Developing 'Off-the-Shelf' Simplified Cost Options (SCOs) under Article 14.1 of the European Social Fund (ESF) regulation

Final report

PPMI
April – 2018

PPMI

EUROPEAN COMMISSION

Directorate-General for Employment, Social Affairs and Inclusion
Directorate F — Investment
Unit F.1 — ESF and FEAD: Policy and Legislation

Contact: Loris di Pietrantonio

E-mail: EMPL-F1-UNIT@ec.europa.eu

European Commission
B-1049 Brussels

Developing 'Off-the-Shelf' Simplified Cost Options (SCOs) under Article 14.1 of the European Social Fund (ESF) regulation

Final report

EUROPE DIRECT is a service to help you find answers to your questions about the European Union

Freephone number (*):
00 800 6 7 8 9 10 11

(*) The information given is free, as are most calls (though some operators, phone boxes or hotels may charge you)

LEGAL NOTICE

Luxembourg: Publications Office of the European Union, 2018

PDF ISBN 978-92-79-86975-4 doi: 10.2767/787584 KE-02-18-843-EN-N

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS

CVTS (4)	Continuing Vocational Education Survey (2010)
DG EMPL	Directorate-General for Employment, Social Affairs and Inclusion
GDP	Gross domestic product
EC	European Commission
ESF	European Social Fund
EU	European Union
FTE	Full time equivalent
LCS	Labour Cost Survey
LMP	Labour Market Policy (database)
PES	Public Employment Service
SCO	Simplified cost option
SES	Structure of Earnings Survey
TNC	Simplification Thematic Network

EXECUTIVE SUMMARY

The purpose of this study is to support the European Commission in its efforts to establish EU-level Simplified Cost Options (SCOs) under the Article 14.1 of the European Social Fund regulation. Such SCOs would be established for the following policy areas: training of the unemployed, provision of employment services (counselling of the unemployed), and training for people in employment (including public servants). The study report contains the methodological approach used to define SCOs, descriptions of the SCOs as well as unit costs estimated for each Member State. The SCOs descriptions elaborate on the definitions, sampling techniques, calculation methods, and audit trails for reimbursement of costs.

Methodological approach

This study is largely based on analysis of statistical data extracted from Eurostat or provided by the European Commission. Statistical data was complemented by quantitative data extracted from other studies, and administrative data collected through an EU-wide survey of various relevant data handlers at Member State level. For the calculation of SCO for the training of the unemployed we used Labour market policy (LMP) statistics and data collected through the EU-wide survey. To establish the SCO for employment services, we have extracted qualitative data from the European Network of Public Employment Service's (PES) business models study and PES capacity assessment and PES Benchlearning initiative. Additional data was acquired directly from Public Employment Services in several Member States. For the calculation of SCOs for people in employment and public servants we used statistical data from CVTS 4, Structure of Earnings Survey (SES) and Labour Cost Survey (LCS). We have also collected administrative data on relevant ESF operations form several the Member States, but due to data coverage and quality issues it was used for verification purposes only. Data processing and analysis phase included a thorough data cleaning, exploratory analysis testing methods to calculate the SCOs, calculation of unit costs and extrapolation of missing unit costs. To ensure the validity of established unit cost rates, we have verified them by employing multivariate analysis of socioeconomic development comparators.

Key results of the study

I. SCOs FOR THE UNEMPLOYED

The EU-level SCO for the training of the unemployed was established as an output-based SCO. It is defined as a unit cost per one successful exit from an eligible intervention. A 'successful exit' refers to a participant leaving an intervention and obtaining a certificate, accreditation or other national measure providing sufficient assurance that his/her training was successfully completed (based on a national practice of a Member State). The definition of an intervention was taken from the LMP methodology and is typically a non-formal VET type training course which has identifiable participants and incurs expenditure.

The LMP data was used to establish unit cost rates for 23 Member States. For other five Member States unit costs were extrapolated using ordinary least squares regression model that was constructed from various relevant socioeconomic indicators and unit costs calculated based on the LMP data. For two Member States, unit costs calculated based on the LMP data appeared to lack reliability, thus alternative unit costs were also established through extrapolation. The calculated unit costs largely reflect the socioeconomic differences between the Member States, but some deviations were observed. These can be justified by specific training practices evident from the qualitative data in the LMP database (e.g. duration, target group, eligible expenses etc.). In Member States where qualitative data was not sufficient to determine the factors behind exceptionally high/low unit cost, rigorous data verification process ensured that the calculated unit costs reflect specific training practices.

II. SCO FOR EMPLOYMENT SERVICES

The EU-level SCO for the counselling of the unemployed was defined as an input-based SCO. It establishes a unit cost per one hour of counselling of an unemployed person. This SCO covers only the labour costs (including related labour taxes, social contributions and compulsory health insurance) of counselling. It reflects the average hourly costs of PES staff providing counselling services in a particular Member State.

Although originally intended, we could not determine an output-based EU-level SCO due to the limited data availability. National institutions do not collect the data needed for determining the costs incurred per output: depending on the Member State, it is not possible to determine the number of counselling recipients, the length of counselling services or the expenditures associated with these services. However, the input-based SCO could be replaced by an output-based SCO once the data availability issues are resolved, e.g. through the PES Benchlearning initiative (in particular, if data on average duration of counselling provided per participant were available).

This SCO was established using data collected from the PES Business Models study for 24 countries. We have also contacted the national PES to complement and verify PES Business Models study data. For the remaining four Member States unit costs were extrapolated. Extrapolation was conducted using ordinary least squares regression model that is constructed using socioeconomic indicators and unit costs calculated based on the PES Business Models study data. The calculated unit costs largely reflect the socioeconomic differences between the Member States.

III. SCOS FOR PEOPLE IN EMPLOYMENT AND PUBLIC SERVANTS

Two options to define the EU-level SCO for the in-formal training for people in employment were identified as the most feasible. First option is an input-based SCO, which establishes a unit cost per participant training hour. Here 'training' refers to any type of non-formal training, of any duration, that person undertakes with the purpose to obtain knowledge and/or learn new skills for a current or future job, increase earnings, improve job and/or career opportunities in the current or another field and generally improve opportunities for advancement and promotion. Second option is also an input-based SCO, which establishes a unit cost for trainee salary costs per training hour. It supplements Option 1 and can be funded only when compliance with state aid rules is ensured.

For both SCO options unit costs were established using CVTS4 (2010) data for 21 Member States. For the remaining seven Member States unit costs were extrapolated using linear regression (OLS) models based on Eurostat's macroeconomic indicators. Subsequently, calculated values were adjusted to 2015 level using HICP indices. The calculated unit costs largely reflect the socioeconomic differences between Member States and stay within the range or are slightly higher than values of relevant national unit cost rates and training costs implied by historical administrative data collected.

The study also revealed that using the same unit cost rates for training for public servants as those suggested for training of people in employment could be relevant if one accepts that the full costs will not be reimbursed. It could also be feasibly used for certain public servants training operations, the training costs of which are close to average costs of training for employed persons.

The potential unit cost values proposed in this study can be updated using the most recent CVTS data, which have 2015 as the reference year and is expected to be published in early 2018.

INTRODUCTION

PURPOSE AND SCOPE OF THE STUDY

This report is the final outcome of the study "Developing 'Off-the-Shelf' Simplified Cost Options (SCOs) under Article 14.1 of the European Social Fund (ESF) regulation". The results presented here are intended to support the European Commission in its efforts to move beyond Member State-specific SCOs and instead use the empowerment contained in Article 14.1 of the ESF regulation to devise **EU-level SCOs** that can be applied by any Member State, in particular **in policy areas, such as training for the unemployed, provision of employment services (counselling of the unemployed) and training for people in employment** (including public servants).

To test the feasibility of various approaches for determining SCOs and calculating the potential unit costs or lump sums, we explored a multitude of **data sources**, relying mostly upon the following:

- Labour Market Policy (LMP) statistics on labour market interventions implemented by different Member States obtained from DG Employment, Social Affairs and Inclusion of the European Commission;
- LMP-complementary data provided by Member States upon the request of the study team;
- data extracted from other relevant EU-wide studies focusing on Public Employment Services in the EU;
- microdata of the Continuing Vocational Education Survey (CVTS 4) on costs of continuing vocational training incurred by enterprises in the EU;
- project-level administrative data provided by Member States on operations funded by ESF and targeting people in employment.

The **potential unit cost rates were established and proposed for all EU Member States**. In those cases where it was not possible to establish unit cost rates due to unavailable or insufficient data, extrapolation was applied.

METHODOLOGICAL APPROACH

The study is largely based on analysis of **statistical data** (LMP, CVTS 4, Structure of Earnings Survey (SES) and Labour Cost Survey (LCS) data, etc.) acquired either from Eurostat or from the European Commission. We also used quantitative data extracted from other ongoing or already completed relevant studies, such as the European Network of Public Employment Service's (PES) Business Models study, PES capacity assessment and PES Benchlearning initiative. All this data was thoroughly cleaned and analysed using STATA – a dedicated data analysis and statistical software.

To support and complement our findings based on analysis of the above-mentioned statistical data, we also conducted an **EU-wide survey** of various data handlers at Member State level (representatives of Managing Authorities and Public Employment Services, members of the Simplification thematic network under ESF Transnational Cooperation, etc.). Depending on policy area and Member State, the information collected through e-forms and brief interviews ranged from metadata to complement the LMP data to administrative project-level data on operations supported by ESF in the area of training for people in employment. This helped the study team to better understand the national context and, where possible, was utilised to verify the proposed SCOs.

Based on analysis of the data that was made accessible to the study team, the report presents one **calculation method** to establish unit costs for the unemployed and one method to determine unit costs for the Employment Services (counselling). Meanwhile for training for people in employment, two alternative/complementary methods are presented. The proposed methods were selected after considering, testing and eliminating a set of

other calculation methods. A detailed definition of each calculation method, including unit cost rates proposed and notes on their reliability are provided in parts 2-4 of the report.

The **key challenges** faced by the study team for establishing EU-level SCOs were all associated with either challenges in obtaining the data, or with limitations in the quality of this data:

1) missing information (data gaps) in time series and contamination of the LMP data;
2) limited availability of the LMP-complementary data, and a burdensome and time-consuming data collection process at the Member State level;
3) lengthy process to obtain data (CVTS 4) from Eurostat.

To mitigate and/or overcome the above-mentioned challenges, the study team maintained regular contacts with all data holders at EU and national levels; mobilised its resources and advanced in parallel with several data collection activities to compensate for any time losses; applied relevant extrapolation techniques for countries where data is unavailable or insufficiently reliable; constantly considered and explored alternative information sources (such as other ongoing and/or already completed studies) to supplement and validate the already available data, and also triangulated, whenever possible, the study findings, etc.

STRUCTURE OF THE REPORT

Structurally, the report is organised into four parts:

- The *first part* briefly presents the overall methodological approach applied within this study. Here we explain how data collection and analysis processes were organised to obtain the data needed for establishing SCOs in all areas covered by the study.
- The *second and third parts* of the report elaborate on methods proposed for calculation of SCOs for training and counselling (Employment Services) of the unemployed. Among other things, here we provide definitions of both the SCO and relevant terms, introduce the calculation method in question, elaborate on sampling techniques applied and reliability of potential unit cost rates proposed by the study and define the audit trail for reimbursement of costs claimed by Member States.
- Likewise, the *fourth part* focuses on methods proposed for establishing SCOs in the area of training for people in employment, indicating what unit cost rates could be set per each Member State, explaining in detail how the proposed figures were established and providing instructions how they should be implemented in practice.

1. OVERALL METHODOLOGICAL APPROACH

In this part of the report, we describe the overall methodological approach adopted in this study, focusing mostly on measures undertaken to acquire data needed for establishing EU-level SCOs, and outlining the outcomes of our efforts. More specifically, the following chapters provide a brief description of the survey (via e-forms tailored to collect data from data holders at the Member State level) and queries for the LMP, CVTS 4 and other data issued by our team to assess which calculation methods are feasible and should be pursued in the study.

Since detailed information on cleaning, sampling and processing of data is provided when discussing each SCO, in this part of the report we discuss data analysis only in very broad terms, outlining and briefly presenting only the key steps of this process.

1.1. Data collection

The process of data collection for this study turned out to be a highly challenging task. Factors, such as collection of data during the summer holiday season, lengthy procedures to obtain some of the statistical data due to data ownership rules, differences in organisation and scrutiny of data handling practices in the Member States, etc., impeded the progress. To mitigate the impact of these risks, the study team adopted an agile approach to the data collection process, pursuing availability and exploring suitability of multiple data sources at once. Both, the process and outcomes, of our efforts are briefly discussed in the following sections.

LMP DATA

Labour market policy (LMP) statistics provide information on labour market interventions which are defined as 'Public interventions in the labour market aimed at reaching its efficient functioning and correcting disequilibria and which can be distinguished from other general employment policy interventions in that they act selectively to favour particular groups in the labour market.'[1] Data available from this database covers public interventions which explicitly target groups of persons with difficulties in the labour market: the unemployed, persons employed but at risk of involuntary job loss and inactive persons who would like to enter the labour market.

The time series data for the LMP database was collected using the same methodology for all Member States, hence it is easily comparable and, therefore, was prioritised over other sources of data for the calculation of EU-level SCOs:

- Interventions classified as 'training' (Category 2 in the LMP methodology) were used as reference data for determination of SCO for training for the unemployed. Training covers publicly financed measures that aim to improve the employability of LMP target groups through training. All training measures include some evidence of classroom teaching, or if in the workplace, supervision specifically for the purpose of instruction. Different types of trainings are included, namely: institutional training, workplace training and alternate training.
- Interventions classified as 'labour market services' (Category 1 in the LMP methodology) were expected to be used as reference data for determination of SCOs for the Employment Services. However, due to significant gaps and contamination of data needed for calculations, this approach was found to be non-feasible.

[1] Eurostat.

Although some of the LMP statistics are available publicly from Eurostat, more detailed data was necessary to achieve the study objectives. Hence, PPMI issued a query to DG EMPL (as the body responsible for conducting the LMP data collection) and was provided with extracts of anonymised data. Due to data ownership rules DG EMPL could not disclose the full data to a third party before consulting and acquiring permission from the Member States (the final owner of this data). For more details on the LMP data used for establishing SCO for the unemployed see Table 1.

Table 1. LMP data used to inform the development of SCO for the unemployed

Publicly available LMP data used to inform the development of SCO for the unemployed	Anonymised LMP data used to inform the development of SCO for the unemployed
• type of action; • total expenditure; • number of participants: stock (total), entrants, exits; • detailed and operational target groups; • planned duration; • intervention start and end year; • receipt of cash and non-cash benefits (such as unemployment benefits); • source of finance (central government, ESF, etc.); • data from the qualitative reports (description of interventions).	• metadata on expenditure and participants: notes by data providers describing quantitative data on expenditure (formal and free); • number of participants: stock (volume, FTE), exits to employment; • number of participants per intervention broken down by previous status, sex, unemployment duration, age; • average duration of participation in an intervention; • qualitative data about interventions (items 5-14 of the LMP qualitative questionnaire); • exchange rates used to convert expenditure data received from the Member States (from national currencies to euros).

Source: compiled by PPMI.

To ensure that our calculations are comparable with current market prices, only the most recent data (i.e. for the period 2013-2015) were used to inform our analysis. Originally, the LMP database contains information for the period 1998-2015.

LMP-COMPLEMENTARY DATA

In line with the terms of reference, the survey of relevant data holders at the Member State level was conducted using e-forms tailored specifically for this task. Originally intended to serve as an alternative data source, these e-forms were used to validate and complement the LMP data: the contact persons identified in each Member State were asked to provide (if available) the following additional data and metadata:

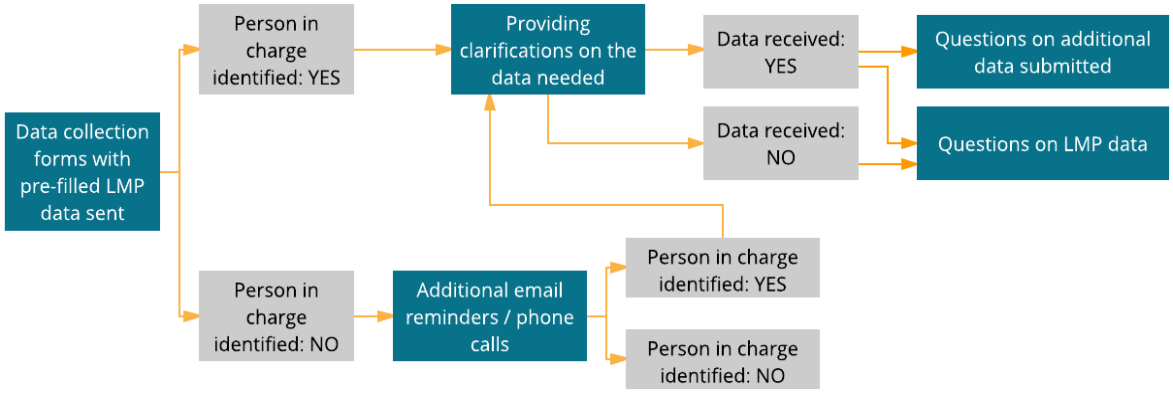
- LMP data for 2016;
- data on volume (duration of training/counselling received by participants or provided to participants) of relevant interventions;
- data on exits excluding drop-outs;
- data on expenditure excluding cash and non-cash benefits;
- method to record expenditure;
- method to validate the completion of training received by participants.

The full-scale collection of LMP-complementary data on training for the unemployed and Employment Services was launched on 15 September 2017. Invitations to cooperate were primarily addressed to liaison persons at PES (identified by the PES Network Secretariat), national contact points for LMP data and contacts identified as data providers by members of the Simplification Thematic Network (hereinafter referred to as 'TNC'). Overall, our aim

was to establish direct contact with either data holders, or people in national ministries responsible for handling the relevant data.

A detailed scheme illustrating how the data collection was organised is provided in Figure 1.

Figure 1. Simplified data collection process: data on training for the unemployed and Employment Services



Source: compiled by PPMI.

Our team maintained contacts with the Member States until mid-November, resulting in replies with partially completed e-forms from more than a half of Member States – at least some additional data on training for the unemployed and Employment Services has been received from respectively 18 and 16 countries. However, in most of the cases it was limited to metadata (e.g. method to record expenditure) and LMP data for 2016. Only a few Member States actually sent us the data on duration of training/counselling received by participants or provided to participants by responsible bodies. As a result, we used this information to improve our understanding of the national interventions and learn more about the quality of data reported in LMP, instead of utilising it to directly inform our calculations.

DATA EXTRACTED FROM OTHER STUDIES

According to the terms of reference, one of the initial aims of this study was to establish an output-based SCO for the Employment Pathway. Employment Pathway can be defined as an integrated collection of employment services intended to help the unemployed person to find a job. A single SCO for the pathway to work would group these employment services under one single unit cost payable on the basis of milestones (intake and orientation, skills audit, training, exit, and job placement).

However, a thorough analysis of the data available from LMP and collected from the Member States revealed that establishing an output or even input-based SCO for Employment Pathway is not feasible due to data quality issues and conceptual challenges faced by the study team in this policy area:

1) a common definition for 'Employment Pathway' is lacking at EU level;
2) the definition of information services and individual case management (two main sub-categories of 'labour market services' in the LMP database) is relatively broad, allowing for a large variation in the content of interventions;
3) the importance attributed to the two types of interventions mentioned above vary substantially across Member States and, more importantly, interventions within the same sub-category differ significantly in terms of content, budget, duration and target groups;
4) it is not possible to take account of the full spectrum of services in each Member State due to gaps in the time series data available for relevant interventions;

5) some Member States (e.g. the Netherlands, Austria, Sweden and Finland) have informed the study team that they use ESF funding to finance non-typical interventions or allow great flexibility in their design for regional/local level.

As there is no common definition for 'Employment Pathway' in the EU, it was agreed to establish a SCO for the main type of employment services, namely, counselling of the unemployed. This SCO could be used to cover costs related to counselling of the unemployed until an agreement on a common definition for 'Employment Pathway' is reached.

Furthermore, PES websites and a few other ongoing and/or already completed studies were explored as alternative sources, aiming to overcome the above-outlined difficulties and establish at least an input-based SCO until relevant data is available for setting an output-based SCO.

PES Benchlearning and PES capacity assessment	PES business models study	PES websites
Per Member State in the period 2014-2017: • total PES expenditure; • PES expenditure on benefits; • total PES expenditure without benefits (calculated); • total number of PES staff (in FTE); • total number of job-seeking clients.	**Per Member State in the period 2009-2014:** • total PES expenditure; • total PES staff costs; • total number of PES staff; • number of PES staff at head office/regional offices/local offices; • total number of job-seeking clients.	**Per Member State in the period 2013-2016:** • total PES staff costs; • total number of PES staff; • total number of PES staff (FTE).

Source: compiled by PPMI.

The possibility of merging the data available from these sources was carefully tested, yet in most of the cases this proved to be non-feasible due to mismatches between the overlapping figures. As a result, our calculations (and extrapolation for those Member States where data is missing) of the input-based SCO for Employment Services is largely based on data extracted from the PES business models study. See part 3 of the report for more details.

CVTS 4 DATA

The main data source for determining the EU-level SCOs for non-formal training for people in employment is the Continuing Vocational Training Survey (CVTS 4). CVTS 4 contains statistically reliable, comparable and regularly updated enterprise-level data on costs of continuing vocational training courses in all EU Member States. Importantly for this study, information such as the cost of CVT courses per training hour, structure of costs and hours in CVT courses per participant can be extracted from CVTS 4. However, the publicly available CVTS 4 data was not sufficient to this end, as it informed only on training costs in PPS (purchasing power standard) at the level of Member States, NACE Rev.2 or size of an enterprise. Furthermore, the data was insufficient for exploring the variation of costs across the most relevant types of trainings at country or enterprise levels.

Hence, PPMI applied to Eurostat to gain access to CVTS 4 microdata. The official approval of our application on 20 September was followed by consultations with the national statistical authorities in Member States to gain their agreement on sharing the data. The

files containing partially anonymised data (scientific-use files) reached our team on 7 November.

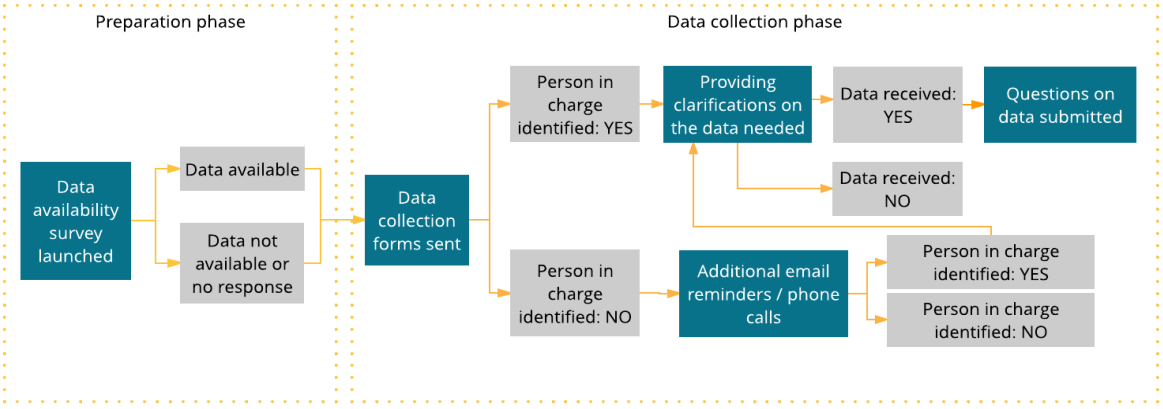
Notably, CVTS 4 microdata does not cover the following eight Member States: Austria, Greece, Hungary, Ireland, Italy, Latvia, the Netherlands and Slovenia. However, standard datasets for the remaining 20 countries are sufficient to calculate both input- and output-oriented SCOs for training for people in employment and to extrapolate unit cost rates for the remaining Member States. For more details on the CVTS data sample used for calculations see part 4 of the report.

ADMINISTRATIVE DATA ON RELEVANT ESF OPERATIONS

Due to uncertainty over the availability of the CVTS 4 microdata, we conducted a survey of data holders at the Member States level via e-forms tailored to collecting administrative data on relevant ESF operations in parallel. Both e-forms (one for operations involving non-formal training for people in employment and another for operations providing training for public servants) were piloted with authorities of Czechia, Latvia and Lithuania, before circulating the survey in all Member States.

The full-scale collection of data on training for people in employment and public servants was launched on 18 September 2017. Invitations to cooperate and provide us with data for the development of SCOs were primarily addressed to members of TNC or other contact persons identified by the study team. A detailed scheme illustrating how this process of data collection was organised is provided in Figure 2.

Figure 2. Simplified data collection process: data on training for people in employment and training for public servants



Source: compiled by PPMI.

Simplified data collection process: data on training for people in employment and training for public servants Overall, data of varying volume and quality on training for people in employment was received from 12 countries/regions: Austria, Belgium (Flanders), Bulgaria, Cyprus, Estonia, Germany (Bremen and Hamburg), Greece, Ireland, Poland, Portugal, and Slovenia. Also, at least some data on training for public servants was obtained from seven countries/regions – Bulgaria, Cyprus, Estonia, Germany (Bremen), Greece, Poland and Portugal. The remaining countries/regions either did not respond, or mentioned the following reasons as to why the requested data could not be provided:

- data is not available at the detail required for our calculations;
- data cannot be retrieved in an electronic format and manual collection is not feasible;
- data is not reliable and cannot be used for the development of SCOs.

Due to the **low coverage** and significant **variation in quality** of the administrative data provided by Member States, the study team used it only for verification of the SCOs for people in employment based on the CVTS 4 microdata.

1.2. Data processing and analysis

The data processing and analysis phase of this study involved the following key steps:

- **data cleaning** to eliminate any irrelevant and bad data (e.g. duplicates, missing values), as well as identify and remove from the analysis the most prominent outliers;
- **exploratory analysis** to test the feasibility of different methods for establishing SCOs;
- **calculation** of potential unit cost rates and **extrapolation** of SCO values in Member States where data is insufficiently reliable or unavailable;
- **verification** of the potential unit cost rates to ascertain if they make sense based on the multivariate analysis of various socioeconomic development comparators.

A detailed description of samples of interventions/operations used for establishing SCOs, as well as data cleaning techniques and unit cost rate calculation methods applied in this study is provided in parts 2-4 of the report.

2. SCO FOR THE UNEMPLOYED

2.1. Cost of a successful exit from an intervention

2.1.1. Definition of the SCO

This is an output-based SCO, where a 'successful exit' refers to a participant leaving an intervention and obtaining a certificate, accreditation or other national measure providing sufficient assurance that his/her training was successfully completed (based on a national practice of a Member State). Participants may exit an intervention (a non-formal VET type training course which has identifiable participants and incurs expenditure) more than once, i.e. a successful exit does not have to be unique. Furthermore, if a participant receives multiple certificates for completing different training course modules within the same intervention, it should be counted as a single successful exit from an intervention. Although interventions are typically organised in the framework of the PES, they can also be provided on another basis, so long as a proof of training completion is available and is recognised by the PES. These interventions typically involve non-formal training, with a duration up to 12 months (though not exclusively).

2.1.2. Method to determine and update the amounts

2.1.2.1. Data sources

LMP statistics are the key source of data used for establishing this SCO. Developed by DG EMPL and disseminated by Eurostat, the LMP database is the most comprehensive source of statistically validated data on public interventions in the labour market.

Based on a thorough analysis of both the LMP database and the methodology applied to collect the LMP data, we concluded that our calculations should be based on data for interventions classified as 'training measures' (Category 2 in the LMP methodology). Training measures, by definition, cover all publicly financed measures that aim to improve the employability of LMP target groups through training. All training measures include some evidence of classroom teaching (might be blended with online training, but cannot be delivered completely online), or if in the workplace, supervision specifically for the purpose of instruction. Different types of trainings are included, namely institutional trainings, workplace trainings, alternate trainings. The scope of our dataset is limited primarily to the interventions that explicitly target groups of persons with difficulties in the labour market – the unemployed or the inactive (6.1-6.3 operational target groups in the LMP methodology).

As mentioned in Chapter 1.1, only some of the LMP data is accessible publicly from Eurostat. Our team has extracted the following data from this source:

- total expenditure per intervention;
- total expenditure per Member State;
- number of exits per intervention.

In addition, we utilised the following data provided by DG EMPL:

- metadata on expenditure and participants: notes by data providers describing quantitative data on expenditure (formal and free);
- average duration of participation in an intervention;
- qualitative data about interventions (items 5-14 of the LMP qualitative questionnaire).

To minimise the impact of short-term socioeconomic fluctuations and mitigate the risk of data irregularities (e.g. in countries where expenditure is recorded on a 'cash basis' and, therefore, is not aligned with participant data), our analysis encompasses data from a

three-year period, covering the years 2013-2015. Data for 2016 was not included because it was not yet available for most of the Member States, and, even where available, it was not yet verified by Eurostat. However, in those cases where data for 2016 was available, we used it to verify whether any major changes have occurred, especially in terms of the budget size or the number of participants.

For countries where LMP data was insufficient or inaccurate, unit cost rates were extrapolated. The regression model utilised for this purpose has been constructed using statistical indicators extracted from Eurostat's databases and unit costs calculated for those Member States where LMP data was sufficient. The following indicators were used:

1) GDP per capita in purchasing power standards (PPS) (2014-2016);
2) annual average unemployment rate (2014-2016);
3) comparative price levels (of final consumption by private households including indirect taxes) (2014-2016);
4) EU-SILC Survey median income by household type (2014-2016).

2.1.2.2. Sample and quality of data

The final data sample was constructed using the LMP data for 26 Member States: for the United Kingdom, the LMP data was not available after 2011 and for the Netherlands the LMP data misrepresent their typical training practices (as pointed out by the Managing Authority). To ensure the quality of data included in the sample, we applied a two-round data cleaning process.

First round of data cleaning. The initial data sample included all interventions available in the LMP database for the 2013-2015 period. However, to address certain data availability and reliability issues identified by the study team, the following measures were undertaken:

1) elimination of duplicate interventions;
2) elimination of interventions with missing data;
3) elimination of interventions with insufficient data (data available for 1 year only);
4) elimination of interventions classified as type "support for apprenticeships;"[2]
5) analysis of notes from data providers in Member States and elimination of the interventions which were found to have unreliable data;
6) verification of consistency of the accounting methods used in different Member States. Some interventions had to be eliminated as the methods used differed significantly from the ones described in the LMP methodology;
7) verification of double accounting and fixing of identified issues;
8) elimination of outliers based on the 1.5 inter-quartile range rule.

As a result, our sample decreased from 216 to 135 interventions. These changes, however, did not have a significant impact on the representativeness of our data sample – interventions retained in the sample account for more than 60% of the overall budget of interventions reported by 22 out of 23 countries for which LMP data is available.

Notably, some of the data used in the calculations (e.g. expenditure figures and number of exits from an intervention) was flagged in the LMP database as 'estimated.' According to the LMP database manual, Member States are required to provide estimates when relevant factual data is not available. Among others, data on planned budget figures submitted instead of historical data was flagged as estimated. Some Member States explained why only estimated figures could be provided and described the estimation method in the metadata (notes). As indicated in the description of the first round of data

[2] Eliminated to avoid duplication because expenditure on apprenticeships is eligible to be reimbursed on the basis of other EU-level standard scales of unit costs.

cleaning, we have analysed these notes and excluded any unreliable data from our data sample. The remaining estimated data was reliable enough to be included in the calculations (e.g. were estimated on data from the last year; estimated on expenditure for similar interventions; the budget was divided between interventions based on the number of participants, etc.). We have also asked Member States to provide more accurate data if possible, but none of them could.

Second round of data cleaning. To verify the unit costs established from the sample obtained after the first round of data cleaning, we checked how they compare across Member States that are similar in terms of their socioeconomic development. Member States were grouped into clusters using a hierarchical clustering technique. However, since we observed a rather significant variation of unit costs calculated for Member States belonging to the same cluster, qualitative information about interventions in 'outlier' countries was utilised to inform the second round of data cleaning. As a result of cleaning, the data sample decreased to 120 interventions, but its coverage remained sufficient to ensure high representativeness of interventions reported in the LMP database: interventions retained in the data sample account for more than 60% of the overall budget of interventions reported by 21 out of 23 countries for which LMP data is available. The second round of data cleaning included the following steps:

1) elimination of the interventions whose average duration exceeds 12 months;[3]
2) elimination of interventions whose costs were found to be unnaturally high/low due to the type of implemented activities (e.g. interventions involving formal education or online training activities);
3) elimination of interventions whose costs were found to be unnaturally high/low due to the specific group targeted by these interventions (e.g. health specialists, engineers).

Information on changes in the overall size of the data sample, number of interventions included in calculations for different Member States, and information on coverage/ representativeness of these samples are presented in Table 2. Even though the number of interventions per Member State varies significantly, this should not be interpreted as a limitation of the sample. The variance of sample sizes is determined by differences in the national practices for planning and administering of interventions/ programmes. Some countries differentiate their interventions/programmes on the basis of their target groups (and thus typically have a large number of interventions), whereas others have a single intervention that encompasses all target groups at once. Thus, to check the representativeness of the samples, a more suitable method is to compare the share of the budget covered by interventions included in the sample. Budget coverage is calculated by dividing the total expenditure for interventions included in the sample by the total expenditure for trainings (includes all interventions in category 2) reported by each Member State in the LMP database.

Table 2. Changes in sample size after data cleaning

Country	Initial sample	Sample after 1st cleaning	Coverage after 1st cleaning	Sample after 2nd cleaning	Coverage after 2nd cleaning
AT	11	7	89%	4	78%
BE	14	10	67%	5	49%
BG	14	10	71%	10	71%

[3] This step was skipped in the case of Germany because long interventions appear to be a part of the typical training practice in this country and do not distort the calculations of a unit cost. Furthermore, since data on duration was not available in the LMP database for some of the interventions reported by other Member States, there is a small chance that a small number of interventions whose duration was longer than 12 months were included in the final sample used for calculations.

Country	Initial sample	Sample after 1st cleaning	Coverage after 1st cleaning	Sample after 2nd cleaning	Coverage after 2nd cleaning
CY	10	7	97%	6	70%
CZ	2	1	100%	1	100%
DE	18	12	66%	12	66%
DK	1	1	97%	1	97%
EE	3	2	100%	2	100%
EL	11	0	N/A	0	N/A
ES	11	8	77%	7	77%
FI	7	4	97%	3	65%
FR	11	8	65%	8	65%
HR	10	10	99%	10	99%
HU	2	1	99%	1	99%
IE	15	11	94%	11	94%
IT	3	0	N/A	0	N/A
LT	1	1	100%	1	100%
LU	3	2	81%	2	81%
LV	7	5	95%	5	95%
MT	7	0	N/A	0	N/A
NL	3	0	N/A	0	N/A
PL	9	6	94%	5	90%
PT	16	9	77%	9	77%
RO	2	1	92%	1	92%
SE	8	8	100%	7	95%
SI	14	8	85%	6	83%
SK	3	3	100%	3	100%
UK	0	0	N/A	0	N/A
TOTAL	**216**	**135**		**120**	

Source: compiled by PPMI based on data extracted from the LMP database and provided by the Member States.

2.1.2.3. Analysis

Two different calculation methods were applied to establish the cost of a successful exit from an intervention targeting the unemployed. For Member States where LMP data was available, the unit cost was calculated using the formula below:

$$SCO_1 = \frac{\sum_{y=2013}^{2015}(Exp_y * W)}{\sum_{y=2013}^{2015}(Part_y * W)}, \text{ where}$$

Exp_y - expenditure per intervention in the reference year Y;
$Part_y$ - number of 'certified/accredited exits' per intervention in the reference year Y;
W - weight used to equalise the differences in the number of observations per intervention.

Expenditure. The LMP database collects data on the public expenditure associated with each intervention. According to the LMP methodology, expenditure should cover all transfers and foregone revenue provided to the direct recipients as a result of the intervention. This expenditure may include expenditure in the form of:

- transfers of cash payments (lump sums, periodic payments to individuals, employers or service providers) or reimbursements;
- the value of directly provided goods and services. The value of services may relate to the costs of purchasing services from third party providers or the costs of internally provided services where there is no explicit transfer (e.g. costs of PES staff time and related overheads);
- amounts of revenue foregone through reductions in obligatory levies (taxes or social contributions that governments would have otherwise collected if a person did not participate in the intervention.).

According to the LMP methodology, expenditure should be recorded on an accruals basis, i.e. measured at the time that the events creating related claims and liabilities occur. This is important for ensuring the link between the expenditure and participant data. Unfortunately, a significant number of the analysed countries collect information only on a cash basis. Therefore, to ensure that participant data relates to the expenditure data, we have analysed the total costs that were incurred in a three-year period (2013-2015). This approach minimises inconsistencies between the expenditure and participant data.

Certified/Accredited Exits – Participants. This refers to the number of participants per intervention who successfully completed a certified, accredited or otherwise formally recognised (by the PES) training course(s) and exited an intervention in the reference year. By 'certified' we mean that the institution providing training issues a form of certificate to prove the participant has successfully completed his/ her training. By 'accredited,' we mean that the success of training has been validated by an independent body responsible for its accreditation. National practices of certification and accreditation may differ, but should serve as proof of a successful completion of a training. Exits do not have to be unique i.e. a unique participant may exit an intervention more than once.

Notably, 25 out of 28 Member States contacted by our team did not provide us with data on the number of 'certified/accredited exists.' Member States could not distinguish between successful (here the successful exit is understood as an exit from an intervention after successfully completing one's training) and an unsuccessful (here the unsuccessful exit is understood as a drop-out from an intervention, i.e. a participant who has left an intervention without completing their training) exits (except for Lithuania, Portugal and Slovakia). Therefore, we used LMP data, in particular the number of 'exits,' as the closest approximation of 'certified/accredited exists' to establish the unit costs. 'Exits' refer to the total number of participants who have left an intervention during the year, i.e. the outflow irrespective of the reason for leaving. Persons who leave early (drop-outs) are counted equally with participants that complete their training.

Weight. The number of available observations (i.e. the number of years for which relevant data is available) per one intervention differs. A simple arithmetic average would result in a unit cost where interventions with more observations would have a larger impact on the average. Thus, to eliminate this bias we are using weighted averages. Weights are assigned to each intervention based on the number of observations available.

For countries where LMP data was not available or appeared to lack reliability, we have determined the unit cost using a linear extrapolation method. Linear extrapolation uses the ordinary least squares (OLS) regression model to predict missing values based on the available data. OLS regression modelled the relationship between the unit costs calculated using the formula presented above and the indicators presented in chapter 2.1.2.1. Linear regression may only be used when the relationship between variables in the model is linear. Our model had a sufficiently good fit (R^2=91%) to yield credible extrapolation results.

2.1.2.4. Results

The potential unit cost rates for training of the unemployed are presented in Table 3. Applying the calculation method described above, unit costs were determined for 23

countries. The calculated unit costs largely reflect the clustering patterns observed when comparing Member States based on selected socioeconomic indicators mentioned in section 2.1.2.1. However, a few deviations can be observed. For some Member States (e.g. Germany, Hungary and Ireland), it can be explained by the specific training practices evident from the available qualitative data (e.g. longer duration, specific target groups, training method, etc.). In other countries, especially where a few large interventions encompass all trainings organised for the unemployed in the country (e.g. Estonia, Hungary, and Lithuania), qualitative data is insufficient for determining the factors behind exceptionally high/low unit costs. Nevertheless, considering the rigorous data verification process that the data in the sample has undergone, we conclude that these unit costs reflect the specific training practices in those Member States.

Extrapolated unit cost values were established for seven Member States. It was not feasible to determine a unit cost for the United Kingdom because the latest data available from the LMP database for this country was for 2011. After two rounds of data cleaning, LMP data for Italy was found to be insufficient to inform the calculations. Meanwhile LMP data for other three Member States was not representative of their typical training practices (Greece, Malta and the Netherlands) or was under revision by the Member States (Greece and Malta). For more information see the footnotes. The study team has also extrapolated unit costs for Croatia and Romania even though calculations based on the LMP data were feasible. This was done because calculated values raised suspicion as to whether they represent the actual costs of typical training practices in Croatia and Romania.

Although the unit costs calculated for Germany, Hungary and Ireland stand out from unit costs in other countries in their clusters, such variation can be explained by training practices specific to these countries:

- typical interventions in Germany are characterised by long duration (12 months and over). As a result, if Germany adopted the EU-level SCO, the requirement for duration of training (up to 12 months spent within an intervention) should not be applied to this country;
- a large share of training courses in Ireland target specific target groups, such as the socially excluded, LTU, youth, etc.;
- expenditure on training for the unemployed in Hungary, in addition to training costs, includes income compensation and support for employers involved in training of the disabled.

Table 3. Unit cost rates

Country	First cleaning, EUR	Second cleaning	Extrapolated values, EUR
AT	1837	2277	
BE	2525	3351	
BG	596	596	
CY	3339	2696	
CZ	521	521	
DE	6959	6959	
DK	5803	5803	
EE	711	711	
EL[4]			2064
ES	2774	2772	
FI	6814	5885	

[4] Data under revision by Member State during the study period.

Country	First cleaning, EUR	Second cleaning	Extrapolated values, EUR
FR	6274	6274	
HR[5]	4299	4299	689
HU	1818	1818	
IE	11 119	11 119	
IT[6]			3676
LT	1359	1359	
LU	19 302	19 302	
LV	756	756	
MT[7]			2256
NL[8]			5018
PL	608	594	
PT	994	994	
RO[9]	53	53	583
SE	7512	7303	
SI	822	854	
SK	424	424	
UK[10]			5863

Source: compiled by PPMI based on data extracted from the LMP database and provided by Member States

2.1.2.5. Audit trail

The audit trail for this EU-level SCO is presented below.

Audit trail	
Types of operations	Training of the unemployed. Training is a non-formal VET type training course, which has identifiable participants and incurs expenditure. All training measures have to include some evidence of classroom teaching (might be blended with online training, but cannot be delivered completely online), or if in the workplace, supervision specifically for the purpose of instruction.
Indicator name	Exit from an intervention upon successful completion of a training. Exit from an intervention refers to an exit after completing a training. A participant may exit an intervention more than once, i.e. the number of successful exits does not have to equal the number of unique participants who have exited an intervention.

[5] Expenditure composition of the largest intervention (90% of the budget) has changed in 2013, thus expenditure fluctuated significantly in 2013-2015.
[6] LMP data availability is limited to two interventions and both of them fall under the category of apprenticeships.
[7] LMP data are not representative of typical trainings for the unemployed and are under revision by the Member State.
[8] LMP data represent only a part of the trainings available for the unemployed and differ significantly from the trainings financed by the ESF.
[9] When the rate is compared to administrative data for training used to develop separate unit costs, there is a significant divergence, while the extrapolated rate is comparable.
[10] LMP data not available after 2010.

Audit trail	
	'Successfully completed training' refers to completion of a training when a certificate, accreditation or other national measure providing sufficient assurance that the participant has completed a training has been obtained (based on the national practice of the Member State). More than one training may be completed successfully when exiting an intervention, but it should be counted as one successful exit.
Category of costs	All eligible costs of the training operation (direct and indirect training costs) eligible under ESF regulation.
Measurement unit for the indicator	Number of exits after successful completion of a training with a certificate/an accreditation (or another equivalent national measure proving completion of a training) during a reference period. If a participant receives multiple certificates for completing different training course modules within the same intervention, it should be counted as a single successful exit from an intervention.
Specific requirements for the audit trail and justification of achievement of SCOs	Managing Authorities and intermediary bodies, taking into account relevant national practices, must ensure the availability of proof that an output was delivered. The aggregate number of exits reported to the Commission should be traceable to separate trainings and participants. Sufficient documentary proof for each participant is necessary for: (1) proof of an exit from an intervention (e.g. a register of participants indicating interventions one has exited, a register of interventions indicating participants who have exited, etc.); (2) proof of a successfully completed training (e.g. a certificate, an accreditation or other national measure providing sufficient assurance that the participant has successfully completed his/her training) (3) proof of being registered or eligible for a training based on national eligibility rules (e.g. extracts from PES register).
Key risks and measures to prevent 'creaming' of participants and perverse incentives	Applying an output-based SCO to reimburse the funds to Member States for training for the unemployed is associated with the following risks: it provides an incentive to increase the number of exits by organising shorter training courses/ counselling services for the same price; it might encourage slicing up operations (generating more exits by funding several smaller operations instead of one bigger operation); it provides an incentive to change practices related to the definition of an exit; it might lock-in the existing practices (especially in Member States where unit-cost values are low due to their current focus on short trainings offered to large quantities of unemployed persons). These risks could be mitigated by reimbursing only successful exits that would be proved by a certificate or an accreditation. The preventive strength of this measure, however, depends on national practices as in some Member States changing of the certification or accreditation practice might be relatively easy. Another measure to address these risks could be the introduction

Audit trail	
	of a result-orientation requirement. Achieving results might be encouraged either by withholding a certain percentage of the cost until a result has been achieved or by applying a 'top-up' to the amount when a specific condition, such as a change of the participant's status from 'unemployed' to 'employed,' has been fulfilled (in accordance with the proposal in Common Provisions Regulation (CPR) for payments based on the fulfilment of conditions).
Adjustment of amounts	Amounts can be adjusted using the data submitted by the Member States to the LMP database. Although LMP statistics are updated annually, data analysis has not revealed any significant unit cost changes during a period of one year. Furthermore, due to their national accounting practices, some Member States tend to revise the submitted data during the following year. To minimise the uncertainty for Member States, annual adjustment of the amounts should be avoided.

2.1.3. Insights on application of this SCO

Unit cost rates have been calculated or extrapolated for all Member States with a sufficient reliability. Hence, it is possible to set an EU-level SCO for training for the unemployed in all Member States based on the results presented in section 2.1.2.4.

The audit trail for this SCO should be feasible without any major administrative changes as analogous data (with an exception of the indicator on success of an exit) is already being collected by the Member States to inform the LMP database. If certification or accreditation practices are applied on a national or regional level, such data should be easily available for reporting.

Risks that Member States would be over-compensated using this SCO are minimised by the requirement to claim the expenditure only for certified or accredited exits. If combined with a condition/requirement to achieve concrete results (i.e. exit from an intervention should lead to employment), this SCO would become more resistant to perverse effects. As described in the previous section, this could be achieved either by withholding a certain percentage of the cost until the result has been achieved or by applying a payment based on conditions fulfilled (as being currently considered for the new CPR).

3. SCO FOR EMPLOYMENT SERVICES

3.1. Cost per counselling hour

3.1.1. Definition of the SCO

This is an input-based SCO that reflects the average hourly direct labour costs of PES staff providing counselling services in a particular Member State. Counselling services are understood as employment services performed by case handlers that help job-seekers to find employment (for example, intake and orientation, skills audit, etc.). All counselling interventions are organised in the framework of PES.

3.1.2. Method to determine and update the amounts

3.1.2.1. Data sources

Country fiches produced by the PES Business Models study are the key source of data used for establishing this SCO. Additionally, to verify and collect data that was missing from the fiches we contacted 11 PES. In total, we received answers from PES contacted in Bulgaria, Cyprus, Estonia, Finland, France, Latvia, Slovakia and the United Kingdom.

The PES Business Models study is the most comprehensive data source that contains information about PES staff costs and number of employees for the period 2013-2014. Although originally intended, we did not use the PES Benchlearning and PES Capacity Questionnaire data in our analysis. Notably, the data obtained from the PES Benchlearning and PES Capacity Questionnaire was insufficient to calculate the cost per counselling hour (this calculation method is explained in the sub-section below). Furthermore, we could not integrate data obtained from the latter sources and country fiches as these data sources turned out to be incomparable.

The purpose of the PES Business Models study was to examine how PES are organised, their main tasks, the scope of their remit, clients and services and PES Business Models. This study was an update of the previous study on PES Business Models undertaken in 2011.[11] The study was based on the analysis of information provided by 30 PES through a questionnaire completed between February and May 2014. All EU PES submitted completed questionnaires. As indicated in the study report, the quality of responses was generally high. However, some country fiches were incomplete.

As a result, we contacted PES to receive the missing data. Inquiries were circulated on 5 January 2018 with a request to provide the following information:

- PES annual expenditure on PES staff costs in EUR (a total for PES head office and regional/local offices) (expenditure includes only direct labour costs: wages, payroll taxes, medical and social insurance, etc.);
- total number of PES staff (a total for PES head office and regional/local offices);
- total number of PES staff in full-time equivalent (FTE) (a total for PES head office and regional/local offices).

The last answers were received on 19 January 2018. Aside from Denmark, Ireland, Italy and the Netherlands, the missing data was submitted by all other PES contacted by our team. Thus, we applied extrapolation to establish the unit cost values for these four countries. Our extrapolation approach is discussed in the following sub-sections. It was informed by the following socioeconomic indicators obtained from Eurostat:

[11] The results of the 2011 study are available at: http://www.mobilitypartnership.eu/Documents/SS1_PES%20Bussiness%20Models_Final.pdf

- GDP per capita in Purchasing Power Standards (PPS) (source: Eurostat[12]);
- unemployment rate as a percentage of active population (source: Eurostat, [une_rt_a]);
- comparative price levels (the ratio between Purchasing power parities (PPPs) and market exchange rate for each country) (source: Eurostat, [nama_inc_c]);
- population size;
- hourly labour costs in the area of administrative services (source: Eurostat, [lc_lci_lev]).

In addition, data from country fiches had to be adjusted to better reflect the current labour cost levels. For this purpose, we assessed how labour costs changed in the period 2013-2016. These calculations were informed by data on average hourly labour costs extracted from the Labour Cost Survey (LCS).[13] This data is available from Eurostat's dataset: 'Labour cost levels by NACE Rev. 2 activity *[lc_lci_lev]*.'

Finally, we explored a number of methods for establishing an output-based SCO for Employment Services. However, our analysis revealed that the currently available data is insufficient for determining an output-based EU-level SCO. Neither of the data sources consulted contained all relevant data in one piece, also significant mismatches in overlapping data were identified when comparing different datasets that prevented merging of data acquired from these sources. The analysis of information provided on PES websites and reported in their reports has also revealed that national institutions do not collect the data needed for determining the costs incurred per output: depending on the Member State, it is not possible to determine the number of counselling recipients, the length of counselling services or the expenditures associated with these services.

3.1.2.2. Sample and quality of data

The following data for the year 2013 was collected from country fiches:

- total PES expenditure;
- PES expenditure on staff (direct labour costs);
- total number of PES staff (5 out of 28 analysed Member States provided this number in FTE; others – in number of employees);
- total number of PES staff servicing clients;
- total number of job-seeking clients.

The table below demonstrates to what extent each Member State is covered by the data collected.

Table 4. Summary of the data from PES Business Models study[14]

Country	Total PES EXP	EXP on staff	Total PES staff	Staff servicing clients	No. of job-seekers
AT	YES	YES	YES	YES	YES
BE_ACTIRIS	YES	YES	YES	YES	YES
BE_VDAB	YES	YES	NO	NO	YES
BE_Le FOREM	YES	YES	NO	NO	YES
BG	YES	NO	YES	YES	NO
CY	YES	YES	YES	YES	NO

[12] Eurostat, http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tec00114&plugin=1
[13] Eurostat, http://ec.europa.eu/eurostat/web/labour-market/labour-costs
[14] *YES* in italics indicates that data is available only for one year (either 2013 or 2014).

Country	Total PES EXP	EXP on staff	Total PES staff	Staff servicing clients	No. of job-seekers
CZ	YES	YES	YES	YES	YES
DE	YES	YES	YES	YES	YES
DK	YES	NO	YES	YES	YES
EE	YES	YES	YES	YES	NO
EL	YES	YES	YES	YES	YES
ES	YES	YES	YES	YES	YES
FI	NO	NO	YES	YES	NO
FR	YES	YES	YES	YES	NO
HR	YES	YES	YES	YES	YES
HU	YES	YES	YES	YES	YES
IE	YES	NO	NO	NO	NO
IT	NO	NO	YES	YES	NO
LT	YES	YES	YES	YES	YES
LU	YES	YES	YES	YES	YES
LV	YES	YES	YES	YES	YES
MT	YES	YES	YES	YES	YES
NL	NO	NO	YES	YES	YES
PL	YES	YES	YES	YES	NO
PT	YES	YES	YES	YES	YES
RO	YES	YES	YES	YES	NO
SE	YES	YES	YES	YES	YES
SI	YES	YES	YES[15]	NO	YES
SK	YES	YES	YES	YES	YES
UK	NO	YES	NO	NO	NO
	YES=26	**YES=24**	**YES=25**	**YES=27**	**YES=20**

Source: prepared by PPMI.

To validate the above-described data extracted from the PES Business Models study, we compared it with publicly available data on PES websites. Overall, we managed to collect information on the total staff costs and number of PES staff from 11 PES websites (namely, Austria, Belgian Actiris, Belgian Arbeitsamt der DG, Croatia, Lithuania, Malta, Portugal, Slovakia, Slovenia, Spain and Sweden). The comparative analysis of data acquired from these two sources revealed that significant differences are evident in the following three countries: Croatia, Estonia and Slovakia.

The mismatch of data in Estonia and Croatia could be explained by the fact that staff cost figures published on PES websites do not cover all relevant levels of PES (such as head office, regional and local offices). In the case of Slovakia, cost figures from the website matched the data from the country fiche, however, the total number of PES staff was about 24 times smaller (number of staff members indicated in the country fiches was 8992, whereas on the website - 372).

A further comparison of the calculated unit cost values for Croatia with hourly labour cost data from Eurostat (see the section below for more information) did not show any discrepancies, and thus, we concluded that the data collected for Croatia is reliable and

[15] The latter data was retrieved from the SI PES website.

can be used to calculate the SCO. In the case of Estonia, the calculated SCO was somewhat higher than the national hourly labour cost levels of administrative staff as indicated by Eurostat's data (respectively, EUR 16.5 and EUR 10.3), whereas in the case of Slovakia – it was somewhat lower (respectively, EUR 4 and EUR 7). As a result, we contacted Estonian and Slovakian PES to further verify if the data in their country fiches is reliable.

The close examination of the Latvian fiche revealed that PES staff figures indicated in the different fiche sections do not match. Therefore, Latvian representatives were also contacted to determine which figure is correct.

Data available from country fiches produced by PES Business Models study was insufficient for establishing unit cost values for seven countries (namely, Bulgaria, Denmark, Finland, Ireland, Italy, the Netherlands and the United Kingdom). Thus, in addition to Estonian, Slovakian and Latvian PES, we also contacted the latter six countries except for the Netherlands. A representative of this Member State informed us in advance that required data will not be available. Furthermore, we also contacted PES representatives in Cyprus and France as our initial analysis revealed that the calculated unit cost values for these two Member States somewhat differ from the national level of the administrative staff hourly labour costs. As a result of our correspondence with PES, we managed to obtain additional clarifications from 8 PES (Bulgaria, Cyprus, Estonia, Finland, France, Latvia, Slovakia and the United Kingdom). The summary of the data collected from PES is presented in the table below.

Table 5. Data received from PES

Country	Reason for Contacting	Staff costs		Number of staff		Number of staff (FTE)	
		2013	2016	2013	2016	2013	2016
BG	Missing data	YES	YES	YES	YES	YES	YES
CY	Mismatches between WEB and Eurostat data	YES	YES	YES	YES	YES	YES
DK	Missing data	NO	NO	NO	NO	NO	NO
EE	Mismatches between WEB and country fiche data	YES	YES	YES	YES	YES	YES
FI	Missing data	YES	YES	YES	YES	YES	YES
FR	Mismatches between WEB and Eurostat data	YES	YES	NO	NO	YES	NO
IE	Missing data	NO	NO	NO	NO	NO	NO
IT	Missing data	NO	NO	NO	NO	NO	NO
LV	Mismatches in the country fiche	YES	YES	NO	NO	YES	YES
SK	Mismatches between WEB and country fiche data	YES	YES	YES	YES	YES	YES
UK	Missing data	NO	YES	NO	NO	NO	YES

Source: prepared by PPMI.

We did not manage to obtain sufficient data to calculate unit cost values for Demark, Ireland, Italy and the Netherlands. Therefore, values for these Member States had to be extrapolated. As outlined in sub-section 3.1.2.3, we created a statistical model (based on OLS regression) to explain the variance of the calculated SCOs and to predict the unknown values. The model could explain more than 90% of the unit cost variance (R^2 > 90%). Extrapolation was carried out at the country level and based on socioeconomic indicators obtained from Eurostat (the full list of indicators is presented in section 3.1.2.1).

3.1.2.3. Analysis

The potential unit cost values were established in two steps. First, we calculated the hourly cost of counselling for 2013 by dividing the total PES staff costs in 2013 by the number of hours worked in each Member State. Then we adjusted this rate based on the average increase in labour costs of administrative services in each Member State in the 2013-2016 period:

$$1)\ SCO_{pathw2013} = \frac{Costs_i}{\text{Staff}_i * T_i * 52{,}177457},$$

$$2)\ SCO_{pathw2016} = SCO_{pathw2013} * \frac{LC_{2016}}{LC_{2013}}, \text{ where}$$

Costs$_i$ – PES staff costs in the country I in the year 2013;
Staff$_i$ – the PES staff (head, regional, local offices) number in country I in the year 2013;
T_i - the legal number of hours per week that constitute a full-time equivalent (FTE) in country I; *52,177457* – number of weeks per year;
LC – hourly labour costs as indicated in the Eurostat dataset 'Labour cost levels by NACE Rev. 2 activity [lc_lci_lev].'

Expenditure on staff (Costs) refers to the expenditure of Public Employment Services to cover the costs of its staff (direct labour costs: wages, payroll taxes, medical and social insurance, etc.). Ideally, only PES expenditure on staff providing counselling services should be included in calculations, however, this data is currently not available from some Member States.

Number of staff (Staff) is the number of all staff working at the Public Employment Services. Data for ten Member States is based on the national full-time equivalents (Belgium, Bulgaria, Cyprus, Estonia, France, Hungary, Ireland, Latvia, Slovakia and the United Kingdom). The rest of the data is based on the absolute number of employees (not in FTE). We had to use the latter indicator as a proxy for FTE where FTE data was not available. After comparing FTE data with the absolute number of employees we concluded that these indicators are not significantly different. The FTE number was on average 0.3% lower than the absolute number of employees (standard deviation – 1.7 percentage points) in 2013 and by 1.7% in 2016 (standard deviation – 3.3 percentage points). Thus, it was concluded that using the absolute number of employees instead of FTE in our calculations would not significantly affect the final unit cost values.

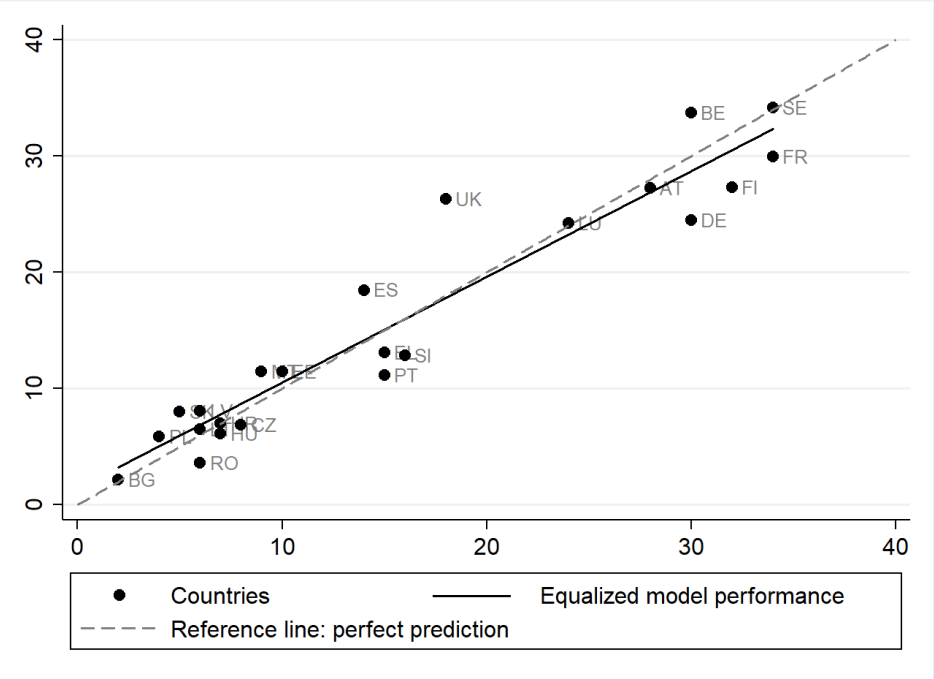
Coefficient T is established based on the number of hours per week in full-time equivalents (FTE) in each Member State.

Due to incomplete data available to our team, it was impossible to calculate the potential unit cost values for some Member States without applying extrapolation. As such, we had to use extrapolation for four countries (Denmark, Ireland, Italy and the Netherlands). Extrapolation was carried out at the country level with unit costs per country treated as a dependent variable and selected socioeconomic indicators as independent variables. The full list of socioeconomic indicators is presented in sub-section 3.1.2.1.

Extrapolation was carried out using ordinary least squares (OLS) regression. OLS regression is a method for estimating the unknown parameters in a linear regression model. Our OLS model is visualised in Figure 3: the dashed line is a reference line representing a perfect correlation between predicted and empirical values, whereas the black dots with country codes represent real empirical values. This model helped us to predict unit cost values for Member States with incomplete data. Predicted values are written on the Y-axis and real empirical values – on the X-axis. The full extrapolation results are presented in section 3.1.2.4.

The model explained more than 90% of the SCO rate variance (R^2 > 90%). Therefore, our model should be seen as statistically robust and having strong explanatory power.

Figure 3. Predictive power of the OLS model for counselling staff costs



Source: prepared by PPMI.

3.1.2.4. Results

The potential unit cost values are presented in

Table **6**. The data sample was sufficient to calculate hourly staff costs for 24 countries. As noted in the data sample description, no data is available for four countries (namely, Denmark, Ireland, Italy and the Netherlands), and thus, we had to extrapolate these values. In addition to hourly unit cost values, we calculated monthly and yearly values that relate to the monthly and yearly labour costs of counselling. This will give more flexibility to Member States wishing to use different time units (e.g. use a yearly unit cost value to cover the cost of an employee who is working full-time on a project for one year).

Firstly, we calculated unit cost values based on the data for the year 2013. Secondly, using hourly labour cost statistics[16] obtained from Eurostat, we adjusted these values to the 2016 level. The results of this exercise are presented in the table below. On average, labour costs have increased by 11 % in the period 2013-2016. The highest increase was observed in Romania (43%), whereas in Italy labour costs shrunk by 3%. Adjusted values were inserted in our OLS regression model as a dependent variable. The OLS model was used to extrapolate values for Denmark, Ireland, Italy and the Netherlands. The results of extrapolation are presented in

[16] For this purpose, we used the hourly labour costs in the area of administrative and support service activities.

Table **6**.

Table 6. Unit cost rates for Employment Services (hourly)

Country	SCO at 2013 level[17], eur	% change in hourly labour costs[18] (2013-2016)	SCO adjusted to 2016 level	Predicted SCO, EUR	Final SCO (hourly), EUR	Final SCO (monthly), EUR	Final SCO (yearly), EUR
AT	26	7 %	28	27	28	4802	57623
BE	30	1 %	30	34	30	5007	60080
BG	2	38 %	2*	2	2	388	4651
CY	16	-	21*	MISSING	21	3905	46860
CZ	8	5 %	8	7	8	1420	17046
DE	28	7 %	30	24	30	5416	64994
DK	MISSING	4 %	MISSING	39	39	6783	81397
EE	8	26 %	10*	11	10	1784	21406
EL	15	1 %	15	13	15	2632	31587
ES	14	3 %	14	18	14	2506	30068
FI	30	5 %	32*	27	32	5488	65860
FR	34	1 %	34	30	34	5212	62540
HR	6	5 %	7	7	7	1157	13886
HU	6	20 %	7	6	7	1297	15564
IE	MISSING	7 %	MISSING	26	26	4579	54943
IT	MISSING	-3 %	MISSING	22	22	3884	46605
LT	5	27 %	6	7	6	1124	13484
LU	23	4 %	24	24	24	4220	50636
LV	5	26 %	6*	8	6	989	11862
MT	8	10 %	9	11	9	1560	18723
NL	MISSING	1 %	MISSING	26	26	4624	55486
PL	4	11 %	4	6	4	751	9008
PT	14	6 %	15	11	15	2606	31274
RO	4	43 %	6	4	6	1111	13326
SE	34	0 %	34	34	34	5978	71736
SI	15	11 %	16	13	16	2868	34418
SK	4	18 %	5*	8	5	798	9579
UK	MISSING	14 %	18*	26	18	3350	40204

Source: prepared by PPMI.
*SCO rates for 2016 are based on the data provided by PES for the following countries: Bulgaria, Cyprus, Estonia, Finland, Latvia, Slovakia and the United Kingdom.

The calculated unit cost rates are relatively similar when compared within country clusters, which were created based on the socioeconomic indicators introduced in section 3.1.2.1. However, some variation is present.

[17] Hourly counselling staff costs: unit cost rate for Employment Services at the level of the year 2013 labour costs.
[18] Eurostat, dataset: 'Labour cost levels by NACE Rev. 2 activity [lc_lci_lev]'

Member States were grouped into clusters using the hierarchical clustering technique. Hierarchical clustering groups countries into relatively small clusters, which are respectively grouped into larger ones and the exercise is repeated again. The final output is a hierarchical tree of clusters.

The variation of the unit cost values within clusters and between clusters was moderate. In most cases, unit cost values did not differ significantly within clusters: the difference varied from EUR 3 to EUR 14 at the lowest cluster level. The highest differences within clusters were observed in the following clusters: 1) Finland and the United Kingdom; 2) France and Italy. The differences between clusters (when comparing cluster averages) varied from EUR 5 to EUR 31. The group of countries with the highest average counselling staff cost included Sweden and Denmark, with the unit costs above EUR 34 per hour. The two groups of Member States with the lowest unit costs (below EUR 7 per hour) included Bulgaria, Romania, Latvia, Poland, Hungary and Croatia.

It can be concluded that our model as well as the collected empirical values are reliable and correspond to the actual costs of staff responsible for counselling in Member States. To verify the validity of our OLS model as well as the reliability of the collected data, we compared the predicted values with the values collected from country fiches (see Table 7). The values predicted by our model differed by an average of 19% from the empirical values indicated in the country fiches. That is equal to EUR 2. The highest difference between empirical and predicted values was observed in the cases of Slovakia (60% or EUR 3), Poland (50% or EUR 2) and the United Kingdom (44% or EUR 8) (see Table 7). Without these three outliers, the predicted values differed by an average of 15% from the real empirical values (that was equal to EUR 2). The OLS model could explain 91% of dependent variable's variance.

Table 7. Extrapolation: the difference between predicted and empirical SCO values

Country	SCO empirical[19], EUR	Predicted SCO, EUR	Eurostat labour costs[20], EUR	% Diff. between predict. and final (EUR)	% Diff. between Eurostat and final (EUR)
AT	28	27	25	-4% (EUR 1)	-11% (EUR 3)
BE	30	34	32	13% (EUR 4)	7 % (EUR 2)
BG	2	2	3	0% (EUR 0)	50% (EUR 1)
CY	21	MISSING	MISSING	N/A	N/A
CZ	8	7	6	-13% (EUR 1)	-25% (EUR 2)
DE	30	24	20	-20% (EUR 6)	-33% (EUR 10)
DK	MISSING	39	35	N/A	N/A
EE	10	11	10	10% (EUR 1)	0% (EUR 0)
EL	15	13	10	-13% (EUR 2)	-33% (EUR 5)
ES	14	18	15	29% (EUR 4)	7% (EUR 1)
FI	32	27	23	-16% (EUR 5)	-28% (EUR 9)
FR	34	30	26	-12% (EUR 4)	-24% (EUR 8)
HR	7	7	6	0% (EUR 0)	-14% (EUR 1)
HU	7	6	6	-14% (EUR 1)	-14% (EUR 1)
IE	MISSING	26	22	N/A	N/A
IT	MISSING	22	18	N/A	N/A

[19] Hourly counselling staff cost rate for Employment Services adjusted to the year 2016 level.
[20] Hourly labour costs in the area of administrative services (source: Eurostat, [lc_lci_lev]).

Country	SCO empirical[19], EUR	Predicted SCO, EUR	Eurostat labour costs[20], EUR	% Diff. between predict. and final (EUR)	% Diff. between Eurostat and final (EUR)
LT	6	7	6	17% (EUR 1)	0% (EUR 0)
LU	24	24	21	0% (EUR 0)	-13% (EUR 3)
LV	6	8	7	33% (EUR 2)	17% (EUR 1)
MT	9	11	10	22% (EUR 2)	11% (EUR 1)
NL	MISSING	26	22	N/A	N/A
PL	4	6	6	50% (EUR 2)	50% (EUR 2)
PT	15	11	8	-27% (EUR 4)	-47% (EUR 7)
RO	6	4	4	-33% (EUR 2)	-33% (EUR 2)
SE	34	34	31	0% (EUR 0)	-9% (EUR 3)
SI	16	13	11	-19% (EUR 3)	-31% (EUR 5)
SK	5	8	7	60% (EUR 3)	40% (EUR 2)
UK	18	26	20	44% (EUR 8)	11% (EUR 2)

Source: prepared by PPMI.

3.1.2.5. Audit trail

Audit trail for Employment Services SCO	
Types of operations	Counselling services of unemployed persons that are performed by case handlers and implemented by PES. This type of employment service helps job-seekers find employment (for example, intake and orientation, skills audit).
Indicator name	Direct staff costs related to one hour of counselling of the unemployed. **Definitions:** **One hour of counselling**: normally means 60 minutes of counselling. Time related to preparation for counselling, travel time and any other non-counselling activities are not included into counselling time. **The unemployed:** an unemployed person or a group of unemployed persons enrolled in a counselling intervention implemented by the PES. The unit rate does not depend on the number of people in the group.
Category of costs	All direct labour costs of the counselling operation eligible under ESF regulation.
Measurement unit for the indicator	Number of staff contact hours spent providing counselling services to unemployed people (one person or a group of people). The amount paid relates to the number of counselling hours; it does not depend on the number of people in the counselling group.
Specific requirements for	Managing Authorities and intermediary bodies, taking into account relevant national practices, must ensure that the

Audit trail for Employment Services SCO	
the audit trail and justification of achievement of SCOs	aggregate counselling hours certified to the Commission are traceable to separate operations, where for each operation there will have to be a sufficient documentary proof on (1) the number of staff hours spent providing counselling services, (2) the number of participants who received counselling, (3) the employment status of the participants. Examples of supporting documents related to proof of the duration of counselling could include: • staff timesheets; • counselling schedule/programme; • register of attendance by the participant; • other registers, etc. Examples of supporting documents related to the status of a participant (unemployment person) could include extracts from registers, etc.
Key risks and measures to prevent 'creaming' of participants and perverse incentives	Applying an input-based SCO to reimburse the funds to Member States for counselling of the unemployed is associated with the following risks: it provides an incentive to increase the duration of counselling or an incentive to organise counselling sessions for smaller groups of people. To ensure that funding is spent efficiently, we recommend implementing one of the following alternative measures: 1) To set a maximum limit on the contact hours of counselling participants receive on average per whole programme nationally[21]. The national average could be calculated annually based on the data of all participants who exited counselling interventions in the reference year (all national ESF counselling interventions should be included in such calculations). PES Benchlearning initiative could contribute to this end by collecting relevant information (on average number of counselling hours per FTE) as part of its inquiries in the area of 'allocation of PES resources.' This information could also be used to set up an output-based SCO (by multiplying the average number of counselling hours in FTE by cost per counselling hour established by this study). 2) To limit the percentage of total working hours per week or per year that PES counsellors spend on counselling (face-to-face work with the unemployed). The maximum limit could be set at the organisation level rather than at the individual level to allow some flexibility for counsellors to manage their time. Setting

[21] As the needs of individual participants are very heterogeneous, some unemployed persons might need longer counselling than others. Thus it is recommended that maximum limits are set at the programme level and not at the intervention or individual level. Averages could be calculated annually based on the total participant data. The maximum limits would apply only to these averages.

Audit trail for Employment Services SCO	
	the limit on the inputs rather than the outputs would not require to collect additional information, as opposed to the 1st alternative. However the 2nd alternative might be less effective in preventing perverse incentives than the 1st one as it only indirectly limits the duration of counselling. Furthermore, it might inhibit the work of counsellors in the cases of the sudden increase in the number of the unemployed. In addition, as an input-based indicator, this SCO does not encourage national authorities to look for new, more effective methods of counselling and it could lock-in ineffective practices. Achieving results could be encouraged by paying a special 'entitlement'/top-up payment for each result achieved during the reference year (e.g. change of the participant's status from 'unemployed' to 'employed') irrespective of the number of hours worked. The condition encouraging result orientation could help to make sure that current practices are not locked-in. As SCO relates to labour costs, which tend to change over time, it will be important to monitor national labour cost statistics if there are any significant changes of the relevant indicators.
Adjustment of amounts	Amounts can be adjusted using one of the following approaches: 1) The number of PES employees (FTE) and associated PES staff costs, which could be collected during the next cycle of the PES Benchlearning initiative. The data on the number of PES employees (FTE) per Member State is already collected through the PES Benchlearning exercise every two years. It is considered to be reliable and could be used to adjust the calculated unit cost rates. However, only indicative data is available on the associated staff costs. Staff cost figures are collected through the PES self-assessment reports and qualitative questionnaires and mostly serves the purpose of qualitative benchmarking and self-assessment. Thus, it is not statistically reliable or comparable across countries. 2) Labour Cost Index (LCI) for the economic activity 'Public administration and defence; compulsory social security' (NACE Rev. 2, O), which is publicly available on the Eurostat website (dataset titled: 'Labour cost index by NACE Rev. 2 activity – nominal value, quarterly data [lc_lci_r2_q]'). The LCI is defined as the Laspeyres index of labour costs per hour worked. This indicator does not refer directly to the PES labour costs but could be used as a proxy indicator. The LCI is the only publicly available and internationally comparable statistical indicator that reflects the changes of labour costs in the area of public administration. The LCI is

Audit trail for Employment Services SCO	
	calculated for each quarter and chain-linked annually. The current reference year of the index is 2012. The LCI does not reflect exchange rate movements. Therefore, to use the LCI for calculating monetary estimates in euro, exchange rate movements have to be incorporated in case of certain non-euro area countries. As the LCI is based on estimates provided by the Member States, revisions of the LCI are frequent and can go back several years. Thus, annual adjustment of rates should be avoided.

3.1.3. Insights on application of this SCO

The proposed SCO for Employment Services relates to inputs, namely, the number of PES staff contact hours for counselling. As a result, there are *no major risks* related to *creaming of participants*. In addition, such input-based indicator effectively eliminates the incentive of cutting the length of counselling services offered to the unemployed.

On the other hand, as an input-based indicator, this SCO does not encourage looking for new, more effective methods of counselling. It could also encourage application of counselling forms that are less cost-efficient. To address these risks, the following measures could be considered:

1) setting a limit for the maximum duration of counselling participants on average receives per programme[22] or limiting the percentage of total working hours that PES counsellors spend on face-to-face counselling. The first alternative might be more effective than the second one as it directly relates to outputs. However, controlling the average duration of counselling would require MS to collect additional data, which is currently not available. Whereas the second option, setting the input-oriented limit, would be less administratively burdensome.

2) paying of a special 'entitlement'/top-up payment for each result achieved during the reference year (e.g. change of the participant's status from 'unemployed' to 'employed') irrespective of the number of hours worked.

This input-based SCO could be replaced by an output-based SCO once the data availability issues are resolved, e.g. through the PES Benchlearning initiative. In particular, the average cost of counselling one unemployed person could be established in each Member State if data on average duration of counselling provided per participant or per exit from an intervention was available. Unfortunately, Member States do not collect this data systematically. This challenge could be addressed during the next cycle of the PES Benchlearning initiative. As indicated in the 2015-2016 Benchlearning report, the Quantitative Benchmarking of PES performance will commence with the collection of more comprehensive data on PES performance outcomes and related outputs and inputs such as the PES human and financial resources or management of employment services. Hence, the further progress of PES Benchlearning initiative is likely to produce a systematic evidence-base to be explored for setting an output-based SCO for Employment Services.[23]

[22] We recommend that maximum limits are set at the programme level and not at the intervention or individual level. Averages could be calculated annually based on the total participant data. The maximum limits would apply only to these averages and not to individual participants.

[23] European Commission, 'Annual report: European network of public employment services (PES)', 2015-2016.

4. SCOS FOR PEOPLE IN EMPLOYMENT AND PUBLIC SERVANTS

4.1. Option 1: cost per participant training hour

4.1.1. Definition of the SCO

The unit cost rate for this input-based SCO reflects the average cost of continual vocational training (CVT) courses for employees per participant training hour incurred by enterprises in a particular Member State. Training costs for this SCO include the following categories of costs:

a) fees and payments for courses for persons employed;
b) travel and subsistence payments;
c) labour costs of internal trainers for CVT courses;
d) costs for training centre, training premises or specific rooms of the enterprise in which CVT courses take place and costs for teaching materials for CVT courses.

4.1.2. Method to determine and update the amounts

4.1.2.1. Data sources

The key data source for determining the EU-level SCOs for non-formal training for people in employment was the dataset of Continuing Vocational Training Survey (CVTS) 4,[24] which is a part of the EU statistics on lifelong learning. CVTS contains statistically reliable, comparable enterprise-level data (updated every five years) on costs of continual vocational training (CVT) courses in EU Member States.

In total 27 EU Member States participated in the CVTS survey in 2010. However, the results provided by Eurostat to the study team covered only the following 21 Member States: Belgium, Bulgaria, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Lithuania, Luxembourg, Malta, Poland, Portugal, Romania, Slovakia, Spain, Sweden and the United Kingdom.

To determine how training costs vary depending on the type of training, we analysed the median value of total training costs per participant training hour ('C7subhour') for the following target groups: 1) all enterprises in Member States; 2) enterprises which mostly invested in external training; 3) enterprises which mostly invested in internal training and 4) enterprises which received EU (e.g. ESF) subsidies. The CVTS variables used to inform our analysis included the following:

1) 'C3iperc' – paid working time (in hours) for internal CVT courses as a percentage of paid working time on all CVT courses;
2) 'C3eperc'– paid working time (in hours) for external CVT courses as a percentage of paid working time on all CVT courses;
3) 'B6c,' indicating if the enterprise has received ES subsidies (e.g. ESF).

To extrapolate the unit cost values for the seven Member States that were not covered by CVTS 4 microdata (Austria, Croatia, Greece, Ireland, Latvia, the Netherlands and Slovenia), we additionally used the following indicators from Eurostat:

1) total unemployment rate;
2) comparative price levels;
3) median equalised income.

24 The reference year of CVTS 4 is 2010.

To adjust the calculated unit cost values from the 2010 to the 2015 level, we also used Eurostat's Harmonised Index of Consumer Prices (HICP), in particular the annual average index (2015 = 100) for:

1) services (overall index excluding goods 'SERV');
2) catering services ('CP111');
3) accommodation ('CP112').

Finally, we cross-checked the results of our calculations against the administrative data on non-formal training of people in employment collected from Member States and the available values of relevant national SCOs.

The potential unit cost values proposed in this study can be easily updated using the most recent CVTS data. The next round of CVTS will have 2015 as the reference year and the data is expected to be published in early 2018. Variables used for calculations of this SCO are defined as the key variables in CVTS, i.e. the variables for which every effort should be made to avoid missing values and for which imputation is recommended.[25]

4.1.2.2. Sample and quality of data

Our initial dataset covering all CVTS 4 standard datasets for 21 Member States contained 93 995 rows/entries. However, some of the data was missing, as some enterprises did not reply to certain questions. Therefore, we identified instances where the following values were included instead of data:

- 9999999998 – N/A;
- 9999999999 – no answer;
- 0 – zero

and recoded them as 'missing.' As a result of this exercise, we were able to disregard the missing information, while retaining the other data provided by the same respondent.

A significant number of outlier cases (i.e. cases larger/smaller than the median value by more than three inter-quartile ranges) were detected in the dataset. Since medians (as opposed to means) are not sensitive to outliers, they were opted as the base for our calculations and the outlier cases were retained in the dataset.

Table 8 demonstrates the number of observations (both original and valid) available from CVTS microdata for calculations of cost of training per participant training hour. For Bulgaria, Hungary, Lithuania, Malta, Poland, Portugal and Romania, the number of observations decreased substantially (more than 50%) after recoding and cleaning the data. However, this data is still reliable and comparable for all Member States as similar statistics on training costs (measured in Purchasing Power Standard) are publicly available on Eurostat's website.

Table 8. CVTS dataset for Option 1 calculations

Country	Initial number of rows	After cleaning
BE	3434	2227
BG	3772	707
CY	922	474
CZ	7789	5592

[25] Commission Regulation (EU) No 1153/2014 provides the implementation details for the fifth round of CVTS.

Country	Initial number of rows	After cleaning
DE	3047	2116
DK	1242	965
EE	2185	1249
ES	6667	5249
FI	1560	1139
FR	5411	3790
HU	5125	1686
IT	18 424	9970
LT	4075	1613
LU	1254	912
MT	788	310
PL	14027	3936
PT	3888	1898
RO	7733	144
SE	2014	1597
SK	2042	1244
TOTAL	93 995	34 434

Source: compiled by PPMI.

In the CVTS dataset continual vocational training refers to the training measures or activities which have as their primary objectives the acquisition of new competences or the development and improvement of existing ones. Also, these training activities must be financed at least partially by the enterprises for employees who have either a working contract or who benefit directly from their work for the enterprise, such as unpaid family workers and casual workers.

Though non-formal training of employed people targeted by our study is defined as training leading to qualifications which are not directly recognised as such by relevant national education authorities or not leading to any qualification at all, CVTS data is highly relevant for our study. It was agreed that in the scope of our assignment non-formal training refers to any type of training, of any duration, that person undertakes with the purpose to obtain knowledge and/or learn new skills for a current or future job, increase earnings, improve job and/or career opportunities in the current or another field and generally improve opportunities for advancement and promotion. In this way, the primary objectives of training are focused on the development of new or improvement of existing competences of employees both in definition of CVT and non-formal training in the scope of our study. In both cases random, unplanned or unintentional learning or training undertaken for other purposes (personal, social, recreational, etc.) is excluded.

4.1.2.3. Analysis

The unit cost values established for this SCO is **a median** drawn from the data sample for CVTS variable **'Total training costs per training hour'** (**'C7subhour'**).

Table 9 provides a detailed description of cost categories covered by this variable.

Table 9. Categories of costs of CVTS variable 'c7subhour'

Cost category	Description
Fees and payments for courses for persons employed	These are costs made to external organisations for the provision of CVT courses and services. VAT paid by the employer is excluded from all expenses. It refers to the total amount paid in fees for external courses or for external trainers or instructors (including those providing internal CVT). It should also include payments made to external consultants, assessors or examiners for course-related activities. Any payments made by employers for courses that have been undertaken in an employed person's own time should be included. Fees for training courses undertaken by apprentices or trainees should be excluded.
Travel and subsistence payments	This refers to actual payments made to cover the travel and subsistence costs of employed persons participating in CVT courses. VAT paid by the employer should be excluded from the expenses. It should also include any additional payments made for time spent travelling to courses.
Labour costs of internal trainers for CVT courses	These costs are the labour costs of the staff of an enterprise's own training centre and other staff exclusively or partly involved in providing, designing and managing CVT courses within the enterprise. It should include: • internal trainers and staff of training centres • directors and other top managers concerned with training policy • instructors and training managers or officers • clerical/administrative and other personnel supporting these activities Anyone dealing solely with apprenticeship training and anyone who is not a member of the normal workforce of the enterprise should be excluded. For staff engaged full-time in course-related activities, the figures quoted should be the total annual labour costs of all those identified. For staff engaged only partly (for some part of their working hours) in CVT course-related activities, it should be a proportion of their labour costs, reflecting the proportion of time they spent in CVT-course related activities.
Costs for training centre, training premises or specific training rooms of the enterprise, in which CVT courses take place and costs for teaching materials of CVT courses	These costs include the costs of running the rooms and annual depreciation for rooms and equipment. VAT paid by the employer is excluded from all expenses. This should include the cost of running a training centre (excluding staff labour costs) or any other premises used for CVT courses. If the costs are not available from the enterprise records, then the costs may be estimated by using data on other rooms or premises of comparable size and with comparable equipment. Costs for teaching materials refer to costs of materials bought specifically for CVT courses. This can be equipment like a beamer, an overhead projector, flipcharts, CDROMs, paper, pencils, etc. VAT paid by the employer is excluded from all expenses.

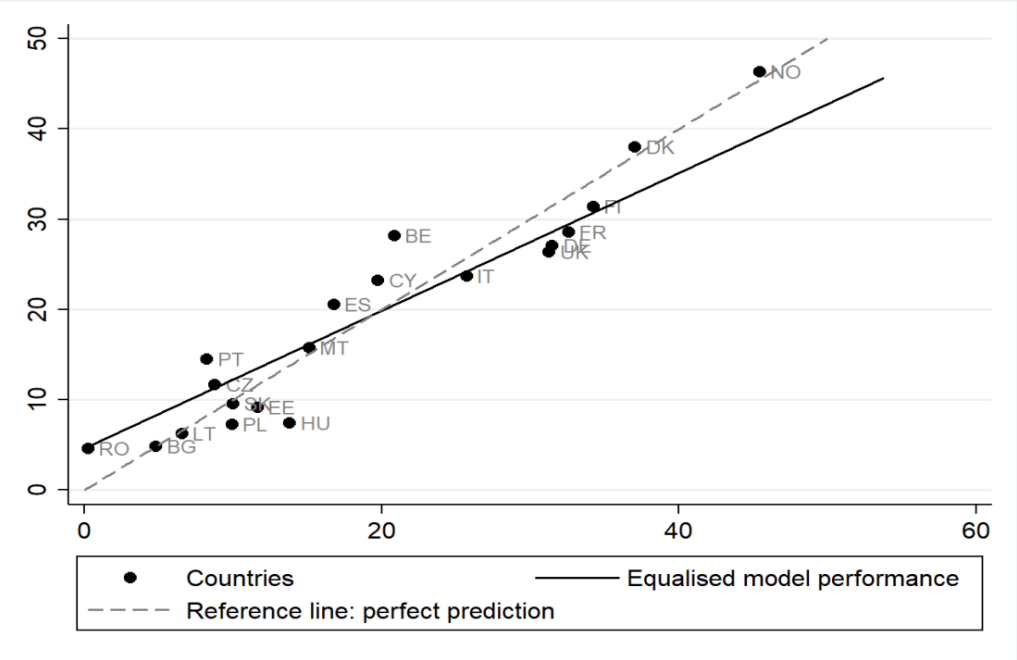
Source: Eurostat, CVTS 4 manual – Annexes, Version 6, 26 April 2012.

Medians are calculated by ordering all relevant values within the analysed sample from smallest to largest and picking the value which splits the ordered set into two equal parts. Accordingly, 50% of the values in this set are smaller than the median value, while the other 50% are larger.

For seven countries, which were not covered by CVTS microdata, unit cost values were extrapolated using the available CVTS data and statistical data available from Eurostat, such as the total unemployment rate, comparative price levels and median equalised income in 28 EU Member States for 2010 (reference year for CVTS data). After carefully inspecting the data, we have determined that two Member States – Sweden and Luxembourg – are significant outliers. Both countries (and respective data) were removed from further calculation of extrapolated values.

To perform extrapolation, we used the linear regression (OLS) model, where available unit cost values were treated as a dependent variable and Eurostat's macroeconomic indicators – as independent variables. After rigorous testing, we have determined that the model satisfies the assumptions of a linear regression and meets the standard applied in social science research. The performance of the model was more than adequate, its explanatory power (R^2) exceeding 80%.

Figure 4. Predictive power of the model for training cost per participant training hour



Source: prepared by PPMI.

In addition, the model was tested for overfitting by employing cross-validation measures and it was determined that the model performs reasonably well across all the data and that no sections of the data contain significant outliers that could negatively impact the validity of the extrapolated indicators. Figure 4 demonstrates performance of the model used for extrapolation of the training costs. Values predicted by the model are on the vertical axis (Y), while the actual values are on the horizontal axis (X). The continuous line shows the actual performance of the model, while the dotted line is for reference – it shows hypothetical perfect prediction. The closer these two lines are to each other, the better is the predictive power of the model.

To adjust the calculated unit cost values to the 2015 level, we calculated the mean values of annual average indices of HICP for services, catering services and accommodation in 28 Member States, resembling the main categories of training costs reported in the CVTS

dataset. Results of these calculations (see Table 10) show that training costs were higher in 2015 (compared to 2010) in all Member States, with the exception of Greece and Cyprus, where training costs decreased.

Table 10. HICP 2010 average indices (2015=100) used for adjustment of training costs

Country	Services	Catering services	Accomodation	Mean value
AT	87.00	84.98	88.54	86.84
BE	89.69	87.36	95.29	90.78
BG	95.98	88.93	95.85	93.59
CY	96.30	94.58	123.21	104.70
CZ	93.6	89.5	100.9	94.67
DE	93.4	90.0	78.8	87.40
DK	91.1	89.1	99.9	93.37
EE	88.12	77.08	83.91	83.04
EL	103.28	98.76	117.11	106.38
ES	95.27	95.84	95.16	95.42
FI	87.67	85.92	93.97	89.19
FR	93.01	89.86	88.63	90.50
HR	94.83	92.47	102.88	96.73
HU	86.84	85.17	92.49	88.17
IE	90.8	94.9	93.9	93.20
IT	92.7	92.1	96.6	93.80
LT	89.74	85.05	89.61	88.13
LU	88.73	86.88	86.31	87.31
LV	92.63	88.55	91.49	90.89
MT	92.63	88.03	94.42	91.69
NL	89.32	89.82	94.47	91.20
PL	89.7	88.8	87.5	88.67
PT	91.35	90.79	115.15	99.10
RO	85.76	90.24	83.09	86.36
SE	93.35	91.57	93.07	92.66
SI	93.75	93.61	96.97	94.78
SK	89.72	89.41	90.50	89.88
UK	86.2	86.7	87.2	86.70

Source: compiled by PPMI base on Eurostat database.

4.1.2.4. Results

The comparison of average training costs for enterprises predominantly financing internal and external training showed that the difference in internal and external training costs is insignificant in 26 Member States. Only in Denmark and Malta are the costs of external training substantially higher than costs of internal training, respectively by 20% and 66%. While in most Member States average training costs for the sample of all enterprises remain between the lower and upper bounds of internal and external training costs, in Finland and the United Kingdom average training costs for the sample of all enterprises are slightly above, and in France and Italy – slightly below these bounds.

Table 11 summarises the results of calculated training costs per participant training hour based on CVTS 4 (2010) microdata, including values adjusted to the 2015 level. As a result,

training costs increased by up to 10% in 12 Member States (Bulgaria, Croatia, Czechia, Denmark, Ireland, Italy, Malta, the Netherlands, Portugal, Spain, Slovenia and Sweden), and 10-16% in 13 Member States (Austria, Belgium, Germany, Finland, France, Hungary, Lithuania, Luxembourg, Latvia, Poland, Romania, Slovakia and the United Kingdom). Unlike in other Member States, training costs in Cyprus and Greece have increased. Notably, the adjusted values for Estonia are more than 20% higher than average costs of CVT incurred by enterprises in 2010. Such increase was mainly caused by significant inflation rates for catering services and accommodation in Estonia in the 2010–2015 period.

Table 11. Option 1: cost of training per participant training hour

Country	All enterprises, 2010, EUR	Internal training, 2010, EUR	External training, 2010, EUR	Adjusted values for 2015, EUR	Change from 2010 to 2015
AT*	29.51	-	-	**33.98**	15.15%
BE	20.85	19.81	22.50	**22.97**	10.16%.
BG	4.81	3.38	5.11	**5.14**	6.85%.
CY	19.74	18.92	19.78	**18.85**	-4.49%.
CZ	8.79	8.41	9.08	**9.29**	5.63%.
DE	31.49	31.06	32.43	**36.03**	14.42%.
DK	37.04	34.59	41.75	**39.67**	7.10%.
EE	11.65	11.93	13.15	**14.03**	20.43%.
EL*	18,85	-	-	**17.72**	-6.00%.
ES	16.78	15.93	16.79	**17.58**	4.80%.
FI	34.24	33.33	33.86	**38.39**	12.12%.
FR	32.57	33.52	33.24	**35.99**	10.50%.
HR*	10,18	-	-	**10.52**	3.38%.
HU	13.82	10.67	14.33	**15.67**	13.42%.
IE*	29,63	-	-	**31.79**	7.30%.
IT	25.72	26.79	28.00	**27.42**	6.61%.
LT	6.55	6.33	7.25	**7.43**	13.46%.
LU	26.08	25.00	27.62	**29.87**	14.54%.
LV*	7,22	-	-	**7.94**	10.02%.
MT	15.12	11.20	18.57	**16.49**	9.06%.
NL*	29,19	-	-	**32.01**	9.65%.
PL	9.94	8.27	10.97	**11.21**	12.78%.
PT	8.25	7.55	9.72	**8.33**	0.91%.
RO	0.23	0.20	0.26	**0.27**	15.79%.
SE	53.76	49.87	55.97	**58.02**	7.92%.
SI*	17,91	-	-	**18.90**	5.51%.
SK	10.00	9.81	10.64	**11.13**	11.26%.
UK	31.27	31.22	31.17	**36.07**	15.34%.

Source: compiled by PPMI based on CVTS data and Eurostat's macroeconomic indicators
* Member States for which costs of training were extrapolated.

The determined median values in most Member States are within the range or only slightly higher than values of relevant national unit cost rates and training costs implied by historical administrative data collected by our team. However, in some cases they were substantially higher than national rates. For example, in Lithuania national unit cost rate per participant training hour including participant's salary is EUR 7.39, i.e. almost the same

as adjusted value of our calculations based on CVTS microdata. However, if unit cost values from Option 1 and Option 2 are combined, the EU-level unit cost rate per participant training hour including trainee salary costs for Lithuania will be EUR 11.34,[26] i.e. 53% higher than the national unit cost rate.

4.1.2.5. Audit trail

Audit trail for Option 1	
Types of operations	Non-formal training of employed persons. Random, unplanned or unintentional learning or training undertaken for other purposes (personal, social, recreational, etc.) is excluded.
Indicator name	Participation of an employed person in one hour of training. **Definitions:** **One hour of training**: normally means 60 minutes of training. Time related to preparation for trainings, travel time and any other non-training activities are not included in training time. **Employed person**: a person engaged in any sort of employment (including self-employed) in any sector of the economy.
Category of costs	All eligible costs of the training operation (direct and indirect training costs) eligible under ESF regulation.
Measurement unit for the indicator	Number of completed training hours per participant. For example, if all four IT training events (each 10-hours long) were attended by 15 participants and the total number of participants of all five language training events (each 20-hours long) was 60, the total duration of training was 1800 (4*10*15+20*60) hours.
Specific requirements for the audit trail and justification of achievement of SCOs	Managing Authorities and intermediary bodies, taking into account relevant national practices, must ensure that the aggregate number of training hours certified to the Commission are traceable to separate operations and participants, where for each participant there will have to be sufficient documentary proof on (1) the number of training hours attended by the participant and (2) the employment status of the participant. Examples of supporting documents related to proof of participation in a training course and duration of participation could include: • a list of participants of the training course/event with signatures for each day of the training/event; • training programme/ curriculum; • training schedule; • register of attendance by the participant; • register of training completion certificates. Examples of supporting documents related to the status of a participant (person in employment) could include an employment

[26] EUR 7,43 (Option 1) + EUR 3,71 (Option 2).

Audit trail for Option 1	
	contract, declaration of the beneficiary or sending organisation (employer of the participant), extract from registers.
Key risks and measures to prevent 'creaming' of participants and perverse incentives	The relevance of the SCO could be affected by possible changes in Member State interventions related to training for people in employment, such as lower cost/quality of training, larger training groups, etc. As this SCO is based on CVTS statistics, it will be important to monitor if there are any significant changes of the relevant indicators. This is an input-based SCO. Therefore, there is no significant risk of 'creaming' of participants and perverse incentives ('slicing' of operations, etc.).
Adjustment of amounts	Regular updates based on the CVTS data.

4.1.3. Insights on application of this SCO

Because the unit cost values for training for people in employment (calculated as a median of training costs per participant training hour) relate to inputs, there are *no major risks* related to *slicing of operations*. This measurement effectively eliminates differences due to the duration of interventions and helps to avoid pervasive incentive to shorten the training courses.

However, an input-based SCO is less result-oriented, as it does not consider such factors as completion of the training course by its participant and is based on the total number of working hours spent on CVT courses. To encourage application of a more result- and efficiency-oriented approach, additional requirements could be determined, e.g. to attend 80% of the training course in order to declare the eligible costs of a participant training hour.

4.2. Option 2: trainee salary costs per training hour

4.2.1. Definition of the SCO

This input-based SCO reflects trainee salary costs per training hour. To establish this SCO, we calculated the **median hourly labour costs per employee** incurred by enterprises in a particular Member State. Our calculations refer to all employees in private enterprises which support training.

4.2.2. Method to determine and update the amounts

4.2.2.1. Data sources

Like previously discussed options, this SCO is also based on data extracted from the CVTS 4 dataset. The calculated values could be updated every time the new results of a CVTS survey are available. Alternatively, amounts could be revised more frequently to reflect the socioeconomic developments in EU Member States, in particular changing labour costs. For this purpose, Eurostat's data on average hourly labour costs based on the Labour Cost Survey (LCS)[27] and median hourly earnings based on the Structure of Earnings Survey (SES)[28] could be used.

Notably, LCS data is better suited for adjusting the calculated unit cost values, as it reflects changes in the average hourly labour costs (consisting of wages and salaries and employers' social contributions and other labour costs paid by the employer) and, therefore, corresponds to the SCO at hand. However, the LCS indicator was not sufficient to adjust the calculated unit costs values from the 2010 to the 2015 level, as it covers only 2008 and then the years from 2012 to 2016. Therefore, our team used median hourly earnings data from SES to adjust the rates to the 2014 level, and then used the LCS indicator for adjustment to the 2015 level (for more information see Table 14).

4.2.2.2. Sample and quality of data

CVTS 4 standard datasets obtained by the study team from Eurostat covered 21 Member States. Data for Austria, Croatia, Greece, Ireland, Latvia, the Netherlands and Slovenia were missing. Hence, the unit cost values for these countries were extrapolated.

As indicated in Table 12, only data for Belgium needed cleaning – we removed seven entries from the dataset, because these seven enterprises did not provide any relevant data. No cleaning of the standard dataset was needed for the remaining 20 countries, as all respondents provided the data needed for our calculations.

TABLE 12. CVTS DATASET FOR OPTION 2 CALCULATIONS

Country	Original dataset	Cleaned dataset
BE	3434	3427
BG	3772	3772
CY	922	922
CZ	7789	7789
DE	3047	3047
DK	1242	1242

[27] Measuring the level and structure of labour costs, or total expenditure borne by employers for the purpose of employing staff.

[28] Provides comparable information at EU level on relationships between the level of earnings, individual characteristics of employees (sex, age, occupation, length of service, educational level) and their employer (economic activity, size of the enterprise, etc.). For reference years 2002, 2006, 2010 and 2014 (next survey with reference year 2018).

Country	Original dataset	Cleaned dataset
EE	2185	2185
ES	6667	6667
FI	1560	1560
FR	5411	5411
HU	5125	5125
IT	18424	18424
LT	4075	4075
LU	1254	1254
MT	788	788
PL	14 027	14 027
PT	3888	3888
RO	7733	7733
SE	2014	2014
SK	2042	2042
UK	3568	3568

Source: compiled by PPMI.

A significant number of outlier cases (i.e. cases larger/smaller than the median value by more than three inter-quartile ranges) were detected. However, since medians are not sensitive to outliers, the outlier cases were retained in the dataset.

4.2.2.3. Analysis

The following CVTS variables were used to calculate the median hourly labour cost per employee:

- total number of hours worked by persons employed in the reference year (variable A4);
- total labour costs (direct + indirect) of persons employed in the reference year (variable A5).

Notably, standard CVTS 4 datasets include only derivative indicators for the above-mentioned variables:

- 'A4ratio': total number of hours worked by persons employed in the reference year (2010) per person employed;
- 'A5ratio': total labour costs (direct + indirect) of persons employed in the reference year (2010) per person employed.

Therefore, in our calculations we divided the ratio of total labour costs by the total number of hours worked in the reference year and calculated the median value:

$$SCO_2 = \text{median}\left(\frac{A5\ ratio}{A4\ ratio}\right), \text{where}$$

Definitions of main CVTS variables used in our calculations are provided in Table 13.

Table 13. CVTS variables for calculation of Option 2

Variable	Definition
Total number of persons	The total number of persons employed includes all full-time and part-time persons employed. Persons employed: working proprietors; partners working regularly in the enterprise; unpaid

Variable	Definition
employed on 31-12-2010 (A2tot)	family workers; persons from the enterprise and paid by it who work away from the enterprise (e.g. sales representatives, delivery personnel, repair and maintenance teams); part-time workers and seasonal workers; people absent for a short period (e.g. sick leave, paid leave or special leave); those on strike but not absent for an indefinite period. It excludes anyone who is working at the enterprise but whose salary is paid by another company, e.g. persons employed by firms under contract or seconded staff. Also, not included are persons absent and not being paid during the whole reference period (e.g. for parental leave or long time compulsory military service).
Total number of hours worked in the reference year 2010 by persons employed (A4)	The total number of hours worked refers to the total number of hours actually worked by all persons employed, excluding persons employed holding an apprentice or training contract, in 2010. It includes time worked during normal periods of work (in the enterprise or telecommuting), time worked in addition to normal periods of work and generally paid at a higher rate (overtime), time spent at the place of work standing by or during which no work is done (but for which payment is made) and time corresponding to short rest periods, including tea and coffee breaks. It excludes time spent on paid leave, paid public holidays, paid sick leave, paid meal breaks.
Total labour costs (direct + indirect) of all persons employed in the reference year 2010 (A5)	Total labour costs of persons employed (excluding persons employed holding an apprentice or training contract) are defined as the sum of the direct and indirect labour costs. The estimate of total labour costs represents all expenditure borne by employers in order to employ workers. It should include: direct labour costs, direct pay, other bonuses and gratuities, payments for days not worked, benefits in kind; indirect labour costs, statutory social security contributions and family allowances, non-statutory payments, other social expenditure, vocational training costs (gross), taxes, less subsidies on labour.

Source: CVTS 4 manual, version 6. P. 25.

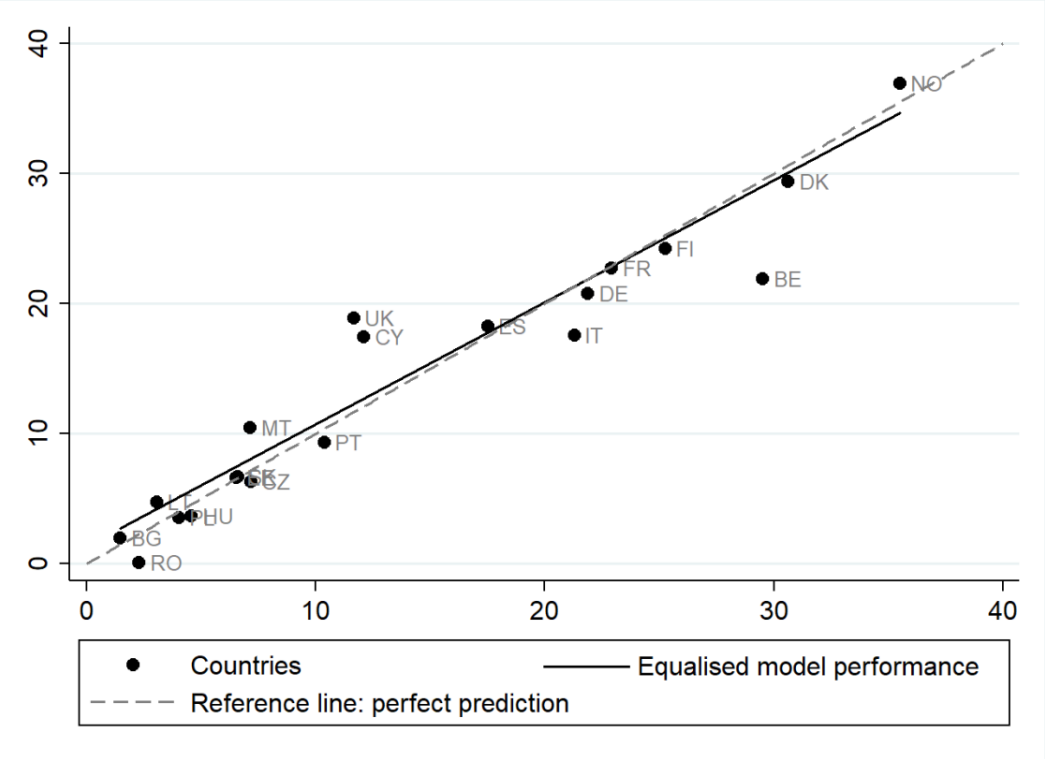
Amounts had to be extrapolated for Austria, Croatia, Greece, Ireland, Latvia, the Netherlands and Slovenia, because CVTS 4 data was not available for these countries. For extrapolation, we used the CVTS data available for other countries and the following statistical data from Eurostat:

- total unemployment rate;
- comparative price levels;
- median equalised Income.

After carefully examining the data, we found that two countries, namely Sweden and Luxembourg, are significant outliers. Therefore, they were removed from further calculations of the extrapolated values. The extrapolation itself is based on a linear regression (OLS) model, where available unit cost values were treated as a dependent variable and Eurostat's macroeconomic indicators – as independent variables. Our model satisfies the assumptions of a linear regression. Its explanatory power (R^2) exceeds 80%.

Figure 5 demonstrates the predictive power of the model for extrapolation of trainee salary costs.

FIGURE 5. PREDICTIVE POWER OF THE MODEL FOR TRAINEE SALARY COSTS



Source: compiled by PPMI.

4.2.2.4. Results

Average trainee salary costs (as a median of hourly labour cost per employee) were calculated for all Member States (for seven countries unit cost values were extrapolated). The calculated values for 2010 were further adjusted to the 2015 level using the hourly median earnings indicator (from Eurostat's Structure of Earnings Survey) and the average hourly labour cost indicator (from Eurostat's Labour Costs Survey). The results are summarised in Table 14, indicating the potential unit costs rates for each Member State adjusted to the 2015 level (see the last column).

TABLE 14. AVERAGE TRAINEE SALARY COSTS AS A MEDIAN OF HOURLY LABOUR COST PER EMPLOYEE

Country	SCO 2: Median hourly labour cost per employee	hourly median earnings in euro: change between 2010 and 2014 (SES)	SCO 2 adjusted to 2014 level	Average hourly labour costs: difference between 2014 and 2015 (LCS)	SCO 2 adjusted to 2015 level
AT [e]	23.14	109%	25.22	103%	**26.03**
BE	29.52	105%	31.00	100%	**31.08**
BG	1.48	110%	1.63	108%	**1.76**
CY	12.1	91%	11.01	99%	**10.94**
CZ	7.16	99%	7.09	104%	**7.39**
DE	21.88	103%	22.54	103%	**23.11**
DK	30.63	103%	31.55	101%	**32.02**
EE	6.52	120%	7.82	105%	**8.22**

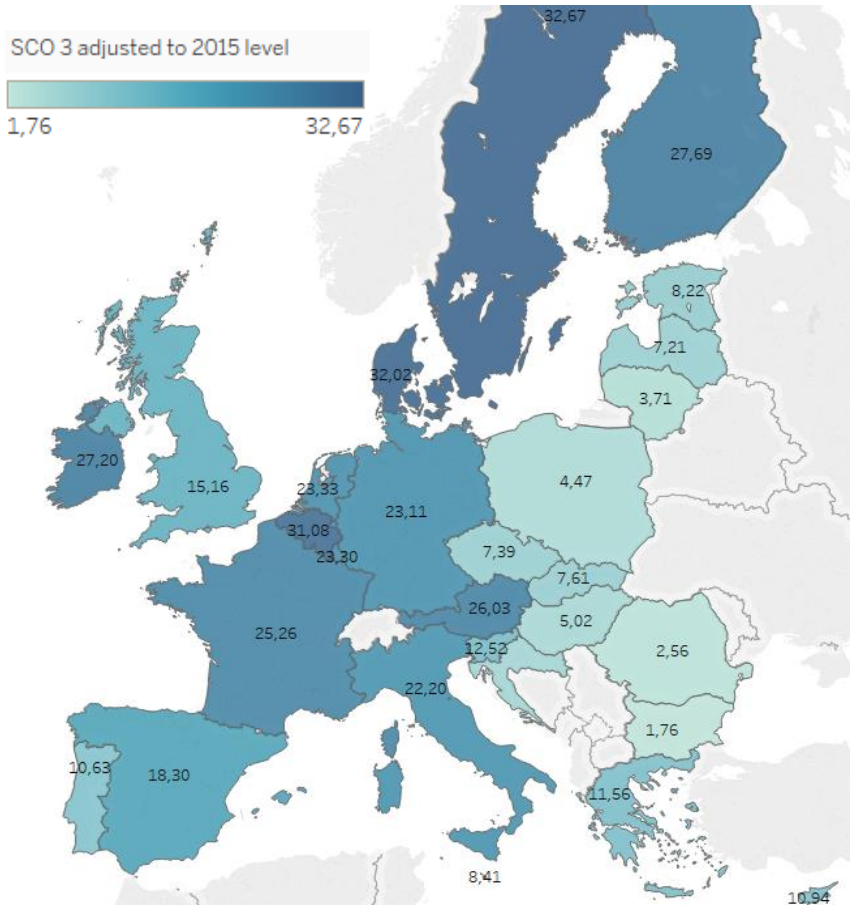
Country	SCO 2: Median hourly labour cost per employee	hourly median earnings in euro: change between 2010 and 2014 (SES)	SCO 2 adjusted to 2014 level	Average hourly labour costs: difference between 2014 and 2015 (LCS)	SCO 2 adjusted to 2015 level
EL [e]	13.51	88%	11.89	97%	**11.56**
ES	17.51	104%	18.21	100%	**18.30**
FI	25.25	108%	27.27	102%	**27.69**
FR	22.91	109%	24.97	101%	**25.26**
HR [e]	5.72	101%	5.78	102%	**5.90**
HU	4.57	107%	4.89	103%	**5.02**
IE [e]	24.34	111%	27.02	101%	**27.20**
IT	21.29	105%	22.35	99%	**22.20**
LT	3.06	116%	3.55	105%	**3.71**
LU	22.56	103%	23.24	100%	**23.30**
LV [e]	5.68	118%	6.70	108%	**7.21**
MT	7.15	114%	8.15	103%	**8.41**
NL [e]	22.23	104%	23.12	101%	**23.33**
PL	4.03	107%	4.31	104%	**4.47**
PT	10.37	101%	10.47	102%	**10.63**
RO	2.29	105%	2.40	107%	**2.56**
SE	28.09	116%	32.58	100%	**32.67**
SK	6.59	112%	7.38	103%	**7.61**
SL [e]	12.12	102%	12.36	101%	**12.52**
UK	11.66	113%	13.17	115%	**15.16**

Source: compiled by PPMI based on CVTS data and Eurostat's macroeconomic indicators
* Member States for which hourly labour were extrapolated.

The highest average trainee salary costs as a median of hourly labour costs per employee are in Austria, Belgium, Denmark, Finland, France, Ireland and Sweden. The unit cost values in these countries are above EUR 25 per hour. The lowest unit cost values (below EUR 5 per hour) are in Bulgaria, Lithuania, Poland and Romania. The extent to which unit cost values vary across different Member States is shown in

Figure 6.

FIGURE 6. AVERAGE TRAINEE SALARY COSTS AS A MEDIAN OF HOURLY LABOUR COST PER EMPLOYEE (ADJUSTED TO 2015 LEVEL)



Source: prepared by PPMI.

4.2.2.5. Audit trail

Audit trail for Option 2	
Types of operations	Non-formal training of employed persons. This SCO supplements Option 1 (cost per participant training hour) and can be funded only when compliance with state aid rules is ensured.
Indicator name	Labour costs related to participation of an employed person in one hour of training.
Category of costs	Wages for participants of the training operation (in addition to the training costs specified in the audit trail description for Option 1).
Measurement unit for the indicator	Number of completed training hours per participant. For example, if all four IT training events (each 10-hours long) were attended by 15 participants and the total number of participants of all five language training events (each 20-hours long) was 60, the total duration of training was 1800 (4*10*15+20*60) hours.
Specific requirements for the audit	Managing Authorities and intermediary bodies, taking into account relevant national practices, must ensure that the aggregate training hours certified to the Commission are traceable to separate

Audit trail for Option 2	
trail and justification of achievement of SCOs	operations and participants, where for each participant there will have to be a sufficient documentary proof on (1) the number of training hours attended by the participant and (2) the employment status of the participant. Examples of supporting documents related to proof of participation in a training course and duration of participation could include: • a list of participants of the training course/event with signatures for each day of the training/event; • training programme/ curriculum; • training schedule; • register of attendance by the participant; • register of training completion certificates; • other registers; • etc. Examples of supporting documents related to the status of a participant (person in employment) could include documents, such as declaration of the beneficiary or sending organisation (employer of the participant), employment contract, extract from registers, etc.
Key risks and measures to prevent 'creaming' of participants and perverse incentives	The relevance of the SCO could be affected by possible changes in Member State interventions related to training for people in employment, such as lower cost/quality of training, larger training groups, etc. As this SCO is based on CVTS statistics, it will be important to monitor if there are any significant changes of the relevant indicators. This is an input-based SCO. Therefore, there is no significant risk of 'creaming' of participants and perverse incentives ('slicing' of operations, etc.).
Adjustment of amounts	Regular updates based on the CVTS data.

4.2.3. Insights on application of this SCO

The unit cost values for trainee salary costs calculated as a median of hourly labour costs per employee can be easily updated using the most recent CVTS data (i.e. 2015). Also, the results of calculations could be cross-checked and updated using LCS and SES data. This SCO supplements Option 1, but it can only be applied for operations which comply with state aid rules.

4.3. Relevance of EU-level SCOs for people in employment to training for public servants

EU-level SCOs for training of public servants cannot be established due to the limited availability of relevant data. In addition, our analysis revealed that unit cost rates calculated for those few Member States where administrative data was available do not correspond to amounts established for training for people in employment based on CVTS data. Therefore, we conclude that Member States should set/use their own national SCOs

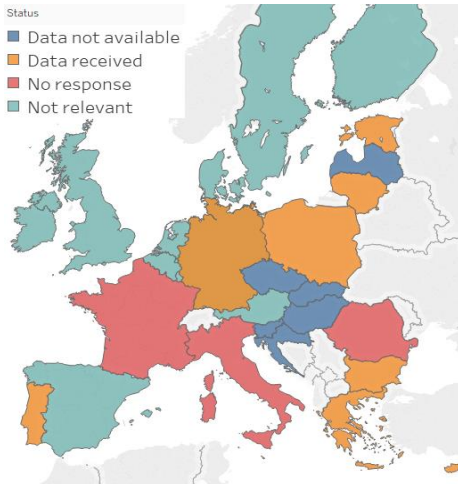
for training of public servants. A more detailed reasoning is provided in the following sections.

STATUS OF DATA AVAILABILITY

To collect the historical administrative data on training for public servants possessed by Member States, the study team circulated a tailored e-form to our contact points in each country. As a result, **nine countries/regions** (Bulgaria, Cyprus, Estonia, Germany (Bremen), Greece, Lithuania, Malta, Poland and Portugal) **sent us at least some of the requested data** (see Figure 7 for more details on data availability). However, both the volume and quality of this data varied significantly.

Such results clearly indicate that Member States have rather low interest and highly limited capacities to facilitate the development of EU-level SCOs in this area. Furthermore, SCOs for training of public servants are irrelevant in many Member States since **they do not finance such kind of training**. Based on the results of our data availability survey that was launched in July 2017, eight countries/regions (Belgium (Flanders, Wallonia), Germany (Hamburg, Saxony), Ireland, Luxembourg, the Netherlands and the United Kingdom) indicated that training for public servants was not supported either in 2007-2013, or in the 2014-2020 period. During the follow-up data collection phase, six more countries/ regions (Austria, Germany (federal level), Denmark, Spain, Finland and Sweden) indicated that trainings for public servants are irrelevant to them.

Figure 7. Status of data availability on trainings for public servants



Source: prepared by PPMI.

EXHAUSTIVENESS AND QUALITY OF THE DATA COLLECTED

As already mentioned, the data that we managed to obtain from nine countries/regions differs considerably, and not only in the number of operations covered, but also in the exhaustiveness of the information provided on inputs and outputs of supported training activities. As shown in Table 15, for some countries the number of operations submitted is either very small or was provided to our team in an aggregated form (e.g. Cyprus, Germany (Bremen)). Though such data were sufficient to calculate costs per training hour (see Table 15), the reliability of data was not enough to establish national or EU level SCOs. In all other cases (e.g. Bulgaria, Estonia, Greece, Lithuania, Poland and Portugal), the data is rather detailed and apparently sufficient for setting the national SCOs.

TABLE 15. TRAINING FOR PUBLIC SERVANTS: AVAILABILITY OF DATA PER MEMBER STATE AND PER OPTION/ CALCULATION METHOD

	Number of operations			Description of the data / trainings
Country	Total	SCO 1	SCO 2	
BG	183	183	0	The data provided covered 183 operations. Data received was sufficient to calculate cost per participant training hour. From the data received two target groups of training can be clearly identified: public servants and judiciary. The trainings for the judiciary were several times

Country	Number of operations			Description of the data / trainings
	Total	SCO 1	SCO 2	
				more expensive than the general trainings for public servants.
CY	1	1	0	The data provided covered one operation, which was financed under 2007-2013 OP. Data received was sufficient to calculate cost per participant training hour. The main target group of the trainings was civil servants in all government departments.
DE (Bremen)	2	2	1	The data provided covered two operations financed under 2007-2013 OP. Data received was sufficient to calculate cost per participant training hour and trainee salary costs per training hour (only for one operation).
EE	28	10	0	The data provided covered 28 operations, though, only 10 have information on the training costs (as compared to total eligible costs). Data received was sufficient to calculate cost per participant training hour. The trainings targeted both state and local government public servants; rural municipality and city council members; state and local government shareholding non-profit organisations, foundations and companies. The trainings organised also covered health care and education sectors. The themes covered by the trainings included communication; internal risk management for auditors; induction trainings for local government officials and employees; development of council members, representatives of state shareholding companies and foundations.
EL	15	15	1	The data provided covered 15 operations financed under both 2007-2013 and 2014-2020 periods. Data received was sufficient to calculate cost per participant training hour and trainee salary costs per training hour (based only on one operation). The main target groups of the trainings included the judiciary, public servants, employees of local authorities, diplomats (Ministry of Foreign Affairs). Some of the trainings organised included seminars abroad.
LT	879	222	126	The data provided covered 879 operations (project activities) financed under the 2007-2013 period. Data received was sufficient to calculate all costs per participant training hour and trainee salary costs per training hour. A

Country	Number of operations			Description of the data / trainings
	Total	SCO 1	SCO 2	
				broad variety of trainings were financed for different target groups.
MT	7	0	0	The data provided covered 7 operations financed under the 2007-2013 period. Data received was insufficient to calculate cost per training hour. Attendance of trainings/ seminars abroad was financed.
PL	24	24	24	The data provided covered 24 operations financed under the 2007-2013 period. Data received was sufficient to calculate cost per participant training hour and trainee salary costs per training hour. The target group of the trainings was local government employees.
PT	1954	1954	1455	The data provided covered 1954 operations financed under the 2007-2013 period. Data received was sufficient to calculate cost per participant training hour and trainee salary costs per training hour. Trainings were organised for public servants in central administration, local administration, education and health sectors.

Source: compiled by PPMI based on the data provided by Member States.

COMPARISON OF CVTS AND ADMINISTRATIVE DATA

The data available from Member States clearly indicates that interventions financed by Member States vary significantly in terms of type of training offered (e.g. target group, level of skills trained, etc.), duration of training per participant, number of participants per training course, etc. It is also evident that costs of training for public servants are much higher than amounts proposed in this study for training of people in employment, at least in some of the cases where comparison was possible (e.g. in Greece). Therefore, the study concludes that using the same unit cost rates as those suggested for training of people in employment (based on CVTS data) could be relevant if accepting that the full costs will not be reimbursed or for some particular operations for which training costs are close to average costs of training for employed persons. To have a closer proxy to the real costs, Member States also have the option of proposing a national level SCO.

Getting in touch with the EU

In person

All over the European Union there are hundreds of Europe Direct Information Centres. You can find the address of the centre nearest you at: http://europa.eu/contact

On the phone or by e-mail

Europe Direct is a service that answers your questions about the European Union. You can contact this service

– by freephone: 00 800 6 7 8 9 10 11 (certain operators may charge for these calls),

– at the following standard number: +32 22999696 or

– by electronic mail via: http://europa.eu/contact

Finding information about the EU

Online

Information about the European Union in all the official languages of the EU is available on the Europa website at: http://europa.eu

EU Publications

You can download or order free and priced EU publications from EU Bookshop at: http://bookshop.europa.eu. Multiple copies of free publications may be obtained by contacting Europe Direct or your local information centre (see http://europa.eu/contact)

EU law and related documents

For access to legal information from the EU, including all EU law since 1951 in all the official language versions, go to EUR-Lex at: http://eur-lex.europa.eu

Open data from the EU

The EU Open Data Portal (http://data.europa.eu/euodp/en/data) provides access to datasets from the EU. Data can be downloaded and reused for free, both for commercial and non-commercial purposes.

KE-02-18-843-EN-N

Publications Office

doi: 10.2767/787584
ISBN 978-92-79-86975-4