

## Chapter 3

# Do the Numbers Tell a Story? Quantitative Evidence about the Impact of Qualifications Systems on Learning

*Quantitative analysis should contribute to a fuller understanding of the link between national qualifications and lifelong learning systems. Earlier chapters and those that follow provide qualitative evidence that comes largely from background reports. This chapter uses a statistical approach drawing upon both macro data (at country level) and micro data (at individual level).*

*Indicators of lifelong learning are available from several sources. Quantitative indicators of national qualifications systems, however, are not so common. This deficiency places serious limits on the quantitative analysis of their relationship. Two alternative “second best” approaches are used to derive aggregated information about country characteristics of national qualifications systems. The first is based on a typology developed for this study in co-operation with the experts from the participating countries. The second approach uses household surveys to derive aggregated indicators of both national qualifications systems and lifelong learning.*

*The chapter begins by addressing data availability and deficiency issues and presents some basic statistics (Section 3.1). It then seeks to establish correlations at the macro level between certain lifelong learning dimensions and national qualifications systems, using aggregated variables derived from the International Adult Literacy Survey, the European Union Labour Force Survey and some national surveys for non-European countries (Section 3.2). Finally the chapter examines the main issues and proposes to set an agenda for future data collection in the fields under study. The main conclusion (Section 3.3) is that qualifications systems do have a role in promoting lifelong learning in some circumstances, although much work needs to be done to measure that impact quantitatively.*

### 3.1. The quantitative background for linking national qualifications systems and lifelong learning

This book is mainly concerned with national qualifications systems, not with individual qualifications as such. However, it is difficult to find existing quantitative data on that level, let alone the international level. Were that data to be available, they would be linked to specific features of lifelong learning at national level – in particular its volume, distribution, quality and efficiency. To conduct a meaningful analysis of the linkage, it would be ideal to have:

- Data on lifelong learning systems, including volume, distribution, quality and efficiency.
- Data on national qualifications systems such as those described in Chapter 1: accessibility, adapting to learning pathways, efficiency, flexibility, responsiveness and transparency.
- Trend information for both types of data.
- Data (mentioned above) that are comparable internationally.

Both national qualifications systems and lifelong learning have many dimensions. A consequence of that fact is that a given *policy response* to the lifelong learning agenda or a specific policy tool (*mechanism*) from the qualifications system may encourage a certain group of the population to learn while discouraging another group. This is so because not all potential learners share the same goal(s) when considering learning activities: some may learn for its own sake whereas others may seek a qualification or a job. Available data usually do not reflect this divergence of goal(s) among groups of learners. Therefore, before presenting some evidence, this section presents the available data, discusses methodologies, and identifies some of the difficulties in relating quantitative data in this field.

#### **Available lifelong learning indicators**

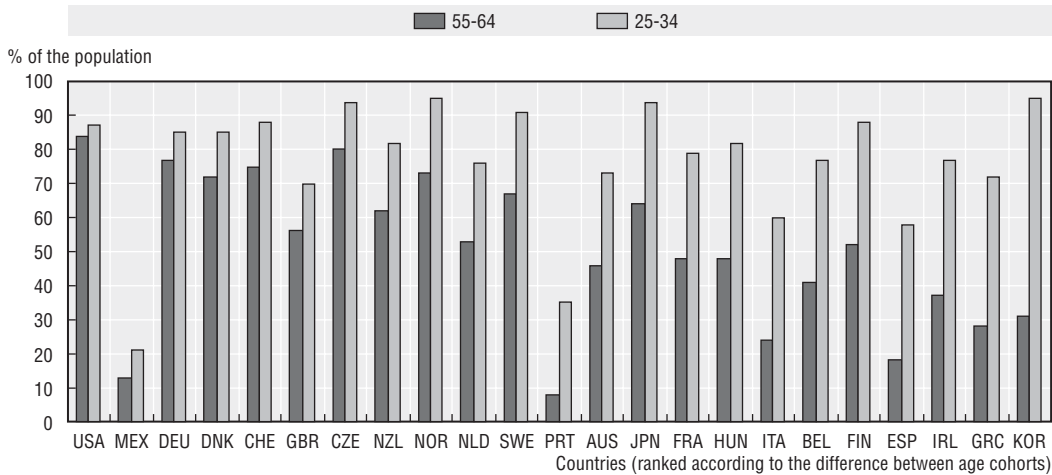
Figure 3.1 provides information on the proportion of the population with upper secondary education. A major deficiency is the limited availability of trend data. This stems from periodic changes (improvements) in the definition and measurements of key concepts, which make it difficult to develop a consistent series covering many years. An example is given by a reform of the International Standard Classification of Education (ISCED) that makes it difficult<sup>1</sup> to discern over time the proportion of individuals who have attained upper secondary education (Figure 3.2). In the absence of trend data, information on different age cohorts at a point in time (Figure 3.1) can be used as a proxy.

Upper secondary education attainment is a useful indicator of lifelong learning. Figure 3.1 shows that in most countries, a large fraction of the youth population is now reaching upper secondary education level. Improvement over the last two decades has been quite impressive, especially in Korea, Greece, Ireland and Spain (Figure 3.2). Therefore,

**Figure 3.1. Population that has attained at least upper secondary education (2002)**

(Comparisons of two age groups: 25-34 and 55-64)

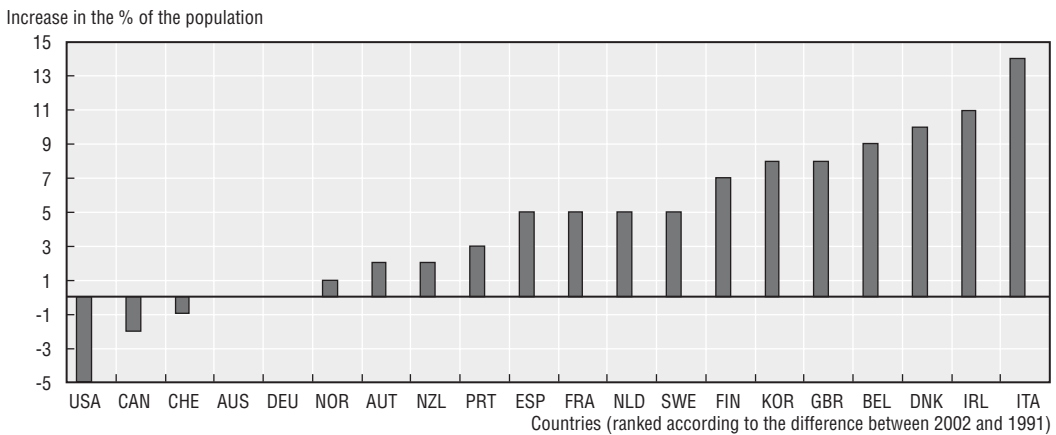
Summary: More and more young people attain upper secondary education.



Source: OECD, 2004a, processed by the authors.

**Figure 3.2. Trends in upper secondary education attainment (1991-2002)**

Summary: In most countries, there is a significant increase in the proportion of the population with upper secondary education attainment.



Source: OECD, 2004a, processed by the authors.

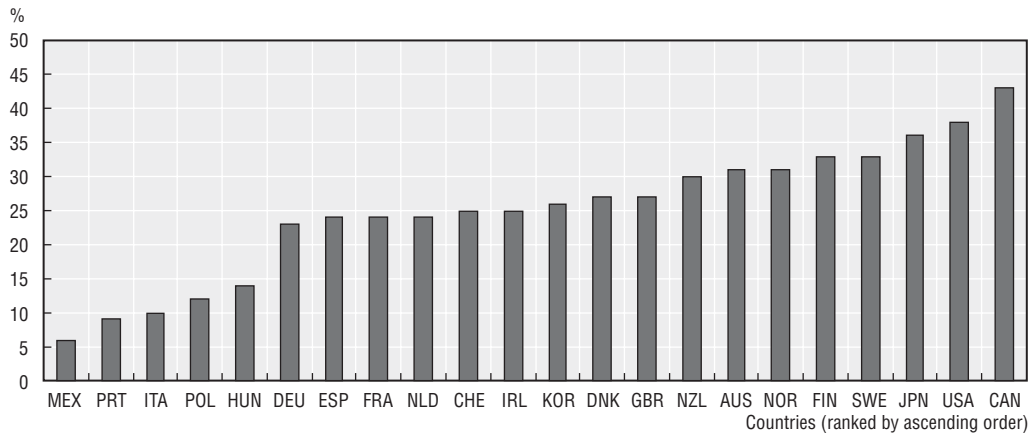
as far as volume is concerned, promoting lifelong learning through qualifications systems is more an issue for the adult population than for young people, since most of the latter now reach upper secondary education.

The percentage of people who have attained tertiary education is another interesting indicator of lifelong learning (Figure 3.3). Enrolment and/or success in tertiary education are likely to be good indicators of the reach of the qualifications systems and whether they promote higher levels of learning. It is unlikely that young people will engage in long studies if their qualifications systems do not lead to real reward in the labour market, or do not provide personal satisfaction or pathways to further learning.

Finally, literacy scores for the adult population are often used as a way of measuring non-formal and informal learning as well as lifelong learning. The benchmark is the minimum level

**Figure 3.3. Proportion of individuals that graduated from tertiary education institutions, 2002**

*Summary: For most countries, between a quarter and a third of the population graduated from tertiary education institutions.*



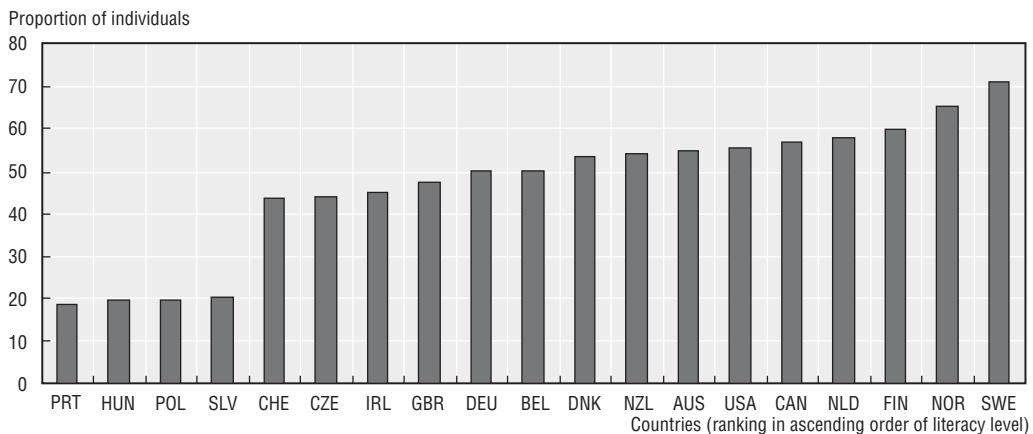
Source: OECD, 2004a, processed by the authors.

of literacy adequate for functioning in the knowledge society (Figure 3.4).<sup>2</sup> Measuring literacy offers a different perspective and additional information than educational attainments data because it sheds light on literacy skill loss and acquisition of that skill since formal schooling. For example, there is evidence that some poorly educated individuals are highly literate (10% on average in the International Adult Literacy Survey), which is an indication that they have acquired literacy skills through sources other than formal schooling.

This chapter uses all these indicators in attempting to study the relationships between lifelong learning and national qualifications systems. The indicators used to capture the national qualifications systems are now described before turning to the findings (Section 3.2.). Arriving at those indicators has proved to be the most difficult part of the exercise since there are significant gaps in the availability of relevant data.<sup>3</sup>

**Figure 3.4. Proportion of individuals at Prose literacy levels 3, 4 or 5**

*Summary: For most countries, between 45% and 70% of the population reached prose literacy levels 3, 4 and 5.*



Source: International Adult Literacy Survey (2000), processed by the authors.

### **Constructing a typology of national qualifications systems**

Chapter 1 provides a list of components that best describe a qualifications system. There are 11 (Annex 1.A2): the scope of application of the qualifications system; control of the qualifications system; accreditation processes for qualifications; a framework within the qualifications system; descriptors present in qualifications; access to qualifications for individuals; progression for individuals; stability of the system; awarding processes; credit system; and international reference points. The way these components are combined and used in countries explains the overall performance. A list of criteria for assessing this performance is also proposed in that chapter including, *e.g.*, accessibility, responsiveness and transparency. A quantitative analysis would ideally require measures of performance based on these criteria. However, such indicators do not exist.

It is therefore proposed to use some alternative proxy measures that can be described in quantitative terms. The approach adopted is to develop a typology of national qualifications systems based on some of their general structural elements on which agreement could be obtained among expert observers. The proposed typology uses the following eight general structural elements:

1. Whether the end of secondary education leads into an apprenticeship with responsibility for programmes shared between an educational institution and a firm.
2. Whether there is an explicit framework linking qualifications from different educational and occupational sectors.
3. Whether a large proportion of a cohort engages in studies linked to a specific occupational area.
4. Whether the qualifications system is unified throughout its regions and control lies with one main agency or with government.
5. Whether entry to the labour market is regulated through qualification and most occupational sectors use this regulation.
6. Whether there is a clear national programme or system for recognising non-formal or informal learning.
7. Whether unitised qualifications – with large uptake – exist, and units from different qualifications can be combined.
8. Whether credentials are essential for entry to the labour market or higher education and for further progress in work or study.

This list was developed in consultation with experts from countries participating in the OECD study. The experts were also asked to rank their country's qualifications systems along a four-point scale, from 1 (definitely true for my country) to 4 (not present in my country) (Table 3.1).

There are several ways of constructing the ordinal scale. For example, the scale could range between 1 and 4, as used here, or a scale from zero to ten could be used. The latter would have provided more variance, but this degree of differentiation would be difficult for the experts to use. In fact, consensus was difficult to achieve, even on a simple scale with four rankings. For example, when several institutions<sup>4</sup> were consulted in a country, the responses were not always the same, and what is reported in Table 3.1 is sometimes an average of the different rankings proposed. It was not always possible to consult with several experts in each country, but when it was possible, the relative homogeneity of the responses provided support in using this typology.

Table 3.1 could be further refined but it serves here as a first basis to organise the international comparison of qualifications systems and the linkage with variables describing lifelong learning. This typology is also useful as background information regarding national qualifications systems in the participating countries.

Table 3.1. **Typology of qualifications systems in selected countries**

	Dual system <sup>1</sup>	QF <sup>2</sup>	VET in school <sup>3</sup>	Centralisation <sup>4</sup>	LM <sup>5</sup>	RPL <sup>6</sup>	Credit system <sup>7</sup>	Credentialist <sup>8</sup>
Australia	2	1	1	1	2	1	2	2
Belgium (Flemish Community)	3	3	1	1	2	3	3	2
Belgium (French-speaking)	3	3	1	1	2	3	2	2
Czech Republic	4	3	3	1	2	4	3	2
Germany	1	3	2	2.5	2	3	3	2
Denmark	1	2	1	1	2	2	1	2
Spain	2	1	2	2	2	2	1	2
Finland	2	1	1	1	3	1	3	2
France	1	1	1	1	2	1	3	1
Greece	2	3	3	4	2	4	4	2
Hungary	3	2	2	1	1	3	3	1
Italy	2	3.5	4	3	2	4	3	1
Ireland	3	1	3	1	3	4	3	2
Northern Ireland	2	1	3	1	2	4	4	2
Japan	2.5	3	2.5	2.5	3	3	4	2
Korea	3	3	3	2	2	3	3	2
Mexico	3	3	1	1	4	2	3	1
Netherlands	2.5	2	1.5	2	3	2	2	2
Norway	1	2	2	1	2	1	2	2
New Zealand	2	1	2	1	2	2	1	2
Poland	2	2	1	2	3	3	4	2
Portugal	2	4	2	1	2	1	3	1
Scotland	1	1	3	2	2	2	1	1
Slovenia	4	3	2	1	1	2.5	3	2
Sweden	3.5	4	1	1	4	2	1	2
Switzerland	2	2	3	3	3	3	3	1
United Kingdom	2	1	2	1	3	1	3	2
United States of America	4	3	3	4	4	4	2	3

*Legend:* 1. This is definitely true for my country; 2. This is only partially true for my country; 3. There is only limited experience of this in my country; and 4. This is not present in my country.

*General structural elements of national qualifications systems:*

1. Countries where the end of secondary education leads into an apprenticeship with shared responsibility for programmes between an educational institution and a firm.
  2. Countries with an explicit framework linking qualifications from different educational and occupational sectors.
  3. Countries where a large proportion of a cohort engages in studies linked to a specific occupational area.
  4. Countries where the qualifications system is unified throughout its regions and control lies with one main agency or with government.
  5. Countries where entry to the labour market is regulated through qualification – most occupational sectors use this type of regulation.
  6. Countries where there is a clear national programme or system for recognising non-formal or informal learning.
  7. Unitised qualifications (large uptake) exist and units from different qualifications can be combined.
  8. Credentials are essential for entry to the labour market or higher education and for further progress in work or study.
- Source:* OECD, consultation with the countries.

### **Constructing macro variables with micro data: another second-best approach**

Another possible typology is to derive continuous quantitative indicators. Ideally one would like to measure whether the qualifications system promotes learning or not. An assumption made in the chapter is that the number of learners seeking a qualification, as

### Box 3.1. What do old data mean? Comparing the 1994 International Adult Literacy Survey and the 2004 Adult Literacy and Life Skills Survey

The International Adult Literacy Survey took place between 1994 and 1998. New data, from the Adult Literacy and Life Skills (ALL) survey, were released in May 2005 (OECD and Statistics Canada, 2005). Since the two surveys are based on the same theoretical corpus and collect similar data ten years apart, they could offer observations on two points in time. Unfortunately, the way questions are phrased in the more recent background questionnaire is different from that in the earlier survey. In addition, only five countries have carried out both surveys: Canada, Italy, Norway, Switzerland and the United States. Nevertheless, subject to some caveats, the surveys can be used to produce information on the main reasons for undertaking learning activities. In regard to those learners who are primarily seeking a qualification, the changes between the International Adult Literacy Survey and the Adult Literacy and Life Skills Survey for different countries are: from 40% to 33% in Canada, from 43% to 59% in Italy, from 22% to 44% in Norway, from 19% to 42% in Switzerland and from 28% to 36% in the United States. Two conclusions can be made: 1) except in Canada, seeking a qualification seems more important in 2004 than ten years ago; and 2) the general pattern of the ranking of the countries is maintained, again with the exception of Canada. This stability over time suggests that International Adult Literacy Survey data may still be helpful for understanding individuals' behaviour in the context of this book, even though it was collected ten years ago. Therefore, mainly because of the small number of countries involved in the Adult Literacy and Life skills survey and its poor overlap with countries participating in the OECD study presented here, it was decided to concentrate on the International Adult Literacy Survey data; the Adult Literacy and Life Skills Survey was not explored further.

compared to those learners for whom obtaining a qualification is not the primary goal, could be used as a proxy variable for describing the overall “conduciveness” of a qualifications system in promoting lifelong learning. The second approach used in this chapter involves the International Adult Literacy Survey (Box 3.1 and Annex 3.A3), which provides information on the reasons why adults participate in learning.

#### **Measuring conduciveness**

The International Adult Literacy Survey, despite being rather old (Box 3.1), provides information on participation in adult learning and the motivations for it. Participation is therefore used as a way of measuring lifelong learning even if it is but one component. For some individuals, the primary reason for participation is to seek a qualification (Box 3.2), while for others the primary motivation could be, *e.g.*, career upgrading or learning for its own sake. Since the learners were asked to give only one reason, it would be reasonable to conclude that the three categories are mutually exclusive, at least as far as the primary motivation goes. It may well be that a person learning for her/his personal consumption ends up being recruited thanks to the competences acquired – but it would still be the case that the initial purpose of the learning was not job-related. The proportion of individuals undertaking learning activities primarily for a qualification (Table 3.2 and 3.A2.4 in this chapter's annex) is consistent with the figures reported in the country background reports on learner motivation. This similarity of findings suggests that the International Adult Literacy Survey data can be used with confidence.

### Box 3.2. Characteristics of learners whose primary goal is to seek a qualification

To complement the evidence displayed on Figures 4.5-4.6 and 4.9-4.12, it is useful to describe the characteristics of the individuals primarily interested in achieving a qualification when they undertake learning activities. To some extent, informing decision making with the determinants of seeking a qualification also informs about the most effective ways to organise national qualifications systems. If the latter are to be used to promote lifelong learning, it is useful to know which subgroups of the population are more likely to be interested in using the qualifications system and which need extra attention, precisely because they are not interested in, and/or are deterred from, using it.

Throughout this chapter, the same question F5 from the IALS background questionnaire is used. It is phrased as follows: "Were you taking this training or education towards... (*read category/mark only one*).

1. A university degree/diploma/certificate?
2. A college diploma/certificate?
3. A trade-vocational diploma/certificate?
4. An apprenticeship certificate?
5. An elementary or secondary school diploma?
6. Professional or career upgrading?
7. Other."

For the purposes of this study, the seven categories are collapsed into two: seeking a qualification (items 1 to 5) or not (items 6 and 7). The variables obtained are used in a statistical model using many explanatory variables to describe those individuals primarily interested in a qualification when undertaking learning activities (Tables 3.A2.7 and 3.A2.8 in Annex 3.A2). In interpreting the following results, all other factors must be considered equal:

- Highly literate people are more interested in a qualification than people with low literacy. The variable measuring literacy level is more significant than the one describing initial educational attainment; the latter does not indicate the influence of initial education attainment on the primary objective of learning.
- Individuals in high-level occupations are less interested by a qualification when they undertake learning activities; blue collar workers and unemployed people are more interested in a qualification. Again, this finding must not be confused with the Matthew effect, which says that individuals already qualified are more interested in learning than others. Here, it is likely that individuals with poor labour market performance have realised that achieving a qualification is a necessity, evidence supported by the fact that the higher their income, the less individuals are interested in a qualification.
- Men want a qualification more often than women, and individuals who are not socially active want a qualification more often than those who are socially active.
- In countries such as Denmark, the Czech Republic and Australia, individuals are very interested in gaining a qualification. In countries such as Finland, Switzerland and Portugal, individuals undertaking learning activities do not seem very interested in a qualification. Finally, countries such as United States, Slovenia and Canada are in between these two extreme groups. This high level of discrepancy in the way individuals view gaining a qualification must have to do with the components and sub-components of their qualifications system as well as with its performance.

This evidence confirms the idea stated above that individuals engage in learning for a qualification for economic reasons and/or personal development.



Table 3.2. **Aggregated reasons for undertaking learning activities (first mention), 16-65 years old, 1994-98 (%)**

	Reasons for undertaking learning activities			Number of learning spells reported in the sample (%)
	Qualification	Career upgrading	Other	
<b>Australia</b>	<b>47<sup>1</sup></b>	<b>42</b>	<b>11</b>	<b>23<sup>2</sup></b>
<b>Belgium (Flanders)</b>	<b>23</b>	<b>30</b>	<b>36</b>	<b>11</b>
Canada	40	43	17	21
Chile	60	33	7	21
<b>Czech Republic</b>	<b>53</b>	<b>17</b>	<b>28</b>	<b>14</b>
<b>Denmark</b>	<b>23</b>	<b>54</b>	<b>23</b>	<b>33</b>
Finland	23	63	14	31
<b>Germany</b>	<b>9</b>	<b>66</b>	<b>25</b>	<b>11</b>
Hungary	21	46	28	14
<b>Ireland</b>	<b>48</b>	<b>27</b>	<b>25</b>	<b>19</b>
<b>Italy</b>	<b>43</b>	<b>47</b>	<b>11</b>	<b>–</b>
<b>Netherlands</b>	<b>25</b>	<b>23</b>	<b>51</b>	<b>28</b>
<b>New Zealand</b>	<b>35</b>	<b>47</b>	<b>18</b>	<b>23</b>
Norway	22	68	10	26
Poland	21	63	16	11
<b>Slovenia</b>	<b>39</b>	<b>55</b>	<b>5</b>	<b>28</b>
Sweden	6	–	93	31
<b>Switzerland</b>	<b>19</b>	<b>41</b>	<b>28</b>	<b>24</b>
<b>United Kingdom</b>	<b>27</b>	<b>19</b>	<b>54</b>	<b>23</b>
United States	28	48	17	19
<i>Average</i>	<i>29</i>	<i>44</i>	<i>24</i>	<i>22</i>

1. For example, in Australia, 47% of the adults reported undertaking learning activities to obtain a qualification for the first reported learning activity.

2. 23% of the individuals described a first education and training period.

The countries are listed in alphabetical order. The countries in bold are the ones involved in the OECD study.

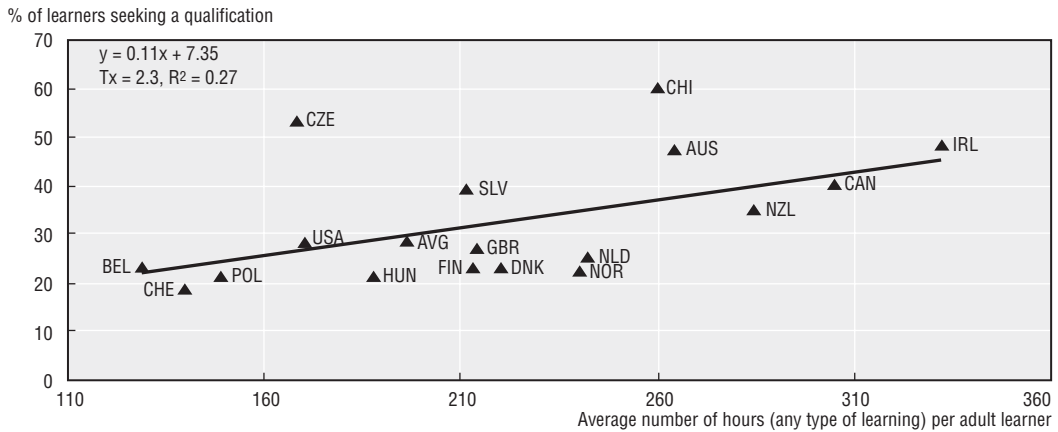
Source: International Adult Literacy Survey, processed by the authors.

The proportion of learners seeking a qualification is relatively high in the Czech Republic, Ireland, Australia and Italy, in that order (Table 3.2 and 3.A2.4 in this chapter's annex).<sup>5</sup> At the lower end (by some distance) are Sweden and Germany, followed by Switzerland, Hungary, Poland, Finland and Denmark. These data can be interpreted in different ways. As noted above, they give one indication of whether the qualifications system is more or less conducive to learning in a country. In fact, countries where the culture of learning is strong do not rank very high in these tables. The argument here could be that if learning is part of the culture, more people are likely to participate in learning for its own sake – seeking a qualification may not be the dominant motivation.

Before using the numbers from the International Adult Literacy Survey, it would be useful to provide further evidence on the robustness of the data on qualification seekers. It is well known that learning activities leading to a qualification are longer, or more intensive, than other learning activities. As can be seen from Figure 3.5, there is indeed a high degree of correlation between the average number of hours spent on learning, (whether job related or general interest), and the proportion of learners seeking a qualification. The fit displayed on Figure 3.6 when using job-related training instead of any kind of learning activities confirms that the proportion of learners seeking a qualification seems to be a reliable indicator.

**Figure 3.5. Intensity of learning (any type) and qualifications<sup>1</sup>**

Summary: The higher the proportion of learners interested in a qualification the higher the duration of the individual learning period (any type of learning).

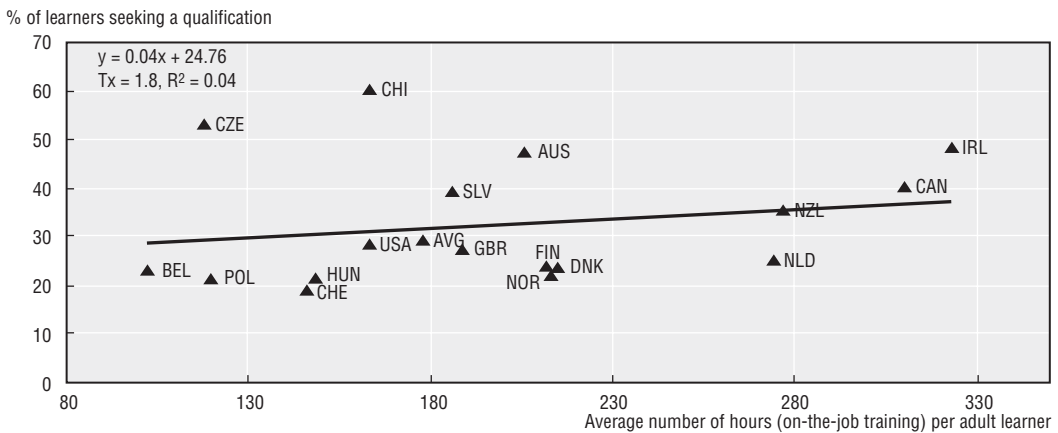


1. The quality of the model is acceptable but can be improved. Removing the potential outliers – Czech Republic and Chile (in italics) – ultimately results in a particularly good model:  $T_x = 4.2$  and  $R^2 = 0.57$  (where  $T_x$  is the student statistic – a value above 2 usually indicates a statistically significant parameter – and  $R^2$  the goodness of fit indicator –  $R^2$  varies between 0 [no correlation] and 1 [perfect correlation])

Source: International Adult Literacy Survey (2000), processed by the authors.

**Figure 3.6. Intensity of learning (on-the-job training) and qualifications systems<sup>1</sup>**

Summary: The higher the proportion of learners interested in a qualification the higher the duration of the individual learning period (on-the-job training).



1. The quality of the model becomes reasonable when removing the potential outliers (Czech Republic and Chile):  $T_x = 2.8$  and  $R^2 = 0.38$ .

Source: International Adult Literacy Survey (2000), processed by the authors.

### Measuring adult learning using the European Union Labour Force Survey (EULFS) and some national surveys

Along the same lines, the EULFS is used to derive aggregated indicators of lifelong learning. This survey is more recent than the IALS but it covers only European countries; some national surveys are used to complement it (Annex 3.A1). The surveys provide information on participation in adult learning in a given reference period, which is usually over the last four weeks or during the last twelve months. For the purposes of this analysis, an additional indicator is used that provides information on the duration of the learning activity, which gives an indication of its intensity. Both indicators are used in

Section 3.2 but, before turning to these findings, the next subsection attempts to illustrate the expected relationships when trying to link national qualifications systems and lifelong learning in quantitative terms.

### **Expected relationships**

#### ***Upper secondary education, tertiary attainment and national qualifications systems***

If national qualifications systems have a significant impact on lifelong learning, it should be possible to see that impact at several stages in education and training. The end of upper secondary education is typically the point where general qualifications are awarded in all the countries, and those qualifications usually open up access to tertiary education. Therefore, if national qualifications systems have an impact on lifelong learning, some characteristics of the system should be reasonably correlated with the proportion of individuals having successfully reached upper secondary education. The rationale assumes that a conducive system would most likely lead to many young people gaining a qualification at upper secondary education level.

However, the variable describing the proportion of the population that has attained upper secondary education level does not correlate well with the eight general structural elements used for the typology of a qualifications system (Table 3.1). A somewhat strong link was anticipated – but not found – between a country being rather “credentialist” and the proportion of people reaching upper secondary education level; the latter being necessary for success in the transition from initial education and training to working life (OECD, 2000).

The same kind of argument applies to the tertiary education system. If the qualifications system in a country provides clear benefits to young people leaving upper secondary education, then clear correlation must be visible between it and enrolments in tertiary education or completion rates. If on the other hand it does not provide enough benefits to users, then even if participation in tertiary education depends on others factors, there may be limited interest in enrolment on the part of upper secondary graduates. Here too a somewhat strong link was anticipated but not found between the country being rather “credentialist” and the proportion of people enrolling in tertiary education. In fact, among all the indicators used for lifelong learning, none correlates well with any of the eight general elements of the typology.

#### ***Participation in adult learning and national qualifications systems***

A qualifications system providing clear information about the outcomes of learning as well as guidance about the way to benefit from them can be expected to trigger interest in learning among the adult population. Lack of information and guidance may deter individuals. The data show that the proportion of 25-to-64-year-old individuals engaged in adult learning activities does not correlate well with any of the eight general elements of the national qualifications system typology. This is surprising because indicators such as the existence of a system that recognises prior learning or a credit system are supposed to be conducive to engaging in adult learning activities, because both provide transparency and information about outcomes and this motivates adults (OECD, 2003 and 2005a). Frameworks that provide the information about possible routes throughout the qualifications system similarly serve as incentives.

As noted above, deriving aggregated indicators that describe national qualifications systems using household surveys such as the IALS is a possible alternative and has been attempted as a second-best approach. Ideally, this requires having lifelong learning indicators for the same period, which are not available. However, existing data were used in many attempts to correlate the two sets of variables. One explanation for not finding a link between the proportion of adult learners seeking qualification and the eight general typology elements is the time lag between the IALS and the description of the country qualifications system according to the typology. In order to avoid the problem of time lags in data, the International Adult Literacy Survey could be used to derive indicators describing national qualifications systems, and lifelong learning indicators could be computed for the earlier period of the International Adult Literacy Survey. In doing so, both sets of derived indicators would be contemporaneous and the expected correlation better.

The above experiments represent only selected examples of how the available data could be used to explore the relationship between the qualifications system and lifelong learning. A comprehensive approach would require that all the components and sub-components of a system, as described in Chapter 1, be taken into account such as: flexibility, responsiveness and transparency, for example. For now, the next sections will show that national qualifications system characteristics and lifelong learning variables correlate to some extent.

### 3.2. An attempt at correlation

This section uses very broad descriptors of the national qualifications and lifelong learning systems to provide the reader with a first indication of possible links between the two. In view of the lack of data on the quality and the efficiency of lifelong learning, the section relies on data on two aspects: volume (participation) and equity (distribution).

#### *Evidence on participation in adult learning and the national qualifications systems*

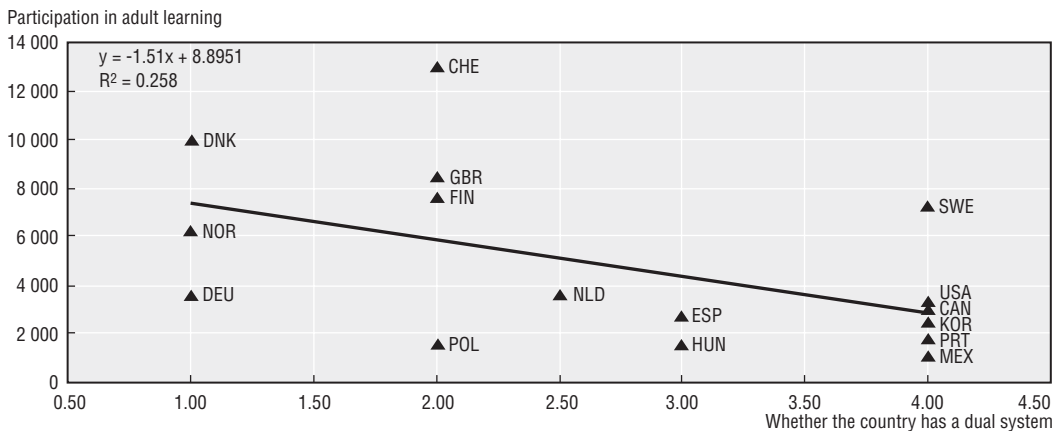
The volume of lifelong learning can be measured, for instance, by counting the number of participants over a given reference period, such as over the last four weeks or the last twelve months. Two alternative measures were used, the standard participation rate and the weighted participation rate. The information in Figure 3.7 attempts to bring together a measure of lifelong learning volume and one measure of national qualifications systems: the degree to which a country has a dual system, which is one of the eight structural elements of the national qualifications system typology shown in Table 3.1. The participation rate variable refers to the number of adults involved in learning between the ages of 16 and 65, weighted by the duration of the learning period. The figure shows a relationship between the two variables.

However, the standard participation rate does not correlate with the existence of a dual system in a country. This shows that different measures of participation in lifelong learning are related in different ways to different measures of national qualifications systems and it is difficult to find a straightforward relationship between the two.

Overall, the participation rate data drawn from the European Union Labour Force Survey and one measure of the national qualifications system typology (dual system) seem to show linkages between national qualifications systems and lifelong learning. Aside from the measure of dual systems, significant correlations between other measures of national qualifications systems and the measures of lifelong learning were not found.

Figure 3.7. **Participation in adult learning and the existence of a dual system in the country**

(Both the number of adult participants in learning and the duration of learning are taken into account.)  
 Summary: If a qualifications system has a dual system, the level of adult learning is higher.



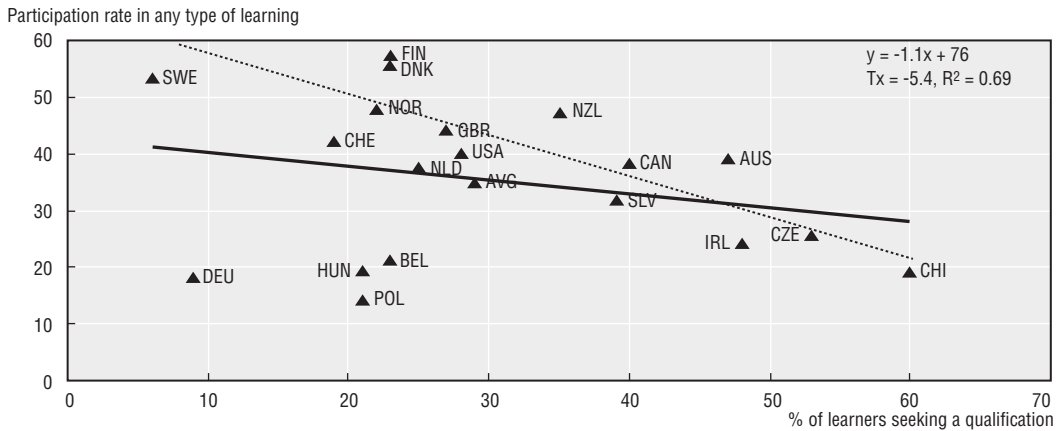
Source: Data from Miyamoto and Werquin (2006), processed by the authors.

### **Participation in adult learning and the conduciveness of qualifications system to learning**

As mentioned earlier, the IALS provides information on the motives for participating in learning activities. Figure 3.8 shows the relationship between the aggregate participation rate (the vertical axis) and the percentage of adults participating in learning primarily to obtain a qualification. The figure shows a negative correlation: the higher the proportion of individuals in a country that are primarily interested in a qualification, the lower the participation rate in adult learning activities. When the figure is reproduced using job-related adult learning, instead of any kind of adult learning, the findings are similar and confirm a strong relationship (Figure 3.9). Attention was drawn earlier to the costs and constraints involved in gaining qualifications, as well as their benefits. One interpretation of the data could be that in those countries where adult learning is closely associated with the gaining of qualifications, its costs outweigh its benefits and this depresses its levels of participation. However, this may not be the principal reason. It is noteworthy that the Nordic countries, where generally higher levels of adult learning are long established, feature towards the top left of Figures 3.8 and 3.9; this indicates that these countries have high levels of adult learning, but relatively few individuals involved are learning for a qualification. It therefore seems likely that in certain countries where adult learning has become part of the general culture, the learning takes place over and above individuals' requirement for qualifications. In other countries though, adult learning is more confined to some kind of "baseline" requirement for qualifications. This point is reinforced in the case of those who do not hold a qualification. The data also illustrate the point, made earlier, that there is a wider range of motivations, and that obtaining a qualification is simply one among several (*e.g.* personal interest, job upgrading, etc.). The findings in Figures 3.8 and 3.9 both show that learning and seeking a qualification are two separate concepts. (See also Box 3.2 for additional developments on the motivations of individuals.)

**Figure 3.8. Extent of lifelong learning: participation in adult learning (16-65), 1994-98<sup>1</sup>**

(Standard participation rate, over the last 12 months, as defined in the International Adult Literacy Survey.)  
 Summary: *The higher the proportion of learners seeking a qualification, the lower the proportion of adult learners in a country.*

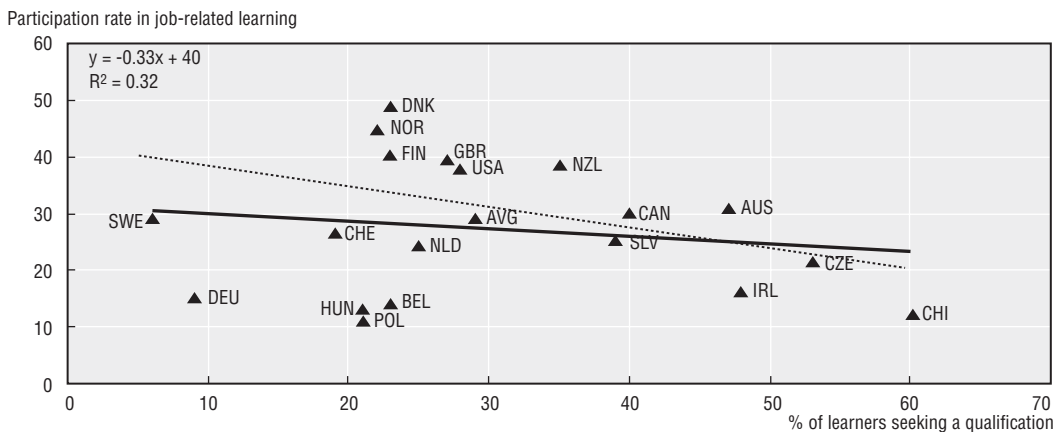


1. The quality of the model here also becomes reasonable when a few outliers such as Germany, Belgium (Flanders), Hungary and Poland are removed. It is not surprising that Germany, for instance, appears as an outlier because the German background questionnaire did not ask the question about adult learning in a comparable way to serve domestic purposes (OECD and Statistics Canada, 2000).

Source: International Adult Literacy Survey (2000), processed by the authors.

**Figure 3.9. Extent of lifelong learning: participation in job-related adult learning (16-65), 1994-98**

(Standard participation rate over the past 12 months, as defined in the International Adult Literacy Survey.)  
 Summary: *The higher the proportion of learners seeking a qualification, the lower the proportion of learners involved in job-related learning.*



Source: International Adult Literacy Survey (2000), processed by the authors.

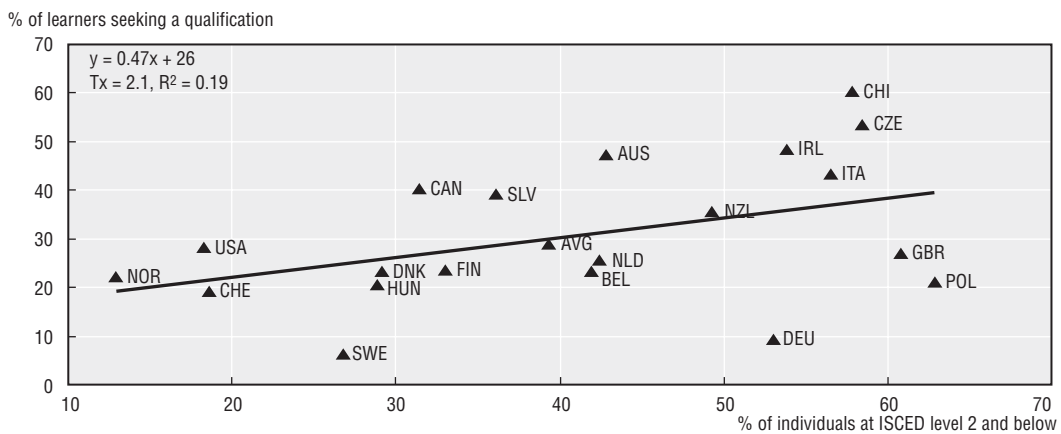
**National qualifications systems and the distribution of lifelong learning**

The second dimension relates to how equitably learning opportunities are distributed in the population. The question posed here is whether measures of lifelong learning distribution in some way relate to the features of national qualifications systems. Two distribution variables are used here: educational attainment (measured by the ISCED level of individuals<sup>6</sup>) and the current literacy level of the individuals (captured by their ability to read prose text), both from the International Adult Literacy Survey. As previously, the measure of national qualifications systems used is the proportion of adult learners who

seek a qualification. Figure 3.10 brings these two variables together and shows that the higher the proportion of a country’s population with low qualifications, the more likely learners are to be seeking qualifications. A simple conclusion might be that overall, learners with qualifications would not be as interested in seeking qualifications because they have some. However turning to individualised IALS data and then looking at those learners seeking qualifications by their current level of qualifications, we find that this simple conclusion is not true (Table 3.3). Whilst learners with qualifications still seek qualifications, those with low levels of qualifications are more likely to be seeking qualification than the highly qualified. Further statistical modelling confirms that those without significant initial qualifications are more likely to be motivated by qualifications when they undertake learning later in life (Box 3.2).

**Figure 3.10. Distribution of lifelong learning: low initial education and search for a qualification by learners**

*Summary: The higher the proportion of a country’s population with low qualifications, the more likely learners are to be seeking qualifications.*



Source: International Adult Literacy Survey (2000), processed by the authors.

**Table 3.3. Educational attainment and aggregated reasons for undertaking learning activities (first mention) 16-65 years old, 1994-98 (%)**

Educational attainment	Reasons for undertaking learning activities			
	Qualification	Career upgrading	Other	Unknown
ISCED 0-2 (Below upper secondary)	39	27	30	4
ISCED 3 (Upper secondary)	30	44	22	4
ISCED 5-7 (Tertiary)	22	53	22	3

Source: International Adult Literacy Survey (2000), processed by the authors.

This finding may be interpreted as an illustration of the “second chance” motivation, which is not just another chance for additional learning but also another chance for obtaining a qualification. On the face of it, the finding may be seen as contradictory to the Matthew effect (OECD, 2003): less qualified people participate less in learning activities than others. The Matthew effect is well documented and many reasons have been offered for the phenomenon: cost of learning, lack of time, dislike of assessment, fear of failure, and perception of stigma vis-à-vis the family, friends and the community. The finding here

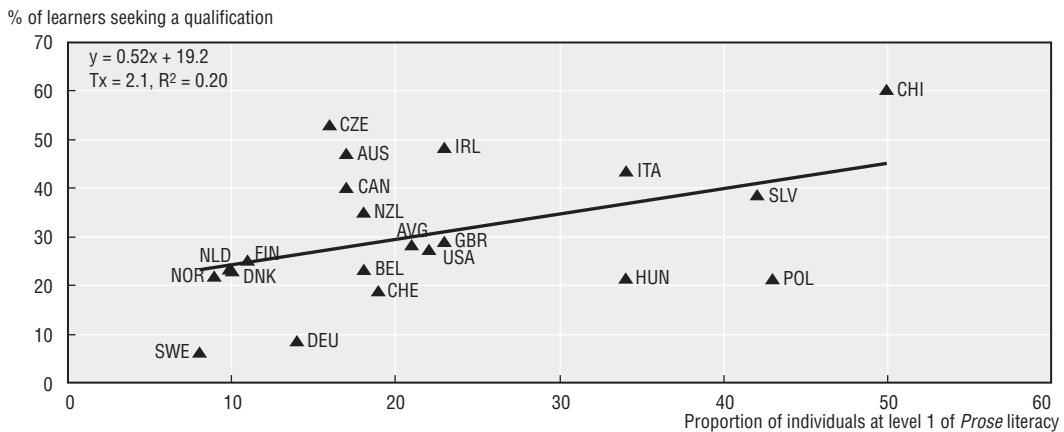
does not contradict the Matthew effect: issues of problematic access to learning are not relevant since only learners have been selected. This leaves motivation to learn as the key variable and it is perhaps not surprising that low-qualified learners wish to become more highly qualified. A clear conclusion is that the effect is more associated with barriers to learning; when only motivation to learn is considered, the effect is reversed. The Matthew effect is commonly accepted to be powerful. This conclusion suggests that barriers to learning are more influential than the evidence would indicate because the motivation factor of seeking a qualification may be hiding the effect's magnitude.

### *Literacy levels as a proxy for current competences*

Adult learning is an important component of lifelong learning, whether undertaken in formal settings or not. ISCED is a good indicator of the level attained in initial education and training, but not a comprehensive indicator of real competences later in life at the time of the measurement. The International Adult Literacy Survey data are useful for this purpose. The distribution of lifelong learning can be captured by analysing the size of the proportion of those at the lower end of the literacy scale. Using this variable, we find a positive correlation between the proportion of individuals at level 1 of prose literacy and the proportion of learners seeking a qualification (Figure 3.11). In countries where the proportion of less literate people is high, the proportion of people learning for a qualification is also high. This finding is consistent with that shown in Figure 3.10.

**Figure 3.11. Distribution of lifelong learning: individuals with very low literacy levels (Prose)**

*Summary: Learners with low literacy levels are more likely to be seeking a qualification than those with high literacy levels.*



Source: International Adult Literacy Survey (2000), processed by the authors.

Overall, the two previous sets of findings – about initial education attainment and current literacy level – offer interesting results. It seems that despite their weak participation rates in learning, poorly educated and less literate individuals are more interested in gaining a qualification. This finding is also supported by the information cited in Box 3.2. The explanation may be that individuals are aware of the potential benefits of holding a qualification, presumably in the labour market. One implication of the finding is the greater importance both of foundation qualifications for the poorly educated and of finding ways to address this need.



It is interesting to note that there is some clustering of countries in most of the figures. The data suggest that these countries have something in common, which may be systemic features of the qualifications system. However, it is difficult to test potential correlation within these groups because sub-sampling will necessarily involve small samples and the results may be unreliable.

### 3.3. Building a quantitative evidence base

It is now clear that quantitative evidence is limited and conclusions about relationships between national qualifications systems and lifelong learning have to be tentative. These limitations can come from three different sources: 1) it is possible that the national qualifications and/or lifelong learning systems have not been measured properly; 2) the relationship between national qualifications systems and lifelong learning is too complex to be measured at an aggregate level; and 3) there is, in reality, no relationship at all. These three limitations are now discussed.

#### *National qualifications systems are not measured properly*

The primary reason for finding only limited quantitative evidence in linking national qualifications systems and lifelong learning seems to be the failure to measure useful conceptual descriptions representing the former that can have implications for the latter. There exist quantitative data describing lifelong learning but, as pointed out above, the main problem is that indicators for describing a qualifications system do not exist or do not describe the system in an adequate way for sound quantitative analysis. Its features have been identified (Chapter 1) – accessibility, efficiency, flexibility, responsiveness, transparency, etc. – but they could not be measured. Therefore, a broader concept of conduciveness to learning has been derived from observing individuals' behaviour toward learning for a qualification. The chapter has presented a description of national qualifications systems through general structural elements in the form of a typology (Table 3.1) as a second-best approach.

The 20 mechanisms provided in Chapter 4 also describe the process through which the links between national qualifications systems and lifelong learning can be examined. However, they could only be established at a qualitative level and no attempt has been made here to find quantitative empirical counterparts. New conceptual work is therefore needed to identify the features of national qualifications systems that can be measured, or – if the ones proposed are satisfactory – to suggest a methodology to measure them.

Even with regard to lifelong learning indicators, where relevant data exist, some effort could be devoted to produce fresher data also in line with recent reforms likely to impact on lifelong learning activities. Trend data would also be necessary to appreciate changes over time and the impact of recent reforms.

#### *A relationship too complex to measure at an aggregate level*

In addition to the conceptual and empirical problems of measuring systemic features, it is possible that the quantitative findings reported above are limited, simply because the relationship between national qualifications systems and lifelong learning is too complex and has not been properly captured in the above experiment. In particular, it may be difficult to measure the processes through data at an aggregate level. The complexity of this relationship is underscored by the sheer number of *mechanisms* that can link national qualifications systems and lifelong learning (Chapter 4). Rather than map out broad quantitative variables measured at the macro level, it would probably be better to examine

micro-level relationships between sub-components – *e.g.* the *scope of application* or *control* (Annex 1.A2) of qualifications systems and lifelong learning.

In addition to (and probably because of) this complexity, it is likely that there are cancelling effects too: different mechanisms may have impacts that run counter to each other. In this case, they would blur the clarity of the overall findings, or reduce the net effect. For example, a given policy targeted at qualifications systems may motivate a subgroup of the population to undertake learning activities but may discourage another sub-group from doing so. The overall effect would be difficult to observe. Attempting to identify a net effect between national qualifications systems and lifelong learning with aggregated variables is also not entirely appropriate, because aggregated variables are often correlated with other, hidden variables that must be controlled for.

### ***A relationship that may not be displayable at a quantitative empirical level***

Finally, there remains a possibility that there is no relationship at all that can be displayed at a quantitative empirical level. However, it is difficult to infer further and clearly deny such a relationship until the two sets of issues above are dealt with in an appropriate manner. The indications from Chapter 4, based on qualitative evidence, suggest that there is such a relationship.

### ***A key positive finding of the quantitative analysis***

In general, high levels of motivation to seek qualifications are not a necessary condition for achieving high levels of lifelong learning. However, there is a very important exception. Those who have not achieved a qualification at ISCED 3 or above and/or who have low levels of literacy are more likely than others to be seeking a qualification when they undertake learning. It may be that the offer of a credible “second chance” qualification can play an important part in motivating such people to learn.

### ***Possible ways forward***

Having considered the limitations, and having suggested that there are relationships between national qualifications systems and lifelong learning that can be described at the theoretical level, the discussion must now turn to proposals for overcoming those limitations.

First, it is necessary to gather evidence on the opinion of individual users and potential users about the conduciveness (transparency, responsiveness, etc.) of the qualifications system for promoting learning. Individual or household surveys should be used more systematically to collect information about the perception individuals have of their qualifications system. These additional short modules would have the merit of providing affordable key quantitative elements in a relatively short period. Such an approach would also, via an existing survey, allow for some enrichment of the analysis by using relevant variables usually collected in these surveys: for example gender, educational attainment, labour market status, social background and occupation.

Second, information should be gathered on the features that best describe qualifications systems for a sound quantitative analysis. One possible approach is to organise a group of international experts to ascertain these characteristics and the best way to conceptualise and define them at an international level. The proposed typology is a first step toward a quantitative knowledge of complex systems. It requires additional

discussion with country experts and further refinement, but is a first step toward an agreed typology.

### **Setting an agenda for research**

Linking indicators describing national qualifications systems and lifelong learning variables has proved a difficult exercise, because it requires many conditions to be met, and appropriate variables to be available, for the appropriate period of time. There are lessons to be learned; the following represent key elements of a research agenda for the future:

- There is a need for sound conceptual work about the best way to define systemic variables and to produce appropriate indicators describing national qualifications systems.
- There is a need for research on the best way to relate national qualifications systems to lifelong learning through quantitative variables.
- There is a need for international data to be collected as an empirical counterpart for the conceptual work proposed above.
- There is a need for a stronger focus on micro relationships, at the level of the components and sub-components of qualifications systems.

In addition to specific data, trend data will also be necessary. This will take time and effort but it would allow for more appropriate reflection on the way national qualifications and lifelong learning systems evolve. Stability in the way variables are measured may be needed as well. If national qualifications systems are to become a policy tool, policy makers will have to be more thoroughly informed about current data as well as trend data to avoid fragmentation of policy making.

Finally, the data collection process may have to leave the circle of direct benefits to lifelong learning, and gather information on broader social effects such as those related to crime or health factors.

### **Notes**

1. The 1997 reform, for instance, created level 4. This had a direct effect on the number of people that used to be classified in the level 3 but it also produced inconsistent classification across countries. Along the same lines, the creation of sub categories A, B and C generated even more inconsistencies across countries as well as breaks in the time series.
2. The level considered by experts as a suitable minimum level for coping with the increasing demands of the emerging knowledge society and information economy is level 3 (OECD and Statistics Canada, 1995).
3. See for instance QCA (Qualification and Curriculum Authority) (2004) and Chapter 4 in particular for similar conclusions.
4. It was not possible to request a consensus decision from a range of stakeholders in each country. Nor was it possible to define in detail the parts of the education and training system that were to be covered, such as school education or tertiary education. Instead, country experts with an overview of education and training provision were asked to make a decision based on a general view of the country's provision.
5. Chile is the top-ranked country but did not participate in the activity.
6. Other variables, such as the average number of years of schooling or the proportion of individuals having ISCED level 3 and above, provide also good correlation.

## ANNEX 3.A1

*Assumption, Caveats and Technical Notes*

The analysis of quantitative data is always based on certain assumptions about those data. This annex groups together assumptions, caveats and notes to the reader concerning the national qualifications system typology and adult learning data so as to avoid cluttering the main text with technicalities.

- Assumption – Chapter 3 assumes that individual motivation for learning for a qualification or for some other purpose carries useful information about the qualifications system. When more individuals are observed undertaking learning for a qualification, that is interpreted to mean that the qualifications system facilitates or leads to learning. Counting the number of individuals primarily seeking a qualification is thus an indicator of the qualifications system.
- Note 1 – For the sake of comparison, and to provide additional benchmarking points, all the countries where data are available are included in the figures and tables whether they have participated in the study or not. This is particularly useful for the countries involved in the study in some way other than through a country background report – thematic groups, for instance. From a technical point of view, this also allows for a larger sample size, which makes any reported correlations more robust.
- Note 2 – Not all the countries are systematically displayed in the tables and figures because there are missing values for some countries and/or particular year(s).
- Note 3 – In some cases the available data may refer at times to the country as a whole (Belgium, Canada, Switzerland or the United Kingdom) but in other instances the data may only cover a region of the country (Belgium’s Flemish Community, Québec, the German-speaking Swiss cantons or England).
- Note 4 – The European Union Labour Force Survey (EULFS) does contain interesting questions related to education and training. However, it does not include questions related to individuals’ main goal(s) when undertaking learning activities. This survey is therefore used only to derive an indicator of participation in adult learning – except for the Netherlands (2001) and Switzerland (2003), for which national surveys are used.
- Note 5 – To complement the European Union Labour Force Survey (Eurostat, 2002), which covers only European countries, national surveys were used: Statistics Canada (2002); Mexico’s *Instituto Nacional de Estadística Geografía e Informática (INEGI)* (2001); Korean Ministry of Education and Human Resources Development (2000); Korean National Statistics Office (2003); United States National Center for Education Statistics (2001).

- Note 6 – The Adult Literacy and Life skills survey (ALL) is an updated and improved version of the International Adult Literacy Survey, but it will not be used here except for establishing the value of the latter (Box 3.1). Too few countries (seven) were involved in the first round (OECD and Statistics Canada, 2005), the only one available at the time this book was being prepared.

## ANNEX 3.A2

*Additional Tables*Table 3.A2.1. **Participation in adult learning by type of learning, 16-64 years old, 1994-98 (%)**

	All learning		Job related learning	
	Total participation rate (female rate)	Mean number of hours per participant, taken as indicator for quality	Participation rate	Mean number of hours per participant, taken as indicator for quality
<b>Australia</b>	<b>39 (40)<sup>1</sup></b>	<b>264</b>	<b>33</b>	<b>206</b>
<b>Belgium (Flanders)</b>	<b>21 (20)</b>	<b>129</b>	<b>14</b>	<b>102</b>
Canada	38 (42)	305	32	310
Chile	19 (27)	260	11	163
<b>Czech Republic</b>	<b>26 (23)</b>	<b>168</b>	<b>21</b>	<b>118</b>
<b>Denmark</b>	<b>56 (63)</b>	<b>220</b>	<b>48</b>	<b>213</b>
Finland	57 (67)	213	40	214
<b>Germany<sup>2</sup></b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Hungary	19 (21)	188	13	148
<b>Ireland</b>	<b>24 (30)</b>	<b>332</b>	<b>19</b>	<b>323</b>
<b>Italy</b>	<b>(26)</b>			
<b>Netherlands</b>	<b>37 (39)</b>	<b>242</b>	<b>25</b>	<b>274</b>
<b>New Zealand</b>	<b>47 (51)</b>	<b>284</b>	<b>41</b>	<b>277</b>
Norway	48 (50)	240	45	213
Poland	14 (13)	149	11	120
<b>Portugal</b>	<b>14 (20)</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Slovenia</b>	<b>32 (41)</b>	<b>211</b>	<b>25</b>	<b>186</b>
Sweden	53 (53)	-	-	-
<b>Switzerland</b>	<b>42 (41)</b>	<b>140</b>	<b>27</b>	<b>146</b>
<b>United Kingdom</b>	<b>44 (47)</b>	<b>214</b>	<b>41</b>	<b>189</b>
United States	40 (42)	170	38	163
<i>Average</i>	<i>35 (35)</i>	<i>196</i>	<i>30</i>	<i>178</i>

1. For example, in Australia, 39% of the adult population has undertaken learning activities over the past 12 months (the rate is 40% for the female population).

2. Not comparable for Germany.

The countries are listed in alphabetical order. The countries in bold are involved in the OECD study.

Source: International Adult Literacy Survey (2000), processed by the authors.

Table 3.A2.2. **Proportion of the population at each literacy level (Prose), 16-64 years old, 1994-98 (%)**

	Prose literacy levels (distribution)				% of individuals still in initial education and training
	Level 1	Level 2	Level 3	Level 4/5	
<b>Australia</b>	17 <sup>1</sup>	27	37	19	8
<b>Belgium (Flanders)</b>	18	28	39	14	12
Canada	17	26	35	23	–
Chile	50	35	13	2	11
<b>Czech Republic</b>	16	38	38	8	12
<b>Denmark</b>	10	36	48	7	17
Finland	10	26	41	22	22
<b>Germany</b>	14	34	38	13	1
Hungary	34	43	21	3	6
<b>Ireland</b>	23	30	34	14	7
<b>Italy</b>	34	31	27	8	9
<b>Netherlands</b>	11	30	44	15	10
<b>New Zealand</b>	18	27	35	19	5
Norway	9	25	49	18	24
Poland	43	35	20	3	12
<b>Portugal</b>	48	29	19	4	13
<b>Slovenia</b>	42	35	20	3	17
Sweden	8	20	40	32	–
<b>Switzerland</b>	19	35	37	9	6
<b>United Kingdom</b>	22	30	31	17	4
United States	21	26	32	21	8
<i>Average/Total</i>	23	29	32	16	–

1. For example, in Australia, 17% of the adult population is in the first literacy level.

The countries are listed in alphabetical order. The countries in bold are involved in the OECD study.

Source: International Adult Literacy Survey (2000), processed by the authors.

Table 3.A2.3. **Pathways into learning: first, second and third reported learning activities aggregated, 16-64 years old, 1994-98 (%)**

	Main pattern of the learning pathway					
	University or college qualification	Trade-voc or app. qualification	School qualification	Professional upgrading	Other	Mixed pathways
<b>Australia</b>	<b>13<sup>1</sup></b>	<b>16</b>	<b>8</b>	<b>42</b>	<b>10</b>	<b>9</b>
<b>Belgium (Flanders)</b>	<b>6</b>	<b>14</b>	<b>1</b>	<b>30</b>	<b>35</b>	<b>3</b>
Canada	19	6	12	43	16	4
Chile	25	17	15	32	5	5
<b>Czech Republic</b>	<b>1</b>	<b>25</b>	<b>24</b>	<b>17</b>	<b>25</b>	<b>6</b>
<b>Denmark</b>	<b>7</b>	<b>7</b>	<b>5</b>	<b>53</b>	<b>19</b>	<b>9</b>
Finland	8	5	6	62	12	7
<b>Germany</b>	<b>2</b>	<b>5</b>	<b>1</b>	<b>64</b>	<b>22</b>	<b>5</b>
Hungary	9	6	2	46	26	7
<b>Ireland</b>	<b>24</b>	<b>10</b>	<b>12</b>	<b>26</b>	<b>24</b>	<b>2</b>
<b>Italy</b>	<b>35</b>	<b>3</b>	<b>0</b>	<b>45</b>	<b>9</b>	<b>7</b>
<b>Netherlands</b>	<b>9</b>	<b>9</b>	<b>5</b>	<b>21</b>	<b>50</b>	<b>6</b>
<b>New Zealand</b>	<b>19</b>	<b>6</b>	<b>4</b>	<b>46</b>	<b>17</b>	<b>7</b>
Norway	11	8	0	67	9	4
Poland	6	14	–	63	14	3
<b>Portugal</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>	<b>–</b>
<b>Slovenia</b>	<b>13</b>	<b>4</b>	<b>14</b>	<b>56</b>	<b>5</b>	<b>8</b>
Sweden	11	3	0	–	82	3
<b>Switzerland</b>	<b>5</b>	<b>11</b>	<b>0</b>	<b>39</b>	<b>27</b>	<b>6</b>
<b>United Kingdom</b>	<b>8</b>	<b>7</b>	<b>5</b>	<b>17</b>	<b>53</b>	<b>10</b>
United States	15	5	6	48	17	2
<i>Average/Total</i>	<i>14</i>	<i>6</i>	<i>6</i>	<i>43</i>	<i>23</i>	<i>5</i>

1. For example, in Australia, for 13% of the adult learners, the purpose of learning has a dominant in terms of “university or college qualification” for the three learning periods.

The countries are listed in alphabetical order. The countries in bold are involved in the OECD study.

Source: International Adult Literacy Survey (2000), processed by the authors.



**Table 3.A2.4. Aggregated reasons for undertaking learning activities (first, second and third mention), 16-64 years old, 1994-98 (%)**

	Reasons for undertaking learning activities			Number of learning spells reported in the sample (%)
	Qualification	Career upgrading	Other	
<b>Australia</b>	<b>47/22/14<sup>1</sup></b>	<b>42/63/75</b>	<b>11/13/11</b>	<b>23/9/5<sup>2</sup></b>
<b>Belgium (Flanders)</b>	<b>23/15/15</b>	<b>30/36/37</b>	<b>36/33/28</b>	<b>11/4/3</b>
Canada	40/22/28	43/62/57	17/16/15	21/7/5
Chile	60/24/7	33/67/86	7/9/7	21/5/2
<b>Czech Republic</b>	<b>53/43/26</b>	<b>17/17/16</b>	<b>28/23/20</b>	<b>14/6/2</b>
<b>Denmark</b>	<b>23/10/6</b>	<b>54/68/70</b>	<b>23/21/23</b>	<b>33/14/8</b>
Finland	23/11/11	63/73/73	14/16/16	31/14/8
<b>Germany</b>	<b>9/8/2</b>	<b>66/68/77</b>	<b>25/23/18</b>	<b>11/4/1</b>
Hungary	21/9/2	46/55/51	28/29/27	14/3/2
<b>Ireland</b>	<b>48/15/9</b>	<b>27/41/38</b>	<b>25/28/22</b>	<b>19/5/3</b>
<b>Italy</b>	<b>43/14/7</b>	<b>47/73/80</b>	<b>11/13/13</b>	
<b>Netherlands (the)</b>	<b>25/13/10</b>	<b>23/21/22</b>	<b>51/67/69</b>	<b>28/9/3</b>
<b>New Zealand</b>	<b>35/22/16</b>	<b>47/57/66</b>	<b>18/21/18</b>	<b>23/10/5</b>
Norway	22/8/5	68/82/86	10/10/9	26/13/6
Poland	21/15/6	63/78/81	16/5/7	11/2/1
<b>Portugal</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>15/2/1</b>
<b>Slovenia</b>	<b>39/6/5</b>	<b>55/82/80</b>	<b>5/10/9</b>	<b>28/8/3</b>
Sweden	6/31/-	-/-/-	93/64/-	31/7/0
<b>Switzerland</b>	<b>19/5/3</b>	<b>41/37/32</b>	<b>28/28/20</b>	<b>24/10/5</b>
<b>United Kingdom</b>	<b>27/11/9</b>	<b>19/23/27</b>	<b>54/64/63</b>	<b>23/12/6</b>
United States	28/18/17	48/40/31	17/11/9	19/7/5
<i>Average</i>	<i>29/17/15</i>	<i>44/44/38</i>	<i>24/21/17</i>	<i>22/8/4</i>

1. For example, in Australia, 47% of the adults reported undertaking learning activities to obtain a qualification for the first reported learning activity, 22% for the second and 14% for the third.

2. 23% of the individuals described a first education and training period, 9 a second and 5 a third.

The countries are listed in alphabetical order. The countries in bold are involved in the OECD study.

Source: International Adult Literacy Survey (2000), processed by the authors.

**Table 3.A2.5. Level of educational attainment of the individual looking for a qualification, first reported learning activity, 16-64 years old, 1994-98 (%)**

	ISCED					Total
	0-1	2	3	5	6-7	
<b>Learners seeking a qualification:</b>						
University degree, diploma or certificate	0	2 <sup>1</sup>	<b>44</b>	<b>23</b>	<b>30</b>	11.4
College diploma or certificate	1	<b>31</b>	<b>39</b>	19	9	4.5
Trade/vocational diploma or certificate	5	<b>28</b>	<b>43</b>	14	10	4.5
Apprenticeship certificate	5	<b>39</b>	<b>42</b>	4	9	2.3
Elementary or secondary school diploma	<b>10</b>	<b>71</b>	<b>17</b>	1	2	6.2
<b>Learners seeking other than a qualification:</b>						
Professional or career upgrading	2	12	<b>35</b>	16	<b>33</b>	<b>43.7</b>
Other	5	<b>24</b>	<b>33</b>	12	<b>25</b>	23.6
Total	3.6	19.5	<b>35.3</b>	14.6	<b>27.7</b>	98.7/96.2 <sup>2</sup>

1. For example, among the learners seeking a university degree, 2% have attained ISCED level 2 upon leaving initial education and training.

2. Not necessarily 100% because of non-response.

Source: International Adult Literacy Survey (2000), processed by the authors.

**Table 3.A2.6. Motivation of individual undertaking learning activities according to level of educational attainment, first reported learning activity, 16-64 years old, 1994-98 (%)**

ISCED	Reasons for undertaking learning activities:							Total
	Learners seeking a qualification					Learners seeking other than a qualification		
	University degree, diploma or certificate	College diploma or certificate	Trade-vocational/ diploma or certificate	Apprenticeship certificate	Elementary or secondary school diploma	Professional or career upgrading	Other	
0-1	0	2 <sup>1</sup>	6	3	16	26	30	3.6
2	1	7	7	5	22	27	29	19.5
3	14	5	5	3	3	44	22	35.3
5	18	6	4	1	0	48	19	14.6
6-7	13	2	2	1	0	56	23	27.7
Total	11.4	4.5	4.5	2.3	6.2	43.7	23.6	96.2/98.7 <sup>2</sup>

1. For example, among the individuals being ISCED 0 or 1, 2% are seeking a university degree, diploma or certificate.

2. Not necessarily 100% because of non-response.

Source: International Adult Literacy Survey (2000), processed by the authors.

**Table 3.A2.7. Logit simple, complete specification, 16-64 years old, 1994-98 (%)**

	Estimated parameter	Probability >  T
Intercept	1.9**	0.00
Literacy score (the best of the three available scales: <i>Prose, Doc, Quant</i> )	0.002**	0.00
<i>Income</i> (reference: percentile 0-20):		
No income	0.06	0.48
Percentile 20-40	-0.42**	0.00
Percentile 40-60	-0.86**	0.00
Percentile 60-80	-1.37**	0.00
Percentile 80-100	-1.34**	0.00
<i>Occupation</i> (reference: white-collar high-skilled):		
White-collar low-skilled	0.06	0.25
Blue-collar high-skilled	0.18**	0.01
Blue-collar low-skilled	0.19**	0.00
Out of labour force	0.65**	0.00
<i>Educational attainment</i> (reference: ISCED 0 or 1):		
ISCED 2	0.12	0.26
ISCED 3	0.03	0.78
ISCED 5	0.2	0.08
ISCED 6 or 7	0.09	0.44
<i>Industry</i> (reference: agriculture, only the significant industries are kept):		
Mining	-0.52*	0.02
Construction	0.22	0.07
Communication	-0.22	0.08
<i>Personal characteristics</i> :		
Live with partner (reference: lives alone)	-0.38**	0.00
Gender (reference: male)	0.29**	0.00
Age	-0.07**	0.00
<i>Engagement in the community</i> (reference: often):		
Going to a library: barely	-0.58**	0.00
Going to a library: never	-0.87**	0.00
Going to a concert: barely	-0.07	0.22
Going to a concert: never	-0.1	0.15
Going to a sports event: barely	-0.04	0.28
Going to a sports event: never	0.05	0.25
Working in the community or NGOs: barely	0.16**	0.00
Working in the community or NGOs: never	0.19**	0.00

Table 3.A2.7. **Logit simple, complete specification, 16-64 years old, 1994-98 (%)** (cont.)

	Estimated parameter	Probability >  T
<i>Countries</i> (reference: United States):		
<b>Australia</b>	<b>0.67**</b>	<b>0.00</b>
<b>Belgium (Flanders)</b>	<b>-0.68**</b>	<b>0.00</b>
Canada	0.13	0.17
Chile	-0.97**	0.00
<b>Czech Republic</b>	<b>0.75**</b>	<b>0.00</b>
<b>Denmark</b>	<b>1.54**</b>	<b>0.00</b>
Finland	-2.59**	0.00
<b>Germany</b>	<b>-0.67**</b>	<b>0.00</b>
Hungary	-0.67**	0.00
<b>Ireland</b>	<b>-0.84**</b>	<b>0.00</b>
<b>Italy</b>	<b>0.04</b>	<b>0.74</b>
<b>Netherlands</b>	<b>-0.2</b>	<b>0.09</b>
<b>New Zealand</b>	<b>-1.01**</b>	<b>0.00</b>
Norway	-0.68**	0.00
Poland	-0.06	0.50
<b>Portugal</b>	<b>-1.11**</b>	<b>0.00</b>
<b>Slovenia</b>	<b>-15.91</b>	<b>0.89</b>
Sweden	-0.14	0.17
<b>Switzerland</b>	<b>-2.68**</b>	<b>0.00</b>
<b>United Kingdom</b>	<b>-0.31**</b>	<b>0.00</b>

Likelihood ratio test: 0.00.

\*/\*\*: The number in the right-hand side column is the error that one should accept to reject the assumption that the estimated parameter is nil, i.e. to accept that it is statistically significant. It is usually accepted that estimated parameters are significant when the error is below 5% (0.05) – these are flagged with \* – and very significant when it is below 1% (0.01) – there are flagged with \*\*.

The countries are listed in alphabetical order. The countries in bold are involved in the OECD study.

Source: International Adult Literacy Survey (2000), processed by the authors.

Table 3.A2.8. **Logit simple, three aggregated variables and gender, 16-64 years old, 1994-98 (%)**

<i>Dependent variable:</i> "towards a qualification" (Items 1-5 in question F5)				
Estimated parameter (and probability >  T )				
Explanatory variables:	Very highly literate (4 and 5)	High-level job (white collar highly skilled and high income)	Highly educated (ISCED 567)	Gender (male)
<b>Australia</b>	<b>0.2 (0.00)**</b>	<b>-0.9 (0.00)**</b>	<b>-0.0 (0.94)</b>	<b>0.21 (0.00)**</b>
Belgium (Flanders)	0.2 (0.36)	-1.6 (0.02)*	-0.9 (0.00)**	-0.2 (0.44)
Canada	0.2 (0.09)	-1.3 (0.00)**	-0.3 (0.00)**	0.5 (0.00)**
Chile	0.0 (0.97)	-2.2 (0.00)**	0.2 (0.18)	-0.3 (0.03)*
<b>Czech Republic</b>	<b>-0.2 (0.22)</b>	<b>-0.3 (0.09)</b>	<b>-0.4 (0.02)*</b>	<b>0.3 (0.05)*</b>
<b>Denmark</b>	<b>0.5 (0.00)**</b>	<b>-1.8 (0.00)**</b>	<b>-0.05 (0.00)**</b>	<b>-0.1 (0.40)</b>
Finland	1.1 (0.00)**	-1.3 (0.00)**	-1.2 (0.00)**	0.1 (0.36)
<b>Germany</b>	<b>0.3 (0.37)</b>	-	<b>-1.6 (0.02)*</b>	<b>-0.4 (0.31)</b>
Hungary	0.1 (0.58)	-0.3 (0.27)	-0.4 (0.10)	0.2 (0.25)
<b>Ireland</b>	<b>-0.0 (0.77)</b>	<b>-1.4 (0.00)**</b>	<b>0.23 (0.24)</b>	<b>0.4 (0.02)*</b>
<b>Italy</b>	<b>0.2 (0.22)</b>	<b>-2.8 (0.00)**</b>	<b>-1.6 (0.00)**</b>	<b>-0.2 (0.20)</b>
<b>Netherlands</b>	<b>0.6 (0.00)**</b>	<b>-1.3 (0.00)**</b>	<b>-0.2 (0.20)</b>	<b>0.4 (0.01)**</b>
<b>New Zealand</b>	<b>0.3 (0.02)*</b>	<b>-1.1 (0.00)**</b>	<b>-0.2 (0.15)</b>	<b>-0.1 (0.23)</b>
Norway	0.0 (0.87)	-2.3 (0.00)**	1.2 (0.00)**	-0.2 (0.10)
Poland	-0.4 (0.22)	-0.2 (0.42)	-0.5 (0.13)	0.58 (0.02)*
<b>Portugal</b>	-	-	-	-
<b>Slovenia</b>	<b>0.7 (0.00)**</b>	<b>-1.4 (0.00)**</b>	<b>-1.1 (0.00)**</b>	<b>-0.3 (0.00)**</b>
Sweden	0.4 (0.20)	-	0.2 (0.38)	-0.3 (0.32)
<b>Switzerland</b>	<b>0.5 (0.00)**</b>	<b>-1.4 (0.00)**</b>	<b>-0.1 (0.35)</b>	<b>0.4 (0.00)**</b>
<b>United Kingdom</b>	<b>0.3 (0.00)**</b>	<b>-1.3 (0.00)**</b>	<b>0.3 (0.00)**</b>	<b>0.0 (0.90)</b>
United States	-0.0 (0.76)	-1.2 (0.00)**	-0.3 (0.03)*	0.24 (0.06)

\*/\*\*: The number in brackets is the error that one should accept to reject the assumption that the estimated parameter is nil, i.e. to accept that it is statistically significant. It is usually accepted that estimated parameters are significant when the error is below 5% (0.05) – these are flagged with \*, and very significant when it is below 1% (0.01) – these are flagged with \*\*.

The countries are listed in alphabetical order. The countries in bold are involved in the OECD study.

Source: International Adult Literacy Survey (2000), processed by the authors.

## ANNEX 3.A3

## International Adult Literacy Survey (IALS) Background Questionnaire

This annex provides the phrasing of the questions from which variables were derived for use in this chapter. Although the IALS was operated in different countries with different languages and cultural backgrounds, all the background questionnaires are similar. (They are available from [www.oecd.org/edu/literacy](http://www.oecd.org/edu/literacy).) The questions about “adult education” – from which the two questions below are extracted – were asked of all the individuals that have had periods of adult education in the 12 months preceding the interview. A maximum of three periods is described.

### Section F, on “adult education”

#### Question F1:

“During the past 12 months [...], did you receive any training or education including courses, private lessons, correspondence courses, workshops, on-the-job training, apprenticeship training, arts, crafts, recreation courses or any other training or education?”

#### Question F5:

“Were you taking this training or education towards... (read category/mark only one)

1. a university degree/diploma/certificate?
2. a college diploma/certificate?
3. a trade-vocational diploma/certificate?
4. an apprenticeship certificate?
5. an elementary or secondary school diploma?
6. professional or career upgrading?
7. other.”

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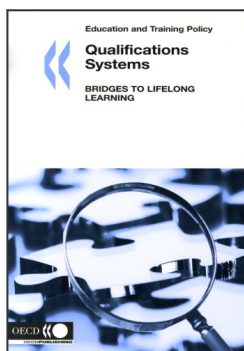
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