

# UPPER SECONDARY CURRICULUM OPTIONS AND LABOR MARKET PERFORMANCE: EVIDENCE FROM A GRADUATES SURVEY IN GREECE

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## Abstract

*This paper presents empirical evidence on labor market performance of graduates of curriculum options in a diversified upper secondary education scheme, with emphasis on the benefit of choosing the vocational intensity of instruction. Such evidence, which was generated for the Greek education system, shows a generally high employment mismatch (68%-85%), the largest mismatch attributed to graduates from an integrated-comprehensive curriculum option and the smallest to graduates from the occupation specific curriculum option. On the other hand, the evidence shows that these options benefit low achievers, who, because of them they remain in school, acquire minimum employable skills and avoid long-term unemployment. The evidence did not show differences in earnings relative to type of curriculum completed, but it did show differences relative to gender (females had lower earnings) and relative to type of employment (i.e. self employment, civil servant, employer, etc.).*

## **1. Introduction**

The transition from school-to-work (s-t-w) is a major focus of research because of rapid changes in work place organization brought about by the restructuring of national economies (OECD, 1998). Youth unemployment is alarmingly high in both developed and developing countries, with many recent graduates unable to get that crucial first job. There is also evidence of a significant mismatch between the skills workers possess and those required by the employers. Hence s-t-w research is needed in order to guide the decisions of policy makers. Labor market performance of the upper secondary education cycle, especially for diversified curricula, is an important and controversial issue for s-t-w transition observatories. Empirical evidence reviews (Psacharopoulos, 1985 and 1987), based on cost/benefit comparative analysis of academic vs. vocational curricula, raise serious doubts for providing school-based vocational pathways at the upper secondary education level. More recent studies conclude that within-country evidence cannot easily answer questions about which types of transition pathways and curricula lead to best outcomes. This is because it is hard to separate effects caused by different patterns of labor market demand by occupation or industry from effects due to the nature of the pathways or curricula themselves (Ryan, 1998).

The purpose of this paper is to contribute to this discussion with evidence generated from a follow-up survey in Greece on the 1989 cohort of upper secondary education graduates. It commences with a brief overview of the educational and employment context of Greece, followed by a description of the research design and methodology. Next, the findings are presented in tabular and schematic form and are discussed comparatively for the graduates of four different types of upper secondary schools, classified relative to the vocational intensity of their curriculum; one general education school, one integrated-comprehensive, one vocational education and one occupation specific school. The paper ends with a discussion regarding educational policy issues.

## **2. An overview of the employment and education contexts**

### 2.1 Developments in the labour market

In view of dramatic changes in work place organization, qualifications, capital markets and information technologies, the Greek economy is undergoing structural transformation with implications on the labor market. In 1997 the country attained a fiscal deficit of 4.2% of the GNP against 14.4% in 1993. The inflation rate in September 1999 dropped to 2% against 12.3% at the end of 1993. The growth rate in 1998 was 3.7%. At the same time, high investment rates have been registered in the public (18.2%) and private (8.3%) sectors in 1997, according to the National Observatory for Employment.

The employment rate (the total number employed relative to the working age population) over the period 1988-1997 has fallen gradually from 46.25% in 1988 to 43.50% in 1997. During the same period, however, the working age population increased from 7,907,405 to 8,859,430. Unemployment rates for the 25-29 age group, which includes the ages examined by the survey, by level of completed education, range from 23% for university graduates to 9% for the graduates of the occupation specific upper secondary vocational curriculum. Primary education graduates, according to the same Labor Force Survey of 1996, have a 13% unemployment rate. Greece belongs to the group of countries, which have a high proportion of young people with less than upper secondary level of education and those with low qualifications have a positive advantage when compared to those who have completed upper secondary or tertiary education (OECD, 1999,p.32).

### 2.2 Developments in the education and training system

Education is the constitutionally designated responsibility of the state and is provided free of charge at all levels, from pre-school to university. The Greek education system is centralized in terms of organization, administration and policy formulation. Greece has a national curriculum, uniform school timetables and state-approved textbooks, which are also compulsory for private (proprietary) education schools.

A recent (1997) reform for general upper secondary education, was combined with a reform for upper secondary vocational education to overturn a diversified upper secondary education structure and re-institute the old “bi-partite” model of a general education path in parallel to a vocational education path.

In the pre-reform education system, which is the context for this presentation, there were three basic types of upper secondary schools: the general education lyceum (academic), the technical-vocational lyceum (vocational education) and the integrated multivalent lyceum (integrated-comprehensive). Graduates from all three lyceum types could proceed to tertiary education with a numerus clausus selection system or seek their first employment. Finally, parallel to the lyceums operated an occupation

specific (holistic) vocational school, which constituted a fourth option for compulsory education certificate holders, offering two-year long vocational courses leading to formal qualifications.

### 2.3 Vocational intensity framework

Classifying the four options relative to the degree of ‘vocationalization’ of the curriculum (Psacharopoulos, 1985) we arrive to the scheme shown in Figure 1. The vocational intensity starts at right end with the academic curriculum (no vocational component) offered in the General Lyceum (GEL) and ends at left end with the highest school-based vocational intensity curriculum (occupation specific), which is offered in the Technical-Vocational School (TES). In between these two curricula there is the pre-vocational curriculum offered in the comprehensive school (IML), and a classical vocational education curriculum offered in the Technical-Vocational Lyceum (TEL). At the extreme left is apprenticeship (or alternating training), a curriculum which is not examined by this research.

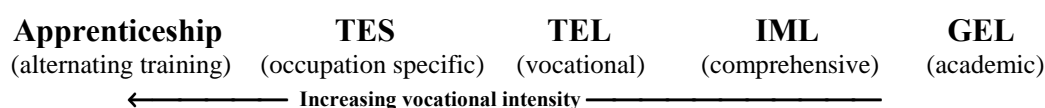


Figure 1. Curriculum options by vocational intensity

### 3. Research methodology and design

The survey population is the 1989 cohort of upper secondary education graduates, excluding all graduates bound for tertiary education. The survey population amounts to 75,600 graduates from 4 different schools. The majority of them come from GEL and the rest from the other three schools. Population and sample distribution is shown in Table 1. From the survey population and for each type of school a nationwide representative sample (4,986 graduates) was drawn using the “quota sampling” technique. The sample was stratified according to gender, school type (vocational intensity of curriculum) and geographical region. The survey was cross-sectional and was carried out 9 years after graduation. Some 143 interviewers (most of them career education teachers) administered the graduates of the sample a structured interview with a variety of questions concerning mainly their educational and occupational outcomes after graduation. The answers were recorded on a questionnaire.

Table 1. Population and sample size of cohort by school type

TYPE OF SCHOOL	NUMBER OF SCHOOLS <sup>a</sup>	POPULATION SIZE <sup>b</sup> N	SAMPLE SIZE n	n/N	NUMBER OF SCHOOLS IN THE SURVEY
TES Occup. Specific	183	8234	971	0.12	41
TEL Vocational	243	14661	1664	0.11	49
IML	24	2524	1024	0.41	13

Comprehensive					
<b>GEL Academic</b>	1084	50181	1327	0.026	59
<b>Total</b>	<b>1534</b>	<b>75600</b>	<b>4986</b>	<b>0.066</b>	<b>162</b>

<sup>a</sup> School year 1988-89

<sup>b</sup> 1988-89 graduates who were not bound for tertiary education

#### 4. The findings

On the equity issue the evidence shows that the cohort studied (i.e. terminal secondary education graduates) had remarkably similar socio-economic background, as measured by both the education level of the father and his status in the labor market, regardless of school type. Employment outcomes were not equal between males and females (see Tables 2 and 5).

On the unemployment issue the evidence shows (Table 2) that graduates with secondary school leaving-certificates from lower vocational intensity options (i.e. vocational school, comprehensive school) do not have lower unemployment than do graduates of the academic option. Unemployment of graduates from an occupation specific curriculum was slightly lower if we compare only the male gender findings (the cohort for this type of school does not include the female gender, because few girls elect the occupation specific curriculum). The unemployment of upper secondary education graduates according to school type and gender, nine years after their graduation, was found to range from 4 – 6 % for men and from 14-18 % for women.

*Table 2. Employment status of 1989 graduates according to curriculum option and gender (1998)*

Status	TES Occup. specific		TEL Vocational		IML Comprehensive		GEL Academic	
	M	F	M	F	M	F	M	F
1. Employment %	95	-	95	58	92	61	94	66
2. Matched employment %	33	-	18	11	14	14	-	-
3. Unemployment %	4	-	5	18	6	16	6	14
4. Other (Homemaking, in training, military) %	1	-	1	23	2	23	1	20

Source: *Upper secondary education graduate survey (1998)*. Pedagogical Institute, Ministry of Education, Athens, Greece.

On the matched employment issue, as it can be seen also in Table 2, there is almost no difference between two lower vocational intensity curricula (one vocational and one comprehensive-prevocational) but significant difference between these two programs and an occupation specific program offered in a TES school. The same conclusion is supported by the employment figures, although it must be noted that the young people who elect the occupation specific option do not lose any time after graduation exploring further education or training options. They seem to be familiar with the labor market, since 67% of them declared that they were already working before their graduation. It is also worth defining ‘matched employment’ for general education graduates with the following findings: 37% were employed in the services sector or in sales; 23% were employed as clerks; 16% as technologists or technical

assistants; 11% as specialized technicians. The latter two categories had acquired special qualifications through formal or non-formal further training. School achievement does not seem to have an effect on employment or on mismatch. As shown in Table 3, high achievers (those who had a GPA of 15-20 in their compulsory school leaving certificate) did not display better employment performance than those whose compulsory school GPA was between 10-14.

Table 3. Employment status of 1989 graduates by school type and achievement (GPA)

Status	TES Occup. specific		TEL Vocational		IML Comprehensive		GEL Academic	
	GPA		GPA		GPA		GPA	
	10-14	15-20	10-14	15-20	10-14	15-20	10-14	15-20
1. Employment (%)	94.1	96.8	81.7	77.7	75.1	75.4	76.5	77.4
2. Matched employment (%)	31.2	36.7	14.4	16.2	12.1	14.2		
3. Unemployment (%)	5.3	3.2	10.8	9.7	15.1	10.6	8.7	10.9
4. Other (Homemaking, in training, military) (%)	0.6		7.5	12.6	9.8	14.0	14.8	11.7

Source: *Upper secondary education graduate survey (1998)*. Pedagogical Institute, Ministry of Education, Athens, Greece.  
Note: Achievement is measured by GPA in compulsory education leaving certificate (0-20; 10 just passing)

On the issue of unemployment before getting the first job, following graduation, the comparison of graduates from the four different curriculum types is shown in Table 4. It shows almost the same pattern with one discrepancy for the comprehensive (IML) school. There is, however, a credible explanation for this. This cohort displayed the largest percentage of further training participation immediately following graduation with 46%, relative to 28% for general education (GEL) graduates, 18% for vocational education (TEL) graduates and 8% for occupation specific school (TES) graduates.

Table 4. Period of unemployment before first job by school type (curriculum)

	TES Occup. specific	TEL Vocational	IML Comprehensive	GEL Academic
Median unemployment period (in months)	1	12	24	12

Source: *Upper secondary education graduate survey (1998)*. Pedagogical Institute, Ministry of Education, Athens, Greece.

On the issue of earnings the evidence shows that statistically there is no differentiation by school type, as shown in Table 5. There are significant differences however by gender (Table 5) and by type of employment (Table 6).

Table 5. Net monthly earnings (Median) 9 years after graduation by school type, and by gender (in 1998 Drachmas)

Gender	TES Occup. specific	TEL Vocational	IML Comprehensive	GEL Academic
Men	190 000	200 000	200 000	200 000
Women		150 000	150 000	160 000
Total	190 000	180 000	170 000	170 000

Source: *Upper secondary education graduate survey (1998)*. Pedagogical Institute, Ministry of Education, Athens, Greece.

Table 6. Net monthly earnings (Median) 9 years after graduation by school type and by type of employment (in 1998 Drachmas)

Type of employment	TES Occup. specific	TEL Vocational	IML Comprehensive	GEL Academic
Salaried civil servant	210 000	210 000	217 000	207 000
Salaried employee	180 000	163 000	150 000	160 000
Daily wage earner	175 000	150 000	160 000	150 000
Employer	200 000	210 000	225 000	200 000
Self-employed	300 000	300 000	287 000	250 000
Working in family business	180 000	200 000	150 000	175 000
Total	190 000	180 000	170 000	170 000

Source: *Upper secondary education graduate survey (1998)*. Pedagogical Institute, Ministry of Education, Athens, Greece.

## 5. Discussion

There are three principal questions, which we wish to discuss using the evidence presented in this paper. First is the **equity** issue. To what extent structural features of upper secondary education counteract inequalities that are a function of gender and social class? Regarding gender inequalities our evidence showed that labor market performance of females, measured in terms of matched employment rates and earnings, were unequal. Furthermore, females were not present in the most successful vocational pathway (occupation specific) in terms of matched employment rates, because of the vocational courses offered, which are mainly oriented to “male occupations”. On the other hand lower social class students were equal in accessing all four upper secondary pathways and their labor market performance was not in any way differentiated from the norm. Low achievers, who are the largest component in lower social class indicators (Paleocrassas et al, 1996), did not have unequal labor market outcomes.

The second issue to be discussed is the **efficiency** of transition pathways to the labor market. Our evidence supports the argument presented by Psacharopoulos (1987) that the cost/benefit of low vocational intensity curricula is much higher than general education. Indeed, only the purely vocational institution (TES) showed considerably higher benefit than the general education curriculum, in terms of labor market outcomes.

The third issue concerns the **transition benefit of the comprehensive curriculum**, which leads to dual qualification. There are strong arguments lately (Lasonen and Manning, 1998) in favor of allowing young people to qualify at the one time for work and for higher education. These arguments link this issue to life-long education policies, formulated and implemented in anticipation of rapid labor market changes in work place organization brought about by the restructuring of national economies. Our evidence for the dual curriculum (IML) did not show favorable labor market outcomes, which were only comparable to the general education pathway. The paper does not question the validity of providing this curriculum, however, for two reasons. First, our research design did not allow us to include in our sample graduates from the IML with the full vocational qualification, which required a fourth vocational specialization year of study. It only included third year graduates with only a pre-vocational qualification. Second, another study (Paleocrassas et al, 1999) showed much higher labor market outcomes for fourth-year graduates and an equal to the national average success rate in higher education accessing.

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