

THE POINTS SYSTEM AND GRADING OF THE LEAVING CERTIFICATE EXAMINATION

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The study described in this paper examines official figures for the grades awarded in 20 subjects in the Leaving Certificate Examination (LCE) at Ordinary and Higher levels in the period 1996 to 2005. Eleven subjects recorded significant gains or losses of candidates during the period. A graphic display of grade distributions by subject and level shows large variation in grading procedures across subjects and very little within subjects, except for changes in the mean. Grades (expressed as CAO points and combined for Ordinary and Higher-level examinations) improved significantly in 15 subjects, due partly to the award of more higher grades each year but also, and more decisively, to the transfer of candidates from Ordinary to Higher level programmes and examinations. It is argued that the large variation between LCE subjects in the percentage of candidates taking the Higher level examination, ranging from 20% to 90%, effectively removes from public scrutiny a large portion of the CAO points awards made to LCE candidates.

The annual *Tuarascáil Staitistiúil/Statistical Report*, published by the Department of Education and Science, contains an important set of summary data on the academic performance of second-level students in the Republic of Ireland. It gives the results of the Leaving Certificate Examination (LCE), Ordinary and Higher levels, which is administered to students at the end of their second-level education at an average of 18 years, showing the numbers of candidates sitting the various subjects, and the percentage awarded each of the possible 14 grades (from A1 to E, F, and No Grade). Currently the tables contain data for over 50,000 candidates and for over 40 subjects (DES, 2005). The data are particularly valuable because of their completeness and comparability from year to year, which is assured by central syllabi and well-established practices in the setting and grading of the examinations. This is not to say that examinations of this type are not subject to criticism (see Kellaghan, Madaus, & Raczek, 1996). It is widely believed by the general public, for example, that dependence

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on final written examinations narrows the natural scope and appeal of LCE syllabi, encourages rote learning, and leads to predictable examinations (Kellaghan & McGee, 2005).

Grades awarded in the LCE are of particular importance since they are the basis for the 'Points System' that controls entry to third-level education. The system consists of a Points Table, namely a mapping of LCE grades, Ordinary and Higher levels, to a single points scale (Table 1), which is then applied to candidates' six best grades to give a single score (max. 600) that determines their entitlement to a place in the various third-level programmes on offer to them. In its present form, the Points System was agreed by the Universities and the Central Applications' Office in 1992 (HEA, 1999). Although individual third-level institutions are free to modify the table, in practice the modifications have been minor.

Table 1
The Points Table

LCE Ordinary Grades	LCE Higher Grades	CAO Points
	A1	100
	A2	90
	B1	85
	B2	80
	B3	75
	C1	70
	C2	65
A1	C3	60
	D1	55
A2	D2	50
B1	D3	45
B2		40
B3		35
C1		30
C2		25
C3		20
D1		15
D2		10
D3		5
E/F/NG	E/F/NG	0

Since the points table is just another way of presenting LCE results, it inherits unchanged all the shortcomings of the latter, and adds a few of its own.² However, it makes one highly significant contribution to the LCE insofar as it maps all grades, in all subjects, at both levels, to a common scale of values. Although this is a purely clerical exercise, and could be done in other ways that would be defensible, the fact that it has a clear logic to it, namely to treat all subjects equally, and enjoys a high degree of public acceptance, means that all LCE grades are now linked to a system of scaled rewards that is operated in full public view.

Quite apart from its utility in addressing the third-level admissions problem, the 'anchoring' of grades in the world outside the school is also potentially of great benefit to the LCE. It is generally conceded that the 'comparability problem' for subjects, namely the task of equating grades across subjects as diverse, say, as French, Mathematics, Chemistry, and Music, cannot be solved solely by examining syllabi and examination results or by statistical modelling (Wood, 1987). In the end, grades have to be considered as 'social facts' (Cresswell, 1996; Wiliam, 1996), based ultimately on the confidence the general public has in the people who award them. Thus, CAO points are similar to a currency, since they are based on a somewhat intangible, but nonetheless real, system of trust (see Cresswell, 1996), while the points awarded for each subject can be added up and 'exchanged' for a university place. A consideration of the social significance of the Points System, as well as its appropriateness as a measure of educational achievement, prompted the analysis of the system described in this paper.

While the LCE demonstrates a commitment to broad education in the large number of subjects in which candidates are examined (a minimum of six in practice) and the two levels of ability that it caters for (Ordinary and Higher), this gives rise to important issues, in particular the consequences of attaching fixed CAO points values to all subjects and specifying fixed points-differences between Ordinary and Higher levels. It is inevitable that some subjects would be valued more favourably than others in such a table relative to their demands on candidates' abilities and time, and it has often been suggested that the Points System might operate to the detriment of the educational objectives of the LCE since, as Walshe (1999) puts it, 'students sitting for the Leaving Certificate Examination must sensibly judge where their efforts might best be rewarded' (p. 10).

²The principal features of the Points System that have caused concern can be found in Commission on the Points System (1998, 1999).

Following a description of subject candidatures (total candidature and candidature per level), yearly changes between 1996 and 2005 in candidate numbers over subjects and levels are described. The grade distributions that provide the data for this paper are then presented in graphic form by subject, year, and level for the period 1996 to 2005, drawing attention to grading practices within and across subjects and over time. Increases in points awarded per subject are described, following which attention will shift to the special problems attending examinations with two ability levels, where the assignment of candidates to levels competes with marks awarded in examinations in determining the credit that they receive for their work.

DATA

The data are taken from the annual reports of the examining authorities for the period 1996 to 2005 (DES, 1997 to 2005, Tables 5.22 and 5.28; State Examinations Commission, 2006). The reports give the percentage of all candidates achieving the various grades in the LCE Ordinary and Higher level examinations, in addition to the total number of candidates sitting each examination.

The figures reported here differ from the published figures in two ways. Firstly, grades are replaced with their points equivalents, exactly as shown in Table 1. Two Foundation-level courses, Foundation Irish and Applied/Alternative Mathematics, each with over 5,000 candidates in 2005, are excluded, since points are not awarded for them. And secondly, only the 20 most commonly taken subjects are included in analyses. This is because patterns over time, on which the study relies heavily, become unstable as numbers of candidates drop from thousands to hundreds. Less than 2% of all LCE grades awarded with points values were excluded on these grounds.³

³Based on the most recent complete set of data, which is for the 2004 LCE (DES, 2005), the following 21 subjects, with numbers of candidates in brackets, were excluded: Spanish (1,755), Applied Mathematics (1,455), Physics & Chemistry (815), Classical Studies (771), Economic History (300), Italian (189), Arabic (142), Agricultural Economics (124), Latin (122), Russian (75), Japanese (28), Dutch (24), Portuguese (21), Ancient Greek (16), Swedish (8), Modern Greek (5), Polish (5), Danish (4), Religious Education (3), Finnish (1), and Czech (1). These figures sum to 6,675 candidate-examination units, or 1.91% of the total of 349,855.

METHOD

Three simple linear models in the form

$$Y = b_0 + b_1 \text{Year} + e \quad (1)$$

are fitted independently within subjects (Venables & Ripley, 2002), where the dependent variable Y is, in turn, (i) subject candidature, expressed as a percentage of all LCE candidates, (ii) percentage of candidates taking the Higher level examination (p_h), and (iii) Average Points per Subject (APS). The coefficient b_1 estimates the change in the dependent variable per year.

Average Points per Subject (APS) combines points scores from the Ordinary and Higher level examinations of each subject. Average Points per Level (APL) is first computed directly from the published tables of Percentage Per Grade (PPG) at that level

$$\text{APL} = \Sigma (\text{PPG} \times \text{Points Value})/100 \quad (2)$$

where the sum is over the 14 possible grades. APS is the average of its two APL values, APL_o and APL_h , for the Ordinary and Higher level examinations respectively, each weighted by the proportion of the subject candidature at each level, p_h and p_o

$$\begin{aligned} \text{APS} &= p_o(\text{APL}_o) + p_h(\text{APL}_h) \\ &= (1-p_h)(\text{APL}_o) + p_h(\text{APL}_h) \end{aligned} \quad (3)$$

The LCE results are also presented graphically in order to display the range and type of variation that is present in the data, over subjects and levels, and from year to year. Several issues arise at this level of analysis concerning grading procedures in the examination.

ANALYSIS

Percentage of LCE Candidates per Subject

Before providing data on student achievements, data on candidate numbers per subject in 2005 are presented in this section as well as changes in numbers between 1996 and 2005. The breakdown of candidate numbers by subject in the 2005 LCE is given in Table 2. The sum of 343,180 at the bottom of Column 1 refers not to candidates but to 'examinations taken' or 'candidate-subject units'. The figures in Column 4 show that almost half (49.87%) of all examinations taken are in English, Mathematics, Irish, and French. When Geography, Biology, Business Studies, and Home Economics are added, over 75% of all examinations administered are accounted for.

Table 2
Numbers of LCE Candidates per Subject, Percentages of Total Number of Candidates, and Percentages of Candidate-Exam Units, 2005*

Subject	Candidates	% All LCE Candidates.	% Candidate-Exam Units.	% cum.
English	51,524	95.2	15.01	15.01
Mathematics	46,616	86.2	13.58	28.60
Irish	42,424	78.4	12.36	40.96
French	30,592	56.5	8.91	49.87
Geography	28,092	51.9	8.19	58.06
Biology	25,362	46.9	7.39	65.45
Business Studies	20,506	37.9	5.98	71.42
Home Economics	14,459	26.7	4.21	75.64
History	10,307	19.1	3.00	78.64
Art	10,237	18.9	2.98	81.62
Construction	90,20	16.7	2.63	84.25
Physics	79,44	14.7	2.31	86.57
German	79,24	14.6	2.31	88.88
Chemistry	73,66	13.6	2.15	91.02
Accounting	70,23	13.0	2.05	93.07
Tech Drawing	57,75	10.7	1.68	94.75
Engineering	48,90	9.0	1.42	96.18
Economics	47,99	8.9	1.40	97.58
Music	46,95	8.7	1.37	98.94
Agriculture	36,25	6.7	1.06	100.00
Total Candidate-Exam Units	343,180		100.00	

*The number of LCE candidates in 2005 was 54,069 (State Examinations Commission, 2006)

Candidate numbers per subject are given in Column 2 of Table 2 as a percentage of all LCE candidates for that year, which is the form that will be used in the analyses to follow. Following trends in birth-rates in 1978-1987, absolute candidate numbers rose from 54,618 in 1996 to a peak of 64,155 in 1998, and declined subsequently to the figure of 54,069 in 2005. Since the decline is set to continue in the short-term, a round but conservative figure of 50,000 LCE candidates will sometimes be used in what follows to estimate the numbers of candidates affected.

There were significant gains and losses of candidates for 11 subjects in the period 1996-2005. These are shown in Table 3 and plotted in Figure 1, where the average yearly increment or decrement is also the slope of the straight line fitted to the ten yearly data-points. The t-tests reported in Table 3 test the significance

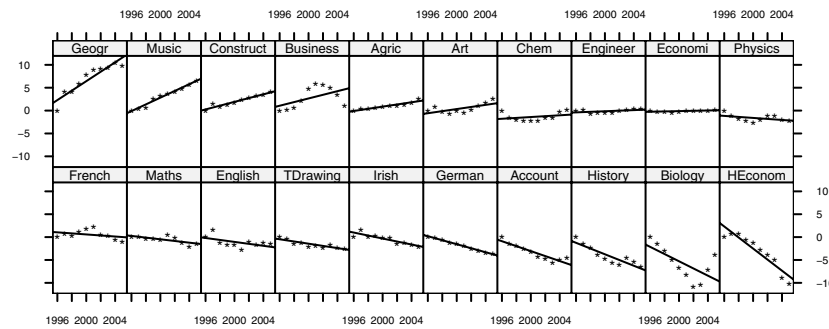
of the difference of these slopes from zero, using the pooled standard error (0.121). Non-linear components, in the form of reversals, are evident in a few cases, notably Business Studies and Biology. In these cases, the straight lines are not good predictors of future values, but are still the best summaries of yearly gains or losses of candidates over the period.

Table 3
Yearly Change in the Percentage of LCE Candidates per Subject, as Percentage of all LCE candidates and as Number of Candidates Taking the Subject, 1996-2005

Subject	Yearly Change as % of all LCE Candidates	Yearly Change in Number of Candidates **	t*	p
Geography	+1.03	+520	8.53	<.0001
Music	+0.74	+370	6.08	<.0001
Construction Studies	+0.41	+210	3.41	.0008
Business Studies	+0.40	+200	3.28	.0013
All other subjects				≥.05
Technical Drawing	-0.24	-120	-2.00	.0471
Irish	-0.33	-170	-2.72	.0073
German	-0.44	-220	-3.63	.0004
Accounting	-0.54	-270	-4.48	<.0001
History	-0.63	-320	-5.19	<.0001
Biology	-0.79	-400	-6.53	<.0001
Home Economics	-1.21	-600	-10.00	<.0001

* Based on 50,000 LCE candidates overall ** SE = .121; df = 8

Figure 1
Gains and Losses as Percentages of All LCE Candidates by Subject, 1996-2005. (1996 figures set to zero)



Geography attracted an additional 520 candidates per year, or 5,200 candidates over the period, while Music, starting from a figure of just over 1,000 candidates, added 370 per year, more than quadrupling its candidate numbers in 10 years. Substantial increases are recorded also for Business Studies and Construction Studies. Since the number of candidates is fixed in any year, there are corresponding losses, notably in Home Economics, down almost 6,000 candidates over the period, and also in Biology, History, Accounting, German, and Irish.

Transfer of Candidates to Higher Level Examinations

There was a steady increase in the percentage of candidates taking an examination in a subject at Higher level in 11 of the 20 subjects over the period 1996 to 2005 (Table 4). The increase is in the order of 1% per year or 10% over the period for three subjects, English, Technical Drawing, and Business Studies, and still substantial for eight others. Only three subjects, German, Home Economics, and Agricultural Science, show a decline in the proportion of their candidates taking the Higher level examination. The data and fitted lines are plotted in Figure 2.

Table 4

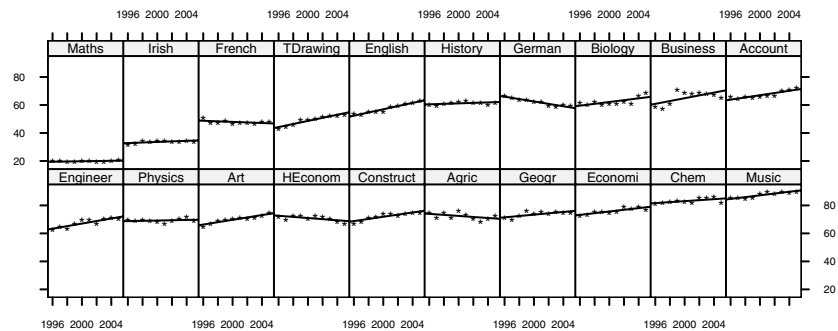
Yearly Change in the Percentage of Candidates taking an Examination at Higher Level, and Yearly Transfer of Candidates, 1996-2005

Subject	Yearly Transfer as % of Candidates Taking the Subject	Yearly Transfer of Candidates*	t**	p
English	+1.14	+540	6.33	<.0001
Technical Drawing	+1.10	+60	6.10	<.0001
Business Studies	+1.00	+190	5.57	<.0001
Engineering	+0.91	+40	5.04	<.0001
Art	+0.85	+80	4.68	<.0001
Accounting	+0.79	+50	4.40	<.0001
Construction Studies	+0.77	+60	4.26	<.0001
Biology	+0.66	+160	3.64	.0004
Music	+0.64	+30	3.53	.0005
Economics	+0.60	+30	3.35	.0010
Geography	+0.48	+130	2.67	.0084
All other subjects				≥.05
Agricultural Science	-0.37	-10	-2.06	.0413
Home Economics	-0.40	-50	-2.24	.0267
German	-0.86	-60	-4.74	<.0001

*Based on 50,000 candidates overall and percentages of LCE candidates per subject in 2005 (Table 2).

** SE = 0.181; df = 8

Figure 2
Percentages of Candidates Taking the Higher Examination by Subject, 1996-2005



Data across panels in Figure 2 record the large base-line differences between subjects in the percentage of their candidates that take the examination at Higher level. Only 20% of candidates take the Higher level examination in Mathematics, and slightly over 30% in the case of Irish. All other subjects range between 50 and 90 percent.

Grade Distributions in the LCE

Data in the annual reports of the Department of Education and Science (1997 to 2005) and State Examinations Commission (2006) to describe student grades are reproduced in graphic form in Figures 3 and 4, except that the grade labels (A1, A2, etc.) on the x-axis in the original tables are replaced by points awards. Each bar in the histograms represents the observed frequency with which one of the possible points totals, 0, 5, 10, 15, etc up to 90 and 100 was awarded, where the frequency is expressed as a percentage of all the candidates taking the subject in that year at that level. There are gaps in the histograms corresponding to points totals that are not possible at that level (see Table 1). Subjects are in ascending order from left to right of average points awarded in 2005. The yearly histograms are stacked in columns for each subject, from 1996 down to 2005.

The most striking feature of the distributions as a group is the large difference in shape from subject to subject (left to right) compared to the similarity of shape within subjects (vertically). In many cases, the distinctive patterns that are

transmitted from year to year within subjects are 'measurement artefacts', in the sense that they can be plausibly presented only as unintended side-effects of marking schemes, not as a record of candidate performance. Generally, they take the form of unexpected spikes in mid-distribution. One that is prominent in the data results from the 'heaping' of grades in the lowest category of each letter-grade, with the result, for example, that a high frequency of D3 grades is followed (to the right) by decreasing frequencies of D2 and D1 grades, and similarly for the following letter-grades, giving an overall 'saw-tooth' effect. The pattern is clearest at Ordinary level in Home Economics (up to 2004), English, Physics, Business Studies, History, Accounting, and Economics, but is present to some degree in other cases also. It is less evident at Higher level but is still clearly present in History, Business Studies, Economics, and Accounting.

Other types of measurement artefact are evident in the grade distributions. There are approximately U-shaped distributions for Accounting and History at Ordinary level, with spikes at the minimum and maximum scores, and a slight accumulation of intermediate scores towards both extremes. Some distributions tend towards the rectangular (equal numbers per grade) and others have a central peak. There are also large differences between subjects in the award of higher and lower grades, most obvious in the case of zero and maximum grades, which are scarcely used at all in some subjects and are among the most frequently-awarded grades in others. This is particularly so for zero points grades, at both levels. It is noticeable also that grade distributions for Ordinary level examinations show a far higher degree of irregularity than their Higher level counterparts.

Change in Average Points per Subject (APS), 1996-2005

Fifteen subjects show a significant increase in Average Points per Subject (APS) [see formula (3) above] from 1996 to 2005 (Table 5). The five subjects that show no increase in the period are Geography, Construction Studies, German, Agriculture, and Mathematics. The increase is a point per year or more for six subjects, closer to a point and a half for English and Music, which is 15 points over the period.

Table 5
Yearly Change in Average Points per Subject in 1996-2005.

Subject	Yearly Change	t*	p
Music	+1.56	8.38	<.0001
English	+1.43	7.72	<.0001
Irish	+1.17	6.31	<.0001
Accounting	+1.15	6.17	<.0001
Art	+1.13	6.11	<.0001
Chemistry	+1.13	6.07	<.0001
Business	+0.99	5.33	<.0001
Physics	+0.92	4.96	<.0001
Tech Drawing	+0.91	4.88	<.0001
Engineering	+0.82	4.44	<.0001
History	+0.78	4.18	<.0001
Biology	+0.74	3.97	.0001
Economics	+0.44	2.39	.0179
Home Econom	+0.42	2.29	.0235
French	+0.41	2.20	.0289
All other subjects	+0.22	1.16	≥.05

* SE = 0.186, df = 8

As is clear from the definition of APS in formula (3), these increases can come from three independent sources: the award of more higher grades at Ordinary level; the award of more higher grades at Higher level; and the transfer of candidates from Ordinary to Higher level examinations. The unique contribution of p_h , the proportion of candidates taking the Higher level examination, to the variance of APS in the ten years studied can be estimated by comparing the regression of APS on p_h with and without APL_o and APL_h in the equation. It ranges from .72 to .85 between 1996 and 2005, with a mean of .81. For example, the formula

$$APS = 24 + 44p_h \quad (4)$$

accounts for 84% of the variance of APS in 2005, although it is based only on the proportion of candidates taking the Higher level examinations in each subject. The contribution of measured achievement, namely the APL_o and APL_h scores, which alone are based on candidate performance, is therefore only 16 percent. However, the figure of 16% can be brought close to 100% by restricting the range of p_h scores, which is .21 to .90 for the 2005 data, around a mean of .65.

Points Differences between Ordinary and Higher Level Examinations

The average points difference between Higher and Ordinary level examinations, computed over all subjects and years, is 41.56 (SD = 4.37; n = 200). This is an artefact of the Points Table, which puts the maximum grade (A1) at 100 and 60 points respectively for Ordinary and Higher level examinations, and the median grade (C1) at 30 and 70 points respectively. It shows a significant change between 1996 and 2005 in only three subjects. The difference in Irish, which was over 50 points at the beginning of the period, reaching 53.52 in 1997, was reduced to near-average values from 2000. This came about through a decrease in use of the lowest grades of the Ordinary level examination from that point on (see Figure 3), but with no corresponding change at Higher level. There were increases in the average points difference between Ordinary and Higher level examinations in Art and Accounting, due to increases in average points awarded in the Higher level examination that were not matched by similar increases at Ordinary level.

Twelve subjects show an increase in the average points awarded at one level or the other, but no change in the points difference between levels, because there is a similar increase at the other level. They are, in order of the size of the increase: Music, English, Chemistry, History, Business Studies, Home Economics, Physics, Engineering, Biology, French, Technical Drawing, and German.

CONCLUSION

The focus of this paper was primarily on the Points System in which Leaving Certificate Examination grades are expressed to determine candidates' entitlement to places in third-level education. Because it puts Ordinary and Higher level grades on a common scale, it provides an integrated perspective from which to look at the LCE as educational measurement; and since the scale itself is now also a 'currency', it demands attention in its own right as an independent factor affecting the implementation of the LCE.

Analyses revealed considerable differences between subjects in the proportion of candidates who took the LCE at Higher level. Furthermore, the increase in grades expressed as CAO points that was recorded in 15 subjects over the period 1996 to 2005 is due in large part to a transfer of candidates from Ordinary to Higher level examinations. Eleven subjects increased the size of its Higher level candidature in the period; no change was recorded in six (Mathematics, Irish, French, History, Physics, Chemistry) and three recorded a decline (German, Home Economics, Agricultural Science). The four subjects that gained candidates in the period, Geography, Music, Construction Studies, and Business Studies, also increased the size of their Higher level candidature.

An examination of the distribution of grades by subject and level, based on visual data, showed a strong presence of measurement artefacts, particularly in the Ordinary level examinations, and a high degree of autonomy in grading procedures within subjects. Both are properties of the combined LCE results that set severe limits to the role they could be expected to play in the quality control of the examination. In the yearly administration of the LCE between 1996 and 2005, differences between subjects in the proportions of their candidates who sat the Higher level examination determined about 80% of the variation in Average Points Score per subject. The fact that such a large portion of candidates' grades cannot be related back to their performance in the examination gives rise to major issues of equity and transparency.

In passing, we may note that it has never been the practice in the LCE to have similar proportions of candidates in different subjects take an examination at Higher level. Data from 1946 (Department of Education, 1947) show 20% of Mathematics candidates took the Higher (then called Honours) level examination, as is still the case in 1996-2005, while at the other extreme, 95% of Home Economics candidates took the Higher level examination, with other subjects at various points in between. However, while the LCE has traditionally accommodated large differences between subjects in the percentage of candidates taking an examination at Higher level, it is noteworthy that the total number of LCE examinations administered each year has always been divided approximately 50/50 between Ordinary and Higher levels. Honours/Higher level examinations averaged 55% of all examinations in 1946-1996; in 1996-2005, the figure was 54 percent. In effect, the large number of Ordinary level candidates in Mathematics, Irish, and French are balanced by a large number of subjects in which a majority of candidates take Higher level examinations, but typically involving smaller numbers of candidates.

It is important to note that the order in which LC examinations are ranked by the proportion of their candidates that take the examination at Higher level has no straightforward relation to the difficulty of the subject. Although the small proportions of Mathematics and Irish candidates in Higher level programmes are sometimes taken to mean poor standards in these subjects in the LC population as a whole, strictly speaking these figures are not measures of anything. They are decisions, taken within subjects, about the objectives of their Higher level programmes, whether they should be attainable by only a minority of candidates at the top end of the ability scale, by the majority of candidates, or by about 50% of candidates. Neither can large proportions of candidates in Higher level programmes be taken as indicating that the subjects in question are easy. The data for this paper do not allow any direct inferences about the

demands made by subjects on candidates, whether on their abilities or on the time at their disposal. To discuss the relative difficulty of LCE subjects it would be necessary to look at candidate level data, showing how individual candidates performed in examinations in different subjects. This was done by Kellaghan and Millar (2003), who showed, for example, that Physics and Chemistry are 'difficult' subjects in spite of the high proportions of candidates taking examinations at Higher level.

Our interest in unequal proportions of candidates taking the Higher level examination in different subjects is solely because of the measurement problem they pose, particularly for one-figure summaries of LCE results. Specifically, there is a problem in transparency. As the percentage of candidates taking the Higher level examination in any particular subject moves away, in either direction, from the mean for all subjects (which was 65% in 2005), there is a corresponding portion of points awarded to individual candidates in that subject that disappears from public scrutiny. This takes the form either of a fixed bonus of 40 points for candidates who are able to sit a Higher level examination in a particular subject only because it is designed for an untypically large proportion of all candidates, or alternatively, a fixed penalty for candidates who find themselves forced to sit an Ordinary level examination in a particular subject only because its Higher level examination is designed for an untypically small proportion of all candidates.

Although our data are for groups of candidates, at this level of analysis they permit us to put a yearly figure on the deficit transparency that results from excessive variation over subjects in the proportion of candidates taking Higher level examinations. These are the percentages ranging from 72 to 85 that were reported when presenting formula (4).

This is not to raise issues about the series of events, spread over junior and senior cycle, that result in a candidate's sitting the Higher rather than the Ordinary level of an examination in any particular LCE subject. Even if it is assumed that the assignments are generally equitable and accurate, it is still true that nothing is examined, and there is no record of candidates' performance that is open to scrutiny in the way that an examination script is. And thus there is a portion of the points awarded in due course, when students sit an LCE examination at one level rather than another, that is not open to scrutiny.

Many of the problems in the 1996-2005 data would be lessened if two conditions could be realized. The first is a reduction in the variation between subjects in the proportion of candidates taking an examination at Higher level, so that the percentage of candidates taking the Higher level examination would be the same for all subjects, and ideally as close as possible to 50. The second is to

use 'common' examination questions to scale Ordinary and Higher level examinations, based on the understanding that that the two examinations, in any given subject, are two samples of test items drawn from overlapping pools and differing in degree of difficulty.

It is not unreasonable to require that the Average Points Score for any subject should depend mostly on the performance of candidates and as little as possible on prior decisions about the proportion of candidates who will sit the examination at Higher level. Moreover, the requirement is easily met, even in a two-level examination such as the LCE. If the proportion of candidates taking the Higher level papers was roughly the same in all subjects, average points would be determined mostly by the performance of the candidates in the examination, as it would be in a single-level examination, or in a two-level examination with questions matched to a common scale of difficulty, and all of the points awarded to candidates could be traced to examination scripts.

The second condition that would alleviate the problems evident in the 1996-2002 data is the use of 'common' examination items, suitable for both Ordinary and Higher level examinations. Without the use of common items there is no empirical solution to the problem of the overlap in the two levels of the LCE, and in the absence of a solution, the tendency will be to consider Ordinary and Higher level examinations as independent examinations, related only by some intuitive judgments about difficulty levels that are made within the subjects in question. The lack of a measured link between the levels of the LCE very likely contributes to the large variation in the size of candidatures for Higher level examinations, and the uncertainty, evident in the grade distributions, about the use of higher grades in Ordinary level examinations and lower grades in Higher level examinations.

Problems regarding transparency are not limited to the points candidates are awarded. Candidates' points derive from the level of the examination they take, and then from the grades they obtain in that examination, which derive from their marks in the different components of the examinations, which derive in turn from their marks for individual questions or items. Although our data deal only with grades, the requirement of transparency extends all the way down through the grading and marking process, encountering at every level the same conflict between marks that are the result of measurement and others that are due only to prior assignment. The lack of transparency in the distinction between Ordinary and Higher level examinations appears again when candidates select one component of an examination rather than another, or one question rather than another in a component, and if a large proportion of the marks is a constant going to all the candidates that selected a particular component or question.

Equal treatment of all subjects, corresponding to a major objective of the LCE, and ease of application might be considered merits of the Points System. However, arriving as it did into an LCE in which subjects were by no means equal, in particular in the demands they made on the ability and time of candidates, and in which the distinction between Ordinary and Higher level programmes was never intended to have a fixed meaning across subjects, points totals were created that both students and teachers would have known at once to be out of line with existing educational realities. Points were too easy to get in some subjects, too difficult in others, and the 40-point bonus for Higher level examinations was too large in some subjects, and not large enough in others.

It was always likely that the LCE would have to give ground in this conflict, since the educational futures of candidates were at stake in their points totals. A 'back-wash' effect of the Points System on the LCE, resulting in students selecting subjects to maximize points awards for a given investment of ability and effort, has long been considered a fact by the HEA (1999) and others (submission of the National Council for Curriculum and Assessment to the Commission on the Points System, 1998; Walshe, 1999). The movement of candidates between subjects from 1996 to 2005 is certainly consistent with choices based on maximizing points totals, although the inference is not warranted without assumptions about the relative difficulty of subjects, a topic that would require analysis of candidate-level data.

Two important steps towards achieving the level of transparency that would be acceptable in the case of a two-level examination such as the LCE have already been taken: the annual publication of the tables that provided data for this paper, and the decision to make examination scripts available to candidates. Two more are needed: to reduce variation between subjects in the proportion of their candidates taking the Higher level examination, and to make more use of common items that would permit measurement of the difference between Ordinary and Higher level examinations. To achieve these ends, the Points Table would probably have to be extended to 120 or even 150 points to avoid the ceiling effect at 100 that is already becoming apparent, thus allowing subjects in which large proportions of candidates take the examination at Higher level to retain their present points position (APS scores) while expanding their Ordinary level candidature. At the same time, subjects in which only a minority of candidates take examinations at Higher level would expand to accommodate larger numbers at that level, moving towards parity with Ordinary level. The use of common-level items, which already exist to some extent, could be increased without any change to existing structures.

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