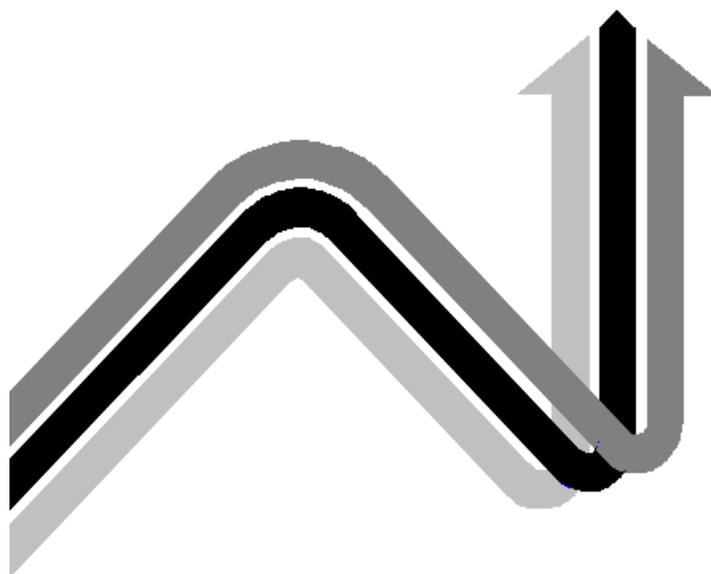


THEMATIC REVIEW OF THE TRANSITION FROM INITIAL EDUCATION TO WORKING LIFE



SWITZERLAND

COUNTRY NOTE

NOVEMBER 1999

The Ministers for the Economy and the Interior of Switzerland and the Swiss Conference of Cantonal Directors of Education have granted the OECD permission to include this document on the OECD Internet Home Page. The views expressed are those of its authors and do not necessarily reflect those of the Ministers for the Economy and the Interior of Switzerland, the Swiss Conference of Cantonal Directors of Education, the OECD or its Member governments. The copyright conditions governing access to information on the OECD Home Page are provided at: <http://www.oecd.org/copyr.htm>

OCDE



OECD

TABLE OF CONTENTS

1. INTRODUCTION	3
Objectives and organisation of the comparative country reviews	3
The participation of Switzerland	3
The plan of the report	4
2. THE CONTEXT OF THE REVIEW	4
International comparisons	5
The economic context.....	15
The demographic context	17
The institutional framework: Shared jurisdiction and financing of the education system	18
3. TRANSITIONS FROM INITIAL EDUCATION TO WORKING LIFE: THE EXTENT AND NATURE OF A “SWISS PROBLEM”	20
A labour market largely organised on the basis of qualifications	20
The initial education and training system for producing the necessary qualifications	22
4. THE RANGE OF TRANSITIONS IN THE SWISS EDUCATION SYSTEM	23
Education pathways.....	24
Education and work during the transition period	24
The entry into lower secondary school: highly segmented streaming at a very early age	26
Upper secondary school: the time for decisive choices.....	28
Tertiary education: another area for reform	41
The impact of Europe	45
5. TRANSITION FROM THE LABOUR MARKET STANDPOINT	45
Combating youth unemployment	45
The challenges of tertiarisation	48
6. CONCLUSIONS AND SUMMARY OF SUGGESTIONS	50
REFERENCES.....	54
ANNEXES	56
Annex 1 -- Members of the OECD Review Team	57
Annex 2 -- Members of the Swiss Steering Group and authors of the Background Report.....	58

1. INTRODUCTION

Objectives and organisation of the comparative country reviews

As part of the OECD's follow-up to the "Jobs Study" and to other preceding work¹, the Education Committee launched in 1996 a series of country reviews focusing on institutional frameworks and policies affecting young people's transition from initial education and training to employment. The target group of these reviews is young people in the age span from about fifteen to thirty, that is from just before the end of compulsory education to the age where the predominant activity of the large majority of the age group is in the labour market rather than in education. These reviews are to examine both education and labour market institutions and policies, and, in particular, the interaction between both as it affects young people.

Altogether fourteen countries are participating in this review. In 1997, visits were made to six countries: Australia, Austria, Canada, the Czech Republic, Norway and Portugal. Denmark, Finland, Hungary, Japan, the United Kingdom, the United States, Sweden and Switzerland were visited in 1998 and 1999. Each visit lasted approximately ten days and was undertaken by a team of four reviewers, coming from different countries and from different administrative, research and policy making backgrounds. Within countries, the visits were co-ordinated by the education ministries, in co-operation with other ministries concerned. Each country prepared a Background Report according to guidelines agreed by country representatives and the OECD Secretariat.

The visits enabled the reviewers to deepen and analyse the information contained in the country background reports on the basis of discussions with representatives of administrations, employers, trade unions and educators. Site visits and meetings with young people in schools and enterprises provided further opportunities for improved understanding of the main transition problems and interesting responses to these in each country. After each visit, the review team prepared a Country Note synthesising the team's observations on the main transition problems and the measures taken to solve them. On the basis of the first series of six country visits, a comparative review was prepared for the autumn 1998 meeting of the Education Committee. The final Comparative Report, which will incorporate information on the 14 countries participating in the thematic review, will be presented to the Education Committee in November 1999.

The participation of Switzerland

The visit to Switzerland took place from 11 to 20 January 1999. The members of the Steering Group in charge of preparing the visit, the authors of the Background Report and the members of the review team can be found in Annexes 1 and 2 of this document. At this time we would like to express our deep appreciation to the Steering Group, the authors of the Background Report and all those who helped us during the visit to understand the distinctive characteristics of the transition of young people to working life in Switzerland and the reasons for its success.

The visit took us to seven cantons in the three main linguistic regions: German- and French-speaking Switzerland and the canton of Ticino (Italian-speaking). This brought home to us the complexity and multicultural nature of Switzerland and enabled us to gain some idea of its distinctive mixture of multiple levels of decision-making within a united institutional framework for education and the labour market. This means that there are major regional differences in the conditions and outcomes of young people's transition to working life within a generally shared regulatory system.

Switzerland stands out for the success of the transition of its young people to working life, as is demonstrated by the fact that it has the lowest unemployment rate and the highest employment rate for

young people of OECD countries². What is even more impressive is the seriousness with which it is now studying the need for innovation and openness in the current education and labour market institutions and pathways. Switzerland's participation in the thematic review of *The Transition from Initial Education to Working Life* is part of a broad-based process of analysis, innovation and reform pursued throughout the 1990s at all levels of the education and training system and in the institutions and programmes regulating the labour market. The Reviewers' Report seeks to shed light both on the factors that explain the success of the transition in Switzerland and the underlying tensions and contradictions that inevitably go along with an innovation project of this magnitude in such a complex society.

Switzerland's exceptional performance in enabling young people to enter into working life is largely due to the supply of high-quality education and qualifications, enterprises' commitment to training and the serious shortage of skilled labour. The challenges facing Switzerland include the economic and social integration of young foreigners, the growth of the service sector and the globalisation of the economy and the country's position vis-à-vis the European Union. The most important reforms adopted to meet these challenges include the creation of the *Hautes Ecoles Spécialisées*³ at the end of the 1990s; the university reform aimed at creating a common framework for all tertiary education; the reform of vocational education and training aimed at clarifying the responsibilities of decision-makers in supervisory bodies, communes, cantons, regions and the Confederation; and lastly the development of specific youth employment measures since 1993 due to the increase in unemployment among young people at the beginning of the 1990s and the arrival of young immigrants from the regions of the former Yugoslavia, who face special difficulties of economic and social integration.

The plan of the report

The next chapter of the report will provide some statistical data on Switzerland's position in comparison with other OECD countries with a view to providing a frame of reference and will briefly describe the economic, demographic and institutional background for the transition of young people to working life in Switzerland. Chapter 3 will examine in greater detail the interface between the education/training system and the labour market, showing how the concept of qualifications is central to the functioning of the labour market and how the "production" of skills within the initial education and training system is explicitly geared to these qualifications. The fourth chapter will describe the main pathways currently offered by this system and will discuss the changes under way or that need to be envisaged to adapt these pathways to the needs of the labour market. Chapter 5 will look at these issues from the standpoint of the labour market, and will address two major challenges that must be faced both in the short term and in the years to come, i.e. the fight to reduce unemployment and to ensure the economic and social integration of those young people particularly at risk of being marginalised, and the shift to services in the economy. Lastly, Chapter 6 will summarise the experts' conclusions.

2. THE CONTEXT OF THE REVIEW

Before we entered Switzerland to observe its transition system, we sensed that we would find more to praise than to criticise. We were well aware of the high praise rightly given by the OECD: "Switzerland's education and training system has an enviable record of success: Swiss children do well in international comparisons of scholastic achievement, there are few drop-outs from non-compulsory secondary education and the transition from education to work is smoother than in most other countries" (OECD, 1997). We therefore had to dig more deeply to see and interpret the signs of weakness or even of a crisis that the Swiss themselves seemed to have discovered when their country was in the throes of a recession, followed by the longest period of economic stagnation since the second world war.

In the context of the 1990s, when two often seemingly contradictory economic objectives are being pursued, i.e. reducing unemployment and increasing competitiveness, evaluating the transition process is

no easy matter. The OECD background documents describe and define the transition process, but they leave a certain leeway as to the criteria used to distinguish a “good” transition process from one that is less good. Yet it is obvious that youth unemployment is the main problem that led to the review of the transition in the 14 participating countries. Compared with other countries, this problem of youth unemployment is, at least on the surface, virtually non-existent in Switzerland. This being the case, we think it is important to begin by making some comparisons with the situation in other countries in order to put the transition problem into perspective.

International comparisons

Before undertaking a specific review of the transition situation in Switzerland, it is best to make some comparisons with the international situation. We have chosen eleven key indicators for comparing Switzerland with the other countries examined in the OECD Thematic Review, as well as with its neighbouring countries, within the limit of the data available.

The stagnation of the early 1990s

In Switzerland, growth started to stagnate in the early 1990s, and the country lagged far behind its partners in performance throughout the decade.

Table 1 - Rate of GDP growth (1990 \$US and 1990 exchange rates)

Rate of GDP growth (percentage)					
	1971-75	1976-80	1981-1985	1986-90	1991-97
Norway	4.6	4.8	3.1	1.7	3.9
Poland	-	-	-	-	3.4
Australia	3.9	2.9	3.2	3.2	3.0
Austria	3.9	3.3	1.4	3.2	2.8
Denmark	2.0	2.5	2.6	1.3	2.7
United States	2.4	3.2	2.4	2.8	2.6
Portugal	4.4	5.1	0.9	5.5	2.2
Spain	5.3	2.0	1.4	4.5	1.8
Canada	4.9	3.7	2.8	2.8	1.8
United Kingdom	2.1	1.8	1.9	3.3	1.7
Japan	4.5	4.4	3.4	4.6	1.7
Germany	2.2	3.3	1.5	2.9	1.6
France	3.4	3.0	1.4	3.0	1.3
Italy	2.7	4.5	1.5	3.0	1.1
Finland	4.1	2.8	2.8	3.4	0.9
Sweden	2.6	1.3	1.7	2.3	0.8
Switzerland	0.8	1.7	1.4	2.7	0.2
Czech Republic	-	-	-	-	-0.1
Hungary	-	-	-	-	-0.9

Source : National Accounts, OECD.

But Switzerland still ranked first in terms of per capita income

Despite this stagnation, Switzerland has remained the country with the highest per capita GDP.

Table 2 - Per capita GDP in 1997 (\$US) (current prices and exchange rates)

	Per capita GDP
Switzerland	35 897
Norway	34 815
Japan	33 212
Denmark	32 179
United States	29 326
Sweden	25 746
Austria	25 549
Germany	25 470
France	23 789
Finland	23 314
United Kingdom	21 740
Australia	21 202
Canada	20 064
Italy	19 913
Portugal	10 184
Czech Republic	5 050
Hungary	4 461

Source : Annual National Accounts, Vol. 1, OECD, 1998.

A country that makes education a priority

Unquestionably, Switzerland makes a considerable financial effort in the field of education. It devotes 5.5 per cent of its GDP to education, ranking just after the Scandinavian countries. And if the share of public spending devoted to education is considered, Switzerland ranks second worldwide, immediately after Norway.

Table 3 - Expenditure on education as a percentage of GDP and public expenditure on education as a percentage of total public expenditure for all levels of education combined (1995)

	Direct public expenditure	Total expenditure from public and private sources	Direct public expenditure on education + public subsidies to the private sector
	On educational institutions as a percentage of GDP		as a percentage of total public expenditure
Norway	6.8	m	16.7
Finland	6.6	6.6	12.2
Sweden	6.6	6.7	11.6
Denmark	6.5	7.1	13.1
Canada	5.8	7.0	13.6
France	5.8	6.3	11.1
Switzerland	5.5	m	14.7
Portugal	5.4	5.4	m
Austria	5.3	5.5	10.6
United States	5.0	6.7	14.4
Hungary	4.9	5.5	9.4
Czech Republic	4.8	5.7	13.1
United Kingdom	4.6	m	m
Australia	4.5	5.6	13.1
Germany	4.5	5.8	9.5
Italy	4.5	4.7	9.0
Japan	3.6	4.7	9.8

Source : OECD, Education at a Glance, 1998.

A sharp rise in unemployment, but a situation that remains enviable on the whole

Despite the fact that in 1997 the overall unemployment rate stood at its highest since the beginning of the crisis of the 1990s, the rate of youth unemployment remained the lowest of all OECD countries, even though it had doubled since 1991.

Table 4 - Unemployment rate

	15-24 age group		25-64 age group	
	1991	1997	1991	1997
Switzerland	3.18	6.00	1.54	3.91
Austria	..	6.48	..	4.13
Japan	4.46	6.64	1.75	3.03
Denmark	11.51	8.09	8.66	4.87
Czech Republic	..	8.37	..	3.97
Germany	5.42	9.99	5.65	9.82
Norway	12.84	10.90	4.73	3.04
United States	13.44	11.29	5.52	3.77
United Kingdom	13.57	13.47	7.11	5.94
Australia	17.09	15.94	7.44	6.66
Hungary	..	15.94	..	7.41
Canada	16.17	16.69	9.14	7.88
Sweden	7.94	22.48	2.44	8.83
Finland	14.95	23.30	5.13	11.17
Poland	..	24.68	..	9.56
France	19.42	28.14	7.77	10.92
Italy	30.77	33.57	6.88	9.26
Spain	29.02	37.09	12.86	17.33
Portugal	9.28	..	3.28	..

Note : Countries are ranked by the size of their youth unemployment rate in 1997.
Source : OECD File (LFSPART3 Database).

Young people are affected by economic conditions, but their situation remains comparatively good

The economic conditions of the 1990s led to a drop in employment rates, which was substantially sharper for young people than for adults. Nevertheless, the youth employment rate, which includes young people in apprenticeship programmes, remains the highest of OECD countries after Denmark.

Table 5 - Employment to Population Ratio

	15-24 age group		25-64 age	
	1991	1997	1991	1997
Denmark	64.74	68.23	77.37	77.12
Switzerland	69.31	62.95	82.31	81.34
United Kingdom	66.04	60.96	72.13	72.83
United States	57.15	58.04	74.53	77.17
Australia	56.04	56.27	68.38	69.07
Norway	50.26	55.16	77.58	82.18
Austria	..	51.26	..	67.60
Canada	56.46	50.99	71.35	72.08
Germany	57.55	46.89	69.29	66.71
Japan	43.40	45.33	76.52	76.32
Czech Republic	..	44.28	..	76.49
Sweden	60.65	39.64	85.93	77.16
Finland	48.60	37.09	76.06	69.64
Hungary	..	31.30	..	59.31
Italy	29.24	24.67	60.24	57.07
France	27.70	20.12	69.12	68.72
Portugal	51.84	..	73.83	..

Note : Countries are ranked by the size of their employment to population

Source : LFSPART3 Database.

Low access to university education

While other countries emphasise human capital development policies as the only way of maintaining and improving living standards, Switzerland presents a paradox: as we have already seen, it is the country with the highest standard of living, yet only a very small proportion of its population has a university level education. This is not primarily due to a cohort effect since the level of education of young adults shows only very moderate growth in the university sector compared with most other countries. Admittedly, non-university tertiary education is relatively more developed in Switzerland than in some countries with a larger proportion of university graduates, but this does not offset the “deficit” in university education.

Table 6 - Level of education of the population aged 25-64, 1996

	25-34 age group		35-64 age group	
	Higher education		Higher education	
	non-university	university	non-university	university
United States	8.67	26.49	7.88	25.50
Canada	34.12	20.09	29.01	16.14
Norway	10.62	19.30	11.53	13.91
Australia	9.51	15.84	10.16	14.41
United Kingdom	8.64	15.21	9.21	11.71
Denmark	6.04	14.69	6.54	14.36
Hungary	a	14.32	a	13.14
Finland	10.87	13.06	8.85	11.44
France	13.62	12.35	7.73	8.68
Germany	7.16	12.32	8.67	12.48
Czech Republic	0.00	11.20	0.00	10.16
Sweden	17.05	11.18	12.79	14.08
Portugal	3.19	11.18	3.54	6.30
Switzerland	11.82	10.72	12.63	9.04
Italy	m	8.34	m	8.03
Austria	2.23	6.93	1.88	5.73

Source : OCDE Education Database.

An average ranking in terms of literacy skills

The International Adult Literacy Survey recently made it possible to measure literacy skills in a number of countries, including Switzerland. It showed that Switzerland ranks average among the countries examined in terms of the proportion of its inhabitants with a low literacy level, i.e. lower than what is considered to be “a suitable minimum for coping with the complex information produced in the knowledge society”⁴. Slightly fewer than one out of two Swiss aged between 16 and 65 has a low literacy level. This is also the case of one out of three young people between the age of 16 and 25. In both cases, there is no significant difference between the country’s French-speaking and German-speaking communities.

Table 7 - Proportion of population aged 16-25 and 16-65 who have a low level of literacy* (document literacy scale), 1994-1995

	Age	
	16-25	16-65
Sweden	19.7	32.8
Netherlands	22.9	39.7
Belgium (Flanders)	23.6	39.6
Canada	32.6	47.8
German-speaking Switz.	32.8	47.2
French-speaking Switz.	33.6	45.2
Germany	34.2	41.7
United Kingdom	44.4	50.4
New Zealand	47.5	50.6
Ireland	49.9	57.0
United States	55.5	49.7
Poland	65.3	76.1

*: Levels 1 and 2.

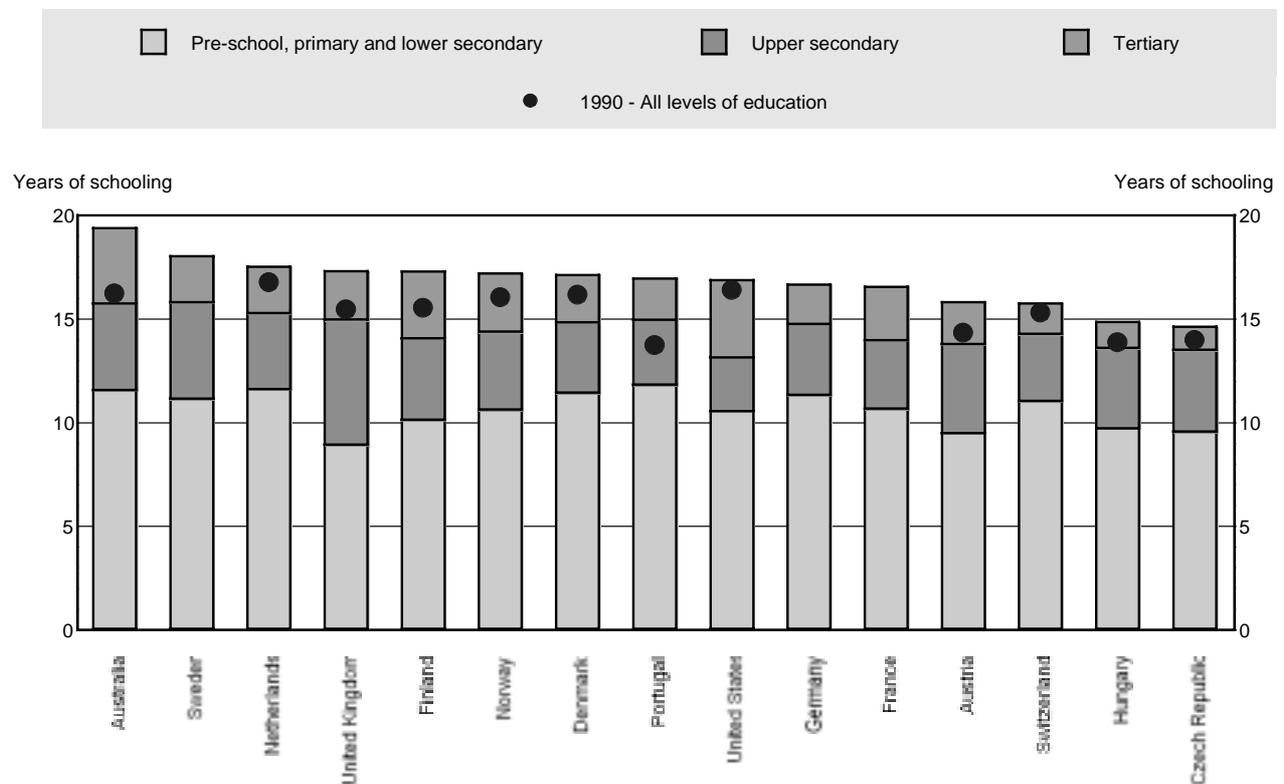
Source: International Adult Literacy Survey, 1994-1995.

A lack of significant progress in school participation since the beginning of the 1990s

In most OECD countries, the school expectancy at the age of five (i.e. the average number of years that a child of five can be expected to remain enrolled in school) rose substantially between 1990 and 1996. This did not occur in Switzerland, where the average length of education stood at 15.7 years, which was lower than the average for OECD countries (16.4 years).

Figure 1

Full-time and part-time school expectancy under current conditions* (1996)



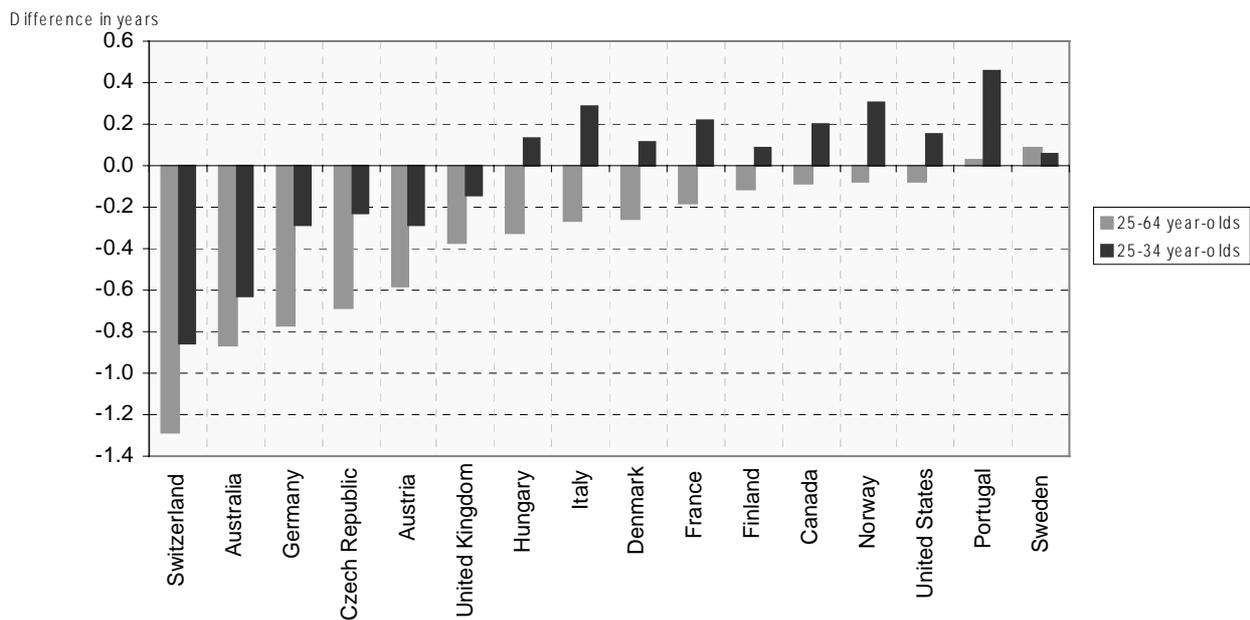
* Education for children under the age of five is excluded.

Source: *Education at a Glance 1998*.

Persistent, marked differences in the average length of schooling between men and women

Furthermore, the differences in the average number of years of schooling between men and women in Switzerland are the greatest of all OECD countries: among the 25-64 age group, men's average school participation is 1.3 years longer than women's. Although in virtually all OECD countries this difference has diminished significantly for the youngest age groups (25-34), and in many cases even been reversed in favour of women, it has only decreased by less than half a year in Switzerland.

Figure 2 - Difference in average years of schooling between men and women (1996)

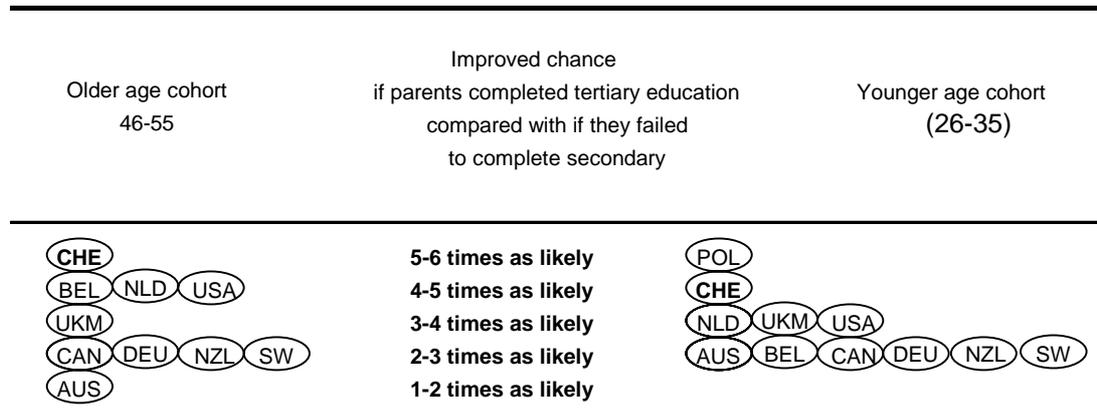


Source : Education at a Glance 1998.

Mobility across generations

In Switzerland, more than in the other countries examined in the International Adult Literacy Survey, the likelihood of achieving academic success continues to be determined largely by family background. A young person whose parents hold a post-secondary degree is four to five times more likely to obtain such a degree in turn than someone whose parents did not finish upper secondary school. The relatively limited access to universities that we saw earlier does much to explain this state of affairs. It is true that because of the very structure of the Swiss education system, the populations with the highest and lowest education levels are relatively smaller than in most other countries, since the secondary finishing diplomas provide solid training for entering the labour market. When interpreting this relatively low intergenerational mobility in Switzerland, it should also be borne in mind that those without secondary finishing qualifications consist largely of foreigners. This being the case, migration policies appear to be one of the factors that explains the low level of mobility across generations.

**Relative chance of having completed tertiary education,
for individuals with parents of different educational backgrounds**

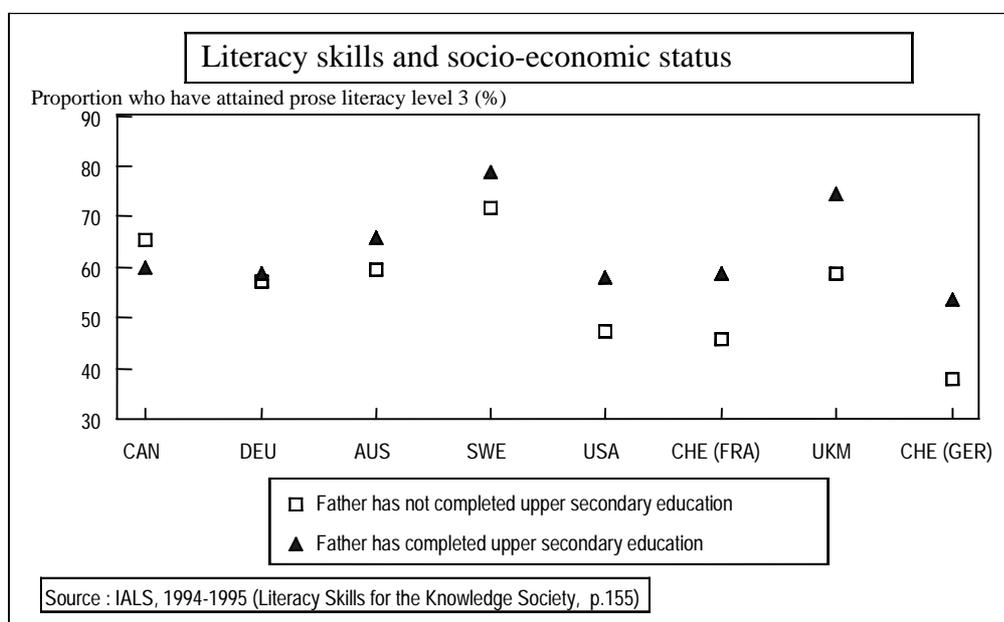


Source: Education at a Glance, 1998, page 28.

Socio-economic inequalities in everyday skills

The level of acquisition of skills that are useful in the labour market and in everyday life also reflects social stratification more closely in Switzerland than is the case elsewhere. The differences in skills, as measured on the IALS prose literacy scale by the father's educational attainment, are considerably wider in Switzerland than in the other countries examined. Of course, the overall effect of these differences is offset by the fact that the proportion of Swiss who have not completed secondary school is relatively low. But similar results are found in other surveys evaluating young people's knowledge in various academic fields, and are consistent with Switzerland's lower intergenerational mobility relative to other countries seen earlier. These results show the greater impact of social stratification that we observed during our visit, and which may be at least partly due to the nature of Switzerland's geography, which may limit young people's horizons at the often very early age when they must make decisive choices; thus the "valley-bound mentality" still remains very much alive in many ways.

Figure 4



The economic context

The Background Report drafted by the Swiss authorities prior to the visit clearly summarises the economic context in which the transition from initial education to work has been discussed since the beginning of the 1990s.

After the boom of the second half of the 1980s, in 1991 Switzerland entered into the longest period of economic stagnation since the 1930s. In its Economic Survey of Switzerland in 1997, the OECD mentioned the following, *inter alia*, as contributing factors to this long period of sluggishness:

- tight monetary conditions (1993-1995) causing the Swiss franc to appreciate and compromising the competitiveness of export industries;
- weakening of domestic demand following the government's tight policy aimed at consolidating the growing deficits;

- the collapse in real estate prices since 1991 following the boom of the 1980s;
- a restructuring of a number of economic sectors, in particular a downsizing of the construction sector due to the real estate crisis;
- more restrictive lending policy on the part of banks because of heavy losses in the real estate market (OECD 1997).

The recovery of growth in 1997 was confirmed in 1998 and 1999. Unemployment, which reached an historic high in 1997, has fallen substantially since then.

Over the past two decades, the Swiss economy has been characterised by a steady, marked shift to the service sector: in 1975, 40 per cent of the labour force was employed in the secondary sector, as opposed to 27 per cent in 1995. Conversely, the proportion working in the tertiary sector grew from 52 to 69 per cent over the same period. The primary sector remained marginal, dropping from 8 per cent of the labour force in 1975 to 4 per cent in 1995. But even these figures do not show the real extent of the growth of services in the Swiss economy, for in 1998, according to the labour force survey, 70 per cent of the labour force was in a tertiary occupation and some 45 per cent of employees working in the secondary sector were actually performing a tertiary-type job.

The economic structure in terms of industries varies considerably across cantons, leading to wide disparities in income. At the opposite ends of the range, the small central canton of Zug has a per capita income that is 60 per cent higher than the national average, while the cantons of Valais and Jura have a per capita income 30 per cent below the national average. Measured in these terms, there is a positive correlation with the proportion of the labour force employed in the banking and insurance sector, and a negative correlation with that employed in the construction sector. Even though there are differences in the economic situation of the two main linguistic regions (German-speaking Switzerland and French- and Italian-speaking Switzerland), the differences between the cantons inside these linguistic regions are greater than those between the regions themselves. In the Swiss context, where the system of vocational training through apprenticeship is closely linked to economic activities, these disparities affect access to the various careers that begin with apprenticeship.

Although the economic fabric is dominated by small enterprises (88 per cent of enterprises have fewer than 10 employees), nearly one-quarter of the 3.5 million employed persons work in enterprises with over 250 employees (Enterprise Survey, 1995).

The main impact of the economic downturn of 1991-1996 on the labour market was that it was unable to absorb the continuing growth of the labour force. The labour supply grew by 109 000 persons (2.8 per cent) over this period. Since the number of employed persons remained virtually constant, the additional labour supply caused unemployment to rise by much the same amount (+114 000 persons). International migrations played only a secondary role in the increased labour supply (this important point will be addressed in greater depth in a later section). Because of these labour market problems, long-term unemployment (lasting more than one year) rose sharply and the likelihood of finding a job within 12 months fell from 53.0 to 49.7 per cent between 1991 and 1996⁵.

The Labour Force Survey data confirm that there was a cyclical upturn in late 1997 and early 1998. In the second quarter of 1998, the unemployment rate had fallen to 3.2 per cent, down from 4.2 per cent at the same time the previous year. This drop reflected the significant rise in employment (+1.2 per cent) which benefited all groups, men and women, Swiss and foreigners. The number of full-time workers even grew for the first time since 1991(+2.2 per cent). Nevertheless, the economic crisis has taken its toll on large numbers of people, for although the official unemployment rate has rarely been over 5 per cent, nearly one out of every five economically active persons has had to register as unemployed with a labour office at least once during the past ten years.

In a Europe that has considerably expanded since the end of the 1980s, Switzerland often seems to be an isolated country. The referendum in which it voted against entering the European Economic Area in December 1992 has probably compounded this impression. However, unless only the political aspect of Switzerland's situation is considered, this was not the impression the reviewers derived from the discussions held during their visit. It was very clear that Switzerland is highly integrated into the world and European economy, because of the presence of its many multinational enterprises on the international scene and its dynamic frontier regions, which are almost more concerned with economic integration with the neighbouring regions across the border than with the country's more central regions. It is also clear that the issue of its entry into the European Union remains alive and is a strategic objective in the political sphere. For the time being, nothing seems to prevent Switzerland from being involved in very numerous bilateral discussions with the European Union⁶, including in fields that concern education and vocational training. Although Switzerland only participates in these fields as a so-called silent partner, it does participate directly in the European Union's R&D programmes.

The demographic context

In 1997, the permanent resident population of Switzerland stood at 7.1 million inhabitants. It consisted of 5.7 million Swiss citizens (80.6 per cent) and 1.4 million foreign residents (19.4 per cent). These statistics did not include seasonal workers (an average of 22 500 in 1997), short-stay permit holders (14 500 at the end of 1997) or asylum seekers (81 200 at the end of 1997). In 1997, the number of foreigners in addition to the permanent resident population reached its lowest level since 1983. However, unlike in the 1970s, Switzerland experienced a net migration gain throughout the crisis of the 1990s.

The population of young people between the ages of 0 and 19, who account for the vast majority of the school population, constituted 23.3 per cent of the resident population (1 654 600 young people). In this age group, the number of children of foreign parents is rising continually. Over one-quarter of the children born in Switzerland in 1997 were of foreign nationality. This is primarily explained by the high proportion of foreign women of childbearing age (48 per cent of foreign women were aged between 20 and 44 in 1997, as opposed to 34 per cent of Swiss women) and by foreign women's higher fertility rate (1.85 children, as compared with 1.29 for Swiss women). As we shall see later, this trend in the composition of the young population is not without impact on the education system and the school-to-work transition system -- it is, in fact, one of the major challenges that must be faced, if not indeed the greatest challenge of all.⁷

The foreign resident population is not a homogeneous group, and the range of nationalities represented continues to grow. For immigrants as a whole, the proportion coming from European countries has fallen by 12 points since 1991, down to 70 per cent. In 1997, the number of immigrants returning to the traditional countries of origin (Italy, Spain and Portugal) was significantly larger than new entries. Nevertheless, the majority of resident aliens (57 per cent) still come from one of the countries of the European Union (EU) or the European Free Trade Association (EFTA). Switzerland differs in this respect from most other Western European countries, which mainly receive immigrants from Eastern Europe, Turkey and non-European countries. In 1997, the largest foreign group was still the Italian community (348 400 persons). But the number of nationals from the countries of the former Yugoslavia has risen very sharply (+124 per cent between 1991 and 1997); this population, which now stands at 316 000, currently accounts for nearly one-fourth of the foreign resident population.

The vast majority of foreign nationals now constitute a stable component of Swiss society. Nearly one-quarter of them were born in Switzerland, and belong to the second or even third generation of foreigners, although they do not have Swiss nationality. 27.6 per cent of all foreigners have been in Switzerland for at least 15 years. Long-term residence and growing up in Switzerland are key factors in naturalisation. With slightly fewer than 19 200 people obtaining Swiss citizenship in 1997 (or a naturalisation rate of 1.4 per cent), this rate is low in comparison with other European countries. Despite

the restrictive legislation, it is estimated that there are currently some 585 000 foreign residents eligible for Swiss nationality. In particular, this is the case of approximately 80 per cent of the Italian nationals, 60 per cent of the Spaniards and 50 per cent of the Germans living in the country. However, the fact that foreigners are from an EU country or that their country of origin prohibits dual citizenship or the strict requirements imposed for Swiss citizenship are some of the factors that explain why “Swiss passports are not as popular” as in the past. Consolidation of migration policy is on the Federal Council’s agenda for 1999.⁸ Its main thrust would be the implementation of the complete revision of the Right to Asylum Act, acceleration of the complete revision of the Alien Residence and Establishment Act and the strengthening of integration policy. The revision of the Alien Residence and Establishment Act should take into account the result of the bilateral negotiations with the EU on free movement of persons. In addition, a new model for admitting workers from non-EU members, based on a points system, would replace the so-called “three circle” model.⁹ It should place priority on workers having high, and even very high, levels of qualifications in key sectors.

The institutional framework: Shared jurisdiction and financing of the education system¹⁰

A characteristic feature of Switzerland is that it is governed in a participative and decentralised manner. And in no field is this more true than in education.

Because of the federal system, the allocation of responsibilities in education is relatively complex. Article 3 of the Constitution lays down that: “The Cantons are sovereign insofar as their sovereignty is not limited by the Federal Constitution; they shall exercise all rights which are not transferred to the Confederation”. In education, the Constitution only assigns a few specific tasks to the Confederation, such as passing legislation and monitoring vocational education and training.

The cantons are therefore sovereign with respect to most aspects of the organisation of schools, which they regulate through legislation on schools and on the awarding of student grants. Since Switzerland has as many school systems as it has cantons (26), this legislation differs significantly across cantons, even though it is based on the same traditional sources and there is extensive co-operation between cantons, primarily through the Swiss Conference of Cantonal Directors of Public Education (CDIP). In addition, in the interest of consistency, some important fields are subject to federal law. But there is no Federal Ministry of Education. The last attempt to include an article on education in the Constitution was narrowly rejected in a referendum held in March 1973.

In brief, the Confederation has the following responsibilities¹¹:

- it monitors the organisation of compulsory, free “adequate primary education” under the responsibility of the cantons;
- it legislates on vocational education and training in industry, craft trades, commerce, agriculture and domestic service;
- it regulates education in gymnastics and sports;
- it runs the Federal Polytechnic Schools of Zurich and Lausanne, the Swiss Institute of Pedagogy for Vocational Training (Bern, Lausanne, Lugano) and the Federal School for Sports at Macolin;
- it regulates admission to medical studies and to the Federal Polytechnic Schools and recognises, through a regulation, the *certificats de maturité* (baccalaureate).

- it subsidises the cantons' universities, scientific research, the cantons' expenditures on student grants and Swiss schools abroad;
- it promotes, via invalidity insurance, the education and integration of handicapped children and adolescents.

When the Confederation has legislative responsibility, it lays down the necessary provisions and most often entrusts their implementation to the cantons. Consequently, the cantons are also largely responsible for schools that are not directly under their legislative jurisdiction.

The vocational education and training system is characterised by the sharing of tasks between the Confederation, the cantons and trade associations. Since 1947, the Federal Constitution has made the Confederation responsible for legislating on vocational training in industry, craft trades, commerce, agriculture and domestic service. All other fields of vocational training -- education, health, the social sector and the arts -- are the responsibility of the cantons.

In general, the cantons are responsible for the implementation of the vocational education and training system regulated by the Confederation: the organisation of vocational education, approval of apprenticeship contracts, organisation of final examinations, training of apprentice masters (in collaboration with trade associations) and career guidance.

As in most countries, the private sector, and particularly trade associations, play a more active role in vocational training than in the other fields of education. Not only does the private sector provide the practical part of vocational training in most cases, it also runs schools and contributes to the financing of certain vocational schools. Trade associations are involved in the defining of occupations, the preparation of training programmes and the organisation of examinations.

At the university level, the cantons are responsible for ten institutions and the federal government runs two polytechnic schools. Each university is managed by the public education department of the canton in which it is located, but has considerable academic autonomy under canton legislation. However, the two polytechnic schools are entirely the responsibility of the federal government.

The funding of the education system broadly reflects these shared institutional responsibilities. Each level is financially autonomous and bears the financial burden that goes with its responsibilities. Thus, in accordance with the federal principle, the cantons and communes are responsible for the bulk of the funding of education. In 1995, the cantons funded 51 per cent of overall public spending on education (which amounted to SF 21.2 billion, or 5.7 per cent of the gross domestic product and 15 per cent of overall government spending), while the communes (to which the cantons transfer responsibility for establishing and maintaining certain types of schools, such as kindergartens and compulsory schools) funded 34 per cent and the Confederation only 15 per cent. The trend is towards an increase in the contribution of the Confederation (which has risen by three per cent since 1990) and a corresponding reduction in the share of the cantons. The communes fund the bulk of spending for the academic programmes of compulsory schools (until the end of lower secondary school). The cantons cover more than half the spending on upper secondary schools, vocational education and training, general culture schools, higher vocational education and training and the *hautes écoles*. The Confederation's funding is concentrated in the university sector and, to a lesser extent, on basic vocational and higher vocational education and training.

Enterprises also contribute significantly to the funding of the education system through vocational training. Through the apprenticeship positions they provide, they are the key actors in the dual system. Two recent studies¹² provide quantitative information on this contribution. According to these estimates, the overall gross spending of enterprises amounted to SF 3.8 billion in 1994, from which the productive contribution of apprentices, estimated at SF 2.1 billion, must be deducted. The net contribution by enterprises came to

SF 1.7 billion, or 0.5 per cent of GDP in 1994. During that same year, government contributed SF 2.2 billion to the dual system. Thus, the overall cost of the dual system of SF 6 billion was shared.

Regarding the institutional organisation of the Swiss apprenticeship system, it should be pointed out that in Switzerland trade unions generally have little influence on the functioning of the system and certainly less influence on the content of training than in other countries with a dual vocation training system, such as Austria, Denmark or Germany.

3. TRANSITIONS FROM INITIAL EDUCATION TO WORKING LIFE: THE EXTENT AND NATURE OF A “SWISS PROBLEM”

If the economic indicators that testify to Switzerland’s economic success are compared with its education indicators, which at first sight often suggest that its education outcomes are not on a par with those of many other countries, a paradox emerges, for how can we explain Switzerland’s ultimately spectacular economic success, notwithstanding the difficulties of recent years, if we cannot do so in terms of certain widely recognised standards, such as the proportion of the population that holds a university diploma? One of the explanations advanced is the almost perfect “fit” of the needs of the labour market with the skills “produced” by the education system. Such an explanation is naturally of special interest to the present reviewers, since the subject being analysed is closely bound up with the solution to this paradox. We therefore think that the issues raised by this thematic review can best be addressed by making the concept of qualifications the central focus of our discussion of the two aspects that converge in the school-work transition, for the Swiss labour market is largely organised on the basis of socially recognised and valued qualifications, and the initial education and training system has been designed to meet the economy’s need for qualifications as closely as possible. This concept of qualifications, which is the common thread that links the economic, social and educational dimensions, is no doubt the key factor that gives coherence to the Swiss socio-economic system.¹³

In the Swiss context, qualifications can be defined as the set of practical and intellectual skills that enable an individual to identify with a position on the labour market and a place in society, and with an educational pathway to acquire those qualifications. In practice, the qualifications are tangible entities, in the form of some 275 occupations offering apprenticeship programmes starting in upper secondary school,¹⁴ as well as all the specific higher qualifications that may be obtained in the various specialised schools, higher schools and universities.

A labour market largely organised on the basis of qualifications

Many indexes show the key importance of qualifications in the Swiss labour market, economy and society. Firstly, there is the sizeable proportion of the population that hold credentials that certify their qualifications. In their recent book comparing the situation in Switzerland and the United Kingdom, Bierhoff and Prais show that three-quarters of the Swiss labour force are occupationally qualified at levels attained only by the upper one-quarter of the labour force in the United Kingdom.¹⁵ These qualifications act as constant reference points throughout the working life of the Swiss. They constitute a precise code used both by employers to define their staffing needs and by individuals to describe the certified skills that they can provide.

Qualifications are able to play this role in the economy and social fabric because of the fact that they are recognised and valued by society, and are therefore, from the least to the most complex, an essential factor for defining an individual’s status in society. This is one of the major aspects of the importance of qualifications, namely the great emphasis the Swiss place on ensuring that they can be confident of the value of qualifications. Although, as we shall see later, most of apprenticeship training is conducted as part of the regular activities of an enterprise, it is considered essential that the resulting qualifications be

certified through an outside, independent and objective evaluation.¹⁶ This is explicitly aimed at ensuring that certificates of qualifications are nationally recognised.

Outside the economic sphere, qualifications also affect participation in associations, whether political, social or cultural. And people with a higher education much more frequently occupy leadership positions in voluntary organisations.¹⁷

The wage distribution shows the importance of qualifications that are formally recognised on the labour market and their relative standing. Salaries are clearly related to education levels, since the median salary of male university graduates is 90 per cent higher than the median salary of the entire employed population. This figure falls to 70 per cent for those with a diploma from a *haute école spécialisée*, and to 45 per cent for those who have received another kind of higher vocational education, to 25 per cent for holders of the baccalaureate (*maturité*), and to 10 per cent for those with upper secondary vocational training; and salaries fall to 15 per cent below the median for those with no special training or education. The pattern is the same for women's salaries, but all the ratios of comparison to the overall median must be divided by two or even three.¹⁸ The OECD study on Labour Market Policies in Switzerland also shows clearly that there is an important gain in salary as the number of years of schooling increases.¹⁹ And the data published in the most recent edition of "Education at a Glance" show that the gain connected with finishing upper secondary school -- which in Switzerland means that one either holds a vocational training certificate ("*certificat de capacité*") or the baccalaureate (*maturité*) -- is among the highest of comparable OECD countries (OECD 1998, Table F7.2). The sacrifice made during the years of training, when apprentices average only one-fourth the salary of beginning certified workers (though pay increases rapidly during the three or four years of training), is more than offset by the fact that their earnings will be significantly higher than those of uncertified workers after several years of work.²⁰

However, it should be pointed out that recent, more detailed studies that take into account the costs and benefits of education (analysis of education as an investment) suggest that these observations based only on a comparison of salaries should be tempered somewhat.²¹ These studies show that the highest rates of return are generated by post-compulsory secondary education (*maturité* and vocational training). In comparison, a university level education does not provide net benefits greater than a non-university tertiary level education (higher vocational training and *hautes écoles spécialisées*).

For these reasons, we believe that the concept of qualifications is central to the social structure and the functioning of the labour market in Switzerland. It is therefore a key factor for understanding the process of transition from initial education to working life. However, as this concept of qualifications is undoubtedly influenced by the occupational tradition of the manufacturing sector, we may wonder about its relevance and about the training patterns it has generated in an economic context in which the traditional trades of industry play a less important role than the shift to services, technological change and globalisation. To take these changes into account, would not a different approach to qualifications and different training structures be required if the socio-economic system is to preserve its coherence? In other words, how can the current system meet the challenges posed by these changes, and how will it be able to do so in the future?

If we look at the labour market trends in economies where there has already been a substantial shift to services, we can make some observations that are relevant to education systems and consequently to the school-to-work transition process. It appears that the restructuring of the qualifications required by the labour market tends to follow the pathways set by the growth of the service sector. This is shown by the following developments: the lower actual manufacturing content of traditional occupations ("hardware" production qualifications); the enriching and broadening of this manufacturing core with "service (software) qualifications", such as engineering, programming, knowledge of management, interfacing with sales and customer needs; these changes give rise to new qualifications for which the distinction between the secondary and tertiary sector is irrelevant -- "meta-qualifications". These new qualifications become key components of the new occupations. They can be illustrated by examples such as "facility

management” in construction (real estate) and in information technologies, rather than mason, electrician, architect, plumber or software engineer; occupations in the fields of home automation, fast food restaurants, security management, financial management (“Allfinanz”) and health care management (“managed care”).

It is still far from clear how the education and training system is responding to this situation. It is likely that “families of qualifications” are developing that have only little to do with the key qualifications of the past. This has undermined the coherence of the socio-economic system in which the education system and the labour market are intermeshed. We shall see later how Switzerland is responding to these challenges. Is the concept of qualifications as clearcut and fundamental in an economy that has largely shifted to the service sector?

Another important aspect of the transition situation in Switzerland is also puzzling, and is related to the paradox of Swiss success that we mentioned earlier. In a context of full employment, Switzerland has always had a chronic shortage of skilled workers. Oddly, while other countries in a similar situation tried to solve this problem through immigration, Switzerland has always maintained an immigration policy that facilitated the entry of unskilled workers. This has resulted in an underlying trend of widening income inequality, for while at the bottom of the scale wages could remain low because of the regular inflow of unskilled workers as needed, at the other end shortages of highly skilled workers constantly drove high wages even higher.²² One wonders why Switzerland did not respond to this situation with a much more open admissions policy to universities, which remain an education sector that is comparatively underdeveloped in numerical terms.

The initial education and training system for producing the necessary qualifications

Even before compulsory schooling is completed at the end of lower secondary school, the Swiss education system is oriented towards producing the qualifications the economy requires. This interlocking of the education system and the labour market is an essential aspect of the coherence of the socio-economic system. The dual system of preparing young people for working life is clearly the cornerstone. One of the main advantages that many see in the dual system is its ability to regulate supply to demand, since it supposedly makes it possible to respond more accurately and rapidly to the labour market’s needs for qualifications. This system is supplemented by the higher specialised schools and universities, which “produce” graduates who are more directly oriented towards the needs of the economy at these advanced education levels than is the case in many other countries. For, although Switzerland has the lowest university graduation rate of any OECD country, it is one of the highest ranking countries in terms of the proportion of university degrees granted in the fields most directly related to the needs of the economy (engineering and architecture, mathematics and computer science, medical and paramedical sciences, life sciences).²³

However, against this highly positive background, a number of questions were of concern to the reviewers:

- Considering the low rate of entry into post-secondary institutions compared to other countries with a similar level of development, is there not reason to believe that there may be a considerable social demand for education that goes unmet? Since educational choices are made very early -- at the latest by the end of lower secondary school, and often earlier when a lower secondary pathway is chosen -- are not most young people prematurely denied access to higher education? Is not the education system deliberately maintained as an elitist system, which broadly reproduces a stratified social structure? Are not the policy developments in this field since the beginning of the 1990s opening the way to a two-tier system of diplomas?
- Can the current dual system effectively meet the challenges of the shift to services in the economy and the growing demand for higher-level skills? Does the recent decline in the

supply of apprenticeship positions in enterprises reflect a major change in the attitude of employers, or does it show that this system is ill adapted to the new labour market situation?

- There are major regional differences in the education system. Are these simply variations within a single basic system, or do they represent fundamental differences in approach? Are they the outcome of regional adaptation to specific labour market conditions or the legacy of different cultural traditions?
- Because of immigration policies and practices, the school population is increasingly heterogeneous, and the foreign population is also increasingly stable. The recent rise in the youth unemployment largely affects this foreign population, and has undermined the transition system. How can these new parameters be taken into account?

All these questions were a central focus of the reviewers' visit. In the following two chapters, we shall successively examine the transitions within the education system, and then the relevant labour market aspects. In both cases, we have tried to show whether we have answered the questions raised above, what the answers were and how they responded to the new challenges that are already clear, and that will become even more pressing in the future.

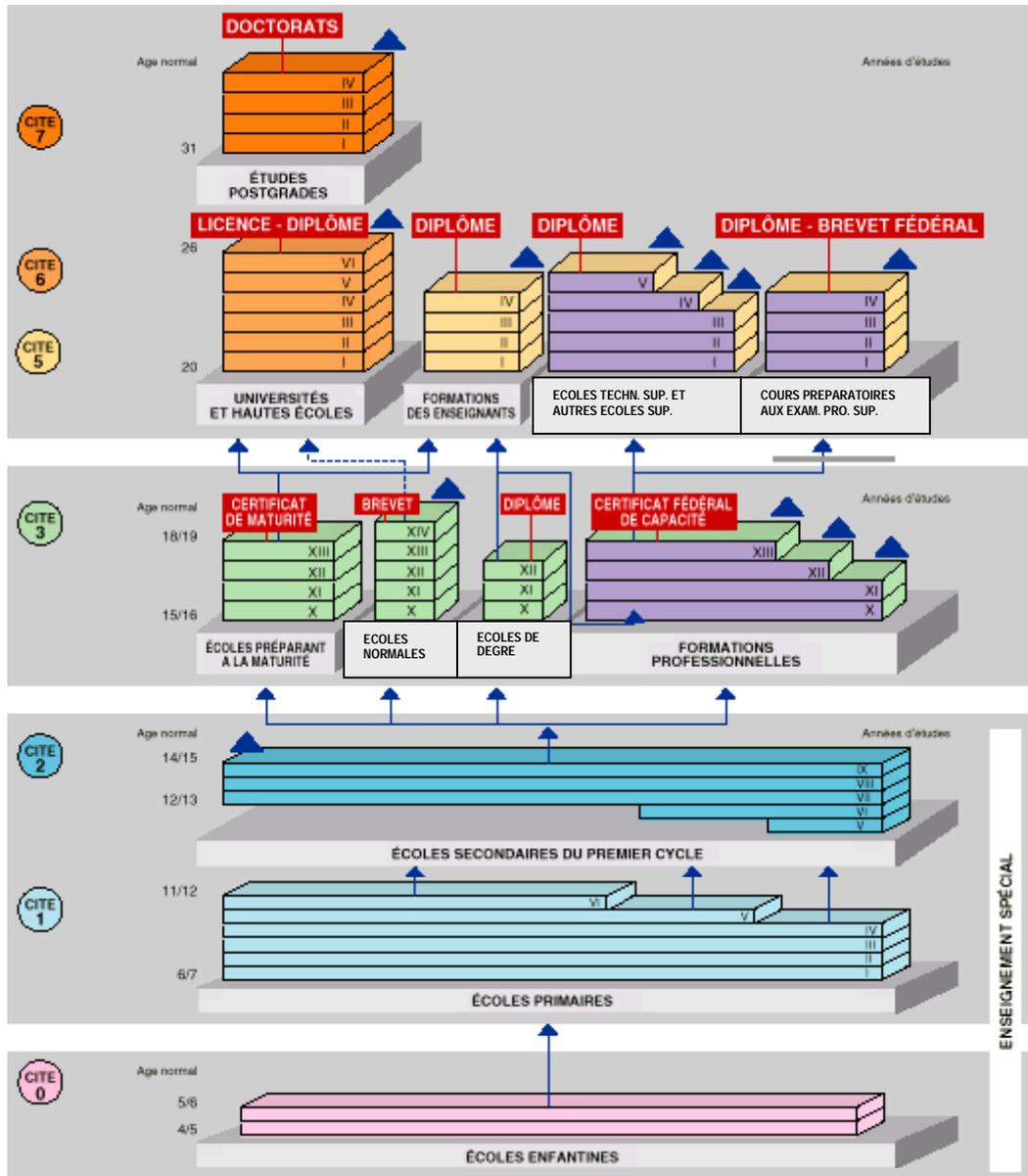
4. THE RANGE OF TRANSITIONS IN THE SWISS EDUCATION SYSTEM

Although the foundations of the Swiss education system seem to reflect a pragmatic approach built up in step with the country's industrial development, its theoretical underpinnings must also be recognised. These are the direct legacy of important Swiss thinkers of the 18th and 19th centuries. We shall focus on two aspects that we think are a relevant background to a review of the education system:

- the emphasis that the educationalist Pestalozzi already placed on mastering arithmetic at an early age two hundred years ago; the excellent results obtained by Swiss 13-year olds when they first participated in international mathematics texts in 1991 (IAEP), results that were later confirmed (TIMSS), have been explained by this tradition;
- today's emphasis on the role of school in preparing young people for the workplace is also part of this long tradition, as is clearly shown by the title of a memorandum prepared by Pestalozzi at the end of the 18th century: *The Combination of Vocational Training with Schools for the People*.

It is easy to understand, in a system as clearly structured and organised as Switzerland's, how young people's pathway through the education system plays a key role in determining their future on the labour market and their place in society. Consequently, in analysing the school-to-work transition, the earlier transitions, which occur as pupils progress through the school system, cannot be overlooked. It is therefore necessary to analyse and understand the conditions in which these successive transitions take place and choices are made, often long before pupils have even had a chance to think about "what they want to do later". We shall begin with an overview of the pathways within the education system and the recent trend in the average amount of time pupils spend in education and training or labour market participation during the 15 or so years that the transition from school to work may span. We shall then review the stages of schooling, seeking to find answers to our questions in the changes under way and the ongoing reforms.

Education pathways



Notes : Colour codes: **Pink** - Programme designed for part-time attendance. **Mauve** - Vocational education and training ; **Blue triangle** - Recognised exit point of the education system. **Blue arrow** - Typical student flow. The size of the graphical elements provides no indication of the enrolment in the corresponding educational institutions.
 Source : Education at a Glance - OECD Indicators, 1996.

Education and work during the transition period

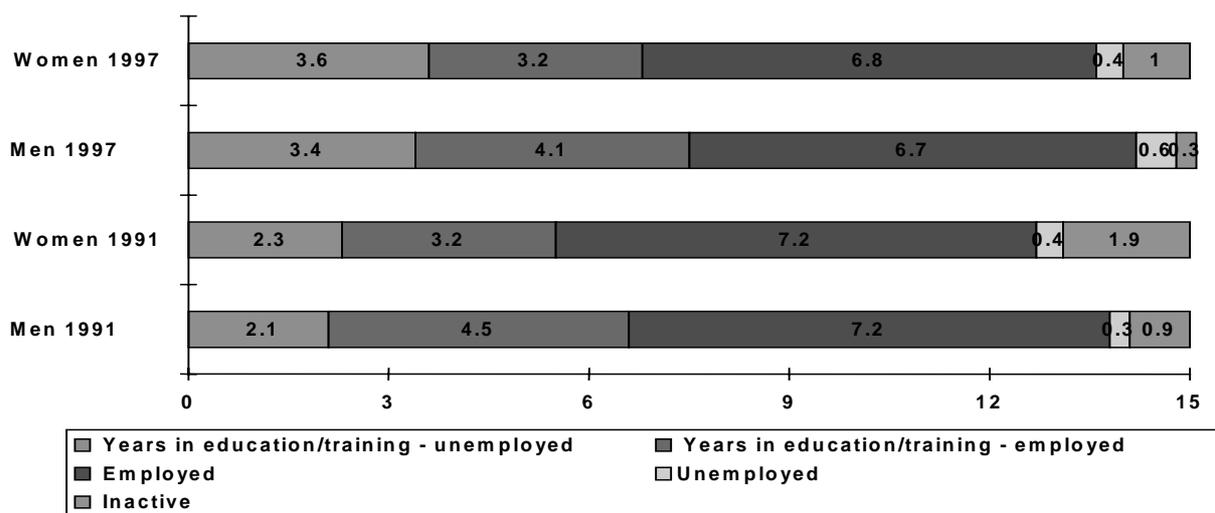
Between the ages of 15 and 29, most young people make the transition from being primarily a student to a life more centred on labour market participation. Before giving further details on the transition pathways, let us look at Figure 5, which shows the number of years that a fifteen-year old can expect to spend inside the education system or outside the system as an employed, unemployed or inactive person, between the age of 15 and 29, assuming stable labour market conditions.

On average, in 1991 a fifteen-year old could expect to remain in school for slightly longer than six years, with a gap of roughly one year between young men (6.6 years) and young women (5.5 years). Since the majority of fifteen-year olds enter an apprenticeship programme combining in-school with workplace training, this is reflected by the fact that most of these years of education/training after the age of 15 are spent as employed persons. The relative weight of vocational training is significantly larger for young men (5.6 years out of the 6.6 years of education and training) than for young women (3.2 years out of the 5.5 years of education or training). During the years that followed, probably to some extent due to the deterioration of labour market conditions, the expected duration of education and training lengthened, averaging one year more in 1997, and the gap between young women and young men decreased by nearly half a year. For all young people, this gain in education and training was entirely due to the fact that young people tended to choose academic education programmes more frequently. This meant that vocational training as a pathway chosen at age 15 was tending to lose ground.

Comparing the situation in 1991 with that in 1997, there is an increase in the average time young men are unemployed. However, this situation, in which a fifteen-year old in 1997 expects to spend a total of seven to eight months unemployed over the next 15 years, would strike many young people of the same age in other OECD countries as being highly enviable. The increase in the time spent in school or training almost exactly matches the drop in the time spent employed or inactive.

This brief analysis carried out at a highly aggregated level does allow us to measure the extent of a certain crisis in the apprenticeship system in the 1990s.

Figure 5 - Estimate of the number of years spent in education/training and in the labour force between the ages of 15 and 29 (1991, 1997)



Source : Federal Statistical Office.

The entry into lower secondary school: highly segmented streaming at a very early age

Swiss children begin their nine years of compulsory schooling at the age of six. Depending on the canton, they will spend four to six years in primary school (six years in twenty of the twenty-six cantons). This means that when they enter lower secondary school, which is the first transition that is important for their future, some Swiss children will only be 10 or 11 years old, while most will be 12 or 13 years old. Depending on the duration of primary school, they will spend three to five years in lower secondary school. Nearly everywhere, except in the cantons of Ticino, Geneva and partly in Valais, lower secondary school is divided into streams or sections based on different curricula and different levels of academic requirements, which makes it relatively selective. There are generally three streams: basic requirement sections that generally lead to simple vocational training programmes after compulsory schooling; broad requirement sections, which cover high-level requirement curricula leading to studies in gymnasiums and average requirement curricula, which most often lead to relatively demanding vocational training programmes; and non-selective sections in which the diversity of pupils' aptitudes is met by introducing optional or multi-level courses. For all of Switzerland in 1997-98, 62 per cent of pupils were in broad requirement sections, 32 per cent in basic requirement sections and only 6 per cent in non-selective classes. However, these non-selective programmes are widespread in the cantons of Ticino, Geneva and Valais. In Ticino, which is the only Italian-speaking canton, the choice of compulsory schooling without streaming of pupils on the basis of their individual academic performance stems from a policy decision. It is thought that this minority within the country can only make itself heard if it chooses the path of excellence so as to enable the canton to catch up with the rest of the country, an approach that the population of Ticino associate with an education system without early streaming of pupils.

We saw earlier that one of the challenges to education policies and practices was that the school population was increasingly heterogeneous (with at least 30 per cent of pupils of either foreign origin or foreign

mother tongue). But this challenge is not equally distributed throughout the country, for it is greater in the cantons of Geneva, Basel-Town and Ticino, where more than one class out of two (and even three out of four in Geneva) is highly heterogeneous. On the other hand, in the seven most centrally located cantons, fewer than 15 per cent of classes are this heterogeneous. What is more, these highly heterogeneous classes are also concentrated in the lower requirement streams, and constitute 64 per cent of special education programme schools, 51 per cent of the basic requirement lower secondary classes, but only 14 per cent of broad requirement classes. Although cultural diversity enriches classes by bringing together pupils of different backgrounds, it can also make the educational process less smooth by introducing additional obstacles to teaching and learning.

We can realise the impact of this early streaming by looking at the destinations to which it leads at the end of lower secondary school (Table 8). Virtually all pupils from basic requirement streams go on to vocational training programmes if they continue their compulsory schooling, which shows that the possibility of their envisaging other paths is limited. This also shows, as the OECD Economic Study points out, “the continuing importance of vocational education as an effective means of providing these students with attractive pathways to complete upper secondary education”.²⁴ Until the mid-1980s, the proportion of cohorts leaving compulsory education that selected vocational education had been growing regularly, while the proportion of school-leavers had been declining. But since then, pupils from broad requirement streams have more often been choosing general education pathways, in particular in secondary schools leading to the baccalaureate (*maturité*). The fact that this trend began before the crisis of the 1990s seems to indicate an underlying trend that had developed without being directly related to the drop in the number of apprenticeship positions observed in the 1990s. Despite this, during the past few years the proportion of pupils going on to vocational training has started to rise again because of the steady decline in the number of pupils exiting the education system, and probably also owing to the measures implemented to revitalise the apprenticeship system (see below).

The sharp decline in the number of school-leavers at the end of compulsory schooling is also to be credited to the vocational training system, which seems able to absorb a population of young people with relatively low academic achievement levels and increasingly made up of young people who are of foreign origin and foreign mother tongue. Table 9 shows that between 1978 and 1997 the proportion of young people exiting compulsory schooling who did not immediately go on to upper secondary school dropped by half, falling from 22.6 to 11.5 per cent. It is also interesting to observe that often more than half of these young people who interrupt their studies at the end of compulsory education levels return to school later. If these cases are taken into account, only 5.3 per cent of young people leave school permanently around the age of 15.

Recognising the severe limitations that early streaming imposes on young people, the cantons have adopted policies that seek to make the system less irreversible by creating horizontal and vertical crossover points in lower secondary school or at the beginning of upper secondary school. Some one-third of graduates of gymnasiums entered them after transferring from a different pathway.²⁵ This is one of the first effects of the various reforms under way, which are focused on themes that will have an impact on the entire Swiss education system, i.e. the interchangeability, flexibility and openness of education and training streams. This process must be continued in order to open up a broader range of possibilities to the most disadvantaged groups. For the earlier streaming occurs, the more it is based on criteria of social origin, since young people aged 12 and 13 still show little independence from their family background.

Table 8 - Pupils' destination at the end of compulsory education
(percentage of pupils ending their compulsory education)

School year	Exiting education system after compulsory education	Going from				
		a basic requirements programme to		a broad requirements programme to		
		Vocational education	general education	Vocational education	general education	school preparing the <i>maturité</i>
1978	22.6	22.3	0.7	30.7	6.4	18.6
1985	19.1	24.5	1.0	33.0	5.3	16.5
1993	14.6	24.2	1.9	30.4	7.6	21.4
1997	11.5	24.6	0.8	33.8	5.2	24.3

Source : OECD (1997) and updated by the Federal Statistical Office.

Table 9 - Drop-out rate in secondary school
(percentage of pupils ending their compulsory education)

School year	Exiting education system after compulsory education	Returning to upper secondary school later*	Drop-out rate
1978	22.6	12.8	9.8
1985	19.1	11.7	6.4
1993	14.6	6.1	8.5
1997	11.5	5.8	5.3

* Estimate.

Source : OECD (1997) and updated by the Federal Statistical Office.

Upper secondary school: the time for decisive choices

Entry to upper secondary school, usually at age 15-16, is another decisive stage with a clear impact on future careers. The system offers a fairly broad range of options in theory, but when one is taken up the course of education and training is charted and so too, in most cases, are the mode of labour market entry and at least the early years of work.

The nature of the choice: the options available

At the end of lower secondary school, a choice must be made between two basic options: studies in a gymnasium that generally lead to the baccalaureate (*maturité*) after four years, or vocational training. Within vocational training, there are two different approaches. The first is known as the dual system because it is a complementary programme consisting of a practical training component in an enterprise under an apprenticeship contract with an employer, and a theoretical and general culture component in a vocational school; the apprentice usually spends a day and a half per week in school. The other approach consists of full-time vocational training entirely in school. Since 1993, there has been a new vocational training pathway leading to a vocational baccalaureate (*maturité professionnelle*). This diploma enhances the status of vocational training by enabling its holders to go on to higher vocational education, in particular in the new *hautes écoles spécialisées*. A vocational baccalaureate can be obtained in several ways: training may be combined with apprenticeship (3 or 4 years) under the dual system, with a more demanding general education programme; it is also possible, after obtaining the federal *capacité* certificate (the finishing apprenticeship certificate), to complete an additional year of general education in a full-time school (or 3 semesters part-time); the holders of a baccalaureate from a gymnasium must complete a year of vocational training in an enterprise.

There are also other options besides these two main upper secondary branches: “*écoles de degré diplôme*” (“diploma-level schools”) and teacher training schools. The *écoles de degré diplôme* fill a gap in the range of options in upper secondary level education and training. They are for a category of pupils that has grown steadily over the past 10 to 15 years and are aimed at meeting the following needs: to give a broader range of the population the possibility of completing their post-compulsory general education; to enable pupils to familiarise themselves with everything that concerns their future professional activity (instead of vocational training *per se*); and to meet the expectations of pupils who cannot or do not want to attend a gymnasium but still need to acquire an adequate general education and culture in order to go on to higher non-university vocational training. These schools are generally oriented towards the fields of teaching, health care, and social, administrative and artistic sectors. As for teacher training schools or normal schools, they are cantonal institutions for training pre-school and primary teachers.

Mainly because of Switzerland’s different educational cultures, patterns of participation in the dual system vary significantly across its different regions. But in fact it seems more appropriate to speak of regional differences in the choice of streams, for vocational training is governed by the same regulations and legislation throughout Switzerland. This is clearly shown to be the case in Table 10, which compares the distribution of upper secondary pupils by streams in the two main regions of the country, German-speaking Switzerland and French/Italian-speaking Switzerland. In 1998 (the 1997-1998 school year), 289 000 young people were enrolled in upper secondary school in Switzerland, or 1.6 per cent fewer than 1991. In 1991, nearly three-quarters of upper secondary pupils were enrolled in vocational training. This proportion has since declined to less than 70 per cent. Although vocational training is preponderant throughout the country, there is a significant difference between the situation in French/Italian-speaking and German-speaking Switzerland. In 1991, when enrolments in vocational training were still close to their historic highs in the mid-1980s, only 65 per cent of pupils were enrolled in vocational training in French/Italian-speaking Switzerland as opposed to nearly 79 per cent in German-speaking Switzerland. Both regions were affected by the decline in vocational enrolments that began in the 1980s and continued until 1996, but it was even greater in French/Italian-speaking Switzerland.

Table 10a - Pupils in 1990/91 and in 1997/98

	1990/91						1997/98								
	Switzerland		French/Italian speaking		German-speaking		Switzerland		French/Italian speaking		German-speaking				
Upper secondary	293607	100.00	89017	100.00	204590	100.00	288785	100.00	-1.64	87115	100.00	-2.14	201670	100.00	-1.43
Schools preparing baccalaureate	54468	18.55	23971	26.93	30497	14.91	63625	22.03	16.81	26673	30.62	11.27	36952	18.32	21.17
Normal schools	7962	2.71	806	0.91	7156	3.50	9182	3.18	15.32	790	0.91	-1.99	8392	4.16	17.27
<i>Ecoles de degré diplôme</i>	12035	4.10	5939	6.67	6096	2.98	17526	6.07	45.63	8937	10.26	50.48	8589	4.26	40.90
Vocational baccalaureate (after apprenticeship)							1385	0.48	na	815	0.94	na	570	0.28	na
Vocational training	219142	74.64	58301	65.49	160841	78.62	197067	68.24	-10.07	49900	57.28	-14.41	147167	72.97	-8.50

Table 10b - Vocational training by linguistic region and type of training (apprenticeship or school-based)

	Switzerland			French/Italian-speaking Switz.			German-speaking Switzerland		
	Total	Apprenticeship	School	Total	Apprenticeship	School	Total	Apprenticeship	School
1990-91	100.00	85.75	14.25	100.00	77.03	22.97	100.00	88.91	11.09
1997-98	100.00	86.61	13.39	100.00	75.02	24.98	100.00	90.54	9.46

Preparing for choices: career guidance, a key element in the smooth running of the system

In a highly selective education system organised to meet the needs of the labour market, career guidance must be a key element, and this is clearly the case in Switzerland. Unfortunately, very little consolidated

information is available to provide an overview of the situation nationwide. Guidance is primarily the responsibility of the canton authorities, which makes a comprehensive assessment difficult. However, on the basis of the presentations made to the reviewers, there is reason to believe that substantial resources are devoted to guidance, even though practices may differ across cantons. Career guidance is broadly included in the curriculum, both as a subject to which teaching time is devoted in grades 7 to 9 in lower secondary school and as a theme incorporated into the other subjects studied.

Emphasis is placed on very early career choice, with intensive counselling and guidance and experimentation towards the end of compulsory schooling, in particular during the year before this choice is made. Guidance is given an ample place in the curriculum, with support materials for pupils and teachers and brochures for parents. Furthermore, it can also be pointed out that the authorities show a constant concern with ensuring that the overall curriculum is relevant to labour market and vocational training needs.²⁶

The high point of the guidance process is the work experience period lasting at least one week with a employer. This work experience, which generally takes place at the age of 15, is carefully chosen and prepared, and is recognised as one of the keys to a successful career choice. This experience of working life, while young people are still in school, is aimed at ensuring that the programme they will begin in the following year corresponds to their abilities, preferences and aspirations. There is intensive preparation for this work experience in school. It seems clear that by the age of 15 Swiss pupils have a relatively good idea of the career for which they wish to prepare and that they have familiarised themselves with the requirements of the occupation in question. This has a positive effect on pupils' academic motivation, for pupils of this age who already have a clear idea about the career they wish to pursue, often backed up by concrete contact with an employer, see the relevance of their studies to their future job and have a strong incentive to do well in school. According to Swiss thinkers on education, all pupils should be encouraged to excel, even though some can only do so in a limited field of practical subjects.²⁷

The approach to guidance takes the context into account, and the economic environment is reviewed in detail. This generally restricts the discussion of career options to a limited number of careers that match young people's aptitudes and interests. Although the discussions of career choices start by focusing mainly on young people's wishes and interests, local employment conditions are also emphasised. It must be borne in mind that fifteen-year olds live at home and that, since the allowances paid to apprentices are small, very few young people can consider apprenticeship and career options that would require them to move away from home at such an early age. The local career guidance department assists pupils with the choice of an employer for work experience and also with future apprenticeship contracts, carrying out extensive canvassing of local employers and maintaining an up-dated list of available apprenticeship positions. The trained staff of guidance centres help place young people in suitable positions.

Teachers also play a crucial role. Their task is simplified by the selection process, which makes classes more homogeneous, not only in terms of pupils' academic level, but also their aspirations and potential career choices. In general, teachers monitor their pupils during the last three years of lower secondary school. Furthermore, the pupil-teacher ratio is relatively favourable at this level, averaging 12.4 pupils per teacher (the average in OECD countries is approximately 15). The average number pupils per class (19), although it has risen slightly since 1990, also remains relatively low. This is unquestionably an asset for supporting pupils, particularly when parental support is lacking. Teachers -- in particular those who intend to teach classes that contain pupils with a lower academic level who will choose apprenticeship (Realschule) -- receive training that enables them to take broad responsibilities for the education and guidance of pupils. As part of their preparation, they must have at least one month of work experience with an employer who takes on apprentices. It can also be pointed out that Swiss teachers are paid the highest salaries of all OECD countries.²⁸

Parents are also closely involved in their children's career guidance process. As we said earlier, the young age at which pupils choose their career and complete their compulsory education means that they are still

dependent on their parents. The salaries paid during apprenticeship are also low and generally do not allow young people to live independently without the financial support of their parents. But the role of parents is also essential to the institutional functioning of the system, since they sign their child's apprenticeship contract together with the apprentice and the employer. For these reasons schools call upon them to participate in all stages of their child's career choice.

Naturally, the availability of apprenticeship positions, together with the social and economic recognition given to apprenticeship training, facilitates the role of the various direct participants in the system. Each of them has a role to play, and in doing so they continually strengthen the system's coherence. Nevertheless, some of the challenges that face the apprenticeship system also directly involve career guidance:

- the substantial decline in the supply of apprenticeship positions during the 1990s was rapidly perceived by the authorities as a threat to the system. Measures were promptly taken to enable the system to meet needs more effectively. An in-depth reform is also being studied;
- the greater difficulty young people have in choosing a career orientation by the end of compulsory schooling. This is either because the lower supply of apprenticeship positions limits their choice and they therefore prefer to postpone committing themselves to a career in order to see what will be available a year or two later, or because young people are less willing to choose their career at such an early age.

The emergence of a transitional phase

It appears that young people no longer go on to these upper secondary pathways after compulsory schooling as automatically as in the past. This has led to emergence of a transitional phase in which young people remain for one or two years, which enables them better to make the choices that will determine their future career. In this regard, there has been a sharp rise in the number of pupils who only enter apprenticeships two or three years after they have completed their compulsory education. According to a study made in the canton of Neuchâtel²⁹, nearly 50 per cent of the transitions from compulsory schooling to apprenticeship are now indirect, and this figure has been increasing by one or two percentage points each year since the beginning of the 1980s. It has also been observed that the broader the training supply, the greater the number of indirect transitions and, correlatively, the larger the number of transitions taking place in an urban environment, the higher the proportion of indirect transitions. The proportion of women, which is almost the same as for men, is higher in this category of apprentices than for apprentices as a whole. Although these data come from a single canton, this trend seems more or less general throughout the country and similar both in nature and in magnitude. A longitudinal study carried out in the canton of Ticino pointed to the same trend by showing that labour market integration pathways were increasingly less linear (see box).³⁰

The canton of Ticino's longitudinal study — Some salient facts

This survey, the only longitudinal research to have been carried out in Switzerland, was prepared as a follow-up to the 1989 National Education Policy Review. It consisted of monitoring over a five-year period pupils who had completed their compulsory education in 1992. Most of the students were 15 years old at that time. The sample comprised 1 471 pupils (one out of two pupils who completed lower secondary school in the canton of Ticino in 1992). Complete data were collected for 1159 pupils during a five-year period.

After five years (i.e. in 1997), one out of four of those surveyed was working, 12 per cent were unemployed and 15.6 per cent were in tertiary-level schools. At that time, 85 per cent of the group had obtained an upper secondary diploma. Of these diploma-holders, 47.3 per cent had a federal *capacité* certificate, 29.7 had a federal baccalaureate and 11.7 held a diploma from a full-time vocational school.

This breakdown shows that there are two transition models:

- the traditional linear, impermeable model, which is still the shortest pathway to joining the labour market (young people were oriented by the structure of the system); the key words characterising it are continuity, linearity, long term, homogeneous, reassuring;
- the emerging model, characterised by permeable educational channels; however, it poses a problem to the system, which must adapt to these diversified pathways; it causes the strategic transition to shift from *scuola media* to one or even as many as five years after the end of compulsory schooling.

The qualitative analysis made on the basis of in-depth interviews brought to light some interesting information:

- the shortest programmes lead to fewer opportunities on the labour market; but to some extent this appears to be due to the fact that the young people in these programmes most frequently have the lowest levels of academic achievement;
- among vocational qualifications, the vocational baccalaureate significantly enhances the chances of finding a job;
- the importance of educational capital as an asset for coping with change;
- young people are more favourable to mobility and to acquiring experience, perhaps because they know that they can no longer count on a job for life;
- the devaluing of certain diplomas: the gap is widening because of greater competition;
- young people have great difficulty in imagining and planning their future.

Unfortunately, the survey did not collect information on salaries, since this is an important aspect that makes it possible to assess the quality of jobs.

(Reports presenting this research were in the process of being prepared at the time of the experts' visit.)

There are no doubt many causes behind this trend. On the basis of the in-depth studies carried out in the canton of Neuchâtel, the following possible causes can be listed³¹:

- the inappropriateness of what was learned in some sections at the end of compulsory schooling for going on to certain apprenticeships;
- the increased academic requirements for completing certain apprenticeships successfully;
- the deterioration of the image of practical sections at the end of compulsory schooling;
- the higher requirements demanded by employers for hiring their apprentices;
- the deterioration of the image of vocational training;
- uncertainty given the economic situation (job opportunities, unemployment);

- the different working conditions of “students” and “apprentices”;
- the influence of parents on their children’s career choice;
- the changing perception of the role of schools.

Some of these causes reflect serious problems that must be dealt with by the apprenticeship system. They are not specific to Switzerland, but stem from the system’s difficulty in responding rapidly and flexibly to the requirements of a labour market -- and thus an apprenticeship market -- that is undergoing profound economic changes. For example, the increased requirements for educational capital by employers lead to the preferential recruitment of apprentices from the highest achieving sectors of schools, so that apprentices from the lowest achieving sections are excluded from the most skilled occupations. The main reason why employers are able to recruit apprentices with greater educational capital is the fact that the overall academic qualifications of apprentices have risen. This is largely because of the pupils coming from post-compulsory schools, who are competing strongly with pupils who have just left compulsory schooling. Pupils from gymnasiums, higher schools of commerce or other post-compulsory schools tend to obtain the most socially prestigious apprenticeship positions. This trend, which subverts the fundamental purpose of apprenticeship -- which is to provide an direct career-related work experience opportunity after compulsory schooling -- is interesting in itself, for it tends to undermine the argument that the social prestige of apprenticeship is declining, since it shows that apprenticeship is sought after as means of labour market integration, even by young people with a high educational capital.

In the light of the causes of indirect entry into apprenticeship programmes, two types of groups can be identified:

- pupils who have a relatively high level of academic achievement at the end of compulsory schooling, though it is still inadequate to compete for entry into the apprenticeship programmes with the highest requirements; these pupils enter the academic post-compulsory programmes, such as gymnasiums, higher schools of commerce or *écoles de degré diplôme*;
- pupils with a very low educational capital or underachievers; they tend to enrol in the pre-apprenticeship programmes that have become widespread in recent years.

The concept of pre-apprenticeship was introduced to enable young people who are low achievers at the end of compulsory schooling to prepare to enter the system. This policy option was preferred to changing the system by establishing short apprenticeship pathways that would offer no recognised qualifications and would therefore be viewed as “second rate”. This is a fundamental choice in an education and training system -- to prepare young people to enter into the established framework, rather than tampering with the framework. As we saw earlier, the structures for obtaining qualifications are well established and recognised by all. It is therefore considered essential that young people be integrated into society and the labour market by going through this system in order to avoid being marginalised.

These changes in the transition process and the institutional response to them generate higher costs for the education and training system. Pre-apprenticeship classes are costly to establish and maintain, particularly since they are attended by pupils who have special difficulties (mastery of the language of instruction, learning or behavioural problems) and who require intensive support services. Since pre-apprenticeship is aimed at preparing for entry into regular apprenticeship programmes, it is necessary to find partner enterprises that will accept young people for work experience during their pre-apprenticeship. The number of positions is limited and may be insufficient to meet the potentially growing demand, which may rise sharply due to recent waves of immigrants. Nevertheless, pre-apprenticeship can be considered a success since, according to the results obtained by the *Centre Professionnel du Littoral Neuchâtelois*, out of one

hundred pupils who leave pre-apprenticeship classes, 80 enter apprenticeship programmes and 12 go on with their studies.

The authorities have endeavoured to deal with the higher frequency of indirect transition, but have tried to reduce it as well. The measures put forward, mostly still proposals in the current consultations over new legislation on vocational training, are designed to clarify the pathways in upper secondary education, and where they subsequently lead; to enhance dialogue with education's partners -- the various tiers of government, business, unions and trade associations; and to make the system more flexible by establishing clear connecting points and crossovers, both horizontally between streams and vertically between stages of training.

The integration of young foreigners

Young foreigners are far more at risk of encountering problems in the school-to-work transition. But the main problem that the authorities must face in this regard is more one of social integration than of the transition *per se*. The Swiss education system is clearly divided into pathways, all of which lead to qualifications. This structure requires those involved -- both young people and their parents -- to be able to understand the system and to be integrated into it. In this respect, young foreigners who have come to Switzerland relatively recently have a number of major handicaps, since migration interrupted their schooling, in addition to the problems caused by conflicts in their country of origin (most of the immigrants in recent years came from regions of the former Yugoslavia). Most of the time, they do not speak the language of instruction, or very little; their immigrant status, which most frequently means that they only have a temporary residence permit, makes it difficult or impossible for them to have access to vocational training or employment (they need a special permit to enter an apprenticeship programme), not to mention the difficulties they face because of their limited language skills.

Steps are being taken by the cantons and municipalities to correct these problems of educational discontinuity. A good example is provided by the *Centre Professionnel du Littoral Neuchâtelois*, in which a pre-apprenticeship section was introduced into the school of arts and crafts. In this programme, pupils who have completed compulsory schooling but who are unable to go on normally to an upper secondary stream enter into a transition phase that can be adjusted so as to last as long as their authorised residence period. During this time, the focus will be on their mastering the language and their social integration through training workshops that bring them into contact with the world of work.

Apprenticeship: consolidating the dual system

The dual system remains solidly established in Switzerland, and economic and business circles are all but unanimous in wanting it to be maintained. Labour and management are largely in agreement about the broad orientations of vocational training. However, under the combined pressure of the economic crisis, which led to a drop in entries into apprenticeship programmes, and the diversification of young people's pathways after compulsory schooling, there has been broad-based debate about the definition of upper secondary school and more particularly the apprenticeship stream. It is important to bear in mind as a backdrop to this debate that there is a broad consensus about the need to preserve the existing institutional systems and that the changes needed consist of adapting the system to the new modes of working life and to young people's choices. Convinced that there are great benefits to be derived from early entry into enterprises, while maintaining high standards for the general education provided with practical training, the Swiss are seeking to consolidate the system while enabling it to respond to the needs of the times.

Since the beginning of the 1990s, when it began to be more difficult for young people to find apprenticeship positions, the authorities have taken a number of steps aimed at strengthening the dual system: administrative measures, through two orders on apprenticeship positions, promotional measures,

and measures directly affecting the structure of the education system by creating new diplomas and even new crossover points. The entire upper secondary system is being redefined through these measures, which seek to strike an appropriate balance between vocational training and academic studies and between the aspirations of young people and the perceived needs of the economy.

First of all, we should make some basic observations about apprenticeship in the 1990s:

- Table 11 shows the high concentration in certain sectors that characterises the vocational training system. Out of 30 occupational groups -- which themselves cover some 250 occupational apprenticeships -- the largest group accounts for between one-third and two-fifths of all apprentices, for young men and young women alike. The ten largest groups of the most popular occupations account for approximately nine out of ten young people.

Table 11 - The ten occupational groups most in demand in 1997-98

Men			Women		
Type of occupation	Number of pupils in training	As % of total	Type of occupation	Number of pupils in training	As % of total
Metallurgy and mechanical engineering	44 323	39.0	Office	28 609	35.9
Office	17 019	15.0	Medical care	14 132	17.7
Draughtsmen, technical occupations	8 806	7.7	Sales	11 427	14.3
Wood and cork products	8 216	7.2	Hotels, catering, domestic service	4 880	6.1
Construction	4 888	4.3	Body care	4 335	5.4
Hotels, catering, domestic service	3 788	3.3	Draughtsmen, technical occupations	2 645	3.3
Sales	3 769	3.3	Artistic and related professions	2 566	3.2
Agriculture	3 049	2.7	Horticulture	2 402	3.0
Painting	2 998	2.6	Food products and beverages	1 760	2.2
Food products and beverages	2 971	2.6	Fashion, tailoring, upholstery	1 335	1.7
Total for the 10 occupational groups	5921	87.7	Total for the 10 occupational groups	5160	92.9
Total	113 789	100.0	Total	79 729	100.0

Source : *Annuaire statistique de la Suisse* 1999, Chapter 15, *Education et science*.

- The number of apprenticeship certificates awarded has fallen by one-fourth over the past ten years. However, this trend must be placed in perspective by pointing out that during the same period the population aged 19-22 fell by one-fifth.
- The supply of apprenticeship positions also fell sharply: “the percentage of enterprises training young people fell from 25 per cent in 1985 to 15 per cent in 1995... The drop was perceptible both in traditional sectors (construction or industry) and in growth industries (data processing, R&D, finance and training and the social sector), where in some cases it was substantial.”³²
- Indirect entries are increasingly frequent, which means that young people’s educational background is increasingly diverse; this also means that the two streams (gymnasium and apprenticeship) are no longer mutually exclusive, but can be combined.

- The percentage of women apprentices has risen sharply over the past 25 years, increasing from 30 per cent in 1970 to approximately 42 per cent today. But young women often enter less demanding programmes, since three-quarters of the certificates for short apprenticeships (one to two years) are awarded to young women. Of the young people in apprenticeship programmes, nearly half the men, but barely 10 per cent of the women are in four-year programmes. This is no doubt one of the reasons why gender inequalities are observed later in working life. Lower career prospects are linked to a relatively lower initial level of education.

“The future versus the past”: unquestionably, the debate on changes in apprenticeship and the reform measures under way or in the planning stages are seeking to strike a balance between these two perspectives. Apprenticeship in the dual system will only have a “future” if it is adapted to today’s new economic, social and cultural realities, which implies that flexibility must become one of its key features. On the other hand, those who are “nostalgic for the past” emphasise the strong social foundations of the system, the value of qualifications and their high degree of recognition on the labour market. Far from pitting the two camps against each other, the debate is seeking to reconcile their viewpoints, recognising that both are valid and may well be complementary.

Although no one denies the need for substantial reform of vocational training, such reform faces major challenges:

- Many have pointed out certain structural constraints to the future development of the dual system: the trend toward longer general education studies; a shift to service sector jobs and consequently a rapid increase in occupations with a more theoretical skill content; a high concentration of economic activities in cities where full-time education supply has developed considerably; the “image” of the apprentice, and even of the skilled worker, is being eroded; greater mobility, which breaks workers’ tie with the enterprises in “their” canton; the decline in employment in activities that traditionally used apprenticeship on a large scale.
- Some argue in favour of a less selective secondary system that would be more favourable to reducing inequalities. The earlier selection takes place, the more it reflects criteria of social origin and the capacity of local training supply. But the question of access to the gymnasium is a political issue, for so far there has been a deliberate desire not to increase access to gymnasiums, which implies a *de facto* limitation of access to university.
- The time when people learned a trade and worked in the same field until retirement is a thing of the past. Today vocational training must take into account the fact that the conditions in which an occupation is exercised will change over time, often substantially, to judge by certain recent trends. It must also take into account the fact that many people will have to change their occupation one or more times during their career. How can initial vocational education and training be adapted to a perspective of lifelong learning?
- In the view of the trade unions, which admittedly play a less important role in the functioning of the dual system than in Germany or Austria, the development of apprenticeship faces certain contradictions that constitute challenges to reform, such as:
 - any expansion of the system by increasing the number of apprenticeship positions must not have the effect of diluting the quality of training; the system must continue to be demanding vis-à-vis training enterprises and overcome their reluctance to lengthen the in-school portion of apprenticeship;

- how to address cyclical variations in the supply of apprenticeship positions when the initiative of supply is completely left to enterprises, whereas demand is not subject to cyclical variations;
- gender inequality in vocational training;
- the insufficient number of positions for low achievers.

Table 12 - Diplomas and certificates awarded en 1997

	1997	
	Total	% of women
Upper secondary		
Baccalaureate (<i>Maturité</i>)	14224	50.7
Vocational baccalaureate	4400	23.8
Primary teaching certificate	2073	73.0
Federal <i>capacité</i> certificate	44119	39.7
Diploma from a higher school of commerce	2156	61.3
Diploma/certificate awarded by the Swiss Red Cross	3842	87.8
Elementary vocational training certificate	1842	36.1
University tertiary degree		
Non-academic diploma	1094	54.6
Licence or diploma	9064	40.9
Other final examinations in vocational training	1304	38.2
Postgraduate diploma	1114	44.0
Doctorate	2826	30.0
Non-university tertiary degree		
Diploma from a Higher Technical School (ETS)	2342	6.5
Diploma from the <i>École supérieure pour cadres de l'économie et de l'administration</i> (ESCEA)	844	19.9
Other diploma <i>École professionnelle supérieure</i> (EPS)	970	61.2
EPS postgraduate diploma	1059	8.2
Technical School diploma	1664	2.5
Masters/diploma after the higher vocational examination	2917	14.8
Federal certificate after the vocational examination	6950	30.2

Source : Federal Statistical Office (1999).

How the system should respond to the changes observed in the 1990s and to the challenges it faces has been -- and still is -- the subject of a lively debate that involves all the political and economic actors in the education system. "Reforming and strengthening of vocational training" is a specific objective of the Federal Council for 1999 (Objective 99-11).³³ The Federal Council undertook to "submit to Parliament before the end of 1999 a message on a broad-based revision of the Vocational Training Act, which should make it possible in particular to take into consideration all branches of vocational training and to establish a clear allocation of responsibilities between the Confederation, cantons and organisations active in the vocational training field". But since the circumstances of the 1990s, and in particular the problem of apprenticeship positions, required rapid action, Parliament adopted a "Federal Order on Apprenticeship Positions" in April 1997. The main purpose of this order, which appropriates SF 60 million for a three-year period, is to increase the supply of apprenticeship positions. In 1999 an additional order should be submitted to Parliament to cover the interim period until the new act enters into force.

An example of vocational training: training in a bank (UBS)

The *Union des Banques Suisses* (UBS) provides an example of vocational training in a specific tertiary sector, the banking sector.

At UBS, out of a total of 33 000 employees, 320 are involved in internal training. Every year, UBS employs some 2 000 apprentices, primarily in the commercial field or data processing. This represents an annual flow of some 600 to 700 new apprentices. In the current context of the debate on apprenticeship positions, UBS recognises that “politically, we can not cut the number of apprenticeship positions”.

UBS recruits apprentices at the end of lower secondary school (after nine years of schooling); it tries to recruit the best pupils of this graduating class. It has recruitment problems in some regions (particularly in central Switzerland). The main explanatory factors it puts forward are the lower “quality” of graduates; the fact that apprenticeships are centralised (which means apprentices must go to Bern or Basel); the fact that apprenticeship is less prestigious in French-speaking Switzerland, which means that it takes longer to find apprentices there; and the fact that young people are less and less willing to begin an apprenticeship immediately after lower secondary school. The apprentices recruited most often attend a school of commerce for the academic part of the apprenticeship. The JUNA programme enables those apprentices who so wish to go on to a vocational baccalaureate after obtaining the *capacité* certificate.

UBS also recruits after the baccalaureate (with a commercial specialisation), taking on some 200 such trainees each year. These “all-round” trainees, who have an additional four years of education, then enter a one and a half year programme leading to a certificate recognised by the Association of Banks, and often by individual banks. Some cantons have also recognised this certificate for admission into higher education (higher vocational examinations). But this training system shows that there is a “wall between the banking industry and the rest of the economy”, since the trainees’ certificate is not recognised outside the banking sector. UBS gives the same opportunities for promotion to both options (apprentices and “all-round” trainees), but in practice the latter more often show greater ambition to rise to higher positions.

University graduates are also recruited, often directly for managerial positions.

According to a UBS training officer, the vocational training systems in this multinational bank cannot be considered as being internationally permeable, which would imply that the bank is seeking to take advantage of different training systems in different countries, either in terms of training costs or the level of qualifications obtained at the end of schooling. This coincides with what was said by the managers of Novartis, a multinational corporation in the pharmaceutical sector. Nevertheless, UBS has set up a JKP (Junior Key People) training programme to allow for a measure of international mobility within the group.

The implementing guidelines of the Order on Apprenticeship Positions specify the following priority fields:

- promotion of apprenticeship, particularly to broaden the occupational field for women;
- organisation of new introductory courses;
- creation of a training structure common to a number of enterprises;
- improvement of information on the various occupations;
- organisation of existing introductory courses;
- creation of integration and pre-apprenticeship courses.

The enthusiasm with which these measures were met and the development of projects to be subsidised are unmistakable proof of the determination of all economic actors to support the development of apprenticeship. The policies laid down in the Order on Apprenticeship Positions and the projects already implemented give an idea of some options that are very likely to be adopted in the new legislation on vocational guidance and training. The prompt and on-going assessment of the impact of the order is a key

factor that will make it possible for the new act to take into account some of lessons that have been learned. A few examples may be mentioned³⁴:

- *associations of a number of enterprises for the training of apprentices* is a project of the Conference of Vocational Training Offices of German-Speaking Switzerland (DBK). The principle is simple: two or more complementary enterprises form an association and work together in training apprentices. During training, apprentices rotate to all participating enterprises. In this way, each enterprise can focus on its own strong points and optimise training responsibilities and costs. This new model also enables enterprises that are too small or too highly specialised to participate in training apprentices and thereby transmit their know-how;
- *the basic year of apprenticeship before entering an enterprise* is another initiative aimed at relieving enterprises that might provide a high-quality apprenticeship from a major investment in basic apprenticeship. The basic apprenticeship year is given in school and prepares young people to enter an enterprise. Young people in related occupations are put together in the same class. This training counts as the first year of apprenticeship. The pilot project is mainly aimed at computer and business-related occupations. This would considerably lengthen the school-based segment of apprenticeship, as is being requested by a growing number of occupations in which theoretical knowledge is increasingly important, while reducing absences from work at other times;
- *emphasis on practical training* is another DBK project that aims at increasing the supply of apprenticeship positions and “tailor-made” training for young people with learning difficulties. It proposes in particular measures such as pre-apprenticeship classes and guidance towards practically oriented occupations;
- *expansion of career guidance*: greater thought has been given to career guidance and it seems more and more clear that it must be expanded in order to adapt to an increasingly diversified demand as training pathways become less direct and a growing share of its customers are older and more frequently already have some labour market experience.

In addition to these projects which are likely to be adopted in the new legislation on vocational guidance and training, two other key approaches have been discussed at length and are the subject of experiments in a number of cantons: modularisation of vocational training and permeability, with the creation of horizontal and vertical crossovers between the various training and education pathways of upper secondary school.³⁵

- *Modularisation*: This approach is being introduced in the light of some trends that have recently been developing within upper secondary school, in particular that of “double qualifications”, when pupils obtain a second certification without having to complete all of the standard curriculum. If this trend continues, it could lead to an escalation of qualifications that would have the effect of disqualifying those who only had a single certification. This being the case, modularisation is presented as a solution for the future. If the modules are defined in terms of attainments that are accumulated like units, independently of a specific pathway or length of training, then it truly is a new mixed model of upper secondary education. However, although it has undeniable advantages for customising training pathways and for integrating upper secondary training into continuing training, this model does raise some sensitive issues. In the current state of social perceptions, the training streams and the certification to which they lead have a strong identity and considerable prestige, and the change would amount, in people’s minds at present, to a revolution. There is also the risk of some loss of pedagogical consistency, which

is a constant concern when establishing streams. Lastly, in the eyes of some, modularisation can be seen as reinforcing the current tendency of young people to postpone the time when they choose their education or training pathway. Nevertheless, although these problems must naturally not be ignored, it seems they can be overcome so as gradually to introduce an element of modularisation.

- *Permeability of pathways and the establishment of crossover points*: this issue is naturally not separable from the preceding one inasmuch as progression in a modular training system is based on an extensive network of possible transitions from the modules chosen to other modules. In practice, as is shown by the increasingly diversified pathways of young people, the gymnasium-baccalaureate and apprenticeship streams seem less and less separate, since they are no longer mutually exclusive. Also, at the administrative level, different education and training pathways are often combined in the same department. But what seemed to be missing until now has been official approval of these transitions. With the introduction of new kinds of certification (in particular the vocational baccalaureate) and new tertiary level pathways (in particular the higher specialised schools), the range of options in upper secondary school have increased. The driving force behind the reform of upper secondary school is the desire to create a system without dead ends, which implies recognising crossovers to another upper secondary pathway (horizontal permeability) and links to the tertiary level (vertical permeability). However, these plans to make the system more permeable may be impeded by its institutional structure if there is an attempt to establish crossovers between streams that are not in the same jurisdiction. This explains why for the time being this permeability is developing more rapidly within vocational training, which is primarily within federal jurisdiction.

Although major efforts have been made to prepare pupils who have difficulties when they leave compulsory school to enter the apprenticeship system, rather than bring the system down to their level by lowering standards, the Swiss authorities have also sought to make vocational training more attractive by establishing another vocational school-leaving diploma, the vocational baccalaureate (*maturité*). This diploma places greater emphasis on general education than the other vocational training pathways, particularly on the study of the regional language, foreign languages, mathematics and natural sciences. It allows pupils to go on directly to the new higher specialised schools (which will be presented later). The vocational baccalaureate may be prepared either in a full-time, one-year course, or throughout the apprenticeship programme by adding an extra half-day in school. Although it has only been in existence for less than four years, 4 400 vocational baccalaureate diplomas had already awarded in 1997, as compared with 14 224 gymnasium baccalaureates (see Table 12).

In the Swiss context, which, it must be recognised, is characterised by major inequalities in access to the different education and training streams, the apprehensions of some observers about these developments cannot be ignored. The rise in enrolment rates noted earlier is not leading to a reduction of unequal opportunities, since it is taking place through a multiplication of streams in which the same relative standing is being reproduced. It is said that this risks creating a two-tiered system, in which a depreciation of federal *capacité* certificates would be the price to be paid for introducing the vocational baccalaureate and higher specialised schools. Although this fear may be justified, the introduction of horizontal and vertical permeability through concrete measures should make it possible to keep this danger to a minimum.

Another issue that is being debated is the financing of vocational training. At present, this is shared by three partners: government, the apprenticeship enterprise (training) and the apprentice (labour). Two types of criticism have been levelled at this system, since some suggest that dual vocational training should be placed on an equal footing with gymnasium studies, which implies that government should cover a larger share of the costs of vocational training; others argue that an attempt should be made to share financing more equitably between enterprises that provide training (only one out of five) and those that do not. Since the mood is not favourable to a substantial increase in government expenditure, the solution must be found

in economic mechanisms. Moreover, recent studies do not suggest that training costs are a major factor in the decline in the supply of apprenticeship positions. This being the case, for the time being the option preferred by the government, which is the use of awareness-raising and motivational campaigns, seems to be the one that disturbs the existing institutional arrangements the least. Assessment of the results and more in-depth studies on the effect of financing mechanisms on vocational training, and in particular on the supply of apprenticeship positions, are necessary before deciding whether there should be any major change in the current modes of financing.

Although in the 1980s the dual system ran the risk of becoming a dead end, the recently implemented reforms (vocational baccalaureate, higher specialised schools) have opened up another very promising pathway. A rapid extension of this new channel seems to be indispensable to give vocational training a firm new impetus. The traditional Swiss approach of making changes step by step while trying to find a consensus among all concerned may slow down the necessary adaptation process. If we observe the changes in apprenticeship occupations in Europe, we see that evolutionary changes are no longer sufficient and that radical breaks with the past that promote the emergence of completely new qualifications often prove to be beneficial.

Tertiary education: another area for reform

In a comparative assessment of the Swiss and British transition systems,³⁶ the authors explain that “the German-Swiss educational model has a stronger focus on deepening the attainments of average and lower-attaining school-leavers. The latter type of policy clearly has important advantages today in assisting those whose employment is in the process of being displaced by advances in automation and by increasing competition in labour-intensive products from low-wage countries”. The efforts devoted to upper secondary education and to adapting apprenticeship confirm this view. And, as was shown at the beginning of this report, tertiary education is, at least from a quantitative standpoint, significantly less developed than in most other OECD countries.

Since 1977, there has been a biennial survey of previous year’s graduates of the Swiss higher education system (universities). Since 1993, non-university tertiary education has also been covered. This survey provides a data series showing the situation of young tertiary graduates entering the labour market in relation to economic conditions (Table 13). Graduates were unquestionably affected by the crisis of the 1990s, with an unemployment rate of nearly 10 per cent in 1993. However, throughout this period Swiss graduates’ situation remained significantly better than in the other OECD countries.³⁷ There are substantial differences between the linguistic regions: in 1997, the percentage of job-seekers was 5.1 per cent in German-speaking Switzerland, 11.3 per cent in French-speaking Switzerland and 9.9 per cent in Ticino. One cannot help relating these disparities between German- and French-speaking Switzerland to the considerably larger supply of university education in French-speaking Switzerland, which has four universities and a federal polytechnic school; in 1997-98, some 41 per cent of Swiss higher education students attended one of these five institutions, even though French-speaking Switzerland only accounts for slightly over 20 per cent of the country’s population.

Table 13 - The situation of higher education graduates

	Gainfully employed	Without gainful employment		
		Looking for a job	Promised a job	Not looking
1981	81.9	2.4	4.1	11.6
1983	79.6	5.6	5.1	9.7
1985	82.4	5.0	4.6	8.0
1987	86.4	2.9	3.7	7.0
1989	85.9	3.2	3.2	7.7
1991	84.7	5.2	2.8	7.3
1993	81.0	9.8	2.8	6.4
1995	85.4	7.0	1.9	5.7
1997	83.9	7.6	2.1	6.3

Source : “*Entre études et profession : La situation sur le marché de l’emploi des jeunes diplômé(e)s des Hautes Écoles et des Écoles techniques supérieures en Suisse*”, press release, March 1998.

The Swiss university sector has a solid international reputation.³⁸ But access is highly selective, as we mentioned earlier. This selection does not take place so much at the time of entry to the university itself as earlier, when young people choose their orientation on entering upper secondary school, since the baccalaureate is generally a prerequisite for entrance into the university, and baccalaureates accounted for slightly less than 20 per cent of the qualifications granted in 1997. The length of studies is another factor that can have the effect of limiting access to the university. Unlike most OECD countries, Switzerland has virtually no short university cycles; as a result, the average age for obtaining the first level diploma, the licence, is over 27 (after approximately six years of study) and is 32 for the doctorate.

Prompted by a number of factors, the Federal Council has undertaken major reforms of tertiary education institutions.

The “Message on the Promotion of Education, Research and Technology in 2000-2003” submitted to the Federal Chambers in November 1998 presents the vision for the development of tertiary education and proposes the means for implementing it over the next three years, and also traces the outlook for development through 2006. The Message presents a comprehensive project covering all aspects of the tertiary level -- education, research, institutional functioning and technology -- and is fully consistent with the reforms implemented and planned in the secondary sector, in particular the reform of vocational training. By creating the higher specialised schools, which have a status similar to that of universities, the government is also enhancing the status of vocational training, which is the main channel of access to these schools.³⁹

The focus of the Message

The reforms presented in the Message are aimed at addressing the following problems:

- The major objectives for university and research policy set four years earlier (Message on the Promotion of Science for the Period 1996-1999) were not attained, or only incompletely. Because of the deterioration of public finances, the cantons and the Confederation were not able to provide the additional resources for the new education and science tasks. Financial resources stagnated and even shrank in some fields.
- During the period 1980-1995, the number of students grew by 44 per cent, while university academic staff (teachers) rose only by 24 per cent and non-academic staff by 28 per cent,

resulting in a sizeable drop in the staffing ratio; with the 20 per cent increase in students expected by 2003, the situation could deteriorate even further if no action were taken.

- The Swiss university system is excessively fragmented, which suggests that more appropriate structures would make it possible for resources to be allocated more fairly and efficiently.
- Women are underrepresented in the teaching staff, a sign that human potential is being underused.

The Message testifies to the Confederation's consolidated approach to education and training policy. Together with the recent measure combining all areas of education and training policy under the responsibility of two federal ministries -- the Federal Department of the Interior and the Federal Department of Economic Affairs -- the Message shows the government's desire to ensure the consistency of action in this field.

The salient points of the Message

With regard to the portions of the Message that are more or less directly related to transition, the following salient points can be mentioned:

- Co-operation between the Confederation and the cantons: even though the system remains too complicated, co-operation will be improved by changing the status of the Swiss University Conference (CUS), since the new CUS will have specific responsibilities, delegated both by the cantons and by the Confederation. Although the current approach remains highly respectful of the distinctive roles and responsibilities of the Confederation and the cantons -- primarily because of the major financial contribution of the cantons and the climate of budgetary restrictions -- the Message is unequivocal:

“New forms of co-operation must be implemented to make it possible to develop both higher education and research, to ensure the unity of the field and create a genuine network of Swiss higher education institutions capable of improving our performance on a lasting basis.

However, despite the need for co-operation between the Confederation and the cantonal and autonomous actors in higher education institutions and despite the growing institutionalisation of this co-operation, it must not be forgotten that in the longer term the limitation of the Confederation's constitutional responsibilities in the field of university education is an impediment to forging closer ties between all the institutions concerned...

In the medium term, it will therefore be necessary to re-examine the Confederation's responsibilities in the field of university education. Depending on the outcome of this review, a constitutional amendment might be envisaged.” (Message, 1998, p. 12)

- The establishment of the higher specialised schools (HES) as the third pillar of tertiary education, parallel to the universities and federal polytechnic schools, and their integration into the network of higher education institutions according to the principle that they are “different, but of equal value”. The HES network, which is being built up on the basis of strong regional ties, should generate some ten centres of competence that will carry out the three broad missions of the higher specialised schools -- teaching, research and services -- at a high level of quality. The Message emphasises the equivalence of both the educational pathways that lead to a tertiary degree, i.e. gymnasium/baccalaureate/university and apprenticeship/vocational baccalaureate/HES. For students, this means that it will be easy to switch from one pathway to the other in the new integrated tertiary system.
- The creation of an institute responsible for quality assurance: this institute will be a joint Confederation-canton body. In particular, it will be responsible for accreditation, on the basis

of criteria defined by higher education institutions. It is clear that this institute was also created in response to developments in Europe. Such bodies are found in all countries of the European Union, and it is therefore necessary so that the Swiss system can be integrated into the European system of academic credits. Furthermore, with the development of distance learning, it is necessary to have a recognised authority able to establish equivalences.

- Promotion of new information and communication technologies with a view to creating a “Swiss virtual campus”. This may ultimately change the conditions of access to tertiary education.
- The need to make progress towards equal opportunity between the sexes in higher education (universities, federal polytechnic schools, higher specialised schools). The Message sets the ambitious goal of doubling the proportion of women in university faculties by 2006 and proposes wide-ranging measures and incentives for achieving this goal. Although 43 per cent of university students are women, only 5.7 per cent of the faculty are women, which is significantly lower than the OECD average of approximately 10 per cent. For the HES, the Message provides for SF 10 million to support the hiring of a growing number of women in teaching, support and research positions. Steps are also being taken to ensure more flexible organisation of the curriculum (modularisation and distance teaching) and to enable teachers and researchers better to co-ordinate their professional and family obligations.

There can be no doubt that if the tertiary system develops as planned in the Message, in a few years the landscape of tertiary education will differ significantly from what it is now. The changes envisaged seem to respond adequately to the different kinds of demand facing the system, whether it is that of young people who increasingly wish to prolong their studies in order to improve their career choices, that of the economy in need of highly qualified staff, or that stemming from the government’s wish to strengthen ties with the European Union so as not to be left out of the strong trend towards integration generated by the magnitude of European research, education and mobility programmes. By making these changes, far from calling into question the characteristic features of its education and training system, the Confederation is deliberately seeking to rely on its specific strengths to meet the challenges of adapting its system, and is even doing all it can to strengthen its weaker links, as we have seen in the case of vocational education. The Confederation’s response is clear: the planned expansion of tertiary level education should not include a significant rise in university enrolments -- the explicit objective is to stabilise the number of students at 15-20 per cent of a cohort -- but rather to increase enrolments in higher specialised schools, which are the tertiary destination to which upper secondary vocational pathways lead.

In a world in which many policymakers look beyond their borders to find solutions to the ills afflicting their national education systems because of the changing needs of the economy and labour markets, it is interesting to note the following comment by the director of the Federal Office for Vocational Training and Technology (OFFT), one of the principle architects of the Message, which is characteristic of the state of mind of Swiss reformers and instructive to other countries: “Globalisation leaves countries’ decision-making power in the field of education, research and technology intact; it is up to us to decide how much must be invested in this crucial field and what kind of education system we want.”

It is too early to say whether the implementation of these structural and institutional adjustments will make it possible to respond to the criticism of the current system levelled by students, which mainly concerns the obstacles to mobility. However, in theory the positive elements are there, for the networking of all tertiary education institutions and the development of crossovers between the different types of institutions (universities, polytechnic schools and higher specialised schools) should considerably offset the lack of uniformity in cantonal practices of support to tertiary education.

The impact of Europe

In a popular referendum of December 1992, Switzerland voted against entering the European Economic Area. Nevertheless, bilateral negotiations are going on in various policy areas, such as social insurance or, in the field of education, the mutual recognition of diplomas. In this field, both Switzerland and Europe are practising a gradualist approach through a policy of small steps. The bilateral discussions on the recognition of diplomas are focused on labour market entry rather than the continuation of studies. Switzerland recognises the *acquis communautaire* in this field. There is already agreement on some higher education programmes (such as medical and paramedical studies). It is planned to hold a popular vote on these bilateral agreements in 2001-2002, which would enter into force in 2003. A second round of negotiations might be held on exchanges between universities and participation in European programmes. Inter-university exchanges already exist, since 20 per cent of students are foreign.

Despite the rejection of entry into the European Union, it is clear that Europe has a great impact on the process of preparing reforms in Switzerland. One of the most striking examples is the development of higher specialised schools (HES), which, inter alia, responds directly to a concern to harmonise the Swiss system's education programmes, diplomas and qualifications with the guidelines and practices emerging at European level.

The strong attraction exercised by Europe can also be observed in border cantons where many bilateral co-operation agreements are being developed at regional level, and between schools and enterprises, which allow some apprentices to receive part of their training in the neighbouring country.

5. TRANSITION FROM THE LABOUR MARKET STANDPOINT

The circumstances of the transition from initial education to working life are not governed simply by the education environment and end-of-schooling paths, but also by the receptivity of the labour market, in other words employers, to young people coming out of the various training courses. As we saw earlier, when describing the central position that qualifications hold in the education system and in the labour market, both through the interlocking of training and employment in vocational training, particularly in the dual system, and through the demand for higher qualifications where the supply is relatively limited, transition is usually quite smooth, taking the form of a progressive switch from a concentration on educational activity towards a concentration on job activity. Since the early 1990s, however, deteriorating conditions in the labour market have somewhat changed the picture, with training supply in the dual system becoming relatively scarce, a development which has more particularly affected those young people who are least well placed at transition, newly arrived foreigners and those with the lowest academic attainment. We have considered some of the measures taken to reduce these problems on the education side, and we now need to consider how the labour market has responded.

Combating youth unemployment

The economic crisis in the early 1990s indicated that there could well be a serious risk of unemployment for young people. The overall rate of unemployment rose from 1.8 per cent in 1991 to 4.2 per cent in 1997. As is frequently the case, the rate among young people rose more sharply than among adults at the start of the crisis, and then fell from 1993 onwards whereas adult unemployment continued to increase. Until 1993 youth unemployment was not viewed as a special problem and there were no specific employment measures for young people. In 1993 the unemployment rate for 15-24 year olds peaked at 6.8 per cent, as against 25 per cent in France, 31 per cent in Italy and 8 per cent in Germany⁴⁰. By October 1998 youth unemployment had fallen to 2.9 per cent, made up of 2 per cent for 15-19 year olds and 3.2 per cent for 20-24 year olds⁴¹.

Since the mid 1990s there has been a clear shortage of skilled labour at all levels, notably university graduates, and in particular for jobs in services, communications, computing and health, and in industrial jobs calling for wide qualifications. There is also a labour shortage in sectors offering relatively unattractive terms and conditions of employment. These factors account for the continuing interest in inflows of foreign labour, carefully regulated via the different types of work permit, and cross-border workers⁴². Even so, around 70 per cent of foreigners have permanent residence permits. That underscores the degree to which Switzerland's economy relies on the permanent presence of a large number of foreign workers, most of them unskilled.

Although the general background is enviable, Switzerland does have disparities between groups of young people which have been receiving considerable attention, especially since the mid 1990s. Within the country there are considerable disparities in youth unemployment rates between the German-speaking and French-speaking areas and Ticino. In 1993 youth unemployment in the last two areas was almost three times as much, at 12.1 per cent, as in German-speaking Switzerland (4.5 per cent)⁴³. By November 1998 these rates had fallen appreciably, and the relative and absolute differences had also narrowed (to 4.8 per cent and 2.7 per cent respectively). There are also significant differences in unemployment rates for males and females. In October 1998 the rate for the 15-24 age group was 2.5 per cent for males and 3.1 per cent for females. But the most striking disparity is between Swiss nationals and foreigners of the same age: just 1.8 per cent of Swiss youths are unemployed, against 6.3 per cent of young foreigners⁴⁴. 49 per cent of unemployed young people in Switzerland are of foreign origin, whereas they represent less than a quarter of the population⁴⁵. The distribution of foreigners across Switzerland may, but only in part, account for regional disparities in unemployment: foreigners are proportionately more numerous in French-speaking Switzerland and Ticino (29 and 27 per cent respectively) than in German-speaking Switzerland (21 per cent).

As we have seen, a transition phase is starting to appear, particularly for young people in secondary vocational training -- at school or in apprenticeships -- and for young foreigners who have recently come to Switzerland. But the position of the two groups is very different. Those in the first group are tending to extend their initial education, either taking various forms of pre-apprenticeship before going into apprenticeship proper⁴⁶, or taking post-secondary or tertiary courses after their apprenticeship or full-time vocational education. As a rule those who enter the labour market (possibly intending to continue training at a later time) quickly find jobs, even if they have not taken apprenticeships. "Pre-work unemployment" varies from region to region but is usually low and short-lived, compared with other countries. Young people in the 15-24 age group represent 7 per cent of the long-term unemployed⁴⁷. The reasons are no doubt the overall shortage of labour and the extremely high activity rates in all population groups, meaning that there are no latent labour pools to draw on. Young people entering the labour market are generally better trained than jobless adults, and more geographically mobile.

Like adults, jobless young people with good qualifications benefit from the significant improvements made since 1993 in the effectiveness of placement services, including placement in other cantons and regions⁴⁸. In addition, *vocational placements* providing initial work experience are available to them. The trend towards extending initial education further narrows the supply of young entrants, so the position of young people on the labour market should continue to improve. A demographic shift, with a potentially positive impact on youth unemployment, is also expected to occur from around 2003.

The position is quite different for young foreigners who recently arrived in Switzerland with their parents, especially those who did not start their schooling in Switzerland and most particularly those arriving at ages 14-16⁴⁹. In their case, low vocational qualifications combine with other handicaps, such as insufficient knowledge of the languages spoken in Switzerland and, more broadly, difficulties in integrating culturally and socially. Switzerland's vocational qualifications system does not give formal recognition to the skills that some of these young people may have acquired before entering the country. In addition, as a rule young foreigners have more difficulty in making use of their Swiss qualifications on the labour market. That is particularly true for recent arrivals, even those who have subsequently obtained

formal qualifications in the country. Current measures to combat youth unemployment are particularly directed at these groups, whose circumstances are often hampered by the lack of residence and work permits, and in some cases by illegal status.

As mentioned earlier, Switzerland had no measures specifically for young unemployed until 1993. Since then a number of active labour market measures have been specially directed at young people⁵⁰. Policy and funding is in the hands of OFDE, and latterly the State Secretariat for Economic Affairs (SECO), and implementation is a matter for the cantons. The measures include *vocational placements*, *training placements*, *training enterprises* and the *motivational semester*. Other measures open to the unemployed generally are of course available to young people as well. The aim of all the measures is to integrate young jobseekers on a lasting basis and to motivate people without qualifications to enter apprenticeships.

The measure most directly targeting young people is the *motivational semester*, which was run experimentally for two years and has been an official part of active employment measures since January 1996. It is directed at 15-18 year olds who do not obtain apprenticeships after leaving compulsory schooling, or who have broken off an apprenticeship. For six months (and exceptionally up to twelve) young people, on employment contracts, have opportunities to visit firms, become acquainted with a number of occupations and attend courses giving a basic understanding of the labour market. Like all temporary employment programmes, the motivational semester falls outside the scope of the regulations requiring untrained school-leavers to wait 120 days before joining a programme covered by the unemployment insurance system and/or receiving unemployment benefit. Around three in every four of the 2 130 young people covered by this measure in 1998 subsequently found apprenticeships or jobs. Research shows that results vary considerably from one canton to another. The main reason is given as participants' "lack of co-operation" in some cantons, and their enthusiasm in others. The reasons underlying these discrepancies need to be considered, and may be related to the proportion of young foreigners in the programme.

Vocational placements are largely a means for qualified young people covered by unemployment insurance to gain initial vocational experience. They are mainly intended for young people who become unemployed at the end of their apprenticeships. They are based on a placement contract between an employer, the trainee and the relevant cantonal authorities. A vocational placement can be made only in an undertaking that is eligible to train apprentices. 20 per cent of the trainee's time is set aside for job search. The undertaking assumes 20 per cent of wage and social costs, with a minimum of FF 500 a month; the balance is funded by the unemployment insurance scheme. Exchanges between linguistic regions, promoted by some agencies as part of the programme, help improve knowledge of a second language, thus tackling one labour market obstacle. In 1997 around 4 000 young people took part. Wage costs borne by the unemployment insurance scheme totalled some SF 45 million, or an average of SF 11 250 per head. Reflecting the recovery on the labour market, 2 730 young people took part in these placements in 1998, at a cost of SF 21 million to the unemployment insurance scheme, or around SF 100 per head per day. Around 60 per cent of trainees find work during or after the placement period.

The *training placement* is designed to help young unemployed to increase their vocational qualifications. It runs for a maximum of three months and is assimilated to a further training course (the vocational placement is classed as a temporary employment measure). It is designed to extend the knowledge acquired during actual training, and hence improve employability. Placements are in undertakings approved for apprenticeships. There is no financial charge to the undertaking. As with vocational placements, apart from the trainee's remuneration, there are no other costs to the unemployment insurance fund. Out of 700 participants in 1998, 60 per cent subsequently found work.

The 42 *training enterprises* are shadow firms devised, again, for young people leaving apprenticeships and not finding jobs. In 1998 around 2 000 young people were taken on by these enterprises, each of which employed between 10 and 20. Like their counterparts in many vocational colleges in Austria and elsewhere in Europe they produce shadow services⁵¹ or actual technical and crafts items which they trade

among themselves, performing all the activities of genuine firms (management, accounts, finance, banking, etc.). The average employment rate for training enterprises is 64 per cent, mainly because participants have completed apprenticeships before joining the scheme. They are mostly funded by the unemployment insurance scheme, but large firms such as Novartis and UBS have established training enterprises, or are planning to do so, as part of their own apprenticeship programmes.

Other measures, open to anyone with unemployment insurance cover, are temporary employment programmes, encouragement to become self-employed, and starting work allowances.

Compared with other countries with much higher unemployment, Switzerland has introduced an extensive range of measures since 1993 and has invested an impressive amount of energy and personal involvement on the ground in tackling youth unemployment and exclusion. It is so far hard to gauge the number of young people currently and in particular potentially covered by the range of measures, given the dispersal of statistical records, localised appraisals, and the relatively recent introduction in most cases. But the research and assessments available on employment following the various programmes indicate that for young people in difficulty those measures with a strong element of practical integration in work and business life are generally more effective than straight courses -- especially for the less qualified. But the outcome of both courses and employment measures varies substantially depending on the regional context and on earlier qualifications and experience, and the factors making for success or failure are hard to identify. In addition, given that the placements are not genuine apprenticeship programmes, a question arises about recognition of the skills acquired.

Looking at youth unemployment measures in a country such as Switzerland, the essential roles played by initial education (apprenticeship, schooling), the interlinkage between the training and employment systems, and the consensus among all actors, come out very clearly. With the apprenticeship system and -- at least to date -- employers' commitment to training (even in some service sectors, banking for example), the number of young unemployed and young people at risk is kept to a very relatively low level at the outset. High-cost intensive measures can accordingly prove more effective for those who still slip through this systemic safety net, which is part of the "common educational mould" and the predominant interface (to date) between training and employment. Things are less clearcut for young foreigners coming in at a time of considerable personal strain -- it is harder to gauge how far the current programmes give an adequate response to this group's difficulties and requirements.

As part of the systemic package, short training courses and pre-apprenticeship (much discussed, opposed by the unions, but upheld by referendum) seem to have proved a genuine success to judge from the admittedly sporadic and piecemeal research showing a high rate of transition to normal apprenticeships, offering qualifications, after the programmes. Unions today concede that the programmes are effective in integrating young people in the dominant system by taking them into apprenticeships which they could not otherwise have entered.

The challenges of tertiarisation

Current economic trends seems to be changing the somewhat alarming outlook of the earlier 1990s. Many observers felt that Switzerland, after holding back from membership of the European Union, and with some sectors undergoing substantial restructuring in a troubled economic climate, was in danger of seeing its exemplary competitiveness fall away, with consequences for its labour market. Those fears do not now seem justified. The challenge is in fact quite different. While pockets of underemployment and unemployment persist, the Swiss labour market is in fact facing a shortage of highly skilled labour. That could hamper economic growth, and difficulties are already appearing at a structural level.

The changes under way are similar to those facing all the advanced industrial countries. The manufacturing workforce is shrinking. This is because labour-intensive production is gradually relocating,

on account of labour costs, while industry itself is changing, becoming tertiarised by subcontracting wherever possible and refocusing around its chief skills. That is one of the reasons behind the expansion in business services. All these features make up “tertiarisation”.

Swiss industry is hesitant about these changes. When considering adjusting the education and training system for a service economy, decision-makers are reluctant to grasp the implications of the change. All statistics from advanced industrial countries indicate that over two-thirds of workforces are now employed in service occupations. But the review team had the impression during its visit that, particularly in the dual system, industrial jobs are still regarded as the central and exemplary pillar of occupational training. Yet this runs counter to the actual trend in manufacturing firms, where a growing proportion of turnover comes from services relating to industrial products. In ABB (as in General Electric), for example, services are by far the most dynamic sector.

Recognition that services are transforming manufacturing industry is still at an early stage. The changes in economic structures will continue: customers or consumers increasingly require solutions or systems that respond more comprehensively to their needs, combining products and services. People no longer buy a computer and software, for example, but sign a contract with a facilities management supplier. It is of no great concern whether transport is by rail, road or air; what is required is a door-to-door solution. Similarly, integrated services such as security management, health management, civil engineering project management for instance, are expanding. So while there is no longer a clear division of labour between producing goods and services, compartmentalised training based on narrowly defined occupations will fail to satisfy new requirements in the labour market and raise question marks over individual career patterns.

In this context it is also worth noting that service occupations increasingly require refined know-how. Analysis in the United States and Germany shows that between 50 and 60 per cent of service occupations are highly skilled ones. That is a long way from the widespread misunderstanding that employment in services largely consists of “MacJobs”.

In spite of the far-reaching changes that have already occurred, the real revolution is still to come, with the advent of electronic commerce and the Internet. Closures and job losses are already being seen in financial services, insurance, tourism and retailing. The Internet may quickly erase many distinctions between the production of goods and services. In addition it will profoundly change production processes so that the value-added chain will extend upstream from the customer to R&D through direct and immediate communication. Entirely new skill fields will open up. A few examples may be mentioned:

- in consulting: the interweaving of technical and economic engineering, project management, facilities management;
- software performance: software for network development, software for telecommunications and multimedia;
- business services: integrated services such as tax, legal and management consultancies;
- in marketing: electronic media and call centres.

Looking at job offers, in Switzerland and elsewhere, there is already a very high potential for occupations, defined very broadly by keywords such as “software” or “information technology”, which are not covered by the training supply. Traditional institutions, at whatever level -- apprenticeships, technical colleges, *hautes écoles spécialisées* or universities -- are far from capable of supplying specialists in adequate numbers.

It would accordingly appear that Switzerland has every interest in establishing an action programme to prepare for the changes in services in the 21st century. That would provide a basis for identifying scope for service activities in the Swiss economy, and the resulting qualification requirements.

6. CONCLUSIONS AND SUMMARY OF SUGGESTIONS

This review of the transition from initial education to working life in Switzerland was made at a time when the country was coming out of one of its longest periods of economic slowdown in modern times. Many factors have combined to make the main actors involved in the transition raise questions about the system's present and, still more, its future:

- the trend in youth unemployment since the start of the 1990s (although it never reached the levels found in most other OECD economies);
- the structural changes in the Swiss economy, which became more apparent in the context of sluggish growth;
- the growing tertiarisation of the economy, bringing out new qualification requirements or redefining needs in the labour market;
- the persistent shortage of highly skilled labour;
- the falling supply of apprenticeships;
- growing difficulties linked to immigration policy focusing on low-skilled workers and their families;
- government reorganisation at federal level;
- rejection of EU membership at the referendum;
- the need to maintain consistency with European training initiatives.

It is clear that the transition system has so far been highly effective overall. Accordingly, our questions relate more to its future.

In the great tradition of Swiss education thinking, the training system has been vigorously debated in recent years. The exercise is not a theoretical one: it is in fact closely tied in with the far-reaching reforms on which the country has embarked. No part of the education system remains untouched by the reform movement. There have even been noteworthy advances over the last ten years or so in the related area of educational research -- due in good part to the growing international approach. Viewed in relation to the current and future challenges facing education systems and the labour market, and closer ties with the European Union, the main thrusts of the reforms under way seem in our view to be taking broadly the right direction. But the country's socio-economic system and political and administrative structure pose particular problems for such an extensive exercise. In particular, the diffuse decision-making system hampers proactive approaches and fosters reactive ones. Future-looking moves frequently appear to meet resistance, due to the division of powers in education and training. Experience shows that the parts of the education system which "move ahead most quickly" are those where decision-making is most concentrated, largely at federal level and in matters concerning funding. On the other hand, the cantons' decision-making powers and their substantial direct involvement at all levels of training give a boost to

complementarity between training and employment at local and regional levels, which other countries are striving to achieve through decentralisation.

With a large number of projects going ahead at the same time, some contradictions may well emerge. We would note that:

- offering a wider range of training options and pathways may run counter to the stronger role for apprenticeships that the authorities are seeking;
- seeking to restore the balance of prestige across the range of post-compulsory training routes may simply transfer the hierarchical ranking of courses to higher-education level;
- more crossover points between training paths may encourage more young people to extend their initial education for longer periods than are thought appropriate;
- step-by-step movements as reform projects advance may militate against a bold approach to the major challenges of the future and against overall consistency in the reform package.

One of the main issues is apprenticeship -- largely in its dual form -- as the cornerstone in the system of building up skills required by the labour market. The political determination and the social need to maintain a strong apprenticeship system, dominating the training pathways, was expressed to us very clearly, and virtually undisputed. It is true that any alternative to apprenticeship would reduce the young labour force and increase public spending on education. Alongside the training function of apprenticeship, we cannot disregard the productive contribution of apprentices, which appreciably reduces the overall cost of the dual system.

At the same time, while the broad consensus undeniably makes for social cohesion, it does somewhat inhibit thinking with regard to the emerging new economic paradigms, and the new forms of services in particular. The virtual lack of any wide-ranging forward thinking about these major trends in the world economy and their impact on Swiss labour markets and society does not help broad debate and consideration of new approaches. The pragmatic approach that characterises Switzerland is inevitably at odds with the very diffuse structures of political and administrative authority and decision-making. In this respect we may briefly return to some salient points that we mentioned earlier in the report.

- The concept of qualifications -- In the new economic context that is redefining the work to be performed, the concept of qualifications at the heart of the way labour markets and the education system operate needs to be rethought. It cannot be so clearcut or rigid as in the past, both because the skills range in new jobs is broader and because people are required to demonstrate ever greater flexibility to adjust to career changes over working life.
- The declining supply of apprenticeships -- During the 1990s the numbers of apprenticeships have declined appreciably, not just in the industrial sector most affected by the economic crisis but in services as well. As a form of preparation for working life, apprenticeships are making little headway in growth occupations such as computing and communications technology. This is not simply the outcome of the troubled economic conditions of the past ten years, and the subject needs closer attention to ensure that young people are properly prepared for the occupations of the future, in firms, at school or in new forms of firm-school co-operation.
- Modularisation and crossovers -- With regard to these new paths, explored in connection with the reforms currently being considered at upper secondary level, the optimism that they generate among many political decision-makers needs to be qualified. These mechanisms are hard to put into practice, call for substantial monitoring instruments, and may obscure training paths and the value of end-

qualifications both for young people themselves and for employers. That may explain why the unions are dubious about bringing these innovations into initial education, whereas they support their introduction in ongoing training.

- Disparities between men and women -- The dominance of apprenticeships in the training system is unlikely to reduce the disparities observed between men and women both in post-compulsory training paths and in the transition to the labour market. A more flexible split between education and in-work periods, in apprenticeships, or greater latitude for career choice in academic courses and greater support for occupational guidance, could help reduce the disparities.
- Occupational guidance -- Transition from initial education to working life calls for a wealth of information if it is to be effective both for young people and for society as a whole. In a transition system based largely on apprenticeship and early career choice, an effective system of occupational guidance is an absolute imperative. Switzerland has a system of this kind. But given expected trends in the labour market it is likely to have its limitations, and those trends could usefully be taken into account when shaping the reforms:
 - the system does not seem likely to respond to the shortage of highly skilled labour;
 - the earlier academic orientation occurs, the greater the significance of family circumstances and the training supply within a limited distance from home; occupational guidance will then have little scope to open horizons and promote social mobility as it should;
 - given that chief responsibility lies with the cantonal authorities, occupational guidance is fragmented; consolidating information at national level, together with appropriate statistical machinery, would help to inform young people more fully and record the outcome of occupational guidance, and its effectiveness.
- Tertiarisation of the labour market -- The labour market is changing. Tertiarisation is one of the main changes. It means a new distribution of the types of skills required on the labour market -- with a switch from industrial occupations towards service jobs -- and in many cases also a wider range of functions that individuals have to perform. With over two-thirds of labour now employed in the service sector, and affected by employers' new requirements, greater emphasis should be placed on preparing for this package of activities, which the traditional apprenticeship system fairly largely continues to disregard. That may require the development of different forms of alternation in apprenticeships, with for example a greater role for the academic side in preparation for work.
- The shortage of highly skilled labour -- Transition may well be a social issue, but increasingly it is becoming an issue of labour shortages in high-skilled groups. Any consideration of the reforms should bear in mind that university access is in practice restricted, that the period of study needed to obtain an initial university qualification is already very lengthy and expensive, and that the establishment of the *hautes écoles spécialisées* and crossovers between secondary-level occupational training and non-university higher education are lengthening the average period of study. Against a background of skilled labour shortages, there is a need to strike a proper balance between wider entry to higher education and the length of courses which keep students out of the labour market. Encouraging women towards courses leading to forward-looking occupations and amendments to the immigration rules -- placing greater emphasis on recruiting skilled staff -- are certainly positive contributions to improving the situation.

At the same time, we also observed noteworthy examples of flexibility in occupational training supply. They include new courses in the banking sector and efforts to establish joint apprenticeship centres for

SMEs. We consider that new forms of providing and funding occupational training need to be found to increase the training supply in a number of emerging occupational areas, in particular in services.

Finally, some groups of young people face significant transition problems. They include school drop-outs and recent immigrants (whom Switzerland, like other countries, is obliged to accept under refugee assistance and family reunification programmes). For these groups, measures to assist integration and to prepare them for apprenticeships are well worth the funding accorded and the commitment of training staff, of which we saw some impressive examples.

Immigration has traditionally been one of the main safety valves for Switzerland's labour market, in particular for low-skilled workers, often under greater threat from cyclical changes. That is far less the case today, as foreigners are now staying for longer periods. But the inheritance from earlier immigration policies is proving hard to "digest", since the recently arrived foreign population includes quite a number with difficulties in making the transition to working life.

In terms of labour market policy, Switzerland rapidly introduced active measures to counter the rising youth unemployment in the 1990s. It particularly targeted its measures on the most vulnerable groups, such as recent arrivals and young people with little education, where social exclusion was involved rather than "normal" transitional unemployment. While it is somewhat early to pass overall judgement on these measures, given the variety of data and assessments, it is reasonable to think, from discussions during our visit, that the measures are proving reasonably effective.

Considerable efforts have been made to develop educational statistics in recent years. Adjusting to the "cultural shift" in education policies, with greater attention on learning and results, rather than chiefly on inputs, Switzerland is continuing its commitment to develop consistent statistical monitoring for science and education⁵². Given that there are proposals to establish a special statistical monitoring unit for education, the opportunity should not be missed to equip Switzerland with a longitudinal survey of transitions at national level, especially as national research programmes are rightly focusing on transition. Transition pathways to employment are becoming increasingly complex. To understand young people's decisions and options, and to take them into account in policy decisions, appropriate analytical instruments are needed. For instance, to judge from the low unemployment rate for young people the fit between education systems and the labour market seems effective, but in fact there is little precise information about matches between training exits and occupations; while that approach is not very relevant for planning training supply, the data are essential in understanding trajectories into the labour market and young people's use of the training system. When considering transition in Ticino, we noted the immense value of longitudinal surveys. The initiative would be particularly appropriate at a time when pathways at upper secondary level are being redefined; longitudinal research would allow proper examination of the value placed on each pathway by the labour market.

Mention should also be made of the national research programmes and their contribution to analysing and understanding transition issues. PNR 33 in particular has produced a mass of relevant research here. Continuing these initiatives, together with development of the statistical apparatus, seems important when so many reforms whose impact requires analysis are being undertaken.

The qualities that have made Switzerland an example of economic performance while preserving high standards of living are still there. They should allow the country to overcome the difficulties that have arisen in recent years. The cohesion of the socio-economic system and its capacity for adjustment are great strengths. They should be harnessed to changes guided by a clear vision of tomorrow's circumstances rather than a determination to sustain, at any cost, a system which, while it has served Swiss society well to date, is under strain to meet the needs of the future.

REFERENCES

- Bierhoff, H. and S.J. Prais (1997), "From school to productive work -- Britain and Switzerland compared", The National Institute of Economic and Social Research, Cambridge University Press.
- CDIP and OFFT -- Groupe de projet secondaire II (1998), "Le degré secondaire II en Suisse : Réalités et musique d'avenir", Panorama Édition spéciale, Berne.
- Economic Council of Canada (1992), "A Lot to Learn", Department of Supplies and Services, Ottawa.
- Conseil fédéral (1998), "Les objectifs du Conseil fédéral en 1999", Berne.
- Donati, M. (1999), "Volevi veramente diventare quello che sei ? La formazione dei giovani dopo la scuola media", Ufficio studi e ricerche, Repubblica e Cantone Ticino, Dipartimento dell'istruzione e della cultura.
- Desages, A. (1995), "Les nouvelles modalités d'entrée en apprentissage : les transitions indirectes", Rapport au Département de l'Instruction publique et des affaires culturelles, Service de la formation technique et professionnelle, Neuchâtel.
- Flückiger, Y. and D. Oesch (1999), "L'inégalité : Frein à la croissance ?", Observatoire universitaire de l'emploi, Université de Genève.
- Hanhart, S. and Schultz, H.-R. (1998), "La formation des apprentis en Suisse -- Coûts et financements", Delachaux et Niestlé, Lausanne.
- Malaguerra, C. (1999), "Préparé pour la vie ? Évaluations des compétences en Suisse", La Vie économique -- Revue de politique économique, 1/99.
- "Message relatif à l'encouragement de la formation, de la recherche et de la technologie pendant les années 2000 à 2003", 25 November 1998.
- OECD (1991), "Reviews of national policies for education: Switzerland", Paris.
- OECD (1996), "Labour market policies in Switzerland", Paris.
- OECD (1997), "Economic Survey: Switzerland", Paris.
- OECD (1998), "Education at a Glance -- OECD Indicators", Paris.
- OECD and Human Resources Development Canada (1997), "Literary Skills for the Knowledge Society", Paris.
- OFES, OFIAMT, OFS and Secrétariat de la CDIP (1995), "Les structures du système d'enseignement et de formation initiale en Suisse", Berne.
- Office fédéral de la statistique (1995), "Les indicateurs de l'enseignement en Suisse -- L'enseignement en mutation dans notre pays", Berne.
- Office fédéral de la statistique (1997), "Indicateurs des hautes écoles suisses", Berne.

- Office fédéral de la statistique (1998), “Une sélection des indicateurs de l’enseignement en Suisse -- Indices standardisés 1996/97”, Neuchâtel.
- Office fédéral de la statistique (1998), “Comptes globaux du marché du travail 1991-1996”, Neuchâtel, October.
- Office fédéral de la statistique (1999), “Annuaire statistique de la Suisse 1999 -- Chapitre 15 : Éducation et science”, Neuchâtel.
- Office fédéral de la statistique et de la Chancellerie fédérale (1998), “Défis 1999-2003”, Évolution des tendances et thèmes futurs de la politique fédérale -- Rapport de l’État-major de prospective de l’administration fédérale, Neuchâtel.
- Office fédéral de la formation professionnelle et de la technologie (1998), “La nouvelle formation professionnelle -- Conférence nationale sur la formation professionnelle et les places d’apprentissage 1998”, Documentation de référence.
- Office fédéral du développement économique et de l’emploi (1999), “Youth unemployment in Switzerland”, paper for the Washington Conference, February 1999.
- UBS (1998), “Formation professionnelle : quel avenir”? Opinions et points de vue croisés d’un groupe d’experts”, Fondation 1997 de la Société de Banque Suisse, Basel.
- Vision (1998), le magazine suisse de la science et de l’innovation, No. 4, December.
- Wolter, S.C. and Weber, B.A. (1998), “L’apport financier de la formation”, La Vie économique -- Revue de politique économique, 9/98.
- Wolter, S.C., J. Christoffel and M. Curti (1999), “Different school systems -- Different labour market results”, in Lange, T. (ed.), “Understanding the school-to-work transition”, Nova Science Publishers, New York.

ANNEXES

Annex 1 -- Members of the OECD Review Team

Mr. Werner Clement
Vienna University
Vienna, Austria

Mr. Patrice de Broucker (Rapporteur)
Centre for Education Statistics
Statistics Canada
Ottawa, Canada

Mrs. Marianne Durand-Drouhin
Directorate for Education, Employment, Labour and Social Affairs
Organisation for Economic Co-operation and Development
Paris, France

Mrs. Marinella Giovine
National Institute for Training and Employment Research (ISFOL)
Rome, Italy

Annex 2 -- Members of the Swiss Steering Group and authors of the Background Report

Mrs. Anna Borkowsky
Office fédéral de la statistique (OFS)
Neuchâtel

Mr. Rudolf Natsch
Office fédéral de la formation professionnelle et de la technologie (OFFT)
Berne

Mrs. Cornelia Oertle Bürki
Conférence suisse des directeurs cantonaux de l'instruction publique (CDIP)
Berne

Mr. Marino Ostini
Office fédéral de l'éducation et de la science (OFES)
Berne

Mrs. Stéphanie Vanhooydonck (national co-ordination)
Office fédéral de la formation professionnelle et de la technologie (OFFT)
Berne

Mr. Stefan Wolter
Office fédéral du développement économique et de l'emploi (OFDE)
Berne

Mrs. Françoise Galley and M. Thomas Meyer, co-authors of the Background Report.

Notes

1. For example, an important report on vocational and technical education and training from the beginning of the 1990s, a 1995 round table on school-to-work transitions in OECD countries and a chapter on the problems faced by young people in the 1994 *Employment Outlook*.
2. In 1997, the unemployment rate of 15-24 year-olds was 6 per cent and their employment to population ratio was 63 per cent.
3. Higher education institutions specialising in applied sciences and technologies, management and applied arts, comparable to the *Fachhochschulen* in Austria and Germany.
4. "Literacy Skills for the Knowledge Society", p. 131.
5. *Comptes globaux du marché du travail 1991-1996*, Federal Statistical Office, October 1998.
6. These discussions led to the signing of seven sectoral agreements in June 1999.
7. Most of the data on the foreign population in this section is taken from Press Release No. 104/1998, 24 November 1998, of the Federal Statistical Office.
8. "*Les Objectifs du Conseil Fédéral en 1999*", Internet site <<http://www.admin.ch/ch/f/cf/rg/prog1999/index.html>>.
9. The so-called "three circle" system was established in 1991. Under this system, priority was given to admitting highly skilled nationals from the European Union and the European Free Trade Association, and then from the United States and Canada and, lastly, in the third circle, from the rest of the world.
10. The information in this section is drawn mainly from the publications "*Les structures du système d'enseignement et de formation initiale en Suisse*" and "*Indicateurs des hautes écoles suisses*".
11. However, following a constitutional revision adopted in April 1999, some changes should enter into force on 1 January 2000.
12. S. Hanhart and H.-R. Schulz (1998) and H. Gilomen in OFFT (1998).
13. In a report published at the beginning of the 1990s, the Economic Council of Canada stressed the importance of the concept of coherence as a factor explaining the strong performance of certain socio-economic "models" (see Economic Council of Canada, 1992). At that time, Switzerland ranked third of 18 OECD countries.
14. The Federal Statistical Office distinguishes between 169 training programmes in industry and in craft trades, and 106 training programmes in the service sector (Sheldon in OFFT, 1998).
15. Bierhoff and Prais (1997), p. 10.
16. A. Borkowsky in "Swiss Educational Mosaic", cited by Bierhoff and Prais (1997), p. 87.
17. Drawn from "*Des faits et des tendances*" by Heinz Gilomen, in OFFT (1998).
18. Drawn from "*Des faits et des tendances*" by Heinz Gilomen, in OFFT (1998).
19. OECD (1996).

20. This kind of data are apparently not systematically collected on the amounts of training allowances received by apprentices. The figures cited are from Bierhoff and Prais (1997), who obtained them from an unpublished compilation of data for 14 large engineering companies in the Lucerne region.
21. For example, see Wolter and Weber (1998).
22. Interview with Yves Flückiger in *Le Temps* (15 January 1999) and Flückiger (1999).
23. OECD (1998), pp. 201 and 204.
24. OECD (1997), p. 84.
25. Bierhoff and Prais (1997), p. 27.
26. Bierhoff and Prais (1997) point out that a national conference was held in 1994 on the need to keep mathematics curricula in step with labour market and vocational training needs (p. 103, Note 10).
27. Bierhoff and Prais (1997), p. 99.
28. See OECD (1998), Indicator E1 on the statutory salaries of teachers, pp. 263-275.
29. Desages (1995).
30. At a time when new transition patterns are emerging, attention should be drawn to the considerable interest of a study adopting a longitudinal approach such as that recently conducted in Ticino -- the only one undertaken thus far in Switzerland, devoted to analysing young people's transitions at the end of compulsory schooling (Donati, 1999).
31. According to the documentation given to the OECD Experts Group by Mr. François Bourquin, Director of the Vocational Training Service of the Department of Public Instruction and Cultural Affairs of the Canton of Neuchâtel.
32. Gilomen in OFFT (1998).
33. Federal Council (1998).
34. See OFFT (1997), in particular Section 4 of the Order on Apprenticeship Positions.
35. The CDIP-OFFT upper secondary group project document provides many concrete examples of experiments in cantons.
36. Bierhoff and Prais (1997), p. 17.
37. See OECD (1998), Indicator F6, p. 350.
38. According to the magazine "Science" (summer 1998), three of the ten European regions in which the most advanced research activities are concentrated are in Switzerland (Geneva-Lausanne, Basel-Mulhouse-Freiburg im Breisgau and Zurich). The criterion used is the number of scientific publications in English per inhabitant (cited in "*Réforme par étape*", *Vision*, December 1998).
39. The information in this section is mainly drawn from the text of the Message itself and from the interview with Charles Kleiber and Hans Sieber in the magazine *Vision*.
40. OECD, Labour Market Policies in Switzerland, Paris 1996.

41. OFED, *Le chômage des jeunes en Suisse*, Berne, February 1999.
42. Frontier workers must register as unemployed in their country of residence (OECD 1996, p. 31).
43. The OECD review of the Swiss labour market, conducted in 1995, includes among the reasons for these disparities the greater use of apprenticeships in German-speaking Switzerland (22 per cent for the 15-24 age group) than in the rest of the country (16 per cent), and the higher dropout rate elsewhere as well. In addition, the proportion of university students in the 15-24 age group is much higher in French-speaking Switzerland and courses there are more theoretical and shorter. There are accordingly more young unemployed coming out of university in French-speaking Switzerland and Ticino (OECD 1996).
44. OFDE, *Le chômage des jeunes en Suisse*, Berne, February 1999.
45. Cf. the Background Report.
46. This is the case for many young foreigners who have been living in Switzerland for some time, and done their compulsory schooling there.
47. Switzerland is not just one of the countries with the lowest youth unemployment rates; it is also among those best placed in terms of long-term youth unemployment.
48. OECD, *Labour Market Policies in Switzerland*, Paris 1996.
49. Cf. Chapter 2 above, *The Demographic Context*.
50. The text that follows is based on the February 1999 OFDE paper, *Le chômage des jeunes en Suisse*, which is attached hereto.
51. So as not to compete with “real” enterprises.
52. Malaguerra (1999).