

4 Vocational training and early school leavers

[Ilona Liskó]

Despite the improvement in educational attainments of young cohorts since the transition, a significant, poorly educated stratum is continuously regenerated. There are around five thousand young people every year who have not completed the eight years of primary education by the age of 16 and there are more than twenty thousand students who leave school after completing primary education or drop out of secondary school. There are several economic and social factors contributing to the large scale emergence of young populations who are excluded from the labour market because of their low educational attainment but the education system is also undeniably responsible in that it fails to prevent low educational attainment and the consequent social disadvantages from being passed on to new generations. It is vocational training school students who are most likely to drop out of secondary level schooling prior to attaining secondary qualifications. To be able to retain these students in the education system or bring them back to school, vocational schools must be reformed. However, not only those dropping out of education but also a large share of those completing vocational training are faced with very poor labour market prospects. As a result of the economic and social changes and the education policies of the past 15 years among the secondary level schools, vocational training schools have had to carry an especially heavy burden of adaptation and face the most difficult pedagogical problems. Since at present vocational training schools are the only form of post-primary school attended exclusively by socially disadvantaged students, the development of vocational training has a decisive impact on the long-term prospects of children of poor and uneducated parents.

Vocational training school development has a decisive impact on the long-term prospects of children of poor and uneducated parents.

■ DIAGNOSIS

Social differences are rigidly mapped onto the hierarchical structure of secondary education in terms of student composition, and social inequalities are reinforced by differences in education quality.

1. *The hierarchy of secondary level education.* Social differences are rigidly mapped onto the hierarchical structure of institutions in secondary education (academic secondary schools, vocational secondary schools and vocational training schools) in terms of student composition, and these social inequalities are reinforced by differences in education quality. Schools providing vocational training but not offering *Matura* qualifications were attended by lower social classes even before the transition and fulfilled an important social function

(which was especially important for the political ideology of the time): they offered a limited level of social and economic mobility for the masses, training the children of a large number of unskilled industrial and agricultural workers to become skilled industrial workers. Relative to the parents' status, being an industrial skilled worker meant a modest but unquestionable advancement and secure employment. As such, it constituted a promising prospect from the point of view of both parents and children. Since Hungary had a large population of unskilled workers, the schools were in a position to be selective in admitting students.

The distribution of secondary education across different programme types has fundamentally changed over the past one and a half decades. The proportion of students enrolling in vocational training schools declined from 44 per cent in 1990–1991 to 22.4 per cent in 2006–2007. The shift in secondary education enrolment rates was controlled by highly selective admission policies. Secondary schools offering *Matura* qualifications (i.e., vocational and academic secondary schools) and a chance of higher education have become the most promising and popular form of secondary education for the upper and middle classes since the labour market value of the qualifications offered by these schools has improved over the past 15 years. Vocational training schools, in contrast, have become the most likely choice of post-primary education for children of poor and uneducated parents. While the average level of education has increased among their fathers' generation (the microcensus of 2005 puts the proportion of 35–45 year olds with *Matura* qualifications or higher education at more than 40 per cent), the students attending these training schools are likely to be either from families with skilled manual worker parents whose previously secure livelihood became endangered as a result of the economic changes following the political transition or from marginalised unemployed families living in poverty, in disadvantaged regions, who could not keep pace with the rising level of education and who still hope that vocational training schools can provide upward social mobility (*Table 4.1*).

Vocational training schools have become the most likely choice of post-primary education for children of poor and uneducated parents.

The educational attainment and employment status of secondary school students' parents present a convincing demonstration of the rigidly hierarchical, social class dependent structure of the secondary education system. Tertiary graduate parents' children are ten times more likely to enrol in 6 or 8-year academic schools than in vocational training while poorly educated parents' children are eight times more likely to continue their education in vocational training schools than in 6 or 8-year academic schools (LISKÓ, 2003). Educational differences between parents are paralleled by differences in various circumstances bearing on living conditions and on the children's educational prospects: the family's home settlement (with a higher than average probability students at academic schools live in cities while students at vocational training schools live in small towns or villages); the parents' income and the family's income status; family integrity (the lower the status of the school attended, the higher the probability of divorce or the loss of a parent in the family); and the family's ethnic composition (two thirds of Roma students go to vocational

[TABLE 4.1] THE DISTRIBUTION OF STUDENTS ENROLLED IN VOCATIONAL TRAINING SCHOOLS AS A FUNCTION OF THEIR FATHERS' EDUCATIONAL ATTAINMENT (PER CENT)

FATHER'S EDUCATION	1974	1994	1997	2001
Schooling				
Less than eight years	31.3	1.5	2.2	0.8
Eight years	17.3	15.5	16.2	16.4
Vocational training school	39.7	53.5	63.1	57.4
<i>Matura</i>	8.3	21.2	14.4	21.0
Higher education	3.4	8.3	4.1	4.3
Vocational qualifications				
Yes	51.4	86.1	81.6	82.6
No	48.6	13.9	18.4	17.4
Total	100.0	100.0	100.0	100.0
<i>N</i>	1432	1634	1040	1760
[SOURCE] CSAKÓ & LISKÓ (1974); CSAKÓ, LISKÓ & TÓT (1994); ANDOR & LISKÓ (2000); LISKÓ (2002).				

training schools and only a negligibly small number enrol in academic schools) (LISKÓ, 2004, 2005).

The lower down the hierarchy a secondary school type is positioned, the higher the proportion of students who had to make compromises in their choice of secondary school.

Since the social inequalities stemming from family background have an impact on students' primary school achievements and on their chances of admission to secondary schools, the lower down the hierarchy a secondary school type is positioned, the higher the proportion of students who had to make compromises in their choice of secondary school. These students are at the highest risk of not being able to choose the vocation best suited to their abilities and interests because they have to accept whatever is offered to them by schools with spare capacity. 10 per cent of primary school leavers are admitted to secondary schools other than their first choice of institution (HÍFVES, 2007).¹ These students are redirected to vocational training schools, i.e., almost half of the students attending vocational training schools receive a type of training they did not choose when applications had to be submitted.

Most of the rather meagre resources allocated for education development have benefited vocational and academic secondary schools while vocational training schools associated with lower social classes have become a neglected area in public education.

In the past decades the rather meagre resources allocated for development programmes in public education have mostly been used to improve conditions at the predominantly middle class vocational and academic secondary schools while vocational training schools associated with lower social classes have become a neglected area in public education. The introduction of 6 or 8-year academic schools, bilingual education, the foreign language year programme and the two-tier *Matura* at academic and vocational secondary schools has created better than average quality services accessible to children from middle class families. The majority of institutions transferred to church or foundation

[1] Hungarian students can apply to several secondary institutions.

maintenance are also among secondary schools offering *Matura* qualifications, which contributes to the expansion of the range of services and to increasing quality. No similar quality and efficiency enhancements have been introduced, however, in vocational training schools predominantly attended by disadvantaged students. (The Vocational Training Development Programme led by the Hungarian Ministry of Education between 2003 and 2006 did not have any perceptible positive effects either on learning outcomes or on the results of international comparisons of student achievements.)

Vocational training schools – which are attended by most of the disadvantaged students – must face the challenge of providing general and compensatory education for children from disadvantaged backgrounds, a task for which they are poorly prepared.

2. *The responsibilities of vocational training schools.* In addition to teaching vocational skills, vocational training schools – which are attended by most of the disadvantaged students – also need to face the challenge of providing general and compensatory education for children from disadvantaged backgrounds, a task for which they are poorly prepared. Vocational training schools would not be able to meet the demands of the new economic and social order even if the expansion of education beginning in the mid-1990s had not placed an extra burden on them. In 1996, however, compulsory education was extended to ten school years. The 1996 amendment to the Public Education Act enforced (the previously only on paper) obligation of children to stay in education until the age of 16 (raised to 18 in 2006) in response to the recognition that the Hungarian economy would no longer need large numbers of unskilled workers in coming years and the educational attainment of the lowest social classes would therefore need to be improved.

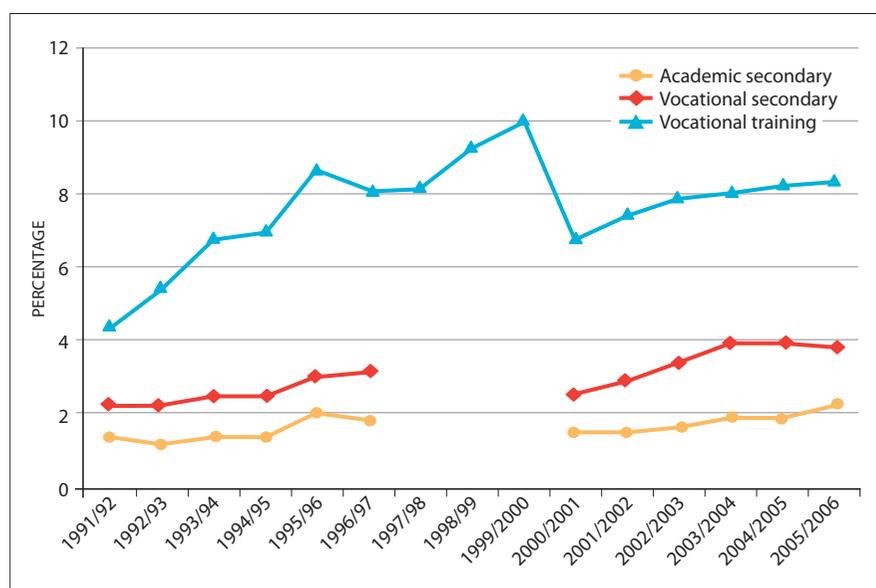
The proportion of students coming from high-risk family environments has almost doubled in vocational training schools.

An inevitable consequence of the new regulation is that vocational training schools have to admit children from the most disadvantaged backgrounds, who would not voluntarily continue their studies at any secondary school. These students are characterised by serious knowledge and skill deficiencies as well as social behaviour problems, and receive no encouragement to continue their studies or learn a trade from either their primary schools or their families. As a result, the social composition of vocational training school students has further declined and the proportion of students problematic in all respects has further increased. It is shown by school statistics that the proportion of students coming from high-risk family environments has almost doubled in one and a half decades, while the corresponding proportion has increased to a lesser extent and remained at a lower level for the other two types of school (academic and vocational secondary schools) (*Figure 4.1*). Students having behavioural and social adjustment difficulties are also more highly represented at vocational training schools than at schools offering *Matura* qualifications (*Figure 4.2*).

It could have been foreseen that these institutions, which had never been characterised by high educational standards, could only fulfil the new tasks imposed on them if the education authorities gave priority to their development in terms of both resource distribution and professional support. As this has not happened, the performance and efficiency of vocational training schools have steadily declined over recent years and a persistent crisis has emerged. Teachers

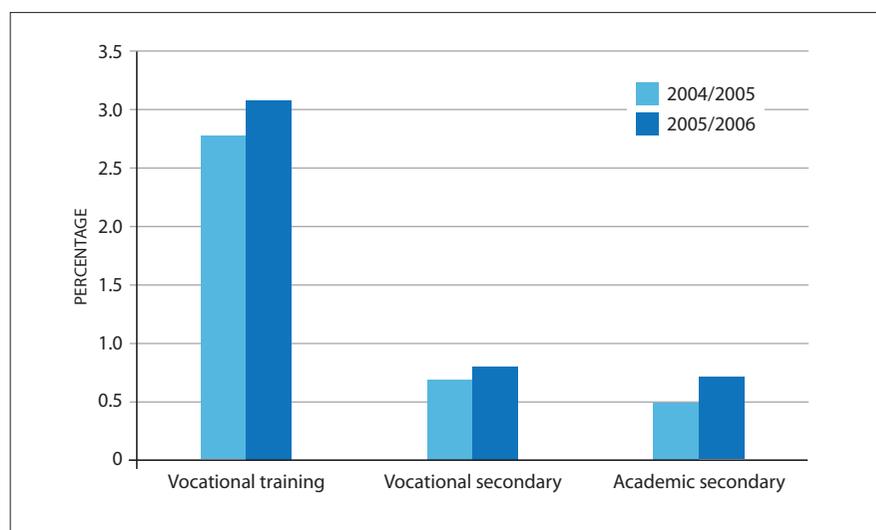
[FIGURE 4.1]
Proportion of at-risk students by school type, 1990–2006 (per cent)

[SOURCE] Hungarian Ministry of Education (OM) Education Statistics Reports 1990/91–1999/2000, OM Annual of Education Statistics 2001/2002–2003/2004.



[FIGURE 4.2]
Percentage of students with behavioural and social adjustment difficulties

[SOURCE] OM Annual of Education Statistics 2004/2005, 2005/2006.



working at vocational training schools find that their students are from more profoundly disadvantaged families than before, have a poorer academic history, and are hampered by more adaptation and behavioural problems. These teachers are dissatisfied with their schools because of their steadily “deteriorating” student composition (LISKÓ, 2003). They are far more likely to list compensatory instruction, social education and co-operation with parents among their most difficult tasks than are their colleagues at other types of secondary schools (Table 4.2).

[TABLE 4.2] THE MOST DIFFICULT TASKS ACCORDING TO TEACHING STAFF AT THE THREE SCHOOL TYPES (PER CENT MENTION)

TASKS	Academic secondary	Vocational secondary	Vocational training
Instruction			
Compensatory instruction	22.2	63.9	70.9
Differentiated instruction	42.2	56.9	49.1
Teaching core subjects		18.1	32.7
Career orientation		12.5	20.0
Vocational theoretical instruction		13.9	5.5
Vocational practical training		8.3	5.5
Education			
Social education	42.2	61.1	63.6
Co-operation with parents	20.0	29.2	54.5
Conflicts between students	11.1	20.8	32.7
Conflicts between students and teachers		16.7	18.2
Conflicts within staff	4.4	2.8	1.8
N	45	72	55
[SOURCE] LISKÓ (2004).			

Vocational training programmes cannot cope with the task of supporting the development of general competencies at the desired level. Three quarters of students perform at the lowest level in both reading and mathematical literacy.

3. *Education outcomes in vocational training schools.* It is a direct consequence of the changes discussed above that at present vocational training programmes cannot cope with the task of supporting the development of general competencies at the desired level. The results of 10th year students as assessed by the National Assessment of Basic Competencies of 2006 reveal that while 8 per cent of academic secondary school students perform at low levels (Levels 1 or 2)² in reading literacy and 14 per cent in mathematical literacy, and the corresponding figures are, respectively, 25 and 31 per cent for vocational secondary school students, three quarters of students in vocational training perform at the lowest level (Level 1) in both reading and mathematical literacy tests. Recent comparative international surveys assessing students' general competencies have shown similarly modest results. The performance shown by students at vocational training schools remains, in every subject, far below not only the average performance of students at the other two types of secondary school but also the achievements of students at similar schools in other European countries. In this respect no changes have been observed in the past five years. The results of the PISA survey of 2006 also reveal substantial achievement problems with students studying at vocational training schools *Table 4.3*).

Even though vocational training schools have the lowest academic standards of all secondary schools, over the past ten years there has been an increase in

[2] Levels 1 and 2 in reading and text comprehension correspond to functional illiteracy.

[TABLE 4.3] AVERAGE RESULTS OF THE PISA SURVEY BY SCHOOL TYPE

SCHOOL TYPE	Text comprehension		Mathematics		Science		Problem solving	
	Hungary	OECD	Hungary	OECD	Hungary	OECD	Hungary	OECD
PISA – 2000								
Vocational training school	371	483	409	484	401	481		
Vocational secondary school	410	461	417	466	425	471		
Academic secondary school	523	533	528	531	538	534		
PISA – 2003								
Vocational education	402	476	410	484	426	479	420	485
Academic secondary school	492	517	499	521	513	521	511	521
PISA – 2006								
Vocational education	425	489	433	498	456	502		
Academic secondary school	492	494	501	501	512	504		

[SOURCE] http://pisaweb.acer.edu.au/oeecd/oeecd_pisa_data_s2.php, http://pisaweb.acer.edu.au/oeecd_2003/oeecd_pisa_data_s2.php, <http://pisa2006.acer.edu.au/>

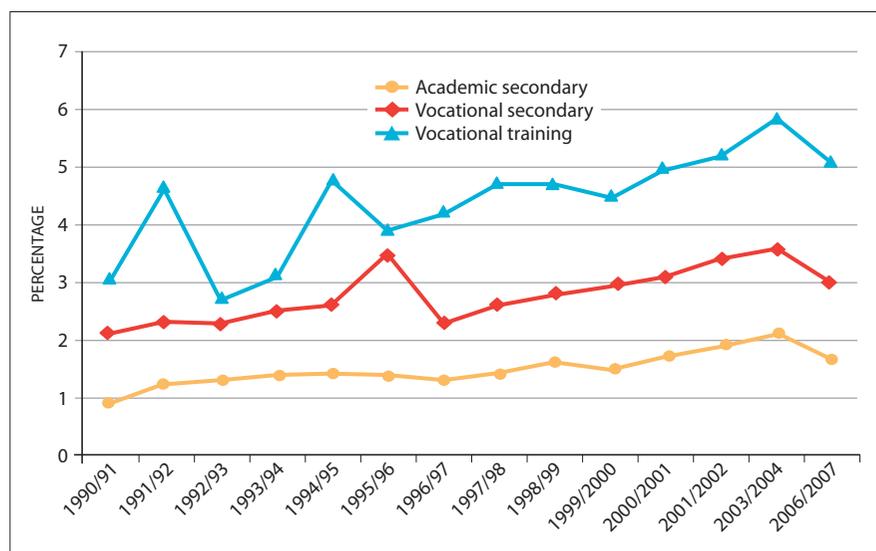
the proportion of grade repeaters. This figure was more than three times as high as the proportion observed in academic secondary schools and twice as high as in vocational secondary schools (*Figure 4.3*).

The effectiveness of instruction and skills development is much poorer in vocational training schools than is typical of Hungarian and European secondary schools.

That is, it is unequivocally and unanimously shown by all the available data that the effectiveness of instruction and skills development is much poorer in vocational training schools than is typical of Hungarian and European secondary schools. Vocational training schools at present fail to fulfil the task of providing effective general education for the predominantly disadvantaged students enrolled in their institutions. This is also likely to raise doubts as to

[FIGURE 4.3] Percentage of grade repeaters by secondary school type, 1990/91–2006/2007

[SOURCE] OM Education statistics reports 1990/91–1999/2000, OM Annual of Education Statistics 2001/2002–2003/2004.



whether these schools are ready to equip their students with the increasingly complex vocational knowledge and skills.

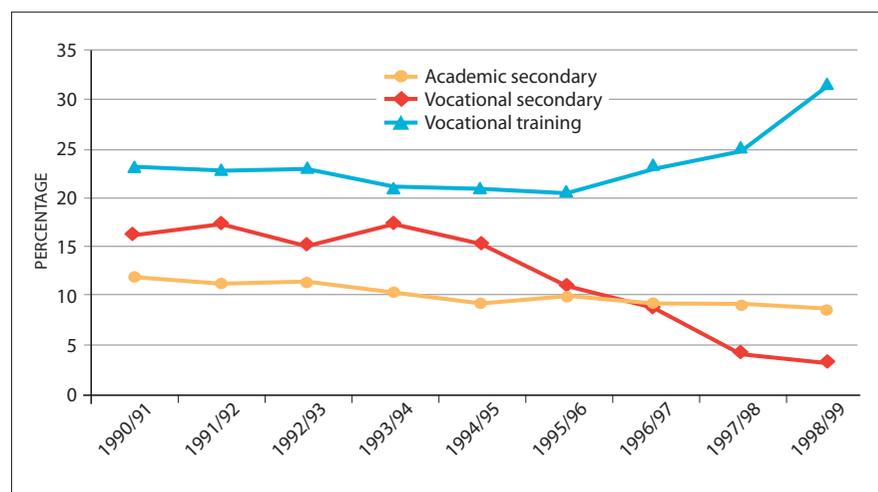
Vocational schools are characterised by far higher than average dropout rates (almost 30 per cent) and almost half of the disadvantaged students enrolled in these programmes fail to attain vocational qualifications.

4. *Dropping out.* Vocational training schools are characterised by far higher than average dropout rates (almost 30 per cent); moreover almost half of the disadvantaged students enrolled in these programmes fail to attain vocational qualifications. Those who leave school without qualifications have absolutely no chance of labour market success. Up to the middle of the first decade following the political and economic transition the probability of dropping out was around 20–22 per cent but as a consequence of the new legislation making post-primary studies compulsory for students from the most disadvantaged backgrounds at vocational training schools, a clear increase has been observed. When in 1999 almost a third of students dropped out, the Ministry of Education decided to stop providing data concerning this issue (*Figure 4.4*).

The results of major studies investigating the phenomenon of dropping out (LISKÓ, 2002, 2003) indicate that children of poor and uneducated parents (those from families where one or both parents are inactive and those of Roma ethnicity) drop out of school with an even higher than average probability (*Figures 4.5 and 4.6*).

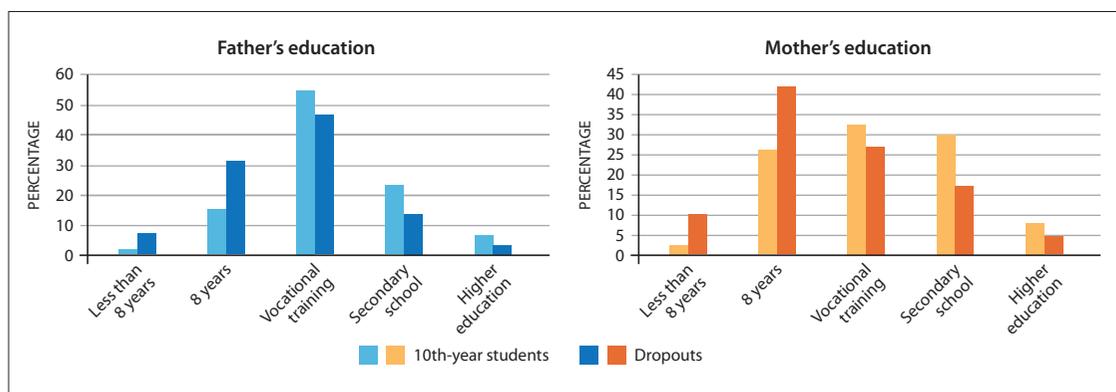
The increase in the proportion of enrolled Roma students has been accompanied by an increase in dropout rates among 9th and 10th year students (LISKÓ, 2002). Students are most likely to drop out in years 9 or 10 (the first two years at the school), before practical vocational training starts. That is, it is precisely those students who leave as soon as they reach the age when compulsory education ends whom the new legislation forced to continue their studies after primary school in order to improve their labour market prospects. There is very little labour market demand for young workers who have left school without secondary or vocational qualifications. Studies investigating the future labour

There is very little labour market demand for young workers who have left school without secondary or vocational qualifications.



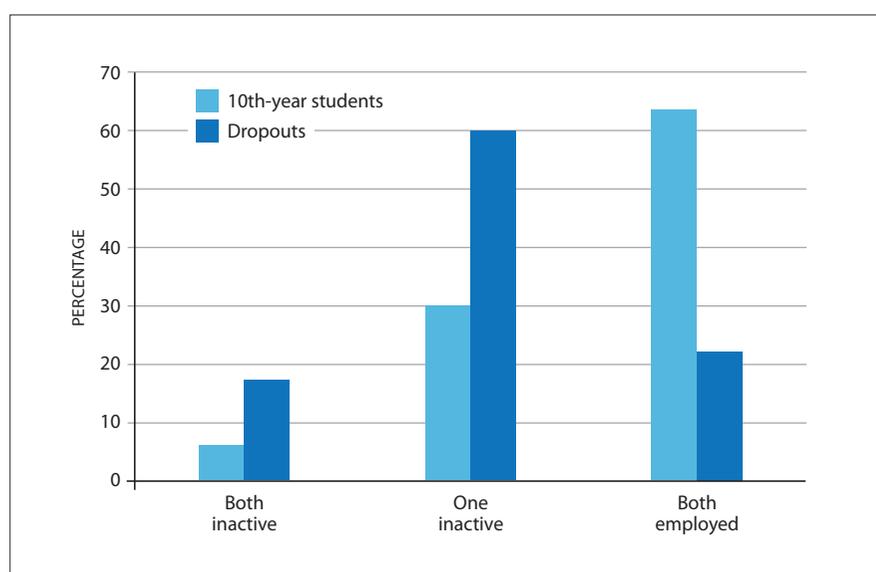
[FIGURE 4.4]
Percentage of dropouts
by school type,
1990/91–1998/99

[SOURCE] OM Education
statistics reports
1990/91–1999/2000.



[FIGURE 4.5] Distribution of 10th year students and dropouts by parents' highest educational attainment (per cent)

[SOURCE] LISKÓ (2003).



[FIGURE 4.6] Distribution of 10th year students and dropouts by parents' labour market status (per cent)

[SOURCE] LISKÓ (2003).

market position of dropouts reveal that a quarter find their place at another school, a third manage to find employment (mostly occasional work with no legal contract and with informal payment) and around 40 per cent become unemployed (LISKÓ, 2002, 2003). There are usually several factors contributing to a student's dropping out but the most typical reason is that these students do not feel comfortable with their schools, i.e., these typically disadvantaged and difficult to manage students simply cannot find their place at these vocational training schools, which have no choice but to admit them but are incapable of tackling the challenges of their instruction and education.

Their former schools do not maintain any contact with dropouts.

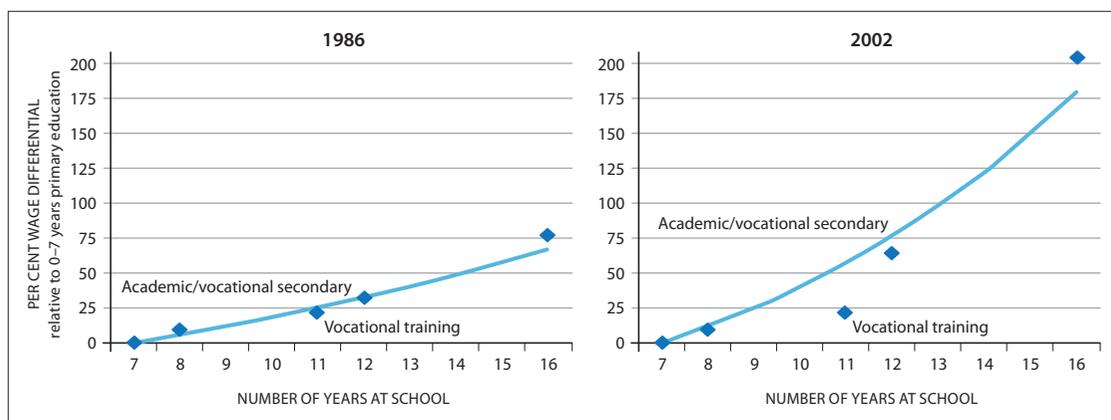
Their former schools do not maintain any contact with dropouts; teachers have little memory of them, they tend to be pleased not to have to bother with them any more or, rather, with the undoubtedly difficult challenges of their instruction and education (LISKÓ, 2003). Since, having turned 16, dropouts are

no longer subject to compulsory education, they can essentially only count on themselves and on the support of their typically hopelessly marginalised and struggling families for the shaping of their future. While state funding was not available for this purpose, in the first years of the new millennium a small number of *second chance* schools were opened thanks to the professional enthusiasm of a few teachers and to hard-to-win grants. These schools undertook to educate children who dropped out of school prematurely but their capacity was far below the great number of children in need of *reintegration*. (One of these schools called Belvárosi Tanoda in Budapest, for instance, was compelled to implement an admission policy almost as strictly selective as that of the elite academic secondary schools because of the massive demand.) The apathy displayed by the education authorities, their refusal to face the problem and the lack of will to find a solution are demonstrated by the fact that the network of state supported *second chance* schools intended to “reintegrate” dropouts has still not, to any significant extent, been expanded.

5. *The labour market devaluation of vocational qualifications.* Before the political and economic transition, the principal responsibility of vocational training schools was to train a class of workers who could be successfully employed in large socialist factories. Since the majority of “consumers” were state-owned industrial plants operating at a low technological level, there was no need to teach sophisticated vocational skills or train students to solve complicated vocational problems. Most students therefore received instruction in simple technical tasks and the three-year programmes were clearly dominated by vocational knowledge. Vocational training and general education were conducted in parallel and the standards and quality of general education had little importance. The teaching staff were structured accordingly (the school heads were vocational teachers and the instructors teaching vocational theory enjoyed higher prestige), as were course requirements (only vocational subjects mattered, it was effectively impossible to fail “general” subjects) and pedagogical methods used at the schools (authoritarianism, harsh punishments, the requirement to comply, order and discipline, etc.) were rigorous. Following the transition, there was a rapid and radical change in the economic environment of vocational training schools. The labour market demand for skilled workers not possessing a *Matura* qualification decreased. Employment rates plummeted among this class of workers from almost 100 per cent before the transition to less than 80 per cent for men, and from 90 per cent to around 70 per cent for women. The wage returns to secondary education and especially to higher education greatly increased relative to eight or fewer years of primary education but there was no change in the returns to vocational qualifications (*Figure 4.7*). The transition split the labour market into workers with and without *Matura* qualifications (KÉZDI, 2007).

Studies looking at labour market entrants from vocational training schools (LISKÓ, 2004) find that more than a third of school leavers enter the labour

Following the political transition, there was a change in the economic environment of vocational training schools – the labour market demand for skilled workers without *Matura* qualifications decreased.



[FIGURE 4.7] The returns to education, 1986 and 2002

[SOURCE] KÉZDI (2007).

market with highly insecure prospects. A fifth become unemployed and only a third find work (Table 4.4).

Children whose parents have the lowest educational attainment are faced with especially insecure job prospects. This insecure labour market outlook is one of the reasons why increasing educational ambitions have recently been observed among vocational training school leavers. The great majority of vocational training school students do not see the vocational qualifications as the end of their education (LISKÓ, 2004); almost 50 per cent plan to attain *Matura* qualifications and 35 per cent continue their studies after completing their vocational training. Most of these students decide to continue their studies in the hope of avoiding unemployment and improving their labour market chances. 50 per cent of those who left the education system after completing their vocational training were out of work for varying periods during the year following. Little more than half of those who found work were employed in jobs matching their vocational qualifications and their wages were substantially lower than they had hoped to earn (LISKÓ, 2004).

The labour market devaluation of vocational training school qualifications is primarily explained by the process whereby the specialised skills acquired

[TABLE 4.4] THE DISTRIBUTION OF SECONDARY SCHOOL LEAVERS ACCORDING TO LABOUR MARKET STATUS ONE YEAR AFTER LEAVING SCHOOL (PER CENT)

SCHOOL TYPE	Studying	Working	Unemployed	Other	N
6 or 8 year academic secondary school	97.1			2.9	35
Traditional academic secondary school	88.9	4.9	1.2	4.9	81
Vocational secondary school	66.4	14.6	10.9	8.0	137
Vocational training school	35.4	35.4	19.5	9.8	82
Total	67.5	15.8	9.6	7.2	335

[SOURCE] LISKÓ (2004).

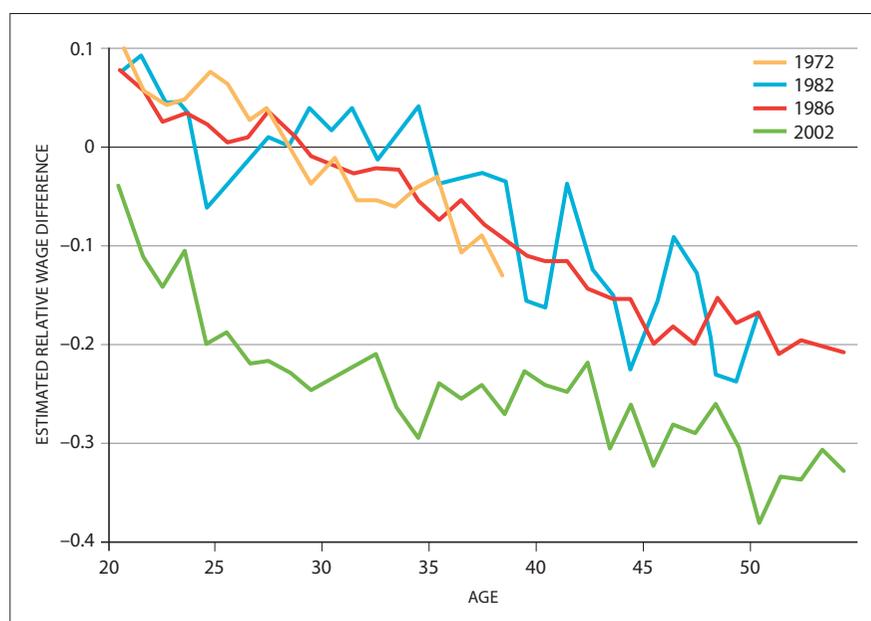
The labour market devaluation is primarily explained by the process whereby the specialised skills acquired in vocational training have gradually lost while general skills have gained value.

in vocational training have gradually lost their value while general skills have increased in value. This process is confirmed by several empirical studies. The gap between the wages of workers with vocational qualifications and those of workers with *Matura* qualifications grows with age and experience and this divergence is faster and more pronounced than previously (*Figure 4.8*). This is a consequence of the broader practical and theoretical applicability of the general skills acquired at schools offering *Matura* qualifications, i.e., those possessing skills of this kind can more readily adapt to changing demands because they are better equipped to master new knowledge.

The specialised skills acquired in vocational training soon become obsolete and the workers are not equipped to modernise their knowledge, or not to the required extent, as they move forward in their lives (KÉZDI, 2007). The increase in the wage disadvantage of workers with vocational qualifications is in part a result of reduced employment stability in today's labour market, i.e., a young worker is at present far less likely to be employed in the same profession for the duration of his or her active lifetime than was the case in the past. Moreover, since general technology steadily advances and vocational requirements continually change, a worker can only expect long-term employment in a given occupation if he or she has the ability to learn new skills as and when needed and the prerequisites for training are given. As a consequence of changing vocational requirements and the increased demand for core knowledge (such as reading and writing literacy), deficiencies in general competencies substantially reduce the employment odds of workers with vocational qualifications. This is demonstrated by the results of studies investigating the effects of changes in literacy requirements in an occupation on the educational composition of the workforce (KÖLLŐ, 2006). It is also confirmed by surveys of vocational requirements in different occupations that, similarly to other countries, Hungary is also characterised by a trend whereby general competencies (the ability to acquire new knowledge, communication skills, user level info-communication skills) are assigned increasingly more importance in blue-collar professions (KOSZÓ ET AL., 2007). It therefore appears to be crucial to develop core skills in order to improve the labour market chances of students attaining their qualifications at vocational training schools.

6. The problem of job mismatches, changes in the supply of different types of vocational training. In addition to the low level of core competencies and the inadequacy of schools in providing compensatory instruction for their students, the substantial decline in the proportions and labour market value of vocational training is also explained by the system's failure to adapt to changes in the relative demand for various vocations. Studies comparing the vocational composition of vocational training school leavers with the demand for various vocational qualifications (KÉZDI, 2007) reveal that although in terms of their output, training programmes have to some extent responded to the reorganisation of demand, the "match" has clearly deteriorated since the transition. The

[FIGURE 4.8]
Vocationally trained
workers' wages relative
to secondary school
graduates' wages
as a function of
age/experience, 1972,
1982, 1986, 2002
[SOURCE] KÉZDI (2007).



The “match” between vocational qualifications and labour market demand has clearly deteriorated since the transition. The proportion of skilled workers not employed in their professions or not employed at all has increased from 35–40 per cent to around 60 per cent at present.

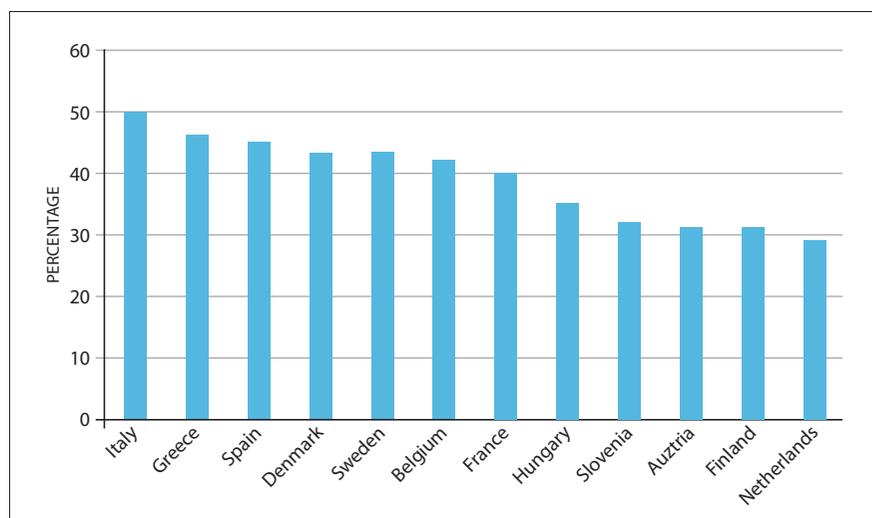
proportion of workers with vocational qualifications not employed in their professions (doing other types of work or not working at all) has increased from 35–40 per cent before the regime change to around 60 per cent at present (KÉZDI, 2006, 2007). International analyses of the transition from school to work (EUROSTAT, 2003) find, however, that in Hungary only 35 per cent of students graduating from secondary vocational education (which includes vocational training and vocational secondary schools) enter employment not matching their qualifications. This figure is lower than the corresponding proportions observed in most European countries (Figure 4.9).

A number of factors have contributed to the failure of training programmes to fully adjust. One of these is that the institutional structure of vocational training has become increasingly fragmented. Even though the number of students attending vocational training programmes substantially decreased, the number of school based training sites offering these programmes increased from 465 in 1990 to 580 in 2006. At present 90 per cent of vocational training programmes are offered by multi-function educational institutions in combination with secondary vocational education and/or primary education or academic secondary education programmes. The range of programmes offered by a school is influenced by several institutional considerations, such as the preservation of teaching jobs or access to the vocational training fund (MÁRTONFI, 2007; FARKAS, 2008). The labour market outcomes of school leavers, however, do not appear to play a decisive role in this respect (partly because no data is available).

A further factor behind the poor adjustment of vocational training programmes is that in the early 1990s the industrial plants that had previously tak-

[FIGURE 4.9]
Percentage of job
mismatches among
graduates of secondary
vocational programmes
in selected EU countries,
2000

[SOURCE] EUROSTAT (2003).



en an active part in vocational training (by maintaining apprenticeship sites or conducting vocational group training) withdrew from training and dissolved the partnership with vocational training schools. Schools thus had no choice but to build or expand their own training facilities quickly to ensure uninterrupted training even if the quality and equipment of these facilities had to be far below the required standards. Although by the beginning of the new millennium there was some improvement in the availability of apprenticeship sites thanks to the economic consolidation and the dramatic decline in the number of students enrolled in vocational training, 40 per cent of vocational training school students still receive all their practical vocational training within school.

In an effort to improve the match between the choice of vocational training programmes and labour market demand, in 2007 the Hungarian government finally implemented a number of important reform measures (which made their way into the legislation and into development programmes). These were the concentration of development programmes targeting the infrastructure of vocational training in Regional Integrated Vocational Training Centres (TISZK), the assessment of education quality at institutional and national levels (the introduction of regular performance assessment), and the assessment of the efficiency of education at institutional and national levels by the monitoring of school leavers' labour market careers.

With respect to the career monitoring system the amendment to the Public Education Act specifies the kind of data which must be provided by various actors. If a school leaver does not enter employment, it is his or her responsibility to provide information for the system; if the school leaver is employed, the employer must provide data on the type of job for which the newly qualified worker is engaged and on the responsibilities of the worker; finally, the school is required to notify the career monitoring system of the awarding of vocational

qualifications. As specified by the legislation, Regional Development and Training Committees are responsible for defining the subject priorities of vocational training development and the distribution of student places in different vocations; they are required to participate in maintaining the career monitoring system and to approach the local governments operating in their regions with proposals to create partnerships co-ordinating vocational training.

Efforts to adjust training structure to labour market demand can only improve the employment prospects of workers with vocational qualifications if they are based on appropriate evidence. The currently available data is insufficient for the assessment of labour market outcomes.

7. *Problems of labour demand forecasts.* Efforts to adjust training structure to labour market demand can only improve the employment prospects of workers with vocational qualifications if they are based on appropriate evidence. Regional Development and Training Committees have more accurate information on the labour market chances of trainees than schools or local governments or non-governmental education providers. The problem is, however, that the currently available data provided by the state administration or other, sporadic surveys is insufficient for the assessment of labour market outcomes. Moreover, even the career monitoring system currently under implementation is highly unlikely to be able to provide sufficiently reliable data. The reason is that even a short term projection of the demand for various vocational qualifications has to face sizeable barriers. A worrying demonstration of the problem is that on examining the labour market forecasts by the national Public Employment Service, which are based on employers' reports and categorise professions into those *in demand* and those *depreciating*, we often find the same vocations in both categories.³

Methods relying on employer questionnaires therefore have little applicability in forecasting changes in labour demand. Companies will not suffer any disadvantages if they report a demand for vocations which turn out not to be required at a later stage. Questionnaires do not usually collect any information on why a certain position is vacant: because there would be no applicants even if higher wages were offered, or because the wages the company is prepared to offer are not high enough, or else because the employer is dissatisfied with the skills of applicants, which is usually equivalent to saying that as long as the wage offer remains low, the vacant position could only be filled by workers with poorer skills. Low wage offers are likely to be one of the important reasons for the shortage of applicants in some of the "in demand" professions listed by the short-term labour market projection (SELMECZY ET AL., 2007). Even if reliable short-term estimates of future labour demand trends could be obtained, these would not be sufficient for determining the optimal distribution of student places at vocational training and vocational secondary schools. What is needed are reliable, methodologically sound medium-term labour market projections. These, however, are not currently available and there are no data banks from which medium-term projections could be derived.

[3] See the county-level profession ranking tables provided by the Public Employment Service. http://www.afsz.hu/engine.aspx?page=full_borsod_stat_szakma_fogl_poz

The analysis of the careers of school leavers is an important tool in co-ordinating labour supply and demand. Its data collection method, however, raises grave concerns with respect to reliability.

8. *The reliability of the career monitoring system.* An analysis of the education and labour market careers of school leavers may be an important tool in co-ordinating labour supply and demand. The data collection method specified by the Public Education Act, however, raises grave concerns with respect to the reliability of the data intended to be collected for the career monitoring programme (GALASI, 2007). Firstly, a large share of non-employed school leavers are likely not to comply with the requirement to report their status and a systematic bias is likely to exist between compliers and non-compliers. Similar concerns hold for employers' duties of providing data and the incidence of unreported employment can seriously distort results. Also, the programme only collects data on the fact of employment and whether the job "matches" the qualifications of the employee. It does not extend to the most important indicator of labour market success, namely earnings, or to other factors affecting a worker's labour market outcomes (such as post-school training history and general competencies acquired at or outside school).

When the relative proportions of different vocational training programmes are planned, companies' short-term needs are likely to be given priority over general education and long-term adaptability.

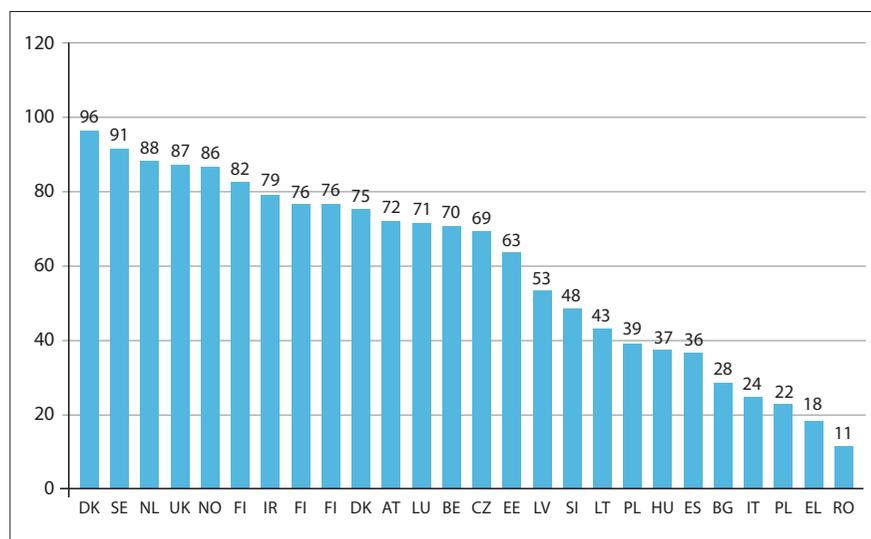
9. *Short-term employer needs or long-term adaptability.* In the absence of appropriate forecasts and information sources, it is primarily companies' short-term labour needs — as reported for employer surveys — that Regional Development and Training Committees can rely on as data in planning the training structure and student places of vocational training programmes since these surveys provide only short-term information on the expected demand for skilled labour. There is therefore a danger that factors affecting long-term adaptability will not be taken into consideration in efforts to meet short-term labour market needs. That is, in planning the relative proportions of different vocational training programmes, companies' short-term needs are likely to be given priority over general education and long-term adaptability. Companies gain short-term benefits from this strategy since they will have newly qualified workers to employ for a few years and when these workers can no longer adapt to changing requirements, there will be another generation of newly qualified workforce, who are employable for another few years, and so on. In the long term, this solution has very serious social costs. This danger seems all the more likely since currently very few Hungarian companies make efforts to provide continued in-service training for their employees. The majority of companies expect the education system to supply a specially trained and experienced workforce to them. This expectation is not only unreasonable but also stands in sharp contrast to modern Western corporate practices, where extensive in-service training is the key component in ensuring that large numbers of employees acquire specialised skills and experience (EUROSTAT, 2002).

10. *In-service training, adult education.* Hungary is characterised by one of the lowest training participation rates among the adult population in the EU.⁴

[4] Differences in participation rates according to educational attainment are discussed in Chapter 11 on employment policies.

[FIGURE 4.10]
Percentage of companies
offering in-service training
in EU countries, 2000

[SOURCE] EUROSTAT (2002).



Abbreviations AT: Austria, BE: Belgium, BG: Bulgaria, CY: Cyprus, CZ: Czech Republic, DK: Denmark, EE: Estonia, EL: Greece, ES: Spain, FI: Finland, FR: France, HU: Hungary, IR: Ireland, IT: Italy, LT: Lithuania, LU: Luxembourg, LV: Latvia, NL: Netherlands, NO: Norway, PL: Poland, RO: Romania, SE: Sweden, SI: Slovenia, UK: United Kingdom.

Hungary is characterised by one of the lowest training participation rates among the adult population in the EU. The proportion of companies offering in-service training and employee participation rates in training programmes are also below the average level.

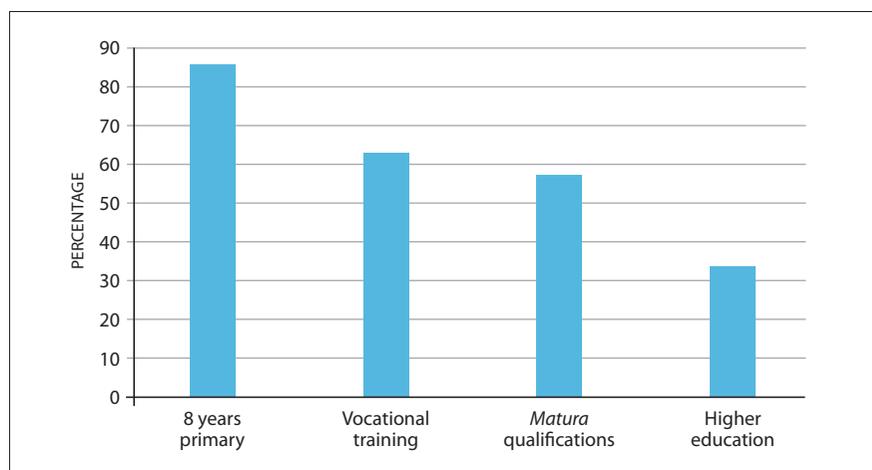
The incidence of in-service training programmes offered by companies and employee participation rates in these training programmes are also below the average level. According to a Eurostat survey, 37 per cent of Hungarian companies offer in-service training (EUROSTAT, 2002), which is far less than the average value of 57 per cent for the EU-25 and positions Hungary near the bottom of the range observed across Europe (*Figure 4.10*).

The share of employees participating in training programmes where they are offered is 26 per cent in Hungary, which is also less than the average rate. Hungarian surveys indicate an even lower incidence of training programmes. SELMECZY ET AL. (2007) found that in 2006 18 per cent of companies provided training for their employees. The reasons behind the unpopularity of training services are currently unknown. The issue must be investigated, however, to allow policies to create an environment that encourages companies to offer training programmes. The factors contributing to the current situation are likely to include the following: 1. an intensive workforce turnover, 2. minimum wage regulations (which prevent companies from transferring some of the costs of training by reducing wages – especially among uneducated employees), 3. companies' insecure business prospects, 4. deficiencies in employees' general and learning skills (which would greatly increase training costs for companies if they decided to train their employees) and 5. other institutional and legislative factors.

If, however, the training system is adjusted to companies' short-term needs, the long-term employment prospects of participants will suffer. Publicly financed vocational training should focus on enhancing participants' general

[FIGURE 4.11]
Proportion of vocational training school leavers dissatisfied with their labour market prospects as a function of parents' educational attainment (per cent)

[SOURCE] LISKÓ (2004).



competencies and core vocational skills since it is these that empower workers with the vocational qualifications needed to successfully participate in advanced training and retraining programmes throughout their careers and to acquire the specialised knowledge required by their employers (at training courses funded by the company), i.e., to enjoy long-term labour market success.

11. *The evaluation of vocational training schools.* The accumulation of educational problems characterising vocational training schools and the declining standards of vocational training have been observed not only by sociological studies but also by the mass media. The quality and outcomes of vocational training are met with general public dissatisfaction on the part of parents, employers and teachers. Among all secondary school leavers, former vocational training school students are the least satisfied with their career prospects (LISKÓ, 2004). Within this group, those whose parents have the lowest educational attainment are characterised by the bleakest outlook (*Figure 4.11*).

To eliminate these problems, urgent and effective intervention is needed that brings about fundamental changes. In addition to reform measures aimed at enhancing the stage of technical training, development programmes are needed in order to improve the quality and efficiency of general training and skills development. Our development proposals are primarily concerned with the latter area.

■ SUGGESTIONS

1. *The institutional separation of general and technical training.* We propose that the secondary education institution system should be restructured to permit the development of a standardised, comprehensive secondary education system accessible in the long term to every single child. In accordance

with current government plans, vocational training tasks currently fulfilled by vocational training schools will be delegated to special training institutions – Regional Integrated Vocational Training Centres (TISZK), which will be better equipped to fulfil this task thanks to a training structure designed to suit regional conditions and to concentrated development resources.

In connection with this development plan, we propose that those of the currently outlined and legislation-conformant TISZK models should be implemented which permit vocational training to be delivered on site at the training centres while general instruction (preparing students for the *Matura* and for vocational education in years 9 and 10 as well as career orientation programmes) is provided at secondary schools at an accessible distance from the students' place of residence. This system would allow a few vocational training schools (four or five schools in each region) to be transformed into vocational training centres (TISZK), where vocational training before and after the *Matura* and adult vocational training programmes could be offered to high standards and with modern equipment. The remaining vocational training schools should be transformed into secondary schools where competency oriented general education is offered preparing students for the *Matura* and for vocational training.

We propose that schools currently solely providing vocational training should be merged with secondary schools offering *Matura* programmes. As a long-term objective, we propose that every single student should be enabled to attain *Matura* qualifications. In the short term, secondary school curricula should include – in addition to academic education – the development of core skills preparing students for vocational training (without the *Matura*), thus giving students the choice to leave after completing year 10. This system would simplify the supervision and administration of the two types of institution (vocational schools are currently supervised by two government departments – not always in smooth co-operation). Furthermore, it would not only facilitate the infrastructural development of vocational training but, by clarifying the distribution of responsibilities between educational institutions, also allow significant advancement in human resources and pedagogical methods, which is indispensable for the delivery of high quality general education and compensatory education for children of poor and uneducated parents.

2. For courses preparing students for vocational training (in years 9 and 10) to be successful, they should make use of Hungarian and international experiences in compensatory education. To achieve this goal, we propose that

- a) teaching materials (textbooks and other materials) aiding compensatory instruction and the development of general learning skills should be prepared and made available;
- b) Hungarian and international educational methods and procedures aiding compensatory instruction and the development of general learning skills should be assembled and made available;

- c) teachers involved in compensatory education should be required to attend methodological training courses in compensatory instruction and skills development;
- d) the financial resources needed for efficient compensatory education (smaller than typical student groups, modern educational tools and methods) should be secured;
- e) flexible *Matura* preparatory courses should be offered to young people with vocational qualifications.

3. *Reducing the incidence of dropping out.* In order to reduce dropout rates, secondary schools preparing their students for vocational training should overcome the pedagogical attitude that views children with learning and behavioural difficulties as a burden to dispose of as quickly as possible, thus making teachers' work easier and their achievements more impressive. Penalising responses to the problems of students at risk of dropping out (such as penalties for unjustified absences or fail-grade academic performance) should be similarly reconsidered and replaced by methods that help students to overcome their learning and social problems. An event of dropping out is invariably preceded by a long process leading up to a reciprocal feeling of dissatisfaction between the school and the child and his or her parents. The prevention of dropping out is therefore contingent on the co-operation of all those involved (students, parents and teachers), and it is the conditions of this partnership that must be improved in order to deliver results. In this connection we propose the following:

- a) regulations should be amended to allow a maximum of 25 students in classes where students are prepared for vocational training;
- b) the penalty of "automatic" expulsion in response to unjustified absences should be abolished;
- c) students at risk of dropping out (those entering secondary education with below average primary school grades, those who regularly miss classes and those who perform poorly during their first term at secondary school) should be assigned a mentor, whose main responsibility is to provide personalised psychological and pedagogical support in order to forestall dropping out.

4. *Reintegrating dropouts.* We propose that local governments should be under an obligation to arrange for the reintegration of secondary school dropouts and retain them in the education system until the end of compulsory education (age 18). For this goal to be viable schools must advise not only the family but also the local authorities when a student drops out and the local authorities must appoint an official responsible for reintegrating dropouts. We propose that the *second chance* school network should be financed by the state (i.e., the responsibility of reintegration should no longer be entirely delegated to civil society or viewed as a "hobby" pursued by dedicated and conscientious teachers).

To encourage this process, a "reintegration quota" should be introduced, which could be claimed by any educational institution that undertakes to sup-

port students who dropped out of school before the age of 18 until they can sit the *Matura* or obtain vocational qualifications. We propose that *second chance* schools should be either affiliated to current educational institutions or run as independent establishments (run by local authorities, foundations or a church). Since most dropouts are from poor disadvantaged families for whom the children's education constitutes a heavy financial burden, the successful delivery of the reintegration programme could be assisted by the introduction of a student grant encouraging the completion of school. The grant should be accessible to all students who use the services of *second chance* schools and successfully meet the training requirements. The state should undertake to arrange for the development of educational methods and tools needed for effective reintegration, for the distribution of these tools among *second chance* schools and for professional development programmes for teachers involved in reintegration.

5. *Improving the composition of vocational teaching staff.* Vocational teachers working at vocational training schools are currently public servants. This means that – even if they have higher education degrees – they can expect considerably lower wages than their peers working in the corporate sector. Training institutions are therefore not in a position to employ professionals appropriately prepared for vocational teaching duties. The problem could be solved by releasing vocational instructor and trainer positions from the public sector pay scale and securing funds covering the costs of corporate sector wages for them.

6. *Practical training services receive very little support from the central budget:* only 112,000 Hungarian forints per head per annum. This sum does not permit schools to adhere to the training group sizes specified by the regulations or to pay for the power and materials required for running and maintaining the machinery and equipment needed for training. A high quality small-group training service will remain an unattainable goal unless central funding is increased to a level proportionate with the group sizes and the duration of training periods specified by the regulations.

7. While it is a progressive step in several respects, *the Regional Integrated Vocational Training Centre system carries the danger* that vocational training institutions will be located even further away from disadvantaged students living in small rural areas than they are at present and that it will become even more difficult to arrange vocational instruction and intensive skills development courses in small groups. The incidence of dropping out may increase as a result. Both problems must be resolved in some way. The strain of commuting between the students' homes and the school can be relieved by granting travel subsidies or free dormitory placement to disadvantaged students. The implementation of small-group courses aimed at helping students to acquire basic skills should be facilitated by allocating per-student funding to training centres to cover extra costs.

8. *Financial support for vocational training school students.* Before the transition, students attending vocational training schools were entitled to scholarships and the training period counted towards their pension entitlement. Present-day vocational training school students are in similarly great need of secure and balanced financial support. Since the introduction of the institution of employer funded studentships, the only source of funding available to students has been the company where their practical training is conducted. This is, of course, not available to students who complete their practical training at school facilities (40 per cent of vocational training school students). This inequitable arrangement must be urgently rectified in support of the, predominantly disadvantaged, students who are not paid because they receive their practical training at school facilities.

9. *Corporate pre-service and in-service training.* To deliver training programmes that equip students with the skills needed for long-term employment, companies should substantially expand their in-service training services. However, before introducing any institutional or legislative changes to this effect, careful research needs to be done to discover the best means of providing incentives for companies to expand their training services since at present no information is available on which to base policies. A survey programme should be set up involving a large sample of companies in order to identify the factors influencing companies' readiness to provide in-service training.

10. *Adult training.* Vocational training schools should be encouraged to get involved in adult training. Both vocational training schools and vocational secondary schools should use their student capacity freed due to demographic factors for adult training programmes that cannot be provided by current – often virtual – adult training institutions, which do not have suitably qualified teaching staff, classrooms or practical training facilities. This free capacity should be primarily devoted to compensatory education, training and equipment-intensive vocational training for disadvantaged populations and to extended training programmes.

11. *A standardised career monitoring system.* We propose that a *centralised and standardised* career monitoring system should be set up with centrally administered data collection. School leavers' careers should be followed for 38–40 months after obtaining qualifications. Since the process of labour market integration tends to extend over a few years, a one-year observation period is not long enough to obtain an accurate assessment of labour market prospects. Young workers should be observed at four points of this period. The first series of (basic) data should be collected during the students' final year at vocational training or vocational secondary school. In line with international practice, the second interview should take place 14–16 months after leaving school, by which time the possible insecure transitional period is expected to be over. The

third and fourth rounds of observation should again be conducted at about one year intervals. The collected data should include school leavers' personal details, contact details, the details of the training institution attended by the respondent, the respondent's school results, starting qualifications, vocational training history, in-service training history, foreign language skills, foreign language courses, computer skills, labour market status (employed, unemployed, student or other inactive), job, position, pay, working hours, working patterns, employer details and the respondent's labour market experience.

Depending on the availability of resources, the surveys should be either carried out on a representative sample or on the entire population of school leavers. In the former case, optimal methods of representative sampling should be investigated and the minimum size of the sample population should be established keeping in mind that it should be large enough to allow an assessment of the training institutions' output. Response rates are very important, as is the incidence of respondents dropping out of the survey. For a career monitoring system to be efficient not just one single generation of school leavers should be observed but data should be periodically collected. This permits changes in labour market supply and demand to be followed. Since there is a low probability of very rapid restructuring, it would be sufficient to observe every third generation of school leavers.

■ COSTS AND TIMING

A successful education programme for children of poor and uneducated parents inevitably calls for extra services and is consequently more costly than a typical educational programme. The following paragraphs give details of the costs and time requirements of individual proposals:

- 1 The division of current secondary-level vocational training institutions into vocational training centres and secondary schools can be gradually implemented over the next five years. The course of "purifying" institution profiles should be adjusted to the rolling out of regional vocational training centres. Since the launch of Regional Integrated Vocational Training Centres (TISZK) is financed by the second National Development Programme, no other major investments are needed for the implementation of the programme. The reform process involves the restructuring or, possibly, the reduction of teaching staff (mostly vocational instructors) working at the institutions. The maintenance and continuous development of the resulting pure profile secondary schools offering general training can be financed from regular annual budget sources.
- 2 The development and dissemination of methods and tools of compensatory secondary education is a similarly pressing task. It requires a one-time investment, which could be allocated from the development fund of the second Na-

tional Development Plan. Since curriculum development is a typical task for government research institutes, this responsibility could be delegated to one of the current research institutes as part of the current system of professional development schemes for teachers. The reduction of class sizes required for the efficient education of children of poor and uneducated parents calls for regular additional funding. This is a crucial step that can no longer be delayed.

- 3** To reduce the incidence of dropping out, 800–1000 mentors must be engaged as soon as possible. This constitutes a permanent increase in wage costs.
- 4** The implementation of the proposed reintegration service involves the introduction of a new funding quota which corresponds in value to the current per-student funding allocated to secondary schools. Under optimal circumstances, the service is expected to be used by about 6000 students a year, which amounts to 1.5 billion Hungarian forints of extra spending assuming current per-student funding rates. The same number of students would be eligible for progressive reintegration student grants (rising with every successfully completed school year), under optimal conditions. The development and dissemination of the instruction methods and tools needed for successful reintegration can be the responsibility of current government research institutes and therefore places no extra burden on the budget. These programmes should be implemented as soon as possible. [It should be noted that as a result of the “purification” of the profile of the secondary education system and the launch of compensatory education programmes (i.e., improvements to the quality and efficiency of disadvantaged students’ education), the costs of reintegration will gradually decline.]
- 5** The implementation of the standardised centralised career monitoring system involves highly expensive data collection tasks. The necessary resources can be created by regrouping the resources planned to be allocated for the institution-level career monitoring system. Since the practical use of the planned institution-level surveys is highly questionable, the resources could be used far more efficiently if they were reallocated.

■ LINKS TO OTHER PROGRAMMES

The above suggestions are closely related to the vocational training development programmes (TISZK) implemented in the framework of the second National Development Plan and to reintegration programmes aimed at reducing the incidence of dropping out, which have also been proposed in the framework of the second National Development Plan.

References

- ANDOR, MIHÁLY ▪ LISKÓ, ILONA (2000). *Iskolaválasztás és mobilitás* [School choice and mobility]. Iskolakultúra könyvek No. 3, Budapest.
- CSÁKÓ, MIHÁLY ▪ LISKÓ, ILONA (1974). *Országos szakmunkástanuló-vizsgálat, 1974. A magyarországi szakmunkástanulók élethelyzete* [National vocational training school student survey, 1974. The position of vocational training school students in Hungary]. <http://www.tarsadalomkutatas.hu/termek.php?termek=TDATA-A16>
- CSÁKÓ, MIHÁLY ▪ LISKÓ, ILONA ▪ TÓT, ÉVA (1994). *Szakmunkástanulók a kilencvenes években* [Vocational training school students in the nineties]. Research report. Manuscript. Budapest: Oktatókutató Intézet & ELTE Szociológiai és Szociálpolitikai Intézet.
- EUROSTAT (2002). *Continuing training in enterprises in Europe. Results of the second European Continuing Vocational Training Survey in enterprises.*
- EUROSTAT (2003). *School leavers in Europe and the labour market effects of job mismatches.* Statistics in Focus, Population and Social Conditions, Theme 3, 5/2003. http://www.eds-destatis.de/en/downloads/sif/nk_03_05.pdf
- FARKAS, PÉTER (2008). *Szemponatok a középtávú szakképzés-politika kialakításához* [Factors to consider for medium-term vocational training policies]. Background study for OKA.
- GALASI, PÉTER (2007). *A középfokú szakképzésből kikerülők pályakövetési rendszerének (KSZPR) koncepciója* [Career monitoring for students leaving secondary vocational training]. Background study for OKA.
- HÍVES, TAMÁS (2007). *Iskoláztatási, szakképzési, lemorzsolódási és munkapiaci adatok elemzése* [An analysis of enrolment, vocational training, dropping out and labour market data]. Manuscript. Background study for OKA, Budapest.
- KÉZDI, GÁBOR (2006). Not Only Transition. The Reasons for Declining Returns to Vocational Training.
- KÉZDI, GÁBOR (2007). *A szakképzés munkaerő-piaci értékének és struktúrájának változása Magyarországon a rendszerváltás előtt és után* [Shifts in the structure and labour market value of vocational training in Hungary]. Background study for OKA, Budapest, September 2007.
- KOSZÓ, ZOLTÁN ▪ SEMJÉN, ANDRÁS ▪ TÓTH, ÁGNES ▪ TÓTH, ISTVÁN JÁNOS (2007). *Szakmastruktúra- és szakmatartalom-változások a gazdasági fejlődés tükrében* [Changes in vocational structure in relation to economic development]. Research Papers No. 2007/2. Budapest: MKIK GVI. http://www.gvi.hu/data/papers/KF_2007_2_szakmastruktura_071106.pdf
- KÖLLŐ, JÁNOS (2006). *Workplace Literacy Requirements and Unskilled Employment in East-Central and Western Europe – Evidence from the International Adult Literacy Survey (IALS).* Budapest Working Papers on the Labour Market No. 7. Budapesti Corvinus Egyetem & MTA KTI.
- LISKÓ, ILONA (2002). *Cigány tanulók a középfokú iskolákban* [Roma students in secondary education]. Kutatás Közben No. 234. Budapest: Oktatókutató Intézet.
- LISKÓ, ILONA (2003). *Kudarok a középfokú iskolákban* [Secondary school failures]. Kutatás Közben No. 250. Budapest: Oktatókutató Intézet.
- LISKÓ, ILONA (2004). *Perspektívák a középiskola után* [Prospects after secondary school]. Kutatás Közben No. 259. Budapest: Felsőoktatási Kutatóintézet.
- LISKÓ, ILONA (2005). *A roma tanulók középiskolai továbbtanulása* [Roma students continuing their studies in secondary education]. Kutatás Közben No. 268. Budapest: Felsőoktatási Kutatóintézet.
- MÁRTONFI, GYÖRGY (2007). *A TISZK rendszer kiépítésének első szakasza* [The first phase of the implementation of the TISZK system]. Manuscript. Background study for OKA, Budapest, September 2007.
- SELMECZY, IVÁN ▪ PAPP, GERGŐ ▪ TÓTH, ISTVÁN JÁNOS (2007). *Rövid távú munkaerőpiaci előrejelzés* [Short-term labour market projection]. Budapest: MKIK GVI. http://www.gvi.hu/data/papers/prognosis_tanulmany_2006_070606.pdf