

HUMAN CAPITAL IN CROATIA

NADINE FABRITZ* AND OLIVER FALCK**

Introduction

Despite ongoing reforms to the education system, the state of human capital in Croatia lags behind both the EU average and its peer countries, as indicated by measures such as PISA test scores or the share of the population with tertiary education. At the same time, the Croatian labor market faces severe challenges posed by high levels of youth unemployment and a skills mismatch between market demand and educational supply. The established literature (e.g. Aghion and Howitt 2010) proposes an approach to designing optimal education policy that depends on the current state of an economy's development. Investment in higher education increases a country's ability to make groundbreaking innovations, while investing in primary and secondary education helps in fostering imitation, i.e. implementing existing technologies. Focusing on higher education, however, exerts a stronger impact on economic growth in countries that are close to the technology frontier. Within the European Union, Croatia ranks among the countries with lower capacity for innovation (see European Commission 2014), still somewhat below the technology frontier.

An extensive discussion of every key aspect for reform would exceed the scope of this study. This policy paper therefore focuses on the most critical challenges that Croatia is currently facing in order to find viable solutions that may be implemented in a timely manner. The first reform we propose aims at reducing youth un-

employment and, at the same time, better meet the demands of the Croatian labor market, by strengthening the dual vocational education system. The second reform proposal aims at promoting training and life-long learning activities by integrating the existing active labor market policies measures into a voucher system targeted at the low-skilled.

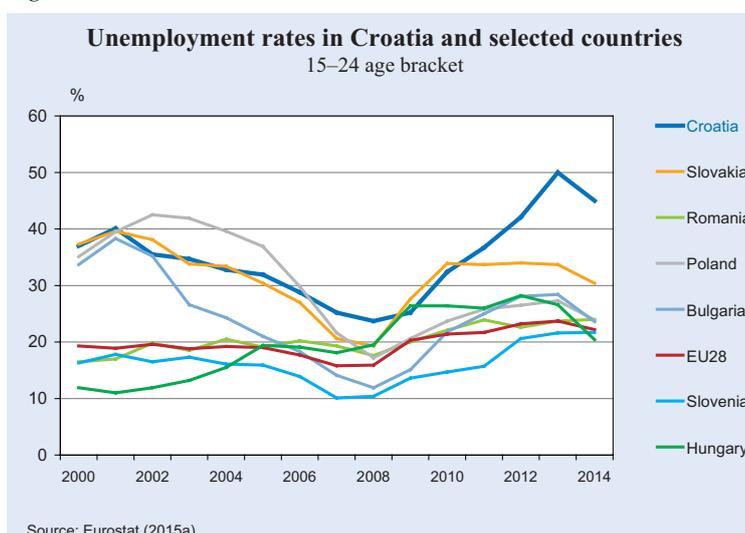
Main challenges relating to human capital

Youth unemployment

Croatia has faced exceedingly high levels of youth unemployment, especially after 2008. In 2014, the annual average unemployment rate for the below-25 age group was 45 percent, the third-highest in the EU after Greece and Spain, and about twice the EU average (22.2 percent), as shown in Figure 1. The Croatian government introduced several measures to fight this development. These include, among others, self-employment subsidies, direct employment subsidies, training and specialization subsidies, social contribution exemptions and tax reliefs. Other measures are public works and continued education after vocational programs (Ministry of Labour and Pension System 2014; Pavičić 2013).



Figure 1



* NERA Economic Consulting, Berlin.
** Ifo Institute.

Skills mismatch

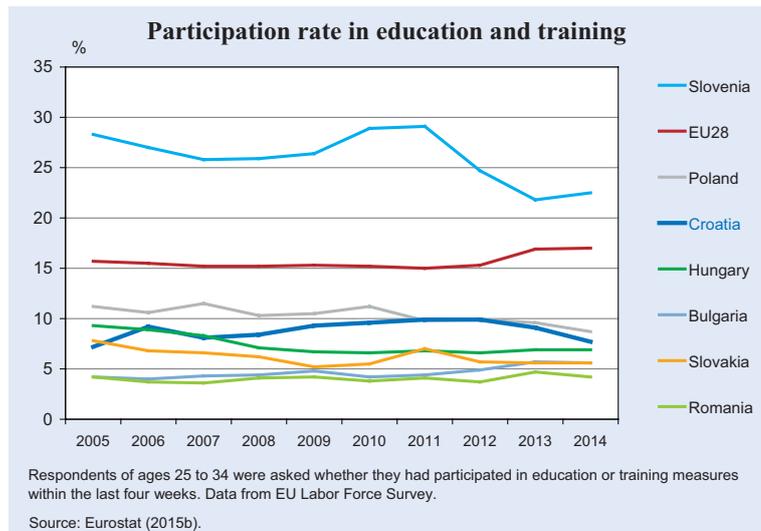
A recurring issue in Croatia is a mismatch between educational qualifications obtained and the skills needed on the labor market. This is indicated by the fact that less than 50 percent of vocationally educated graduates find a job in their respective field of study (European Commission 2014). Survey evidence from recent years shows a lack of adequately qualified personnel as an obstacle for Croatian firms' innovation performance. At the level of tertiary education, science, engineering and mathematics are underprovided, whereas the social sciences and humanities are oversupplied. The OECD concludes that there is an under-provision of graduates from both professional tertiary and secondary-level vocational studies (OECD 2014).

While a major part of the problem certainly lies with the education-supply side, the labor-demand side also shows significant shortcomings. Companies are incapable of formulating forecasts about how their skill requirements will evolve over time (OECD 2012). Also, a survey among Croatian employers (Pavičić 2013) reveals that 65 percent of employers feel that the education system does not provide occupation-related practical skills. At the same time, only about half of the enterprises give young people the opportunity to acquire these skills by offering apprenticeships, internships or work practice.

Life-long learning

Croatian companies and employees lag behind the European Union average in terms of life-long learning activities (OECD 2014), further adding to the skills mismatch. The participation rate in education and training among the population aged 25 to 34 is low in comparison to the EU average, as Figure 2 shows. Among the 25 to 34 year-olds, in 2014 a mere 7.7 percent had received some kind of training during the last four weeks, with the trend pointing downwards, against an average of 17 percent in the EU. Underdeveloped training activities of firms are also evidenced by a relatively low share of companies that offer continuing vocational training (CVT, i.e. education and training occurring during paid working time, or

Figure 2



partially paid by employers if training activities are organized outside of paid working time). In 2010, 50 percent of Croatian firms engaged in CVT, compared to an EU-wide average of 56 percent. The figure is even lower in most peer countries (Eurostat 2014). The Croatian government actively tries to foster training activities through tax rebates, but the uptake is low because companies are not sufficiently aware of their existence and due to high administrative barriers (European Commission 2014).

Several instruments are currently available to promote training activities in Croatia. These include direct subsidies for on-the-job training and subsidies and training for self-employment. These measures are targeted specifically at young people. Training of the unemployed is conducted by training institutions through public procurement procedures. This measure aims particularly at high-school drop-outs, prime-working-age women with inadequate education levels, and persons in unfavorable positions in the labor market (Croatian Employment Service 2014). In addition, the upgrading of worker skills is supported if these workers are to otherwise become redundant due to the introduction of new technologies. Companies undergoing economic hardship may also apply for financial support for training.

Reform suggestions

Reforming vocational education in Croatia

Vocational curricula in Croatia extend over one to three years and contain varying degrees of practical

on-the-job training. Attended by about 21 percent of pupils in 2013, vocational schools are divided into ‘industrial and trade’ and ‘crafts’ courses (Matković 2010). Industrial and trade schools provide a school-based vocational curriculum with placements in industrial or sales firms. There is little real on-the-job training, as most is organized through in-school workshops. Crafts schools offer a real dual vocational education curriculum, predominantly in crafts businesses, where two-thirds of the time is spent on the job in apprenticeships, and one-third is spent in school (Matković 2010). Under the dual vocational education, pupils apply directly to companies, which must be licensed by the chambers. The education is school-based (about one-third) and work-based (about two-thirds). When it was introduced in Croatia, the take up of this dual education system was low. According to an EU survey conducted in 2011, Croatia today displays the second-lowest proportion (after Italy) of young people who consider vocational education as an attractive option (European Commission 2011).

The dual vocational training or apprenticeship system has historically been the dominant form of vocational education in countries such as Germany, Denmark, Austria and Switzerland. In Germany, currently around half of each cohort chooses an apprenticeship. Whereas in Croatia this model is restricted in practice to crafts trades (Crnković-Pozaić 2009), in Germany approximately 350 professions are offered under the dual education system in the fields of crafts trades, industry and trade, agriculture, tourism, the public sector, and certain freelance professions (such as pharmacists, doctors, lawyers or tax consultants). This apprenticeship system is seen as a source of labor market stability (German Federal Ministry of Education and Research 2013). The low levels of youth unemployment in Germany (7.7 percent in 2014) are partly attributable to this form of education, since it integrates work-based and school-based learning and thus facilitates the apprentice’s transition to full-time employment (Hoeckel and Schwartz 2010). While the literature has found that this system reduces youth unemployment (Hanushek, Woessmann and Zhang 2011), it may increase it at an older age, possibly because the specific skills obtained by a vocational education may become obsolete.

Considering Croatia’s status as a moderate innovator, we suggest strengthening the dual vocational system in upper secondary education by widening the scope of the apprenticeship programs beyond crafts, moving

towards the German dual vocational education model. This may lead to a win-win situation for employees and firms: youth unemployment can be reduced, as the school-to-work transition is facilitated, and firms can directly access a pool of workers that they themselves have qualified according to their needs, reducing the skills mismatch between skills needed on the labor market and those provided by the education system.

To realize the advantages that the dual vocational education system offers, the government should bolster financial incentives for young people linked specifically to the apprenticeship system. In addition, the provision of inter-company workshops (as in Germany) may help in overcoming firms’ liquidity constraints. Next, policymakers should make use of the various funding opportunities provided by the European Union for apprenticeship systems. More flexible labor-market regulations will make young employees more competitive compared to the older portion of the workforce, and foster the adoption of the apprenticeship system. Finally, public information campaigns on the advantages of these types of careers can help to improve the image of apprenticeships. Informing firms about the advantages that the system offers them, such as that the investment in apprenticeship today leads to higher future payoffs from workers with specific skills, may also mobilize the private sector in adopting the system.

Reforming life-long learning activities

The next proposal for reform concerns people who have already entered the workforce. A constant upgrading of skills of the actively employed is important to keep current with labor market requirements and to adapt to new technologies. Life-long learning activities in Croatia, as mentioned previously, are rather marginal. Improving them is one of the key priorities in the government’s current education strategy. Subsidizing training for people in employment and vocational training for the unemployed is a substantial part of promoting investment and job creation, not only in Croatia, but in many other countries. These measures aim to upgrade the skills of the unemployed to better meet labor market requirements, increasing thus their employability. Useful state interventions in order to foster job-related training are direct subsidies or income tax deductibility, as already introduced in Croatia (see above).

Training voucher systems have proved effective in several countries, according to the literature (see e.g. Doerr *et al.* 2014; Schwerdt *et al.* 2012), in upgrading the skills of individuals with low levels of qualifications. The main difference to traditional training measures is that participants can, to a certain degree, choose the training courses rather than for them to be assigned by an agency worker. In addition, participants have free choice of training providers among a list of those certified under the scheme, promoting competition among providers in the process. Lastly, individuals have the freedom not to redeem the voucher. The idea behind this is that a wider set of possibilities for participants should lead to better choices and to increased program effectiveness. In addition, the absence of an obligation to redeem the voucher fuels a positive attitude, since the training course feels more like an offer than an assignment (Doerr *et al.* 2014).

We propose the introduction of a training voucher system in Croatia that is targeted specifically at persons with low or no formal qualifications, since, according to the literature, these are the most likely to profit from increased employability. Young people, considering their high unemployment rates, should also be primary targets. Overall, well-targeted vouchers including also those in employment and within firms, will increase life-long learning and help to reduce the existing skills mismatches.

Conclusion

The performance of the Croatian education system certainly has room for improvement, as evidenced by the comparison of key indicators in an international context. The most pressing issues relating to human capital currently are a high rate of youth unemployment and a mismatch of skills provided by the education system and those demanded on the labor market. In order to solve these issues, vocational education should be reformed to better meet the needs of the labor market by broadening the existing apprenticeship system along the lines of those in Germany or Austria.

In order to promote life-long learning among the population, which will also help to reduce the skills mismatch, we propose introducing a system of training vouchers, since they have proved effective in upgrading the skills and improving the employability of low-skilled persons. These vouchers should be made avail-

able to people with low or no formal qualifications, irrespective of their labor market status.

References

- Aghion, P. and P. Howitt (2010), "Joseph Schumpeter Lecture Appropriate Growth Policy: A Unifying Framework", *Journal of the European Economic Association* 4, 269–314.
- Baljkas, S., M. Androšević and R. Wessel (2010), *Das Kroatische Bildungssystem: Aufbau, Probleme und Reformen*, Länderbericht, Konrad Adenauer Stiftung.
- Crnković-Požaić, S. (2009), *Transition from School to Work: Internships and First Entry to the Labour Market in Croatia*, Working Paper, European Training Foundation. Turin.
- Croatian Bureau of Statistics (2014), *Upper Secondary Schools and Students' Boarding Homes, End of 2012/2013 and Beginning of 2013/2014 School Year*, Statistical Reports, Zagreb.
- Croatian Bureau of Statistics (2014), *Higher Education 2013*, Statistical Reports, Zagreb.
- Doerr, A., B. Fitzenberger, T. Kruppe, M. Paul and A. Strittmacher (2014), *Employment and Earnings Effects of Awarding Training Vouchers in Germany*, IAB Discussion Paper 23/2014.
- European Commission (2011), *Youth on the Move: Analytical Report*, Flash Eurobarometer Series 319b.
- European Commission (2014), *Education and Training Monitor 2014: Croatia: Volume II*, Brussels.
- Eurostat (2014), *Training Enterprises As % of All Enterprises, by Type of Training and Size Class* [trng_cvts02].
- Eurostat (2015a), *Unemployment Rate by Sex and Age Groups – Annual Average, %* [une_rt_a].
- Eurostat (2015b), *Participation Rate in Education and Training (Last 4 Weeks) by Sex and Age* [trng_lfse_01].
- Federal Ministry of Education and Research (2013), *Unterrichtung durch die Bundesregierung: Strategiepapier der Bundesregierung zur Internationalen Berufsbildungszusammenarbeit aus einer Hand*, Drucksache 17/14352, 5 July.
- Hanushek, E., L. Woessmann and L. Zhang (2011), *General Education, Vocational Education, and Labor-Market Outcomes over the Life-Cycle*, IZA Discussion Paper 6083.
- Hoeckel, K. and R. Schwarz (2010), *Learning for Jobs: OECD Reviews of Vocational Education and Training*, Paris:OECD.
- Matković, T. (2009), *Mladi između obrazovanja i zapošljavanja: Isplati li se školovati?* (Youth between Education and Employment: It Is Worthwhile Going to University?), UNDP and Croatian Ministry of Health and Social Welfare.
- Ministry of Labour and Pension System (2014), *Youth Guarantee Implementation Plan*, <http://www.mrms.hr/wp-content/uploads/2014/04/implementation-plan-yg.pdf>.
- OECD (2012), *Western Balkan Regional Competitiveness Initiative (RCI): Third Working Group on Human Capital Development – Summary*, Paris.
- OECD (2014), *OECD Reviews of Innovation Policy: Croatia 2013*, Paris.
- Pavičić, I.R. (2013), *Active Labour Market Policy Aimed at Youth*, Presentation of the Active Labour Market Policy Division, Croatian Employment Service, Zagreb.
- Schwerdt, G., D. Messer, L. Woessmann and S.C. Wolter (2012), "The Impact of an Adult Education Voucher Program: Evidence from a Randomized Field Experiment", *Journal of Public Economics* 96, 569–583.