



# **FinALE “How to Invest”**

## **Financial Indicators for Adult Education**

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## PREFACE

Adult education is a broad term covering a range of learning by adults where the emphasis is on the learning being of value to the individual as well as to their community and the wider economy. While the benefits of vocationally orientated training are more directly measurable in quantifiable economic terms, the many benefits of adult education are often more intangible, relating to an individual's personal circumstances. When scarce resources are being allocated, there is the risk that the benefits of adult education are not fully recognised in the absence of quantitative evidence from other forms of learning and more general expenditure.

The purpose of these financial indicators is to redress this imbalance by identifying ways of measuring the answers to two questions:

“where are costs incurred”

and

“where is value added”

As with any set of indicators, care has to be taken in choosing which indicators to use, how the information is gathered and analysed and what conclusions should be drawn. At a system level, some indicators are relatively straight forward to apply, especially when considering input measures. More difficult is establishing indicators that can capture benefits, especially with respect to individual achievements which may also be affected by other factors outside the adult education environment. Appropriate use of indicators provides a framework for analysis and provides a more reliable basis for decision making.

The indicators and methodologies presented in this document are intended to inform the work of partners and, in particular, inform the recommendations being prepared by EAEA. The use of indicators is not a “magic bullet” which will solve the challenges of funding adult education. However they provide an approach which can inform policy discussions and decision making – ensuring that the contribution of adult education to the development of society is more fully recognised and supported.

## INTRODUCTION

The EU Thematic Working Group on financing adult education developed some preliminary indicators for funding policies and instruments<sup>1</sup>. The intention of this FinALE output is to take the preliminary TWG proposals a step further and establish solid indicators to be adopted by EAEA, its members and other stakeholders. Funding policies need to be assessed against the policy goals they want to achieve, and this intellectual output will prepare the basis for this. It is important to establish a linkage between the specific financing of adult education indicators and specific broader policy goals. These financing indicators are intended to complement other, non-financial indicators which will also link adult education provision with achievement of policy goals – including such as levels of participation or learning progression. It is envisaged that these FinALE outputs will be part of ongoing process to ensure sustained investment in adult education.

There is strong qualitative evidence for the importance of adult education to support the meeting of a wide range of both education and broader economic and social objectives<sup>2</sup>. There is, however, less quantitative evidence. While the costs of adult education are reasonably straight forward to measure, often the benefits are less tangible. For example, raising of personal self-esteem is often an important first step in supporting individuals to achieve their personal goals but it is often difficult to quantify the economic or social benefits that may come about – especially if the adult education is part of a wider support programme.

By establishing a set of Key indicators, the FinALE project will provide a framework for collecting and presenting the quantitative evidence to support the case for investment in adult education. Overtime, this framework can provide the basis for a body of evidence to be used by EAEA, its member organisations and others to demonstrate both the added value of adult education. This will help ensure that in an environment of scarce resources, adult education is properly supported. This quantitative evidence is intended to complement and strengthen the qualitative arguments supporting investment in adult education.

Chapter One presents indicators concerned primarily with the functioning of the adult education system itself. Chapter Two then presents indicators linking for the individual, economic and social policy areas; complementing and supporting qualitative reasons for investing in adult education. Chapter Three examines how benchmark values for chosen indicators can be produced – in particular how to develop financial values for the benefits of adult education provision. Chapter Four looks at the possibility of also considering a top down approach using international policy goals as a basis for defining specific linked adult education indicators. Annex 1 contains a list of the Indicators proposed. Annex 2 contains a list of the TWG Indicators and Annex 3 a summary slide “Wider Benefits of Learning in Limerick City from project Partner AONTAS.

The intention of FinALE is to provide a way for policy makers and other stakeholders less familiar with the adult education environment to understand the strengths and support required to ensure a healthy system. This output formed a core framework that Partners tested using local experience. The framework was then finalised in conjunction with the other outputs from the FinALE project and used by EAEA to produce a number of recommendations for policy makers based on the collective activities and outputs of the project.

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<sup>1</sup> [www.hm.ee/sites/default/files/thematic\\_wg\\_financing\\_report.pdf](http://www.hm.ee/sites/default/files/thematic_wg_financing_report.pdf)

<sup>2</sup> Benefits of Lifelong Learning in Europe (BELL) – [www.bell-project.eu](http://www.bell-project.eu)

## Chapter One – Performance of the Adult Education System

System Performance	Indicator	Potential data source
Investment in adult education	% of GDP invested in AE	Governmental estimates
Efficiency	Cost per learning hour	Provider estimates
Effectiveness	Return on Investment	Stakeholder estimates
Quality of staff	% of AE budget invested in staff development	Provider estimates
Quality of programmes	% of AE budget invested in course development	Provider estimates
Sustainability	% of course costs funded by individual/non-public sources	Provider estimates

A major pillar of consideration is the performance of the adult education system itself. Under investment will lower the ability of adult education to support the economic and social development objectives expected of it. Therefore it is important that there are indicators which enable both an appropriate allocation of resources is achieved and that resources are being used in an optimal manner. Use of these six indicators will enable an assessment to be made of the robustness of an adult education system. The absolute value of the indicator will need to be set in the context of a particular adult education system. Analysis over time will show whether the situation is improving, worsening or remaining constant. Reference to comparable systems will enable judgements to be made about the potential for improvement e.g. a need to invest in staff development to maintain and improve quality.

These indicators can be used at both a macro and micro level. National policy makers can use them to monitor and understand absolute levels of investments across broad sections of the adult education sector. Individual providers can also use them in regard to their own activities. Thus, for example, national policy makers can ensure that skills development in the adult education workforce adequately reflects the need for well trained staff to deliver the adult education required for a successful economic and socially strong society. Local providers can also ensure that their investment in staff development meets their own short and medium term priorities.

### **Investment in adult education**

*Proposed Indicator: Investment in adult education as a % of Gross Domestic Product (GDP)*

Mechanisms for measuring investment in adult education are comparatively under-developed compared with initial, secondary and higher education. In part this is due to the diversity of funding mechanisms – being a mix of public sector, individual, employer and third sector organisations. Consistently collecting and collating details of expenditure e.g. from public accounts of national and regional governments, household expenditure surveys and adult education providers themselves will provide a benchmark which can be used to indicate trends over time. While the “absolute” total may be inaccurate, identification of trends will highlight potential areas of concern should the level of expenditure be changing as a proportion of overall national Gross Domestic Product. The impact of policy objectives to rebalance “who pays for what” or the level of investment by particular stakeholder groups can be monitored to ensure that intended outcome is being achieved.

## **Efficiency**

*Proposed Indicator: Cost per learning hour*

It is important that the scarce resources invested in adult education are used in an efficient way. The scope of costs which should be taken into account include staff time, course materials, equipment and accommodation. (Consideration should also be given to cost borne by the student; time, travel, childcare etc.). Also relevant are costs of management and administration – including bidding and accounting for external funding. There will also need to be a mechanism for attributing investment in course development and learning infrastructure. While the costs of different courses or programmes will vary, establishing and monitoring the cost per learning hour will demonstrate that resources are well used. Significant improvements in costs per learning hour may be achieved through investment in alternative pedagogical approaches. Benchmarking between providers may highlight ways to improve efficiency while still maintaining quality of outcomes.

## **Effectiveness**

*Proposed Indicator: Return on investment*

The complexities of determining and valuing the benefits of adult education are examined in Chapter Four. Establishing the return on investment can still be achieved by setting expected outputs and outcomes for the investment made. This is simpler to achieve at the micro level where measures such as number of course completions, progression into further learning, entry into employment or participation in voluntary activities. Thus the return in investment may be expressed in a quantified measure even though not in a financial manner. Care is needed in setting the outputs and outcomes that reflect the aim of the adult education course or programme. (It may be an interesting exercise to convert policy objectives into a required budget using a combination of effectiveness and efficiency measures – ensuring resources match expectations).

## **Quality of Staff**

*Proposed Indicator: % of adult education budget invested in staff development*

Adult education staff are central to the ability of a provider to deliver high quality courses in an effective and efficient manner. Ensuring that staff knowledge and skills are kept up to date is important if standards are to be maintained and improved. While inadequate investment in staff development may not be immediately noticed, it will quickly lead to a loss of performance that is likely to outweigh any cost savings. Consideration should also be given to the personal development needs of adult education staff, both to fulfil their current job roles but also progress their careers. Thus having an indicator relating to staff quality is important in monitoring the ability of adult education providers to respond to the demands and expectations placed on them. It is therefore proposed that an indicator based on a % of the adult education budget invested in staff development is core to monitoring the performance of an adult education system.

## **Quality of Programmes**

*Proposed indicator: % of adult education budget invested in course development*

The basis of adult education provision are the courses delivered. Therefore it is important to ensure that existing courses are maintained to ensure that they remain “fit for purpose”. Even if the core content remains constant, adaptations may be appropriate to reflect the latest knowledge about a topic or refinements to delivery methods to reflect changing needs and circumstances of students. Investment is also required to develop new courses to meet new requirements and expectations. In particular, the advent of new technology and pedagogical developments provide opportunities to create new ways to learn as well as new topics to be covered. Such improvements can only be properly made with adequate investment. It is therefore proposed that an indicator based on a % of the adult education invested on course development is core to monitoring the performance of an adult education system.

## **Sustainability**

*Proposed indicator: % of course costs funded by individual/non-public sources*

In many countries, adult education provision is principally paid for through public funding; reflecting a wider commitment to the importance of education in society. However this funding is then subject to a political process which reflects a variety of wider factors such as changes in public policy priorities, constraints on public finances and political planning cycles. Provision funded by individuals will reflect their personal priorities – even if constrained by personal financial considerations. Equally other non-public sources of funding will offer an alternative to public funding and be driven by alternative factors. An adult education system which has a variety of funding sources is therefore potentially better able to sustain its future activities. Even for those adult education providers for whom having public funding is central to their role, an element of co-financing may be helpful in current financial climates.

## **Comment**

This set of indicators is proposed with the intention of providing an overall assessment of an adult education system. There is no intention to set a “standard value” for each of these indicators since it will depend so heavily on the context and circumstances of each particular situation. Within the adult education practitioner environment these indicators cover familiar topics at both a policy and implementation level. The intention of FinALE is to provide a way for policy makers and other stakeholders less familiar with the adult education environment to understand the strengths and support required to ensure a healthy system.

Within a particular context it may be possible to set a benchmark figure for a particular indicator. This value can be used to assess the level of resourcing required or being used. In particular, by looking at trends of performance against the benchmark figure, certain issues may be identified – highlighting better than anticipated performance or where a management intervention is required. Comparison of indicators between different environments may also help highlight opportunities for sharing of good practice.

## Chapter Two – Links with Specific Policy Areas

### Individual

Individual Benefit Area	Action	Benefit Indicator
Health	Reduction of attendance at initial health point (e.g. doctor)	Cost per referral
Health	General well-being	Individual valuation of benefit
Self-confidence	Improved self-esteem	Individual valuation of benefit
Self-confidence	Willingness to re-enter employment	Savings from reduced costs to re-enter employment

### Social

Social Benefit Area	Action	Benefit Indicator
Active Citizenship	Voting in local and national elections	Social value assigned by public authorities
Active Citizenship	Participation in voluntary activities	Notional value of time spent
Social Cohesion	Reduction of crime	Estimated savings in police/fire incidents
Social Cohesion	Reduction of social unrest	Estimated savings in community policing costs
Culture	Participation in cultural activities	Estimated by participants
Culture	Participation in non-vocational adult education	Estimated by adult education providers

### Economic

Economic Benefit Area	Action	Benefit Indicators
Economic Productivity	Willingness to progress into job related learning	Reduced cost of course recruitment
Economic well being	Improved earnings of individual	Increase in earning
Contribution to economic growth	Increase in employer outputs	Increase in output per employee

Adult education contributes to individual, social and economic wellbeing in a wide variety of ways. As such there are many potential measures of success. The purpose of this set of indicators is to illustrate the many types of benefit that adult education can bring. Specifically it intended that they form the basis of a core set of

benefit indicators to be used in policy debates. This quantitative information can illustrate and underpin the qualitative case for adult education.

## **Health**

*Reduction of attendance at an initial health point – measured by cost per referral*

Active adult learners tend to have better levels of health. Thus participation in adult education can reduce attendance at an initial health point by improving the mental and physical health of participants. The value of this reduction in visits can be calculated from the cost per visit data held by health authorities.

*General well being – measured by personal valuation of benefit*

Voluntary attendance at an adult education programme implies that the individual gains a benefit greater than the costs of attendance (fees, travel, leisure time, etc.). By asking participants to place a value on the full benefit they perceive will give an estimate of the true value of adult education. While this may be subjective, accumulated evidence can be aggregated to give a planning value.

## **Self Confidence**

*Improved self-esteem – measured by individual valuation of benefit*

Participation in an adult education programme can help raise personal self-esteem. This may be a casual effect from encouraging non-learners back into learning. It may also be an important part of helping with those who need to better integrate into society, possibly as part of move towards employment or re-settlement into a new community.

*Willingness to re-enter employment – measured by reduced costs to re-enter employment*

Significant savings can be achieved by structured adult learning programmes which improve self-confidence as part of an overall programme to assist people back into employment. These savings are complemented by the extra value of earnings (and reduced social costs) gained from the additional time back in employment.

## **Active Citizenship**

*Voting in local and national elections – measured by social value assigned by public authorities*

One measure of democratic participation is whether an individual votes in local and national elections. Promotional campaigns indicate an implied value to encourage participation. Using a notional value of motivating a non-voter to becoming a voter provides a measure for valuing the outcome from adult education programmes which encourage involvement with the democratic process.

*Participation in voluntary activities – measured by the notional value of time spent*

Adult learning is recognised as an important part of motivating and engaging individuals with adult learning. Measuring the value of the time spent on voluntary activities gives an indication of the benefit being achieved by the adult learning. In practice the actual benefits are likely to be significantly higher due to the benefits of the volunteer activity and the satisfaction for the volunteers themselves of the activities being undertaken.

## **Social Cohesion**

*Reduction of social unrest – measured by savings in community police costings*

Participation in adult learning programmes is associated with engagement by residents in a local community. In particular in areas with a high degree of turnover in local population, this participation is a way of reducing social tensions; as well as encouraging and enabling individuals to develop a greater sense of community while



addressing their personal aspirations. Reducing social tensions helps avoid increased costs of community policing (in a broad as well as narrow legal sense.) These savings represent a benefit which can be used to offset the costs of the adult learning provision

*Reduction of crime – measured by estimated savings in police/fire incidents*

Where it is difficult to specify general savings in community policing costs, it may be possible to look at specific target groups. Adult education (or community learning) programmes can be targeted at particular groups with a high risk of offending or trouble making. Engagement with the adult education programmes provide a basis for positive steps towards resolving social challenges. A reduction in specific types of social unrest incidents can release public funding for investment in both adult education and other socially beneficial activities.

## **Culture**

*Participation in cultural activities – measured by personal estimate by participants*

Cultural programmes form an important part of many publicly funded adult education programmes. While there is a minimum assumed level of benefit to justify the cost; individuals will potentially attach a greater value to their participation. By collecting information from participants on their perceived value it is possible to gain a more accurate measure of the added value of such programmes. In particular, this measure would capture information about how course participation is then complemented by engagement with wider cultural activities.

*Participation in non-vocational adult education – measured by estimates from adult education providers*

The definition of non-vocational is intended to cover programmes which while having no immediate vocational relevance, do in fact provide a complement to vocational programmes in that they relate to topics which have a purpose over and above pure leisure. Such programmes might include areas such as IT literacy which support individuals in a digital economy. Public benefits can arise from enabling more widespread use of IT systems to deliver public services. They may also help individuals be receptive and prepare for vocational programmes at a later stage. Providers may be in a good position to identify and then quantify the value of such provision.

## **Economic Benefits**

*Economic Productivity - willingness to progress into job related learning – measured by reduced cost of course recruitment for providers*

Research shows that adults with low skills are less likely to participate in vocational training, even if provided free of charge by their employer. Pre-vocational adult learning programmes help overcome the reluctance to undertake training; whether by building confidence or developing basic skills in literacy, numeracy or use of IT. Introduction of new working methods – including growth of new types of job – can be made easier if individuals are willing to undertake the necessary skill development programmes

*Economic Wellbeing – improved earnings of the individual – measured directly by the individual*

Vocationally related programmes enable individuals to maintain their employability, especially in economic sectors undergoing change. At a minimum such learning enables individuals to maintain their current earnings. It may also enable them to progress their career and increase their earnings. Collecting information from individuals about their increased earnings (or preservation of existing earnings) provides a direct financial measure of the benefits from a programme.



*Economic Growth – increase in employee outputs – measured directly by employers*

In addition to the benefits to the individual, employers also receive benefits from the improved productivity of individuals. Thus to properly assess the financial benefits of vocational adult education it is important to also measure benefits to the employer. Measurement of these benefits may need to also take into account other costs, such as investment in new equipment.

### Comment

As emphasised elsewhere, these quantitative indicators are illustrative examples of some the main ways that adult education contributes towards society. As such, use of these indicators helps to focus attention on specific areas of adult education activity. Initially it may only be possible to use these indicators in a qualitative manner. However it is suggested that national and local policy makers collect quantitative information, either through evaluation of existing initiatives or specific research projects. Over time this will then build up a body of knowledge which can be used to focus resources at a local, national and European level.

## Chapter Three – Calculation of Benchmark Values for Indicators

Each indicator proposed represents a dimension of adult education activity for which it would be useful to have a quantified figure. This section gives examples of how values for each indicator could be calculated. In many cases an estimate of the value can be obtained using normal feedback or survey techniques. Where this is more difficult, it might be possible to access national survey work from which indicative figures can be derived. This national survey work may be directly related on adult education or may be derived from e.g. data on national earnings by skill level. Ideally it would be useful to have accurate information for every piece of adult education activity. Realistically, it is more practical to establish reference data; this could be following a cohort of adult learners, surveying local stakeholders or information from other providers.

Within the context of FinALE, the intention is that by building up a database of evidence, over time reliable benchmark figures can be developed. These benchmarks can then be used to underpin planning discussions; in particular with budget holders who may not be familiar with the true benefits of adult education.

The “Willingness to Pay” approach is one way to approximately identify the value of a good or service. For example:

Existing mainstream adult education courses provide one way of establishing a benefit value. At a minimum, the value of a course is represented by combination of fees by individual and public subsidy. Thus if a provider delivers 90 hour courses to 500 learners, this represents an output of 4,500 learning hours. If the total income of fees and subsidy is 900,000€, this represents an average value of 20€ per learner hour.

Many providers are also engaged with separately funded projects design to meet particular programme objectives e.g. community development or pre-employment preparation. On a similar basis the value of this “enhanced” provision can be calculated on a similar basis. For example if a cohort of 15 adults undergo a programme of adult education and employment preparation support lasting 60 hours as part of project funded for 27,000€, this represents an output value of 30€.

Using a Well Being valuation Approach, Research by NIACE in the UK<sup>3</sup> suggested that, the return on a 30 hour course offered were:

- Health benefits €150
- Improvement in social relations €700
- Increase in earnings €250

The Social Return on Investment is an analytical tool developed by the New Economics Foundation<sup>4</sup> for measuring value by taking into account social, economic and environmental factors. This may include participants individually or collectively agreeing a value for a variety of benefits which may not be measurable in other ways.

Many organisations collect information about the impact of adult education programmes as part of reporting on the results of specially funded projects. By estimating the costs and benefits such projects could provide informal evidence from which “order of magnitude” values could be derived for the various indicators. This “bottom up” approach can provide useful insights to shape future activities. They could also help focus situations where more formal research could be carried out to provide more reliable values for priority policy areas.

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<sup>3</sup> [http://shop.niace.org.uk/media/catalog/product/v/a/valuingimpact\\_web\\_1.pdf](http://shop.niace.org.uk/media/catalog/product/v/a/valuingimpact_web_1.pdf) (2012)

<sup>4</sup> <http://www.neweconomics.org/issues/entry/social-return-on-investment>

## Chapter Four – Relationship of adult education to wider policy goals

This discussion paper focuses on how the activities undertaken in adult education may be categorised and quantified in terms of cost and benefit. However, policy goals are not shaped bottom up but top down by Governments and, frequently, by international organisations with a particular policy brief. Such bodies as the OECD and the European Commission routinely collect and compile internationally comparable indicators which increasingly influence the behaviour of Governments in relation to the deployment of public expenditure. It is therefore critical that adult education practitioners capture the wider benefits of their activities by relating their benefits to such major policy goals.

In some areas, especially where the relationship is relatively linear, strong links have already been proven. One such example cited in a separate paper by Gerhard Bisovsky is that of the PIAAC survey, which suggested that adults with higher competences did better on average in terms of voluntary activities, interpersonal trust and political effectiveness.

However, in many policy domains where the case for extended access to adult learning is anecdotally very strong, less has been done to explore and still less to quantify, the contribution made to the headline policy goals set by Government. The starting point for quantifying this relationship is to map out the relevant policy fields and the respective indicators used in both at both the bottom up and top down levels.

It is beyond the scope of this project to carry out a major mapping exercise, however the following matrix is presented to illustrate how such a process could be carried out and the added value this could bring for future developments.

INPUT	DOMAIN	BENEFIT	OUTPUT	RESULT	OUTCOME	IMPACT	SOURCE
Chapter One: Input Indicators (Resources)	Policy Domain	Observable benefits	Chapter Two: Outputs	Chapter Two: Results	Adult education: Outcome indicators (Resources)	Internationally comparable and quantifiable impact indicators used by governments	Relevant (international) body producing data
<b>Hypothesis</b> ⇒		Adult education results in benefits reported by teaching staff	Increased resources in adult education result in easily measured local outputs	Increase in outputs result in aggregate measurable public policy benefits	Measurable outcomes and proposed measurement methodology	Adult education leads to measurable results which affect positive movement in impact indicators (to include Bell, paper on why invest in ALE etc.)	Sources of impact data
<ul style="list-style-type: none"> <li>• % of GDP invested in AE</li> <li>• Cost per learning hour</li> <li>• Return on Investment</li> <li>• % of AE budget invested in staff development</li> <li>• % of AE budget invested in</li> </ul>	<b>Active citizenship</b>	<ul style="list-style-type: none"> <li>• Positive focus</li> <li>• Pride in achievements</li> <li>• Public speaking</li> <li>• Confidence to set goals</li> <li>• Confidence to pursue goals</li> <li>• Personal Motivation</li> <li>• Participating in new experiences</li> </ul>	<ul style="list-style-type: none"> <li>• Measured against a control group of non-participants, beneficiaries of adult education demonstrate an increased propensity to participate in local and national democracy</li> <li>• Measured against a control group of non-participants,</li> </ul>	<ul style="list-style-type: none"> <li>• Increase in voting in local and national elections</li> <li>• Participation in voluntary activities</li> </ul>	<ul style="list-style-type: none"> <li>• Social value of voting assigned by public authorities (measured by discussion with policy makers and analysis of results of national campaigns)</li> <li>• Notional value of time spent engaged in</li> </ul>	<ul style="list-style-type: none"> <li>• Proportion of adults voting, volunteering and satisfied with life, by level of education</li> <li>• Civic engagement, by students' level of civic knowledge</li> <li>• Incremental differences in adult voting, volunteering and life satisfaction associated with an increase in the level of educational attainment (with and without adjustments)</li> </ul>	<p>OECD indicators:</p> <p><a href="https://stats.oecd.org/">https://stats.oecd.org/</a></p> <p><a href="http://www.oecd.org/education/skills-beyond-school/48631582.pdf">http://www.oecd.org/education/skills-beyond-school/48631582.pdf</a></p>

<p>course development</p> <ul style="list-style-type: none"> <li>• % of course costs funded by individual/non-public sources</li> </ul>			<p>beneficiaries of adult education volunteer more frequently than non-beneficiaries</p>		<p>such activity (measured by feedback from individuals and through consultation with voluntary organisations )</p>	<p>for age, gender and income)</p>	
	<p><b>Social and economic cohesion</b></p>	<ul style="list-style-type: none"> <li>• Improved earnings</li> <li>• Adult literacy levels</li> <li>• Willingness to re-enter employment</li> <li>• Willingness to progress into job related learning</li> </ul>				<ul style="list-style-type: none"> <li>• Income inequality and poverty (measured by GiNi coefficient)</li> <li>• Household wealth inequality</li> <li>• Level of adult skills (PIAAC)</li> <li>• Employment rate</li> <li>• People at risk of poverty or social exclusion</li> </ul>	<p>Labour Force Survey (LFS)</p> <p>Eurostat:  <a href="http://ec.europa.eu/eurostat/data/data base">http://ec.europa.eu/eurostat/data/data base</a></p>

	<b>Health and well-being (self-confidence)</b>	<ul style="list-style-type: none"> <li>• Improved self-esteem</li> <li>• Healthy eating</li> <li>• Healthy living</li> <li>• Following medical advice</li> <li>• Reduced stress</li> <li>• Early diagnosis of health problems</li> <li>• Willingness to (re)-enter employment</li> </ul>				<ul style="list-style-type: none"> <li>• Mortality (life expectancy at birth)</li> <li>• Absence at work due to illness</li> <li>• Absence at work due to stress (self-reported)</li> <li>• Cancer incidence (per 1,000 of population)</li> <li>• Health status by socio-economic status</li> <li>• Long term care resources and utilisation</li> <li>• Tobacco consumption</li> <li>• Overweight population (self-reported)</li> </ul>	OECD
	<b>Culture: appreciation and participation</b>	<ul style="list-style-type: none"> <li>• Adult literacy levels</li> <li>• Participation in cultural activities</li> <li>• Participation in non-vocational adult education</li> </ul>	•	•	•	See report below for possible indicators: <a href="http://www.oecd.org/std/na/projectontheinternationalmeasurementofculture.htm">http://www.oecd.org/std/na/projectontheinternationalmeasurementofculture.htm</a>	UNESCO OECD

**Chapter Five – The role of financial indicators in promoting  
a sustainable approach to adult learning**



## I. An investment in people

The current climate of funding constraints on public expenditure has exacerbated the tendency for adult learning and the institutions that provide it to be subjected to uncertainty about its future. Whilst other forms of education and training – schools, TVET, universities, - have even become prioritised during the current difficult economic period, much adult learning, especially that targeted on the most vulnerable groups in society or that of a more ‘liberal nature, has been subjected to sudden budget cuts or has become dependent on one off, short term projects only.

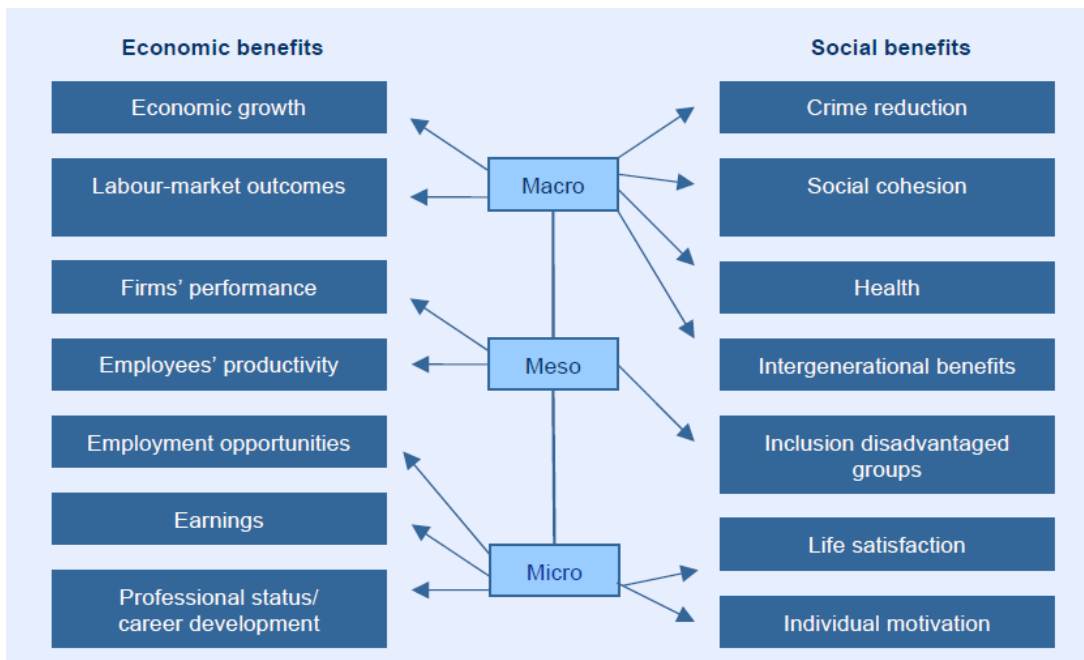
This tendency, and resultant lack of sustainability, is largely due to the lack of a linear relationship between resources expended on adult learning and ‘hard’ economic outcomes in the form of jobs or qualifications attained in a short period of time. The tendency not to acknowledge or recognise the wider benefits of adult learning has deleterious consequences across a range of policy areas such as health, crime and safety, active citizenship and social inclusion. The absence of a methodology to highlight the contribution made is mirrored by a (legitimate) concern amongst adult learning practitioners that to introduce some kind of indicator framework will lead to artificial attempts to achieve tangential outputs rather than putting the needs of the learner first.

Nonetheless, ample evidence does exist of such benefits (for example the BeLL study<sup>5</sup>); the problem is that assessing them is complex, time consuming and suffers from difficulties of attribution. The fear is that any move towards a better appreciation of the return on investment in adult learning will result in the opposite of that intended ie to a further erosion of funding rather than an increase.

However, to take such a view would ignore the fact that other areas of training such as TVET are themselves developing more sophisticated ways of assessing their impact, and not just on the economic sphere but increasingly across a wide range of social indicators. For example, UNESCO–UNEVOC and NCVET have recently collaborated on a research project initiative entitled *‘A framework to better measure the return on investment from TVET’ (2017)*. This document seeks to ‘provide a complete Return on Investment picture’ through understanding the interaction between the economic and social benefits...in assessing the true and full value of TVET.” The table below sets out the benefits associated with TVET investment.

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<sup>5</sup> *Benefits of Lifelong Learning – BeLL: Dr. Bettina Thöne-Geyer*



UNESCO-UNEVOC & NCVET (2017):  
A framework to better measure the return on investment from TVET' (2017)

Similarly, a recent report by Cedefop goes beyond economic outputs and makes the case for proactive measures to upskill low skilled adults to enable them to live fulfilling lives and contributes constructively to society as well as to the economy. The report in particular reviews the evidence that skills positively impact on crime and safety and health.



Cedefop (2017) Investing in skills pays off: the economic and social cost of low-skilled adults in the EU

Given this emerging policy environment, the issue is not whether adult learning can continue to ignore the use of an indicator framework, but how to develop a sufficiently sophisticated yet usable method to enable policy makers to make fully informed decisions.

This chapter explores ways in which this might be done.

## **2. More research and knowledge**

Due to the independence, diversity and non-formality of the adult education sector, developing an appropriate set of indicators to monitor the performance of the adult education system cannot be designed or implemented instantaneously. There is a cultural shift required to enable adult learning practitioners to appreciate and value their role in helping to improve the knowledge on which future policy and funding decisions will be based. Governments and other funding agencies will need to earn the trust of these people for adult learning to prosper and if they are to benefit themselves from a better understanding of the complexity of the returns to adult learning.

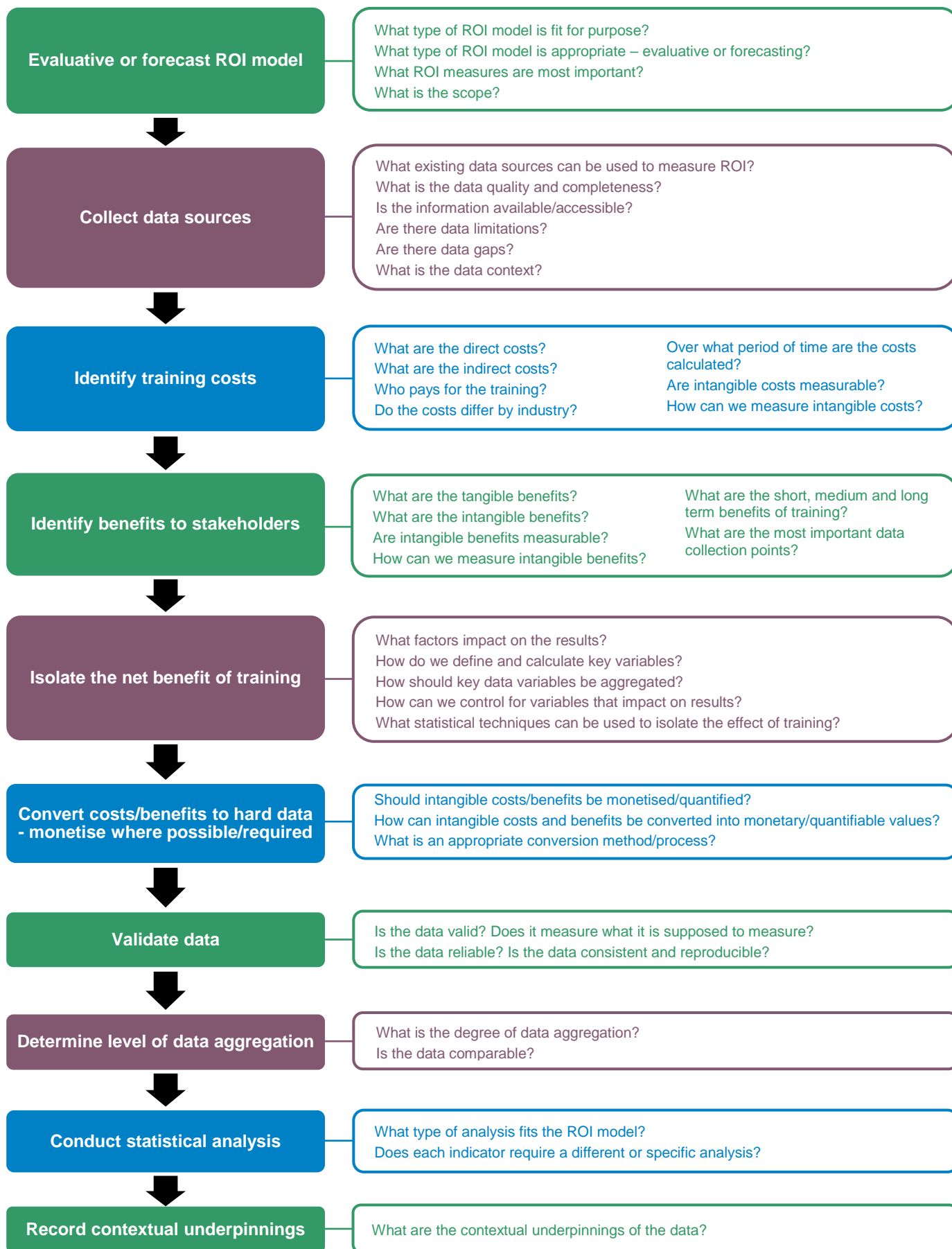
The research framework (see overleaf) developed by UNESCO–UNEVOC and NCVET (see below) provides a useful model for consideration and possible adaptation.

The purpose here is not to replicate a model which was developed for other purposes and proves to be impracticable or too complex to be applied to the somewhat different context of adult learning. In comparison with TVET, adult learning is wider in scope, has a greater range of objectives and is often targeted on those learners that TVET is unable to, or fails to, reach. However, the framework opposite does provide a structured set of guiding principles which could ensure consistent frame of judgement to be applied. The report proposes that the following guiding principles be adopted to tailor the approach to evaluation appropriately.

### **Guiding principles in developing a ROI approach to evaluation**

- The ROI model or method to be adopted. This must be customised, fit for purpose and add value. It requires an overarching clarity of purpose. The model should measure factors that are specific and relevant to the context.
- The implementation of the ROI model. There are a few issues to consider here such as whether it is practical and will provide information that meets the needs of stakeholders. The model also needs to cater for a range of measures and data sources, a variety of training types, and whether it can be applied before, during and after training.
- The development of the methodology and data collection instruments processes and instructions. This includes ensuring that the data collection instruments are capable of being customised to particular context while being specific enough about the data that is required. In addition, they should place minimal load on the stakeholders that need to administer them.
- The compilation of credible evidence about the impact of training. Firstly, the data has to be of sufficient quality. The ensuing analysis then should be scientifically valid and address the fact that training may not be the only factor that explains changes in performance or outcomes.

Further work is required at each level of the framework above. However, the most critical element which is currently largely absent in adult learning is the collection of basic data.



### 3. Better understanding but without more bureaucracy

The starting point for an evaluation strategy – whether or not linked to return on investment - needs to be a clear understanding of why the evaluation is needed. In the case of adult learning, As explained above, due to austerity measures and governmental changes, many European countries have reduced and or shifted their support away from adult education and more formalised, vocational training. Evaluation is required in order to promote a more informed dialogue between funders and beneficiaries as well as giving equal recognition to all sectors within adult education and find adequate financing solutions.

However, given the sheer diversity of the sector and the complexity of the outcomes it achieves – many of which cannot be pre-planned or even anticipated – there is an equal and corresponding imperative for any evaluative approach to place a minimal load on practitioners whilst at the same time meeting the agreed objectives (see guiding principles above).

Above all, any approach must be designed to appreciate that the impacts of adult and community education are often long-term and difficult to measure. Scope needs to be provided to enable those conducting the evaluation to introduce new indicators and measures to capture additional outcomes as an overall appreciation of the direct, indirect and sometimes tangential benefits of adult learning as they appear.

### 4. Proposed approach

Our proposal is that the first principle of robust data collection should be to collect open ended information on adult learners to follow up their outcome following episodes after an approximate time lapse (say six months). Six months strikes a reasonable balance between the danger of losing all contact with a learner and the need to avoid introducing incentives for short term wins which may not be sustainable. Of course, if a longitudinal approach was feasible for some learners, with further follow-up research undertaken at a later stage, this could be utilised to develop a better picture of long term benefits.

We therefore recommend that face to face follow up meetings are held with each learner six months after the completion of an adult learning episode. The interviewee would use a semi-structured interview approach where the learner would have the opportunity to respond to a series of prompts about how their lives and well-being have developed.

The fields of inquiry would explore the areas set out in Chapter 4 above (active citizenship, social and economic inclusion, health and well-being, self confidence, cultural participation and appreciation). Where a learner cites a benefit that they perceive has emerged directly or indirectly as a result of their adult learning experience, the interviewer would capture this either through using one of the existing outcome or impact indicators commonly used by OECD, UNESCO, the EC etc (see Chapter Four above) or by adding another indicator which would then be added to the database<sup>6</sup>.

In essence, this would draw upon the experience of the BeLL study which interviewed some eighty adult learners and provided a baseline of positive outcomes frequently cited as evidence of the value

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<sup>6</sup> The central database would need to be well managed with data 'cleaned' on a regular basis so that duplicate indicators are merged as required.

of adult learning. The BeLL webpage <http://www.infonet-ae.eu/articles-science-55/2150-benefits-of-lifelong-learning-bell-study-complete> explains:

“The BeLL study gives an impression of what adult education can achieve<sup>9</sup>. As such, in the eyes of those taking part in the final conference, it can be seen as a pilot study.”

In other words, the intention here is to build a more comprehensive data source to draw upon based on the BeLL study. This approach would combine sufficient consistency across a wide range of learners (ideally across all co-operating European countries) with the flexibility to tailor the questioning to the individual.

Over time, the collection of this information could be collated across a range of common indicators but allow for new indicators to be added to a ‘meta- databank’ providing a rich seam of knowledge about different types of learning, learner and outcome.

Such an approach could be conducted on a transnational basis beginning, in the first instance, with a small number of committed adult learning providers.

## 5. Sustainability

The advantages of the above approach are many:

- It allows the evaluation approach to start on a small and limited basis but be expanded over time.
- It captures increasing amounts of information and knowledge as more evaluations are conducted and hitherto unseen or unrecorded benefits emerge from the metadata.
- It allows for comparisons to be developed between different types of intervention to help tailor options to different types of learner.
- It starts to provide hard evidence to inform a cost: benefit analysis which could be used to lobby and influence policy makers and funding bodies.

Most of all, the approach is one that could enhance and be developed and put the evaluation of adult learning on a sustainable footing with a view to providing substantiated evidence to be brought to the attention of government, policy makers and funding agencies across Europe. Such a development would help make the provision of stable, comprehensive and effective adult learning provision a sustainable reality across all Europe as a whole.

## 6. Next steps

We propose the next steps in pursuing the above approach would be to:

- Develop a questionnaire
- Set up the IT software
- Bring together a transnational steering group
- Provide training to adult learning practitioners who would conduct the follow up interviews.
- Consider other aspects of the *UNESCO-UNEVOC;NCVER RoI* model to develop complementary tools and approaches as and when appropriate.

## Annex: Summary of Proposed Indicators

### System

System Performance	Indicator	Potential data source
Investment in adult education	% of GDP invested in AE	Governmental estimates
Efficiency	Cost per learning hour	Provider estimates
Effectiveness	Return on Investment	Stakeholder estimates
Quality of staff	% of AE budget invested in staff development	Provider estimates
Quality of programmes	% of AE budget invested in course development	Provider estimates
Sustainability	% of course costs funded by individual/non-public sources	Provider estimates

### Individual

Individual Benefit Area	Action	Benefit Indicator	Benchmarking
Health	Reduction of attendance at initial health point (e.g. doctor)	Cost per referral	Cost data from local health authority
Health	General well-being	Individual valuation of benefit	Individual questionnaire National surveys
Self-confidence	Improved self-esteem	Individual valuation of benefit	Individual questionnaire Group discussion
Self-confidence	Willingness to re-enter employment	Savings from reduced costs to re-enter employment	Discussion with tutors and employment advisers

### Social

Social Benefit Area	Action	Benefit Indicator	Benchmarking
Active Citizenship	Voting in local and national elections	Social value assigned by public authorities	Discussion with policy makers Analysis of results of national campaigns
Active Citizenship	Participation in voluntary activities	Notional value of time spent	Feedback from individuals Consultation with voluntary organisations

Social Cohesion	Reduction of crime	Estimated savings in police/fire incidents	Feedback from local police/fire authorities National studies
Social Cohesion	Reduction of social unrest	Estimated savings in community policing costs	Feedback from local police/fire authorities National studies
Culture	Participation in cultural activities	Estimated by participants	Individual questionnaires
Culture	Participation in non-vocational adult education	Estimated by adult education providers	Feedback from providers Feedback from cultural activity organisers

### Economic

<b>Economic Benefit Area</b>	<b>Action</b>	<b>Benefit Indicators</b>	<b>Benchmarking</b>
Economic Productivity	Willingness to progress into job related learning	Reduced cost of course recruitment	Feedback from employers Feedback from vocational training providers
Economic well being	Improved earnings of individual	Increase in earning	Individual surveys National earnings data
Contribution to economic growth	Increase in employer outputs	Increase in output per employee	Feedback from employers National earnings data

### **Annex 2: TWG Indicators**

<b>No</b>	<b>Criterion</b>	<b>Key Questions</b>	<b>Indicator</b>	<b>Qualitative / Quantitative Trends</b>
I	Level of Investment	How well does the current level of investment levels meet economic objectives  <i>Economic policy will give an indication of future labour market requirements; in particular the number of adults requiring what level of skills in the main economic sectors</i>	% GDP invested by public sources in economic adult learning  % GDP invested by employers  % GDP invested by individuals for career development	% of vacancies that are hard to fill  % of employers reporting skill shortages  % of employers reporting skills gaps



			Average spend per employee	Average days training per employee Skills profile of workforce
		How well does the current investment levels meet social objectives <i>Social policy will give an indication of priority social groups to be engaged with training; in particular the socially disadvantaged groups and well being objectives relating to healthy living, active citizenship etc.</i>	% GDP invested by public sources in non-vocational adult learning Average spend per head per non-vocational adult learner	participation in non-vocational adult learning average number of days AL per person
2	Efficiency of Investment	What are the range of costs learning outcomes; making allowances for different target groups, subject areas and level <i>Adult Learning budgets should contain details of the expected number of participants and expected achievements so that average cost per outcome can be calculated and compared with similar types of provision</i>	Average cost of learning outcomes by main subject areas and skill level	Average study hours for a qualification Take-up rates (enrolment versus capacity) Course completion rates Course achievement of qualifications rates
		Do the benefits of adult learning exceed the costs of providing the adult learning activity <i>Cost benefit analysis, using actual or estimated value of direct costs and benefits over time can be used to calculate the return on investments. In community setting, local participants can provide indications of the types of benefit produced and a value agreed</i>	Net Present Value (NPV) of benefits from AL Wage premiums of more highly skilled adult Gross Value Added by workers with different skill levels	Increased individual earnings from AL qualifications Productivity gains from increases in average skill levels Personal "happiness" measures

No	Criterion	Key Questions	Indicator	Qualitative / Quantitative Trends
3	Effectiveness of Investment	How well does current adult learning provision meet policy objectives <i>The success of specific adult learning investment depends on their ability to enable those trained to achieve a particular policy objective; rather than simply counting the number of adults</i>	Achievement against quantified policy targets What is the impact of on unemployment rates	Maintained investment in AL programmes by funders Participation rates of primary target audiences

		<i>trained policy based performance measures need to be in place to monitor the impact of the adult learning in achieving the policy goal</i>	What is the impact on proportion of economically active learners	Proportion of participants from primary target audience
		How are potential participants directed towards the most appropriate adult learning course to meet their needs and/or aspirations  <i>Advice and guidance services can help individuals or organisations identify relevant adult learning to meet their specific needs</i>	Use of independent quality assured advice and guidance services  Providers carry out pre-enrolment checks with individual learners	Individuals with personal learning plans  Companies with a training and development plan  Availability of guidance on priorities from professional and sector skills bodies
		How does investment in adult learning reflect current and future priorities  <i>Ever changing economic and social environments means that priorities for adult learning will change over time. It is therefore important to ensure that appropriate governance arrangements are in place to influence funding decisions</i>	Skill implications of economic and social priorities are reviewed on an annual basis	National, regional and local structures exist for multi-stakeholder discussions on funding priorities
<b>4</b>	Sustainability of Investment	Are sufficient financial resources available to continue the adult learning activity to meet future demands  <i>Adult learning relies on the capacity of those funding to continue their financing of the provision. Sustainable funding is achieved when those who receive the benefits from adult learning can “repay” the costs of provision. This may be directly through fees or cost sharing; the public sector can use general or specific tax regulations to transfer benefits into revenue</i>	Proportion of costs directly paid by participants  Net social value of publicly funded courses	Matched funding from one or more stakeholders  Diversified funding sources involved with cost sharing  Involvement of volunteers
		What is the relative contribution of principal stakeholder groups towards overall investment in adult learning  <i>Budget pressures may mean funding by a particular stakeholder is reduced over time. Different stakeholders may also see their role to fund only particular types of adult learning. Involvement of a range of stakeholders in governance of funding decisions</i>	Absolute level of investment by key stakeholder groups  Relative share of total spend by key stakeholder groups	Views of social partners, NGOs and other representative groups on the adequacy of funding for adult learning

No	Criterion	Key Questions	Indicator	Qualitative / Quantitative Trends
5.	Scope of funding system	<p>How well do current public funding mechanisms match the range of adult learning policy objectives</p> <p><i>Individual funding instruments will each a particular profile of participants. The complexity of modern social and economic systems means that no single instrument is likely to meet all needs. Therefore a holistic overview is required to ensure that the funding system as a whole meets the full range of demands for maximum efficiency.</i></p>	<p>Profile of adult learning activity funded by each funding mechanism (incl. target audience, type and level of learning)</p> <p>Map of funding opportunities for key target groups – economic and social</p>	<p>Clear parameters for the primary role of public, private, community and individual investment in adult learning</p>
		<p>How effective are individual funding instruments in reaching their target audience</p> <p><i>Specific funding instruments should be efficient and effective in reaching a particular target groups. In particular for public funding, supporting learning that would have taken place anyway is an inefficiency</i></p>	<p>Take up rate among main target group (s)</p> <p>Proportion of users from other target groups also supported</p> <p>% administration overhead cost</p>	<p>Views of key stakeholders</p> <p>Availability of alternative demand and supply led mechanisms</p>
6.	System Development	<p>Is there an adequate investment in the skills of those responsible for the delivery of adult learning</p> <p><i>Continuing professional development is as important for adult learning professionals and volunteer helpers. Provision should be made in adult learning budgets for the funding of both current role specific tasks and personal development</i></p>	<p>What proportion of public funding for adult learning is used for staff development</p> <p>What “trainer training” investment is made by private employers</p>	<p>Adult learning professional qualifications awarded</p> <p>Membership of professional bodies</p> <p>Study leave regulations for adult learning staff</p>
		<p>Is there an adequate investment in the physical infrastructure for the delivery of adult learning</p> <p><i>Adequate learning facilities are required to accommodate different types of learners – including classrooms, libraries and study facilities. These facilities need to be accessible to their target groups (both for vocational and non-vocational learning). New teaching methods may require specialist equipment – including access to on-line opportunities</i></p>	<p>What is the capital (building) spend element of public investment in adult learning</p> <p>What is the spend on IT and other specialist facilities for delivery of adult</p> <p>What is the staff development budget proportion of new adult learning schemes</p>	<p>Industry standards for adult learning classrooms</p> <p>Availability of loan/discount purchase of home IT equipment for study use</p>

No	Criterion	Key Questions	Indicator	Qualitative / Quantitative Trends
6f		<p>Is there an adequate investment in the development of new teaching materials and programmes</p> <p><i>Existing provision needs to be update regularly to ensure content meets current and future needs. New teaching methods have different economies of scale which may require high initial development costs which are best justified by use of programmes by multiple providers</i></p>	<p>What investment is allowed for the updating of existing adult learning programmes</p> <p>What proportion of public investment in adult learning is for development of new programmes</p>	<p>Rate of introduction of new adult learning offers</p>
		<p>Is there an adequate investment in quality assurance systems</p> <p><i>Quality assurance systems help ensure efficient use of public and private investments. They also provide re-assurance to customers to invest in adult learning activity – consumer protection and risk minimisation</i></p>	<p>Proportion of public spend on external and internal quality assurance system</p>	<p>% of publicly funded providers meeting national quality standards</p>

### Annex 3: Empirical estimates of the impact of skills on health<sup>7</sup>

Several studies have shown that health is one of the strongest predictors of well-being and one of the main economic benefits of higher levels of basic skills and key competences in the population. In this section we compare health outcomes between the low-skilled (ISCED 0-2) and the group with marginally higher skills (ISCED 3).

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- (38) According to EU-SILC, across the EU between two and four years are typically needed to acquire an upper secondary degree.
- (39) An adjustment in purchasing power standards (PPS) would be likely to reduce differences between countries.
- (40) Such as intangible costs related to the loss of leisure time, and the effort of learning; possible wages and other monetary benefits gained during an apprenticeship or other vocational training experience; intangible benefits in terms of happiness and satisfaction because of a positive learning experience. Direct costs (tuition fees, learning materials, or travel and childcare costs) may also affect individuals when they are not supported by employers or the government.

(41)

#### 5.2.2.1. Observed health differentials (ISCED-0-2 versus ISCED 3)

EU-SILC contains several health-related questions. Table 18 shows the difference in the proportion of respondents with ISCED 2 and 3 reporting:

- (a) long-lasting/chronic illness or condition;
- (b) good or very good health;
- (c) limitation in activities because of health problems;
- (d) unmet medical needs or treatment.

Table 18 shows a wide cross-country variation in the proportion of respondents to the different questions, partly due to structural differences across the countries (age structure, quality of the health care system, expectations towards health and tolerance of illness). However, statistically significant differences in the proportion of respondents can be observed between the low-skilled and those with upper secondary education (ISCED 3).

For instance, differences between ISCED 0-2 and ISCED 3 can be observed for respondents reporting that they suffer from a long-lasting/chronic illness or condition. The incidence of long-lasting/chronic illness is twice as high among the low-skilled as for those with upper secondary education in Croatia, the Czech Republic and Malta. In Malta for example, 20.8% of low-skilled adults report suffering from long-lasting health problems, compared to 9.6% of those with upper secondary education, a difference of 11.2 percentage points. Substantial differences also are observed in Belgium, Cyprus, Finland, Ireland, Portugal and the UK. Similar results can be observed for the other questionnaire variables.

#### 5.2.2.2. Impact of skills on quality-adjusted life years (QALYs)

Health differentials between groups are typically measured in quality-adjusted life years (QALY) weights, an index scale ranging from 0 to 1, where 1 refers to perfect health and 0 to near death<sup>(85)</sup>. QALY weights can be derived directly from health questionnaires or can be estimated through probit

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<sup>7</sup> Cedefop (2017) Investing in skills pays off: the economic and social cost of low-skilled adults in the EU

regressions using information on self-perceived health (Cutler and Richardson, 1997). EU-SILC includes self-perceived health questions which appear to be strongly correlated with the prevalence of long-term and activity-limiting health problems

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(42) For instance, a value of 0.8 means that the present year of life is estimated to be worth 0.8 year of life in perfect health.

Table 18. **Skills and health: systematic differences in the proportion of ISCED 2 and 3 respondents (ISCED 3 – ISCED 0-2)**

	Long-lasting/ chronic illness or condition	Very good or good health	Limitation in activities because of health problems	Unmet need for medical examination
BE	-0.089***	0.097***	-0.106***	-0.032***
BG	0.000	0.061***	-0.001	-0.089***
CZ	-0.144***	0.165***	-0.147***	-0.03*
DK	-0.016	0.053	0.035	-0.017
DE	-0.069***	0.139***	-0.136***	-0.054***
EE	-0.015	0.004	-0.018	-0.034
IE	-0.097***	0.09***	-0.069***	-0.027**
EL	-0.075***	0.095***	-0.081***	-0.019
ES	-0.04***	0.074***	-0.042***	0.000
FR	-0.076***	0.096***	-0.061***	-0.013
HR	-0.117***	0.231***	-0.099***	-0.059***
IT	-0.038***	0.093***	-0.071***	-0.043***
CY	-0.117***	0.127***	-0.055***	0.017*
LV	-0.002	-0.019	-0.007	-0.058***
LT	-0.062*	-0.004	-0.030	-0.016
LU	-0.068***	0.115***	-0.061***	0.002
HU	-0.077***	0.146***	-0.083***	-0.084***
MT	-0.112***	0.123***	-0.032***	-0.021***
NL	-0.017	0.067***	-0.025	-0.003
AT	-0.079***	0.191***	-0.099***	-0.008
PL	-0.039**	0.115***	-0.043***	-0.046***
PT	-0.114***	0.207***	-0.074***	-0.046***
RO	-0.027***	0.043***	-0.044***	-0.05***
SI	-0.08***	0.164***	-0.091***	-0.002
SK	-0.047*	0.12***	-0.076**	-0.075***
FI	-0.143***	0.105***	-0.042	-0.007
SE	-0.071**	0.039	-0.067**	-0.049*
UK	-0.113***	0.151***	-0.088***	0.001

\* p<0.1 \*\*p<0.05 \*\*\*p<0.01

Weight: pb040/personal cross-sectional weight

Selection: EU-28 (pb020/country); Age range 25-65 (derived combining PB130/month of birth, PB140/year of birth, PB100/Month of personal interview, PB110/year of personal interview, impute month of birth where unobserved); Outside education pe010/Current education activity.

Dependent variable column 1: ph020/Long-term health problems. Dependent variable column 2: ph010/Very good or good health.

Dependent variable column 3: ph030/Limitation in activities because of health problems. Dependent variable column 4: ph040/Unmet need for medical examination.

Variables included: Level of education pe040 'Highest ISCED level attained'

Source: EU-SILC, Cedefop estimate.

The probit approach is used by Groot and Maassen van den Brink (2007) to estimate the effect of education on health in the Netherlands. In the empirical modelling we have to distinguish between the true quality of health,  $H^*$ , a latent variable which cannot be directly observed, and the subjective measure of health,  $H^S$ , which is measured by the self-perceived health question. The latent quality of health variable is assumed to be related to educational attainment in the following way:

$$H^* = \sum_{i=3}^6 \beta_i ISCED_i + \mathbf{x}\gamma + \varepsilon$$

Where  $ISCED_i$  is equal to 1 if the respondent's highest qualification is of level  $i$ .  $ISCED$  0-2 is the excluded category, so that  $\beta_i$  measures the differential in latent health associated with  $ISCED_i$  qualification, compared to low-skilled adults.  $\mathbf{x}$  is a vector of individual characteristics (including parental backgrounds) and  $\varepsilon$  is an error term capturing unmeasured factors.

The observed health status  $H^S$  is a categorical ordered response variable and is assumed to be related to the latent variable in the following way:

$$H^S = k \leftrightarrow \alpha_{k-1} < H^* \leq \alpha_k, k = 1, \dots, 5$$

Here  $n$  is the number of response categories (5 for the general health question in EU-SILC) and  $\alpha_i$  are threshold levels. The coefficients can be estimated using ordered probit models.

Cutler and Richardson (1997) provided an easy way to calculate the QALY weight based on coefficients from ordered probit regressions. The  $\beta$  coefficients are not scaled (in theory they can range from  $-\infty$  to  $+\infty$ ) and need to be normalised to derive a QALY weight (which ranges between 0 and 1). Normalisation is obtained by dividing the coefficient by the difference in the thresholds of the upper and lower category. The QALY weight for qualification of level  $i$  is given by:

$$QALYw_i = \frac{\beta_i}{\alpha_4 - \alpha_1}$$

The QALY weight measured by this approach can be interpreted as the difference in QALY weight between low-skilled adults and those with qualification  $ISCED_i$ , controlling for relevant individual characteristics.

The main issue is that differences in QALY weight across education may also be affected by other factors such as the level of parental resources (Cutler and Lleras-Muney, 2012). This is why we use data from the 2011 EU-SILC, which



contains an *ad hoc* module on intergenerational transmission of disadvantages. This module asks people aged 25 to 59 questions about their parental background when they were around 14 and allow us to include in the model specification the following characteristics of the individuals <sup>(86)</sup>:

- (a) gender;
- (b) age (five-year bands);
- (c) time since highest qualification was obtained (five-year bands);
- (d) migration status;
- (e) region (NUTs 1);
- (f) father's and mother's education level;
- (g) father's and mother's activity status;
- (h) financial situation of the household;
- (i) tenancy status.

### 5.2.2.3. Valuation of individual health differentials

The differential in QALY weight can be used to derive monetary values of the health cost of low skills. The EuroVaQ project developed different methods to determine the monetary value of a QALY across several Member States (Donaldson et al., 2010). For this study, following a conservative approach we take the mid-point of the different estimates to derive the health cost of low-skilled adults in Member States <sup>(87)</sup> We also show the cumulative difference in QALYs under the conservative assumption that the life expectancy at age 25 is the same for low-skilled adults as for the average individual. Appropriate discounting is used to account for the fact that individuals tend to value benefits today more than benefits expected to occur in the future <sup>(88)</sup>.

Table 19 shows the cumulative difference in QALYs between low-skilled adults and those with upper secondary education, plus estimates of the lifetime

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- (43) Individual characteristics such as activity status, marital status, and income were not included in the model, as part of the effect of education on health may go through these channels (they are considered to be 'bad' controls). It must be considered that there are other factors that may drive the correlation between health and education that we could not capture, such as intertemporal preferences of individuals. Since information such as health status in childhood was not available, we were also unable to address potential reverse causality (effect of health on educational attainment).
  - (44) Although the EuroVaQ final report (Donaldson et al., 2010) did not present estimate of value per QALY for France, it presents estimates of value per life year. Value per QALY in France was imputed based on the ratio of value per QALY to value per life year in the other countries.
  - (45) We used a 3.5% discount rate, and 2% expected growth.

health costs associated with low-skilled adults in the countries for which estimates of value per QALY are available. In most countries, low-skilled adults are expected to enjoy significantly less QALYs than those with upper secondary education, although significant cross-country variation can be observed. In addition to QALY differentials, estimates of lifetime health costs of being low-skilled are also considered in the analysis. Although these estimates are available in seven Member States only, this permits an estimate of the lifetime health costs associated with low skills.

**Annex 4: Capturing the Wider Benefits of Adult Learning in Limerick, courtesy of Saorlaith Ní Bhroin, AONTAS**

Anecdotal Information Personal Development	Culture , Community and Family
<p>Therapy  Improved self esteem  Confidence/energised  Positive focus  Social interaction – less depressed, reason to get out of bed  Self confidence and self development  Empathy  Expands possibilities – “you can do anything”  Confidence building  Fun  Speaking in front of a group  Confidence  Self esteem  Pride – sense of achievement</p>	<p>Cultural integration  Awareness of surroundings  Social/political outlooks widen  Broaden cultural outlook  Meeting people/socialising  Social diversity  New friendships  Reconnects people with the community and local centres  Acceptance within family circle  Empathy with other people in similar circumstances  Social</p>
Education, Employment and Enterprise	Health and Wellbeing
<p>Economic benefits e.g. alterations or making new clothes  Idea of learning a new set of skills  Opens up idea of new career/profession  Access to information  Encouraging enterprise  Lead to financial benefits  Platform to display talents/work  Communication skills  Helps people to identify their own needs  Transfer of knowledge/learning  Lead to further education</p>	<p>Improved mental health  Stress reduction  Hand-eye co-ordination  Improved optimism/happiness  Reason to get out of bed in the morning  Empowering people to do more for themselves</p>

