I need connections that I don't have." (P10)

"I think the situation needs to change across the country, you need to have connections wherever you go." (P11)

"The second [thing] is distrust in institutions as such, the political system is... the attitude is that it is corrupt, inefficient, that they will not make any changes... they [young people] think that any participation by them is pointless." (P14)

¹⁰ Due to the high correlation between adaptive problem solving, numeracy and literacy scores, we decided to keep only the adaptive problem solving decile rank in the model. When run separately, both the higher literacy and numeracy decile ranks were associated with a significantly lower probability of being long-term unemployed without training than being short-term unemployed.

However, such perceptions can develop when youth are disconnected from the daily routines of their friends and family members. Lindsay (2010) and Peterie et al. (2019), among others, document decreased social connections and a lack of regular social interactions, such as meeting friends for coffee, as frequently resulting in longer unemployment spells. At the same time, social contacts can be a source of valuable information about employment experiences. Therefore, the lack of contact can be associated with the vicious circle that prolongs the unemployment spell.

It is interesting to note that, in contrast to NEETs, who are frequently not attached to the public employment service and are relatively hard to reach, the population we interviewed finds registration with the Croatian Employment Service a normal pathway in the school-to-work transition. Indeed, they claim that most of their friends register with the CES and that they do not have friends in their circle who are looking for a job through channels other than the CES.

“The very perception of the CES and the application is that it’s something you have to do and that it’s normal, so I don’t know, I think that’s why most people apply.” (P10)

“But again, I think most people register because it’s something normal and something that has to be done.” (P12)

“It’s a kind of normal process that when you finish college, you register.” (P13)

“Most people register on their own after school, if someone doesn’t want to, they shouldn’t even register.” (P21)

“I don’t know anyone who hasn’t registered. I think the biggest incentive for people to register would be if the CES opened up a bit and showed how things really work there. As I said, I thought nothing was being done there, but my opinion changed after I registered.” (P22)

“Everyone I know either has a job or is registered with the Employment Service. If they get fired or quit their job, they register.” (P3)

We can infer that our results point to a strong heterogeneity among the NEET population. Those who register with the CES are part of a network of peers who pursue their job search efforts through the institutional framework, while the unregistered NEETs are more elusive. Thus, the specific policy measures designed to address the needs of the unregistered NEETs through the same institutional framework are more likely to miss the target.

Related to specific improvements that could be made within the current institutional framework, young people generally require more feedback. They are puzzled by the employers’ behaviour, and they would like to receive more information on why their job application was not successful.

“Not like this, they just announce the name of who won, and I don’t know why it wasn’t me” (P10)

“It would mean a lot to me to know why I didn’t get the job. So that I could work on it, and if it could be enforced that employers have to tell us the reason for the rejection” (P10)

“It would mean a lot to me if employers would let me know if I got the job or not; and why. But sometimes I wait two months and don’t respond to other ads because I’m waiting for the results of a competition. And sometimes they don’t even let me know, some post on their websites who was hired. But most often they don’t let us know. There have been situations where they didn’t let me know that I didn’t get the job, and then I see them posting ads again. I don’t know what I did wrong, but now I won’t respond to their ads anymore. We need to work on that feedback from the employer towards us.” (P11)

It was also interesting to note that CES case workers referred to the potential problem of the quality of the jobs being available through their service, which some labour market participants assess as being of lower desirability. Furthermore, they emphasize the need to improve the public perception of the CES, which would increase their intermediation efficiency:

„... they [unemployed] trust much more and are much more likely to look for a job through the [private job search] portal, because it is private, and in their eyes, if something is private, it is better. The same goes for employers, they would rather pay for an ad on [private job search portal] than publish it for free on our site.” (P20)

“What the Croatian Employment Service needs to do is change the public’s perception of the work of the Croatian Employment Service... People see us as idlers and sinecurists, and that is why they have no motivation to apply to the Croatian Employment Service.” (P20)

Thus, our results suggest that when devising policy measures to tackle youth long-term unemployment, the focus should not only be on young people but on other participants in the labour market as well.

CONCLUSIONS

The aim of this paper was to provide insight into youth long-term unemployment in a global low-unemployment environment. To address this issue, we have resorted to multiple data sources: the Labour Force Survey, which traditionally features labour market outcomes studies, the Survey of Adult Skills, which provides deeper insight into the effect of skills attainment on labour market outcomes, and semi-structured interviews conducted with different Croatian labour market stakeholders.

Our results suggest that many predictors of youth long-term unemployment in

Croatia resonate with those previously documented in the literature. For example, we confirm that youth with important caring responsibilities, in particular young women with small children, encounter important job search barriers, which is subsequently associated with higher probabilities of their long-term unemployment. We also confirm the detrimental effect of adverse personal health conditions and the significant effect of household composition. However, a low-unemployment environment somewhat moderates the strength of some traditional predictors. For example, educational attainment is not a strong predictor of long-term unemployment in our quantitative analyses.

What was encouraging to find in our research was that long-term unemployed youth, at least those registered with the CES, are eager to find work. While we encountered heterogeneities among them that deserve future research efforts, we can claim that for some of them, their prolonged search for a job is the result of their previous educational choices. Thus, we have found a confirmation of the frequently publicly discussed ‘education-labour market mismatch’. However, this is not likely to be resolved by the young people themselves, as the mismatch is more vivid in smaller towns and rural areas, where the educational choices are strongly limited by the educational supply. Furthermore, we have encountered a specific subgroup of the long-term unemployed, with higher comparative skills, whose family support allows them to pursue their desired educational paths regardless of the local labour market demand conditions.

Another encouraging find is that young unemployed persons are trying to understand the reasons behind their situations and to improve their own competencies in order to enhance their employment chances. To that end, most of them try to improve their soft skills, and some of them are embarking on completely new career paths with the

help of the training provided by the CES. Although our goal was not to formally evaluate the active labour market policy measures offered by the CES, we have certainly witnessed that they were well received.

One of our conclusions is that the development of new policy measures should include all labour market stakeholders. To that end, we would like to emphasize that stronger involvement of the employers is essential. Unfortunately, in line with both the unemployed young people and CES case workers highlighting the lower interest from the employers' side, we were also not successful in securing inclusion of their views on the subject. This remains for future research endeavours.

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APPENDIX A

Table 5

Probit estimation predicting youth unemployment vs. employment based on LFS data LFS

Variables	Long-term unemployed	Short-term unemployed
Constant	-4.030*** (0.974)	-2.900*** (0.665)
Female	0.864* (0.360)	0.351** (0.176)
Edu Medium	-1.186*** (0.380)	-0.368 (0.548)
Edu High	-1.894*** (0.533)	-0.505 (0.559)
Native born	-0.008 (0.508)	-0.223 (0.323)
Parents Present	0.960 (0.885)	-0.650 (0.500)
Number of people	-0.114 (0.117)	0.363*** (0.069)
Unemployed share	7.337*** (0.821)	10.23*** (0.932)
Child present	-0.458 (0.400)	0.023 (0.611)
Partner present	1.608** (0.755)	0.606 (0.595)
Urban	0.201 (0.395)	0.070 (0.223)
Rural	0.243 (0.390)	-0.265 (0.207)
N	884	666

Source: authors, based on EU-LFS. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 6

Probit estimation predicting youth long-term unemployment vs. employment and vs. short-term unemployment

Variables		Employed		Short-term unemployed	
		Long-term unemployed	Long-term unemployed without training over the previous 12 months	Long-term unemployed	Long-term unemployed without training over the previous 12 months
Age		-0.217*** (0.017)	0.016 (0.019)	-0.034 (0.022)	0.113*** (0.023)
Female		0.266** (0.109)	0.286** (0.133)	0.412*** (0.141)	0.327** (0.158)
Education	Low	0.540 (0.697)	0.824* (0.482)	-	0.993** (0.438)
	High	-0.286 (0.168)	-0.132 (0.195)	-0.518** (0.235)	-0.242 (0.270)
Immigrant		0.430 (0.271)	-0.078 (0.288)	0.379 (0.346)	-0.415 (0.558)
NUTS2	Adriatic	-0.613*** (0.173)	0.150 (0.202)	-0.589*** (0.211)	0.133 (0.238)
	Pannonian	-0.549*** (0.179)	0.131 (0.199)	-0.178 (0.227)	0.270 (0.233)
	Northern	-0.740*** (0.029)	-0.136 (0.207)	-0.007 (0.232)	0.155 (0.237)
Number of children		0.457*** (0.120)	0.376*** (0.112)	0.621** (0.244)	0.844*** (0.283)
Partner in household		-1.022** (0.432)	-1.186** (0.462)	-0.926* (0.535)	-2.058** (0.934)
Household size		-0.028 (0.046)	0.015 (0.042)	-0.074 (0.055)	-0.039 (0.055)
Employed partner		0.249 (0.400)	1.021** (0.417)	0.526 (0.606)	2.349*** (0.836)
Health status below average		0.294* (0.020)	0.621*** (0.172)	-0.213 (0.202)	0.539** (0.212)
Adaptive Problem-Solving score decile rank		0.045** (0.020)	-0.035 (0.023)	0.009 (0.027)	-0.065** (0.029)
Extraversion		-0.094* (0.057)	-0.067 (0.068)	-0.051 (0.075)	-0.027 (0.079)
N		950	950	575	581

Source: authors, based on PIAAC. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Sažetak

U POTRAZI ZA UZROCIMA DUGOTRAJNE NEZAPOSLENOSTI MLADIH U HRVATSKOJ – ISTRAŽIVANJE MJEŠOVITIM METODAMA

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Stope dugotrajne nezaposlenosti, posebno među mladima, na rekordno su niskim razinama u EU. Međutim, unatoč kontinuiranim stopama gospodarskog rasta iznad prosjeka EU-27 i niskim stopama nezaposlenosti, stopa dugotrajne nezaposlenosti mladih u Hrvatskoj ostaje iznad prosjeka EU-27. Cilj ovog rada je istražiti prediktore dugotrajne nezaposlenosti mladih u Hrvatskoj kako bi se dobilo dublji uvid u razloge ovog nepovoljnog ishoda. Naši rezultati sugeriraju da su bolje vještine adaptivnog rješavanja problema, računanja i pismenosti povezane sa značajno nižom vjerojatnosti produljene nezaposlenosti među mladima koji nisu sudjelovali u osposobljavanju tokom prethodnih 12 mjeseci. Osim toga, bolje socijalne vještine povezane su s nižom vjerojatnosti dugotrajne nezaposlenosti, a njihovu važnost uviđaju i mladi i savjetnici Hrvatskog zavoda za zapošljavanje.

Ključne riječi: dugotrajna nezaposlenost, Hrvatska, meke vještine, polustrukturirani intervjui.