The competitiveness of Croatia’s human resources

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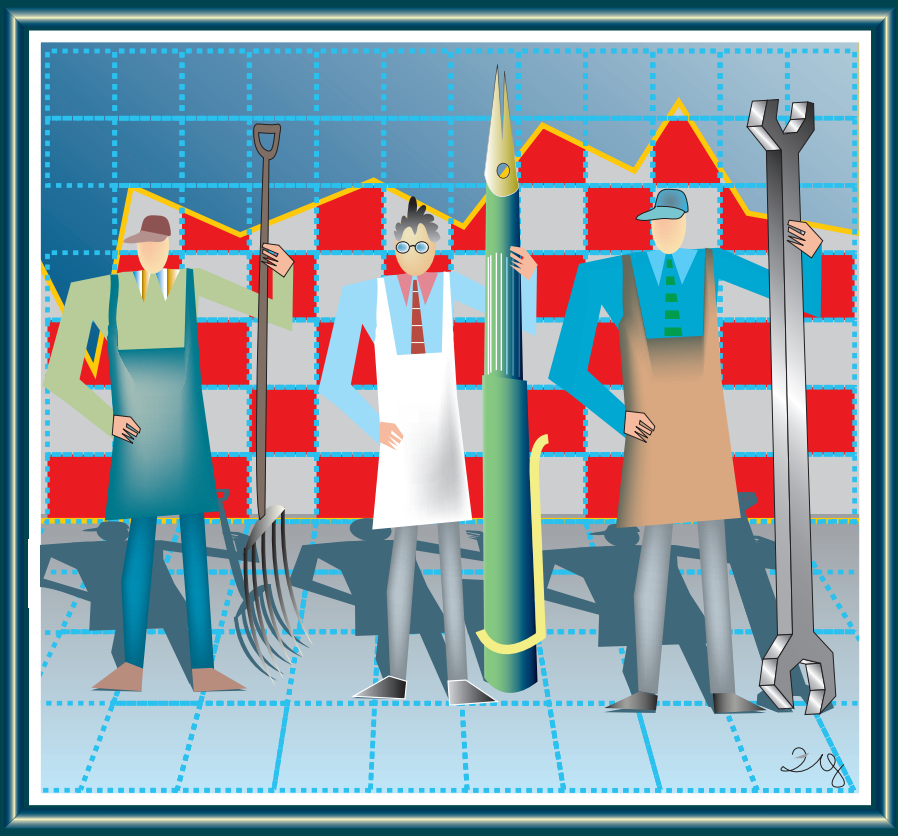

CROATIAN HUMAN RESOURCE COMPETITIVENESS STUDY

Edited by Predrag Bejaković and Joseph Lowther

INSTITUTE OF PUBLIC FINANCE

THE COMPETITIVENESS OF CROATIA'S HUMAN RESOURCES

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THE COMPETITIVENESS OF CROATIA'S HUMAN RESOURCES

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FOREWORD

USAID and Institute of Public Finance, Zagreb undertook this study because human resources are one of the keys to Croatia's ability to build an economy that is competitive globally as well as within the European Union. The study is meant to spur discussion on this important issue and the policy, management, and personal development issues that it raises.

The results of the research show that employees in the Republic of Croatia do not have the skills, knowledge, and abilities necessary to enable Croatian companies to develop globally competitive products and services and to compete in the European Union. In general, the Croatian workforce is old, inflexible, inadequately educated and trained, and lacking necessary foreign language, and information and communication technology skills. They do not have knowledge and skills required for modern competitive economy, and the education and training systems have not yet taken adequate steps to remedy this situation. Nor have Croatian companies, which are under-investing in training and development of their employees (46% of companies do not invest at all in employee education). In fact, the research demonstrates that Croatian managers do not realize that there is a problem, as they tend to believe their employees are "competitive." In addition, it appears that existing knowledge and skills are not used enough because of an insufficient business and entrepreneurial climate.

The study finds that the Croatian education system is not producing graduates with some of the most important skills for the 21st century knowledge economy: technical/ICT, language and communication, learning ability, team work, capacity for self-management, problem identifying and solving, and analytical skills. This is because Croatian education at all levels is too subject-specific, learning is too passive and too teacher-dominated, and teachers are not properly trained. At the policy and governance level, new education "strategies" have been developed but not implemented, and Croatian education is under-funded.

A positive development relating to Croatia's human resources is the increase of wage premiums for educated workers at the end of 1990s, which meant that the investment in education became relatively profitable. However, in spite of the enhanced return on investment in education and a corresponding increase in interest in tertiary education, the share of Croatian youth that enrolls in tertiary education is below the average of developed countries. And with many students dropping out of their studies, as well as the long average period of study in Croatian higher education, the available resources are not efficiently used. Recent increases of tuition fees in Croatia correspond to tendencies that were present in EU member states over the last twenty years, but for now their potential is not used for increasing the efficiency of the system due to the fact that tuitions are mostly not linked to the success of education.

Croatia's workers are somewhat uncompetitive in terms of costs, since their productivity to cost ratio lags behind that of other countries. However, this is a generalization, and in some sectors (particularly those with less shares of state owned enterprises) Croatian labour is cost-competitive with its main competitors.

One of Croatia's biggest challenges is the low share of population that participates in education after the entry in the world of work, i.e. "lifelong learning." This is clearly visible in the age group over 34, where the share of participants in any kind of educational programs is almost negligible. A part of resources for the measures of active labor market policy should be directed in improvements of knowledge and skills of unemployed as well as employed persons whose working places are endangered.

In order to facilitate the convergence of human capital in Croatia toward the level of human capital in developed countries, it is necessary to act in several directions.

Curricula in schools should be reformed to increase links with the needs of the economy and to reduce compulsory subjects and increase optional subjects, begin specialization in the vocational track later, broaden specializations, emphasize problem solving, develop teamwork, increase the ability to learn, build communication and technical/ICT skills, and reduce the emphasis on memorization of facts. The curriculum reform should be accompanied by new textbooks, teacher guides, and learning materials, changes in teaching methods, and new measures of learning

outcomes. The possible negative impacts of increases of tuition fees for the tertiary education should be accompanied by the introduction of a system of student loans using public funds.

Companies need to invest in their employees by providing education and training. This points to a need of changing Croatian management's view of employees as costs – employees need to be seen as valuable assets that are crucial to the company's ability to compete and satisfy customers.

Croatian citizens must take responsibility for making themselves competitive by constantly upgrading their skills through education and training. Government, business, and trade unions need to deliver this urgent message.

The key intangible determinants of export competitiveness in the manufacturing industry are not low costs (especially low wages), but investment in technological development, effective distribution systems, successful marketing campaigns, superior product design and quality, flexible management structure, sound knowledge of new markets and customer needs, and wage systems that spur employee creativity.

It is equally important to perform the reform of public administration, stimulate the establishment and development of independent bodies, and empower the institutions. With an aim to enhance the efficiency of authorised bodies, decision-making on wage policies in public services and state-owned companies, the State could take care of adjusting wage premiums for educated workers to match prevailing practices in the private sector. Wages and professional promotions should be linked with and determined according to work results, and not according to years of work experience (seniority).

Editors

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Predrag Bejaković holds a doctorate degree from the Economics Faculty in Zagreb, and now works at the Institute of Public Finance, Zagreb. He was a Kingdom of Denmark scholar in Copenhagen, won a Fulbright to the University of Wisconsin at Madison, and was a British Council scholar at Essex and Bath universities. He has taken part in a number of projects, including "*The Underground Economy in the Republic of Croatia*," "*The Development of the Tax Administration in Croatia*" and "*Pensions Reform and a Sustainable Budget*" at the Institute of Public Finance, and "*The Employment Policy Program of the Government of the Republic of Croatia*." He publishes in scientific and professional journals such as *Financijske teorija i praks*a and *Društvena istraživanja*. He is co-author of a number of books in the areas of economics, public finance and labor economics.

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LABOR FORCE COMPETITIVENESS IN CROATIA: STATUS AND PROBLEMS

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What is Competitiveness and Why is it Important?

According to the most widely accepted definition, competitiveness is the ability to achieve success on markets, which then leads to a productive economy and improved living standards for the overall population. Acceptance of the concept of competitiveness is key to Croatia's further development, because numerous studies have shown a strong link between competitiveness indicators and economic growth, and this in turn influences the attraction of foreign investment, alleviation of poverty and inequality, political stability, and so forth. When speaking of a given economy's competitiveness, the importance of labor force competitiveness is the focus of particular attention[1]. The most important factors in labor force competitiveness are the educational structure, and compatibility of labor supply and demand in the sense of knowledge, expertise, ability and labor costs.

This introductory section shall provide a brief theoretical framework that outlines labor force competitiveness and a presentation of the essential features of the situation in Croatia. Readers shall also be given a view into the most important positions of other authors.

[1] Here we refer to the labor force in the broader sense of a human resource, i.e. the employed and unemployed and inactive persons who can potentially be activated and employed.

Theoretical Framework

Economic theory has long emphasized the importance of research and development, employee expertise and knowledge, and social capital, although their respective meanings vary in the world's developed countries (technology leaders) and less developed countries. A better-educated labor force finds it easier to embrace foreign technology and rapidly develop its own. To be sure, numerous studies have shown that the impact of education and research and development is scant at low developmental levels, and that after a certain level of development is achieved the average number of years of education completed by the employed and the investments in research and development are *positively* linked to economic development. Simultaneously, it seems that the role of research and development and labor force education could differ in large and small countries. While greater outlays for education and research and development may increase the rate of innovation in larger countries, in small countries such outlays serve to facilitate the transfer of technology from abroad.

Contemporary knowledge clearly indicates that education and research and development are increasingly more important under the current conditions of the global economy and a knowledge-based world. Education, know-how and innovations have been inculcated into all activities, and they are linked to almost all manner of operations and enterprises of all sizes. Educational institutions and the education level of a population not only influence the creation of human capital, but also the invigoration of socially beneficial capital and the minimization of dysfunctional forms of social capital. Education doubtlessly carries ancillary non-market effects (for example, easier access to information, greater care for personal health, more active participation in social life which encourages responsible democratic civic behavior, election of democratic authorities, and actualization of the rule of law).

As a whole, additional research confirms that economic competitiveness and GDP growth are influenced:

- positively by an increase in the share of persons over 25 years of age who have completed secondary, college and higher education;
- negatively by increased public spending: a larger volume non-productive public spending—and the associated higher taxes—means an unfavorable environment for growth;

- positively by the index of the *rule of law* (quality of governmental administration, political corruption, probability that the government will not respect contractual agreements, risk of government expropriation and general respect for the rule of law).

The better education of the general populace and the labor force and lower public spending improve a country's attractiveness to foreign investors, which facilitates the acceptance and development of modern technological and organizational solutions, paves the way for the rule of law and limits the extent of the informal (gray) economy, increases demands for education and in turn spurs the competitiveness of the economy.

At different levels of economic development, the significance of certain levels of education in the creation of competitiveness changes. For developed industrial countries, research has indubitably shown that there is a close positive link between education and economic growth, with higher levels of education having a greater impact on economic growth. The importance of tertiary education is especially great, as it directly influences the productivity and competitiveness of a national economy and the improvement of general living standards.

Education is certainly essential in the creation of the necessary competitiveness of an economy and society as a whole. It helps a country move up "the ladder of development" and prompts its transition from producing simpler products to more complex items. A more educated labor force finds it easier to adopt foreign technology and to more rapidly develop its own. Another vital aspect in all of this is the acceptance of the rule of law.

The value of formal education in and of itself should not be uncritically overestimated. Most researchers agree that human capital is an essential component of competitiveness and economic development (return on investment in education is greater than that of any other investment), but this is not a *guarantee* of development because countries with the finest human capital do not necessarily achieve the best developmental results. Under conditions of rapid technological development and commerce based increasingly more on conceptual rather than on material production, academic diplomas and degrees are no longer a guarantee of economic success to either individuals or society as a whole.

In transition countries it is particularly true that the existing educational level of the employed and the population as a whole is no guarantee of competitive ability and economic growth. The labor force can easily be

insufficiently or inappropriately educated, i.e. the (formally educated) employed do not have the know-how necessary for successful market competition. Furthermore, the existing systems, with regard to educational results, are expensive and ineffective, but there are no simple formulas to improve them. Here expertise is not sufficient: employees today have to be capable of creating, analyzing and transforming information, communicating effectively, and organizing and coordinating business activities. Developed communication skills, computer knowledge, and the ability and willingness to engage in further education and training are all sought-after qualities.

We can estimate with relative certainty that educational programs in the transition countries of Central and Eastern Europe (particularly those based on the Austro-German model) are more oriented toward the rote memorization of course materials than on independent analytical/critical thinking and deduction and the innovative approach, which is certainly a hindering factor in other approaches to education and future work. Today the emphasis is placed on analytical abilities – the possibility of seeking and selecting information, clarifying problems, formulating assumptions, confirming and assessing evidence, and finding solutions.

Even a well and adequately educated labor force can, for a number of reasons, remain unutilized or underutilized, which has a direct impact on economic competitiveness. There are a number of reasons for this, but most often it involves the unsatisfactory level of social capital and the non-existence of public confidence caused by the high costs of transition. Furthermore, even the best educated and professional labor force will not be sufficiently competitive under conditions of unsatisfactory levels of innovativeness and entrepreneurship in society, non-existence of the rule of law, extensive and deeply-rooted corruption and/or an omnipresent informal economy. Additionally, a disproportionately expensive labor force (given overall salaries and contributions) in relation to actual productivity is certainly not competitive.

Finally, the achievement of a competitive economy and economic growth is hindered by a government that is either inefficient or prone to spending, or an unprofessional and unskilled public administration. Thus, the formation and reinforcement of professional institutions of public authority and a non-governmental sector are equally important to the improvement of labor force competitiveness and the creation of economic growth. In overcoming all of the aforementioned obstacles, an important

positive role can be played by pressure from international organizations or *external anchors*, such as EU requirements based on the *acquis communautaire* to develop expert and effectual governmental and public institutions.

In short, the educational structure of a population and employees in line with economic needs is an essential component of competitiveness and economic development, but there are also many other factors that can greatly blunt competitiveness, such as insufficient social capital, a social climate not conducive to free enterprise, lawlessness, and an ineffectual government or governing institutions.

Croatia

Over a relatively short period, the labor force structure based on degree of (formally) acquired educational qualifications improved considerably (naturally, the actual quality of individual educational programs and study courses is not being considered here). The share of unqualified employees declined significantly, while the share of qualified employees–especially those with high and very high qualifications–grew.

Despite the aforementioned formally acquired educational qualifications, Croatia still seriously lags behind the EU member states and some of the Central and Eastern European transition countries. The percentage of highly educated persons is still below the European average, and the same can be said of the effectiveness of schooling and university-level study. Adult education, which is practically the most dynamic sector of lifelong learning throughout the world, is the most neglected area of Croatia's educational system.

The greatest problem of elementary and secondary education is *insufficient* differentiation. The curricula for higher elementary grades are formed to continue on into secondary school (gymnasium), and not for continuation of schooling in vocational or trade schools (even though only one fourth of all elementary school pupils go on to study in the gymnasiums). A considerable number of youths in Croatia *drop out* of secondary and higher educational institutions. According to a rough estimate, approximately 1.5% of enrolled students do not complete secondary school (this percentage is considerably lower for the gymnasiums, and palpably higher in three-year trade schools). Systematic work with gift-

ed and talented students is also lacking, even though this could be done without moving such students into separate classes. It will be necessary to conduct systematic evaluations of the educational system's results and make comparisons between Croatia and other countries in the region and countries about to join the EU, and launch plans for admittance to PISA and IALS programs[2].

The average duration of college/university study is very long, and only one in three students complete their studies, while a large number discontinue them. The number of students who go on to earn degrees in relation to the number of students enrolled in the first year (with a 5-year shift) is only 39%, which shows a low success rate for this type of study.

The educational system must therefore be made more flexible, so that it could become a system that would be *navigable*, thus avoiding "dead-ends" and lower the early drop-out rate, increase the internal differentiation of students, reinforce informal methods of acquiring knowledge and skills, and improve knowledge of foreign languages. The systematic analysis, disencumbrance, and modernization of educational curricula and programs are essential.

The high percentage of highly educated persons is not directly and/or unambiguously linked to competitive performance. Croatia has more highly educated persons among its employed and overall population than Austria and the most successful transition countries. One can say with relative assurance that the highly educated in Croatia have largely completed studies at university departments and academies which are not directly catered to the needs of a modern economy, and they often do not possess the vital and required knowledge and skill-sets for sought-after occupations.

In a word, it is relatively certain that the labor force in Croatia is (probably) not sufficiently qualified or perhaps inappropriately qualified for the needs of a modern market economy. Efforts must be invested in educational and job-training programs, systematic coordination of education, so that it complies with the needs of the market and encouragement of lifelong education. Investment in human capital is certainly desirable, but it probably will not produce results over the short term. Furthermore, attention should be directed to persons 25 years of age and younger.

[2] There are two occasional OECD research studies: PISA (*Program for International Student Assessment*) and IALS (*International Adult Literacy Survey*). See: www.pisa.oecd.org.

An educated labor force is not, in and of itself, a sufficient developmental resource if it is not utilized to apply new technologies. In order to achieve this, technical know-how and management skills are needed throughout society. Improving the institutional environment and social capital is equally important. Several research studies have indicated weak institutions and a visibly lower level of social capital in almost all transition countries. The level of trust is also an indicator of institutional development. Croatia has a considerably low level of mutual trust among its overall population. Furthermore, in terms of trust in the country's political institutions,[3] Croatia stands roughly at the average of countries about to join the EU, but it lies far below the average of member states. An almost crucial issue in behavior and the decision to comply with or violate the law and obligations is the question of justice and validity of social norms, so that confidence in existing norms is an important indicator of social trust. The more individuals personally perceive widespread violation of norms, the less likely such individuals are to have confidence in them. This is why the consistent prevention of illegal behavior and corruption–particularly the limitation of the opportunity and need for its very emergence–is so necessary and important.

The unsatisfactory level of administrative/governance capacity, in the sense of long-term and highly standardized operations at all levels of governance, is often cited as an almost crucial aspect of the overall competitiveness of Croatia's economy and labor force. The shortage of qualified officials and organizational ability of administrative employees is frequently noted. Public administration has been plagued by negative selection and de-professionalization for many years now (the result of low salaries and inadequate rules of seniority with a view to advancement), which certainly plays a role in the large-scale departure of professionals and qualified employees from governmental/public bodies, as they can find employment outside of this sphere, while those who lack this opportunity remain.

Other essential components of labor force competitiveness are the (non)existence of entrepreneurial ability and an entrepreneurial climate. Croatia lags considerably in this sense, and according to the index of Total Entrepreneurial Activity – TEA, it was ranked 32nd out of 37 countries studied (Singer et al, 2003). Research identified two basic motives for en-

[3] The Church, military, the educational system, the press, trade unions, the police, Parliament, public services, the social security system and the health-care and justice systems.

trepreneurial activity: knowledge of circumstances which could be commercialized by launching a business, and necessity, i.e. a lack of any other alternative. In terms of education, most entrepreneurial activity is conducted by respondents with secondary school qualifications, followed by those with college or higher educational qualifications, while the least educated account for the smallest share of entrepreneurs. In general, entrepreneurs in Croatia are three times more likely to be men than women, between the ages of 25 and 34, with secondary school qualifications and higher incomes.

An essential (although not exclusive) component of economic and labor force competitiveness on the international market is the *total* price of labor. A cheap labor force is an important component of investment in Central and East European countries, while Croatian labor is relatively expensive. The total annual costs of labor in Croatia, calculated according to market exchange rates, was US$ 9,500 in 2002. This is twice the amount in Slovakia, while the difference in relation to the Czech Republic, which came closest to Croatia, is approximately 13%. Based on these data, one can conclude that labor in Croatia is more expensive than in other countries that should accede to the EU in the first round of enlargement, with the exception of Slovenia, which was not included in this sampling because the relevant data were not available. In terms of buying power, net salaries in Croatia were 3% less than in the Czech Republic, but it otherwise far surpassed the other countries in the sampling by between 10 and 40 percent.

The situation is particularly troubling if salaries and labor productivity are compared. Rutkowski (2003) states that salaries in Croatia are high in comparison to other (especially transition) countries and do not correspond to the difference in labor productivity. If per capita GDP is used as a crude measure of labor productivity, it follows that the differences in salaries in Croatia and other transition economies are greater than the differences in productivity. For example, salaries in industrial production in Slovenia are approximately 60% higher than in Croatia, while productivity is almost twice as high, which implies that despite higher salaries, the unit cost of labor in Slovenia is lower. By the same token, while productivity in Hungary is at about the same level as in Croatia, Hungarian salaries are one third less on average.

The high share of taxes and contributions in labor costs has an unfavorable impact on the interest of employers in hiring new employees, (prob-

ably) spurs the impulse to lay off redundant workers, encourages employment in the informal sector of the economy, reduces domestic (private) savings and investment, and has unfavorable long-term effects on economic growth, the creation of new employment, and the acceleration of competitiveness. A positive development is that contributions have declined over the last several years, even though this has not been accompanied by a reduction of public spending, so that the required funds are compensated from the central budget and they lead to larger fiscal deficits and public debt. Croatia still has a large share of its budget and public spending reflected in GDP, which creates a large fiscal burden and certainly reduces the competitiveness of the labor force.

External pressure can also help economic development and speed up competitiveness. Here Croatia's stable and sustainable economic growth is perhaps the most important factor. Nothing brings a country closer to the EU than several years of powerful and sustainable economic growth. The EU is based on interest, and interest in a country grows if it is progressive and competitive. Based on several indicators, Croatia has sustainable economic growth, and it has relatively favorable perspectives for long-term economic growth (5%). The inflation rate is low (2-3%), interest rates are coordinated, the currency's value is stable, a good portion of the banking system has been stabilized, and despite of all the changes it still has a sound tax system that generally complies with EU standards. Unfortunately, in light of EU accession, these positive aspects are outweighed by its shortcomings: a low private sector share (60%, compared to 80% in candidate countries), high budget deficit (7% of GDP in Croatia, compared to the 3% of GDP stipulated by Maastricht criteria), and a high public debt (although still lower than the 60% of GDP stipulated by Maastricht criteria). Furthermore, there are obvious shortfalls in certain vital microeconomic segments, such as the securities market and market competition policy, and a relatively large dependence on State assistance.

So, developing human capital is necessary, but not sufficient to secure labor force competitiveness. Generating economic competitiveness requires qualified and capable citizens and employees, but this must be accompanied by the appropriate economic policies – primarily the development of strong and independent institutions, improvement of public administration, curtailment of corruption and the informal economy, and improvement of the free enterprise environment. This is no simple task that can be accomplished quickly, but rather a clear developmental guideline

in which citizens will see improvement in these sectors and can, in a relatively short period, produce valuable results.

Securing labor force and economic competitiveness requires rapid and stable growth, maintaining a low inflation rate and external stability, continuing fiscal adaptation, reducing the deficit and debt levels, limiting subsidies, and encouraging domestic savings. It is equally important to undertake public administration reforms, encourage the emergence and development of independent bodies, and strengthen institutions. Approaching and eventually joining the EU will certainly help Croatia raise its competitiveness and create economic and social development, but expectations here are without doubt too high and unrealistic. Only the citizens of Croatia can jointly achieve competitiveness and economic development, establish efficient institutions and create a society which respects both laws and individual rights.

Creating and improving the Croatian labor force's competitive edge is not a short term activity that can be achieved quickly, and requires more than just the strength and explosiveness of a 100 meter sprint. It is a long-term process–which is more akin to a triathlon–so it requires persistence, decisiveness and diverse knowledge, expertise and skills in society as a whole.

Other Authors and Works in Publication

It is virtually unnecessary to recall the importance of human capital. In this vein, all developed countries have conducted reforms to encourage the development of human capital, primarily through better education and ongoing training. All of these are directed toward the enhancement of flexibility and openness to the future, strengthening the role of knowledge and increasing innovation. In this fashion, human capital is confirmed as the foundation for understanding reality, regulating interpersonal relationships and improving living conditions, health and freedom. Educational system status and reforms, and comparisons between Croatia and other countries, are the subject of works by **Joseph Lowther**. Lowther stresses the difficulty of making an unequivocal assessment of the Croatian educational system because Croatia has not participated in international assessments of education and literacy. Even so, the considerable problems faced by the educational system can be cited with relative certainty: lack of emphasis on developing analytical and problem-solving abilities, very weak links between education and the professional

world, and the non-development of lifelong learning. Although numerous education strategies have been proposed, they were neither put into operation nor fully implemented, nor were any major reforms implemented at any level. Curricula and course programs at all levels should thus be reformulated to bring them into closer correspondence with economic needs. Furthermore, the number of required courses should be reduced and the number of electives should be increased, while problem-solving abilities should be improved, teamwork should be encouraged, and learning skills should be enhanced.

Vedran Šošić has undertaken a none-too-easy task by deciding to tackle an almost completely neglected topic in Croatia: the return on investment in human capital as a vital component of Croatia's competitiveness. He has written an exceptionally high-quality and absolutely fascinating study, and Croatian scholarship as a whole–not just economics–would benefit greatly if all research work was approached so seriously, thoroughly, methodically and accurately. Šošić explains the meaning of investment in human capital, among other things as a means to reduce poverty, unemployment and social exclusion. Political control of wage structures has largely been cancelled in transition countries. As a result, the return on education has grown and begun to resemble the structure observed in developed market economies. The central section of his study is dedicated to human capital and the returns from education in Croatia. Šošić warns that real wages in Croatia are highly unstable, indicating their decline at the beginning of the 1990s and intense growth in the middle and second half of the decade. Wage premiums for education were relatively stable in Croatia during the entire transition period, only recording significant growth toward the end of the period. While the rate of return on an additional year of education was approximately 7.6% in 1996, in 2001 it grew to 10.5%. The return on investment in education in Croatia is somewhat higher than the average in EU member states and other Central and Eastern European countries. Šošić concludes his study with some very important observations and recommendations.

Mario Švigir analyzed structural aspects of Croatian labor force cost competitiveness in manufacturing industry. The author explains income trends within seven different sectors during the 5-year period and compares them to productivity trends in order to understand their influence to import-export. During the observed period, Croatian export was experiencing noticeable structural changes which clearly separated win-

ners from losers in each sector. Although incomes increased slowly within the labor-intense sectors, their share in total export decreased. At the same time, sectors with average income growth increased their share in total Croatian export. Švigir's data clearly demonstrate that the most important indicator of successful export and of market competitiveness lies not in the income level of certain industry sectors but in indicators such as technology investments, high level of design and product quality, new market awareness, understanding consumer needs, and other.

Alka Obadić uses International Labor Organization (ILO) data to compare labor market competitiveness of developed as well as transitional countries. This topic is definitively very important and up to date. The text comprises of a great number of indicators which illustrate the situation in details. It was the author's wish to determine Croatia's place in relation to EU members and transitional countries waiting for accession. The author interprets data for total and economically active population, employed and unemployed, precisely defined number of working hours, incomes and employers' costs. Possible accession to EU and greater economic connections can be an important initiative for Croatia to compare its accomplishments and labor force competitiveness with highly developed EU countries. Efforts to meet EU standards open various possibilities for many companies and individuals but also represent a serious threat to others, and will definitively influence domestic labor market. In further economic development, and prior to the complete accession to EU, employment difficulties will continue because there will not be enough quality educated labor force that speaks foreign languages and possesses adequate computer skills. At the same time, ongoing education of employees, as well as of those still in the process of education, is of crucial impact.

Based on empiric research results, **Nina Pološki Vokić** and **Dubravka Frajlić** explored an interesting and important topic – fairly neglected in domestic literature – Croatian labor force competitiveness. The authors investigate different indicators of employees' human capital: demographics (gender, age, and qualification structure), mobility, compensation, and investment in education. Besides, they analyze managers' answers regarding their employees' competitiveness. Top values of each indicator serve as benchmarks, or better said, as a goal to be reached by every Croatian company. Considering that the wanted value level is mostly above the average, realistic value, the authors conclude stating that Croatian employees are not competitive enough. Their research indicates

that the most competitive employees are highly skilled ones whose existing flaws, such as lack of computer skills or foreign language inefficiency, can be remedied by additional investment in their education.

"What exactly determines competitiveness and economic growth?" is a question almost impossible to answer with just one answer. It is very hard to reach adequate competitiveness and growth level, while it is very easy to prevent and slow down its development. Countries with same or similar policies achieved different economic results. Even more, certain countries with almost unchanged policy were taken as a success example during one period and as a failure example in another period. To achieve human competitiveness and economic growth is like putting puzzle pieces together; it takes time and effort to put all the pieces together and then, all of the sudden, an open door current (or a mistake) can ruin it all. Still, it is quite clear that competitiveness and economic growth will not be achievable where there is no technology development, no science improvements, no expertise, not enough skilled population, bad entrepreneurship atmosphere, lack of trust in the society, corruption, insufficient public administration, and too huge and irrational public expenditures.

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THE QUALITY OF CROATIA'S FORMAL EDUCATION SYSTEM

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Deloitte Touch Tohmats, Washington

The importance of quality education

A country's education system is one of the main determinants of the competitiveness of its human resources. Highly competitive human resources result from a quality education that is available to a large percentage of the population. There is a significant correlation between an increased level of education in a country and the country's economic growth (Hall, 2002; OECD, 2001; Bassani and Scarpetta, 2001). An additional year of education for a country's population is associated with an average increase in output per capita by four to seven percent (Bassani and Scarpetta, 2001). In developed countries and in transition countries the quality of education is even more important than the quantity of education in determining economic growth (Hanushek and Kimko, 2000).

Thus, one of Croatia's most important issues is ensuring delivery of high-quality education to all Croatians. Accession to the European Union puts further impetus on Croatia to concentrate on its education system, since Croatia will need to develop a highly skilled workforce that can compete directly with other EU countries' workforces. Within the next few years, the Croatian workforce must move quickly to knowledge-based industries and jobs and innovation-driven economic growth, and workers will need to be able to change jobs quickly, deal directly with customers, manage themselves and others, and engage in continuous learning.

How do we measure the quality of the education system?

It is difficult to assess the quality of Croatia's education system since Croatia has not participated in international learning assessments.[1] Thus we do not know how Croatia's students perform in relation to students in other countries.[2] We have attempted to measure the quality of the education system by:

- Comparing the quality of the Croatian education system with other countries' education systems using quantitative indicators.
- Determining whether it is developing the necessary skills for the current and future needs of the economy. To determine whether the Croatian education system is producing graduates with necessary skills we have conducted a survey of 300 Croatian employers.
- Comparing Croatia's education system with other countries by using qualitative studies, particularly the OECD's Reviews of National Policies for Education.

Does the Croatian education system meet the needs of employers?

Our survey of employers (Appendix 1) used several methods to determine the needs of Croatian employers and whether current employees met those needs. First human resource managers were asked to define a "competitive employee." The responses emphasized knowledge and education for the task, being capable and hard-working, and taking responsibility. Second, based on a list of skills that we presented to them, Croatian employers chose ethics, loyalty, reading capability, and basic knowledge as skills needed most. Croatian employers believe that the least important skills are knowledge of foreign languages, analytical ability, computer literacy, and teamwork.[3] Croatian employers see the biggest gaps

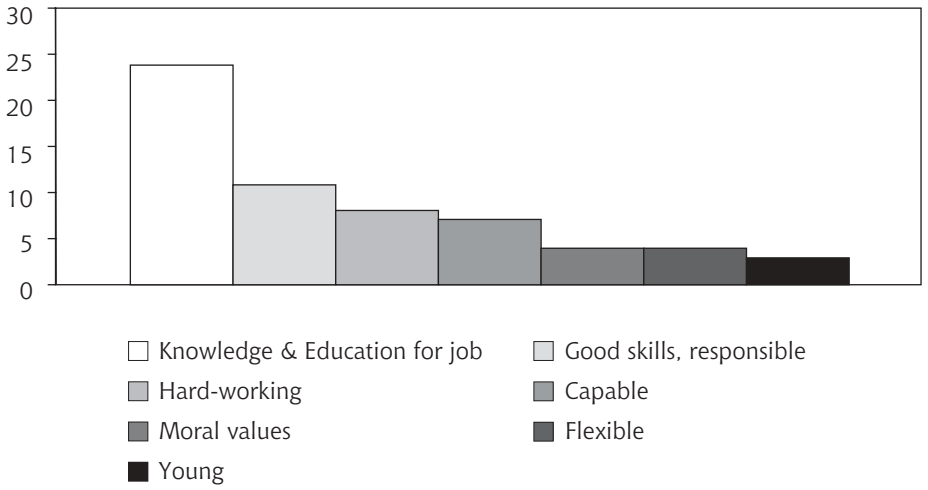
[1] Some of the important international assessments of learning are the Third International Mathematics and Science Study (TIMMS), the OECD Program for International Student Assessment (PISA), and the OECD International Adult Literacy Survey (IALS).

[2] It should be noted that Slovenia, Hungary and Poland performed poorly on PISA and IALS, as did Germany, which has an education system that has a similar design to the Croatian system. This could indicate that Croatia would also perform poorly on these assessments.

[3] It is interesting to note that these skills are thought by economists and human resource experts to be among the most important skills for the 21st century.

between necessary skills and actual skills in the areas of (1) management skills, (2) openness toward other employees, (3) self-initiative/self-motivation, and (4) good people skills (see Survey Table 53 and Graphs 1 to 9).

Graph 1 A competitive employee



It appears that the Croatian education system is producing many of the skills that Croatian employers currently need, since employers rate their employees' ethics, loyalty, basic knowledge, and reading capability quite high. The survey indicates that there is a disconnect between the technical skills of workers and the technical skills needed for job performance, which indicates that the education system – including lifelong learning – needs to be better connected with the needs of the labor market.

Does the education system fit the needs of the future economy?

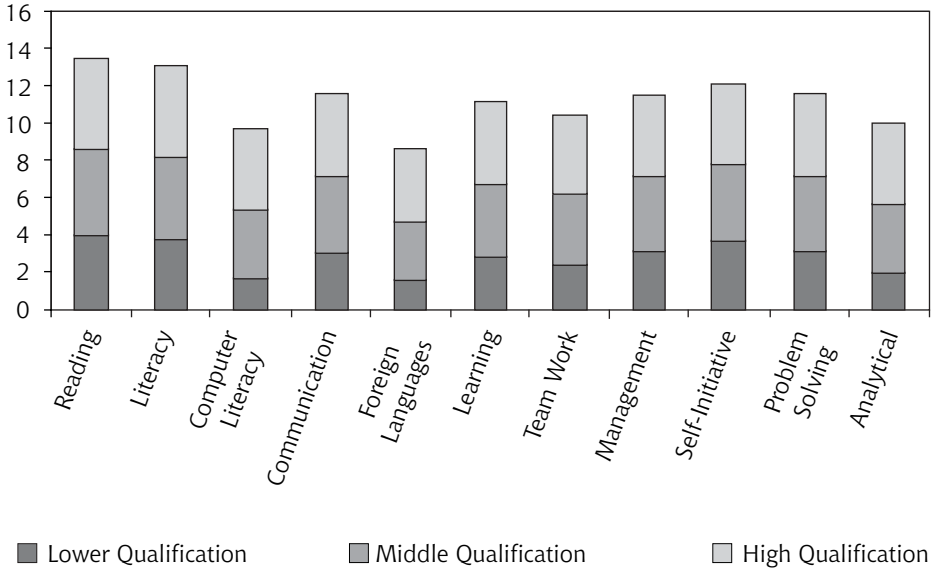
Our Survey of Croatian managers investigated whether Croatian workers have the skills and competencies that several studies have identified as necessary for the knowledge economy. According to Croatian managers, Croatian workers generally have high reading and writing skills. Computer literacy is very low, particularly for lower skilled workers. Communication skills are good, with the exception of knowledge of foreign languages which is quite low. Learning skills are good. Teamwork abili-

ties are somewhat low. Capacity for self-management is also lower than it should be, particularly for middle and high skilled employees. Problem solving skills are good. Analytical skills are somewhat low.

Skills for the Knowledge Economy
- Reading, writing and arithmetic skills
- Technical/ICT skills
- Communication
- Learning ability
- Team work
- Capacity for self-management
- Problem identifying and solving
- Analytical

Most of the skills needed for the knowledge economy are primarily developed in the formal education system before work. They can be – and typically are – developed on the job, but a basic, generalized education that imparts these skills is a necessary base for these skills. Thus, Croatia needs a high level of workers who have completed tertiary level education and a general education to provide core competencies that provide the base for lifelong learning and skill upgrading (OECD, 2001:112).

Graph 2 Croatian Employee Skills



How does the Croatian education system compare with other countries?

We will now attempt to measure the quality of the Croatian education system based on quantitative indicators and qualitative analyses, comparing Croatia with the EU and EU accession countries where it is possible.

The Education System

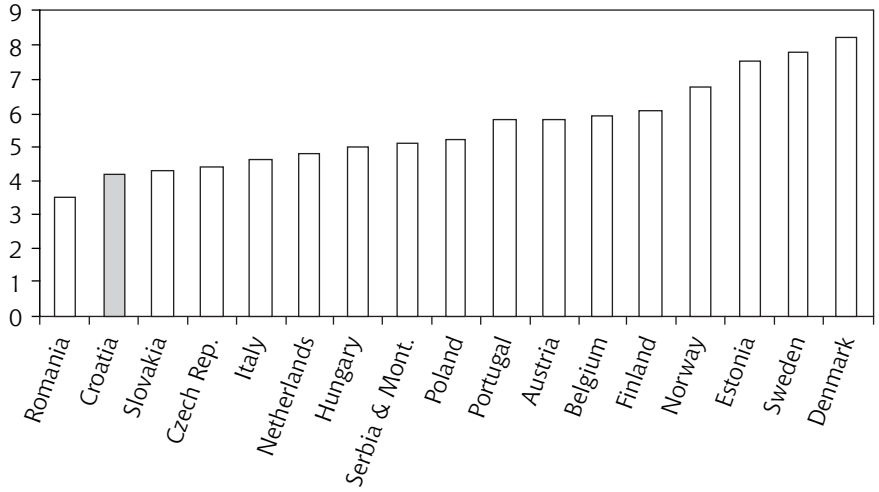
A) Enrollment rates – Croatia has relatively low preschool enrollment rates, very high basic education enrollment rates, average rates at the upper secondary level, and relatively high rates for tertiary education. However, the number of years of education that the average Croatian student completes is about four years less than that which the average OECD student completes. In addition, Croatian students' instructional time per year is less than average OECD students' time. For example at grade 4, Croatia has 525 mandatory instructional hours per year, compared to OECD countries that have 50 to 100 percent more instructional hours at grade 4. At grade 8 Croatia has 814 mandatory instructional hours, while the OECD average is 944 hours (Berryman and Drabek, 2002). This of course negatively impacts the skills Croatian students acquire in comparison with students in OECD countries.

B) Strategy, Governance and Management – Although education "strategies" have been drafted in Croatia, they have not been implemented, and major reforms have not yet been undertaken at any level. Croatia's situation in this regard is similar to Serbia's and Bulgaria's. By contrast, Slovenia, Czech Republic, and Hungary have implemented wide-ranging reforms based on agreed strategies. Decentralization of the education system has been a priority in several transition countries, although the extent and success of decentralization have varied. Croatia has carried out very little decentralization, and this – along with conflicting authorities, a lack of system-wide focus, and poor management – has resulted in a lack of change, innovation, and accountability. In comparison with other transition countries, Croatia has rigid, hierarchical and opaque governance and management of its education system (OECD, 2001c).

C) Financing – The main characteristics of Croatia's education financing are: chronic under-funding, lack of equity and transparency in budget-

ary allocation, unbalanced structure of the education budget in terms of categories of expenditure and source of funds, and lack of synergy (legislative, professional and institutional) for system change. The share of education expenditure of 4% of GDP is well under the European average, and the current level of funding is insufficient to support the reform process. The physical conditions vary widely from school to school but facilities are often inadequate (OECD, 2001c).

Graph 3 Public Expenditure on Education as % of GDP



D) Primary and Secondary Schools – The current organization of curriculum around subjects and teacher-dominated learning methods with focus on factual knowledge and passive learning is not conducive to developing high-level technical, technological, and social competencies needed by a competitive economy. There are too many compulsory subjects and not enough optional subjects. Croatian students need teaching methods that give students responsibility for learning, reward students for initiative, focus on alternative ways to analyze issues and solve problems, enable students to learn from mistakes, and use facts and ideas in a meaningful context. In general, Croatian textbooks are inappropriate for the subjects and skills that should be taught and prices are high for average Croatian families. Croatia's pupil/teacher ratio of 1/13 is excellent and indicates that there is no need to hire additional teachers (UNESCO, 2002). Croatia's teacher salaries and status are rather low, although average gross

annual salaries as a percentage of GDP per capita are higher in Croatia than in OECD countries. Opportunities for teacher promotion are small or non-existent, with unclear criteria and inadequate financial incentives. The teacher training colleges are poorly equipped and the teacher training system is merely a series of insufficiently linked and discontinuous trainings. Currently the Ministry of Science, Education and Sport (MoSES) ensures quality control through inspection. There are no national standards or external evaluations or tests; all assessment is school-based and is based on teaching inputs rather than learning outcomes. Thus, the MoSES cannot make valid comparisons between students, schools, regions, or over time (OECD, 2001c). In general, Slovenia and Hungary have made great strides in the difficult transition from the socialist style education system (centralized, rigid and focusing on accumulation of knowledge) to a modern education system (decentralized, flexible and focusing on problem solving), Bulgaria is in the process of making the transition, and Croatia and Serbia are still working on strategy and are doing little implementation (OECD, 1999a; 1999b; 2001c; 2001d; 2002).

F) Early Childhood Education and Care – The level of expertise, legal climate, and tradition of pre-school education in Croatia provide solid grounds for raising the quality and scope of early childhood development and care. However, participation is low at less than 30%. Greater public awareness of the importance of early childhood development is needed (OECD, 2001c).

G) Vocational Education and Training – Croatia has 3 and 4-year educational programs, special programs for under-qualified workers or students with special needs, and a dual system of schooling with work placement. Vocational schools serve 438 specializations in 31 vocational areas. However, due to technological developments and structural changes in the Croatian economy there is no longer a need for most of the listed specializations. The curriculum is too focused on subject-specific skills, competencies, and attitudes. The programs need a broad theoretical and practical foundation that provides a flexible, adaptable education. Due to the poor image of the vocational education and training system, it has been difficult to recruit teachers and trainers. Vocational education has not adjusted quickly enough to the changes in the economy and to the needs of small and medium sized businesses (OECD, 2001c). Hungary, Czech Republic, and Slovenia have already reformed their vocational education

systems to lengthen and generalize study, increase flexibility, and improve connections between vocational education and labor market demand.

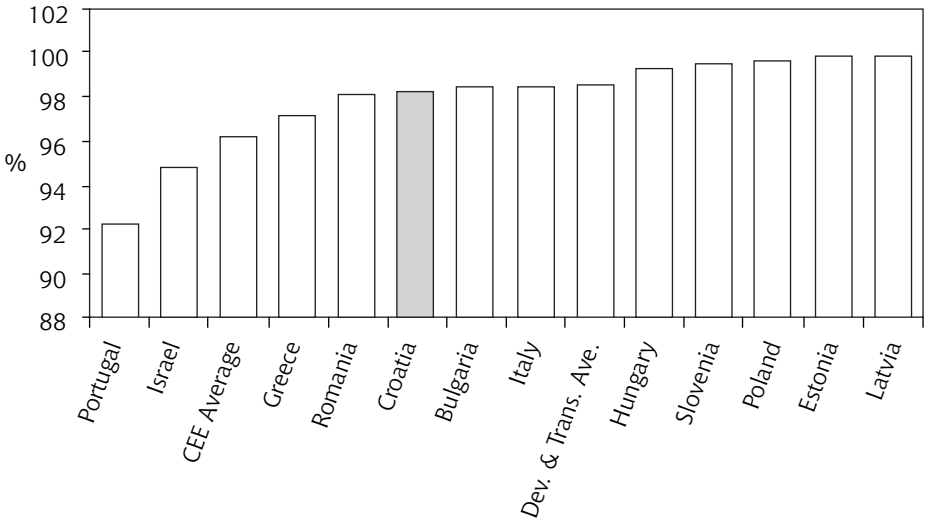
H) Higher Education – In Croatia there was little contact on strategy between the Ministry of Science and Technology (MoST – which is responsible for higher education) and the Ministry of Education and Sport (MoES). Higher educational institutions are not really autonomous since funding and staff decisions are made by the MoES. Professors are generally of poor quality, particularly in terms of teaching and testing methods. The universities are not sufficiently in tune with the needs of employers. There are no effective university standards relating to educational processes and learning outcomes (OECD, 2001c). Since each of Croatia's four universities is a collection of separately budgeted faculties, the university's rector and top management have little ability to modernize the university, e.g. merging, eliminating, adding, diminishing, or expanding faculties, and there is little collaboration between faculties and no opportunities for students to engage in interdisciplinary studies (Berryman and Drabek, 2002). Slovenia, Hungary, and Czech Republic face similar challenges.

I) Lifelong Learning – Workers at all levels in the 21st Century need to be lifelong learners, adapting continuously to changed opportunities, work practices, business models, technology, management. Croatians' participation in lifelong learning is quite low, particularly in comparison to EU countries. This indicates that workers are not keeping pace with technological advancement and other changes in the workplace.

Education System Outputs

A) Adult literacy rate – The Croatian literacy rate is reasonable.[5]

Graph 4 Adult literacy rates



Note: CEE–average for Central and Eastern European Countries
Source: UNESCO/OECD, 2002

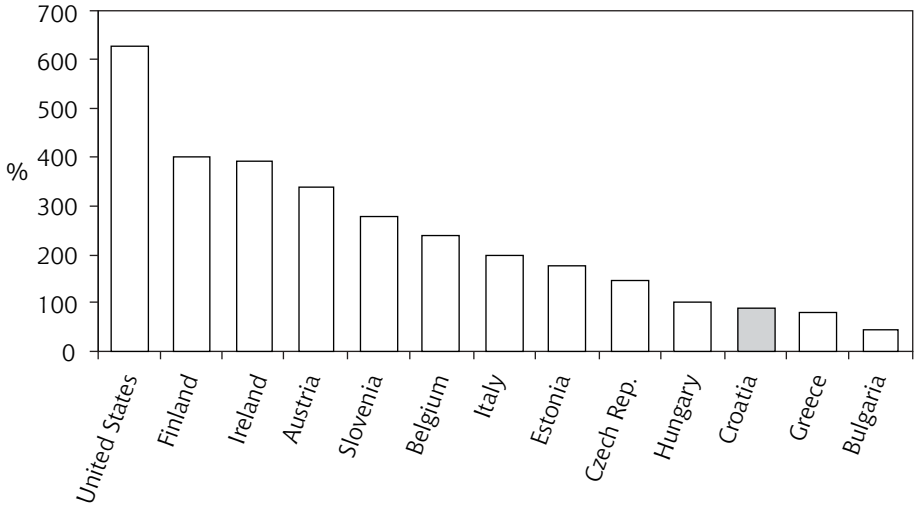
B) *Education levels* – Croatia trails EU countries in the percentage of workers who have completed tertiary education. It has a higher percentage of workers who have completed some type of secondary education. But among Croatian workers, a much higher amount completed only the basic vocational program of one to three years in comparison to their counterparts in OECD countries (55% compared to only 9% in the OECD countries (Berryman and Drabek, 2002). A basic vocational program does not provide the competencies required in the modern workplace and it appears that the Croatian education system is not providing enough knowledge workers (ILO, 2003).

C) Use of Technology – Due to a lack of survey data on the use of technology by Croatian workers, we use a rather crude measurement of the use of technology. Croatia is behind other European countries in the use of

[5] UNESCO/OECD World Education Indicators.

PCs, the dominant technology in the workplace, which indicates that the education system is not emphasizing technology (World Bank, 2002).

Graph 5 Personal Computers per 1,000 People (2001)



Recommendations for improvement

- The MoSES must immediately work with the stakeholders (school and university administrators, teachers, professors, students, social partners) to develop a vision, strategy, and tangible action plan for reform of the education system.
- The education system should be changed from supply-driven to demand-driven, i.e. the system should provide learning alternatives that students (of all ages) can choose from, with increasing responsibility by students as they get older.
- Management of the education system should be decentralized, i.e. budgeting, personnel, curriculum, should be done by the schools and local governments and universities instead of the Ministries.
- The MoSES – working with the stakeholders – should focus on implementation of reform strategies. The Ministries should improve their management by focusing on increasing their abilities to implement strategies and action plans.
- Schools and universities should be accountable for results. Thus, the Ministry should set standards and hold schools accountable for learn-

ing outcomes, e.g. reading comprehension, ICT skills, etc., and give the schools and universities freedom to use their own methods to produce them. This will require nationally written, administered, and graded learning assessments.

- Curricula in schools should be reformed to increase links with the needs of the economy and to reduce compulsory subjects and increase optional subjects, begin specialization in the vocational track later, broaden specializations, emphasize problem solving, develop teamwork, increase the ability to learn, develop students' ability to manage themselves and others, build communication and technical/ICT skills, and reduce the emphasis on memorization of facts. The curriculum reform should be accompanied by new textbooks, teacher guides, and learning materials, changes in teaching methods, and new measures of learning outcomes.
- Instructional pedagogy in schools and universities should be restructured so that teaching methods give students responsibility for learning, reward students for initiative, focus on alternative ways to analyze issues and solve problems, and use facts and ideas in a meaningful context.
- In conjunction with radical reforms of curriculum, materials, and pedagogy, Croatia will need to intensively train existing and new teachers including imparting new teaching methods, use of teaching materials, and testing methodology. Such training should be mandatory for teachers.
- Croatia should participate in international learning assessments, including PISA.
- Curricula in universities should also be reformed to increase links with the needs of the economy, and dialogue and cooperation between the private sector and universities should be greatly increased.
- Universities' autonomy and powers should increase (vis-a-vis the MoSES and faculties), including having single university-wide budgets and university administration's freedom to select faculty structure, management staff, faculty members, support staff, and students.
- Vocational education and training should be more generalized and should focus on the competencies needed for the labor market. Occupation-specific training should be restricted to the tertiary level.
- Increase participation in pre-school education by informing the public of the importance of early childhood education.

- Trade unions and employers should be actively involved in education reform, especially in the area of vocational education, and improving the education system should be a top priority for the unions.
- The Croatian people should be informed of the need for each Croatian to constantly upgrade his or her skills. The Croatian Government, business community, and trade unions should jointly develop and deliver a public information campaign exhorting Croatians to focus on education.

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DOES IT PAY TO INVEST IN EDUCATION IN CROATIA? RETURN TO HUMAN CAPITAL INVESTMENT AS A FACTOR IN HUMAN RESOURCE COMPETITIVENESS

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There are a number of reasons why investment in human capital[1] is frequently mentioned in recent economic policy discussions. First, it is one of the factors that are important for the creation of a modern knowledge-based economy, and as such it is stressed in strategic documents such as the Lisbon Strategy (European Union, 2000). Furthermore, in addition to the positive impact on growth and development, education is emphasized as an economic policy priority due to its potential for engendering "social inclusion," i.e. providing additional opportunities to the excluded, unemployed and poor. In other words, it is often believed that the more rapid reorganization and expansion of formal and informal education can alleviate the problems of high unemployment and growing social polarization in developed countries (this point is especially emphasized in the European Employment Strategy, European Union, 2003; and the OECD's Jobs Strategy, OECD, 1996). Finally, the investments in formal and informal education employs considerable financial resources - about

[1] Human capital encompasses investment in on-the-job education and training, as its most important component, but it also includes all other investments which increase an individual's productivity, such as investments in health-care.

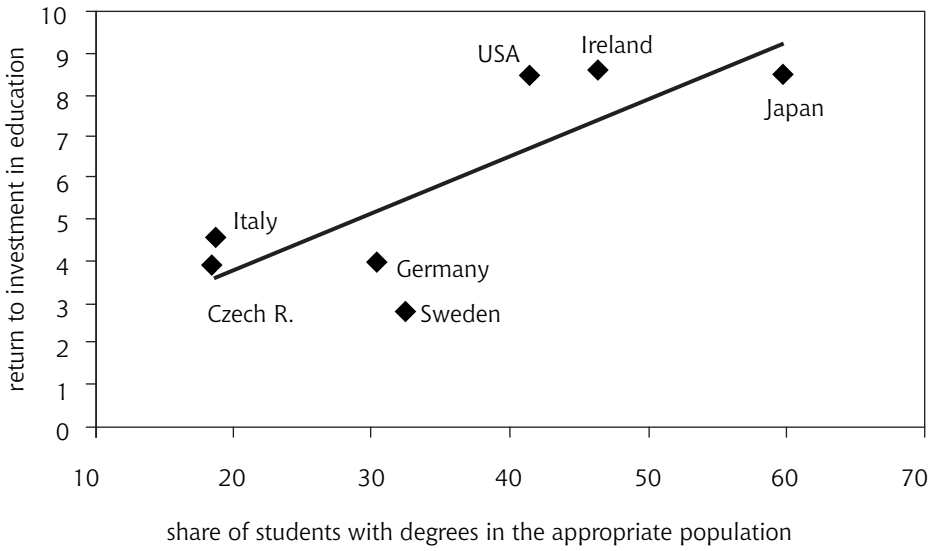
6% of GDP in OECD member countries on average - so it is therefore critical to know whether or not the social return to such investment is at the very least equal to the return to alternative forms of investment.

According to the human capital theory, investment in education is the result of voluntary decisions by individuals who expect a return to investment of time and funds. In this regard, simply increasing the amount of public funds earmarked for education is not sufficient to automatically increase the number of persons who decide to enroll in educational programs. Rather, it is necessary to focus attention on the private return to investment in education, meaning the discounted value of future earnings and current costs of education. Stated simply, the return to investment in education will depend on its costs and future wage premiums. In line with this view, empirical research has indeed confirmed that in countries with higher rates of return to investment in education one can expect to find more persons who decide to enroll in higher education.

Regardless of the increase in the average schooling and growth of the number of persons with a higher education over the last twenty years, growing wage premiums of educated workers have accompanied this increase in the developed market economies. Return to investment in education grew in the United States since the beginning of the 1980s, while in EU member states such a tendency has been recorded since the end of that decade, and since the beginning of the 1990s. Denny, Harmon and Lydon (2001) conclude that most empirical work, as well as their own research, suggests that international differences in the returns to schooling are affected by structural characteristics of national economies, while increased openness of national economies has had no discernible impact on income distribution. This means that growth in premiums can be primarily attributed to more rapid technological development, i.e. the adoption of information and telecommunications technology, which has led to growth in demand for educated workers. Although debate on "trade versus technology" is far from concluded, as it has prompted considerable empirical literature, Desjonqueres et al. (1999) particularly emphasizes three stylized facts emerging from this literature. First, the rise in skill premium has been accompanied by increases in the ratio of skilled to unskilled employment in all sectors, not just those which use skilled labor intensively. Second, the skill premium has risen in less-developed and newly industrializing countries as well as in OECD countries. Third (though the evidence here is less clear-cut, especially for the U.S.), there

has been no significant decline in the relative price of less skill-intensive goods. All three of these stylized facts conflict with the view that the rise in skill premium is mainly due to cheaper unskilled-labor-intensive imports.

Graph 1 Rate of return to investment in an additional year of schooling and the share of students with degrees in a population of the appropriate age



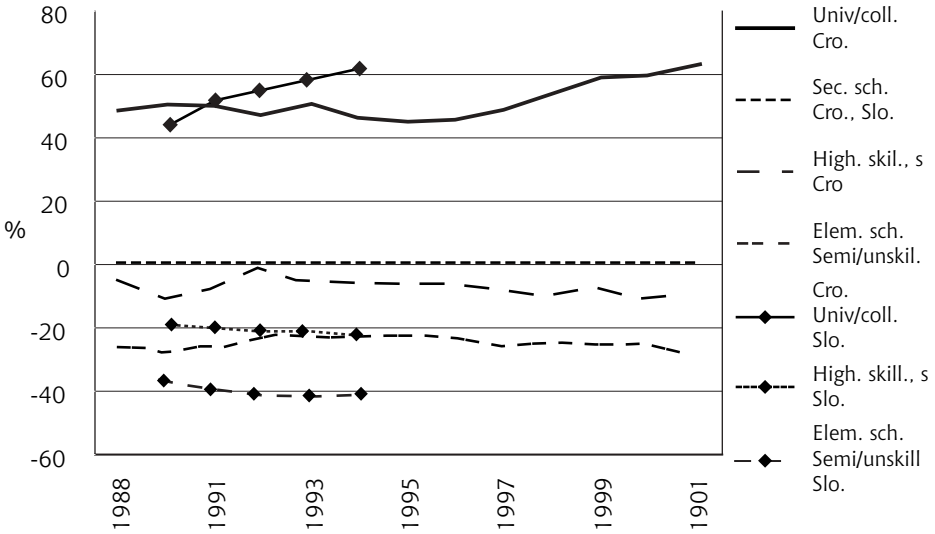
Source: Denny, Harmon and Lydon (2001); OECD (2001a)

Economic and political transition in the countries of Central and Eastern Europe at the beginning of the 1990s has led to the cancelment of, or at least a considerable reduction in, political supervision of the wage structure. Orazem and Vodopivec (1997) have categorized all of the fundamental forces which influenced the wage structure during transition into three groups. The first group consists of corrections in distortions that were present on the labor market during the previous regimes, meaning measures that secured the egalitarian wage structure. The second group consists of changes in final demand for goods and services which indirectly led to reduced demand for labor in industry. The final group of shifts in demand pertains to the imbalances which emerged during the very process of transition, i.e. the fact that education and the entrepreneurship associated with it were not sought in the previous system, so due to the in-

elasticity in the labor supply over the short and medium term, its supply is lower than could be expected given the incentives established. It is interesting that all of these forces, both those that corrected imposed imbalances and those that worked as a reaction to new imbalances, pushed the wage structure in the same direction, toward growing wage premiums for education.

In transition countries over the past decade these factors have resulted in a rapid convergence of premiums on education, moving from egalitarian wage structures toward wage structures that exist in developed market economies. Rutkowski (1996) thus finds that the return to an additional year of education in Poland very soon after the commencement of transition reached 7.5%, while prior to transition it was approximately 5%. Clark (2000) cites Vecernik, according to whom the same rate in the Czech Republic reached 5.3% for men and 6.7% for women in 1992, while in 1988 it was 4% for men and 5.7% for women. Rates of return in Estonia and Slovenia were also low prior to transition. These figures are considerably higher than in the period preceding the transition, and they correspond to the rates of return found in developed market economies.

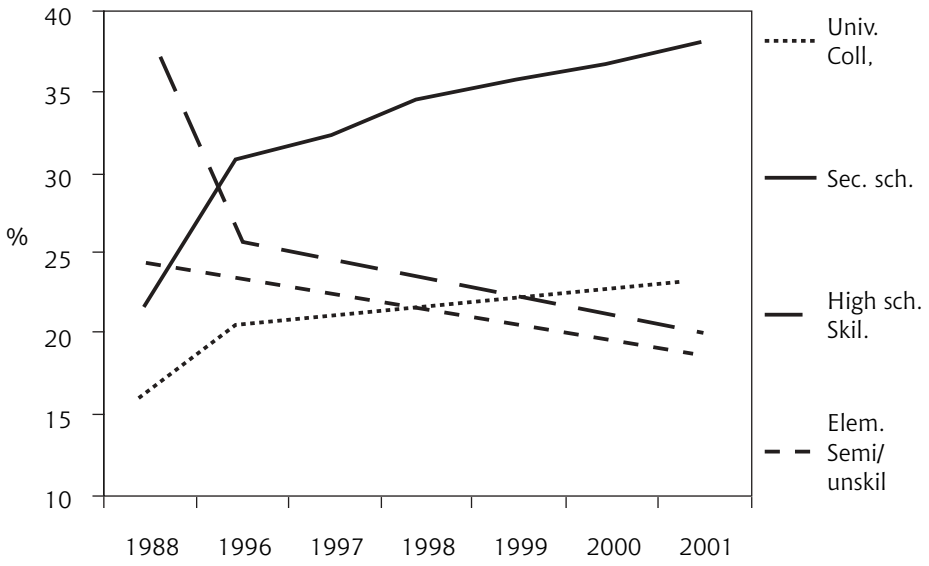
Graph 2 Evolution of wage structures based on qualifications in Croatia and Slovenia (SSS=100)



Note: During the 1989-1995 period, there were no published data on the employment structure based on qualifications in legal persons, so interpolations were used for these years.
Source: DZS, various years; Orazem and Vodopivec (1997)

As opposed to these countries, wage premiums for educated workers in Croatia stagnated during the first half of the 1990s, only to exhibit slight growth by the end of that decade. On the other hand, adjustment in the employment structure was intense, despite the relatively slow change in aggregate employment in Croatia compared to other transition countries. The fact that employment possibilities for less-educated workers and workers with vocational training declined considerably reflects an economic law: if adjustment in the labor market could not have been made through a change in relative prices, i.e. relative wages for different categories of workers, then it came about through an adjustment of the supply, i.e. relative employment. The share of employees with only a lower education and semi-skilled and unskilled workers in Croatia between 1988 and 2001 was cut almost in half, and the same thing happened to workers with vocational education. The reduction of their share in employment was compensated by growth in the share of college and university educated workers, as well as those who only completed general secondary school.

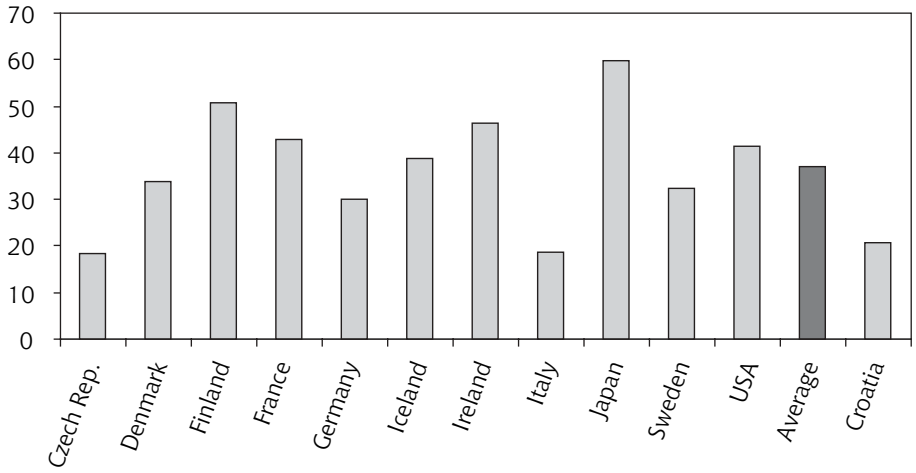
Graph 3 Evolution of the structure of employees based on qualifications



Source: DZS, various years

The results of wage regressions performed on the Labor Force Survey data confirm that during the second half of the 1990s – between 1996 and 2001 – the return to investment in education really grew, almost by a half. In 1996 the rate of return to investment in additional year of education was approximately 7.6%, while in 2001 it grew to 10.5%. The rate of return to investment was lower in the public sector in both of these years, even though its quicker growth was apparent, so that the gap between the rate of return in the private and public sectors declined to less than one percentage point in 2001. The rate of return in Croatia was somewhat higher than the average of EU member states, and a little higher than in other transition countries in Central and Eastern Europe. However, wage dispersion in Slovenia in the mid-1990s was already somewhat higher, although it should be kept in mind that the rate of return is usually somewhat higher in countries with a scarce supply of human capital.

Graph 4 Share of students with degrees in a population of the appropriate age (%)

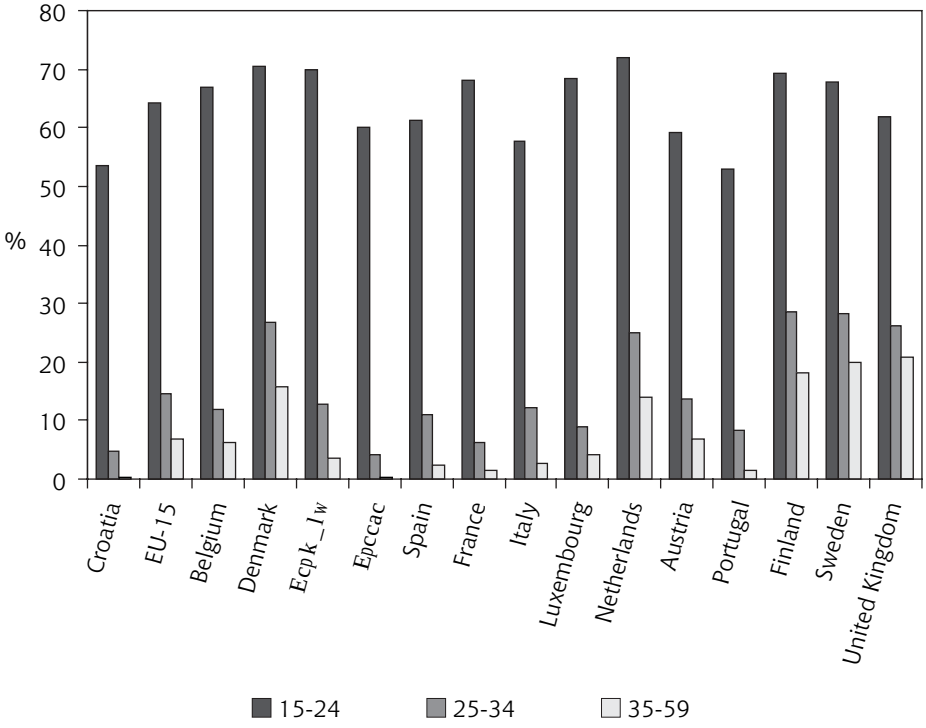


Source: OECD (2001a), and author's computation

The number of students in Croatia during the 1990s grew by approximately 35% (OECD, 2001c), which was caused by the reduced possibilities of finding employment with only a secondary school education, but also due to the rising return to investment in education. However, if the number of enrolled students is considered, Croatia still lags behind de-

veloped countries. Since only about two thirds of enrolled students actually complete their studies and earn degrees, this lag behind developed countries is even greater. With approximately one fifth of its younger population completing college and university education, Croatia is at the bottom of the range observed in developed countries, together with the Czech Republic and Italy. Given these education indicators, in the near future it is hard to expect catch-up to the level of human capital that exists in countries with developed economies.

Graph 5 Population in education (according to age groups, 2001)



Source: DZS, 2003

In order to facilitate the convergence of human capital in Croatia toward the level of human capital in developed countries, it is necessary to act in several directions. First, in future decision-making on wage policies in public services and state-owned companies, the State could take care to adjust wage premiums for educated workers to match prevailing prac-

tices in the private sector. Implementation of such policies in Croatia began at the end of the 1990s, when it helped the convergence of wage structures towards those established in other transition countries and setting-up of market incentives for investment in education. The long average period of study and many students dropping out of their studies are the result of a combination of various factors, so this set of problems cannot be solved easily. The choice of long-term study over participation in the labor market is linked to the labor market rigidities and the difficulties in finding work for younger people, so the already initiated process of introducing more flexibility into the labor market will certainly contribute to the reduction of its average duration. As for university policy, recent increases of tuition fees in Croatia correspond to tendencies that were present in EU member states over the last twenty years. Higher tuition could contribute to shorter average periods of study, and to greater fairness, because in this manner taxpayers, among whom there are those with lower incomes, would not bear the costs of educating persons whose future earnings will be higher than average. Such stricter criteria would also eliminate quasi-social public spending subsidizing the costs of educating long-term and unsuccessful students, the latter category accounting for one third of all students. However, it is clear that the growth of direct educational costs could reduce the incentives for investment in education. Therefore, the fact that approximately one half of the revenues of universities comes from tuition fees means that considerable schooling costs have already been imposed on Croatian students (OECD, 2001c). At the same time, since enrollment of students who pay for education out of their pockets is conducted at the very beginning of study, it is uncertain as to whether the best students are truly exempt from payment of tuition fees, so tuition policy does not entail the motivational element which could be incorporated into it. In this vein, the lack of available loans for investment in education due to insufficiently developed financial market in Croatia could impose itself as another limitation. These problems, although perhaps to a lesser degree, exist in EU countries as well, so the policy of increasing tuition fees was usually accompanied by the introduction of a system of student loans using public funds. If loan conditions are linked to academic success, they additionally contribute to the effectiveness of the entire system; this was in fact proposed in Croatia, but so far no such measure has been adopted. Finally, instead of the previous policy of wage subsidies for the unemployed, a portion of these funds should be redirected into measures that will improve their knowl-

edge and skills, which should increase their employability and encourage the adaptability of the labor force to the changing environment.

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STRUCTURAL ASPECTS OF LABOR FORCE COST COMPETITIVENESS AMONG EMPLOYEES IN CROATIA'S MANUFACTURING INDUSTRIES

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It is necessary to point out that competitiveness in the manufacturing industry is an area that encompasses:

- macroeconomics (wage growth management policy, monetary policy with reference to prices, exchange rate policies and so on);
- microeconomics (specific production functions, specific operating conditions on domestic and foreign markets, financing conditions);
- strategic management (horizontal and vertical linkage of products, marketing strategies and so on).

Thus, findings related to cost competitiveness are considered within the broader context of overall competitiveness.

A special facet of competitiveness is the *human dimension of competitiveness*. Industrial production has long ceased to be a predetermined process in which employees only service an assembly line. Employee satisfaction and motivation are among the key prerequisites for the growth and development of individual companies and therefore of entire industrial sectors. Managing cost competitiveness thus requires constant attention to *non-cost aspects*, which constitute *an important part of the manufacturing process*, particularly to motivation and creative abilities of people. Man-

agers must ensure that employees are motivated and able to perform increasingly complex and customer focused tasks.

At the same time, conclusions related to running a cost competitiveness policy will be conceptually and substantially different for different industries. Accordingly, the guiding idea underlying this research was that it should depict, in a five-year cross-section, seven different manufacturing industry sectors, analyzing the sector-determined wage trends. First of all, we compare wages to productivity trends in the economic branches under observation and finally compare them with export and import growth rates as indicators of competitiveness.

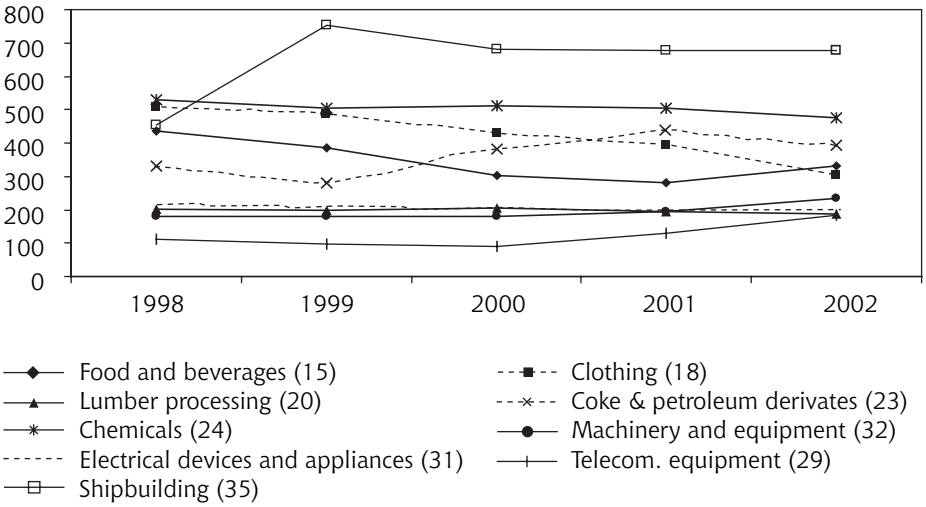
Table 1 Typology of industrial sectors

Industry type	Indicator	Examples used in the analysis
Labor-intensive industries	Share of wages in total costs	Textiles Lumber processing
Capital-intensive industries	Share of capital in total value	Chemicals Coke and petroleum derivates
Technology-intensive industries	R&D outlays in total turnover	Telecommunications equipment
Marketing-intensive industries	Marketing outlays in total turnover	Food and beverages
Resource-atypical industries (*mainstream*)	Any combination of the above	Machinery construction Production of other means of transport (shipbuilding)

For Croatia, a typical country with a small market and a high level of liberalization in the international trade regime, the question of competitiveness in specific industrial branches is actually a question of export competitiveness. One dimension of the research was thus the need to analyze the exports of various types of industries during the period under observation.

Manufacturing industry export trends (1998-2002)

Graph 1 Exports of selected manufacturing industry sectors 1998-2002 (in million $)



Source: the author, using data from the National Statistics Bureau

As the graph shows, over the past five years Croatian exports experienced notable structural changes. Export restructuring differentiated certain industries into *winners* and *losers*, i.e. sectors which retained or acquired competitive capacity on foreign markets, and sectors that gradually lost their presence on foreign markets.

Export trends, particularly during this brief period, were subject to the cyclical oscillations and fluctuations characteristic of a structural change in an industry, influencing the pace of growth.

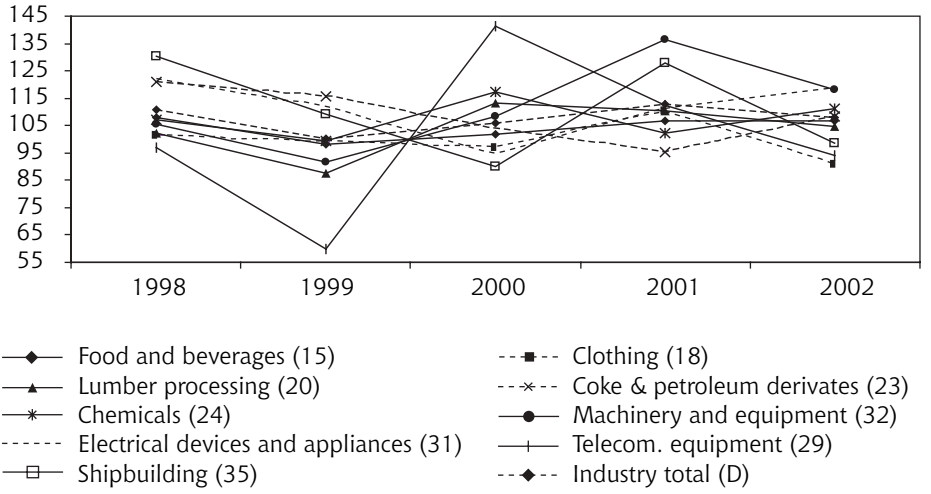
Growth or decline trends in absolute and relative terms in the exports of specific industrial sectors are rare. By presenting data on export trends, we can systemize an entire economy in terms of exports through four groups of industrial sectors:

- group A, which experienced a decline in exports throughout the period, and which includes the textiles sector;
- group B, which experienced growth in exports throughout the period, and which includes the production of telecommunications equipment, machinery and other devices;

- group C, which is characterized by stagnation – the maintenance of approximately the same absolute level of exports throughout the period – and which includes lumber processing and the production of electrical devices and appliances;
- group D, which experienced a decline in exports at the end of the 1990s, a consolidation of exports at the beginning of 2000, and finally a further slowdown in export growth which began in mid-2002, and which includes capital-intensive sectors such as coke and petroleum derivate production and the chemicals industry;
- group E, which is characterized by atypical export trends, present in the production of other means of transport (most sectors pertain to shipbuilding);
- group F, which is characterized by a trend towards export consolidation and encompasses the food and beverage sector from 2001 to the present.

Manufacturing industry labor productivity trends (1998-2002)

Graph 2 Average labor productivity in selected manufacturing industries, 1998-2002



Note: Graph 2 shows the average of observed monthly indicators for the current year in comparison to the average of indicators for the same period in the previous years
Source: the author, using data from the National Statistics Bureau

The fundamental microeconomic postulate of cost competitiveness of the manufacturing labor force is the imperative that wage rises must derive from labor productivity growth. According to marginalist theory, the price of *inputs* (wages in this case) must equal the productivity deriving from the use of this *input* (employees in this case). In other words, increased production made possible by the increased quality or intensity of the efforts of an individual – accompanied by a fixed combination of technology – must/should be awarded with higher wages. To be sure, average productivity trends in the sector do not provide sufficiently detailed information on labor productivity in a specific production plant, productivity in various operating units (such as finance and accounting or marketing) or management process productivity. Additionally, companies within a single sector differ from one another in terms of the combinations of labor, capital and technology encompassed in production. This abstraction can certainly not be neglected for the needs of analysis and consideration of this model, but the connection between average productivity and average wage growth is doubtlessly an essential indicator.

Thus, disregarding the aforementioned, we can still point to the following structural features of productivity trends:

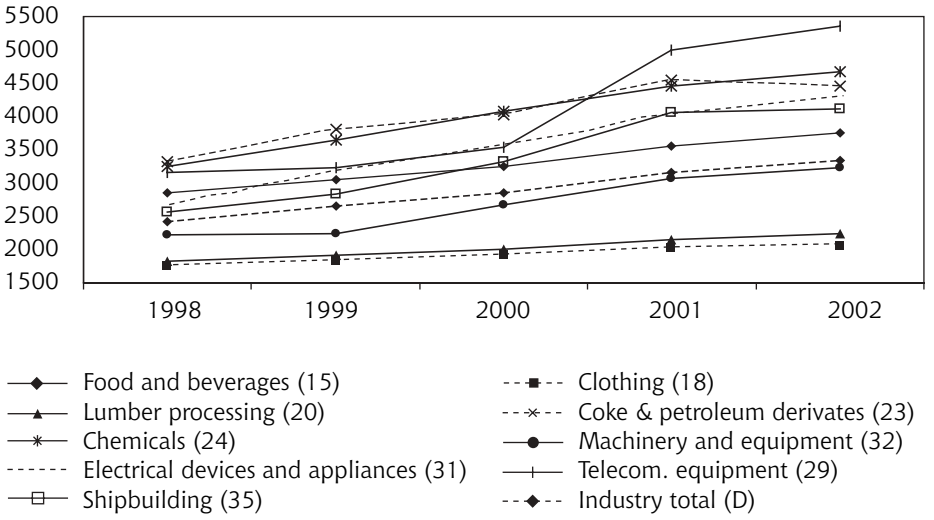
- in line with the recession in 1999, all sectors in that year – with the exception of coke and petroleum derivate production – experienced a decline in average annual productivity;
- 2000 was a year of revitalized industrial production, in line with growth in the volume of production and labor productivity;
- above-average labor productivity growth (annual labor productivity growth over 10%) has since 2000 been characteristic of production of machinery and other devices, chemicals, and telecommunications equipment;
- slower labor productivity growth (annual labor productivity growth under 10%) has since 2000 been characteristic of the foods, lumber processing and textiles sectors;
- the coke and petroleum derivate sector is specific in that its growth was significant throughout the period under observation, except in 2000, but it is not a typical industrial sector due to the monopolistic position of the national petroleum company INA, while the market has a different impact on it than on other sectors;

- in the textiles and other means of transport (dominated by shipbuilding) sectors, a decline in the annual rate of labor productivity growth was recorded.

This study has analyzed trends in employment, imports, exports and productivity with the goal to compare them with trends in the aforementioned industrial typology.

Average net wage trends in selected manufacturing industry sectors (1998-2002)

Graph 3 Average net wages in selected manufacturing industry sectors 1998-2002 (in HRK)



Source: author, using data from the National Statistics Bureau

As shown in the graph, and even more clearly in Table 1, during the period under observation the following trends were present:

- labor-intensive industries, such as the textile and lumber processing sectors, were characterized by below-average wage growth (25 to 40% lower than the manufacturing industry average) at the beginning and end of the period, i.e. the ratio between average nominal wages in the sector and those in the manufacturing industry as a whole has deteriorated since 1998;

- average wages in the machinery and equipment production sector (which we have classified as a resource-atypical industry) were lower than the average during the period under observation, but average wages grew faster than the overall industry average, so that by the end of the period they were almost equal to the overall average;
- average wages in the coke and petroleum derivate production sector (capital-intensive industries), which were among the highest in this sample at the beginning of the period – 33% above the average – grew somewhat slower than average during the period under observation, but at the end of the period they were again among the highest wages in the sampling (31% above the average);
- sectors with above-average wage growth were: production of other means of transport (72% growth), production of electrical appliances and devices (84%), and production of telecommunications equipment (83%), so that by the end of the period under observation wages in them were from 30% to 60% higher than average manufacturing industry wages.

Instead of a conclusion: the answer is not in labor cost competitiveness...

Even though a simple interpretation of the general industrial trends shown by the indicators would lead to the conclusion that a growth of average wages that is faster than the growth in average labor productivity has negative consequences for the cost competitiveness of the labor force in the manufacturing industry and thereby its export competitiveness, a detailed sector-by-sector analysis points to different findings.

The analysis of average net wage trends in various sectors and trends in productivity, employment, exports and imports leads to the conclusion that the growing export sectors do not correspond to the pace of growth in labor costs. The growth in exports in specific sectors does not correlate with the dynamics of labor costs in that sector. Moreover, the radio, television and telecommunications equipment production sectors, and the food and beverage production sector, which exhibit the highest wage growth (both in absolute and average terms, wages are growing faster than productivity), represent a source of export growth in the period under observation.

On the other hand, not only did wages grow most slowly in labor-intensive sectors, which was to be expected, but the wages in these sectors rose in accordance with the need to satisfy the conditions for the maintenance of the cost competitiveness of the employed labor force. In other words, wage growth in these sectors accompanied growth in labor productivity. Despite the modest wage growth, the shares of these traditionally export-oriented Croatian sectors in overall exports declined in both absolute and relative terms. Thus the maintenance of labor force cost competitiveness did not even facilitate the maintenance of the level of competitiveness on foreign markets for the textiles or the lumber processing industries.

From everything that has been said it may be concluded that for manufacturing industry export competitiveness certain non-cost factors are crucial: investment in technological development, an efficient system of distribution, successful marketing campaigns, superlative design and product quality, a flexible management structure, good acquaintanceship with new markets and consumer needs, as well as a pay system that provides incentives for employee creativity.

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COMPARISON OF BASIC MACROECONOMIC INDICATORS ON THE LABOR MARKETS OF A SELECT GROUP OF COUNTRIES

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Introductory Remarks

A nation's competitiveness is reflected by the success of its companies in competing on domestic and international markets. National competitiveness is dependent on a variety of factors, including company strategy and operations, and the economic environment. Economic policy-makers try to make economies more internationally competitive to facilitate sustainable economic growth, social progress, and higher living standards. Despite many opposing views and interpretations, sustainable productivity is deemed to be the best indicator of competitiveness at the national level (Porter, 1990).

While not overlooking the importance of productivity, other concepts must also be linked to competitiveness, either as its components or as something in which competitiveness is reflected, such as the efficient use of available resources, company profitability, the quality of the State and its institutions (public administration, the courts, etc.), labor costs, and quality of human resources.

The most competitive economies have the highest quality human resources. By the end of the 20th century the most competitive and advanced

economies became "knowledge economies" where knowledge is the primary creator of wealth (Drucker 2001). Thus human resource competitiveness is the most important factor in achieving economic competitiveness. Human resource competitiveness requires high labor force productivity, labor prices that correspond to productivity, a high rate of workforce participation, education and training that meet market needs, sophisticated human resource management, and many other factors. A study of human resource competitiveness requires a comparison of basic macroeconomic indicators on the labor market among a select group of countries. The central theme of this work is an international comparison of human resource characteristics as factors of competitiveness.

Since Croatia's fundamental economic and political objective is to join the European Union, comparisons will be made between select indicators in a group of current EU member states whose size roughly corresponds to that of Croatia (Austria, Portugal, Greece, the Netherlands and Ireland); with the United States, which is among the most competitive countries in the world and is used as a benchmark; and with a larger group of transition countries (the Czech Republic, Hungary, Slovenia, Slovakia, Estonia, Bulgaria, Romania and Serbia-Montenegro).

Selection of Basic Labor Market Indicators

Sources of Data

Since the research encompasses countries which differ in terms of levels of economic and social development – including levels of statistical monitoring and data gathering methods – the author decided it would be best to use the worldwide standard methodology of the International Labor Organization (ILO). Namely, the data gathered in transition countries are still not completely aligned with data methods and definitions from the national statistics offices of the United States and the EU countries. The data used by the ILO come from several sources. Most are obtained from surveys on the labor force and on the basis of censuses, while the remainder pertains to official institutions and ILO estimates.

The ILO's LABORSTA database was used to analyze basic macroeconomic indicators. The indicators that were selected for this study are deemed the most pertinent for analyzing the competitiveness of human resources at the macro-level. The indicators are presented and discussed below.

Analysis of the Most Important Labor Market Indicators

The Total and Economically Active Population

The dynamics, structure and distribution of the overall population and its economic activities are of crucial importance to the establishment of developmental policies, and to the efficient utilization of human resources. The general activity of the population is influenced by demographic (extent and structure of the overall population and the labor contingent) and socio-economic (wages, labor law, general labor conditions, discrimination in hiring, traditions and customs pertaining to schooling and employment of women) factors. Analysis of the population based on age becomes an important condition for assessing demographic potential in the current and future economic development of each national economy.

Among the 11 countries observed, the pre-labor contingent (aged 15 and under) has its largest share of the total population in the Czech Republic (21.5%), Ireland (21.4%) and Slovakia (19.8%), while the smallest share can be found in Greece (14%) and Slovenia (15.6%). The post-labor contingent (persons aged 64 and older) has its largest share in Greece (19.38%), which indicates a strained age structure in the population. In most transition countries observed, the systemic rate of dependence on the pension system - the number of retired persons per one hundred – is very unfavorable, and it is already leading to large outlays for retirement insurance and high rates of retirement contributions – directly impairing the economy's competitiveness. Such trends, accompanied by longer life expectancies and lower natural growth rates, will intensify in the first half of the twenty-first century. The largest labor contingent share (aged 15 to 64) in the overall population can be found in Slovenia (70.3%) and Portugal (69.7%), while the lowest is in the Czech Republic (65.5%) and Ireland (67.4%).

The share of the pre-labor contingent in Croatia in 2001 was 17.1% of the total population, reflecting a decline from 27.2% in 1961. This points to greater significance for the share of the working contingent (an increase from 65.3% in 1961 to 67.2% in 2001), and particularly an increase in the share of the elderly population (from 7.5% in 1961 to 15.7% in 2001). Beside causing increased outlays for pensions, an aging population also has a negative impact on the vitality and dynamism of a given society, its creative orientation and abilities, readiness to accept new technologies and

changes in economic and social behavior, and a tendency for conservative political and social views to prevail, which can be deleterious to human resource competitiveness. Unless Croatia experiences a large influx of skilled immigrants, it will be necessary for Croatia to retrain older workers so that they can use new technologies and engage in customer-oriented work and remain part of the workforce. This will be no easy task.

Table 1 Population according to the age group – year 2000 (%)

Country	0-14	15-24	25-64	65+	Working age contingent	Future Working age contingent
	(1)	(2)	(3)	(4)	(2+3)	(1+2)
Austria	16.8	11.8	55.9	15.5	67.7	28.6
Portugal	16.1	20.1	49.5	14.3	69.7	36.2
Greece	14.0	13.2	53.4	19.4	66.6	27.2
Ireland	21.4	17.2	50.2	11.2	67.4	38.6
Czech R.	21.5	14.1	51.4	13.0	65.5	35.6
Croatia	*17.1*	*13.7*	*53.5*	*15.7*	*67.2*	*30.7*
Slovenia	15.6	14.5	55.8	14.1	70.3	30.1
Slovakia	19.8	17.1	51.7	11.4	68.8	36.9
Estonia	17.9	14.6	52.9	14.6	67.5	32.6
Bulgaria	15.9	14.5	53.0	16.6	67.5	30.4
Romania	18.4	16.2	52.2	13.3	68.4	34.6

Note: Data for Ireland, Croatia and Slovenia are for 2001
Source: LABORSTA Database

Employed Persons

Croatia has one of the lowest ratios of employed to total population: in Croatia only 44% of the working age population (aged from 15 to 64) is employed. This implies low utilization of human resources and leads to lower levels of production and economic welfare and competitiveness. It is visibly lower in comparison to countries from the select group, where this share is between 48 and 54% on average. Reduction in total employment by approximately one third of the employed in the period after the beginning of the 1990s was mostly recorded in the traditionally "male" occupations and industrial activities in which men are mostly employed, even as the narrowing of the service sector was relatively less severe – so that women's chances of employment were reduced to a somewhat lesser degree. The rate of economic activity by women in relation to the rate

of economic activity by men in Croatia is only slightly less than in the United States and the Netherlands, but despite this there certainly is much room for greater activation and employment of women, whose knowledge, qualifications and abilities can induce an increase in human resource competitiveness.

Table 2 The share of economic active population in total population and according to gender – 2000 (%)

	Economic active population	Male	Female	Difference M-F
USA	67.2	74.7	60.2	14.5
Austria	48.3	56.4	40.7	15.7
Portugal	51.2	58.0	44.9	13.1
Greece	42.9	53.0	33.5	19.4
Netherlands	63.3	72.9	53.9	19.1
Ireland	46.4	55.2	37.7	17.5
Czech Republic	50.5	57.7	43.6	14.1
Croatia	44.0	50.8	35.5	15.3
Hungary	53.5	61.8	45.7	16.1
Slovenia	48.8	53.9	43.7	10.2
Slovakia	48.0	53.5	39.5	13.9
Estonia	48.9	54.8	43.8	11.1
Bulgaria	39.9	43.6	36.4	7.2
Romania	51.6	56.9	46.4	10.5

Note: the data about economic active population include employed and unemployed population older than 15 years. Data for Ireland, Croatia and Slovenia are for 2001
Source: LABORSTA Database

Employment based on economic activity is largely determined by the degree of economic development (Table 3). The most developed EU countries have small shares of the primary sector (agriculture, hunting, forestry and fishing) in total employment (for example 2.9% in the Netherlands and 7% in Ireland). The share of these activities in total employment for less developed EU countries (16% in Greece and 13% in Portugal) is even greater than the share in more advanced transition countries (less than 5% in the Czech Republic and less than 10% in Slovenia). Croatia has a relatively high share of these activities, almost 16% of total employment, although it has declined considerably over the last 30 years.

As a result of restructuring processes, all transition economies have experienced major structural changes in the importance of individual sectors to overall production and employment. The share of the primary and secondary sectors (involving mostly material production) is decreasing, while the importance of the tertiary sector (services) is growing.

Table 3 Share of employed based on economic activity, 2001 (%)

Sector	Greece	Ireland	Netherlands	Portugal
Primary	16.0	7.0	2.9	12.6
Secondary	22.8	30.0	21.2	34.3
Tertiary	61.2	63.6	75.9	53.1

Sector	Bulgaria	Czech R.	Estonia	Croatia	Hungary	Slovenia	Slovakia
Primary	26.3	4.7	6.9	15.6	6.2	9.9	6.2
Secondary	27.7	40.0	33.0	30.0	34.2	38.2	37.6
Tertiary	46.0	55.3	60.1	54.4	59.6	51.9	56.2

Note: Primary: agriculture, hunting, forestry and fishing. Secondary: industry in a broader sense. Tertiary: services
Source: LABORSTA database

Just the share of the secondary sector in total employment is not a reliable indicator of economic development, because this share is similar – approximately 30% of total employment – in developed EU countries (e.g. Ireland) and in transition countries lagging behind in reforms and economic restructuring (e.g. Bulgaria). This share is relatively high, approximately 40%, in advanced transition countries such as the Czech Republic and Slovenia. In all countries observed, except in Bulgaria, the share of the tertiary sector is over one half of total employment. The share of the tertiary sector in Estonia and Hungary is approximately 60% of total employment, which is very similar to the share in EU member states. Croatia has a somewhat lower share of services in its total employment, but further growth in this share can be expected, as it goes along with trends throughout the developed world.

The structure based on occupation, which generally follows the structure based on economic activity, is also important to labor competitiveness. Table 4 contains data on the share of the employed based on occupations in 2001 for five current EU member states and five transition countries.

Table 4 Share of the employed based on occupation in 2001 (%)

Occupation	Austria	Portugal	Greece	Netherlands	Ireland
1	7.5	6.7	9.5	12.7	17.1
2	9.7	6.9	12.4	16.9	15.3
3	14.0	7.3	6.6	17.4	5.5
4	13.4	9.6	11.8	12.2	13.1
5	14.7	13.6	13.0	12.5	15.7
6	5.0	11.4	15.8	1.6	0.9
7	17.2	22.0	16.1	9.9	13.4
8	8.0	8.3	7.4	6.2	10.2
9	9.4	13.5	6.4	8.7	8.3
0	0.9	0.9	0.0	0.5	0.4
X	0.2	0.0	0.9	1.4	0.0

Occupation	Bulgaria	Czech Republic	Estonia	Croatia	Hungary
1	5.8	6.4	11.9	5.6	6.7
2	13.7	10.7	12.8	8.4	11.8
3	15.4	19.0	13.6	14.4	12.1
4	8.0	8.1	5.1	11.3	9.3
5	11.2	12.3	11.6	14.7	13.9
6	1.7	1.9	3.2	13.6	3.5
7	19.5	19.8	15.6	13.2	20.8
8	14.6	13.1	14.0	9.7	12.6
9	10.1	7.9	11.8	7.4	7.9
0	0.0	0.9	0.0	1.4	1.5
X	0.0	0.0	0.0	0.0	0.0

Note: Data for Bulgaria refer to 2000

Legend: 1 – heads of legislative and State bodies and managers, 2 – experts and scientists, 3 – engineers and technicians, 4 – office workers and clerks, 5 – service and commerce occupations, 6 – agricultural and similar occupations, 7 – arts and crafts and similar production, 8 – machine operators, drivers and assemblers, 9 – low-skill occupations, 0 – military, X – not classified

Source: LABORSTA database

Although there are obviously differing classifications and/or interpretations for individual occupations in the observed countries, the data are nonetheless surprising. It is difficult to believe that every sixth employee in Ireland belongs to group 1 – heads of legislative and State bodies, and managers. Without underestimating or overestimating the importance of certain occupations in securing economic development and competitiveness, here we would like to stress the occupations in groups 2 (experts and

scientists) and 3 (engineers and technicians). Just as in economic activities by branch, the share of the employed by occupation can lead to erroneous conclusions, because the occupations in groups 2 and 3 have a roughly similar share (approximately 30% of the total employed) in the technologically and institutionally very developed Netherlands, and in Bulgaria and Slovakia. Ireland[1] and Portugal[2] have made great progress in economic and technological advancement in recent years, but they still have relatively smaller shares in groups 2 and 3 in total employment (Ireland 21%, Portugal 14%). The 23% share of these groups in total employment in Croatia approximately corresponds to the share recorded in Austria. The shares of other occupation groups in Croatia generally correspond to the shares in other countries, and it is interesting that Croatia, after Greece, has the lowest share of group 9 (low-skill occupations) in comparison to the other countries, although this certainly does not signify a high degree of development and human resource competitiveness in Croatia.

Unemployed Persons

An analysis of labor market competitiveness requires a review of unemployment trends, because one can expect that rising competitiveness in a national economy reduces the number of unemployed, while on the other hand the unemployed represent the potential for achieving economic development and competitiveness. Figure 1 shows the registered rates of unemployment in the select group of countries during the period under observation.

During the period under observation, the lowest unemployment rates were recorded in Austria and the Netherlands (3-6%), which were primarily the result of timely implementation of active employment policies and making the labor market itself more flexible[3]. Considerable dif-

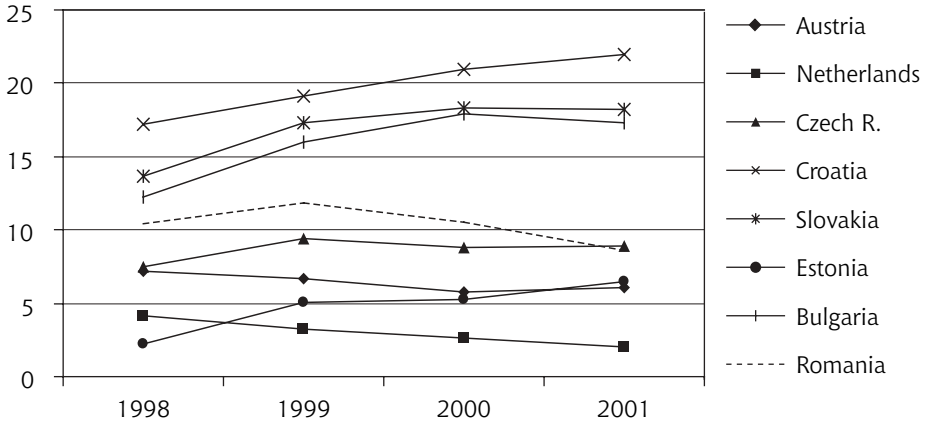
[1] According to its share of gross research and development outlays in GDP (approximately 1.5%), Ireland is at about the average of EU countries, but in the second half of the 1990s it recorded high growth in these outlays. Funds for IT/communications technology and biotechnology research grew in particular.

[2] A portion of activities is directed to encouraging new ideas and new firms, especially in the high technology sector, and in activating and improving the technology and educational systems. Portugal is very committed to improving the infrastructure (including its public administration) necessary to develop science and research.

[3] In the Netherlands over 40% of the employed work part-time, over 10% have flexible employment contracts, and about 3.2% are employed through temporary employment agencies. These are without doubt the highest shares in the EU. This high level of employment flexibility was achieved thanks to thorough changes in views on flexible labor – the changes were prompted by employers, workers and temp agencies, and formally confirmed by national legislation. Additionally, the government's role in regulating the labor market has been reduced in recent years.

ferences in unemployment exist among the countries encompassed in the first wave of EU enlargement. While one group of these countries in the period under observation has recorded relatively low unemployment rates[4] (Estonia, Czech Republic and Hungary, 7 to 9%), the second group has very high rates of registered unemployment (Bulgaria, Slovakia and Poland, 15 to 18%). Croatia, unfortunately, belongs to the second group of these countries.

Figure 1 Total registered unemployment rates (%)



Source: LABORSTA database

We have analyzed the education of the unemployed to determine whether there is a correlation between the educational level and the risk of unemployment. This may also reveal inadequate coordination between demand on the labor market and the educational programs attended by the unemployed, so that the knowledge and expertise sought on the market does not correspond to that possessed by the unemployed. To present the data more simply, only three customary levels of education will be cited here[5]:

[4] This is the administrative rate of unemployment, based on those registered with employment bureaus. For the needs of international comparison, it would be better to use surveyed unemployment rates that are comparable, since registered unemployment rates depend on incentives for recording unemployment and registration costs.

[5] The accepted International Standard Classification of Education (ISCED) encompasses the following degrees: X – less than one year of schooling, 0 – kindergarten level, 1 – basic learning in reading, writing and arithmetic, and rudimentary knowledge of national history, geography, natural and social sciences, art, music and religion, 2 – slightly more knowledge of individual subjects and specific forms of commercial and technical subjects, 3 – includes specific forms of education requiring a full eight years of schooling, 5 – various forms of professional education, e.g. for technicians, teachers and nurses, 6 – university degree, 7 – graduate degree.

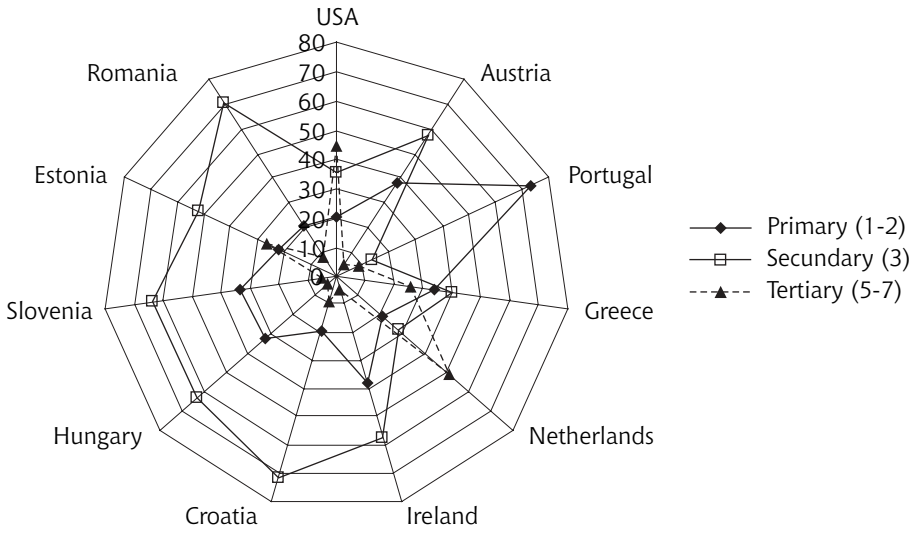
1) Primary education – levels 1 and 2;

2) Secondary education – level 3;

3) Tertiary education – levels 5, 6 and 7.

The following graph shows the share of unemployed by educational level in 2001.

Graph 2 Share of unemployed based on educational level in 2001



Note: pertains to persons older than 15 years, in the Netherlands people aged 15-64. Data for Austria, Greece, the Netherlands, Hungary and Estonia are from 2000, and data for Ireland are from 1999
Source: data based on LABORSTA database

In comparison to the employed, the educational structure of the unemployed shows a larger share of persons who have completed secondary education, while a considerably smaller share consists of people with higher educational qualifications, which contradicts the widely held belief that the educational structure of the unemployed is better than that of the employed. The level of education is a very important determinant of employability and of waiting time to find employment. In Croatia, as in most transition countries, non-professionals (only elementary education completed, and unskilled and semi-skilled workers) compose a particularly high-risk group, and they experience much greater difficulty in finding jobs than persons with high levels of education.

Wages

Information on average salaries is very important for assessing living standards, work conditions and labor force competitiveness in any given country. Normally, gross salaries are used to measure labor costs, which is not accurate since labor costs also include contributions paid by employers, and these differ from country to country.

Unfortunately, based on available LABORSTA data, it is impossible to make a comparative analysis between transition countries and EU member states, but it is common knowledge that wages in the EU are considerably higher, approximately 2.6 times greater than in Croatia. Croatia, together with Slovenia, has the higher average labor costs of transition countries, i.e. labor costs in Croatia are approximately 45% lower than in Slovenia, but also 57% higher than in the Czech Republic, 68% higher than in Hungary, 92% higher than in Estonia, and six times as high as in Romania, and seven times as high as in Bulgaria and Serbia-Montenegro. Thus, one can conclude that in terms of average labor costs, Croatia is only more competitive than Slovenia. Based on labor cost indicators, Croatia obviously cannot compete with other transition countries, especially if productivity is taken into consideration. For example, salaries in industrial production in Slovenia are higher than in Croatia by a factor of one half, while productivity is twice as high - so despite higher salaries, unit labor costs are lower in Slovenia. By the same token, while labor productivity in Hungary is at roughly the same level as in Croatia, Hungarian salaries are one third lower on average (Rutkowski, 2003).

Concluding Remarks and Proposals

An analysis of basic macroeconomic indicators on the labor markets of a select group of countries based on specific competitiveness indicators shows that among the developed countries the U.S.A. is the leader, followed by Austria, Ireland and Portugal. Croatia has serious demographic problems that indicate great challenges in improving human resource competitiveness through new entrants in the labor market, while spending for pension insurance will be high. The share of the employed based on economic activity shows a certain lag in Croatia in the higher importance of the primary sector and the lesser importance of the tertiary sector. Like some other transition countries, Croatia has relatively high unemployment, but its educational and qualification structure does not dif-

fer greatly from that of other countries. Labor costs in Croatia are the least competitive, as Croatia lags behind most other transition countries because gross salaries are quite higher, even though this is not accompanied by the corresponding productivity.

Given the challenges Croatia faces because of demographic trends, ensuring a highly productive and flexible workforce is absolutely necessary. Thus the importance of education and training cannot be overemphasized. These aspects will help the unemployed raise their level of employability and help them avoid poverty and social exclusion. Next encouraging education and re-qualification of both the employed and unemployed should ease the transition from an industrial to a service economy, and improve the competitive edge of labor resource. Also, educational policy should better meet the needs of the labor market. Numerous improvements in employment policy in the broader sense are essential, especially in the knowledge transfers, informal forms of education and training (low level of functional literacy) and the knowledge and expertise of the highly educated

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CROATIAN LABOR FORCE COMPETITIVENESS INDICATORS: RESULTS OF EMPIRICAL RESEARCH

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Introduction

The competitiveness of a labor force should be observed from several standpoints. One of them is certainly the macroeconomic, which enables an analysis of competitiveness by means of basic macroeconomic indicators, such as employment and unemployment rates, the structure and feasibility of investments in education, labor costs, and so forth. The other standpoint, which is elaborated in this portion of the research, is the microeconomic. Specifically, this study presents the results of research into the value of human capital from the perspective of Croatian companies.

The value of human capital is measured by various indicators, such as employee knowledge and skills (Tintor, 1995; Cascio, 2000), their demographic characteristics: age (Sveiby, 1997), length of service (Cohen and Levinthal, 1990, based on Collins, Smith and Stevens, 2001), gender, absenteeism and turnover (Stewart, 1999; Fitz-enz, 2000), compensations (Fitzenz, 1990), and investment in training and development (Mayo, 2001). These elements are analyzed with reference to Croatian companies and shown below.

The value of human capital can also be derived subjectively by surveying the opinions of managers. In our research, managers in Croatian companies were asked to assess the importance of certain individual traits for the competitiveness of employees as well as the presence of these traits among their own employees.

For a more comprehensive and accurate view of the value of human capital in Croatian companies, the analysis encompassed indicators of company performance (total company income, revenues, profit before tax, profit after tax) and other characteristics, such as size and ownership structure. In this manner, under the assumption that the best Croatian companies also have the most competitive employees, benchmarks were defined, i.e. levels of labor force competitiveness indicators that other Croatian companies should strive to achieve.

Methodology

The investigation into labor force competitiveness in Croatian companies was conducted in September and October 2003 on a *sample* consisting of 334 companies in the Republic of Croatia. The sample was structured on the basis of three criteria: (1) location, (2) main company activity (manufacturing, commerce, other services, construction and other activities), and (3) size of the company, measured by number of employees (1 to 34 employees (small companies), 35 to 99 employees (medium small companies), 100 to 499 (medium large companies) and 500 and more (large companies)).

The *research instrument* was a highly-structured questionnaire of four sets of questions: (1) company characteristics, (2) characteristics of employees, (3) specific employee data, and (4) managerial perceptions of employee competitiveness.

Data were gathered through personal interviews. The interviews were conducted by employees of Puls, the market and public opinion research agency from Zagreb. Human resource managers were interviewed on behalf of their companies.

Research results

The research results are presented according to specific groups of labor force competitiveness indicators. Demographic characteristics (age, gen-

der and level of education) are shown first, followed by mobility indicators (length of service in and departures from the organization) and absenteeism. Then employee cost indicators, i.e. wages and investment in employee training and development, are presented. Finally, managers' perceptions of employee competitiveness are elaborated.

Demographic characteristics of employees

One of the indicators of employee competitiveness in a company or a nation is certainly their *average age* (Sveiby, 1997). Thus, it can be said that most countries of the "Old Continent" do not have a competitive labor force in terms of age, since they all have aging populations.

Companies in which most employees are relatively older are not considered competitive because the advanced age of the employees is normally associated with inflexibility, decreased capacity to learn and develop, and diminished abilities.

The average age of employees in Croatian companies is 38 years (mean), the most frequent age is 36 years (mode), while the median is 39 years. The most competitive employees in Croatian economy, from the point of view of age, are those employed in commerce (36 years), while the oldest employees work in other professions (43 years). According to the data from the Statistical Yearbook (*Statistički ljetopis*) of the Republic of Croatia from 2001 (DZS, 2002), these are employees in mining and quarrying (43 years), education (43 years) and electricity, gas and water supply (42 years).

The youngest employees are those working in small companies (37 years), which are therefore more flexible, entrepreneurial, and able to react more rapidly to external changes, or even generate such changes. The difference in the age of employees in predominantly private foreign (36 years) and predominantly state-owned companies (42 years), six years, is also interesting. This difference suggests that predominantly private foreign companies are more interested in younger people, and these younger people are on their part more interested in such companies. This is logical, since such companies offer greater opportunities to younger people seeking advancement, careers and greater rewards and are interested in attracting, developing and retaining competitive employees. This difference additionally reflects the fact that state-owned companies are more "closed" to new hiring (due to labor legislation, less frequent layoffs of existing employees, surplus of employees and so on), meaning that the

average age in a state-owned company is higher because the employees are more protected.

According to contemporary management theory, modern companies that want to be successful have to appreciate the potential and working qualities of both *genders* (Heim and Golant, 1993; Handy, 1995; Novak, 1996). This is why a 50:50 ratio between men and women employees is considered optimal, particularly since the ratio between the genders on the labor market over the last two decades has been equal.

According to the results of research, the average ratio between women and men in Croatian companies is 39:61 (mean). The mode and median indicate that relation of women and men is one third to two thirds. The Republic of Croatia is dominated by companies that mainly employ men (39%), while only 5% of the companies employ both genders equally. Construction and other activities in the Republic of Croatia are explicitly "male," because over 80% of the companies involved in these activities are dominated by male employees. All companies from the sample, regardless of their ownership, predominantly employ men. The number of men employed is even higher in state-owned companies.

It would be overstated to conclude that activities employing less than 50% of either gender are not competitive, i.e. that they are not utilizing the advantages of both genders, because there is a natural affinity for certain types of jobs depending on gender. Nonetheless, one can conclude that most Croatian companies do not have a competitive structure from the standpoint of gender ratios. That is, in companies in which both genders do not participate equally in decision-making and at the highest management levels, employees do not have the opportunity to learn different behavior and leadership styles.

A widely held belief is that in the "Knowledge Age" in which we live, employees are increasingly becoming "knowledge workers" (Drucker, 1999). Lifelong learning and the attainment of higher levels of formal education (master's, doctorate) are ascendant trends. So, an indicator of the competitiveness of a nation or a company is certainly the *educational level* of its employees (Cascio, 2002).

The average qualification structure of employees in Croatian companies has been computed as a weighted mean, wherein the weights of educational levels were the corresponding coefficients according to the Croatian Public Companies Act. The coefficients of individual educational levels used were: for basic school education – 0.50, for secondary school educa-

tion – 0.65, for a non-university college degree – 0.90, for a university degree – 1.05, and for a graduate degree (master's/doctorate) – 1.40.

The average education level in Croatian companies is slightly above the secondary school level (0.69). It is disappointing that data showed that the average educational level in one quarter of companies is less than secondary school, as well as that on average three fourths of companies do not have employees with a college degree. The most educated employees can be found in companies engaged in trade (0.73), companies with 34 employees or less (0.71), and private foreign-owned companies (0.79).

On the labor market there is a demand for employees who are highly educated, particularly in specific professions or specialized areas (e.g. IT, biotechnology, genetics, etc.). According to the results of the research, Croatian employees are not competitive, because the average educational level in Croatian companies corresponds to secondary school. The results show that on average only 15.6% of the people employed by Croatian companies have a university-level degree. It follows that Croatia must increase the general level of education, and the percentage of highly educated people.

Employee mobility

Length of service in an organization is an indicator of labor force mobility. The global trend, particularly in developed countries, is to a decline in length of service (Rutkowski, 2003). There are many reasons for this, such as greater opportunities for retraining, enthusiasm for change (i.e. changing jobs and even professions), and so forth.

A correlation analysis has shown a statistically significant correlation between the length of service in an organization and ownership structure. Negative correlation coefficients indicate that the average length of service for all educational levels, except for the basic level and the total for all employees, are smaller in privately owned foreign companies than in privately owned Croatian companies, and smaller in Croatian private companies than in companies largely owned by the State.

According to the research, foreign private companies in Croatia have the most mobile labor force, and one can say that they manage people better (they hire new employees, replace under-performing employees, and so on) than state-owned companies. We can therefore conclude that their labor force is more competitive than the labor force in either privately owned or state-owned Croatian companies.

Departures from an organization (staff turnover) indicate negative tendencies and problems in the organization (Bahtijarević-Šiber, 1999). Specifically, from the employee perspective, departures from an organization reflect dissatisfaction. From the employer perspective, the potential layoffs of employees or the share of full-time employees who should leave the company due to "redundancy" or poor performance indicates that they are not competitive.

Table 1 shows that the lowest real dismissal rate[1], both overall (2.43) and because of "redundancy" (0.75), is for employees with university degrees. The lowest dismissal rate due to poor performance is similar for those with secondary school or college education (1.40) and for employees with university degrees (1.47). On the other hand, the highest real dismissal rate is for employees with secondary school qualifications (4.51), while the highest dismissal rate due to "redundancy" or poor performance is found among those with basic educational level (2.17 and 3.77). As for potential dismissals[2], Croatian companies are least apt to lay off employees with university degrees (0.60 and 0.75), while they would, because of "redundancy" or poor performance, mostly be inclined to lay off employees with secondary school or college degree (3.19 and 2.13).

Table 1 Average rates of real and potential employee dismissals (mean) in 2002

	Real employee dismissals			Potential employee dismissals	
Employee educational level	Total rates	Dismissal rate due to "redundancy"	Dismissal rate due to poor performance	Rate that would be dismissed due to "redundancy"	Rate that would be dismissed due to poor performance
Basic education level	4.16	2.17	3.77	1.88	1.17
Secondary and college degree	4.51	2.02	1.40	3.19	2.13
University degree	2.43	0.75	1.47	0.60	0.75
Total for all employees	4.75	2.52	1.65	3.94	2.85

[1] The real employee dismissal rate is the completed or actual rate of dismissals.

[2] The potential dismissal rate is the desired employee dismissal rate that an organization would achieve if there were no legal, social or other barriers in the way.

It is also interesting to note that companies would like to lay off more employees overall and particularly employees with secondary qualifications and college degrees due to "redundancy" or poor performance than they actually have done. Croatian employees are still more protected than employees in developed countries given that the current Labor Act in Croatia foresees longer notice periods, higher severance pay and generally greater employee rights.

These findings should, however, be taken with some discretion because the standard deviations are quite large. Such unbalanced findings are the result of specific cases from the sample, i.e. several companies that went through major reorganizations and dismissed a considerable percentage of their employees during the research period. Also, the mode, median and lower quartile in all categories from the table are zero, which means that most companies from the sample neither dismissed even one employee nor would do so.

These results lead to the conclusion that employees with secondary and college education are less competitive in comparison to other employees, because both real and potential dismissal rates are the highest for this employee category. Furthermore, it can be asserted that employees with university degrees are more competitive, because these employees are dismissed less frequently either actually or potentially.

Employee absenteeism

Absenteeism is the absence of employees from the workplace, due to either justifiable or unjustifiable (arbitrary) reasons. The most frequent causes of absenteeism are family problems, personal illness, personal needs and stress, while "excessive absenteeism is a sign of turnover to come" (Fitz-enz, 1995:187), and most often the most visible indicator of problems and dissatisfaction among employees in the organization. Here it is necessary to concede that one portion of absence is always present, due to illness or other objective reasons (Bahtijarević-Šiber, 1999), while excessive absenteeism is deemed negative.

The assumption is that the absenteeism rate is in reverse proportion to employee competitiveness, meaning that absence from work is lower among employees who are highly competitive. Such employees are more motivated for their work and more responsible in terms of completing their tasks.

Absenteeism is more prevalent in manufacturing companies, in medium large companies and in predominantly state-owned companies. Nonetheless, the data show that absenteeism rates in Croatian companies are relatively low. Specifically, 75% of Croatian companies, regardless of their activity, size and ownership, have absenteeism rates lower than 10%, which is regarded as acceptable.

The general conclusion is that Croatian employees are not frequently absent from work, so, based on this criterion, they are considered competitive. However, Croatia's general economic situation should be taken into consideration to further validate this assertion. That is, the Croatian macroeconomic environment is characterized by a high unemployment rate, and it could thus be claimed that the low absenteeism is partially a consequence of the fear of dismissal.

Wages

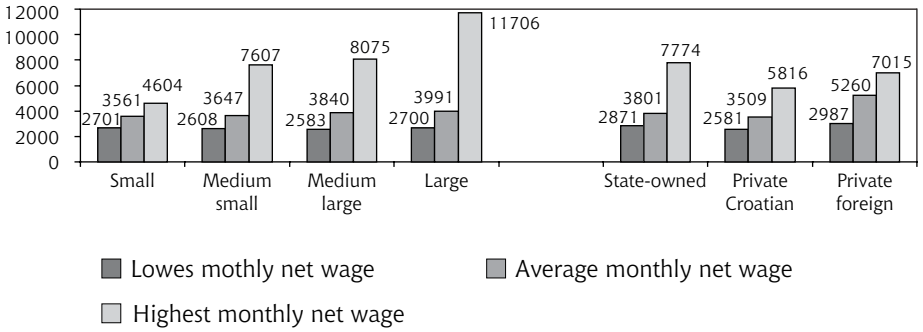
Since employees' wages are a reflection of the general macroeconomic conditions in a country, the general wage level of an economy is one of the elements that evidence employee competitiveness in comparison to neighboring economies or the global economy. Thus, in terms of compensation, employees in countries with a higher wage level are not considered competitive as compared with economies with low living standards. In an era of opening borders between national economies, employees from economies with lower wage levels who compete for jobs in countries with generally higher wage levels are more competitive, for they have lower expectations in terms of compensations.

According to the research findings, the lowest monthly net wage (average for all educational levels) is HRK 2,660.00, the highest is HRK 6,227.00, and the average is HRK 3,659.00. The greatest range between the lowest monthly wage and the highest net wage is in manufacturing companies (from HRK 2,562.00 to HRK 6,504.00), where wages are the highest in relation to other industries. It is interesting to note that the average monthly wages in production, trade and other services are at a similar level, while average wages in construction are considerably lower.

As Graph 1 shows, the greatest range between wages is in large companies (over 500 employees), with HRK 9,006.00 on average, while the smallest range is in small companies (less than 34 employees) – HRK 1,903.00 on average. Also visible is that the greatest range between wages is present

in state-owned companies, where the difference is as high as HRK 4,903.00 on average.

Graph 1 Average wage levels in HRK of all employees, based on company size and ownership (mean)



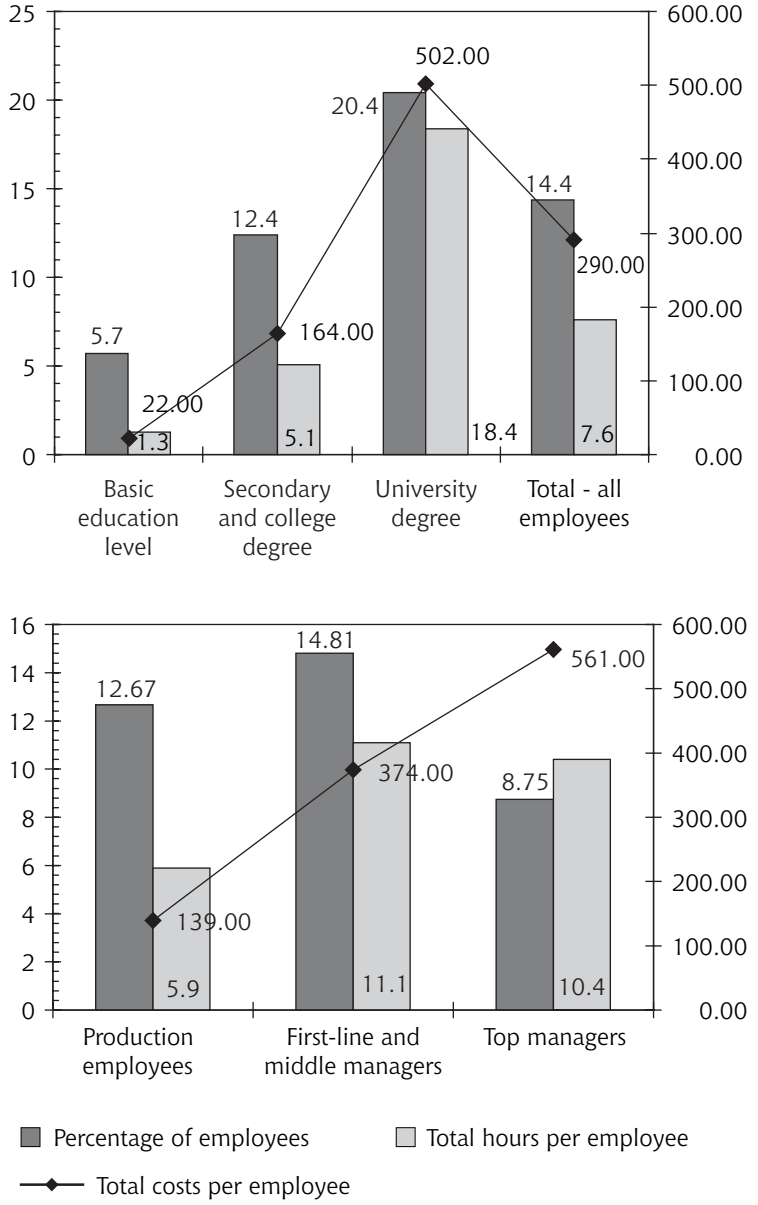
It is interesting to note that the highest monthly net wages earned by employees in state-owned companies are higher on average than wages in privatelyowned companies, and it is particularly surprising that these wages are greater than even the highest monthly net wage earned by employees in foreign privatelyowned companies in Croatia. The assumption is that there are two reasons for this. First, employees working in state-owned companies receive only their monthly wages as compensation, while employees in privatelyowned companies receive other forms of compensations besides wages, such as bonuses, awards, additional services and so on. The second reason is the imbalance between wages in state-owned companies and the actual economic circumstances.

Based on these data and on the analysis of wages in selected countries (see Obadić, in this publication), one can conclude that Croatian employees, especially those employed in construction, medium large companies and Croatian-owned private companies, are more competitive than EU employees. At the same time, they are not competitive when compared to employees in the majority of transition countries.

Employee training and development

To ensure that employees are competitive, especially in the "Knowledge Age," it is necessary constantly to invest in training and development, while organizations need to be learning organizations (Senge, 1990).

Graph 2 Percentage of employees who have undergone additional training and development, total hours per employee, total costs per employee in HRK; based on education and hierarchical levels; in 2002



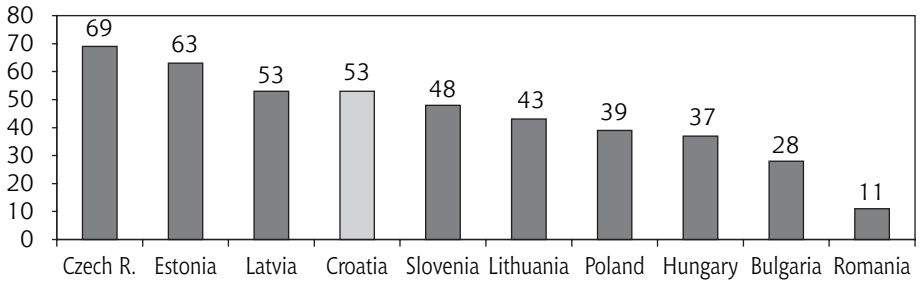
Graph 2 shows investments in training and development of employees at different educational and hierarchical levels. It can be seen that Croatian

companies mostly invest in additional training for and the development of employees with university degrees. This is logical, considering that employees with university degree are considered to be a driving force in modern companies. They are the creators and drivers of change, and considered a key source of competitive advantage. From the financial point of view, companies invest the most in the additional education of top management, due to the fact that this type of education is the most expensive. However, percentages of employees who have undergone additional education show that more is invested in the education of nonmanagers and first-line and middle managers.

A disappointing fact is that out of the total number of companies from the sample, 46.6% of them in 2002 did not invest in the additional education of their employees at all. More accurately, 83.3% of them did not invest in the education of employees with the basic education level, 48.3% of them did not invest in the education of employees with secondary qualifications and college degrees, 54.5% did not invest in any employee with a university degree, and 94.1% did not invest in the education of employees with master's or doctoral degrees.

In conclusion, it is important to stress that in general Croatian companies do not invest in the enhancement of the competitiveness of their employees. Their investment in the education of their employees is far below world and European standards. Specifically, less than 15% of the employees in Croatian companies underwent additional education. On average they spent one working day per year on additional education and that cost their companies HRK 290.00 per employee.

Graph 3 Percentage of companies that provide additional education for their employees in relation to the total number of companies; candidate countries in 1999 and Croatia



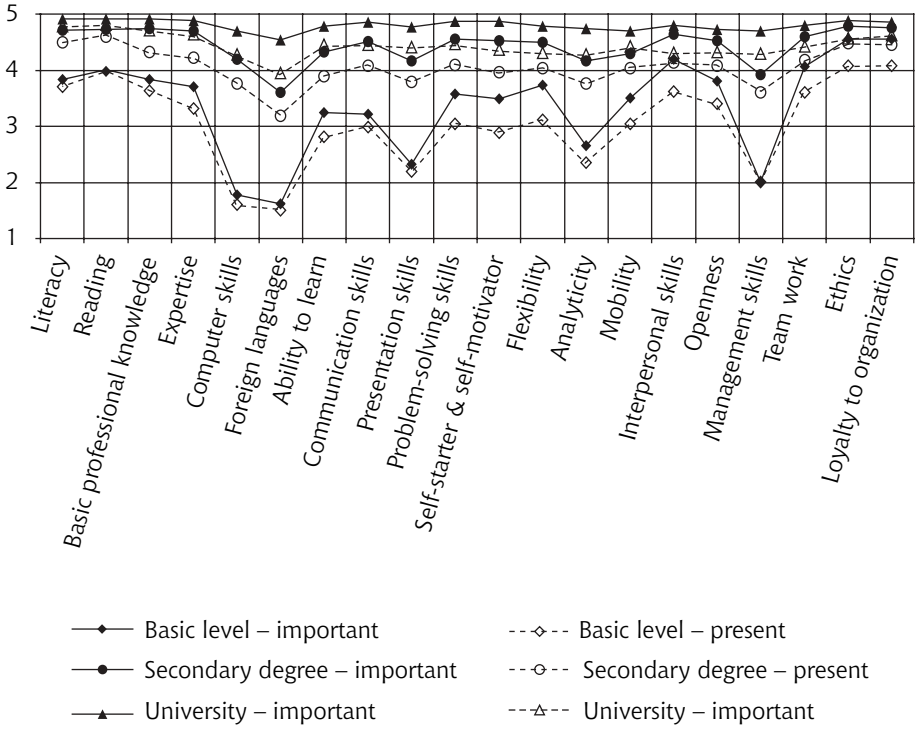
Source: Nestler and Kailis (2002); data for Croatia from this research

If we compare Croatia with candidate countries for EU membership, in terms of the percentage of companies that provide additional education for their employees, Croatia is between Estonia and Slovenia, and has a relatively high position (Graph 3).

Managers' perceptions of employee competitiveness

In order to define employee competitiveness in general, and evaluate the competitiveness of their own employees, managers were asked for their perceptions about these topics.

Graph 4 Importance and presence of different types of knowledge, skills and individual traits among employees with basic, secondary and college, and university degree (mean)



Graph 4 shows the assessment of the importance and presence of 20 competitiveness traits that were evaluated by managers for different educational levels. According to managers' perceptions, it can be concluded

that Croatian employees are relatively competitive. The presence of a specific trait neither surpasses nor equals the level of its importance for employees of any educational level, but the average assessment of their presence is very good.

The respondents defined a competitive employee in their own words as a person who is educated, skilled and willing to learn. Such a person is competent, has a positive attitude toward work, is responsible, hardworking and diligent, has high moral qualities, and is communicative and flexible. Such a person is a self-starter, loyal to the company, a good teamplayer, ambitious, speaks foreign languages and is young (!).

The general assessment of employee competitiveness by managers, on a scale of 1 to 5, is very good. The total mean is 3.92 (N = 329), and 59.9% of managers believe that their employees are competitive.

Competitiveness of the Croatian labor force: current status and required level

Table 2 provides a systematic overview of the main findings of this research (average status in the Republic of Croatia), as well as the explained reference values for each of the human capital competitiveness indicators (required level/desired level).

As Table 2 shows, according to ten out of twelve observed human capital competitiveness indicators, Croatian employees are not competitive. Croatian employees are competitive when looking at absenteeism rates and average monthly net wages. Nonetheless, the values of some of the indicators are not far from the proposed reference points; accordingly, with some modest investment the required levels could be achieved.

Table 2 Human capital competitiveness indicators: average status in Croatia, required level/desired level

Human capital competitiveness indicators		Average in Republic of Croatia	Value	Required level / desired level Explanation
Average age		38 years	max. 36 years	The average employee age in private foreign-owned companies with the most flexible labor force is 36 years.
Gender structure		39% w: 61% m	50% : 50% (with respect to specific job types)	According to contemporary theory, a successful company has an equal number of male and female employees.
Qualification structure		0.69 (somewhat higher than secondary)	0.90 (college)	The global trend is to lifelong learning and a demand for specific professions, with university or college degrees.
Departures from organization	Length of service in organization	14 years	10 years	The average length of service in private foreign-owned companies with the most mobile labor force is 10 years.
	Total dismissal rate	4.75	2.43	The total dismissal rate for employees with university degrees (considered key employees) is 2.43. This rate should be the aim for other educational levels as well.
	"Redundancy" dismissal rate	2.52	0.75	The "redundancy" dismissal rate indicates a sub-optimum employee structure – it should be lowered to the "redundancy" dismissal rate of employees with university degrees (0.75).
Rate of dismissals due to poor performance		1.65	higher	Low dismissal rates due to poor performance in Croatia do not reflect a highly-competitive labor force, but rather the legal and psychological barriers to dismissing underperforming employees.
Total absenteeism rate not including maternity leave		4.8	to 5	According to contemporary theory, an absenteeism rate up to 5% is deemed low.
Average monthly net wage for all employees		HRK 3,658.70	Croatian employees are underpaid in comparison to Western countries (more competitive from this perspective), but they have higher wages in comparison to the majority of transition countries (less competitive from this perspective).	
Training and development	% of companies that educate employees	53%	min. 69%	The highest percentage of companies educating their employees in the EU candidate countries is in the Czech Republic (69% of companies).
	% of additionally educated employees in the organization	27%	min. 49%	Croatian companies with ISO certificates (which require investment in employee education) educate 48.93% of their employees on average.
Ratio between importance and presence of competitiveness traits		1: 0.9 to 0.93	1:1	Companies need to employ people with the knowledge and skills expected of them.

Conclusion

The results of the conducted research lead to the conclusion that Croatian employees are not competitive. The findings indicate that the average employee in Croatia is in his/her 40s, undereducated, not mobile and not additionally trained. These findings are in contradiction with Croatian managers' perceptions about the traits of a competitive employee. They believe, that is, that a competitive employee is educated, willing to learn, hardworking, persistent, ambitious and young.

The research also shows that the most competitive employees in Croatian companies are those with a university degree. Their potential shortcomings and also the shortcomings of employees with secondary educational qualifications or college degrees (lack of knowledge of foreign languages, poor computer skills and insufficient management skills) can be diminished with more focused investments.

The results of this research should highlight the importance of investment in Croatian labor force competitiveness and should encourage researchers, practitioners and politicians to take a more active role in improving the present value of human capital in Croatia.

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