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School Effects on Youth Transitions in Ireland, Scotland and the Netherlands

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1. Introduction

It is widely recognised that nowadays youth transitions have become more differentiated and complex but also more uncertain (OECD, 1999). In contrast to the past, for many students the moment of leaving school does not correspond to the starting point of their working career. There are at least three main reasons: (1) an increasing number of secondary school leavers choose to continue in education at tertiary level; (2) entering the labour market has become more difficult and a higher number of young people experience a period of unemployment before finding a job; (3) a reduction in the number of jobs requiring only basic education which leads less qualified people to attend some vocational training programmes before entering the labour market.

Two sets of factors are commonly regarded as important in the explanation of young people's decisions to continue in education or enter the labour market: individual and institutional factors (both educational and labour market characteristics). Many studies have focused on the first set of factors. There is an extensive literature which analyses the effect of ascriptive factors, such as gender, social class and ethnic group, on education and labour market outcomes. Among the other individual factors some theories (modernisation theories and meritocracy theories) have emphasised the increased importance in modern societies of achieved factors - mainly measured by educational achievement - on pupils' educational and occupational destinations. Other research has focused on the second set of factors (the institutional ones) highlighting the mechanisms at work in the labour market and within the educational system which influence pupils' educational and occupational destinations. According to this institutionalist perspective, the organisation, the procedures and the content of the school system, as well as employment opportunities, rewards to different educational qualifications and labour market structure are all very important factors in the explanation of the distribution of educational qualifications and occupational allocation.

Many cross-country comparative studies have been carried out to analyse whether countries vary in the way individual and institutional factors affect youth transition outcomes. They have mainly concentrated on educational transitions and the transition from school to work. Shavit and Blossfeld (1993) have analysed data from 13 countries

and have concluded that, even though in recent decades there has been a general increase in the educational attainment levels in all modern societies, the association between social origins and the chances of making various educational transitions has not declined.[1] Other comparative studies on the transition from school to work (Maurice, Sellier and Silvestre, 1986; König and Müller, 1986; Allmendinger, 1989; Shavit and Muller 1998; Stern and Wagner, 1999) have concluded that the transition from school to work is shaped by different institutional arrangements (pathways, curriculum frameworks, qualification systems, training schemes, labour market structures and regulations). Some countries and their institutional arrangements appear to be more successful in keeping pupils longer in education – such as Norway, Sweden and Belgium - while others appear to be more successful in facilitating entry into the labour market - such as Germany, Austria and Denmark, thanks to their dual system, or the Netherlands, with its strong emphasis on very specialised school-based vocational education.

In their empirical work, youth transition studies have used regression methods and restricted the analysis to a single level - the individual (micro) or the aggregate (macro) level. However, these approaches often fail to reveal relationships between individual and structural (or contextual) factors. This is because they do not take into account that individuals are clustered into contextual groups, among them the school context (Rice and Leyland, 1996).

Many empirical studies on school effectiveness have demonstrated the importance of the type of school attended for pupils' educational outcomes. They have used multilevel methods of analysis to take into account the hierarchical structure of the student population (e.g. pupils nested within classroom and within schools). This technique of analysis has been demonstrated to have substantive advantages in comparison with ordinary regression analysis. Paterson (1991b) underlines two main improvements: one substantial and the other technical. This type of analysis recognises that pupils belong to different groups thus taking into account that pupils are subject to the influence of the grouping. Multilevel modelling considers pupils as clustered within schools so assuming that "the individual observations are not completely independent" (Hox, 1995). This allows the study of two variance components: the within-school and the

[1] The only exceptions are Sweden and the Netherlands, in which the equalisation of socio-economic conditions (probably due to a comprehensive welfare state) has brought about an equalisation of

between-school component. From a technical point of view multilevel modelling also gives a better computation of the standard errors of the estimations (Paterson, 1991b pp.17-18).

School effectiveness studies mainly focus on students' academic performance or school career (Mortimore et al., 1988; Raudenbush and Willms, 1991; Paterson and Raffe, 1995; Smyth, 1999; Tinklin, 2000; Croxford, Raffe and Brannen, 2000) while they pay little attention to non-academic outcomes among different groups of pupils.[2] It remains unclear whether the school effect goes beyond school academic performance, influencing other types of pupil results, such as labour market destinations. Recently Van der Velden and Wolbers (2000) have carried out a study on the effect of educational institutions on labour market outcomes. They have found that the characteristics of schools - their specificity, selectivity and level - significantly contribute to explaining differences in school leavers' labour market outcomes.[3]

The present paper intends to improve upon the previous research on youth transitions in two ways: (1) through the study of school effects on school leavers' destinations (further education, employment, unemployment, apprenticeship and youth programmes) and (2) through the use of multilevel modelling to take into account pupils' grouping within schools. Moreover, it examines pupils' educational and labour market outcomes in three countries, Ireland, Scotland and the Netherlands. The aim is to discover the extent to which variations in school leavers' destinations within these three countries are accounted for by the characteristics of the school attended, after controlling for individual characteristics.

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educational opportunities.

[2] There are some exceptions. To mention one of them Paterson (1991a) *An Evaluation of the Scottish Pilot Projects in the Technical and Vocational Education Initiative*. Edinburgh: Centre for Educational Sociology.

[3] The educational outcomes studied by Van der Velden and Wolbers are: the chances of gaining a job, of acquiring a permanent job, of having a good match between the education level acquired and the type of job gained, and wage differences.

2. Research questions

In this paper we try to answer the following general questions:

Does the school attended significantly affect students' destinations? How does this school effect vary across Ireland, the Netherlands and Scotland?

A subset of questions is related to the factors which account for these differences.

To what extent can between-school variation in school leavers' destinations within Ireland, Scotland and the Netherlands be accounted for by individual characteristics?

To what extent can between-school variation be explained by school types either in terms of structural characteristics of the school (Rumberger and Thomas, 2000) or in terms of school composition - social composition and average student achievement within the school - in each country?

The effect of the school is described in terms of the amount of between-school variation in pupils' destinations which is explained by the characteristics of the school. Multilevel modelling allows us to compare the strength of school effects in general, with those effects due to individual factors. Unlike many school effectiveness studies, this paper does not aim to assess the effectiveness of different types of school – such as private and public schools - on pupils' destinations in the three countries under examination. Since these distinctions between schools have different meanings in each country (see next section), direct cross-country comparisons about the importance of attending one type of school instead of another cannot be drawn. However, the present study can throw light upon the importance of school characteristics in explaining variations in school leavers' destinations in the three countries under examination. Apart from school structural characteristics, social and academic composition of the school will be analysed. Indeed, students' characteristics have been found to influence students' achievement not only at the individual level but also at the aggregate level (Willms, 1986; Gamoran, 1992). More advantaged social intakes as well as a higher average academic achievement in the school tend to have a positive effect on pupils' outcomes.

3. School characteristics in Ireland, the Netherlands and Scotland

The analysis of Ireland, Scotland and the Netherlands is particularly interesting because of the different nature of the schools prevalent in the three countries. In this paper three main school distinctions will be introduced in the analyses: (1) the type of programme provided by the school - vocational, general or a combination of vocational and general subjects – (2) the private or public nature; (3) the denominational nature - Catholic, Protestant, interdenominational and non-denominational. These distinctions refer to the structural characteristics of the schools. As previously mentioned, they have quite different meanings in each country which makes it impossible directly to compare their effect. This section summarises the meaning of these distinctions in Ireland, the Netherlands and Scotland (for further details see appendix 1)

Dutch schools are very differentiated in the curriculum offered but differences related to other characteristics - such as denomination or private/public types of school - are much less significant. Traditionally general and vocational programmes are taught in separate schools. Recently there has been a process of unification of smaller school units into larger school units which has led to the formation of “combined” schools, offering both general and vocational programmes. However, in contrast to Ireland and Scotland, even within these “combined” schools there are distinct vocational and general programmes.

Ireland has a less differentiated system than the Netherlands in terms of curriculum but has a strong religious (and private) component in the ownership and management of schools. Private schools are essentially denominational. They are privately owned by religious orders, with a net prevalence of the Catholic religious orders. Schools providing general programmes (“secondary schools”) are totally under the ownership and administrative control of the churches (Catholic and Protestant). Vocational and comprehensive schools are, instead, characterised by a more balanced distribution of power between church and state (from which their interdenominational character derives).

Scotland presents the least differentiated school system in relation to the curriculum (all schools offer the possibility of combining vocational and general subjects) but the private (“independent”) schools differentiate themselves from the public ones, both denominational and non-denominational, for their selective character. Private schools

are privately owned and fee-paying schools. They often have admission tests and provide a curriculum with a stronger academic emphasis.

Summarising, the main source of school differentiation in the three countries are: the curriculum provided by the school in the Netherlands, the religious or interdenominational nature of the school (which is largely related to the private/public and general/vocational distinction) in Ireland; the private or public ownership of the school in Scotland. Along these distinctions we expect to find major country differences in the effect of school characteristics on students' outcomes.

4. Data, methodology and variables

The data used in this study are drawn from a cross-national database of secondary school-leavers (both from lower-secondary and upper-secondary schools),[4] constructed within the framework of the CATEWE project. School leavers were surveyed between one year and one year and a half after leaving school and information about their actual main activity was collected.[5] Unlike others, this dataset contains information about the school attended by the pupils for three of the five countries included in the dataset, i.e. Ireland, Scotland and the Netherlands.[6] Thus, the data allow the analysis of groups of students coming from the same school and the measurement of the effect of attending different schools on pupils' destinations in the three countries. Due to different survey designs and definitions of school applied in the three countries, in our dataset the within-school sample size varies quite a lot among Ireland, Scotland and the Netherlands (see table 1a). [7] The average number of students per school is much larger in the Netherlands than in Ireland and Scotland. This suggests caution in drawing conclusions about the existence of significant differences across country in the between-

[4] In the Netherlands upper-secondary leavers also include students from MBO, vocational tracks lasting two, three or four years; in Ireland they include students from PLC (Post-Leaving Certificate courses) vocational programmes lasting from one to three years and attended by those who have already acquired the Leaving Certificate. In Scotland, students from Further Education (FE) courses, who can be compared to the MBO students in the Netherlands and the PLC students in Ireland, are not included among upper-secondary leavers. FE counts as a destination in our data, within the category post-school education.

[5] The young people surveyed left school in 1995-96 in Ireland and the Netherlands and in 1993-94 in Scotland.

[6] Due to differences in survey purposes and designs in the other two countries, France and Sweden, information about the schools which students attended was not collected.

[7] Different methods of sample selection have been applied in the three countries. In the Netherlands within each selected school 100% of the pupils have been surveyed. Instead in the other two countries a random sample of pupils has been surveyed within schools. Moreover, in the Netherlands the school is defined by its administrative centre which means that in many cases more than one school unit can

school variation in pupils' destinations. Some deviance tests have been carried out to examine whether it is possible to find significant country differences in the variance component at the school level. Only in a few transitions have country differences emerged as clearly significant. Details of these tests and of other investigations are discussed in appendix 2.

As previously mentioned, the methodology used in the following analyses is multilevel modelling. Two levels of analysis are distinguished: the individual (the lower level) and the school level (the higher level). Multilevel modelling estimates separate equations for each school so separating the effect of individual and school characteristics (Paterson, 1991b). Thus, the school effect is described in terms of the amount of between-school variation in pupils' destinations which is explained by the school characteristics.

The dependent variables are constructed as binary alternatives. Pupils' most common transitions after leaving school are (1) continuing in education and (2) gaining a job. These two transitions will be studied in the first part of the empirical analysis. However, as previously mentioned there are other situations which young people may experience nowadays, that is (3) unemployment and (4) vocational training which can take the form of an apprenticeship programme or youth programme. The chances of being in education, in employment, unemployment, in a youth programme and in apprenticeship are measured using binomial logit models. In each case the analysis compares the chances of being in the given status with the chances of being in all of the other statuses combined.

All transitions are analysed in light of country differences. Due to the lack of information on individuals' social background and grades in the Dutch sample we have conducted two separate analyses: the first more restricted (that is a smaller number of variables at individual level will be included) in which the data of all three countries are analysed; the second more detailed in which only Ireland and Scotland are included in the analysis.

The independent variables at the individual level are: country of origin, sex, level of leaving school (lower or upper secondary level) and whether students passed or failed school exams. In the Dutch sample pupils are defined as having failed their school

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compose the "school" in administrative sense. Lastly, in the sample there is an over-representation of

examination when they have attended the last year of lower-secondary school (VBO or MAVO) or upper-secondary school (HAVO, VWO or MBO) without gaining the final diploma or certificate.[8] In the Irish data they have failed when they achieved a D ("pass") grade in fewer than 5 Junior Certificate subjects (at lower-secondary level) or fewer than 5 Leaving Certificate subjects (at upper-secondary level). In the Scottish data they left the compulsory stage or the post-compulsory level without achieving any "passes" (i.e. grades 1-3 at Standard grade at lower-secondary education and Highers at upper-secondary school). The type of programme (vocational or general) from which pupils left school can be considered both among the individual characteristics and among school characteristics. We have included this variable at the individual level but we have considered it as an intermediate variable, between individual and school characteristics. This is because school is here regarded as an institution and the type of programme does not always coincide with the institution providing it (e.g. vocational programmes taught in vocational schools). Some schools offer only one kind of programme but other schools offer a choice of programmes (both vocational and general). Thus, two models are presented: one which includes all the main individual characteristics, with the exclusion of curriculum type, and another which includes also curriculum type. In this way it is possible to measure separately the part of the school variance which is explained by curriculum type, after having controlled for the other individual characteristics. The definition of curriculum type is based on the type of programme in the Netherlands: VBO and MBO programmes are vocational while MAVO and HAVO and VWO programmes are general. Type of curriculum is defined by the number of vocational subjects taken (e.g. Engineering, Construction, Technology) or the acquisition of a Post-Leaving Certificate (PLC) in Ireland. In Scotland this distinction is made according to the number of Highers (general qualifications) and modules (mainly vocational) achieved.[9] Finally, in the analysis which includes only Ireland and Scotland variables measuring parents' employment and occupational status and pupils' grades are also introduced.

All of these variables are coded as dummies, except for grades which are introduced as an ordered scale. Since the way of measuring grades is different in each country this scale has been standardised using z-scores and the interaction effects between countries

MBO schools (vocational schools), which are bigger than the other upper-secondary schools.

[8] Structural reforms of vocational education have been recently implemented in the Netherlands. In this paper school distinctions refer to the old educational structure which was in use in 1996, the date of the survey. See Brandsma (2000) for an account of the most recent reforms.

and grades have been included. Even so constructed this scale does not allow a direct comparison of the effect of grades in Ireland and Scotland. However, the main purpose of the analysis is to compare the extent to which grades explain the between-school variance within each country. To avoid an excessive reduction of cases and to preserve the validity of the analysis, missing values are kept in the analysis and introduced as dummies among the independent variables.

The independent variables at the school level are of two types: (1) structural characteristics which include the type of curriculum offered by the schools – vocational, general or a combination of vocational and general subjects - public/private and denominational/non-denominational nature of school; and (2) compositional characteristics, i.e. social composition of the school and a measure of the average educational achievement within the school. A variable which distinguishes between schools offering only one type of programme (vocational or general) and a combination of them has been introduced in the analysis. The aim is to verify whether the institution providing a certain type of curriculum has a significant effect on pupils' destinations, after controlling for the type of programme measured at the individual level. Social composition and average academic achievement at school level are included only in the second more detailed analysis. Social composition of the school is measured by the proportion of pupils with employed parents and the proportion of pupils with parents in Class I (i.e. service class and routine non-manual workers) within each school. Average academic achievement is measured as pupils' average grades achieved at the school level.

Four main models are estimated in the analysis of various youth transitions. The first is the null model (or intercept-only model) in which the variance in pupils' destinations is decomposed into two independent components, the variance at the individual level and the variance at school level. Because the dependent variable is dichotomous (Hox, 1995; Van der Velden and Wolbers, 2000) the variance at the individual level is set equal to 1. Thus, it is not possible to study the relationship between these two variances (individual and school level). However model 0 is here used as a baseline model to examine changes in between-school variance when the individual and school characteristics are introduced in the model. Because the school effect on pupils' outcomes is expected to differ within each country the intercept coefficient for the variable "country" is allowed

[9] For further details on the construction of the variable "curriculum type" see Iannelli and Raffe (2000).

to vary across schools.[10] In this way it is possible to measure separate variance components at school level for each country. In the second model, model 1, all the lower level explanatory variables (except for the curriculum type) - the individual characteristics - are introduced to study whether the between-school variance can be attributed to the characteristics of the pupils attending the schools. The interaction effects between "country" and individual characteristics are also introduced to study which individual factors are most influential in determining school-leavers' destinations in the three countries. The inclusion in the model of these interaction effects is very important in the analysis because the Dutch sample is particularly large and may tend to drive the results of the analysis. As previously mentioned in a separate model, model 2, curriculum type is also introduced among the explanatory variables. Changes in the variance between schools are further analysed in model 3 when the higher level explanatory variables - the school characteristics - are added to the individual explanatory variables.[11] These four models are presented only for the first transition from school to further education. For the other transitions only the last model (model 3) will be shown and changes in the between-school variance summarised in table 4. The same applies to the more detailed analysis which includes only Ireland and Scotland. A full description of the modelling is given only for the first transition.

5. Description of the sample

Table 1 presents the distribution of individual and school characteristics for each country. Country differences are quite sharp. Regarding the individual characteristics, in all three countries the majority of the sample left school at upper-secondary level, however Ireland has the highest percentage, almost 80%, and Scotland the lowest, 62%. More than 80% of the school leavers in Scotland attended a general programme, 67% in Ireland, while only 34% attended a general programme in the Netherlands. The lowest percentage of young people who left education from upper- secondary education and the largest percentage of them who attended general tracks in Scotland can be partly attribute to a different sample design. In the Scottish sample leavers from FE colleges (vocationally-oriented colleges) are not included among the upper-secondary school leavers. FE colleges are counted as destinations in the survey while in the other two countries all the school leavers from vocational tracks (including those who attended

[10] Technically the intercept coefficient for the variable "country" is assumed to be random across schools.

MBO and PLC courses) are included in the sample (see note 3). The absence of students who attended FE colleges from our data should not produce substantial biases in the results because these students represent a minority among upper-secondary school leavers. However, this data constraint may cause a reduction in the between-school variance estimated in Scotland since FE colleges are more likely to be different from the other schools both in student intake and in students' destinations.[12]

A larger proportion of students "failed" their examinations in Scotland than elsewhere. Regarding pupils' social background, in Scotland a larger proportion of school leavers had a mother employed and in service class or routine non-manual work than in Ireland. Less sharp differences emerge in the employment and occupational status of pupils' fathers in Ireland and Scotland. However, by and large in Ireland a higher proportion of students have a father with a lower occupational status.

Regarding school characteristics, in Ireland and the Netherlands only a minority of pupils attended schools offering the possibility to combine vocational and general subjects. Scotland is the only country in our sample in which all schools offer this opportunity. In the Netherlands the majority of school leavers left from vocational schools (63%) and in Ireland from general schools (49%). In Scotland almost all students attended schools which are publicly owned (95%); in the Netherlands they primarily went to private schools (70%) and in Ireland they are equally distributed between public and private schools. In our sample the majority of school leavers in Scotland enrolled in non-denominational schools (89%) while in Ireland they mainly enrolled in interdenominational (51%) and Catholic schools (47%). In the Netherlands young people attended a much greater variety of schools, but the majority of them went to non-denominational or interdenominational schools.

Summarising, it emerges that Scotland is the country which shows more homogeneity in the type of schools attended by school leavers: the great majority of students attended public and non-denominational schools providing both general and vocational subjects. The other two countries have a more variegated situation in which students are enrolled in schools which offer distinct types of programmes and which are of a different nature.

[11] Other models which measure the interaction effects between "country" and each of the school characteristics have been tested. Only the significant interaction effects are presented in model 3.
[12] However nowadays, following the general trend of increasing numbers continuing education at tertiary level, a large part of students attending these types of colleges tend to enter tertiary education.

The distribution of school-leavers' main activity at the time of the survey, around one year after leaving school, appears very similar in Ireland and the Netherlands (table1b). In these two countries the majority of school-leavers' (respectively 46% and 44%) entered the labour market,[13] another 40-42 per cent are still in education and between 11 and 13 per cent are in training. The only remarkable difference is in the percentage of those who are unemployed, 9% in Ireland in contrast to 2.2% in the Netherlands. The situation in Scotland looks very different from the other two countries. This is due to two main reasons: the already mentioned different survey design of the Scottish data collection and the larger proportion of school-leavers involved in youth programmes. The fact that FE colleges are counted as destinations in the survey tends to over-estimate the proportion of students who are still in education in Scotland. On the other hand, the lower proportion of people in the labour force in Scotland can also be attributed to the higher proportion of school leavers involved in training programmes.[14]

6. Continuing in education

6.1 The effect of individual and school structural characteristics

The first youth transition analysed in this paper is the transition from school to further education (table 2). Model 0 (bottom lines) shows that in all countries under examination there are significant differences between schools in pupils' chances of continuing in education. The results of the likelihood tests indicate that there is a significant difference in the variance component at the school level between the Netherlands and Scotland and between Scotland and Ireland (see appendix 2). The between-school variance is significantly higher in the Netherlands and Ireland than in Scotland. Which factors can account for the school variance found in the three countries?

The coefficients presented in model 1 (table 2) measure the effect of individual characteristics on the chances of continuing in education. All individual characteristics are significant. The model shows that leaving from upper-secondary level and having

[13] The status of being in the labour force is here defined excluding apprenticeship and training programmes. It refers only to individuals who are employed or unemployed.

succeeded in school examinations have a strong positive effect on pupils' chances of continuing in education in all the three countries. However, there are country differences in the effect of gender: being a woman increases the chances of continuing in education in Ireland and Scotland while the contrary occurs in the Netherlands.

After controlling for these individual characteristics the between-school variance remains significant but drops in all three countries. This testifies that the variance between schools can be partly explained by the characteristics of pupils attending them. The extent to which the between-school variance can be accounted for by pupils' characteristics varies greatly across countries. Table 4 summarises the portion of the between-school variance which can be attributed to the effect of individual and school characteristics. In Scotland 53% of the between-school variance can be explained by individual characteristics, in Ireland 31% and in the Netherlands 17%.

In model 2 (table 2) the curriculum type attended by school leavers is introduced in the analysis. According to our expectations, attending general programmes has a strong positive effect on pupils' chances of continuing in education but this effect is much stronger in the Netherlands than elsewhere. The inclusion of curriculum type in the model reduces the between-school variance by another 77% in the Netherlands and 27% in Ireland (table 4). Thus, after controlling for this variable the between-school variance in the Netherlands becomes very low.

What is the effect of school structural characteristics on pupils' propensity to continue in education in each country? As previously explained it is much more difficult to interpret the coefficients related to school characteristics because of the different meanings attached to these distinctions in each country. However, the purpose of the analysis is to study the contribution of the school characteristics in explaining school variations in pupils' destinations within each country. The last model intends to answer this question. The results of model 3 show that, after controlling for individual characteristics, the inclusion of school characteristics reduces very little the between-school variance in the Netherlands and Scotland while it reduces by an extra 16% the variance in Ireland (table 4). Interestingly, after controlling for the type of programme pupils have attended, the classification of school according to the type of curriculum

[14] Further details about pupils' distribution across different statuses by gender, social class and other school leavers' characteristics can be found in CATEWE (2000) *A Comparative Analysis of Transitions*

offered (general, vocational or a combination of vocational and general subjects) does not add anything more to the analysis. This means that whether a general programme has been attended in a general, comprehensive or in a mainly vocational type of school (which sometimes is the case in Ireland) does not matter; it is the programme in itself which makes the difference. Two country interaction effects are significant: the attendance of public schools in Scotland reduces the chances of continuing in education while attending a Protestant school in Ireland increases the same chances.

To conclude: the between-school variance in students' likelihood of continuing in education is significant in the three countries (model 0). Moreover, it is significantly higher in the Netherlands and Ireland than in Scotland. The factors which account for this variance within each country are different. In the Netherlands the educational system is strongly differentiated in relation to the type of curriculum provided by different schools. Thus, after controlling for the type of programme attended by school leavers the between-school variance drops dramatically. On the contrary Scotland has the least differentiated educational system (comprehensive, mainly public and non-denominational) and the effect of curriculum type as well as of school structural characteristics is much less important in explaining school variations than elsewhere. In Ireland the situation seems to be more mixed: the variables used both at the individual and school level add an important piece of information in explaining school variation. However they do not fully explain them. This may testify that other individual factors which are not introduced in the model are also important in the explanation of the between-school variance. This possibility is explored in the following section where the analysis will be restricted to Ireland and Scotland and variables measuring the effect of pupils' social origin and grades at individual as well as at school level will be included.

6.2 The effect of school social background and grades

The effect of social background is measured by four variables: father and mother's employment status (whether they are employed or not) and father and mother's occupational status classified in 4 categories: Class I, service class and routine non-manual workers; Class II, small proprietors, self-employed and farmers; Class III, lower technical, skilled manual workers and semi-unskilled manual workers and missing

information.[15] Pupils' grades have been standardised to ensure at least a partial comparability between the classification of grades in Scotland and in Ireland. Moreover, interaction effects between country and grades achieved are also introduced to reduce the possibility of bias.

Social origin and school grades affect pupils' chances of continuing in education (table 3, model 1): having parents from the service class or employed in routine non-manual occupations significantly increases these chances, as does the achievement of higher school grades. Individual factors now explain 80% of the between-school variance in Ireland and 41% in Scotland (table 4). Compared to model 1 of the previous table this model represents an improvement in the explanatory power of the school variance in Ireland but not in Scotland. This is probably due to the already low between-school variance characterising Scotland or may be the sign of the low social segregation existing in its comprehensive school system (McPherson and Willms, 1987).

In Ireland taking into account school structural characteristics reduces the between-school variance by an extra 7% (table 3, model 2) while controlling for school social composition and school average attainment reduces it by 10% (table 3, model 3). In Scotland 6-8% of the between-school variance can be attributed to school factors.

To conclude, individuals' social class and grades contribute to explaining the between-school variance in Ireland. Another portion of this variance is also explained by school characteristics, mainly school composition. On the contrary in Scotland pupils' social class and grades and school composition do not improve the explanatory power of the previous less extensive models.

7. Entering the labour market

7.1 Gaining a job

The other most common transition after leaving school is entering the labour market. This section will analyse the chances of successfully entering the labour market through

[15] An attempt to use a synthetic measure of social background has been made through principal components analysis. The results did not reveal any clear relation between the variables used to study the effect of social origin. Thus, it has been preferred to use them as separate variables and omit those which are not significant from the analysis.

the acquisition of a job relative to the chances of being in another status different from employment. The next section will deal with unsuccessful entry and the experience of unemployment. In the analyses which follow a parsimonious account of the main results will be presented in table 5. This table will show only the final model (model 3) presented in table 2 which contains all the independent variables at individual and school level as well as the interaction effects between each country and the independent variables.

There are significant differences between schools in the propensity of their pupils to make the transition from school to work in all three countries (table 4). However, the likelihood tests indicate that the between-school variance in pupils' chances of gaining a job is significantly higher in the Netherlands than in Ireland (see appendix 2). Individual characteristics explain 14% of the variation between schools in Ireland and 19% in Scotland (table 4). The between-school variance drops dramatically in the Netherlands (94% of a reduction) when curriculum type is included in the model (table 4) and declines by another 27% in Ireland. As in the previous transition, the curriculum type attended by the Dutch school leavers explains most of the variance between schools in the transition from school to work. Having attended a general programme substantially decreases the chances of being employed (table 5, column 1). In Ireland and Scotland this effect is much smaller. Ireland and Scotland significantly differ from the Netherlands in another aspect: leaving from upper-secondary education decreases the chances of entering a job while in the Netherlands the opposite occurs.

When school structural characteristics are included in the analysis the between-school variance declines by an extra 19% in Ireland and by 10% in Scotland but only by 2% in the Netherlands (table 4). One of the most interesting results is the significant effect that in the Netherlands attending a vocational school instead of a "combined" school has in increasing the chances of gaining a job (table 5, column 1). This effect emerges even after controlling for the effect of the curriculum taken by the individual. This result seems to suggest that in this country some vocational schools are particularly successful in placing their pupils in employment. It probably reflects a stronger connection between these types of schools and the labour market than in the other two countries. Moreover, attending a Protestant school in Ireland and a private school in Scotland has a negative effect on the transition to employment. These results have to be read in

conjunction with the results of the previous analysis. These schools were found to have a positive effect on pupils' chances of continuing in education.

In the more detailed analysis it emerges that only in Ireland do pupils' social class and grades contribute to explaining the between-school variation (table 4). After controlling for social origin and educational achievement, the introduction of school characteristics further reduces the between-school variance in Ireland.

7.2 Being unemployed

Leaving school and entering the labour market does not always correspond to acquiring a job. A period of unemployment after leaving school has become a common experience among young people. In the previous analysis it emerged that there is a school effect on the likelihood of successfully entering the labour market. Is there a school effect also in pupils' likelihood of being unemployed? In this transition variation between schools is not significant in Scotland (table 4). Moreover, the variance at the school level is significantly higher in the Netherlands than in Ireland and Scotland (see appendix 2). After controlling for individual characteristics the school variance substantially reduces in Ireland and the Netherlands. The categories that appear to be at risk of unemployment in the three countries are: women, pupils leaving from lower-secondary education and from general programmes and those who failed the examination (table 5, column 2). Curriculum type is once again important in the explanation of the between-school variance in the Netherlands. It reduces the between-school variation by another 28% (table 4).

School structural characteristics hardly explain the remaining between-school variance in any of the three countries (table 4).[16] Thus, experiencing a period of unemployment seems to be linked more to individual characteristics than to the school attended. A confirmation of this interpretation comes from the analysis of the effect of social background and grades on the likelihood of being unemployed in Ireland and Scotland. Having a father who is employed, a mother with a high occupational status and having achieved higher grades at school significantly reduces the chances of being unemployed (table not shown). More importantly in Ireland individual characteristics now explain

78% of the between-school variance and 100% of the between-school variance in Scotland (table 4).

8. Entering a training scheme

Vocational training after leaving school has emerged in the last years as a third route between education and work. Training schemes (apprenticeship or youth programmes) have at least two main functions: to provide those vocational skills not taught at school and demanded by the labour market; and to increase the employability of less qualified and unemployed young people. Bearing in mind that there are many country specificities in this respect, in our three countries we can affirm that apprenticeship programmes usually serve the first function and youth programmes the second. Because of their distinct status and student intakes it has been decided to carry out two separate analyses and study the effect of individual and school factors on the transition from school to apprenticeship and from school to youth programme.

In the transition from school to an apprenticeship programme cross-country differences in the variation between schools are never significant. Individual characteristics are very important in affecting the chances of attending an apprenticeship programme after leaving school (table 5, column 3): women, pupils leaving from upper-secondary school and from general tracks have a much lower chance of entering an apprenticeship programme. However, there are some country differences in the strength of this negative effect. Individual characteristics explain 65% of the between-school variance in the Netherlands, 50% in Scotland and 14% in Ireland (table 4). In this transition the attendance of a general programme or a vocational programme does not seem to make a difference in the Netherlands. In Scotland it explains an extra 8% of the between-school variance.

Regarding school structural characteristics it emerges that having attended a vocational school, instead of a school offering both general and vocational programmes, significantly reduces the chances of entering an apprenticeship programme (table 5, column 3). Moreover, Protestant schools compared to Catholic schools have a positive effect on the same chance. The only significant country difference is the strong positive

[16] Surprisingly, among school structural characteristics it emerges that attending vocational schools significantly increases the chances of being unemployed. It has not been possible to verify whether there

effect of public schools in Scotland. School structural characteristics add very little to the explanatory power of the precedent model: an extra 4% in the Netherlands, 5% in Ireland and 9% in Scotland of the between-school variance can be explained by these variables (table 4).

Individual characteristics with the introduction of pupils' social background and grades reduces the between-school variance by 39% in Ireland compared to the baseline model (table 4). None of the school structural characteristics has been found significant while there are some significant school compositional effects which nevertheless do not affect the between-school variance (table not shown).

There is a significant variance between schools in the transition from school to youth programmes in all three countries (table 4). However, as in the previous transition, these differences do not appear to significantly vary across countries. In Ireland and Scotland most of the between-school variance is explained by individual characteristics (respectively 55% and 40%). In the Netherlands 31% of the between-school variance is explained by individual characteristics. Leaving from upper-secondary education and succeeding at school examinations decrease the chances of entering a youth programme in all three countries (table 5, column 4). Women have higher chances than men of entering a youth programme in the Netherlands and Ireland but not in Scotland. Moreover, in contrast to Ireland, students from general tracks are significantly less likely to attend a youth programme in the Netherlands and Scotland. Another 20% of the between school variance in the Netherlands is explained by school structural characteristics (table 4). In the restricted analysis, where variables measuring social origin and grades are introduced, it emerges that they (especially grades) contribute to explaining part of the between-school (15%) variance in Ireland.

9. Conclusions

The present work aimed to find country differences in the extent to which variations in school leavers' destinations can be explained by the effect of individual and school factors. Multilevel modelling has been used to distinguish two levels of analysis, the individual and the school level. Through this technique of analysis it has been possible to establish how much of the between-school variance is due to individual

are country differences in this respect due to the small number of cases.

characteristics and how much is due to the individuals' grouping into schools with certain structural and compositional characteristics.

The results show that in all the transitions analysed schools significantly vary from each other in pupils' outcomes.[17] From the likelihood tests it also emerges that the between-school variance in the Netherlands tends to be significantly higher than in Scotland in the transition to further education and to employment. It is also significantly higher than in Ireland in the transition to employment and to unemployment. The school variance in Ireland and Scotland significantly differs only in the transition from school to further education.

Individual characteristics account for the largest part of the between-school variance found in the Netherlands. This is especially due to the effect of the type of programme attended by school leavers.[18] The strong curriculum differentiation which characterises the Dutch school system is also reflected in very differentiated students' destinations (Iannelli and Raffe, 2000). School structural characteristics add very little to the explanation of school variations (apart from the transition from school to youth programmes, where 20% of the between-school variance is due to school structural characteristics). As mentioned in section 3 the distinction among denominational, interdenominational and non-denominational schools and between private and public schools is much less marked in the Netherlands than in the other two countries. This seems to be confirmed by the results which show that little variation between schools in students' chances of making different transitions can be explained by these school characteristics.

The results in the Irish case seem to produce a more complex figure than in the Dutch case. All the school and individual characteristics included in the models contribute to explaining school variation in pupils' destinations. Their importance varies according to the type of transition pupils make but all add a piece of substantial information. Thus,

[17] There is only one exception there is no significant variation between schools in the transition from school to unemployment in Scotland.

[18] It is arguable whether curriculum type should be considered among the individual variables or school variables. In this paper we have opted for including it at the individual level but to treat it as an "intermediate" variable. This is because schools can provide one type of programme as well as both vocational and academic programmes. Thus a distinction between the type of programme attended by pupils and the type of institution which provides it (introduced among the independent variables at the school level) has been made.

school structural characteristics have been found to play a part in the transitions to further education and to employment. They explain respectively an extra 16% and 19% of the between-school variance. Differently from the Dutch case, the strong denominational and private component in the Irish system seems to matter in pupils' destinations. Moreover, in Ireland among the individual factors social class of origin and grades have an important role in affecting pupils' outcomes.

Finally, in Scotland in all transitions most of the between-school variance is explained by individual factors. The lack of a strong denominational (as in the case of Ireland) and curriculum (as in the case of the Netherlands) differentiation among schools in Scotland can be regarded as a possible explanation for this result. The existence of a more unified and comprehensive system has probably reduced the influence of school factors on pupils' post-school destinations.

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Table 1a: Sample characteristics by country (weighted sample)

	Ireland		Netherlands		Scotland	
Individual characteristics	**Mean**	sd	**Mean**	sd	**Mean**	sd
Female	**0.49**	0.50	**0.48**	0.50	**0.49**	0.50
Upper-secondary leavers	**0.79**	0.41	**0.72**	0.45	**0.62**	0.48
Attended general programme	**0.67**	0.47	**0.34**	0.48	**0.86**	0.50
Failed at formal examination	**0.18**	0.38	**0.14**	0.35	**0.34**	0.47
Average grades* (standardised coefficients)	**0.27**	0.84	**-**	-	**-0.13**	0.96
Father employed	**0.71**	0.45	**-**	-	**0.75**	0.43
Mother employed	**0.30**	0.46	**-**	-	**0.68**	0.47
Father's occupation[(1)]						
Class I	**0.21**	0.41	**-**	-	**0.29**	0.45
Class II	**0.27**	0.44	**-**	-	**0.13**	0.34
Class III	**0.43**	0.50	**-**	-	**0.34**	0.47
Not known/unclassified	**0.09**	0.29	**-**	-	**0.24**	0.43
Mother's occupation[(1)]						
Class I	**0.35**	0.48	**-**	-	**0.50**	0.50
Class II	**0.03**	0.19	**-**	-	**0.04**	0.21
Class III	**0.19**	0.39	**-**	-	**0.15**	0.36
Not known/unclassified	**0.42**	0.49	**-**	-	**0.30**	0.46
School characteristics						
Type curriculum provided						
Combination of general and vocational subjects	**0.13**	0.33	**0.12**	0.32	**1.00**	0.00
General	**0.49**	0.50	**0.26**	0.44	**-**	-
Vocational	**0.38**	0.49	**0.63**	0.48	**-**	-
Private	**0.49**	0.50	**0.70**	0.46	**0.05**	0.22
Public	**0.51**	0.50	**0.30**	0.46	**0.95**	0.22
School denomination						
Catholic	**0.47**	0.50	**0.11**	0.31	**0.11**	0.31
Protestant	**0.01**	0.12	**0.16**	0.36	**-**	-
Interdenominational	**0.51**	0.50	**0.28**	0.45	**-**	-
Non-denominational	**-**	-	**0.30**	0.46	**0.89**	0.31
Not known/unclassified	**-**	-	**0.15**	0.36	**-**	-
Sample size per school (unweighted)	**14.92**	11.43	**108.41**	129.84	**7.96**	5.31
Number of cases (unweighted)	**2648**		**10726**		**3192**	
Number of schools (unweighted)	**178**		**99**		**401**	

*There are 600 cases in Ireland and 48 in Scotland for which the information on grades is missing.

[(1)] Class I: Service class and routine non-manual workers. Class II: Small proprietors, elf-employed and farmers. Class III: Lower technical, skilled manual workers and semi-unskilled manual workers.

Table 1b: Secondary school leavers' principal activity at the time of the survey by country (weighted sample)

	Ireland	Netherlands	Scotland
In education	40.3% (1067)	41.9% (4489)	43.9% (1401)
In the labour forces	46.3% (1227)	44.5% (4772)	29.6% (944)
of whom			
Employed	37.2%	42.3%	21.1%
Unemployed	9.1%	2.2%	8.5%
In training	11.2% (297)	12.8% (1380)	24.3% (778)
of whom in			
Apprenticeship	8.2%	12.0%	12.6%
Youth training	3.0%	0.8%	11.7%
Other*	2.2 (57)	0.8% (85)	2.2 (69)
Total	100% (2648)	100% (10726)	100% (3192)

* This category mainly includes school leavers who are unable to work and those engaged in voluntary work or unpaid work at home.

Table 2: The transition from school to further education. The effect of individual and school structural characteristics (standard errors are in parentheses and significant coefficients are in bold).

	Model 0	Model 1	Model 2	Model 3
Netherlands	-0.06 (0.20)	**-1.34** (0.21)	**-2.23** (0.11)	**-1.89** (0.27)
Ireland	**-0.73** (0.12)	**-2.91** (0.20)	**-4.04** (0.24)	**-3.25** (0.35)
Scotland	-0.07 (0.05)	**-1.36** (0.10)	**-2.37** (0.17)	**-1.24** (0.34)
Women		**-0.36** (0.05)	**-0.38** (0.05)	**-0.39** (0.05)
Educational level (lower sec. ref.)				
Upper sec.		**1.80** (0.11)	**1.32** (0.10)	**1.32** (0.10)
School success (pass reference)				
Fail		**-0.95** (0.14)	**-0.94** (0.14)	**-0.94** (0.14)
Curriculum type (vocational ref.)				
General			**3.16** (0.12)	**3.10** (0.26)
Missing (only in Ireland)			**1.49** (0.28)	**1.11** (0.29)
Ireland*women		**0.74** (0.14)	**0.56** (0.14)	**0.59** (0.14)
Scotland*women		**0.43** (0.10)	**0.49** (0.10)	**0.50** (0.10)
Ireland*upper sec.		**1.13** (0.22)	**1.58** (0.21)	**1.56** (0.21)
Scotland*upper sec.		**0.48** (0.15)	**1.07** (0.14)	**0.99** (0.15)
Ireland*fail		-0.04 (0.23)	-0.13 (0.24)	-0.07 (0.24)
Scotland*fail		**-0.58** (0.17)	-0.35 (0.18)	-0.32 (0.18)
Ireland*general			**-1.52** (0.20)	**-1.81** (0.30)
Scotland*general			**-2.17** (0.18)	**-2.18** (0.29)
School characteristics				
Type curriculum offered (combination of acad. and voc. ref.)				
General				-0.13 (0.23)
Vocational				-0.40 (0.22)
Public school (private ref.)				-0.36 (0.26)
School denomination (catholic ref.)				
Protestant				-0.36 (0.22)
Interdenominational				0.38 (0.23)
Non-denominational				0.17 (0.16)
Religious missing (only in the Netherlands)				-0.01 (0.28)
Ireland*public				-0.91 (0.54)
Scotland*public				**-0.87** (0.37)
Ireland*protestant				**2.87** (0.71)
<u>Variance components</u>				
School leavers level	1	1	1	1
School level:				
Netherlands	**3.70** (0.57)	**3.06** (0.47)	**0.23** (0.05)	**0.16** (0.03)
Ireland	**1.93** (0.27)	**1.34** (0.21)	**0.82** (0.15)	**0.50** (0.11)
Scotland	**0.47** (0.07)	**0.22** (0.06)	**0.24** (0.06)	**0.21** (0.06)

Table 3: The transition from school to further education in Ireland and Scotland. The effect of pupils' social background and grades (standard errors are in parentheses and significant coefficients are in bold).

	Model 0	Model 1	Model 3	Model 4
Ireland	**-0.73** (0.12)	**-3.62** (0.19)	**-3.14** (0.21)	**-3.62** (0.20)
Scotland	-0.07 (0.05)	**-2.22** (0.17)	**-1.22** (0.35)	**-2.26** (0.21)
Women		**0.15** (0.07)		
			0.16 (0.07)	**0.16** (0.07)
Educational level (lower sec. ref.)				
Upper sec.		**1.58** (0.10)	**1.53** (0.10)	**1.51** (0.10)
Curriculum type (vocational ref.)				
General		**0.74** (0.10)	**0.60** (0.10)	**0.63** (0.10)
Missing (only in Ireland)		**1.12** (0.27)	**0.87** (0.27)	**0.97** (0.26)
School success (pass reference)				
Fail		**-0.29** (0.11)	**-0.30** (0.11)	**-0.29** (0.11)
Father's occupation (Class III ref.)*				
Class I		**0.24** (0.09)	0.18 (0.09)	0.12 (0.10)
Class II		0.12 (0.10)	0.10 (0.10)	0.08 (0.10)
Missing		**0.26** (0.11)	**0.25** (0.11)	**0.25** (0.11)
Mother's occupation (Class III ref.)*				
Class I		**0.39** (0.11)	**0.37** (0.11)	**0.35** (0.11)
Class II		0.14 (0.20)	0.08 (0.20)	0.07 (0.20)
Missing		**0.30** (0.11)	**0.29** (0.11)	**0.28** (0.11)
Grades		**1.00** (0.07)	**1.00** (0.07)	**0.97** (0.08)
Missing grades		-0.19 (0.32)	-0.18 (0.32)	-0.05 (0.35)
Ireland*grades		**1.31** (0.16)	**1.23** (0.16)	**1.18** (0.16)
Ireland*missing grades		0.50 (0.36)	0.51 (0.36)	0.42 (0.39)
School characteristics				
Public school (private ref.)[1]			**-1.03** (0.26)	
School denomination (catholic ref.)				
Protestant (Ireland)			**1.92** (0.60)	
Interdenominational (Ireland)			0.31 (0.30)	
Non-denominational (Scotland)			0.19 (0.17)	
Proportion of fathers in Class I				**0.78** (0.28)
Proportions of mother in Class I				0.03 (0.24)
Average grades				**0.28** (0.14)
Missing average grades				0.14 (0.61)
Ireland*average grades				**0.54** (0.20)
Ireland *missing average grades				-0.26 (0.66)

Variance components				
School leavers level	1	1	1	1
School level:				
Ireland	**1.93** (0.27)	**0.38** (0.10)	**0.25** (0.09)	**0.19** (0.08)
Scotland	**0.47** (0.07)	**0.27** (0.07)	**0.24** (0.07)	**0.25** (0.07)

*Class I: Service class and routine non-manual workers. Class II: Small proprietors, elf-employed and farmers. Class III: Lower technical, skilled manual workers and semi-unskilled manual workers.

Tab.4: Factors explaining between-school variance in youth transitions in the Netherlands, Ireland and Scotland

Chances of continuing in education	Netherlands	Ireland	Scotland
Between-school variance	**3.70**	**1.93**	**0.47**
explained by			
Individual characteristics (model 1 in tab.2)	17%	31%	53%
Individual characteristics + curriculum type (model 2 in tab.2)	94%	58%	49%
Individual characteristics, curriculum type + school characteristics (model 3 in tab.2)	96%	74%	55%
Individual characteristics + curriculum type + social background and grades (model 2 in tab.3)	-	80%	41%
Individual characteristics + curriculum type + social background and grades + school characteristics (model 3 in tab.3)	-	90%	47%
Chances of being employed			
Between-school variance	**2.44**	**0.37**	**0.21**
explained by			
Individual characteristics	0%	14%	19%
Individual characteristics + curriculum type	94%	41%	14%
Individual characteristics + curriculum type + school characteristics	96%	60%	29%
Individual characteristics + curriculum type + social background and grades	-	54%	10%
Individual characteristics + curriculum type + social background and grades + school characteristics		60-68%	19-24%
Chances of being unemployed			
Between-school variance	**0.67**	**0.45**	0.35 (n.s.)
explained by			
Individual characteristics	33%	53%	(66% n.s.)
Individual characteristics + curriculum type	61%	53%	(63% n.s.)
Individual characteristics + curriculum type + school characteristics	58%	62%	(72% n.s.)
Individual characteristics + curriculum type + social background and grades	-	78%	(100% n.s.)

Tab.4: Factors explaining between-school variance in youth transitions in Netherlands, Ireland and Scotland (continuing)

Chances of entering an apprenticeship programme			
Between-school variance	**1.27**	**0.28**	**0.22**
explained by			
Individual characteristics	65%	14%	50%
Individual characteristics + curriculum type	62%	14%	68%
Individual characteristics + curriculum type + school characteristics	69%	19%	77%
Individual characteristics + curriculum type + social background and grades	-	39%	77%
Chances of entering a youth programme			
Between-school variance	**1.06**	**0.58**	**0.25**
explained by			
Individual characteristics	31%	55%	40%
Individual characteristics + curriculum type	0%	55%	32%
Individual characteristics + curriculum type + school characteristics	51%	59%	44%
Individual characteristics + curriculum type + social background and grades	-	74%	48%

Note: the first models refer to more restricted analysis which includes all the three countries. The last two models (or one in the transition to unemployment, apprenticeship and youth programmes) refer to the more detailed analysis in which only Ireland and Scotland are included.

Table 5: The transition from school to employment, unemployment, apprenticeship and youth programmes. The effect of individual and school characteristics.

	Employment	Unemployment	Apprenticeship	Youth Progr.
Netherlands	**-0.78** (0.25)	**-4.09** (0.37)	-0.46 (0.25)	**-5.71** (0.62)
Ireland	0.46 (0.46)	**-2.23** (0.58)	**-0.90** (0.35)	**-5.01** (1.04)
Scotland	**-2.33** (0.40)	**-2.47** (0.41)	**-2.47** (1.05)	**-2.07** (0.55)
Women	**0.26** (0.04)	**0.72** (0.17)	-0.09 (0.08)	**0.68** (0.26)
Educational level (lower sec. ref.)				
Upper sec.	**0.36** (0.07)	**-0.96** (0.18)	**-1.72** (0.09)	**-0.94** (0.27)
Curriculum type (vocational ref.)				
General	**-2.45** (0.25)	**-1.29** (0.54)	**-1.45** (0.24)	**-3.11** (1.13)
Missing (only in Ireland)	-0.31 (0.18)	-0.25 (0.27)	-0.24 (0.30)	0.13 (0.35)
School success (pass reference)				
Fail	**0.22** (0.10)	**1.19** (0.22)	0.19 (0.14)	**0.82** (0.37)
Ireland*women	0.02 (0.10)	**-0.58** (0.22)	**-1.43** (0.21)	-0.60 (0.33)
Scotland*women	0.08 (0.10)	**-0.57** (0.23)	**-0.92** (0.14)	**-0.71** (0.28)
Ireland*upper sec.	**-0.74** (0.12)	-0.08 (0.24)	**0.87** (0.18)	-0.53 (0.37)
Scotland*upper sec.	**-0.75** (0.12)	-0.38 (0.24)	**0.40** (0.15)	**-0.62** (0.30)
Ireland*general	**1.87** (0.28)	**1.20** (0.55)	**1.05** (0.28)	**3.29** (1.14)
Scotland*general	**2.14** (0.29)	1.16 (0.59)	0.39 (0.28)	2.24 (1.15)
Ireland*fail	**-0.35** (0.14)	**-0.54** (0.26)	**-0.78** (0.22)	0.33 (0.42)
Scotland*fail	0.01 (0.14)	-0.04 (0.27)	0.04 (0.19)	-0.17 (0.39)
School characteristics				
Type curriculum offered (combination of acad. and voc. ref.)				
General	0.24 (0.25)	0.18 (0.56)	-0.03 (0.31)	1.88 (1.03)
Vocational	**0.91** (0.26)	**0.43** (0.21)	**-0.49 (0.20)**	0.36 (0.30)
Public school (private ref.)	0.03 (0.25)	0.50 (0.32)	0.27 (0.22)	**1.19** (0.49)
School denomination (catholic ref.)				
Protestant	0.07 (0.21)	-0.40 (0.43)	**0.71** (0.24)	-0.56 (0.85)
Interdenominational	-0.23 (0.21)	-0.26 (0.34)	-0.11 (0.21)	0.55 (0.59)
Non-denominational	0.01 (0.16)	**-0.43** (0.20)	-0.11 (0.18)	0.14 (0.20)
Religious missing (only in the Netherlands)	0.06 (0.25)	-0.40 (0.45)	0.11 (0.35)	0.79 (0.68)
Ireland*general	-1.03 (0.55)			
Ireland*vocational	**-0.90** (0.31)			
Scotland*public	**1.18** (0.41)		**2.17** (104)	
Ireland*Protestant	**-1.51** (0.69)			
<u>Variance components</u>				
School leavers level	1	1	1	1
School level:				
Netherlands	**0.11** (0.03)	**0.28** (0.13)	**0.42** (0.09)	0.52 (0.26)
Ireland	**0.15** (0.04)	**0.17** (0.08)	**0.22** (0.10)	0.24 (0.15)
Scotland	**0.15** (0.06)	0.10 (0.13)	0.05 (0.08)	0.14 (0.09)

Appendix 1

School characteristics in Ireland, the Netherlands and Scotland

School offering vocational, general or a combination of vocational and general programmes

The Dutch system is a very differentiated and tracked educational system in which vocational and general programmes are taught in separate schools. Only recently has there been the formation of the so-called "combined" schools, which offer both general and vocational types of programme, as a consequence of a process of unification of smaller school units into larger school units. This process has often not undermined the track distinction which characterised the smaller units before the unification which means that pupils cannot choose a combination of vocational and general subjects (as occurs in the Scottish educational system). However, the "combined" schools make it easier to switch from one track to another, given that the different tracks are run by the same school.

In Ireland there are both general and vocational types of schools and schools offering a combination of the two types of subject. There is a clear demarcation between the schools which provide general education and the others. The general schools are privately owned and mainly denominational (Catholic and Protestant), the vocational schools and comprehensive schools are public schools and interdenominational (Drudy and Lynch, 1993).

The Scottish educational system is the opposite case to the Dutch system. All schools offer both academic and vocational options. Thus, pupils can opt for either an academic or vocational type of programme or a combination of vocational and academic courses according to a modular system.

Private and public schools

In the Netherlands the main difference between private and public is in the composition of the school boards: in public schools the school board is composed of administrators

elected by the local district authorities; in private schools they include laymen, sometimes experts in a specific area, very often only parents (who are excluded from the school board of public schools) (Hofman et al., 1996, p.373-374). They are often founded and run by religious associations which means that the majority of private schools are denominational. The others are usually founded by private associations aimed to create a school based on specific kinds of teaching and principles (e.g. Montessori schools). While the public schools are open to all pupils (without distinction of sex, race, religion and beliefs) the private schools can opt for restrictive admission rules. However, in practice they usually do not avail themselves of this faculty (Netherlands Ministry of Education, Culture and Science, 1998). There are no differences between private and public schools regarding the financial aspects, both types of school are state-financed and may ask for parental contributions or fees.

As previously mentioned, in Ireland private schools are essentially denominational. They are privately owned mainly by religious orders (with a net prevalence of the Catholic religious orders). In the past the school board was entirely constituted by religious bodies but recently the composition of the school board has been changed to include trustees, teachers and parents (Drudy and Lynch, 1993). They all receive state funds, however their amount varies between those schools which ask parents to pay fees and those which are non-fee-paying. The school teachers are chosen by the school trustees (often from a religious order) who also pay teachers' basic salary.

In Scotland private schools are independent schools, privately owned and fee-paying schools. They are often selective, in the sense that they have admission tests and provide a curriculum with a stronger academic emphasis. They differ from the Irish private schools because they are not specially linked to religious bodies. They also differ from the Dutch schools because they are more selective, both academically and economically.

Denominational, interdenominational and non-denominational schools

The Dutch educational system is characterised by a plurality of denominational, interdenominational and non-denominational schools. This plurality derives from the principle of freedom of education which is stated by the Dutch Constitution (article 23). This principle allows religious groups and more generally people with specific

ideological beliefs to found their schools and to run them according to their beliefs and methodology of teaching (Netherlands Ministry of Education, Culture and Science, 1998).[19] The distinction between denominational, interdenominational and non-denominational schools is quite blurred. In the large cities non-denominational schools prevail, their pupils' intake is more heterogeneous and includes a large quota of immigrants' children. Denominational schools are smaller in size and more frequently located in small towns.

Ireland is the country where the denominational character of the school is strongest. This is due to the central role that the Catholic Church has played in the formation and development of the Irish education. In compulsory schooling the churches have a considerable power in all aspect of schooling, ownership, administration and curriculum. After compulsory schooling the influence of the churches tends to weaken, maintaining a general influence on curriculum matters. Schools providing general programmes (secondary schools) are totally under the ownership and administrative control of the churches. Vocational and comprehensive schools are, instead, characterised by a more balanced situation of power between church and state (from which their interdenominational character derives).

In Scotland denominational schools are almost exclusively Catholic. Their development was linked to Irish immigration in the industrialised areas of Scotland (Willms, 1992). The 1918 Education Act, from which developed the Scottish national education system, established a state-funded system of denominational schools incorporating them in the public system (Fitzpatrick, 1999). Today, the distinctiveness of the Catholic schools mainly resides in the religious ethos which influences education.

[19] However, there are some requirements stated by the Ministry of Education, Culture and Science that each school is obliged to fulfil. They concern the subjects taught at school, the content of national examinations, the attainment target, teachers' qualifications and training and so on.

Appendix 2

Technical notes

Tests of significance have been carried out to examine whether there are significant country differences in the variance component at the school level. Large differences in within-school sample sizes in the Netherlands, Ireland and Scotland make it difficult to interpret country differences in the between-school variance. Referring to the standard errors becomes unreliable in the case of small samples. Thus, the likelihood statistics have been preferred because the likelihood frame of the inference takes full account of the effect of varying sample sizes.

The deviance statistic has been calculated, that is the difference between the likelihood values (-2Loglikelihhod) for two models in which the second model is nested in the first one. In both models data of two countries are combined - first the Netherlands and Scotland, then the Netherlands and Ireland, and finally Ireland and Scotland. In the first model the constant term is the same for the two countries under examination and has a fixed term plus a random term across schools (which is given by the subscript j). The parameter of the variable "country" (in the following example, the Netherlands) is assumed to be fixed. Following MLwin standard notation:

$$\log(\pi_{ij}) = \beta_{1j}\text{cons} + \beta_{2}\text{neth}_{j}$$

In the second model also the variable for the Netherlands is assumed to be random across schools:

$$\log(\pi_{ij}) = \beta_{1j}\text{cons} + \beta_{2j}\text{neth}_{j}$$

In this equation two separate intercepts are estimated, one for each country, which vary among schools. The second model is nested in the first one, since it is the first model plus one parameter, which is the school variance component in the Netherlands. In both models the –2Loglikelihood statistic has been calculated and the difference between these values, deviance, has been used as significance test.

The following schema summarises the main results of the deviance tests.

	$var(u_{1j})\neq var(u_{2j})$	$var(u_{1j})\neq var(u_{3j})$	$var(u_{2j})\neq var(u_{3j})$
In education	n.s.	sign. p=0.001	sign. p=0.001
Employed	sign. p=0.001	n.s.	n.s.
Unemployed	sign. p=0.001	sign. p=0.001	n.s.
In apprenticeship	n.s.	n.s.	n.s.
In youth programme	n.s.	n.s.	n.s.

$var(u_{1j})$= between-school variance in the Netherlands
$var(u_{2j})$= between-school variance in Ireland
$var(u_{3j})$= between-school variance in Scotland
n.s.= not significant
sign.=significant

Furthermore the models have been tested for the existence of extra-binomial variation. In a few cases extra-binomial variation has been detected. However, the new estimates of the between-school variance, after controlling for the extra-binomial variation, have not substantially changed and the likelihood tests have given the same results.

A second type of investigation has been conducted: it consisted in the extraction of two random subsamples of 7% of the total Dutch sample and 53% of the Irish sample to test whether the larger Dutch within-school sample size could substantially bias the general findings. These two random subsamples in the Netherlands and Ireland reduced the sample size within the schools to an average of 8 pupils, similar to the Scottish sample. A reduction in the between-school variance between 18% and 20% has been verified in the Netherlands in the first two transitions (from school to further education and from school to employment) but it was not enough to invalidate the general conclusions.[20] Moreover, the contribution given by individual and school characteristics to the explanation of the between-school variance has not significantly changed in the three countries under examination.

[20] No changes have been found in the case of Ireland.