

Report on the vocational education and training system

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Report on the vocational education and training system in Croatia

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'Broad empirical evidence suggests that beneficial effects for long-run growth per capita would emerge from stable macroeconomic policies within a market-oriented structure, from high savings and investment, from a well-educated work force, from low population growth, from improved economic openness, and from a low burden of government within a stable socio-political environment'

Andrea Mervar, Institute for Economics, Zagreb in Human Development Report Croatia 1999

Foreword

An informal working group convened several times from November 1999, following the initiative of the European Training Foundation. The working group benefited from the affiliation of group members to a wide range of institutions in Croatia: the Chamber of the Economy, the Ministry of the Economy, trade unions, employers organisations, Ministry of Education and Sport, Ministry of Science and Technology Employment Service, Ministry of Labour and Social Welfare, Chamber of Crafts, Office for European Integration, Economics Institute, Central Bureau of Statistics, Institute for International Relations, Institute for Educational Development, etc. We hope that the synergy among these institutions will provide the platform for a public debate and the convergence of various interests which will be embodied in the reformed education system.

The method of analysis adopted here is a structured approach where each level of education is considered as comprising a continuum of inputs, the transformation process and outputs.

Students, teachers, financial resources, legal framework, curricula and the basic equipment ranging from educational establishment to computer networks represent inputs.

The transformation process includes the organisation of educational activities and methods of teaching, while outputs are capabilities which are developed in the educational process, the numbers of individuals who have gone through the process and the relevance of the structure of occupations for present and future economic, cultural and social development.

The status quo outlined (see chapter 9) is then compared at a more detailed level to the aims given in the above section. The lack of congruence between the two will be a platform for designing an action plan which may result in several types of outcome. The latter may include the need for more research into certain areas before definite reforms are designed, as well as a list of reforms which may range from necessary changes in legislature to new targets for curricula.

The group is aware that a reform of the education and training system needs higher priority in the national agenda. In this context, the 2000 report from the Commission on the feasibility of negotiating a Stabilisation and Association Agreement with the Republic of Croatia, chapter on education and training, states, amongst other things, that "there is a clear need for a partial decentralisation of the education system, the development of a broader market-oriented curriculum for vocational education and training institutions, and skills training for teachers and school management".

Table of Contents

Foreword	iii
Executive summary	vii
1. Socio-economic developments	1
1.1 Developments in 2000	5
1.2 Main economic indicators in 2000	6
2. Croatian labour market in transition: 1990-2000	9
2.1 Demographic framework.....	9
2.2 Economic activity of the population	9
2.3 Data collection	11
2.4 Educational attainment of the labour force.....	16
3. Structure of the education system	19
3.1 Pre-school education (ISCED level 0)	19
3.2 Basic education (ISCED levels 1 & 2)	20
3.3 Secondary education (ISCED level 3).....	20
3.4 Tertiary education (ISCED level 5), Non-university college programmes (5B), University degree programmes (5A)	23
4. Postgraduate education	25
5. Equal opportunities in vocational education and training	27
5.1 Education for children with special needs	27
5.2 Education of members of ethnic communities or national minorities in the Republic of Croatia.....	29
6. Teachers and trainers in vocational education and training	31
6.1 Pre-service training of teachers in vocational education and training	31
6.2 In-service training of teachers in vocational education and training	32
6.3 Working conditions of teachers and trainers in vocational education and training.....	33

7. Adult education	35
8. International co-operation in vocational education and training.....	37
8.1 Support by donor	37
8.2 Donor support by sector	37
8.3 The National Observatory for training and employment.....	38
9. The status quo	41
10. Conclusions and suggestions.....	43
Annex 1	
Structure of the Croatian education system	45
Annex 2	
Statistical data for background purposes of OECD review	47

Executive summary

The main problems of the Croatian education and training system are as follows¹:

a) *Low priority of education:*

- In 1999 an estimated 3.4% of Gross Domestic Product was spent on education which is far below the European average.
- In a non-representational analysis, the “opportunity for further education” was ranked last among 13 different motivational factors that drive company employees.

b) *Incomplete changes to the structure*

- As for the structural reform, it has considerably changed the system of secondary education (now there are three types of secondary school: grammar, technical and vocational), increasing the range and thus the choice of educational institutions. However, it has not covered basic education in which compulsory education is still limited to the first eight years of schooling.
- “Especially interesting was a 1993 outline of the new system of tertiary education (23,000 young people enter universities in Croatia each year), made at the beginning of the 90s after the Western European model of an autonomous and interdisciplinary integrated university. Instead of that vision, the new university structure provided only a fragmented autonomy – the Ministry of Science and Technology retained all financial prerogatives as well as the right to make final decisions concerning workplaces and new educational programmes – and further isolation (or quasi-autonomy) of institutions of higher education, which is contrary to contemporary academic trends.”²
- There is little mobility within the system – both horizontally and vertically. Furthermore, the current system of 8 + 4 + 4 (5) makes it difficult for Croatian students to go to foreign countries and vice versa, to reintegrate into the Croatian system when they return from abroad.
- The position of non-university colleges (which may not be the best translation for ‘*veleučilišta*’ and ‘*visoke škole*’), introduced as a parallel system to the universities in 1998, must be analysed more carefully in the forthcoming years. It is not yet quite clear to parents and students.

c) *Participation rates*³

- Participation rates are comparable with those of developed western countries, with 94% of basic school students continuing on to secondary level, which is completed by 75%. Average enrolment rates in comparison with western countries differ with 30% of children in kindergartens and only some 3% of university students continuing on to the MA level.

1 This chapter is based, unless otherwise stated, on the opinion of six independent Croatian scientists, three of whom work within the education system.

2 UNDP (1999), *Human Development Report – Croatia 1999*.

3 NB: Basic school includes primary level (4 years – ISCED 1) and lower secondary (4 years – ISCED 2) level which are compulsory. Upper secondary education lasts for 2, 3 or 4 years – ISCED 3.

- The overall percentage of dropouts is rising, starting with basic school and becoming problematic at both secondary and tertiary levels, which does not compare with figures in Europe. At some institutions of higher education only 50% of those enrolled complete the first year. In addition, only 50% of the MA level students complete their studies.
- A more in-depth analysis into the dropout phenomenon has still to be carried out. The high dropout rate can be attributed to the lack of guidance at schools, bleak labour market prospects of young school graduates, inappropriate university entrance examinations, as well as the very heavy school programmes. At tertiary level, one of the reasons for the high dropout rate is that many students enrol solely for access to students' rights and entitlements but not for education.

d) *Financing and decision-making*

- Basic schools through to undergraduate courses are free, while MA courses are entirely financed by participants. These schools function as separate projects within the institutions of higher education. Financing is derived from the Ministry of Education and Sport or the Ministry of Science and Technology budgets.
- Legal obstacles for private schools, other educational organisations or firms have meanwhile been abolished. However, the number of private basic and secondary schools in Croatia is marginal and so is their influence within the Ministry of Education and Sport.
- "The system of basic and secondary education has been additionally centralised and the 'atomised' institutions of higher education and universities have remained under the strict supervision of the authorised ministry."⁴

e) *Teachers, curriculum and testing*

- The design of both the school infrastructure and programmes is not based on a sound labour market and social needs analysis.
- "Economic difficulties have directly affected the education system, through a decline of the teachers' status in the first place. The process had, and still has, a negative impact on the motivation of those who teach, as well as on the attractiveness of the profession of teachers and lecturers and the corresponding selection among new generations."⁵
- Curriculum goals are determined at central level without the involvement of those who have to deliver the curriculum or the beneficiaries (students and employers).
- "The abolition of the ideological dimension of education has only partially been carried out in the programmes of history classes, in which the Marxist reading of history has often been replaced by 'nation-building' interpretations."⁶
- Schools are ill-equipped in material resources. Education is oriented towards traditional classroom teaching, with no other places of learning considered. All education levels are in urgent need of upgrading including learning equipment and the provision of computer facilities, and methodologies (alternate lecturing with discussions, videos, case studies, simulations, role plays, etc.).
- Occupational choices have to be made as early as the age of 14 (and at 18 again). Once the student has enrolled in a certain programme, possibilities for change are highly limited.

4 Ibid.

5 Ibid.

6 Ibid.

- The 1975 reform introduced some 800 programmes to secondary schools (not all of them still exist). It is necessary to drastically reduce the number of programmes in both secondary schools and institutions of higher education.
- For both secondary school and university, entrance usually requires grades of 40% from the previous school (grade point average and grades from two or three main courses). Grades are unrealistically high, and tests are of an *ad hoc* form, without measured validity or reliability and without any experimental testing.
- School inspection is being reintroduced in basic and secondary schools. There is nothing similar at tertiary, including MA level.
- Although a low percentage in all programmes persisted until 1995 (1-2%), masters' ("Meister") programmes experienced a boom in the last couple of years often at the expense of quality. Some masters' programmes last 6 – 8 months, with only 4 examinations.

f) ***No system of continuing education and training***

The 1975 School Reform, the 1976 Law of Associated Labour (which banned employees from initiating their own further education) and the war lasting from 1991-1995 have discouraged people from further training. In 1975 about 42% of employees went through some form of further training, while in 1996 it was only 11%.

- In general, the prevailing opinion among business managers and individuals is that finishing school is the end of education. (This is also one of the reasons why the curriculum in basic education is so overloaded.)
- Private providers are entitled to offer full education programmes, as well as shorter-term courses, seminars, etc. – accredited or otherwise. This helped to partially revive the system with training efforts being slightly stepped up particularly by successful companies.
- There is only one MBA extending over 5 years (at the Faculty of Economics, Zagreb) and several others just starting (Osijek, Rijeka). The situation on management training seminars has slightly improved.

Major reform challenges include:

- De-politicisation of education.
- Decentralisation of the school system.
- Improvement of horizontal and vertical mobility within the system.
- Delay in choosing occupations and improvement of guidance services.
- Abolition of the present entrance procedures, revision of all tests on the basis of national standards and the establishment of a politically independent national testing and award body.
- Introduction of quality assurance mechanisms, using the Inspection Department recently set up within the Ministry of Education and Sport and the Ministry of Science and Technology for tertiary education.
- Developing continuing education and training.

1. Socio-economic developments

Croatia's post-communist macroeconomic experience differs from other central European transition countries in that it implemented a successful policy, based on a well-managed stabilisation programme, while being in a war situation and practically isolated from the international community. The country is unique among the Central and Eastern European countries in having maintained a Maastricht-like exchange rate, price stability and a fiscal balance since the end of 1993. This was achieved through a combination of several exceptional factors.

Like Slovenia, Croatia benefits from having been part of a relatively open and self-managed (i.e. relatively market oriented) system rather than a centrally planned one of the Comecon (economic association of communist countries) type. However, unlike other transition countries, its transition towards a fully-fledged market economy was hampered by both the war and the occupation of part of its territory, which for a time resulted in a drastic decline of its Gross Domestic Product and the standard of living. In spite of that, and although it is still not an official candidate for membership in the European Union, Croatia is currently among a handful of front-running transition countries in Central and Eastern Europe from an objective economic standpoint. It is interesting to see what lies behind such an atypical transition story.

At the beginning of the transition process, Croatia already enjoyed considerable openness of the economy and a relative independence of enterprises. Unlike centrally planned economies, markets did have a role to play in ex-Yugoslavia's economic system. Thanks to that, the relative price structure was much less distorted, and, what is more important, both enterprises (managers) and households had the opportunity to learn about market behaviour. Better human capital and more efficient physical capital than in other Central and Eastern European countries resulted from the higher degree of economic and political openness of the country, and relatively better education. The existence of a non-negligible private sector and an important (and in part temporary) emigration of Croatian workers abroad also contributed to the comparably high efficiency. The standard of living was substantially higher than in all Central and Eastern European countries, except Slovenia.

However, in the aftermath of the events of 1989, Croatia was unable to capitalise on its relative advantages. The outbreak of the war in 1991 resulted in human losses and huge material damage in the areas affected by the war and led to the displacement of hundreds of thousands of people. At times, the number of displaced persons and refugees in Croatia were greater than 8% of the total population (as though, for example, Britain were to accept 4 million refugees, or Germany 6.5 million, in a short period of time). In spite of humanitarian help from the international community, this was a heavy burden for the economy.

The most important effect on the economy was that the occupation of strategic parts of Croatian territory cut the main traffic links (sharply raising transport costs) between the Central, Eastern and Southern (Adriatic) parts of the country. This included the all important oil-pipeline from the coast to Central Europe, held the Adriatic coast hostage and thus destroyed the major Croatian export industry (tourism), thereby endangering its external position. The level of perceived business risk associated with the war in the region was extremely high and, consequently, at the time when other Central and Eastern European countries started to receive foreign capital, the level of foreign

investment in Croatia was very low. Pressure on the budget was high, due to the war and the arms embargo. It was only due to the slump in real demand, and to the transfer of money from abroad that the external position could be maintained.

All this, coupled with the collapse of the ex-Yugoslav market, resulted in the decline of the Gross Domestic Product to some 65% of the 1990 average, with industrial production almost halved. In 1993, real household receipts fell to 36.4% of the 1990 average. The lowest point was reached in the first quarter of 1993 when real wages bottomed out at 28% of the 1990 average. Immediately before the announcement of the stabilisation programme in October 1993, the monthly rate of inflation had reached 39% monthly or 2,000% annually.

To a large extent, the success of the October 1993 stabilisation programme was due to effective preparation prior to its announcement. Although practically in a war situation, the authorities simultaneously set up a framework of trade liberalisation, reformed the tax system, and implemented a programme of wage restraint and fiscal retrenchment. In addition, they were obliged to accumulate reserves starting from scratch. At the beginning of 1992, the National Bank of Croatia (NBC) had no reserves, since the Yugoslav National Bank in Belgrade had succeeded in transferring most Yugoslav foreign assets (\$6 billion) to Belgrade. In order to launch the programme of stabilisation, foreign reserves had to be acquired and no external financial help was available. This contrasted sharply with the experience of other transition economies (for example, Poland received considerable reserve aid through a so-called "Stabilisation Fund"). Reserves were accumulated by a combination of current account surpluses in 1992 and 1993, and by accumulation of arrears, since Croatia was forced to freeze its international financial obligations in a situation of war and lack of foreign exchange reserves. Current account surpluses were mainly due to the recovery of (net) transfers from abroad, which totalled US\$1.1 billion for 1992 and 1993 combined, compared to only US\$11 million in 1991. The most important were remittances from Croatians working abroad. Reserves rose from zero in January 1992 to half a billion US\$ at the moment of the stabilisation announcement in October 1993, a level roughly corresponding to the average 45-day value of imports at that time.

Once the necessary foreign reserves had been acquired and the budget was nearly balanced, the government announced its stabilisation programme in October 1993. A 16% devaluation of the domestic currency and the establishment of an asymmetric peg to the DEM characterised the programme.

The monetary squeeze and the immediate appreciation of domestic currency had two crucial consequences. Firstly, the inflationary expectations shock - resulting from the informational value of the DEM exchange rate - had helped greatly in undercutting expectational indexation. Secondly, the revaluation worked against inflation through a large share of imported goods in the domestic market. As a result, inflation collapsed almost immediately. Price stability has now lasted for more than five years. 1994 ended with 3% deflation and the 1997 inflation rate was 3.8%.

As demonstrated in Table 1, performance indicators of the Croatian economy paint a picture of strong growth within a stable internal macroeconomic situation, but rapidly growing external imbalance and a slowing down of the economy at the end of the period. In 1999, the real Gross Domestic Product growth rate was -0.3%, the first negative growth rate since the beginning of the transition. The inflation rate was 4.2%, the budget deficit 2.2% of the Gross Domestic Product, and the unemployment rate 13.6% and growing to 15.1% in 2000 (using International Labour Organisation methodology). For a country that has gone through the turmoil of war for five years during the critical initial phase of the transition process, these figures were better than expected.

Table 1: Basic Economic Indicators⁷

	1991	1992	1993	1994	1995	1996	1997	1998	1999
The real economy - in % change (period average)									
Real GDP	-20.6	-11.7	-8.0	5.9	6.8	5.9	6.8	2.5	-0.3
Volume of industrial production	-28.5	-14.6	-5.9	-2.7	0.3	3.1	6.8	3.7	-1.4
Productivity in industry	-13.3	0.3	0.3	3.0	6.6	11.3	11.9	8.7	3.9
Average real net wage	-48.2	-50.3	-14.7	38.1	44.1	7.2	12.3	6.0	10.1
Real retail trade turnover	-26.5	-37.5	-28.1	11.7	14.1	3.4	14.9	-0.4	-4.8
Registered unemployment rate			12.7	13.0	13.7	16.4	17.5	17.2	19.1
Unemployment rate (ILO)						10.0	9.9	11.4	13.6
Prices									
Retail prices	123	665.5	1617.5	97.6	2	3.5	3.6	5.7	4.2
Cost of living	124.2	634	1486.3	107.2	4	4.3	4.1	6.4	3.5
Producer prices	146.3	852.2	1512.4	77.6	0.7	1.4	2.3	-1.2	2.6
Public finance - billion kuna									
Revenues (Gov. budget)	15.6	20.8	20	27.1	27.9	31.4	33.9	43.8	46.4
Expenditures	20.4	21.1	19.9	26.5	28.5	30.9	34.4	41.5	48.9
Deficit (consolidated central Government)	-4.8	-0.3	0.1	0.6	-0.6	-0.5	-1.6	0.9	-2.8
Balance of payments in US\$ millions									
Current account balance	-590	823	104	103.4	-1283	-1148	-2344	-1550	-1537
in % of GDP	-5%	8.3	0.9	0.7	-6.8	-5.8	-11.7	-7.1	-7.6
Trade balance	-536.1	136.8	-762.5	-968.9	-3237.5	-3276	-4933	-3842	-3498
External debt					4537.9	2397	2906	3395	3957
Official reserves	0	166.8	612.4	1405	1895.2	2314	2539	2816	3025

Source: Central Bureau of Statistics, National Bank of Croatia, Ministry of Finance.

However, one important indicator of the economic performance sheds doubt on the sustainability of the current economic situation. Although the current account deficit is a typical by-product in emerging economies pursuing an exchange rate based stabilisation programme, its rapid growth in 1997 raised the warning flags. The current account deficit rose to 7.6% of the Gross Domestic Product for the year, up from 7.1% in 1998. The deficit has been fuelled by a strong surge in domestic demand on the wings of increased economic activity, rising incomes (real net wages were up 10.1%), an increase in the budget deficit from a practically balanced position in 1996, and, particularly, a rapid expansion of domestic credits. Rate of growth of credits in 1997 was 44%, with particularly rapid expansion of credits to households of 93%, although from a relatively low base (it

⁷ Some of the data necessary for this table were not available for the year 2000. The analysis refers to the year 1999. It is important to note that the growth of GDP in the first quarter of 2000 was 4%.

was only in 1997 that the banks have tapped the large market for household credits). On top of that were three one-off events. Firstly, one-off tariff exemptions (on cars and equipment) for the war-affected part of the population (veterans, refugees, etc.). Secondly, introduction of Value Added Tax on 1 January 1999, which caused huge imports in the last couple of months of 1997 because stocks of inventories on the last day of 1997 were not taxed according to the value-added tax, but according to sales tax law which was more favourable to many importers, so they stockpiled imports. Thirdly, the government decision that it would withdraw by January 1, 1998, import tariff exemptions for Croatians who spent more than two years working abroad (so people rushed to use their privileges by the end of the year).

Although it could be argued that in a situation of strong growth and deep structural reforms in an emerging economy, a relatively high current account deficit might improve longer run social welfare, there is no doubt that a deficit as high as it was in 1997 warrants immediate macroeconomic retrenchment in order to reverse the trend, particularly in a situation of increased sensitivity in international capital markets that followed the Czech and Asian crises. Otherwise, the investment grade credit rating which the country earned last year would be downgraded and borrowing might be made much more difficult. For a country in need of huge post-war investments, but still excluded from benefits of European integration and with inadequate domestic savings, this would not be a cheerful prospect. The deficit decreased substantially in 1998 to 7.3% of Gross Domestic Product due mainly to a decrease in domestic demand, which had been the main cause of the deficit in previous years. This caused a lower level of imports and a slightly higher level of exports, which improved the trade balance.

The Central Bank has also tightened its monetary policy since the last quarter of 1997, and has recently introduced reserve requirements on borrowing abroad (particularly short-term) which has, after the domestic monetary squeeze, become a major source of credit finance. The government, however, has balanced the budget for 1998, therefore contributing by approximately 1% of Gross Domestic Product to the narrowing of the savings-investment balance. The combination of the automatic adjustment and policy actions of the central bank and the government have played their part in bringing the external deficit down to a manageable level.

The main macroeconomic developments in Croatia, analysed above, were also fully reflected in the labour market. The rate of growth of the economy and change in economic structure (the change of the ownership structure and shares of different sectors in Gross Domestic Product, change of the efficiency of particular sectors and change of preferences in the transition from a socialist to a market based economic system) are reflected in the rate of growth and change of the structure of employment (or unemployment). This is a simple consequence of the fact that the demand for labour is derived from the demand for goods and services that it helps to produce.

The slowing down of the economy has brought up the urgency of resolving the question of Croatia's accession to the European family. The new government, inaugurated at the beginning of 2000, has been able to intensify the process of accession to the European Union as well as the World Trade Organisation and other associations such as the Central European Free Trade Agreement. The transformation of the 1996-97 boom into sustained growth will thus depend primarily on the capacity of the authorities to pursue uncompromisingly the necessary mix of macroeconomic retrenchment and structural reforms required to stabilise the "peace boom" at a time of rising external imbalance. A wider political environment and much faster introduction of the country to European integration will also be crucial to this process. Immediate policy resolve is as necessary as it was in 1993, since timing plays a crucial role at this stage of the transition process. The reward for this resolve will be lasting stability and sustained growth. A lack of resolve will make growth rates unsustainable, and/or create the possibility of cumulative disequilibrium that would end in a future recessionary adjustment.

The figures on Gross Domestic Product for the fourth quarter of 1999 have confirmed the recovery of the Croatian economy. Domestic consumption sharply increased at the end of 1999. The recession that started in the second half of 1998 and reached its trough in the first quarter of 1999 resulted in a 0.3% decline of Gross Domestic Product in 1999 as a whole. This decline appeared after five years of rather strong growth. In the last quarter of 1999, according to seasonally adjusted figures, aggregate economic activity went up by 0.5% on a quarter-on-quarter basis. The volume of industrial production, which had shown signs of recovery in the last quarter of 1999, continued to increase in the first three months of 2000. After a sharp increase in December 1999 fuelled by the wage increase in the public sector, retail sales continue to exhibit an upward trend. The trade deficit narrowed at the beginning of 2000, while foreign debt continues to increase at a slower pace.

1.1 *Developments in 2000*⁸

As a result of the political changes at the beginning of the year 2000, the international position of the country has improved significantly. This is reflected in Croatia's entry into the North Atlantic Treaty Organisation's Partnership for Peace programme, as well as the start of negotiations between the European Union and the Republic of Croatia on the Stabilisation and Association Agreement. The Council of Ministers of the European Union passed a decision on 14 February 2000 inviting the European Commission to prepare a Feasibility Study on the beginning of negotiations on the Stabilisation and Association Agreement of the Republic of Croatia and the European Union.

After two meetings of the Joint Consultative Task Force EU/Republic of Croatia, and a visit of the Assessment Mission of the European Commission, progress in relations between Croatia and the European Union has been acknowledged also by the acceptance of the Feasibility Study of the European Commission. The positive conclusions of the Feasibility Study represent the first steps in establishing contractual relations between the European Union and the Republic of Croatia, in the form of the Stabilisation and Association Agreement. Based on these conclusions, the Commission submitted a proposal to the Council of Ministers on authorising the European Commission to begin negotiations with the Republic of Croatia. It was adopted on June 13, at the meeting of the Council of Ministers.

In general, joining the European Union is one of the fundamental aims outlined in the Croatian Government's new programme. Pursuant to the agreement mentioned above, the Republic of Croatia ought to become an associate member of the European Union, which would be the most important step towards full membership.

Apart from the European Union and foreign policy, the programme of the government for the up-coming four-year term covers a broad set of issues, from the development of democracy and the strengthening of civil society to economic and welfare policy issues, with the obvious intention of showing Croatia's new political approach.

The economic part of the programme declares that development of a fully-fledged market economy, that is open, competitive and integrated into the European Union, will be the main goal defining overall economic policy in the next four-year period. As stated in the programme, the main elements of the policy are: maintaining macroeconomic stability (low inflation and exchange rate stability); fiscal adjustment (downsizing of government consumption, lowering the tax burden, balanced budget, continuation of pension and health care reform); support for tight monetary policy; building closer relations with the European Union and other international bodies (Central European Free Trade Association, International Monetary Fund, World Bank); entering the World Trade

8 Cf. Andrea Mervar (ed.), *Croatian Economic Outlook Quarterly*, Institute of Economics, Zagreb, 3/2000, 4/2000 and 5/2000.

Organisation, lowering tariffs and other obstacles to free trade; attracting foreign direct investment; restructuring and further privatisation of enterprise.

The government considers the coming short-term period as a tough one, with rationing necessary in all aspects, including government-funded projects. It will be a period of self-sacrifice to build a sound economic environment for the years to follow. In spite of this, the new government expects that the economy will recover to a positive growth rate of at least 2%. As a consequence of the broader implementation of the programme, the economy is expected to grow at more than 5% per year for the remainder of the four-year period. Output growth should be based primarily on significant improvements in export performance, increased investment and stronger development of financial markets. This process should be accompanied by significant increases in employment. The new government also insists upon greater efficiency of the legal system as well as on financial discipline.

1.2 Main economic indicators in 2000

The latest available data on Gross Domestic Product indicate that economic activity increased 3.7% in the second quarter of 2000 on a year-on-year basis. Combined with a 4% increase in the first quarter, this implies a Gross Domestic Product growth rate of 3.8% in the first half of 2000. Mainly as a result of a successful tourist season, indicators available to date suggest that rather strong year-on-year growth was sustained in the third quarter. During the first half of 2000, growth was primarily driven by private consumption (5.3%) and exports of goods and services (7.4%).

The second half of 2000 has brought rather weak industrial production. Negative month-on-month rates were registered in the seasonally adjusted index series in the last four months, between July and October. The cumulative rise for the first ten months of 2000 compared to the same period of 1999 amounted to only 2.3%, while the overall trend of aggregate industrial production has turned negative.

The export of goods exhibited an upward trend during 2000, with some slowing down in the third quarter. Expressed in euro terms, exports of goods increased some 18% on a year-on-year basis in the first ten months of 2000, while imports increased some 17% in the same period. Besides a well-known dependance of the Croatian economy on imports, a rise in oil prices and an appreciation of the US dollar have not allowed for a reduction in the trade deficit. As a consequence of that, a narrowing of the 2000 deficit have for the most part come from an extremely good tourist season (taking into account the first three quarters of 2000, the number of overnight stays by foreign tourists increased 56% compared to the same year period one year ago).

Main economic indicators 1999/2000

	1999	2000		
	Q IV	Q I	Q II	Q III
ECONOMIC ACTIVITY				
Real GDP (% change, year on year)	1.6	4.0	3.7	-
Real private consumption (% change, year on year)	2.0	5.0	5.7	-
Real government consumption (% change, year on year)	4.1	1.9	-1.1	-
Real investment (% change, year on year)	-11.8	-7.3	-4.1	-
Industrial production (% change, year on year)	2.8	3.7	2.0	2.5
Unemployment rate (registered, %, per annum)	20.0	21.1	20.9	20.9
Nominal GDP, (US\$ million)	-	-	-	-
GDP per capita (US\$)	-	-	-	-
PRICES, WAGES AND EXCHANGE RATE				
Implicit GDP deflator (% change, year on year)	2.6	3.8	6.9	-
Retail prices (% change, year on year, per annum)	4.4	4.8	6.2	6.7
Producer prices (% change, year on year, per annum)	5.3	8.5	10.0	9.0
Average gross wage (% change, year on year, per annum)	10.0	10.4	5.9	6.4
Net wage bill (% change, year on year, per annum)	8.1	6.6	8.9	9.5
Exchange rate, HRK/DM (per annum)	3.91	3.95	3.93	3.87
Exchange rate, HRK/US\$ (per annum)	7.37	7.81	8.25	8.36
FOREIGN TRADE AND CAPITAL FLOWS				
Exports of goods (US\$ million)	1,109	1,055	1,114	1,114
Exports of goods (US\$, change, year on year)	-7.0	5.9	12.0	-5.1
Imports of goods (US\$ million)	2,133	1,657	2,049	1,994
Imports of goods (US\$, change, year on year)	-0.2	0.1	1.2	3.4
Current account balance (US\$ million)	-803	-428	-282	-
Current account balance (% of Gross Domestic Product)	-	-	-	-
Gross foreign direct investment (US million)	959	378	216	-
Foreign exchange reserves (US\$ million, end of period)	3,025	2,925	3,237	3,379
Foreign debt (US\$ million, end of period)	9,852	9,836	9,917	-

	1999	2000		
	Q IV	Q I	Q II	Q III
GOVERNMENT FINANCE				
Conventional central gov't deficit (HRK million)	1,372	41	-1,333	-2,374
Conventional central gov't deficit (% of Gross Domestic Product)	-	-	-	-
Primary central gov't deficit (HRK million)	1,882	1,040	-1,051	-1,557
Primary central gov't deficit (% of Gross Domestic Product)	-	-	-	-
Privatisation proceeds (HRK million)	6,116	2,236	87	715
Domestic public debt (US\$ million, end of period)	2,194	2,048	2,183	2,016 [#]
Foreign public debt (US\$ million, end of period)	3,902	4,215	4,103	4,307 [#]
Total public debt (% of Gross Domestic Product)	-	-	-	-
MONETARY INDICATION				
Narrow money, M1 (% change, year on year, end of period)	2.4	5.8	13.3	27.2
Broad money, M4 (% change, year on year, end of period)	-1.1	2.4	16.4	24.7
Total domestic credit (% change, year on year, end of period)	-6.6	-6.5	2.8	-0.4
DMBs credit to households (% change, year on year, end of period)	8.6	6.4	12.6	13.2
DMBs credit to enterprises (% change, year on year, end of period)	-14.5	-13.2	0.8	-7.1
Money market interest rate (% , per annum)	12.4	12.4	10.9	6.8
DMBs credit rate, short term (% , per annum)	13.4	13.3	13.6	10.7

Source: Croatian Economic Outlook No. 5/2000

[#] Preliminary data for August

2. Croatian labour market in transition: 1990-2000

The dimension of change, which has taken place on the Croatian labour market since 1990, has been gargantuan. It painfully reflects all the transitional processes taking place in the economy and society that can only be compared with the process of industrialisation in the socialist period. Unfortunately, at that time, instruments of data collection were not geared to monitoring these processes. The growth of the socialist sector was followed closely, but the most dramatic processes relating to the disintegration of the agricultural sector, which, at that time, comprised around 70% of the active population, was beyond statistics.

In addition, in a situation of overmanning which is still significant, the current registered employment is in a considerable measure still reflected by the latent (arrears) or open subsidies (as pointed out above, the government allocates approximately one half of the social product). This leads to distortions in the allocation of resources and, by delaying the necessary structural change, slows down the creation of new jobs for those who have no economic justification for existing.

2.1 *Demographic framework*

Croatia is demographically an old country. Since 1991, the natural increase of the population has been negative but ageing has been taking place since the Second World War. In 1950, the natural rate of population increase was 12.5% and 45 years later it was -0.1%. In the middle of the 80s, Croatia shared the same total fertility rate as Western European countries but it was at a much lower level of development. This position has worsened, due mainly to the direct loss of potential fertility through war casualties and emigration especially among the younger cohorts.

This demographic framework has a direct effect on the labour supply. It has been estimated that when baby-boom generations reach pensionable age (from 2005), the replacement of the working-age population will no longer be insured if immigration fails to restore the equilibrium.

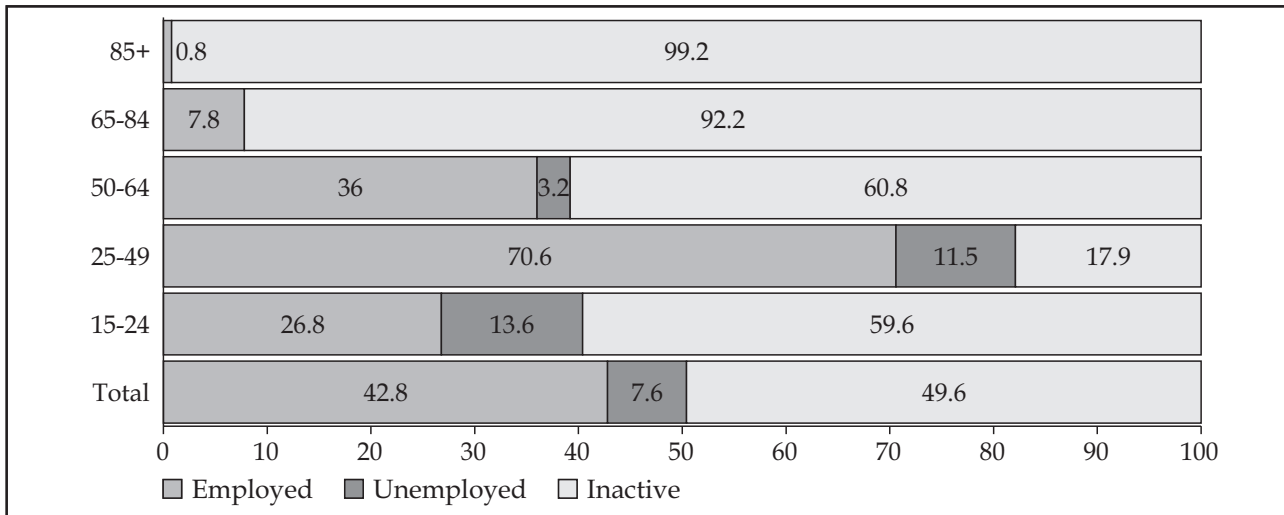
The depopulation trend has changed the structure of the population. From 1953, the share of the 0-14 age cohort decreased from 27% of the population to 19.4% in 1991 and 18.9% in 1997. At the same time, the working-age population (15-64 year olds) has increased its share from 66.0% in 1953 to 67.1% in 1997. The biggest change, however, has been seen among the elderly whose share increased from 7% to 14% in the same period.

2.2 *Economic activity of the population*

The implications of demographic change have a pervasive influence on both the labour market and the sphere of social protection. These two spheres are closely connected in the present pay-as-you-go pension system which has made pension reform a matter of necessity, even though its effects will

prove beneficial only for future generations. The present burden of the retired is still looming over the employed in the formal sector, exerting a tremendous pressure on the contribution rate and thereby increasing the already high cost of labour.

Figure 1: Structure of the working age population by activity status and age-group, June 2000



Source: Labour Force Survey 2000-1, Bureau of Statistics, Zagreb.

Figure 1 shows the percentage structure of the employed, the unemployed and the inactive in the working age population in 2000 by age group.

The share of the labour force in the total working-age population or the activity rate is 50.4%, down from 54.2% in 1996. The employment-population ratio which can also be seen in the figure is 42.8%, having also decreased from 1996 by 1.3%. Decreasing activity rates are an unwelcome and worrying feature in a country which has already suffered a dramatic contraction of the labour force, as will be shown later. A further decrease of activity rates indicates that the growth which has been taking place in Croatia has very little effect on employment creation. At the present level of economic development, a low level of utilisation of human resources has implications on demand for goods and services as well as wider implications for the economic welfare of the population and poverty which have spread in the course of the transition and the war.

Croatia's activity rates and employment-population ratios are lower than those of more developed European countries and yet there are indications that hidden unemployment among the inactive population is substantial and that potential labour supply is greater than is shown by the figures. This is especially apparent in the prime working age group (25-49) where only 70.6% of the working age population is in employment, 11.5% are unemployed and as many as 17.9% are inactive. This can only partly be attributed to the group of relatively young and retired military personnel after the war. A large share of the younger 15-24 age group is unemployed (13.6%) and the entrance into the labour force by the young is particularly difficult.

2.3 *Data collection*

An in-depth grasp of instruments of data collection and the methodologies which are implicit in them is crucial for understanding labour market dynamics in transition countries. This is necessarily so because statistics themselves are in transition as well as the institutions accountable for their collection. In simplified terms it would be true to say that traditional data sources have shown themselves especially well-tuned for describing the destruction of the ex-socialist system based on social ownership, but a grossly inadequate source for describing all the positive change in the private sector. Therefore, they tended to exaggerate the destructive tendencies while ignoring the constructive, new developments.

2.3.1 *Employment data*

Sources based on establishment surveys as they were carried out in Croatia for employment provide a very specific view of the labour market. The employment count from the labour force survey is well in excess of the count according to administrative sources. This is due to the fact that the establishment survey sample is not representative, giving precedence to large enterprises which shed labour while under-representing small enterprises which, generally, have a positive employment trend. Furthermore, administrative data sources count only those who have a formal labour contract as defined by the labour law, while ignoring other types of work arrangements that had proliferated during the transition, especially work on contract where no contributions for social security were paid, only income tax.

In order to get as close as possible to the total count of the employed it was necessary to combine several sources. Table 2 shows the best compilation that can be constructed from the existing sources which provide data at regular intervals.

The data shown from establishment surveys indicate several interesting features. Firstly, total employment decreased by 34.3% but the highest absolute and relative decrease was in the state sector employment of 904,100 or by 59.1%. In the process, the share of state sector employment decreased from 79.3% in 1990 to 49.3% in 1998. At the same time, the private sector, which we regard separately as agricultural employment and other, has shown considerable success in terms of improving its relative share in total employment from 20.7% to 50.1%. This is notwithstanding the employment in subsistence agriculture which is constantly falling. This has, however, not been adequate to absorb the shedding of labour from the state sector. Secondly, what should be looked at is the 25.2% decrease in the labour force. It is very unlikely that such a drastic reduction of the labour force should occur when the standard of living is low in relation to the pre-war level. It is, in fact expected that the labour force increases as the standard of living decreases and the added worker effect starts to be felt. However, with inadequate job creation in the formal sector, it is likely that many persons only appear to be leaving the labour force, according to this source which registers only formal sector jobs and cannot show the jobs created in the shadow economy. The table shows that over the 9-year period 343,900 pensioners became inactive, which is 180,900 persons less than the reduction in the labour force. This indicates that there are hidden unemployed persons in the working age population who are not actively seeking employment, probably discouraged by a long and unproductive search.

Table 2: The Transition of the Labour Market: Limitations of old data sources⁹

	Labour force	Unemployment	Employment Total	State sector employment	Private sector - total	Private firms and crafts	Agriculture	Pensioners
3/90	2083.6	155.9	1927.7	1528.8	399.0	128.9	270.1	594.8
3/91	1999.4	227.4	1772.0	1365.2	406.8	141.9	264.9	646.1
3/92	1826.2	275.0	1551.2	1158.7	392.5	154.7	237.8	762.1
3/93	1743.7	259.5	1484.2	1029.1	455.1	241.6	213.5	784.4
3/94	1680.5	245.7	1434.8	945.3	489.5	295.6	193.9	813.4
3/95	1654.0	241.5	1412.5	893.1	519.4	345.3	174.1	863.6
3/96	1647.7	264.1	1383.6	792.3	591.3	435	156.3	874.1
3/97	1530.7	284.6	1246.1	677.9	568.2	442.8	125.4	907.4
3/98	1558.8	292.3	1266.5	624.7	641.8	525.5	116.3	938.7
3/90-3/98	-524.8	+136.4	-661.2	-904.1	+242.8	+396.6	-153.8	343.9
%	-25.2	+87.5	-34.3	-59.1	+60.9	+308.2	-56.9	+57.8
3/96-3/98	-88.9	+28.2	-117.1	-167.6	+50.5	+90.5	-40.0	+64.6
%	-5.4	+10.7	-8.5	-21.2	+8.5	+20.8	-25.6	+7.4
Labour Force Survey 1996	1711	170.0	1540	751	789	632.7	257.5	738.7
Labour Force Survey 1997	1768	175.0	1593	775	818	680.4	243.2	803
Labour Force Survey 1998	1753	194.0	1558	718	820	597	218.7	851
Labour Force Survey 96-98	+42	+24	-2	-33	-31	-35.7	-38.8	112.3
%	+2.5	+14.1	-0.1	-0.4	-3.9	-5.6	-15.1	+15.2

9 NB: Some of the data necessary for updating this table were not available, for example, the ownership sector which the employed work in. The point is clear, nevertheless, that data sources can be misleading and have great influence in the wrong direction when designing labour market policies. Also, data for 1997 are unrealistic due mainly to corrections made for employment in previously occupied areas and small firms which were previously outside the sample. Establishment data do not cover police and the military.

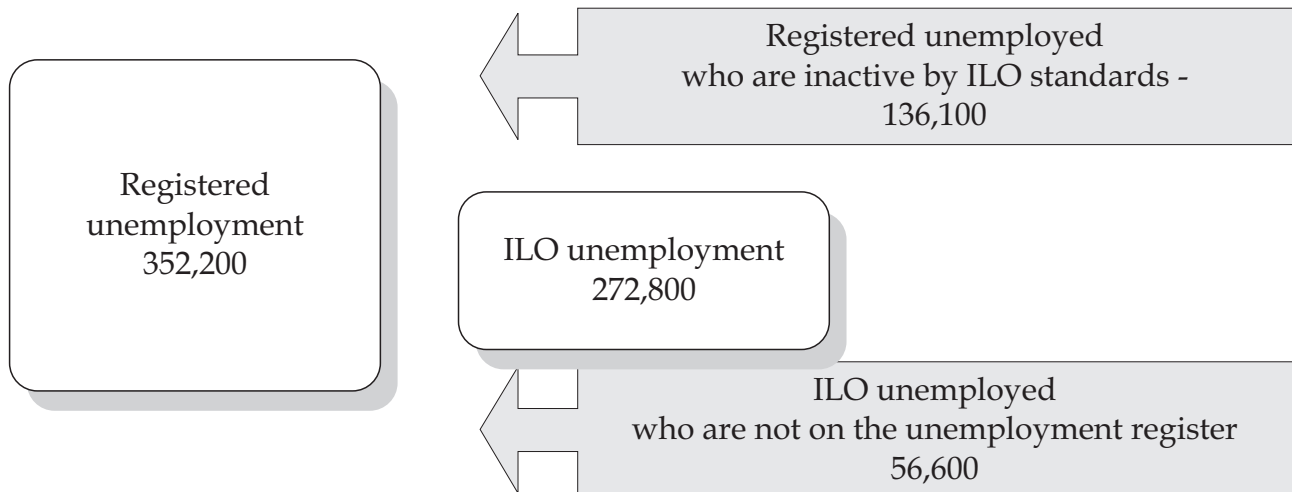
Bearing this phenomenon in mind, the questionnaire for the labour force survey was designed specifically to identify both shadow economy employment and the “discouraged worker” effect. International Labour Organisation standards were used for defining employment, which indicate that one hour of work in the reference week is adequate for classification purposes if the activity fits within the United Nations production definition. Care was taken in the survey to distinguish formal from actual activity status of working-age individuals. In this way, for example, all the formally inactive categories such as pensioners, students, housewives and the registered unemployed were given a separate set of questions that attempt to filter out their actual economic activity in line with international standards. Another of the aims of the Labour Force Survey was to attempt to reconstruct the gross flows between labour market states in the course of the transition. This was done partly by retrospective questions (for example, What was your activity status before you became employed, unemployed? etc.), which were directed at all the interviewees. In this way it was possible to reconstruct the changes in activity status.

Table 2 also shows the results of the three Labour Force Survey carried out in 1996, 1997 and 1998. Overall, the employment count from the Labour Force Survey 1996 is 156,400 higher than employment from the combined sources. This difference increased in 1997 to 346,900 and decreased to 271,500 in 1998. The difference can mostly be attributed to employment in the private sector as well as to the better coverage of the survey of certain employment categories, which are not included in establishment surveys. International Labour Organisation (ILO) employment count also shows an increase from 1996 to 1997 while the other source shows a continuous decrease, albeit at a decreasing rate. The question arises now about the interpretation of the two employment levels. Most Croats are involved, in one way or another, with the shadow economy. Nevertheless, the general view is that this is not “real work” although it quite often creates a supplementary income source more lucrative than the primary work. Therefore, as far as policy makers are concerned, employment creation in the formal sector should entail a serious attempt to legitimise shadow activities, which are obviously generating considerable shadow income. While this may have been the saving formula during the war and in the first stages of transition, it is felt that it is now time to make a more explicit attempt at reducing shadow activities.

2.3.2 Unemployment data

If the formal sector employment underestimated the actual employment level, the unemployment count is even wider off the mark when compared to the international standard definition of unemployment. By International Labour Organisation standards a person is unemployed if he/she did no work in the reference week, has actively searched for work in the last month and is available for work over the next fortnight. One or more of these criteria is not met by many of the registered unemployed: many work in the shadow economy, many are practically not able to work, while others are not looking for work. The result is that the registered unemployment count is much higher than the International Labour Organisation count but the difference is decreasing. In 1996 it amounted to 94,100, then the difference grew to 109,600 and dropped back to 98,300 in 1998. Chart 1 shows how the two unemployment counts interrelate.

The chart shows that only 61.4% of the registered unemployed are unemployed according to ILO criteria. Of those who are on the register, 14.4% work, while a further 24.3% are inactive, either not having sought employment actively or not having been available for work. There is also a category numbering 56,600 individuals who are unemployed by ILO standards but are not on the unemployment register.

Chart 1 - The unemployed from two sources, 2000

* Registered unemployment count from the Labour Force Survey and not the Employment Service.

Who are the inactive among the registered unemployed? Two-thirds of them became unemployed after 1990 and declared themselves willing to work but did not actively look for work in the previous four weeks. These are very likely the hidden unemployed among the inactive or discouraged workers we mentioned previously.

What are the characteristics of the employed among the registered “unemployed”? Some of their characteristics can be seen in Table 3.

Table 3 makes a comparison between the registered unemployed who work and the total employed population in terms of their general and specific characteristics by gender and employment status. We can see that 3.2% of the ILO employed men registered as unemployed actually work, which makes up 17.1% of the registered unemployed men. This is, of course, an understatement of the actual situation since some of the interviewees may not have wanted to answer the question on whether they are registered. The “unemployed” women who work are less numerous than the men, as only 13.2% work.

The status in employment of working “unemployed” is very different from that of the total employed population. Agricultural workers, unpaid family workers, workers paid in short-term contracts without social insurance and occasional workers are over-represented while employees in both sectors of ownership are under-represented.

The working “unemployed” also tend to be employed more frequently in agriculture, construction, hotels and restaurants and services than the total employed population. They hold permanent jobs in only 32.9% of the cases (men) in relation to 87.4% of the total employed population. Women are less lucky in this respect than men (29.5% / 86%), but they appear to be more able in finding temporary employment (32.1%) than men (15.9%), the majority of whom (43.1%) are only able to find occasional work.

When asked what kind of work they would prefer, a large share of the working “unemployed” answered that they would like to work in the state sector while only one-third said they would like to open their own firm. This reflects their present precarious position as they work mostly in the private sector, which offers little security, irregular pay and no social protection.

A policy of reducing shadow employment must take into account the fact that without these earning opportunities the working “unemployed” would be on social welfare unless their employers can be persuaded to accept the higher cost of labour which comes with legalisation. They, however, face such abundant labour supply on the one hand and a very uncertain business climate on the other that it is unrealistic to expect changes in this field in the near future.

Table 3: Comparative characteristics of the ILO employed who are on the unemployment register in 2000 and total ILO employment by gender

	Men		Women	
	ILO employed who are registered as unemployed	Total male ILO employed	Female ILO employed who are registered as unemployed	Total female ILO employed
General characteristics				
Number in thousands	26,5	838,1	24,1	695,5
% of ILO employed	3.2		3.5	
% of the registered unemployed men or women	17.1		13.2	
Employment status				
Craftsmen and owners of firms	0.5	10.0	1.3	3.5
Agricultural workers	26.9	11.4	9.9	7.8
Employees - state sector	2.9	46.1	24.9	40.9
Employees - private sector	8.9	33.2	0.03	32.4
Unpaid family workers	18.6	2.5	36.8	3.2
Short contracts	29.5	2.3	20.1	9.8
Own account workers	12.7	0.9	6.6	1.8

Source: Labour Force Survey 2000-1

2.4 Educational attainment of the labour force

Since we identified human resources as the main engine of growth, how well endowed is Croatia in comparison with other countries? Although it is well-known that formal education alone is not a measure of real potential it is the next best thing which is measurable.

Table 4: Educational attainment of the working-age population by activity status in 1998

	Employed	Unemployed	Inactive persons
Uncompleted primary school	7.4	2.7	27
Primary school (8 yrs.)	17.9	18.1	32.5
1-3 year secondary vocational school	20.2	22.9	14.6
4-year vocational secondary school	31.7	37.0	13.5
Gymnasium or grammar school	3.3	4.0	5.8
Non-university college	7.6	5.9	3.3
University and post-graduate degree	12.0	9.4	3.3

Source: Labour Force Survey 2000-1

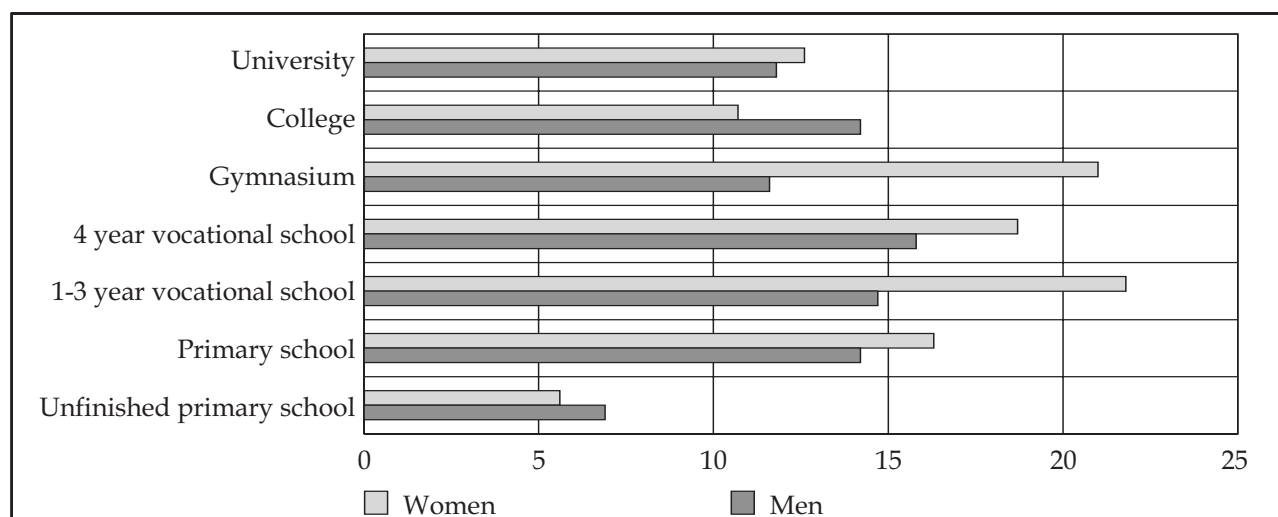
Table 4 shows the educational attainment of the employed, the unemployed and the inactive working age population in 2000.

According to Eurostat, 58% of the working age population in the 15 European Union countries have higher secondary education or a higher attainment level, while in Croatia even the employed have only 55.2% at these levels of education.

A fact that stands out from the table is the much lower educational attainment of the non-active population where as many as 59.5% of the population above 15 have some form of primary education. Among the employed it is 20.8% and 27.3% among the unemployed. Most of the two latter groups have secondary education while all secondary education types account for 55.2% of the employed, 63.9% of the unemployed and only 33.9% of the non-active.

As the level of education is positively correlated with employment and negatively with unemployment, it is no surprise that the unemployment rates are higher for the less qualified. Figure 2 shows this relationship by gender for 2000.

Figure 2: Unemployment rates by qualification



Source: Labour Force Survey 2000, June.

On average, female unemployment rates by qualification are higher with the exception of women with incomplete primary and college education. However, the highest unemployment rates are among men with secondary school education, which is also the largest group numerically. It is perhaps surprising to see that unemployment rates are lower for the least highly qualified, but that could perhaps be explained by the greater incidence of occasional and agricultural work among members of this group which usually means higher activity rates. It is surprising to see the high unemployment rates for highly educated men and women. This indicator is a warning that our best young people, who have been invested in the most, are facing smaller but nevertheless high unemployment rates. We need to revise the curricula to suit market needs, as well as introduce active labour market policies with special emphasis on the young unemployed.

Recent developments

Wage policy: "A strong upward trend in the dynamics of wages was finally halted at the beginning of this year. Data for January and February 2000 reveal a fall in average gross wages per employee below the high levels achieved in the last two months of 1999. Moderation of wage increases has been basically determined by downward revisions of expectations by both employers and employees, as well as by the process of strengthening the link between productivity and wage

increases in the corporate sector. These factors may contribute to maintain the current level of wages in the short-term. The government and major trade unions in the public sector have agreed on a 5% reduction in gross wages, in effect from 1 April 2000. This was a clear signal to employees in both the public and business sector to reduce their wage expectations. The agreement is to be annulled in November 2000 if the government does not succeed in cutting wages in public enterprises by the same percentage. This agreement was one of the first steps by the new government towards a sustainable budgetary balance in 2000. Public sector employees had to accept this measure, given their improved position relative to business sector employees over the past six years, as well as their almost "lifetime guaranteed" employment within the public administration".¹⁰

Employment/unemployment: "Corporate sector employment is still decreasing – 3.1% in the first quarter of this year compared to the same period last year. **Manufacturing, construction, domestic trade and hotel and restaurant activity** exhibit larger **declines in employment** than the average. At the same time, unemployment is increasing rapidly, which can be explained by signals from the new Government that it does not want to be involved in the restructuring of individual companies. The other, more important reason, could be the delayed effects of past structural adjustments. The unemployment rate reported by official statistics and measured by figures from administrative records reached 21.7% in March 2000".¹¹

10 Andrea Mervar (ed.), *Croatian Economic Outlook Quarterly*, Institute of Economics, Zagreb, 3/2000.

11 Ibid.

3. Structure of the education system

There are four principal educational levels: pre-school education (ages 3-6), basic education (6-14), secondary education (14-18) and tertiary education (18+). Secondary education includes general education (i.e. gymnasium) and technical or vocational education. There are two types of tertiary education: a two-year college programme which provides further specialisation in an area of vocational education and a four year university degree programme.

Each Croatian citizen has a constitutional right to be educated in his or her native language. While the vast majority are native speakers of Croatian, ethnic minorities can demand education at all levels in their own language which can give rise to practical difficulties for the schools in the allocation of teachers, teaching materials and classrooms.

While there may have been some changes in individual programmes, the overall curricula have remained largely unreformed since independence. The education system, up to secondary level, remains highly centralised. Policy proposals for decentralisation have been developed, but have yet to be accepted by the government. Paradoxically, there is a considerable amount of autonomy at the faculty level of tertiary education. While there are nominally four state universities, they in fact comprise a number of essentially independent faculties. The institutions of higher education receive funding directly from the central government.

The education system allows for little mobility between the various vertical streams. Graduates of 3-year vocational schools can only transfer to 4-year schools if they are eligible for tertiary education courses. Thus, decisions made at a relatively early age, i.e., on graduation from the basic education system, determine an individual's education and work opportunities with no possibility of changing track at a later date.

3.1 *Pre-school education (ISCED level 0)*

Pre-school education is generally available but there is not enough capacity for all needs. It is also not free and this excludes some groups in society from enjoying these services, such as individual farmers in rural areas where children are taken care of in the extended family setting. Institutionalised pre-school education is of variable quality both in terms of educational activities and housing and equipment. It ranges from little more than child minding to high-quality programmes which include pedagogic content for the various age groups and sports activities, drama, foreign language and attainment of other skills, such as early computer access. The emphasis is on individual attention and group activities. Pre-school education provides a good socialisation mechanism and, when adequate, a qualitative input into basic education.

3.2 Basic education (ISCED levels 1 & 2)

Compulsory basic education is one of the features which has ensured a high level of literacy in Croatia over a number of decades. The duration of basic education is 8 years where the first 4 years are dedicated to general literacy and numeracy training while the other 4 years entail subject teaching.

With few exceptions basic education is provided by the state. There are currently 481,971 pupils of which approximately 48% are girls, studying at 881 basic schools. Out of that number 0.5% are children who have to repeat the year of whom two-thirds are boys.

At the end of the 8 years, children are assessed on the basis of examinations which are designed and evaluated locally. This results in a wide range of educational quality over the country, which is not apparent in the marks. Since these grades determine success in entering secondary education, there is an inefficient selection for the next level of education. Approximately 94% of basic school graduates enter secondary education.

Over the last 8 years there have been attempts to improve the content of the programmes in basic school with the aim of removing some of the socialist views which were present in all the textbooks. Some schools also introduced the learning of foreign languages at a much younger age than previously. There was also an attempt at computerisation of classrooms and the introduction of many extracurricular activities (Lidrano, "Science for the young", painting workshops, etc.).

3.3 Secondary education (ISCED level 3)

Children finishing the 8-year basic school can choose between a gymnasium, a 3-year or a 4-year vocational secondary school. There are several types of gymnasiums, including general orientation, classical, languages, natural science and mathematical orientation or they can enter a school which works towards an international secondary school diploma.

3.3.1 Secondary vocational education and training (ISCED level 3A for 4-year programmes and ISCED level 3C for 2 & 3-year programmes)

The vocational schools cater for 438 occupations in 31 productive activities. Secondary vocational education programmes last for three or four years.

The four-year programmes cover vocational education and training such as mechanical engineering, electrical engineering, chemistry, health care, economics, agriculture, food processing etc. The 4-year curricula comprise common general subjects and technical-theoretical subject. The programme concludes with the final vocational examination. Over 41% of secondary school population attend the 4-year vocational schools.

The 3-year vocational programmes are intended to provide education for work in the crafts. Education for these occupations is characterised by a high share of technical elements and practical training.

There are two types of educational craft programme: the classical school system and dual system based on the German model which existed between the World Wars I and II and was abolished during socialist times.

Both programmes have general knowledge courses which are regulated by the Ministry of Education and Sport. These courses are mother tongue, foreign language, history, ethics/religious instruction, politics and economics, physical and health care. The Ministry of Education and Sport is responsible for defining the technical and theoretical subject areas and practical work areas in the classical school system, while the Ministry of Crafts and Small and Medium-Sized Enterprises, upon receiving suggestions from the Chamber of Crafts, is responsible for the dual system.

In the classical school system, the number of hours dedicated to technical and theoretical education is higher than the number of hours dedicated to practical training (500 hours per year). All aspects of the programmes are provided by the vocational schools that have school workshops. In the dual system, practical training takes up 1,089 hours per year. Technical and theoretical education is provided by craft schools while practical training is provided by craft workshops (using certain amount of hours during the first year of education in school workshops).

According to the Law on Crafts (Official Gazette, 77/93, 90/96) the Ministry of Crafts and Small and Medium-Sized Enterprises, the Ministry of Education and Sport and the Chamber of Crafts are responsible for the various aspects of the functioning of the dual training system.

The Ministry of Crafts and Small and Medium-Sized Enterprises is responsible for:

- the list of occupations which are taught within the dual system
- curricula for technical / theory and practical education and training
- implementing mechanisms of the programme in craft workshops
- working licences for craft schools which educate pupils in the dual system
- enrolment plans for craft programmes
- regulations concerning apprenticeship examinations

The Chamber of Crafts is responsible for:

- suggesting the list of craftsmen occupations to the Ministry of Crafts and Small and Medium-Sized Enterprises
- suggesting systematic plans and programmes for particular occupations
- defining conditions which craft workshops must fulfil in order to provide apprenticeship training and issuing licences to crafts
- ending apprenticeship contracts with apprentices, their parents and craft workshops
- following up on apprenticeship arrangements relating to the quality of the apprenticeships
- organising examinations at the end of apprenticeships and issuing diplomas
- organising permanent training of trainers (masters) who train apprentices (seminars in Croatia and Germany, presentations at fairs etc.) producing material relating to the improvement of educational quality (standardised examination questions, etc.)
- producing promotional materials for enrolment in craftsmen occupations and free apprenticeships in crafts.

The Chamber of Commerce does not participate in the dual system of education nor is it obliged to do so by legislation. The Chamber is not responsible for any other regular type of vocational education and training. In 1999, following a suggestion made by the Chamber of Crafts, an agreement was signed with the Chamber of Commerce which obliges the latter to assist in devising working places for apprentices in companies that have craftsmen occupations. As a result the Chamber of Commerce conducts the following training for companies and entrepreneurs:

- Trainers' programme which aims to educate and create a network of Croatian trainers/consultants
- Seminars for managers (management skills, enhancing personal skills etc.)
- Presentations/seminars on topics of current importance
- Information technology seminars (web promotion, Internet & trade, etc.)

These programmes are organised in co-operation with its branches in 20 counties which are equipped with adequate information technology equipment and form a network. Different Croatian and foreign partners are involved in the implementation of the programmes.

3.3.2 The dual system in Croatia 1995/1996 to 1999/2000

The dual system provides education and training for 55 occupations listed and defined by the former Ministry of Economy. The Ministry of Craft and Small and Medium-Sized Enterprises (established in 2000) is currently responsible for this list. Occupations available under the dual system include amongst others:

toolmaker, car electrician, car laquerer, car tinsmith, car mechanic, locksmith, chimney sweep, turner, electrician, electromechanic, electrician-mechanic, photographer, hairdresser, wooden ship builder, metal ship builder, plastic ship builder, central heating technician, chemistry cleaner, stonecutter, milliner, coppersmith, blacksmith, cosmetician, tailor, furrier, cook, roofer, tinsmith, butcher, miller, milkman, agriculture machine mechanic, shoemaker, optician, chiropodist, baker, sign painter, knitter, gas technician, mechanic for precision instruments, salesman, gunsmith, pastrymaker, house painter, glazier, carpenter, machinist, upholsterer, cutter, watchmaker, plumber, bricklayer, goldsmith.

The dual system was introduced in the academic year 1995/96 in 12 counties (*upanija*), 19 schools and for 24 occupations. The number of educational programmes, schools and pupils has been increasing since then. The total number of pupils in the dual system during the year 1999/2000 is approximately 11,000. After five years of the initial introduction of the dual system in Croatia the Chamber of Crafts analysed the system indicating the positive and negative aspects and offering suggestions for improvements. These include, among others:

- differences between the classical and dual vocational education systems should be reduced and one curriculum as well as the same/similar implementing institutions have to be introduced
- master craftsmen, or craftsperson who trains apprentices, should undergo training in pedagogy, psychology and methods of apprenticeship
- the state should introduce initiatives to increase the number of places for apprenticeships
- funds are needed to equip school workshops since there are no educational/ technological centres as there are in other European countries.

The Law on Crafts, apart from the dual system for craft occupations, regulates continuing education concerning masters' exams which are the prerequisite for an independent management of the craft workshop. The relevant occupations in the programmes for the masters' exams are under the auspices of the Minister of Crafts and Small and Medium-Sized Enterprises.

Diplomas are issued by the Chamber of Crafts, which regulates the relevant legislation (Official Gazette 26/98).

The following table shows the planned enrolment, the number of schools and the number of programmes in the dual system from 1995-2000.

	No. of counties (upania)	No. of schools	No. of programmes	No. of students enrolled
1995-1996	12	19	24	1100
1996-1997	17	53		3716
1997-1998	19	75		3730
1998-1999	20	72	38	4993
1999-2000	20	77	43	5786

The plans were too ambitious, particularly for the two last years.

A comparison between the traditional school-based and dual systems shows that there are four classical secondary vocational schools for every dual system school. Some occupations (watchmaker, gunsmith, goldsmith, milkman, musical instrument maker, shoemaker, etc.) are available only in the classical programmes. It is believed that the reason for this is that pupils and parents are not adequately aware of the opportunities attached to the dual system and that the Chamber of Commerce needs to increase its efforts to attract more pupils into this programme.

3.3.3 Masters' exams

The Law on Crafts stipulates that persons who wish to open a crafts business need to pass a masters' exam following secondary vocational education and three years of apprenticeship in a given occupation. There are 56 such exams for just as many occupations which are under the auspices of the Chamber of Commerce (Regulations on masters' examinations - NN 26/98).

3.4 Tertiary education (ISCED level 5), Non-university college programmes (5B), University degree programmes (5A)

The share of college and university educated people in the active population is lower in Croatia than the European average. In 1991 this share was 11% in Croatia in relation to 19% in Organisation for Economic Co-operation and Development (OECD) countries.

Every year about 26,000 students enrol in institutions of higher education, which is about half of all secondary school pupils. This compares favourably with the European average but the difference arises not in the numbers enrolled but in the exceptionally high dropout rate in Croatia. Only about 10,000 students complete their tertiary education.

The average duration of undergraduate studies is about 7 years for a 4-year curriculum and 5 years for a 2-year curriculum. This high inefficiency of studying is unevenly distributed over institutions of higher education. For example, the dropout rate in the most demanding study programmes, i.e. medicine, electronics and information technology, is the lowest.

Croatian higher education institutions suffer from several problems. Apart from the long duration of studying which has already been mentioned and the high dropout rate, the curricula are much too extensive at the undergraduate level and do not keep up with changes in science and technology.

The financing of tertiary education is the lowest in Europe. At the present share of expenditure on tertiary education and science in Gross Domestic Product (less than 2.5%), it is impossible to expect improvements in the effectiveness of tertiary education.

The result is

- inadequately maintained and obsolete equipment in research laboratories and teaching rooms;
- the inability to purchase sufficient books and other publications;
- a low level of stimulation for national publications.

Apart from the low level of expenditure on tertiary education, the funds available are inappropriately distributed. There is also an evident lack of transparency in the transfer of funds.

Unfortunately, Croatia has no law which regulates donations to institutions of public interest such as education, science, culture and health. This unnecessarily limits sources of funding in the field of tertiary education.

A further problem that needs to be addressed is the level of centralisation at the tertiary education level. The Croatian Constitution guarantees the autonomy of the university. However, the executive power (wielded by the Ministry of Science and Technology) and the legislative power (through the University Administrative Council appointed by Parliament) control the election of all university heads, as well as most decision-making processes at universities.

The Ministry of Science and Technology decides upon the approval and financing of all activities at university, including scientific projects. This has a direct effect on the number of young researchers who can be engaged on projects.

Finally, there is little exposure of domestic researchers and university professors to international scrutiny and criticism as well as a low level of involvement in international projects. This is particularly detrimental to new generations of researchers who will lose out if they are not soon sent to study at prestigious European and North American universities. Croatia needs to establish regular exchange programmes of students as well as of junior and senior faculty staff with similar foreign institutions.

Some further suggestions for overall improvement include:

- Croatian universities need to be more oriented towards the “market on human resources” and to pay more attention to its needs as well as to how to become a more active factor for promoting innovations.
- Institutions of higher education need to introduce a credit point system, compatible with the European Credit Transfer System.
- A strategic 5-10 year plan for science and tertiary education needs to be developed in order to assure a long-term orientation.
- There is a need for an independent institute of education, which would study and research all aspects of the education system.

4. Postgraduate education

In accordance with Article 25, paragraphs 1 and 2 of the Law on Institutions of Higher Education (Official Gazette, No. 59/96) postgraduate university study is organised as a full-time or part-time study and comprises three basic modules:

- Postgraduate science studies
- Postgraduate professional studies
- Postgraduate art studies

a) Postgraduate science studies

The postgraduate science studies comprise compulsory and optional courses (grade system) as a programme for obtaining a Master of Science or a Doctorate of Science or as a programme for obtaining only a Master of Science degree (curriculum in accordance with the statute of an university). Article 26 of this Law states that admission is based on completion of an adequate first university degree. Tertiary education institutions determine in their own admission requirements which Bachelor degrees are necessary for enrolment. According to Article 35, paragraph 4 of the law, the postgraduate science study for the Master of Science requires a minimum of a four-term course and for the Doctorate of Science the minimum is a six-term course. For candidates who have already obtained a Master of Science, studying for a Doctorate of Science requires at the least a two-term course. In addition to the general graduation requirements for all graduate students (specific number of subjects), candidates must write a thesis requiring an oral defence in lieu of the final comprehensive exam.

b) Postgraduate professional studies

In accordance with Article 26 of the Law, postgraduate professional studies comprise two modules: postgraduate professional studies and postgraduate art studies. Admission to the programmes is based on completion of a university or expert undergraduate degree (which takes four years). The prerequisite for admission to the postgraduate art studies is the completion of an adequate university undergraduate degree. Tertiary education institutions determine in their own admission requirements which Bachelor degrees are necessary for enrolment. According to Article 5, paragraph 35 of the Law, postgraduate professional studies consists of at least two terms. Postgraduate art studies last at least four terms (two terms at higher schools). At the end of the studies candidates write a thesis requiring an oral defence together with a final comprehensive exam.

According to Article 51 of the Law, writing and oral defence of a thesis outside the regular Doctorate degree programme can be undertaken by a candidate who has obtained a Master of Science and published at least one scientific work in a relevant publication, i.e. an internationally recognised review. Another option is participation in research activities of a higher school or scientific institute.

5. Equal opportunities in vocational education and training

The importance of equal opportunities in education, including secondary vocational education and training, is a prerequisite for a successful social and political integration of all sectors of society, as well as a means for mitigating economic constraints and instilling principles of democracy.

5.1 *Education for children with special needs*

5.1.1 *Education of handicapped and disabled children and young people*

Education, rehabilitation and care of handicapped and disabled children and young people in the Republic of Croatia are a constituent part of the integral and unique educational system and system of care for children and the young. These are regulated by the Pre-school Education Act (NN, No. 10/1997), Primary Education Act (NN, No. 59/1990, 27/1993 and 7/1996) and the Secondary Education Act (NN, No. 27/1993).

These acts regulate the rights and obligations of handicapped and disabled children from birth up to the age of 21 with further detailed regulations covered by the by-laws. Among these by-laws are the following: Regulations on enrolment of children in primary schools (NN, No. 13/1991), Regulations on primary education of disabled and handicapped children (NN, No. 23/1991), and Regulations on secondary education of handicapped and disabled students (NN, No. 86/1992). In the legislation and the profession we adhere to the international classification of disabilities, invalidity and handicaps. These cover the following:

- children and young people with impaired sight
- children and young people with impaired hearing and speech
- children and young people with impaired motor skills
- mentally retarded children and young people
- autistic children and young people
- children and young people with speech handicaps
- children and young people with organic disabilities in behaviour with a prograding psychopathologic state
- children and young people with complex handicaps.

The term "handicap" and the classifications should soon be incorporated to follow European and world standards.

Institutions that run educational and rehabilitation programmes, issued by the Ministry of Education and Sports, are registered in the area of activities in education, social care, health and administration of justice. And depending on their structure they may be classified as regular or special institutions.¹²

The equipment of kindergartens and their programmes (furniture, resources and rehabilitation aids) can satisfy the specific needs of handicapped and disabled children as well as professional demands.¹³

In the course of the academic year new special programmes have been developed on aspects of education and care for mentally retarded children, autistic children, children suffering from palsy and other serious handicaps.

An increasing number of courses, seminars, and workshops have been organised for professionals in this area. A programme for special-education teachers' exams has been set for those teachers who work with pre-school handicapped and disabled children, and there is also a framework programme for special-education teacher trainees.

The equipment for primary school premises and programmes does satisfy the minimum level of specific professional needs, but a specific problem is the lack of textbooks, inadequate premises for running the programme in some social environments and educational areas, accompanied by the lack of special resources.

The equipment for secondary school premises and programmes does not satisfy even the minimum of professional demands, particularly the equipment for workshops.

Added to this is the problem of a shortage of textbooks, insufficient education of teachers working with disabled and handicapped students, as well as a shortage of special education teachers. In all the regular secondary schools in the Republic of Croatia there is only one qualified special education teacher, a social pedagogue employed as research assistant, and one special education teacher employed as a research assistant in the extended day programme.

There was an attempt to ensure that students, particularly those with motor impairments, are paid for transport costs to and from school during the academic year.

Table 5: Number of schools and pupils for children with special needs

Types of programmes for children with special needs	Number of pupils	Number of schools
Completely included in regular programmes	6 300	560
Partly included in regular programmes	650	120
Extended	300	79
Organic handicaps in behaviour	400	31
Special programmes	2 350	18 special institutions
		11 primary schools

Source: Primary school reports.

12 Zlatko Miliša, *Croatian Education System*, Interim Report, Ministry of Education and Sports - Institute for Educational Development, June 2000.

13 Ibid.

5.1.2 *Education of gifted children*

Regulations on primary education for gifted children (NN, No. 34/1991) cover the ways of recognising, educating, stimulating and evaluating gifted children. At present, gifted children receive special attention and care exclusively within the framework of extracurricular activities.

5.2 *Education of members of ethnic communities or national minorities in Croatia*

In Croatia members of national minorities and ethnic communities share equal rights of freedom and equality, as well as human rights. The education system is well organised for those minorities and ethnic communities which requested support: e.g. Austrians, Czechs, Hungarians, Germans, Roma people, Ruthenians, Slovaks, Serbs, Italians, Ukrainians and Jews.

The members of national minorities and ethnic communities exercise their constitutional and legal rights to education in the minority languages through three basic models:

Model A Education is carried out in the language of the national minority (Croatian curricula are being translated into minority languages)

Model B Bilingual education (humanities are taught in minority languages, whereas the sciences are in Croatian)

Model C 5 hours a week mother tongue incentive programmes

The members of national minorities provided with models A and B are obliged to follow the Croatian language curricula of 4 hours a week from the beginning until the end of their education cycle.

Special education programmes for national minorities and ethnic communities are part of the Croatian national education system. These programmes are written in conformity with Croatian education laws and international laws, particularly those referring to human rights, and allow for enhanced language learning and the culture of the minority both in Croatia and the former homeland.

Some national minorities and ethnic communities are territorially dispersed and small in number, so their education and cultural networks differ. Their duties and responsibilities are similar since they derive from the Croatian Constitution and "Constitutional Law on human rights and rights of national minorities and ethnic communities" as well as from other laws. Pedagogical standards take into consideration some peculiarities of the minorities (number) in order to allow for teaching in smaller groups rather than in regular classes using the Croatian language.

6. Teachers and trainers in vocational education and training

Teachers and trainers in vocational education and training are divided into two main groups:

1. General subject teachers (languages, mathematics and natural sciences, social sciences, art) who acquire pedagogical qualifications and pass the exams on general pedagogy, didactics, psychology of education, and teaching methodology.
2. The teachers of vocational subjects are divided into the following groups:
 - teachers teaching technical/theoretical subjects (university graduates - engineers and other experts from the relevant field)
 - teachers in practical training (higher school graduates - engineers)
 - assistants in practical training (4-year secondary technical school graduates)

Subject teaching in vocational schools is carried out by about 6,200 teachers, practical teachers and assistants. Among these are 4,000 teachers of vocational-theoretical subjects. About 1,800 teachers are engaged in practical workshop activities and part of the laboratory practice, and 400 assistants participate in practical skills teaching and laboratory practice. Part of the teaching of vocational subjects is done by teachers without the required qualification, due to difficulties in recruiting appropriate teaching staff. Most of these teach in the fields of economy (77), mechanical engineering (63) and electrical engineering (59).

6.1 *Pre-service training of teachers in vocational education and training*

In general, education of all the teachers in vocational schools in Croatia depends on the content and complexity of demands that working after getting a degree would put upon an individual in this area. It is achieved in following ways:

- a) Within the system of undergraduate education.

According to the Higher Education Act this education is given at teachers' colleges, teacher training colleges, and teachers' high schools.

- b) Within the system of additional pedagogical-psychological and didactic-methodological education.

This system caters for teachers who have not graduated from a college that would qualify them for a teaching job: practical skills teachers in secondary vocational schools who have previously graduated from a corresponding technical or vocational secondary or higher school. The education and training is conducted by training colleges or pedagogical faculties in Croatia, regardless of whether they do or do not fulfil the necessary conditions.

- c) Within the system of postgraduate education (scientific and specialist).
- d) Within the system of permanent education at a more advanced age.

Such educational programmes are conducted by the Ministry of Education and Sports, Institute for Educational Development, in co-operation with experts from higher education institutions and educational institutions.

Prior to the exams in methodology, the general subject teachers have to undertake practical work in elementary and secondary schools (15 hours) and give two public lectures. At the beginning of their teaching careers, all teachers have an obligatory trial lasting from one to two years, under the supervision of an appointed tutor, which concludes with a state examination. The state examination covers the following subjects: pedagogy, didactics, methodology, relevant legislation and structure of state and local authorities. The exam is conducted by the state exam agency which consists of the representatives of the Ministry of Education and Sport, an expert in methodology from the pedagogical faculty and the tutor. The state examination is a prerequisite for permanent employment.

There are no special pedagogical faculties for the teacher of vocational subjects. All teachers who have not acquired an education in the fields of pedagogy, didactics, psychology of education and teaching methodology must enrol in relevant skills upgrading courses. They must also complete on-the-job training of one to two years and then take the state exam based on the programme for general subject teachers. Assistants in practical training take the exam in pedagogy, have on-the-job training and take the state exam.

6.2 *In-service training of teachers in vocational education and training*

In-service teacher training within the education system is based upon the acts of law for each of the subsystems, i.e., it is compulsory for all members of the educational staff (educators, teachers, research assistants, principals) and is conducted at three basic levels:

- at the personal level as an individual training programme;
- at the level of education institutions as a common programme for the same or different profiles, which is taken care of by the professional developmental section of the institution;
- at the level of the Ministry of Education and Sports in the form of professional meetings organised by the Institute for Educational Development, and in collaboration with other institutions (faculties, associations and others) at home and abroad.

The Ministry of Education and Sports, Institute for Educational Development, aims to raise the quality of permanent training of educational staff members to a level adequate to its importance. Their annual programmes regulate and define criteria for the permanent and systematic professional knowledge acquisition, improvement of teaching, extracurricular activities and extracurricular professional work, introduction to current trends in pedagogical and methodological sciences at home and abroad for the improvement of teaching and development of the educational activity overall in Croatian education.¹⁴

14 Ibid.

Various seminars and professional meetings lasting from one to three days are organised on a regular basis every school year. The subjects (depending on the type of schools, working experience, programme content, etc.) range from pedagogical-methodological to expert ones and are carried out by experts from the Ministry of Education and Sport, pedagogical faculties, industry and schools. The professional meetings are organised in collaboration with professional institutions and associations, humanities and science faculties, scientific and research institutes, companies and enterprises and international governmental and non-governmental institutions.

Difficulties in conducting permanent training programmes for educational staff members are due to the following factors:

- financial difficulties that arise in the organisation of meetings (costs of lecturers and accompanying materials) and attendance (travel expenses and accommodation of participants);
- some professional areas have not been covered by professional training meetings, i.e. there is no existing network of meetings to cover professions, types and sorts of educational institution;
- insufficient use of contemporary forms of training, i.e. workshops, and ability and skills training, together with an integrated approach to the identification of needs and use of a theoretical approach to professional training programmes.

The estimation is that only 3% of teachers have the relevant experience. However, there has been a greater interest in the teaching services from those engaged in the economic sector because of the current economic crisis and ensuing bankruptcies of industrial companies. But a revival of industry is likely to reverse this flow of “experts” from schools back to industry.

6.3 Working conditions of teachers and trainers in vocational education and training

In technical/theoretical teaching, a teacher generally has a class of 30 students. In practical training the class is usually divided into two groups of 15 students. For the second, third and fourth years there are three groups of 10 students.

The workload for technical/theoretical teachers is 21-24 hours per week, for practical training teachers 28 hours and for assistants 32-34 hours per week. Students have 30-32 hours per week in 4-year schools and 32-35 in 3-year craft schools. The school year lasts for 35 weeks except for the dual system where it is 42 weeks because of increased practical training.

Teachers like other state employees are classified under different salary groups. Every five years an employee goes into a higher group. The salaries are relatively low and 20% less than in the private sector for the same qualifications. According to the relevant criteria and regulations, teachers can be upgraded to the higher status of teacher-tutor or teacher-consultant.

Supply for work in schools is currently greater than demand due to the high level of industrial bankruptcies. The quality of those experts moving into teaching has not been measured as they have not worked in the school system. It is most likely that in the coming years a large number of teachers and trainers from the vocational education and training sector will leave teaching.

In terms of curricula, most teachers and employees of the Ministry of Education and Sport have limited knowledge. Experts for the pedagogical faculties are qualified but have limited practical experience. Many teachers have shown an interest in creating curricula, but have not pursued the issue because of limited knowledge. Current programmes are based on an hourly subject approach.

The majority of teachers are able to adopt new pedagogical approaches as well as select and use modern educational technologies and materials.

Teachers are prepared for monitoring and evaluation of the individual progress of students as this topic is covered on a regular basis during the seminars. The system of individual support for talented students is well developed through work with the students and relevant competitions from almost all the fields on a local, regional and national level.

7. Adult education

The demand for training by the current work force is low in Croatia. In economically hard times it is considered a luxury to invest in people because returns are not immediate. Most employers are struggling with daily survival by concentrating on the financial sphere. Table 6 shows the present situation in adult education as measured through the labour force survey. Although this source is not ideal for this purpose, it nevertheless presents the activity status of participants in training and gives, unlike other sources, some indication of the purpose of the training.

Table 6: Adult education in Croatia, June 1998

	Total population 15+	Employed persons	Unemployed persons	Inactive persons
Total (in millions)	3.257	1.538	0.194	1.525
Attended adult education	34009	30450	1521	2038
% of total	1.04	1.98	0.78	0.13
Education connected to first employment	2718	1842	275	601
Training within the existing occupation	25322	24468	492	362
Training for a new occupation	3999	2522	754	723
Other	1970	1618	-	352

Source: Labour Force Survey 1998, Bureau of Statistics, microdata base.

A drawback of this table is that it is a snapshot picture in one time period and not an accumulation of training person/hours per year. Nevertheless, the percentage in training of the working-age population is only 1.04%, slightly higher for employed persons at 1.98%, very low for unemployed persons at 0.78% and 0.13% for the inactive population. Most of the training (74.5%) occurs within the existing occupation for the working age population and is slightly higher among the employed at 79.7%. However, most unemployed persons are in training for a new occupation (49.6%) which is to be expected, considering the existence of a great deal of structural unemployment in the country.

Table 7: Duration of training

Less than 1 week	26.8%
1 - 4 weeks	32.5%
5 weeks to 3 months	12.7%
4 - 6 months	13.4%
7 - 12 months	7.6%
12 + months	7.1%

Source: Labour Force Survey 1998

Table 7 shows the average duration of training that took place.

It can be seen that one-third of the training was only up to one month while another third lasted from 1 to 6 months which could be considered a medium length training duration.

Restructuring is basically a change in the structure and content of existing skills and knowledge and it appears there is little change in Croatian society. As there was little investment, particularly foreign investment at the beginning of transition, on-the-job training applied to new technology was also not widespread.

8. International co-operation in vocational education and training

8.1 *Support by donor (not exhaustive)*

European Union: see

<http://www.seerecon.org/Croatia/Croatia-DonorPrograms/CroatiaDonorPrograms.htm>

World Bank: see <http://www4.worldbank.org/sprojects>

Soros Foundation (projects are partly co-funded by the United States Agency for International Development -USAID):

Project focusing on self-employment and small and medium enterprise sector, including:

- (i) development of the graduate programme on entrepreneurship at Osijek University
- (ii) setting up a network of centres for entrepreneurship (to provide assistance) at Osijek, Dubrovnik, Pula, Čakovec, Split. Rijeka and Zagreb still to be established. Aim: cooperation with employment agencies to create one-stop-shops for small and medium enterprise support
- (iii) micro-credit programme jointly with USAID in Eastern Croatia to support small financial institutions (credits and selling co-operative).

GTZ, Germany:

Three lines of action including:

- (i) support for small and medium enterprises in the tourism sector (Dubrovnik, Montenegro)
- (ii) regional planning and development in the Dalmatian region
- (iii) small-scale projects at Statistical Office, Land Surveying Office, support to Serbs willing to return to Yugoslavia, introduction of Refa industrial standards.

8.2 *Donor support by sector (not exhaustive)*

Small and Medium Enterprise sector:

- (a) World Bank: Learning and Innovation Loan to train advisers and upgrade business support centres;
- (b) Dutch Government: regional development plans, business incubators, business partners in the Netherlands;
- (c) GTZ, Germany: provided technical assistance for the Ministry of Crafts and Small and Medium Enterprises: support for 8 county offices for entrepreneurial promotion, business support centres, management training, business partners in Germany;

- (d) European Union support (OBNOVA 2000): support to policy analysis and development and CARDS programming.

Regional development:

- (a) Dutch Government: helped design development plans for 6 regions in Croatia;
- (b) European Union (OBNOVA 2000): framework for national and regional development plans, administrative infrastructure, capacity building in counties and municipalities;
- (c) United Nations Development Programme (UNDP): 1999 Human Development Report with a focus on regional development.

Public administration reform/training of civil servants:

- (a) World Bank survey;
- (b) European Union (OBNOVA 2000): concept for decentralisation, legal framework, management structures, training.

Vocational education and training/Labour market area:

- (a) Chamber of Crafts Munich, Germany: review of curricula for practical part of dual training system (Croatian Chamber of Crafts in charge);
- (b) International Labour Organisation: helped on both the introduction of the International Standard Classification of Occupations (ISCO) code, Labour Force Survey and statistics on migration;
- (c) United Nations Development Programme (UNDP) produces annual Human Resources Development reports.

Education:

- (a) Soros Foundation: Freedom of Education project (US\$ 100,000);
- (b) World Bank assessment;
- (c) Organisation for Economic Co-operation and Development (OECD) Education Sector Review.

8.3 The National Observatory for training and employment

The Croatian National Observatory for training and employment was formed in October 2000 as an independent part of the European Training Foundation with the aim of fulfilling the following **core functions**:

- ➔ **Expert function:** This function focuses on the National Observatory's capacity to provide analytical information on national vocational education and training reform in its socio-economic context. This function will emphasise links between society, labour market and vocational education and training, including initial and continuing training. Particular importance will be

given to improving capacities regarding analysis and assessment of developments in the labour market and employment policies. This expertise will help the National Observatory contribute actively to the national debate on the reform of the vocational education and training system, e.g. by providing advice to national and local policy makers on future development options.

- ➔ **Clearing house function:** This function will focus on the capacity to channel national and international information on vocational education and training-related (reform) issues to principal customers.

9. The status quo

Education level		Status quo	
GENERAL	INPUTS	TRANSFORMATION PROCESS	OUTPUTS
	<p>Students Widely varied quality of knowledge attained in different schools</p> <p>Teachers and other staff</p> <ul style="list-style-type: none"> the quality of teachers and staff is due to sub-optimal value of undergraduate and postgraduate education, particularly its pedagogical-psychological components teachers are underpaid 'burnout' is evident resulting in dissipation of quality teachers quality of headmasters/headmistresses is dubious due to method of placement and lack of training especially at the postgraduate level headmasters' qualifications test was discontinued quality of staff dedicated to development (psychologists, pedagogues, therapists) is inadequate <p>Programmes, textbooks, equipment</p> <ul style="list-style-type: none"> too large a number of subjects subjects are too crammed with facts leaving little space for attaining intellectual prowess and cognitive abilities all the above leads to a feeling of victimisation of both the students and teachers more and more children seem to 'hate' school no systematic research in the value of textbooks but general consensus is that they are deficient in the didactic sense, as they contain too many facts school equipment is sub-standard and there is lack of statistics on the subject <p>Financial inputs</p> <ul style="list-style-type: none"> expenditure on education in Croatia is below 3% of GNP while it is 5-6% in European countries, excluding adult education structure of expenditure is untenable with about 85% going to salaries and 15% to all other costs financing is highly centralised with little room for financial autonomy lack of transparent criteria for distribution of inadequate funds <p>Legal framework</p> <ul style="list-style-type: none"> no legal way of stimulating donations which could supplement government financing of science, culture and art lack of congruence with European legal frameworks <p>Role of the community in the educational process: pupils, parents, business entities, local authorities</p>	<p>Organisation of the learning processes</p> <ul style="list-style-type: none"> it is old-fashioned as it is carried out according to the rigid principle of number of hours per subject which leaves little room for autonomy of teachers and development of creative abilities of pupils organisational processes in schools are unsystematically evaluated and dependent on highly centralised system management methods <p>Methods of evaluating teaching efficiency of staff</p> <ul style="list-style-type: none"> little consistent evaluation of the efficiency of teaching staff <p>Development and advancement of staff capabilities</p> <ul style="list-style-type: none"> continuing education for teachers is present but does not follow achievements in this field in Europe <p>Interpersonal relations including school culture and school environment</p> <ul style="list-style-type: none"> little effort to build and nurture a positive school culture <p>Evaluation of students' achievements</p> <ul style="list-style-type: none"> criteria neither objective nor consistent this results in uneven educational attainment by students from different schools but marks still have a high priority in selection procedures for tertiary levels of education <p>Duration of compulsory education</p> <ul style="list-style-type: none"> structure and duration of compulsory education differs from most European countries which is longer while basic education is shorter 	<p>Capabilities as outputs</p> <ul style="list-style-type: none"> our schools are considered successful in terms of the quantity of learned material <p>The number of students which finish regular school Secondary school, college and university enrolment is high in European terms but the dropout rate increases the higher the level of education</p> <p>Relevance of structure of occupations created</p> <ul style="list-style-type: none"> significant lack of congruence between the structure of occupations and development needs of the country regional imbalances are particularly great qualifications attained are too narrowly defined and are quickly redundant with new technological developments knowledge of foreign languages is low in view of the number of hours given children and students do not develop adequate analytical, communicative, discursive and cognitive skills authoritarian, one-way method of teaching is not conducive to stimulating curiosity, exchange of ideas

10. Conclusions and suggestions

1. Secondary vocational education has specific significance for individual development and represents the weakest link in the educational continuum. Wrong choices due to lack of adequate professional orientation result in more accentuated attrition and less than optimal results in later working life.
2. Educational levels need to be linked more flexibly so that those who have dropped out of one educational programme should be able to find their way back into alternative programmes.
3. Individual professional orientation should not be based solely on marks received for relevant school subjects but should include continuous monitoring of student development, his/her capabilities and inclinations, health, and suggestions for further education be worked out with student and parents.
4. Research should be initiated in methods of aligning formal secondary school programmes with the needs of the market in view of the rapid technical developments and globalisation.
5. Lifelong learning requires a redefinition of the content and organisation of secondary education.
6. Both in formal and informal types of vocational training a good mix of practical and theoretical training needs to be maintained in order to cater for the needs of businesses.

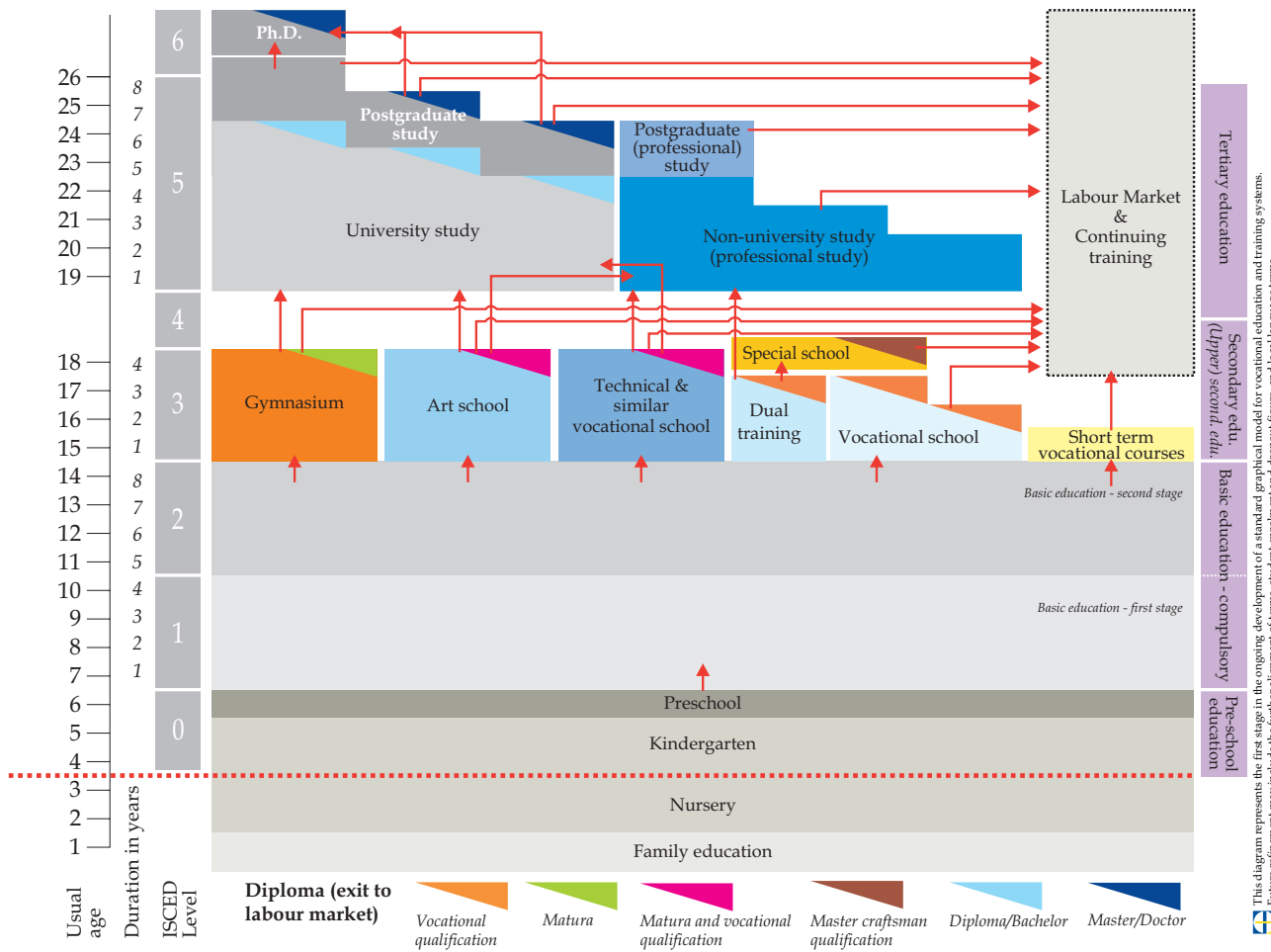
The need for further research: projects in the making

The joint work by the working groups has illustrated the need for various research projects, which will need to be undertaken if the present system of education is to be improved. Some of the projects mentioned include:

1. The system of education and the labour market: how the link functions now and how it should in the future.
2. Teaching methods for teachers at all educational levels: analysis of best practice in Europe and applicability to Croatia.
3. Building a system of permanent education for teachers.
4. A comparative review of financing systems in education.
5. Analysis and evaluation of curricula and advances in this field.

Annex 1

Structure of the Croatian education system



Annex 2

Statistical data for background purposes of OECD review

(December 2000)

University of Ljubljana
Faculty of Education



CENTRE FOR EDUCATIONAL
POLICY STUDIES

Support to OECD Thematic Reviews
of Educational Policy in South Eastern Europe

Sponsored by the European Training Foundation, Torino

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1. *General data*

Source: Central Bureau of Statistics (CBS)

1.1 GDP: market prices (current) mln USD 20,166.3

Note: Data for 1999 are estimated.

1.2 Total population: 4,554,000

Note: 1999-mid-year estimate

1.2.1 Birth rate trends: 9.9 (per 1 000 inhabitants in 1999)

1.2.2 Population by age 0-6, 7-15, 16-19, 20-23 years (n° and %):

Age group	n°	%
0-4	270,000	5.9
5-9	309,000	6.8
10-14	321,000	7.1
15-19	311,000	6.8
20-24	309,000	6.8
0-24	1,520,000	33.4
Total	4,554,000	100

Note: 1999-mid-year estimate

1.3 Population by ethnic groups (n° and %):

Ethnic group	n°	%
Croats	3,736,356	78.1
Serbs	581,663	12.2
Muslims	43,469	0.9
Slovenians	22,376	0.5
Hungarians	22,355	0.5
Italians	21,303	0.4
Other	356,743	7.4
Total	4,784,265	100

Note: 1991 Census

1.4 Population of working age 15-64 (n° and %): 3,091,000 (67.9%)

Note: 1999-mid-year estimate

1.4.1 A - Employed by sections of economy (n°): Labor Force Survey:

A.	Section	1999/II	%
	Agriculture, hunting and forestry	243,233	16.5
	Fishing	3,343	0.2
	Mining and quarrying	7,152	0.5
	Manufacturing	320,495	21.7
	Electricity, gas and water supply	25,098	1.7
	Construction	97,431	6.6

Section	1999/II	%
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	198,478	13.5
Hotels and restaurants	76,226	5.2
Transport, storage and communication	97,281	6.6
Financial intermediation	35,244	2.4
Real estate, renting and business activities	55,453	3.8
Public administration and defence; compulsory social security	104,953	7.1
Education	80,074	5.4
Health and social work	84,962	5.8
Other community, social and personal service activities	45,661	3.1
Private household with employed persons	-	
Extra-territorial organisations and bodies	-	
Total	1,475,084	100

Note: Table 1.4.1 A gives a picture of Croatian employment breakdown by economic activities according to the Labour Force Survey carried out in the second half-year of 1999. Data on persons in employment in the last two sections are based on sample which is too small to allow us publishing of those data.

1.4.1 B, C - Employed by sections of economy (n°) - administrative sources

B.

Section (ISIC Rev.2)	1995	%
1. Agriculture, hunting, forestry and fishing	47,326	3.9
2. Mining and quarrying	7,106	0.6
3. Manufacturing	306,928	25.5
4. Electricity, gas and water	26,325	2.2
5. Construction	63,191	5.2
6. Wholesale and retail trade; Restaurants and hotels	174,142	14.4
7. Transport, Storage and communication	96,121	8.0
8. Financing, insurance, real estate and business services	55,579	4.6
9. Community, social and personal services	251,002	20.8
10. Activities not adequately defined	178,198	14.8
Total	1,205,918	100

C.

Section (NCEA)	1999	%
A. Agriculture, hunting and forestry	32,534	2.6
B. Fishing	3,573	0.3
C. Mining and quarrying	8,404	0.7
D. Manufacturing	296,283	23.4

Section (NCEA)	1999	%
E. Electricity, gas and water supply	27,092	2.1
F. Construction	95,641	7.6
G. Wholesale and retail trade; repair of motor vehicles; personal and household goods	198,006	15.7
H. Hotels, restaurants	72,980	5.8
I. Transport, storage and communication	96,303	7.6
J. Financial intermediation	29,156	2.3
K. Real estate, renting, business activities	64,219	5.1
L. Public administration and defence; compuls. social security*	123,742	9.8
M. Education	80,188	6.3
N. Health and social work	82,065	6.5
O. Other community, social and personal activities	40,702	3.2
P. Private households with employed persons	7,973	0.6
Q. Extra territorial organisations and bodies	1,038	0.1
R. Not classified by activity	3,610	0.3
Total	1,263,509	100

Note: a) Data includes estimated number of employees in the police and defence.

b) Data are shown in the separate tables due to till 1996 data were surveyed according to the Uniform Classification of Economic Activities which is not internationally comparable. Data for 1995 are given according to the ISIC Rev.2 because this was the only way for data to be internationally comparable.

1.4.2 Employed by educational attainment (in n° and %):

ISCED 1997	1999/II (LFS)					Total
	5	4	3	2	1	
n°	282,211	-	820,610	270,542	92,577	1,478,905
%	19.1	-	55.5	18.3	6.3	100

1.5 Registered unemployment and unemployment by Labour Force Survey:

Unemployment by LFS: 251,134

The given data are results of the continuing Labour Force Survey which was carried in the second half of 1999.

1.5.1 Average number of unemployed persons by educational attainment (in n°) – (1999)

University degree	12,327	4%
Non-university college degree	9,837	3%
Secondary school education	75,802	23%
Highly skilled workers, skilled workers	111,748	35%
Semi and lower skilled workers	45,187	14%
Not qualified workers	66,965	21%
Total	321,866	100%

Source: Croatian Employment Service

1.5.2 Unemployed by gender and age (in n° and %):

Total		15-19	20-24	25-29	30-34	35-44	45-54	55-60	60+	
All	n°	251,134	36,904	58,450	40,108	23,428	47,862	35,762	((5,230))	((3,388))
	%	100%	15%	23%	16%	9%	19%	14%		
Males	n°	124,868	16,966	28,850	19,419	11,523	22,613	19,015	((4,170))	-
	%	100%	14%	23%	16%	9%	18%	15%		
Females	n°	126,266	19,938	29,600	20,698	11,905	25,249	16,748	-	-
	%	100%	16%	23%	16%	9%	20%	13%		

Note: The given data are results of the continuing Labour Force Survey which was carried out in the second half of 1999.

1.5.3 Unemployed by duration of unemployment (in n° and %): LFS 1999/II

	n°	%
Under 7 months	71,856	28.6
7-12 months	46,209	18.4
13-24 months	46,794	18.6
25 +	79,353	31.6
Total	251,134	100

1.5.4 Unemployment rate of graduates (leavers from the school system) and persons without formal education:

ISCED levels	Total	5	4	3	2	1	no formal education	
Total	%	14.5	8.8	-	17.6	13.4	((5.6))	-
Males	%	13.5	8.0	-	15.4	14.4	((5.8))	-
Females	%	15.7	9.6	-	20.3	12.4	((5.4))	-

Note: The given data are results of the continuing Labour Force Survey which was carried in the second half of 1999.

1.5.5 Participation of unemployed graduates (school leavers) and persons without formal education in active labour market measures (in n° and %):

ISCED levels	Total	5	4	3	2	1	no educ.
Total n°	251,134	27,226	-	175,257	41,984	((5,513))	-
%	100	11		70	17	((2))	
Male n°	124,868	12,721	-	85,756	22,624	((2,903))	-
%	100	10		69	19	((2))	
Females n°	126,266	14,506	-	89,142	19,360	((2,601))	-
%	100	11		71	16	((2))	

Note: The given data are results of the continuing Labour Force Survey, which was carried in the second half of 1999.

1.6 Types and n° of state-recognised occupations for which regular training in institutions of education and training is provided:

All in all there are 455 occupations:

machine and ship building - 86 occupations, metallurgy - 13, electrotechnics - 25, geology and mining - 12, economy and commerce - 11, catering and tourism -16, agriculture - 16, food industry - 16, veterinary medicine - 1, forestry and wood production - 22, construction - 34, transport - 29, chemical technology - 10, graphics - 22, textile - 23, leather dressing - 16, health care services - 9, personal and other services - 26, optics - 5, internal affairs and security - 7, arts - 40, gymnasiums - 6.

Source: Ministry of Education and Sport

2. Participation in education

Source: Central Bureau of Statistics (CBS)

2.1 Structure of the education system and classification of educational programmes by stages and levels according to ISCED:

pre-school education – not compulsory – age 3-6(7)	ISCED '97=0
basic education – compulsory – consists of:	
primary – 4 years – age 6(7)-10(11)	ISCED'97=1
lower secondary 4 years – age 10(11)-14(15)	ISCED'97=2
(upper) secondary education – 2,3 and 4 years – age 14(15)-18(19)	ISCED'97=3
tertiary education – 4, 5 and 6 years – age up 18	ISCED'97=5

See annex (Education System of Croatia)

2.2 Years of compulsory schooling: 8

2.2.1 Average n° of years of schooling: n.a.

Note: Central Bureau of Statistics do not collect this data.

2.2.2 Participation in education and training (primary, secondary - general and VET, tertiary) by gender (n° and %):

1999/2000	n° of all students	%	females in n°	females in %
Basic education	413,468	58.5	200,928	48.6
Upper sec. ed. - gen. and VET	196,023	27.8	98,501	50.2
Tertiary educ.	96,798	13.7	51,021	52.7
Total	706,289	100	350,450	49.6

2.2.2.1 Basic Education

School year	N° of schools		N° pupils		
	State	Private	Total	lower grade*	higher grade*
1999/2000	2,137	6	2,144	199,084	214,384
1995/1996	1,989	1	1,990	207,890	216,481

Note:* I-IV, V-VIII

2.2.2.2 Upper Secondary Education

School year	N° of schools		N° students		
	State	Private	Total	General ed.	VET
1999/2000	601	26	627	49,624	146,399
1995/1996	519	4	523	49,304	151,690

2.2.2.3 Tertiary Education

Academic year	N° of institutions		N° of students		
	University study	Professional study	Total	Full time	Part time
1999/2000	73,703	26,095	96,798	77,690	19,108
1995/1996	63,626	20,582	84,208	73,315	10,893

2.2.3 Participation of ethnic groups in basic, upper secondary - general and VET and tertiary education (n° and %):

Schools on languages of ethnic groups and minorities	Primary ed. includes "basic education" = ISCED level 1 and 2		Secondary ed. includes upper secondary = ISCED 3		Tertiary ed.	
	n°	%	n°	%	n°	%
Italian	2,195	0.53	818	0.42	-	-
Serb	3,952	0.96	1,922	0.98		
Hungarian	298	0.08	52	0.03		
Czech	412	0.1				
Slovak	15	0.01				
Total	6,872	1.66	2,792	1.42	-	-

Note: CBS collects only data about schools on languages of ethnic groups and minorities.

2.2.4 Attainment levels (% of population with ISCED levels 1 - 5 qualifications, now and 5-10 years ago):

ISCED lev.	1	2	3	4	5
1991	21.24	23.37	35.97	...	9.34
1999	n.a.	n.a.	n.a.	...	n.a.

Note: 1991 Census - population over 15 years of age (8.55% - no formal education; 1.53% - unknown education); other data not available.

2.2.5 School leavers, graduates (now and 5-10 years ago):

ISCED levels	1	2	3	4	5
1995	207,258	218,435	45,088	-	9,298
1996	205,989	212,809	48,498	-	11,311
1997	202,634	210,223	51,005	-	11,460
1998	203,931	213,871	51,165	-	13,286
1999	201,594	215,214	50,928	-	13,315

2.2.6 Drop-outs from basic, upper secondary - for both general and VET - and tertiary education (n° and %; add the explanation of methodology):

CBS do not collect this data.

3. Enrolment patterns and the numbers of institutions

Source: Central Bureau of Statistics (CBS)

3.1 Pre-primary education

3.1.1 Enrolments (absolute n° and as a % of the age cohort):

school year	enrolment in n° of children	age cohort – absolute n°	enroled as % of the age cohort
1999/2000	84,526	242,000	34.9

Definition: age cohort: 3 - 7 years old children

3.1.2 Trends in enrolments over the past ten years (in n°):

1990/91	85,468
1991/92	60,214
1992/93	63,896
1993/94	70,280
1994/95	75,466
1995/96	76,695
1996/97	79,489
1997/98	82,894
1998/99	81,288
1999/00	84,526

3.1.3 Number of state/public kindergartens (school year 1999/2000): 910

3.1.3.1 Number of private kindergartens: 124

3.1.4 Number of qualified and unqualified or under-qualified educators:

Qualified	5,046
Underqualified	1,326
Unqualified	...
Total	6,372

3.1.5 Children – educator ratio: 14

3.2 Basic education

3.2.1 Enrolments (absolute n° and as a % of the age cohort):

school year	enrolment in n° of pupils	age cohort - absolute n°	pupils as % of the age cohort
1999/2000	413,468	507,200	81.5

Definition: age cohort: 7 - 15 years old children

Note: Proportion of the age cohort is made on direct calculation. In fact, according to MoES this proportion is about 98%.

3.2.2 Trends in enrolments over the past ten years:

1990/91	501,168
1991/92	411,273
1992/93	439,458
1993/94	444,478
1994/95	434,418
1995/96	424,371
1996/97	416,990
1997/98	423,183
1998/99	418,971
1999/00	413,468

3.2.3 Number of state/public schools (school year 1999/2000) 2,137

Note: Educational units included.

3.2.3.1 Number of private schools: 6

3.2.3.2 Number of schools by size:

up to 50 pupils	1,045
51-100 pupils	251
101-300 pupils	349
Over 300 pup.	498

3.2.4 Number of qualified and unqualified or under-qualified teachers:

Qualified	n.a.
Underqualif.	n.a.
Unqualified	n.a.
Total	26,820

Note: According to the Law on basic and secondary education and legal requirements on qualifications, all teachers in formal education (in approved programmes) must be qualified, which they are. (Note by Ministry of Education and Sport).

3.2.5 Pupil – teacher ratio: 15.42

3.3 Upper secondary education

3.3.1 Enrolments (absolute n° and as a % of the age cohort):

school year 1999/2000	enrolment in n° of students	age cohort – absolute n°	students as % of the age cohort
General education	49,624	311,000	16.0
VET	146,399	311,000	47.1
Total	196,023	311,000	63.0

Definition: age cohort = 15 - 19 years old

3.3.2 Trends in enrolments over the past ten years:

school year	general education	VET	total
1990/91	-	215,389	215,389
1991/92	23,052	160,806	183,858
1992/93	36,070	155,842	191,912
1993/94	48,022	160,007	208,029
1994/95	49,300	149,008	198,308
1995/96	49,304	151,690	200,994
1996/97	49,286	154,486	203,772
1997/98	49,071	150,792	199,863
1998/99	49,291	151,125	200,416
1999/00	49,624	146,399	196,023

3.3.3 Number of state/public schools (school year 1999/2000):

Total	Gen. Ed.	VET
601	125	476

Note: Educational units included.

3.3.3.1 Number of private schools:

Total	Gen. Ed.	VET
26	18	8

Note: Confessional grammar schools included.

3.3.4 Number of qualified and unqualified or under-qualified teachers:

Status	Gen. Ed.	VET
Qualified	n.a.	n.a.
Underqualif.	n.a.	n.a.
Unqualified	n.a.	n.a.
Total	4,205	14,231

Note: According to the Law on basic and secondary education and legal requirements on qualifications, all teachers in formal education (in approved programmes) must be qualified, which they are (Note by Ministry of Education and Sport).

3.3.5 Student – teacher ratio:

Total	Gen. Ed.	VET
10.6	11.8	10.3

3.4 Tertiary education (university, non-university education)**3.4.1 Enrolments (absolute n° and as a % of the age cohort):**

academic year 1999/2000	enrolment in n° of students	age cohort – absolute n°	students as % of the age cohort
University	70,703	309,000	22.9
Non-university	26,095	309,000	8.4
Total	96,798	309,000	31.3

Definition: age cohort: 20 - 24 years old

3.4.2 Trends in enrolments over the past ten years (full-time students, all students):

academic year	university (full-time)	university (all)	non-uni (full-time)	non-uni (all)	total (full-time)	total (all)
1990/91	49,555	54,595	12,588	16,832	62,143	71,427
1991/92	50,517	54,260	12,987	15,617	63,504	69,877
1992/93	55,906	60,241	14,416	17,448	70,322	77,689
1993/94	58,037	63,470	14,641	18,891	72,678	82,361
1994/95	60,717	63,967	14,785	18,284	75,502	82,251
1995/96	61,120	65,775	14,165	20,582	75,285	86,357
1996/97	61,483	66,504	13,636	19,248	75,119	85,752
1997/98	60,485	66,242	13,979	23,779	74,464	90,021
1998/99	60,819	68,512	14,381	23,362	75,200	91,874
1999/00	60,993	70,703	16,697	26,095	77,690	96,798

3.4.3 Number of state/public institutions (universities, non-university institutions) - (academic year 1999/2000):

Total	uni	non-uni
20	4	16
(80)	(64)	(16)

Note: number of universities or non-university institutions (academic year 1999/2000) and number of university faculties/academies/schools in brackets.

3.4.3.1 Number of private institutions (universities, non-university):

Total	uni	non-uni
5		4
(5)	(1)	(4)

Note: Confessional faculties included.

3.4.4 Number of qualified and unqualified or under-qualified teachers:

Status	uni	non-uni
Qualified	n.a.	n.a.
Underqualif.	n.a.	n.a.
Unqualified	n.a.	n.a.
Total	5,871	1,692

Source of note :CBS

3.4.5 Student – teacher ratio:

	uni	non-uni
state/public	12.1	16.1
private	3.3	7.2
Total	12.0	15.4

3.5 Adult education

3.5.1 Enrolment of adults in formal education in last 5 years (in n°):

school year	primary education Refers to basic education = ISCED 1+2 for adults	secondary general Refers to upper secondary education = ISCED 3 (adults)	vocational education and training (adults)
1995/96	700	-	2,999
1996/97	519	-	2,844
1997/98	702	-	3,896
1998/99	686	-	3,512
1999/2000	678	-	2,642

Note: Primary education refers to basic education, ISCED 1+2; secondary general refers to upper secondary education, ISCED 3.

3.5.2 Enrolments of adults into non-formal education (languages, informatics, new skills etc.) in last 5 years (in n°):

school year	enrolment
1995/1996	n.a.
1999/2000	n.a.

Note: The Ministry of Education and Sports is not responsible for non-formal education of adults and the enrolment of adults into informal education is not followed. Each enterprise, which is registered for some kind of education, could provide informal education, but this data are not centrally collected. Therefore, no data is available. (Note by Ministry of Education and Sport.)

3.5.3 Number of institutions for adult education in last 5 years:

school year	total	state/public	private
1995/1996	104	104	-
1996/1997	88	88	-
1997/1998	100	99	1
1998/1999	64	63	1
1999/2000	62	60	2

3.5.4 Number (or %) of qualified and unqualified or under-qualified teachers in formal adult education:

	primary educ.	secondary gen. educ.	VET
Qualified			
Underqualified			
Unqualified			
Total	61	-	662 ?

Note: According to the Law regulations on secondary education and legal requirements on qualifications, all teachers in formal adult education (in approved programmes) must be qualified, which they are. (Note by Ministry of Education and Sport.)

3.5.5 Student – teacher ratio in formal adult education: 5.0

Note: In formal adult education programmes all teachers must have adult education knowledge and training. During the education process, students act as active subjects while the teacher is their guide through the programme. Teachers are required to respect every individual, as well as his life experience and formerly acquired knowledge.

4. Curriculum

Source: Ministry of Education and Sport

4.1 Adoption and implementation of the new curriculum (if any in last 5 years) in**4.1.1 Basic education:****4.1.1.1 New common core framework in primary education curricula 1993/94;****4.1.1.2 Common core primary education curricula revised by Amendments in 1995 and in several other occasions in the period between 1995 and 1998;**

4.1.1.3 Primary school new teaching plans and programmes, June 1999.

4.1.2 General secondary education:

4.1.2.1 Gymnasia Teaching Plans (1994).

4.1.3 VET secondary education:

4.1.3.1 Teaching plans of secondary vocational schools (Croatian language, History and Ethics in secondary schools), 1995;

4.1.3.2 General subjects common core framework of secondary vocational schools, 1997;

4.1.3.3 Teaching plans and core programmes for most vocational professions 1996, 1997 and 1998;

4.1.3.4 Dual system programmes (vocational, theoretical and practical components), 1996 & 1998;

4.1.3.5 Common core general contents area in dual system (1997).

4.2 Coverage and effective dissemination of the new curriculum (in % of pupils or students) in

4.2.1 Basic education:

- 1999 data show the total number of 411,669 enrolled pupils (from grade 1 to grade 8) exposed to new curriculum teaching.

4.2.2 General secondary education:

- 1999/2000 data show a total number of 49,061 enrolled students in all types of gymnasia, plus International Baccalaureate what represents 25.85% of total secondary school population exposed to the 1994 teaching curricula (plans and programmes).

4.2.3 VET secondary education:

- 1998/99 enrolment for both four year technical and three year vocational schools shows the figure of 58,069 students;
- 1999/2000 enrolment for both four year technical and three year vocational schools shows the figure of 55,094 students.
- Dual system in 1999/2000 has recorded 3,496 students in 35 different crafts and trades respect to 4,993 students in 1998/99.

4.3 Teachers trained in the new curriculum, evaluation and testing skills in

There are no statistical figures for particular levels or types of educational institutions included in in-service teacher training. Teacher training, to mention only two last years, 1998 and 1999, has included more than 35,000 participants out of educators in pre-school institutions (10,492), teachers in primary (20,782) and secondary institutions (15,753) and other teaching and non teaching staff-administrators, principals, etc. who have mostly discussed curricula issues and students evaluation and assessments.

In 1998, seven hundred (700) different conferences, meetings, seminars and workshops were organised at local, cross regional and state level.

In 1999, eight hundred (800) different meetings were organised for 37 different content areas.

All in-service teaching programmes, organised by the Ministry of Education and Sports are recorded in the "Directory of Permanent and Professional Training Programmes for Teachers" which is being updated yearly.

Participation in the in-service seminars is scored for teachers' promotion which has led to a number of 1,150 promoted teachers at all education levels and different professional structures. There are difficulties in organising VET teacher training seminars due to a great number of professions, lack of appropriate human resources and lack of pedagogical standards in the field.

4.4 Availability and use (in %) of new instructional materials in

4.4.1 Basic education:

All subject areas in basic education are 100% covered with new instructional materials to be selected by the teacher from multiple offer on the market.

4.4.2 General secondary education:

All subject areas are 100% covered with instructional materials with partial possibilities of selection in some contents.

4.4.3 VET secondary education:

All general content areas are 100% covered with instructional materials to be selected by the teacher.

Not all vocational content areas are covered with appropriate textbooks. From 28 vocational areas with numerous professions represented in the system the number of existing and approved textbooks is 220 while 593 different curricula subjects are not covered by appropriate instructional materials.

5. Administration in primary and secondary education

Source: Ministry of Education

5.1 Required qualifications (education, special training) and experience (type of experience, experience in years) of school administrators (a – at school level, b – regional level, c – national level):

School administrators include: secretaries, accountants and administrative treasurers. The same qualifications are required at school level, regional level and national level.

Primary schools

	High school degree	2 years of college degree	University degree – 4 years
Secretary	230	441	223
Accountant	51	144	591
Admin treasurer	162	-	-

Secondary schools

	High school degree	2 years of college degree	University degree – 4 years
Secretary	12	124	203
Accountant	200	99	68
Admin treasurer	442	-	-

5.1.1 Number (or %) of qualified administrators:

2,624 vs. 366 = 86%

5.2 Required qualifications (education, special training) and experience (type of experience, experience in years) of school heads (a – pre-school education, b – basic education, c – secondary general education, d – VET):

All school heads are required to have at least 2-year college degree and 10 years of working experience for primary schools, (out of 899 persons only 7 do not have those qualifications).

In secondary schools, all school heads must have a university degree – 4 years and 10 years of working experience (100% of school heads have the appropriate qualifications).

5.2.1 Number (and/or %) of qualified school heads (a – pre-school education, b – basic education, c – secondary general education, d – VET):

See answer to 5.2. b) 99.99% c) and d) 100%.

5.3 Any special training (seminars, workshops etc.; compulsory or optional) in place for school heads (a – pre-school education, b – basic education, c – secondary general education, d – VET):

Ministry of Education and Sport creates for all school heads a special programme of seminars with different themes. A school head is obligated to participate in 4 to 5 seminars in different themes each school year during a cycle of 4 or 5 years.

Seminars are organised during school holidays or weekends.

6. Facilities and equipment

6.1 N° and % of well maintained school buildings (data required for basic and secondary – general and vocational – education):

Basic education:	2,190 school buildings (930 central + 1,260 branch schools); 30% well maintained
Secondary education:	391 secondary schools in 364 buildings; 25% well maintained

Source: Ministry of Education and Sport

6.2 N° and % of schools with laboratory and other special-use facilities and equipment (data required for basic education as well as secondary general and specifically for vocational education and training):

Basic education:	20%
Secondary education:	40%

Source: Ministry of Education and Sport

6.3 N° and % of schools with updated laboratory and other special-use facilities and equipment (data required for basic education as well as secondary general and specifically for vocational education and training):

Basic education:	20%
Secondary education:	40%

Source: Ministry of Education and Sport

6.4 N° and % of higher education institutions with updated laboratory and other special-use facilities and equipment:

Tertiary education:	80% (estimation)
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Source: Ministry of Science and Technology

7. Cost and financing

7.1 Government expenditure on education and training in absolute terms as a total and broken down by level and type of education (in USD):

Specify	Total		pre-school education	basic education	upper second. ed. - general and VET	tertiary education
salaries	CBS 690,459,468	% 89.6	CBS 90,762,952	MoES 312,754,624	MoES 157,830,520	MST 129,111,372
investments	CBS 80,009,412	10.4				
of which:						
1. buildings and similar	CBS 62,627,320	8.2	MoES 229,093	MoES 27,730,268	MoES 7,481,467	MST 12,446,580
2. school equipment	CBS 16,778,431	2.2	n.a.	MoES 3,836,254	MoES 1,305,775	MST 261,521
3. others	CBS 603,660	0.0				
Total	CBS 770,468,880	% 100	n.a.	MoES 344,321,146	MoES 166,617,762	MST 141,819,473

Source: Central Bureau of Statistics (CBS); Ministry of Education and Sport (MoES) and Ministry of Science and Technology (MST)

Notes: **a)** Data are compiled from different sources. MoES and MZT provided partial data, which refer to corresponding national budget items, while CBS provided total sum (including local administration sources and similar). The difference between data from CBS (total) and this from Ministries is the money from other sources (like local administration and similar).

b) Investments – total: Data refer to investments for education as a category of NKD (National Classification of Industry). Source: Central Bureau of Statistics.

c) Investments into buildings and similar: Investments by local administration included. Source: Central Bureau of Statistics.

d) Allowances (estimated) for student residence halls and food in 1999: 22,437,780 US\$. Source: Central Bureau of Statistics.

e) Scholarship/grants: It is estimated that an overall sum for 1999 comes to 21,640,204 US\$. Major part is given by enterprises (10,437,324 US\$), than from state budget (7,978,310), non-profit organizations (2,880,725 US\$), banks (296,224 US\$) and insurance companies (47,621 US\$). Source: Central Bureau of Statistics.

f) Non-budget income of universities and other higher education institutions in 1999: 58,539,824 US\$. Source: Central Bureau of Statistics.

g) 1 US\$ = 7,64 7564 HRK end of period 31.12.1999.

7.2 Amount of financing from other sources, incl. families, individuals, employers, NGOs, etc.:

N.a. – See 7.3.

7.3 Major grants or loans from international donors - amount by donors, area of allocation (in last 5 years) :

In the last five years scientific research institutes and higher education institutions received donations consisting of direct payments, research equipment, supplies, teaching aid, books, chemicals, video materials, etc.

Since all the above mentioned institutions enjoy academic autonomy, majority of donations were forwarded directly to the institutions, so the Ministry of Science and Technology has no complete data for donations in the area of its jurisdiction (higher education and scholarly research). Therefore, submitting of complete data would involve conducting a survey at higher education institutions and research institutes.

The majority of donations consist of research equipment (mostly used equipment). Major donors are UNESCO (all fields), SABRE Foundation (books, CDs - all fields), Max-Planck-Institut (natural sciences), Alexander Von Humboldt Foundation (natural sciences and biomedical sciences), Institut für Kristallographie (natural sciences).

The largest donation from an individual was awarded to the Medical School of the University of Osijek and consisted of research equipment worth 141,176.00 USD (included in the table for the year 2000).

Here are some examples of donations not included into the attached lists:

A) SABRE Foundation Inc. USA (through SABRE Zagreb) donated books and CD with the total value per year as follows:

■ 1998 - 2,019,617.00 USD

■ 1999 - 1, 538,191.00 USD

■ 2000 - 960,668.00 USD

B) Governments of countries that have signed agreements with the Government of the Republic of Croatia for cooperation in the area of science and/or higher education often donate PCs and

books e.g. in 2000, through the Chinese Embassy in Zagreb, the Government of the People's Republic of China donated as follows:

- 25 PCs;
- 13 printers to the amount of 40,000 DEM, as well as books, CDs and video cassettes related to Chinese language, literature and art history.

1998
DATA ON EQUIPMENT
DONATED TO SCIENTIFIC RESEARCH INSTITUTIONS
DISTRIBUTED BY SCIENTIFIC FIELDS, AMOUNT, AND DONORS

Natural Sciences:

Donor	AMOUNT
Alexander von Humboldt Foundation	52,908.00 USD
Ruhr Universitat, Bochum, Germany	17,600.00 USD
IAEA	27,506.00 USD
Other donors	7,900.00 USD
TOTAL:	105,914.00 USD

Biomedicine:

Donor	AMOUNT
University of Georgia	2,234.00 USD
Yale University	1,250.00 USD
ENCO Engineering Churag, Switzerland	13,240.00 USD
Allphamed Pharbil Arzneimittel, Germany	5,035.00 USD
Other donors	19,884.00 USD
TOTAL:	41,643.00 USD

Social Sciences:

Donor	AMOUNT
American College for Management and Technology, Dubrovnik	17,700.00 USD
Other donors	2,204.00 USD
TOTAL:	19,904.00 USD

TOTAL 1998:	167,461.00 USD
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1999
DATA ON EQUIPMENT
DONATED TO SCIENTIFIC RESEARCH INSTITUTIONS
DISTRIBUTED BY SCIENTIFIC FIELDS, AMOUNT, AND DONORS

Natural Sciences:

Donor	AMOUNT
Alexander von Humboldt Foundation - total	24,002.00 USD
World Meteorological Organization (FRF 100.000,00)	13,978.00 USD
University of Georgia, USA	8,948.00 USD
FAO Project	1,860.00 USD
CERN, NA 49 Experiment	5,850.00 USD
Institut fur Kristallographie	6,800.00 USD
German Federal Geodetic Bureau	3,000.00 USD
TOTAL:	64,438.00 USD

Biomedicine:

Donor	AMOUNT
University of Georgia, USA	16,900.00 USD
Cooperazione Italiana	24,677.00 USD
Massachusetts General Hospital - Harvard	13,024.00 USD
Other donors	4,770.00 USD
TOTAL:	59,371.00 USD

Social Sciences:

Donor	AMOUNT
Prof. Serge Matulich, USA (Denton program)	24,830.00 USD
Other donors	9,000.00 USD
Donation of the International Bank for reconstruction and Development for the Project of Solving the Year 2000 Problem	80,000.00 USD
TOTAL:	113,830.00 USD

TOTAL 1999:	237,639.00 USD
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2000
DATA ON EQUIPMENT
DONATED TO SCIENTIFIC RESEARCH INSTITUTIONS
DISTRIBUTED BY SCIENTIFIC FIELDS, AMOUNT, AND DONORS

Natural Sciences:

Donor	AMOUNT
Alexander von Humboldt Foundation - total	40,883.00 USD
MAX-PLANCK INSTITUT	5,563.00 USD
IAEA	159,000.00 USD
DAAD	18,200.00 USD
Institut Forschungszentrum Julich	2,353.00 USD
Institut für Kristallographie	15,386.00 USD
Other	29,177.00 USD
TOTAL:	270,562.00 USD

Biomedicine:

Donor:	AMOUNT
The Wellcome Trust, Great Britain	16,881.00 USD
Dr. Domagoj Saboloviæ, France	141,176.00 USD
Massachusetts General Hospital - Harvard	13,024.00 USD
Chamber of Croatian Medical Doctors in Switzerland -AMAC CH	3,230.00 USD
Friedrich Miescher Institut, Switzerland	7,450.00 USD
Other	2,827.00 USD
TOTAL:	184,588.00 USD

Social Sciences:

Donor	AMOUNT
Alexander Von Humboldt Foundation	16,061.00 USD
Other donors	10,804.00 USD
SABRE Foundation (books-all fields)	5,000.00 USD
TOTAL:	31,865.00 USD

TOTAL 2000:	487,015.00 USD
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Source: Data of the Ministry of Science and Technology of the Republic of Croatia