

**REPORT  
FROM THE  
INSPECTORATE**

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# **Vocational Education and Training in Italy**

**International Report**

**October 1996**

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**THE  
FURTHER  
EDUCATION  
FUNDING  
COUNCIL**

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## **PREFACE**

This is one of a series of publications by the Further Education Funding Council's inspectorate to build up knowledge of the post-16 vocational education and training systems of other countries in order to highlight those aspects which might inform thinking in England in particular, and the United Kingdom in general.

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## COMMENTARY

1 This report is based on a visit to Italy in March 1996 by a team of four inspectors and a member of the education programmes division from the Further Education Funding Council (FEFC); a college principal representing the quality assessment committee of the FEFC; two officials from the Department for Education and Employment; and for part of the time, a representative of the British Council.

2 The purpose of the visit was to examine the role of the technical high schools in providing vocational education and training for young people from the age of 14, their relationships with local industry and employee training and the interaction of central and local government in educational provision. The visit was planned to include study of an area with many large technology-based companies around Torino (Turin), an area of smaller craft-based companies around Bologna, and consultation with government officials and representatives of national agencies in Roma (Rome).

3 The effectiveness of student and staff exchange arrangements funded by the European Union was assessed by visiting four colleges in two partnerships in Britain and Italy. Those in Italy were a high school specialising in surveying and cartography in L'Aquila, in the mountains to the east of Roma, and one specialising in construction and surveying in Treviso, near Venezia (Venice).

4 Commentators on Italy dwell on an apparent paradox between the country's economic success and what they see as underdeveloped educational and political systems. For example, Porter's (1990) influential study of *The Competitive Advantage of Nations* notes that:

*Italy has moved from an economy dependent on low wages, pervasive subsidies, and widespread protection to an innovation-driven economy with many uniquely dynamic industries in the space of a few decades.*

But he goes on to say:

*Italian industry has succeeded more on a foundation of informal rather than formal education and training. Expertise is built in families and through diffusion of skills within localised Italian industries in such clusters as textiles, apparel, furnishings and machinery.*

5 The theme is developed in greater detail by Brusco (1982) in *The Emilian Model: Productive decentralisation and social integration*. Brusco attributes the durable economic health of the Emilia Romagna region to its plethora of small companies working co-operatively to produce the components for manufactured goods; to its flexible and technologically sophisticated workforce and accommodating trade unions; to its staunchly independent local government; and, in contrast to the position of Porter, to its excellent nursery and primary schooling.

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6 So complex a set of coincidences and contrasts with British circumstances is of interest in itself. Even more to the point, perhaps, is the implication underlying Porter's thinking, that Italy's successes are due more to historical accident than to the judicious choice of policies and priorities. This conclusion appears so improbable in today's competitive world that the team hoped to be able to identify elements of the Italian system that differ from those of Britain, and that appear to work well.

7 Features of the Italian education service that merit remark are these:

- over 90 per cent of Italian children attend pre-school classes, which are available to them from the age of 18 months
- infant schooling can occupy over 40 hours on six days each week; it is seen as the first rung on the educational ladder, particularly for children from deprived homes
- compulsory schooling lasts from the age of six to the age of 14
- primary school class sizes are small, with a maximum of 25 pupils in a class
- there is a national curriculum, an individual record of pupil achievement completed by teachers, and formal examinations leading to national qualifications at the ages of 11 and 14
- about three-quarters of young people proceed to post-compulsory education, and those that do have to choose between schools which have specifically academic or vocational curricula
- the characters of vocational high schools are determined by their reference to a locally-predominant industry, such as ceramics, or to a profession such as aeronautics
- curricula are specified by the ministry of education and are organised into about 100 coherent syllabus 'lines' rather than individual subjects
- all curricula in practice contain a balance between general education and more specific elements: students may be said to receive an education *through* a vocational context as much as *in* a vocation
- about half the 14 to 19 age cohort attends vocational or professional high schools; when added to those who enter apprenticeships or other work-based training from the age of 14 onwards, about three-quarters of teenagers are educated in a vocational context
- students in every kind of high school take the same national examination at the age of 18 or 19; the *maturità*
- students from every kind of high school have an equal and absolute right to enter a university if they achieve the *maturità* at the age of 18 or 19
- the ministry of education is the only examining body

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- examinations are carried out by local commissions acting on behalf of the ministry; their members are mainly high-school teachers and they work under the chairmanship of a university professor or a school principal
  - examinations are intended to predict potential rather than measure achievement; they cover only a sample of the curriculum
  - there is little obvious activity designed to secure consistent national standards; instead consistency relies on a consensus built over time
  - around 60 per cent of students remain in high schools until the age of 19 and over 50 per cent of them achieve the *maturità*
  - high-school curricula entail 36 to 40 taught hours a week, normally over six days
  - average class sizes in high schools are 22
  - pupil to teacher ratios in high schools are significantly lower than the Organisation for Economic Co-operation and Development (OECD) average
  - the cost for each student in an Italian vocational high school is comparable with that in a further education college in England, and the total cost of Italian education is similar as a proportion of gross domestic product (GDP) to both that of Britain and the OECD average
  - facilities in technical high schools compare favourably with those of English further education colleges
  - salaries paid to teachers are significantly lower than those in England
  - about 35 per cent of students proceed to university but only 10 per cent graduate
  - Italy is markedly less successful than Britain in producing technical and scientific graduates
  - there is little education or training available for adults and 'lifelong learning' is widely regarded as utopian.

8 The Italian education and training systems face continuing pressures for change to meet economic challenges from Asia and to improve success rates in universities. The emerging issues, and the more notable steps taken to resolve them, are these:

- Italy is likely to extend compulsory schooling to the age of 16
  - technical high schools are allowed to offer experimental curricula which address local or new commercial needs
  - a falling birthrate leaves many technical high schools with excess capacity, threatening the continuation of a structure based on small specialised institutions
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- a government commission has proposed a reduction in the number of syllabus lines from over 100 to 19, with a substantial common core
  - some universities now impose their own entrance examinations to supplement the *maturità*
  - there are pressures from industry for the introduction of more vocational skills into the high school curriculum
  - an important initiative has been taken in 'Project 92' to combine a nationally-determined general education in arts and sciences, with locally-determined training in vocational skills
  - the strains imposed by the universities and by attempts to meet the needs of industry threaten to undermine the *maturità* as a general school-leaving certificate covering both academic and vocational disciplines
  - some technical high schools now offer one-year or two-year diploma courses after the *maturità*; they are intended as a preparation for work
  - neither the new high school diploma, nor vocational training undertaken at regional training centres or at work is eligible for a national award
  - the nature of existing national educational awards; the growth of vocational diplomas; and the lack of national certification for training at work obscure comparability of standards: the national inspectorate is the body charged with securing standards but its 400 members are too few to do so effectively
  - over 90 per cent of young people recruited into industry do so initially on short-term contracts (CFL) underwritten and supervised by the state, in collaboration with industry and the trade unions
  - most vocational training outside formal education is supported by the European Social Fund
  - most vocational high schools teach their students at least one, and more often two, European foreign languages; there is often a 'European dimension' in the curriculum; staff and student exchanges with English further education colleges are successful and increasing in number.

9 The Italian education system has problems which are remarkably similar to those we face in Britain. In some cases, the traditions of Italy make the difficulties more acute. For example, without the introduction of adults into the high schools, it is difficult to see how enough of these schools can survive the fall in the number of young people to secure their specialist character, and the organisation of the curriculum into coherent syllabus lines makes its delivery in modules (which might attract adults studying part time) more difficult to arrange. Nevertheless, it was obvious to the



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team that Italian economic success is no accident. The location of industries in dedicated towns helps both collaborative manufacturing and the provision of state services, including vocational education, to support them. The emphasis placed on nursery and primary education, with proportionately generous resourcing indicated by the long taught hours and small class sizes, distinguishes the Italian system. The quality of nursery and primary education seems almost certain to be significant in securing the satisfaction among employers with general educational standards, that was indicated to the team. Most important of all, Italy's commitment to developing vocational capability is clear in its decision to invest the preponderance of resources available for 14 to 19 year olds in vocational high schools and vocational programmes for young people at work.

## **ECONOMY AND GOVERNMENT**

10 The population of Italy is 57.2 million. In this and in several other respects, Italy is similar to the United Kingdom. Italy's GDP is comparable with Britain's, with GDP per capita slightly higher at about US\$17,500. After 20 years of post-war economic miracle, Italy has had serious problems in recent years with high public borrowing, inflation and an adverse balance of payments. The economy is now recovering after the collapse of the *lira* in September 1992, and its subsequent recession and severe monetary and tax measures.

11 Italy is much poorer in natural resources than Britain. The only large fertile area is the Po valley, and Italy is a net importer of food. Three-quarters of the country's energy is imported. The mainstay of the Italian economy is industrial production, which accounts for three-quarters of all exports. Despite a spate of recent privatisations, the state owns some major industries through two large holding companies. There are few very large private companies, but among them are Fiat (cars, trucks, tractors, earthmovers, trains, steel, aircraft engines, machine tools, telecommunications, medical equipment); Olivetti (computers, telecommunications, office systems); Pirelli (tyres, rubber, cables); and Montedison (textiles, chemicals). Medium-sized concerns which are international household names include Benetton and Armani. Small businesses are well supported by government and banking, and they have made a substantial contribution to the economy. There is often a geographical concentration of specialist industries; for example, wool in Prato, silk in Como, shoes in Verona, and ceramic tiles in Sassuolo. Italy is arguably the world leader in the manufacture of some goods; for example, high-quality clothing, ceramics and fast cars.

12 Unemployment has been recalculated recently on a new basis which reduces the apparent rate. The overall rate appears to exceed 10 per cent, with around 6 per cent in the north and 20 per cent in the south. The difference between regions reflects the concentration of industry and

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urban areas in the north of the country. There are 45 cities with populations of over 100,000. Few of them are large by British standards. Only Napoli (Naples) with 1.06 million people, Milano (Milan) with 1.31 million and Roma with 2.69 million are substantial in international terms. Unemployment is high among the young, with some 40 per cent of unemployed people seeking their first job, and is almost twice as high among women as among men.

13 Modern Italy dates from 1859, when the forces of Garibaldi from the south combined with those of King Vittorio Emanuele from the north. The marked difference in social structures and traditions between north and south date from the founding of the state or before, and they continue to be troublesome. Parliament has two chambers. There is an assembly of 630 seats elected by those of 18 years of age and over, and a senate of 315 seats elected by those over 25. Election was by proportional representation until recent reforms introduced a substantial element of first-past-the-post voting. The forces that deposed Mussolini in 1943 were a broad coalition of right and left, with the Christian democrats and the communists key players. Most subsequent prime ministers have been Christian democrats leading coalitions. The communists won over 30 per cent of the vote in the 1970s but have since declined. The election of April 1996 brought a coalition of the centre left to power for the first time since the war.

14 Some of the many parties have depended for their funding on dubious sources. People with political power have largely stayed out of government, and administrations headed by prime ministers who were often chairmen rather than leaders with a personal following in the country, have been neither durable nor decisive. The president of the republic is an important force for stability. Regional and local governments are becoming increasingly influential. Communities of over 15,000 people have elected mayors. Fundamental change is often hard to achieve and many more reforms have been mooted than have been realised.

## **EDUCATION SYSTEM**

15 Education and training are planned centrally by the *Ministero della Pubblica Istruzione (MPI)* and the *Ministero delle Università e dell' Ricerca Scientifica e Tecnologica (MURST)*, which are responsible for compulsory and further education, and higher education respectively. The term 'further education', however, has no direct parallel for its British usage in Italy. Education for 16 to 19 year olds is the responsibility of the MPI and is carried out in institutions which students enter at the age of 14. Adults are almost never taught alongside young people and the concept of lifelong education has yet to take shape. Some vocational training exists under the aegis of the *Ministero del Lavoro* and regional governments.

16 Regional and local governments play a vital part in education and training. While, for example, the MPI sets the national curriculum,

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provides the inspection service and employs teachers, the provision of buildings and equipment is largely a matter for local government. As a result, some regions are acknowledged as providing a superior education service, including Emilia Romagna which was visited by the team.

17 The private education sector in Italy is small, except at the nursery school level, occupying around 6 per cent of total provision. It is not associated with education of a distinctively high quality, and wealthy Italians have traditionally sent their children to state schools. Most private institutions require some kind of state approval, but they receive little government aid with the exception of grants or subsidies to enable them to fulfil needs which otherwise would not be met.

18 Over 90 per cent of Italian children attend pre-school classes. Children below the age of three may attend *nidi d'infanzia* ('children's nests') which have grown up to provide childcare for working mothers. They are usually private enterprises and are often supported or assisted by employers. The upper tier of pre-school education, for children aged from three to five, is provided in a *scuola dell'infanzia*. About half of these infant schools are run by the state and half are private. Legislation of 1991 recognises infant schools as the first rung on the educational ladder, particularly for children from deprived homes, although attendance is not compulsory. The infant school year runs from September to June, with a minimum day of seven hours for five, and sometimes six, days each week. Infant schools normally have between 45 and 90 pupils, with six teachers. Where there are children with physical disabilities in a class it must be smaller, with between 10 and 20 pupils.

19 Education is compulsory from six to 14. Primary education, the *scuola primaria*, lasts for five years between the ages of six and 11. Its purpose is defined by law as promoting 'cultural literacy and the development of the individual, with an emphasis on interaction with the family and the community at large'. There is a national curriculum, with subjects grouped in three areas: the 'linguistic-expressive'; the 'scientific-logical-mathematical', and the 'historic-geographic-social'. Pupils' work is assessed by individual teachers and by teachers in parallel classes meeting formally in a *consiglio d'interclasse*. A report on each child's developing maturity and commitment to learn is sent to parents every three or four months. There is an overall assessment of progress annually and, at the age of 11, written and oral examinations leading to the *licenza elementare*. Failure is rare, but may necessitate retaking the examination or the final year of study. The examiners are teachers in the school. The school year is 40 weeks long from September to June. The school week is normally 30 hours long, arranged in a variety of patterns extending over five or six days. The maximum class size is 25, or 20 wherever there are children with physical disabilities.

20 The last years of compulsory education, at the ages of 11, 12 and 13 take place in the *scuola media*. Children cannot enter until they have achieved the *licenza elementare*. The aim of the national curriculum at

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this level is to prepare children 'as much for adulthood and citizenship as for further study'. Subjects are taught separately by specialised teachers, but they are linked together both by collaboration between staff and by interdisciplinary activities. Pupils have an individual record of achievement, the *scheda personale*, in which teachers comment systematically on oral and written classwork, homework and behaviour. These records are considered by all teachers in a *consiglio di classe* which formulates an assessment every three or four months, and reports to parents. At the end of their time in *scuola media*, pupils sit written examinations in Italian, mathematics and a foreign language, and a multidisciplinary oral test for the *diploma di licenza media*. The examiners are teachers in the school, together with an external chairman. Success in the *diploma* is a requirement for progression to post-compulsory education.

21 About three-quarters of young people proceed to post-compulsory education, which normally lasts for five years. This 'upper-secondary education' is the only part of the system that has not been subject to recent legislative reform. It is probable that compulsory schooling will soon be extended to the age of 16 to align with the rest of the European Union. Streamlining of the technical curriculum may take place following the recommendations of a governmental committee, *commissione Brocca*, which began work in 1988 and which has now reported on its conclusions. Meanwhile, the system is able to evolve through participation by nearly two-thirds of schools in 'innovative projects' supported by the MPI, which enable new curricula to be introduced.

22 At the age of 14, children and their parents have to decide between substantially different types of upper secondary education. Nearly a quarter of pupils in each age cohort enter either a *liceo classico* or a *liceo scientifico*. Both are based on academic study, designed with a view to university entry. Both offer a broad curriculum, but with an emphasis on Latin and Greek, or on mathematics and the sciences respectively. Both have a timetable of between 25 and 30 hours' teaching over a six-day week, for 40 weeks a year. A further third of pupils opt for an *istituto tecnico*. *Istituti tecnici* are available in nine main varieties, covering fields such as surveying, agriculture, business, aeronautics, maritime studies, tourism, foreign trade, and industry according to local circumstances. Their curricula are broader than these designations might suggest, with each field providing a context within which the normally-accepted secondary syllabus is studied. The timetable is of 30 to 40 'hours' each six-day week, although each teaching hour may be of 50 or 55 minutes. Nearly 20 per cent of pupils in each age cohort enter an *istituto professionale* specialising in one of five curriculum areas, which again include agriculture, trade, and industry. The curriculum occupies about the same time each week as in an *istituto tecnico*. Finally, some 3.5 per cent of pupils enter *istituti d'arte* at the age of 14, to study art, design and crafts. It is with the *istituti tecnici*, *istituti professionali*, and *istituti d'arte* that this report is principally concerned.

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23 In all these different types of high schools, the five-year curriculum is split into at least two parts. These are the initial two-year *biennio* and the final three-year *triennio*. *Istituti professionali* differ from this pattern in detail, because originally most of their students left at the age of 17 to start work in skilled occupations. They offer the *biennio unitario*, followed by a *monoennio di qualifica* before students take a *diploma di qualifica* and then leave, or proceed to the *biennio post-qualifica*. Nowadays, it is common for students in *istituti professionali* to stay on until they are 19, when they have the same rights of entry to university as do their peers from the other high schools. At the end of high school, nearly all students sit for the *diploma di maturità* which qualifies them for university entry.

24 This pattern of upper secondary education dates from 1923, when the minister of education of the day introduced a 'pyramid' of educational provision with classical studies at the top, and *scuole professionali* for artisans at the bottom. That pyramid is generally understood to be disappearing, with something approaching parity of esteem developing between academic and technological or professional study. The final examination of secondary schooling, the *diploma di maturità*, nevertheless retains some of the features associated with a pyramid which in its turn reflected the aristocratic culture of the day. It is not a test of competence, but rather a measure of sufficient maturity to study independently in higher education. Each year, the MPI selects four subjects to be adjudged for the *diploma di maturità*, one of which is always Italian. Local examining commissions are established consisting of five members; a chairman who is a principal or university professor, and four teachers relevant to the subjects selected. Each commission assesses in a number of high schools, in each of which a teacher from that school joins as a non-voting member. The assessment consists of two written and two oral examinations, plus consideration of each student's record and school report. In essence, this procedure compares each student with a Platonic ideal of an educated young person. The *diploma di maturità* qualifies students to enter most faculties of universities, irrespective of the content of their particular high-school curricula.

25 Higher education takes place in 63 universities and university institutes. The average length of their degree courses ranges from four to six years; there is normally no limit on the number of students who may enrol; and students have a large measure of choice in the components which make up their programmes. Student retention rates are low and there are concerns that the universities are producing too few graduates in science and technology to meet Italy's needs.

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## POST-COMPULSORY VOCATIONAL EDUCATION AND TRAINING

### Planning

26 Education and training cannot be seen as constituting a single, integrated system in Italy. Education is a matter for national government, and training a matter for regional governments.

27 The MPI operates through regional and provincial administrative structures, the *sovrintendenze scolastiche regionali* and *provveditorati agli studi*, respectively. Twenty regional offices are responsible for upper secondary school teacher recruitment and for regional institutes for research, experimentation, and in-service training. Provincial offices, of which there are about 70, oversee operational matters in the schools in their areas including recruitment of primary and lower secondary teachers. They also play a role in co-ordinating work with other local bodies which have responsibilities in education. School heads and teachers are directly responsible to the provincial director of education. The scale of the director's responsibilities can be substantial; for example, the director of education for Torino supervises 433 schools, 31,000 staff and 241,000 pupils.

28 The minister of education is advised by a national education council comprising 71 members elected among teachers, education support staff, inspectors, staff from central and local educational administration, universities, employers and trade unions. The council is consulted on a range of issues relating to the planning and development of the educational system, but acts only in an advisory capacity. Provincial education committees include parents in addition to the categories of representative on the national education council, and they advise the director of education on the establishment and closure of schools, distribution of resources and co-ordination of support services. There are also district committees which may put forward proposals for experimental curricula.

29 In addition to the MPI which works through its regional and provincial arms, the regional, provincial and district levels of government have legislative and administrative responsibilities. Regions are responsible for vocational training, construction of school buildings and assistance for students. Provinces maintain some school buildings, and district councils also maintain buildings and provide welfare services such as free transport and financial assistance for books or equipment, often as delegated functions from regions or provinces. Whilst these apparently complex relationships are not without tension, reflecting wider debate in Italy about the appropriate location of political power and the balance between national and local authority, in practice the arrangements appear to work well.

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30 The national minimum size of an upper secondary school is 25 classes. Factors that are taken into account in assessing the need for provision and its level of resource include:

- the average population of each community in the province (the sparsity factor)
- the proportion of the population living in mountain areas (the isolation factor)
- the proportion of students registered as disabled.

Only 0.41 per cent of students in upper secondary education were registered as disabled in 1995-96, although 50 per cent of schools have at least one student with a physical disability.

31 This approach to planning generates a stable average class size; 21.9 in 1995-96 compared with 21.7 in 1989-90. The average class size tends to be higher in the *licei* because of their higher continuation rates beyond the first year of the *biennio*.

**Table 1. Average class size in upper secondary schools, 1995-96**

<i>Secondary school</i>	<i>Number of students</i>
<i>Liceo classico/scientifico/magistrale</i>	23.2
<i>Istituto tecnico</i>	20.6
<i>Istituto professionale</i>	20.1
<i>Istituto d'arte</i>	21.9

32 A key factor in planning upper secondary provision is the decline in size of the age cohorts entering this phase of education. Numbers of students are projected to fall by 8 per cent by 1999-2000, and the number of classes by 10 per cent. The rate of decline is slightly higher in the north of Italy than in the south. The fall in student numbers raises questions about a structure in which institutions are relatively small and specialised, and in which students are taught in separate course and class units. Where falling rolls cause an upper secondary school to shrink below 25 classes, that is, about 500 students, it is likely to face merger or closure. Many of the *istituti tecnici* visited by the team were operating substantially below their planned capacity.

33 In order to strengthen economic criteria as factors in planning education, the MPI is undertaking a survey of the expectations of employers with a view to presenting a paper to the OECD. The survey involves Confindustria, an employer organisation, the Agnelli and Brodolini Foundations, chambers of commerce, the *Ministero del Lavoro*, ISFOL (the institute for training the labour force), and trade unions. Preliminary conclusions of the survey suggest a need for better co-ordination between school-based and work-based or regionally-provided vocational training; for more careers guidance and work experience; and better student

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retention rates. ISFOL has emphasised that industry needs school leavers to possess key skills, which it defines much as the National Council for Vocational Qualifications (NCVQ) does in England. The survey also proposes archetypes for education and training; that is, areas of generic rather than specific skill. It has been suggested that 30 archetypes could cover the various craft areas of work; 60 could cover industry; and 12 would suffice for trade and tourism.

34 The survey also suggests that regionally-based vocational courses offered outside the education sector should have greater recognition and that a national framework should be developed to co-ordinate and evaluate work in education and training. A joint committee has been formed between the MPI and Confindustria to foster the dialogue between schools and industry. The committee hopes to bring more of the culture of industry into the school curriculum and to develop more post-*maturità* courses in the high schools.

35 While the initial impression is of an education system which is centrally planned and directed in all important respects, the many local interventions and the marked extent to which indirect means are used to reform it continuously, create a maturer view of something which is much more fluid. So far as upper secondary education is concerned, planning on the grand scale through legislation has been rare for several decades. Nevertheless, the combination of a sound basic structure, active civil servants, the widespread 'experimental' curriculum developments, and local references, appears to produce a structure which is as relevant to national priorities as most, and which has features which are impressive.

### **Costs and Efficiency**

36 Total expenditure on education in Italy as a percentage of GDP was 5.1 per cent in 1992, compared with the United Kingdom at 5.2 per cent and the OECD average of 5.1 per cent. Comparisons between expenditure in upper secondary schools and in further education colleges in England are problematic because of the different age ranges involved and the presence of part-time students in the English system. There are also significant organisational differences that have an impact on expenditure:

- taught hours are higher in Italy: 36 to 40 hours a week for 38 to 40 weeks a year
- in upper secondary schools, teachers are contracted for 18 contact hours a week. Although the average class size was 21.9 in 1995-96, the high student taught hours resulted in an average student:teacher ratio of 9.3:1. This compares with an OECD average of 15.8:1 for a comparable age range
- rates of pay for teachers are lower in Italy; at the current exchange rate the annual salary scale ranges from £6,800 for a recently-qualified teacher to £10,400 for a teacher on the maximum point. The salary differential for heads of institutions appears to be small; school principals' salaries range from £13,000 to £15,000 a year.



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37 Although expenditure for each student is not directly comparable, information provided by the MPI statistical service has made an estimate possible for three groups of institutions, shown in table 2.

**Table 2. Annual expenditure per student in 1993**

<i>Institute</i>	<i>Expenditure</i>
<i>Liceo classico/scientifico/magistrale</i>	£2,000
<i>Istituto tecnico</i>	£2,650
<i>Istituto professionale</i>	£2,860

*Exchange rate: March 1996*

This compares with an average of £2,600 for each full-time equivalent student in the further education sector in England in 1995-96. The average proportion of expenditure on staffing in Italy is about 85 per cent, compared with about 70 per cent for colleges in England.

38 The cost of producing a qualified student is influenced by the retention rate, which ranged between about 83 per cent and 95 per cent in different kinds of high school in 1994-95, taken across the whole five years of the upper secondary phase. An analysis of the drop-out rates by year of course for different types of institutions has been undertaken by the MPI statistical service, and the results indicate that although continuation rates remain higher in the *licei*, they have improved significantly in technical and professional high schools in recent years.

39 Direct comparisons with Britain are difficult, because longer compulsory schooling in the United Kingdom should produce retention rates close to 100 per cent for the period which equates with years 1 and 2 of upper secondary schooling in Italy, where the drop-out rates are highest. Nevertheless, the converse is true for 16 to 19 year olds, where English retention rates are generally lower than those recorded for Italy. Data from the MPI suggest that over 60 per cent of the age cohort are retained in education until they are 19 in Italy, and more than 50 per cent achieve the *diploma di maturità*, the rough equivalent of a national vocational qualification (NVQ) at level 3. In England in 1993-94, 39 per cent of 19 year olds were still in education, including those in higher education, and in 1994 the national targets for education and training were raised from 50 per cent to 60 per cent of young people achieving NVQ level 3 by the year 2000.

40 The MPI statistical service has made a long-term study of the pattern of progression of students from *scuola media* through upper secondary schools and to university. It shows a significantly higher success rate in the *maturità* among students in *licei* (86 per cent) when compared with students in the *istituti tecnici* (80 per cent) or *istituti professionali* (46 per cent). While the proportion of students entering university is a little higher than in Britain at 36 per cent, the graduation rate as a percentage of the age cohort is only 10 per cent, and of those who enter only 28 per cent.

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The Italian system appears to be cost effective up to the age of 19, after which substantial inefficiencies intrude.

### **Technical Curriculum**

41 The technical curriculum in Italy has been established for a long time, so that it is possible to say that a region like Emilia Romagna has a 'technical culture'. Each technical area has been regarded traditionally as requiring an integrated curriculum designed especially for it. The result is that *istituti tecnici* and *istituti professionali* have offered a total of over 100 syllabus lines, with a typical high school offering a selection of perhaps six, according to its size and its area of specialisation. Each line normally contains 12 subjects, most of which are those commonly found in any European secondary curriculum. The identity of the line, the vocational specialism which sets its character, is therefore based on a minority of the curriculum.

42 Among *istituti tecnici* and *istituti professionali*, the opportunity to offer experimental lines has been seized with enthusiasm, conferring as it does the opportunity to respond to local needs, to influence the shape of the curriculum, and to attract additional funding from the MPI, particularly for staff. More than 75 per cent of technical high schools offer experimental curricula. Those high schools which embrace them are likely to be regarded as the best and most lively, and a number of those visited by the team divided their work equally between conventional and experimental lines.

43 The public faces of *istituti tecnici* and *istituti professionali* have specific vocational characters. For example, Istituto Tecnico Aeronautico 'Pinedo', outside Roma, offers specialisations for aircrew and air-traffic controllers. Students who follow the aircrew route gain a private pilot's licence during their time at the school, as well as the usual *diploma di maturità*. Over 50 per cent of the students who have passed out in the last 20 years have gone into some branch of the air-transport industry or the airforce. However, the school has reduced its level of specialisation gradually to give its students greater choice in their subsequent careers. Impressive though the vocational achievements of students are, the greatest benefit of the specialised approach of the school appears to be that it harnesses students' enthusiasm and provides an exciting context within which the standard subjects can be learned most effectively. For example, students learn English willingly because it is the international language of the air.

44 During the initial *biennio*, the curriculum is broad and balanced between arts and sciences. For example, the *biennio* at Istituto Tecnico 'Avogadro' in Torino is based on the weekly timetable outlined in table 3.

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**Table 3. Sample timetable for the *biennio***

<b><i>Curriculum</i></b>	<b><i>Hours</i></b>
Italian language and literature	5
History and politics	2
Geography	3
Foreign language and literature	3
Economics	2
Mathematics	5
Environment or biology	3
Physics laboratory work	4
Chemistry laboratory work	3
Design technology	3
Physical education	2
Religious education	1
<b>Total</b>	<b>36</b>

45 With the possibility of university entry for students achieving the *diploma di maturità* at *istituti professionali*, and the corresponding decline in their leaving to start work at 17, has come a fading away of the distinctions between *istituti professionali* and *istituti tecnici*. The weekly timetable for the *triennio* in business and financial management common to two different high schools in Bologna is outlined in table 4.

**Table 4. Sample timetable for the *triennio***

<b><i>Curriculum</i></b>	<b><i>Hours</i></b>
Italian language and literature	3
History	2
First foreign language	3
Second foreign language	3
Applied mathematics	3
Economic geography	3
Business accounting	9
Management	3
Finance	3
Physical education	2
Religious education	1
<b>Total</b>	<b>35</b>

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46 The depth of specialist study which characterises the syllabus line was judged by members of the visiting team to produce an outcome at a level somewhat below, for example, the national diploma of the Business and Technology Education Council (BTEC). However, the breadth given by the rest of the curriculum at least compensated for this. At Istituto Tecnico 'Amedeo Avogadro', the mechanical engineering syllabus in the *triennio* aimed to equip students to work in several different spheres of production. The professional training included scientific principles, new technologies, organisational skills and industrial automation. Students had to be able: to design, instal and manage simple hydraulic, thermal and environmental conditioning systems; to make and assemble a variety of mechanical components, and cost and schedule the work and materials; to check and test components, products and plant; and to use computer systems, numerically-controlled machine tools, and automated manufacturing and materials handling systems.

### **Reform of the Curriculum**

47 *Commissione Brocca* has prepared and tested a substantial programme of reform which awaits the approval of the new government. Its 45 members worked from 1988 to 1994 to revise the whole secondary curriculum. They proposed that syllabus lines should be maintained, rejecting a general curriculum based on independent subjects as too expensive to introduce. The number of lines has been reduced to just 19 which, since every high school would select about six to teach, would have the effect of at least eroding and perhaps in the end abolishing, the settled distinctions between the various *licei* and *istituti*. All 19 lines have a common core, and the initial *biennio* would become entirely common under the *Brocca* proposals. The revised curriculum still embodies a point of view about the accomplishments of an ideal educated Italian, so that for example it contains philosophy in every line, with a common core such as epistemology and an appropriate application such as aesthetics for students of art and design.

48 The commission resisted pressures to base a new curriculum on detailed vocational knowledge which would prepare students directly to enter industry and commerce. Their reasoning was that such a development ran counter to the globalisation of the economy and of the labour market, with their attendant demands for flexibility. As a result, all the lines seek to balance the arts and the sciences; there is a strong emphasis on languages, and there is a powerful European dimension. However, these 19 broad lines sit less easily with the 100 or more 'archetypes' being proposed for OECD, than does the present structure. Of the 950 high schools (out of 5,200 in the country) included in the trial, 578 have reported positively, despite difficulties of implementation which have prompted some changes in the original blueprint. Among the innovations which have proved problematic were the promotion of less directive teaching methods to enable more questioning attitudes to be developed among students, and the greater integration of theory and practice.

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49 The impact of the *Brocca* plan seems likely to be a liberalising of the curriculum, without the loss of many of the better features associated with high schools which have such distinctive styles. Among the benefits of the high schools have been that they choose students, and are selected by students, on the basis of students' enthusiasm for the particular professional ambience each school embraces. One of their disadvantages has been that students, or more often their families, have to make what appear to be career choices very early. While the nature of the *diploma di maturità* and flexible progression to university prevent this from being a trap which closes off whole stretches of the higher education landscape, transfer between lines appears to be difficult and between high schools almost impossible. There is little doubt that the *Brocca* proposals, with broader curricula containing more common elements, should at least make transfer within a high school easier.

50 Some difficulties do not appear susceptible to immediate solution using the *Brocca* proposals. A member of the commission estimated that the new curriculum was likely to lead to fewer, larger high schools with an average of perhaps 1,000 to 1,200 students in each. With a diminishing pool of 14 to 19 year olds, it might be thought helpful to take advantage of spare capacity by pressing forward with lifelong learning for adults. However, the *Brocca* syllabus lines still require full-time study, sustained over several years; they are not readily susceptible to modularisation and distance learning. They continue to embody a concept of knowledge which is coherent and refined over time.

### **Organisation and Resourcing of Upper Secondary Schools**

51 Since 1990, there has been no distinct teacher training in Italy. To become a teacher, graduates have to pass a state examination, the *concorso*. During an initial probationary year in a school, the young teacher has a more experienced member of staff as a mentor. At the end of the year, a committee of four teachers and the school principal decide whether or not the probationer is competent to enter the profession.

52 Teaching posts are not advertised. Lists of vacancies are prepared annually at the provincial offices of the MPI, and newly-qualified or experienced teachers are allocated to fill them. School principals play no part in this process and schools have no corporate existence characterised, for example, by a governing body, that would allow community participation in it. After five years' experience, teachers may take a public examination to make them eligible for appointment as principals. If they pass, they will eventually be allocated a post by the MPI. The only other posts of responsibility in a school are those of the senior management team: the vice-principal, assistant vice-principals in a large school, and the librarian, for example. These positions are filled by annual elections among staff and are marked only by remitted teaching hours, not by any increase in salary.

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53 Teaching posts are poorly paid. The better staff work with their pupils voluntarily well beyond the formal six hours a day, six days a week. In addition to teaching, preparing lessons and marking work, staff have to spend 80 hours a year attending the committees which contribute to running schools and examinations. There is no staff appraisal and no requirement to take part in staff development. Nevertheless, teachers are held in high regard in Italy, and those encountered by the team were strongly committed to their calling.

54 Upper secondary schools have participatory committees at three levels: the class committee, the teachers' committee, and the school committee. Classes are of mixed ability and they stay together for all their lessons. The task of the class committee is to consider means of improving learning activities. Its members are the class teacher, two students and two parents, with the school principal in the chair. Class committees make their recommendations to the teachers' committee which comprises the whole of the academic staff of the school, meeting under the chairmanship of the principal. The teachers' committee deals with the following issues:

- proposals for the annual timetable, the composition of classes, and the choice of textbooks
- new educational issues, including the adoption of experimental syllabus lines
- election to posts of responsibility
- the programme of staff development.

The school committee has between 14 and 19 members elected for a term of three years to represent teachers, parents, students, support staff and the principal. The committee is chaired by a parent. The school committee works through an administrative board comprising the principal, the school secretary, two parents, a teacher and a member of support staff. A student is sometimes substituted for the second parent. The school committee is responsible for:

- school regulations
- collaboration with other schools and organisations
- extra-curricular activities
- remedial courses
- purchasing educational materials.

55 The resources of vocational upper secondary schools are good. Many of the schools visited by the team were housed in fine modern buildings which, because of the declining population of young people, gave ample space. An unexceptional *istituto tecnico* in Bologna had been designed with 28 square metres of floor area for each student. The atmosphere of the adult world is created by, for example, the provision of a coffee and snack bar in many schools, similar to a normal Italian café. Combined with the persistence of such polite conventions of European schooling as

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students standing silently when staff enter a room, these pleasant surroundings make upper secondary schools civilised places.

56 Support staffing is good, with teachers assisted in most practical classes by a technician. Generous provision of cleaners and caretakers ensures that both buildings and equipment are well kept.

57 Standards of equipment are high. Specialist equipment in an *istituto tecnico* is at least on a par with that in an English general further education college, and often better. For example, the Istituto d'Arte 'Gaetano Ballardini' in Faenza offers its 372 students six specialisms in ceramics. They include: studies in designing and making porcelain, earthenware and stoneware; tiling; ceramic technology; and ceramic history and restoration. There is a full complement of hand and production machinery, gas and electric kilns and an excellent laboratory. The school has ready access to the International Museum of Faience nearby, to the government ceramic research institute in Faenza, and to the resources of the many local companies. A school in Sassuolo, Istituto Tecnico 'Volta' specialises in chemistry and chemical engineering for the ceramic tile industry. Its laboratory benches have integral fume extraction and are of the highest professional quality. Istituto Tecnico 'Avogadro' in Torino spends £200,000 a year on equipment for its 1,800 day and evening students. Its well-equipped laboratories and workshops house modern water turbines, a wind tunnel, a robotic centre and a wide range of metallurgical instruments including a spectrometer for studying alloys. Its library has 21,000 books. Some *istituti tecnici* benefit from acting as resource centres for local industry, housing specialised equipment bought by government to help companies to cope with peaks in demand.

### **European Dimensions**

58 All the *istituti tecnici* and *istituti professionali* visited by the team had at least one foreign language as a compulsory part of the curriculum, and many required two. Principals spoke of their students' ability to thrive in several countries of the European Union as an explicit aim of their education. Many upper secondary schools were involved in visionary international projects to help them achieve this aim. For example, at Istituto Tecnico Commerciale 'E. Mattei' in Bologna, students took part in a network of European schools which between them run a (ghostly) international transport company, dealing as they do so with intricate matters of matching the goods to be carried with the available trucks, costing, securing documentation, and meeting national and European Union regulations.

59 All the institutions visited had links with counterparts elsewhere in Europe, many of them in Britain. Finance is provided by both the European Union's 'Socrates' and 'Leonardo' schemes. There are at present 89 'Leonardo' projects and the MPI is encouraging the launch of more staff and student exchange partnerships, particularly with Britain.

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60 Given the difficulties which have been associated with exchanges between British and Italian higher education institutions assisted by the longer-established 'Erasmus' fund, the flourishing links that were seen by the team between English general further education colleges and *istituti tecnici* suggest greater comparability of standards and curriculum. Hastings College of Arts and Technology is linked with Istituto Tecnico 'Andrea Palladio' in Treviso, and students and staff are working together on surveying projects. An *istituto tecnico* at L'Aquila in the Abruzzi mountains has a long-standing partnership with Chichester College of Arts, Science and Technology, and recent collaboration has centred on language teaching and study of the ecologies of their different home environments. These exchanges have developed mainly as a result of personal initiatives among the staff at one or other of the institutions involved, rather than as part of a more concerted movement towards the growth of a curriculum which facilitates mobility of labour.

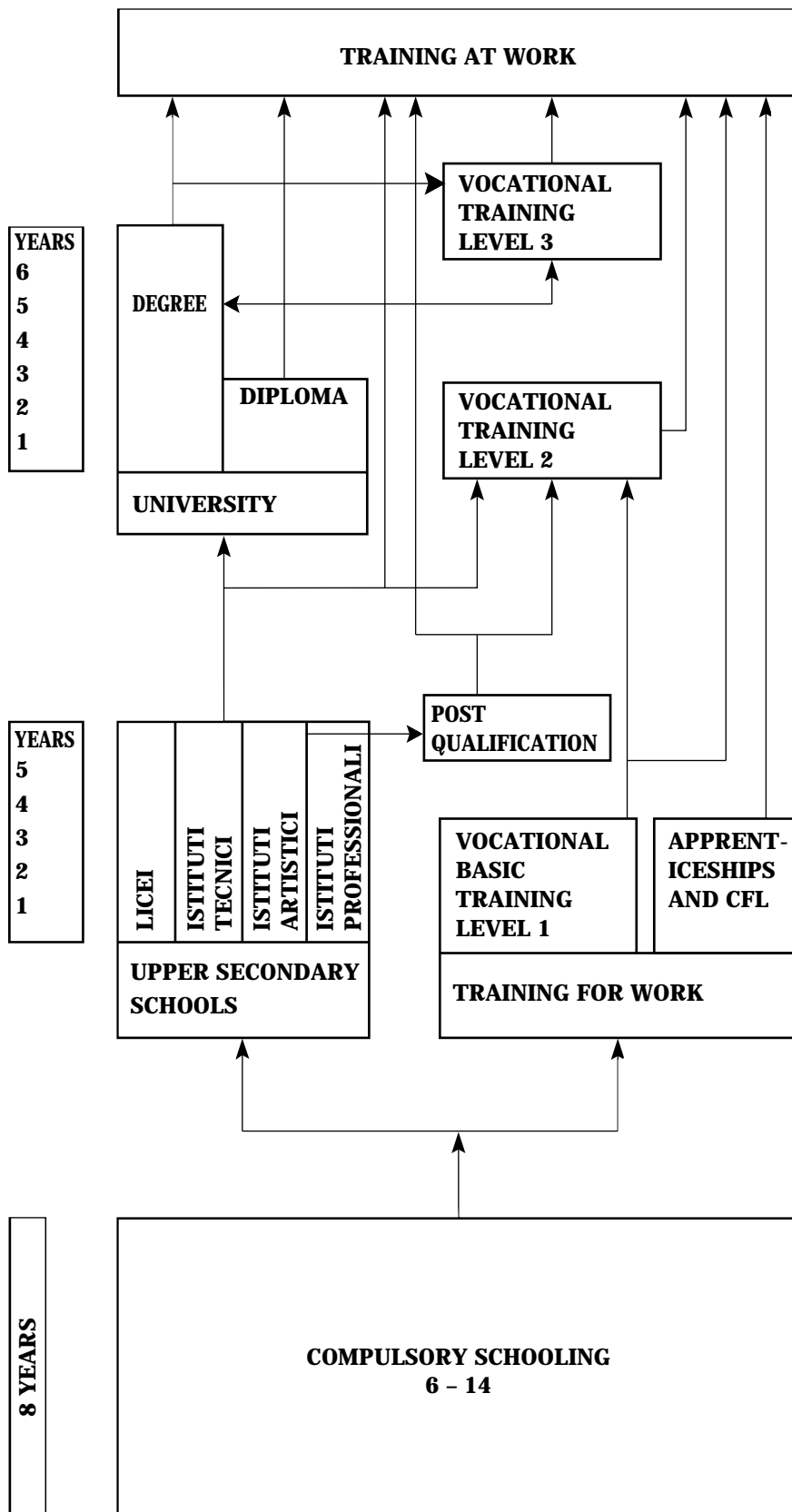
## **TRAINING IN EMPLOYMENT**

61 Every year, about 160,000 young people, 7 per cent of their age group, enter vocational training centres at the age of 14 after leaving *scuola media*. These training centres are funded by regional government, and are run either by the regional authorities or by private concerns which are usually trade unions, employers' associations or the church. The courses in vocational training centres last for two years and culminate in the award of a leaving certificate. Curricula include some general education as well as skills development, and the level 1 certificate describes only the scope of the work that has been undertaken and not its standard.

62 There are alternative training schemes for young people which take place at work. These are apprenticeships, which are followed by some 400,000 young people each year, and *contratti di formazione lavoro* (CFL) which are described in paragraphs 66 and 67. Five-year apprenticeships are available to young people between the ages of 15 and 26 and CFL are available between the ages of 16 and 32. Level 1 vocational training, apprenticeships and CFL are offered under the supervision of the *Ministero del Lavoro* and are seen as running parallel with the work of the upper secondary schools. Taking together the three strands of vocational training, in centres, at work, and in the vocational upper secondary schools, Italy provides the opportunity for vocational education and training for about 75 per cent of its young people from the age of 14. Only the remaining 25 per cent who enter the various *licei* follow an academic education alone.



Figure 1. The pattern of education and training in Italy



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63 At least 50 per cent of companies with more than 20 employees provide some training. Most of it is for young people and is at a fairly low level, with about 70 per cent of training taking place on the job.

64 Apprentices are employees and are paid on a lower rate than either young people on CFL or manual workers on the national minimum wage. Nevertheless, apprenticeships are relatively expensive for employers to provide because companies remain liable for the substantial payroll tax and social security contributions. Apprentices receive a minimum of 150 hours off-the-job training each year, in centres run by regional authorities. The quality of apprenticeships varies widely, with small firms often giving their apprentices only unskilled jobs to do and rudimentary training, and dismissing them when the apprenticeship is over. Where apprenticeships are run as they should be, apprentices sit an examination at the end of their training and are awarded a certificate which attests to their level on a national structure which relates skill with basic wages.

65 The training schools of large firms such as Fiat are excellent. Fiat has its own education services company (ISVOR) which runs courses at all levels including management. Most training is nevertheless geared towards Fiat's manufacturing processes, and instructors work both in ISVOR and in the factories. ISVOR itself has workshops occupying 15,000 square metres of floorspace, with a comprehensive range of the most modern production machines, engines from all their vehicles including those used by Ferrari, and advanced teaching aids.

66 CFL were introduced in 1983 to address the growing problems of youth unemployment. They are widely regarded as more successful than apprenticeships. Over one million CFL trainees are employed by companies each year; about 90 per cent of all the young people recruited into industry start in CFL. CFL require that employers pay the full rate for the job and payroll tax, but they are exempt from social security contributions. CFL contracts last for a fixed term of two years; retention is good; and of those who complete their training, some 95 per cent stay on in permanent jobs. The *Ministero del Lavoro* is looking at means to combine the successful contractual arrangements of CFL with the more systematic training characteristic of the better apprenticeships.

67 There are no standard regional or national qualifications for training at work. Nevertheless, one of the reasons for the success of CFL is their close supervision by committees of local officials of the *Ministero del Lavoro*, employers' representatives and trade unions. These committees approve the CFL contract of every individual; they have the right to demand an explanation from the employer if a CFL trainee is dismissed; and they bar companies from taking part in CFL if trainees leave frequently.

68 Higher vocational training at levels 2 and 3 is available to those who hold the *maturità* or a degree respectively. Most level 2 training is supported by the European Social Fund, through European Social Fund objective 1 in the south of Italy and objectives 2 and 3 in the north. Level 2

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training is overseen by regional governments and provided by private centres to which the work is allocated by annual tendering. Relevance to the needs of local industry is a central criterion in selecting successful bids, so that manufacturers' associations and trade unions have an advantage conferred by their local knowledge when they submit tenders. For example, in the tile manufacturing town of Sassuolo, level 2 training is provided by Assopiastrelle, the national association of tile manufacturers. Their courses consist of theory and practice in about equal measure, and while their qualifications have no formal validity, they carry weight in the ceramics industry. Level 3 courses are rare and are based in industry.

69 Insecurity of employment afflicts Italy, as it does other European countries. Regional agencies of the *Ministero del Lavoro* have funds to pay an allowance to employers for up to two years to help them keep their workforces together during the shorter-term fluctuations of the economic cycle. When this tactic fails, the same agencies provide training for unemployed people in new areas of work.

## MAINTENANCE OF STANDARDS

70 Italy has a single examining body; the MPI. Its own staff, teachers, carry out the examinations. There is a national curriculum laid down by the MPI. The main awards, the *qualifica* and the *maturità*, have remained substantially unchanged for many years. There is some reason, therefore, to accept that the standards of these examinations are secured by consensus.

71 Nevertheless the subjects examined are only a sample of the curriculum and they change in part every year. Boards of examiners work locally, with little apparent attempt to moderate their results to secure regional or national equivalence. There are many subjective elements in examination for the *maturità*, for example, relying heavily as it does on teachers interviewing the student and considering reports from school staff. There is only partial concern with measuring achievement; the central intention of the *maturità* is to assess the student's potential for further study. The extent to which the consensus about standards guarantees comparability in different parts of Italy, and between the nations of the European Union, seems uncertain.

72 The scope of *commissione Brocca* did not include examinations, although the larger common core curriculum in *Brocca's* 19 lines suggests that a more comprehensive and consistent assessment regime could be designed. The MPI is studying a new evaluation scheme for schools, including examinations. It is considering: a delegated system; more precise measurement of skills; and a review of the philosophy underlying the *maturità*. A significant source of pressure on the *maturità* is the growing number of university faculties which set their own entrance examinations rather than accepting the *maturità* as a universal qualification for entry. An adjustment, to acknowledge the reason behind this pressure, would

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necessarily destroy the idea of a national school-leaving certificate which signals a general readiness for adult life and stands independently of the needs of universities.

73 Additional complexities are added to the debate by Italy's attempts to develop new qualifications which address more specifically the skills needed at work. A number of *istituti tecnici* now offer one- or two-year diplomas which follow the *maturità*. About 10,000 students took up this option last year, rather than going to university. The diploma syllabus is modelled on the OECD 'archetypes', and courses are therefore aimed at the needs of businesses such as insurance or tourism. Courses are designed to fall within four main categories:

- conservation and the environment
- management of human resources
- production of services
- production of goods.

While the results are encouraging in terms of preparing diplomates successfully to get jobs, the diploma has yet to be awarded national standing.

74 The direct influence of the business community on vocational education has waxed and waned at various time over the past 30 years. Employers visited by the team appeared content to leave education to the schools, and to be satisfied with the general educational standard achieved by school leavers. Where employers and their representatives have put forward strong views, their needs in Italy as elsewhere, comprise both specific skills suited to current employment and transferable skills to enable young people to adjust repeatedly to a turbulent world economy. An MPI publication portrays vividly the dilemmas posed by 'experimental initiatives carried out . . . with great difficulty in a situation of absolute uncertainty as regards political choices . . . to make scholastic vocational courses meet the continually changing requirements of the productive system. On the one hand there has been a vain attempt to keep up with changes in the world of production by means of early specialisation; on the other hand there has been an attempt at an excessive increase in curriculum content by means of a stratified accumulation of skills, while losing sight of fundamental (educational) objectives.'

75 In Italy, the attempt to square the circle has included 'Project 92' in which education in support of the national culture essentially remains a matter for the MPI, while vocational training to meet shifting local employment needs is delegated to the regions. The resulting curriculum provides 15 hours a week of common literary and scientific subjects and 15 hours a week of specific vocational subjects, taught in a state school; together with a further 600 hours a year in a vocational training centre run by regional government. The philosophy underlying Project 92 is ambitious in that it seeks to be 'a new mediation between culture and technology; . . . a different branch of humanism.' However, this philosophy

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is based on an acknowledgement at the outset of the 'unbridgeable gap between the formative principles of education and the principles of business enterprise where professional knowledge develops', which would not be accepted by everyone.

76 For the protagonists of the various points of view in this debate, the stakes are high. For some, the maintenance of a coherent national culture is paramount; for others a precondition for this ideal is Italy's capacity to compete successfully with the economies of Asia. In such a flux, the guardians of stable standards seem fated always to lag a little behind the van.

77 To a marked extent, the task falls to the MPI's inspectorate. Inspectors were first appointed under the Napoleonic régimes in Italy, with responsibility for pedagogy and the discipline and efficiency of teachers. After 1870 their task was more specifically the assurance of uniform national standards. Successive reforms since 1974 have brought the inspectorate into the senior civil service, and have confirmed its roles in educational research and development, including: the formulation of experimental syllabuses and their funding; setting papers for national examinations; securing compliance with educational regulations; and, in extreme cases, dealing with disciplinary issues among teachers. This primary concern with process rather than outcome is inevitable given that there are only 400 inspectors, but it suggests that at its present strength, the inspectorate is unlikely to be able to play a decisive part in securing national standards more firmly.

78 In an important respect, Italy has already solved the problem which confronts England. In the *maturità*, Italy has a central qualification for post-compulsory education which recognises, even-handedly, achievement in vocational and academic disciplines, and which relates clearly to the European standard, the undergraduate degree. Whether the *maturità* is sufficiently robust to withstand the pressure from universities on the one hand, as they demand entry qualifications more specific to the subject matter of many degrees, or the pressure from industry and the economy on the other, as they demand clearer evidence of vocational skill, must be open to question.

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## APPENDIX

### VISITS

Agenzia Polo Ceramico: ceramic promotion association, Faenza  
Agnelli Foundation: institute for development of human resources associated with Fiat, Torino  
Assopiastrelle: ceramic industry manufacturers' association, Sassuolo  
Brighton College of Technology, Brighton  
CESOS: industrial research institute, Roma  
Chichester College of Arts, Science and Technology, Chichester  
CNR-IRTEC: government research and development laboratory for ceramics, Faenza  
Commissione Brocca: chairman and members of government commission reforming the curriculum, Roma  
CSEA: Private training centre, Torino  
ENTE Scuola Edile: private training centre, L'Aquila  
European Union conference: 'The transparency of qualifications', Roma  
Fiat/ISVOR: motor manufacturer's training centre, Torino  
Hastings College of Arts and Technology, Hastings  
IMA: manufacturer of packaging machinery, Bologna  
Istituto d'Arte 'Gaetano Ballardini', Faenza  
Istituto Professionale 'Don E. Magnani', Sassuolo  
Istituto Professionale 'G. Giolitti', Torino  
Istituto Professionale 'Manfredi', Bologna  
Istituto Superiore Industrie Artistiche, Faenza  
Istituto Tecnico Aeronautico 'Francesco de Pinedo', Roma  
Istituto Tecnico 'Amedeo Avogadro', Torino  
Istituto Tecnico 'Belluzzi', Bologna  
Istituto Tecnico Commerciale 'E. Mattei', Bologna  
Istituto Tecnico Commerciale 'Rosa Luxemburg', Bologna  
Istituto Tecnico 'J C Maxwell', Torino  
Istituto Tecnico 'Lucio Lombardo Radice', Roma  
Istituto Tecnico per Geometri, L'Aquila  
Istituto Tecnico per Geometri 'Andrea Palladio', Treviso  
Istituto Tecnico 'Volta', Sassuolo  
La Faenza: ceramic tile manufacturer, Sassuolo  
Ministero della Pubblica Istruzione (MPI), Roma

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Monocibec: ceramic tile manufacturer, Sassuolo

Mr Tim Down: cabinet office research fellow comparing national education structures, Leeds Metropolitan University

Museo Internazionale delle Ceramiche, Faenza

Provveditorato agli Studi di Bologna

Provveditorato agli Studi di Torino

SISTAN: the state education statistics office, Roma

UNIPOL Assicurazioni: major insurance company, Bologna

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## BIBLIOGRAPHY

Brusco, Sebastiano, (1982) 'The Emilian Model: Productive Decentralisation and Social Integration', *Cambridge Journal of Economics*, Academic Press, London.

*Commissione Brocca*, (1992) *Proposals*, (3 volumes), Le Monnier, Roma.

Economist Intelligence Unit, (1995) *Italy: Country Profile 1995-96*, The Economist, London.

Fressura, Nicola, (1994) *Systems and Procedures of Certification of Qualifications in Italy*, European Centre for the Development of Vocational Training (CEDEFOP) National Report, Berlin.

Martinez, Giuseppe, (undated) *Vocational Education and Training: The innovation in Italy*, Ministero della Pubblica Istruzione, Roma.

Meghnani, Saul, (1994) *Determining the Need for Vocational Counselling among Different Target Groups of Young People under 28 years of Age in the European Community: Low-skilled young people, Italy*, European Centre for the Development of Vocational Training, (CEDEFOP) National Report, Berlin.

Porter, Michael, (1990) *The Competitive Advantage of Nations*, Macmillan, London.

*Education in Italy*, (1992) Ministero della Pubblica Istruzione, Roma.

*Structures of the Education and Initial Training Systems in the European Union: Italy*, (1995) EURYDICE/CEDEFOP, 2nd edition.

The team was fortunate to be given access to many internal papers of the *Ministero della Pubblica Istruzione*, describing aspects of policy and organisation.



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