Education Funding Agency

DRAFT

EFA Funding Calculation for the academic year 2013 to 2014

Technical Specification

May 2013

Contents

Purpose

The purpose of this document is to show, at technical implementation level, the specification behind the Education Funding Agency (EFA) funding calculation for 2013/14.

The 2013/14 funding calculation has been created using Oracle Policy Modelling (OPM) technology. OPM builds business rules in the form of a rule base which is then deployed using the Oracle Policy Automation (OPA) engine.

This document contains the OPA rule base source documents for the EFA Funding Calculation used by the successor to the Learner Information Suite (LIS).

A key benefit of OPM is that the rule base uses a 'natural language' form which means that the rules themselves (which previously would have been written in a programming language such as C#.net) can be presented as technical guidance documentation and understood by people with little or no IT development expreience.

This document has 4 sections:

The first section provides a description of each element of the EFA funding formula around which the calculation is based.

The second section is a crib sheet, a guide for readers on how to understand and interpret the structure and the format of OPM rules.

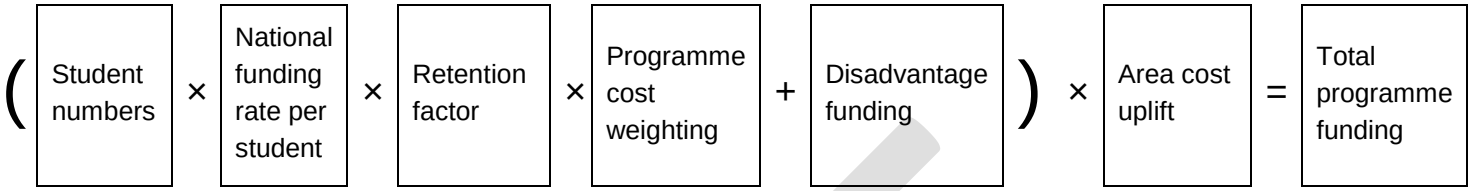
The third section is the Interface Agreement which details the inputs, interim variables and outputs used by the EFA rule base in a tabular format.

This includes the 'public names' for attributes that are used when interfacing with the rule base, which are most similar to the field names used in the LIS Successor database, as well as the 'natural language names' used in the rule documents themselves, and can aid the reader in reconciling the outputs of the rules with the data seen in the LIS Successor.

Finally, section 4 details the business rules that define the EFA Funding Calculation. There is commentary throughout in addition to the information in the crib sheet which is intended to help the reader interpret the rules.

Section 1: The EFA Funding Formula

Below is a graphical representation of the EFA funding formula.



This section aims to describe each element of the funding formula as it pertains to the EFA funding calculation.

The principles outlined in the *Funding guidance for young people 2013/14* and *Update on the 16-19 Funding Formula 2013/14* are reflected in the 2013/14 funding calculation and it is important to note that, as in previous years, both historic and in-year elements are used to calculate funding.

A number of the data items returned in your 2013/14 data will not be directly used in the calculation of funding for the 2013/14 academic year but will be used in determining critical elements of your 2015/16 allocation. To this end the funding calculation also outputs some future variables to help illustrate how this data might impact your 2015/16 allocation and this section will indicate where this is the case.

The outputs of the 2013/14 funding calculation may be used to determine aspects of forward allocations. Which, if any, elements are used and how they will be used will be determined during the course of the development of the 2014/15 allocations methodology.

Student Numbers

This is the count of valid students from your current year's data, split into Full Time and Part Time bandings.

Bandings are based on the sum of the two fields ***Planned learning hours*** and ***Planned employability, enrichment and pastoral hours*** recorded in your 2013/14 data. Table 1 details the hour ranges for each band.

Full-time/part-time banding	Hours required per year
Full time	540 +
Band 4	450-539
Band 3	360-449
Band 2	280-359
Band 1	up to 280

Table 1 – Hour ranges for each full-time/part-time banding

National Funding rate per student

This is the base funding rate per student and is determined using the Full Time/Part Time bandings described above. Table 2 details the National Funding Rate for each Full Time/Part Time band.

Student Number status	Hours funded at…	Part time Rate
Full time	600	£4,000
Band 4	600*	£4,000[1]
Band 3	405	£2,700
Band 2	320	£2,133
Band 1	% of 600	% of £4,000

Table 2 – National rate per band

Retention Factor

The Retention Factor is an institution level factor calculated from your 2011/12 data. It is provided to the funding calculation by means of a lookup which is updated by the Education Funding Agency based on the factors used in your funding allocation.

[1] This is an interim rate reflecting the change to the new funding system, and the EFA will review the position for 2014/15 delivery. Students recorded in the 450-539 band in 2013/14 will attract part-time funding in allocations for 2015/16.

Retention is calculated using the individual student's core aim and differs depending on whether or not the student's programme is Academic or Vocational.

For your 2013/14 allocation core aims have been derived from your data as the 2011/12 data does not contain a core aim identifier. Similarly, whether the student's programme is academic or vocational is also derived.

The methodology used to determine both of these variables can be found at Annex 1.

The retention factor is the average of the funding percentage for each student which is determined by the student retention status (see table 3).

Student Completion status	Funding
Student leaves before qualifying period	0
Student leaves before planned end and not recorded as completed	50%
Student retained to planned end date and recorded as completed	100%
Student leaves before planned end date and recorded as completed	100%

Table 3 student level funding percentages

For vocational programmes, the student retention status is determined by the completion status of the core aim. Academic programmes are slightly different in that retention will be based on the core aim unless it is not retained and another (non-core) aim in the student's programme is, in which case the retained aim will be used.

A future Retention indicator (calculated from your 2013/14 data) will be output by the funding calculation for your information. Owing to the nature of retention this element will be more meaningful toward the end of the year where the completion status of students becomes final.

Programme Cost Weighting

The programme cost weighting factor is an institution level factor calculated from your 2011/12 data. It is provided to the funding calculation by means of a lookup which is

updated by the Education Funding Agency based on the factors used in your funding allocation.

For your 2013/14 allocation core aims have been derived from your data as the 2011/12 data does not contain a core aim identifier. Similarly, whether the student's programme is academic or vocational is also derived.

The methodology used to determine both of these variables can be found at Annex 1.

The programme cost weighting factor is calculated as a weighted average of each students programme cost weighting (which is derived from the core aim and whether a student's programme is academic or vocational) from your 2011/12 data.

Where a student's programme is academic the programme cost weighting is set to 1.

Where a student's programme is vocational the programme cost weighting is determined by the Tier 2 Sector Subject Area of the core aim. Each Tier 2 Sector Subject Area is assigned a weighting (these can be found in Annex 1).

A future version of your Programme Cost Weighting will be output by the funding calculation for your information.

Disadvantage Funding

Disadvantage funding is calculated in 2 blocks from your 2011/12 data:

Block 1 – Economic Deprivation

This is a factor calculated using a weighted average of each student's disadvantage uplift (based on the Indices of Multiple Deprivation 2010) derived from their home postcode from your 2011/12 data. This is then multiplied by the first 4 elements of the formula (student numbers x national funding rate per student x retention x programme cost weighting) to calculate a cash amount.

For further information and to download postcode uplift data, visit the data service website:

http://www.thedataservice.org.uk/Services/DataCollection/software/disadvantaged-uplift/

A future version of your Disadvantage Block 1 factor (not cash) will be output by the funding calculation for your information.

Block 2 – Prior Attainment

The block 2 element of disadvantage is calculated as a number of instances of students at your institution in your historic data below grade C in English or Maths at the end of year 11.

These instances are then divided by the total number of students for your institution in that year to give a proportion which is then multiplied out by your 2012/13 Student numbers and split between full time and part time.

Full time students are multiplied by a rate of £480 and part time students are multiplied by a rate of £292 to produce a cash amount.

To make the disadvantage element of the funding calculation proportionate to the delivery in 2013/14, it is represented as a percentage calculated as the total Block 1 and Block 2 elements of your 2013/14 allocation as a proportion of the total programme funding (less disadvantage and before area cost) from your 2013/14 allocation. This percentage is then applied to each student's funding as an uplift (DisadvantageProportionHistoric).

Area Cost Factor

The Area Cost Factor is an institution level factor calculated from your 2011/12 data. It is provided to the funding calculation by means of a lookup which is updated by the Education Funding Agency based on the factors used in your funding allocation.

A full list of Area costs can be found at Annex A.

Section 2: Oracle Policy Automation

Rules document crib sheet

What is a rule?

A **rule** is an assertion that a conclusion can be drawn from a particular state of affairs. For example:

> If you leave the ice cream in the sun, then the ice cream will melt.
>
> Full-time students and pensioners are eligible for a discount at the university bookstore.
>
> Your plane can take-off from the airport if it has permission from the control tower and has completed a safety check.

Rules operate on data and can incorporate operations such as comparisons and mathematical functions.

What is a rule base?

A **rule base** is simply a collection of one or more connected rules. For example:

Rule 1:

> the person is eligible for a discount at the university bookstore if
>
> the person is a full-time student or
>
> the person is a pensioner

Rule 2:

> the person is a full-time student if
>
> the person is studying a full-time load and
>
> the person does not have a full-time job

Conclusions and conditions

Each rule must have a **conclusion** (the state of affairs that can be determined) and usually has at least one **condition** (the conditions upon which that determination may be made). A conclusion is the "Then" part of an "If... Then..." statement. A condition if the "If" part of an "If... Then..." statement.

> CONCLUSION: the ice-cream will melt if
>
> CONDITION: the ice-cream has been left in the sun
>
> CONCLUSION: the person is eligible for a discount at the university bookstore if
>
> CONDITION: the person is a full-time student
>
> CONDITION: the person is a pensioner

CONCLUSION: your plane can take-off from the airport if

CONDITION: it has permission from the control tower

CONDITION: it has completed a safety check

What is an attribute?

An attribute is a single unit of data or fact. For example:

- the person is a full-time student
- the ice-cream has been left in the sun

An attribute is of a particular data type: boolean, text, number, currency, date, time of day, or date and time. Boolean attributes can either have a true or false value, and variable attributes take a text, number, currency, date, time of day, or date and time value depending on the type of variable.

The following are some examples of attributes and types:

- the person is hungry (boolean attribute)
- the person's name (variable attribute – text)
- the person's date of birth (variable attribute – date)
- the number of cookies the person wants to eat (variable attribute – number)
- the cost of the person's meal (variable attribute – currency)

Attributes form the building blocks of rules.

Connecting conditions using and/or

Where a rule contains multiple conditions, the conditions must be separated by an **and** or an **or** to indicate whether one or all conditions are required to satisfy the conclusion.

For instance,

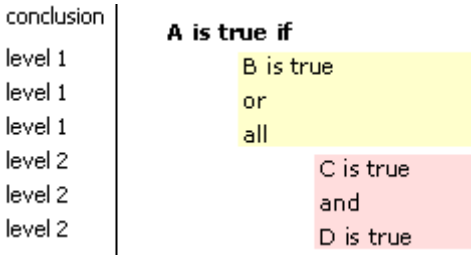
Example 1	Example 2
the person is eligible for a pension if:	the person is eligible for a pension if:
the person is over 65.	the person is over 65.
AND	OR
the person is a citizen.	the person is unable to work.

In Example 1, both conditions must be true to be able to draw a positive outcome for the person's eligibility. If either condition is false, then only a negative outcome can be drawn.

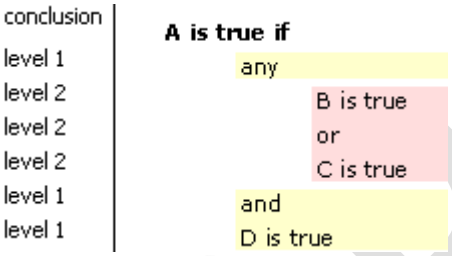
In Example 2, either the first or second condition, or both, must be true to be able to draw a positive outcome. If both the conditions are proved false, then a negative outcome is drawn.

Grouping conditions using both/all and either/any

The **all** operator is used to group conditions separated by **and**. In the example "A if B or (C and D)" the brackets are around the conditions joined by an **and** so you must use the **all** operator in your rule:



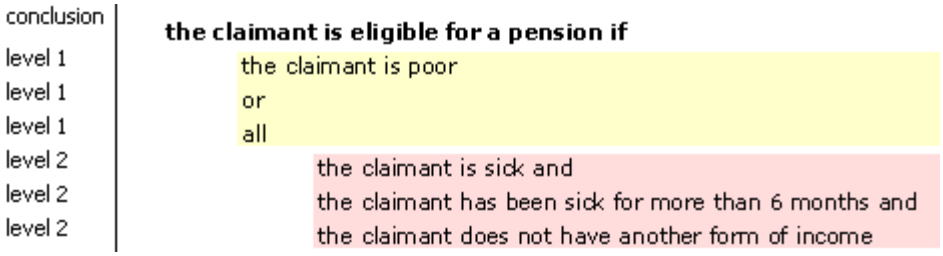
The **any** operator is used to group conditions separated by **or**. In the example "A if (B or C) and D" the brackets are around the conditions joined by an **or** so you must use the **any** operator in your rule:



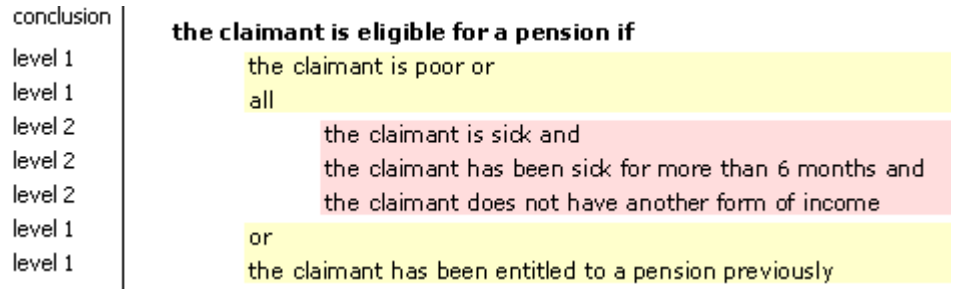
NOTE: You may also use the word **both** in place of **all** and **either** in place of **any**. Using these words has the same effect but may make the text more readable where only two conditions are grouped.

The grouping operators sit above the conditions they are grouping. The conditions being grouped sit beneath the grouping operator and should therefore take the style of the next level down. For example, if the word "any" is in **Level 1** style, the conditions it is grouping should be in **Level 2** style.

The following example demonstrates this placement:



Where your rule continues (as in the example below) at the higher level, the appropriate operator (**and** or **or**) should be added as a separate line at the same level as the subsequent condition. For example:



Alternative conclusions

By default, Oracle Policy Modelling assumes all rules contain an **alternative conclusion**. That is, if the conditions are not satisfied, you can infer the opposite of the conclusion. For example, given the rule:

> CONCLUSION: it is a good idea to take an umbrella if
>
> CONDITION: it is raining outside

If it is not raining outside, you may conclude that it is not a good idea to take an umbrella.

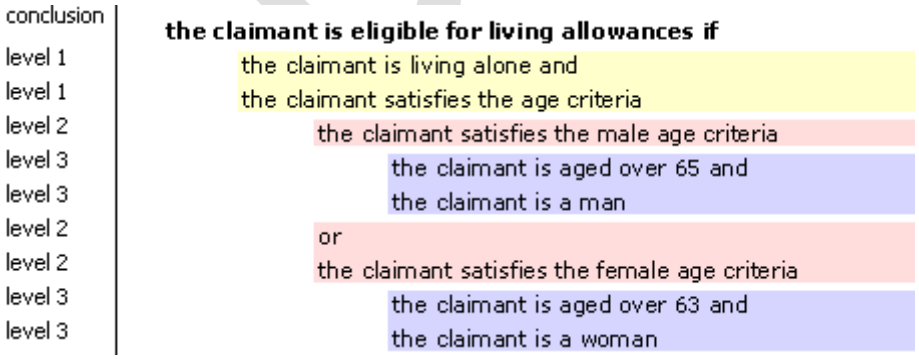
The alternative conclusion need not be stated, it is assumed in all rules unless otherwise indicated.

Understand Oracle Policy Modelling format and structure

Oracle Policy Modelling format is quite strict in order to maintain consistency and completeness of rules and to avoid logical ambiguity. In particular, styles and indentation play an important role in recognizing the meaning of rules. Indentation and styles are used to separate the conditions from the conclusion, and conditions of different levels from each other. Distinct conditions are separated onto different lines, and the placement of **and** and **or** between conditions has special significance.

Rules are marked up in Word using Oracle Policy Modelling styles. Each style has a unique style name and colouring to make it easy to identify.

The rule below shows an example of how a rule would be formatted in Word using Oracle Policy Modelling document styles:



Rule tables in Word documents

In many cases it is more efficient to use rule tables for expressing logic, especially where there is an implied order of logic and/or you need to make sure a conclusion is always reached.

The following diagram shows how a rule table is structured:

attribute to be set (conclusion)	
value if	premise
value if	premise
...	...
value	otherwise

The first row of the table defines which variable or statement will be used as the conclusion attribute for the rule.

The left hand column is used to specify values (includes mathematical expressions) which will set the value of the conclusion attribute if the condition in the right hand column of the same row equates to true.

The final row provides an alternative conclusion, to which the conclusion will be set if all of the conditions equate to false.

In other words:

B

C	A
E	D
F	**otherwise**

would mean 'If A is true then B is set to C, otherwise if D is true then B is set to E, otherwise B is set to F'.

Rule tables operate from top to bottom, with an implicit 'otherwise' between each row. So the conclusion is set based on the first condition that is proved to be true and the rule exited at that point (without assessing any of the conditions in the rows below). Therefore the order of the rows in rule tables is important.

Uncertain vs Unknown

We use 'uncertain' as well as 'unknown' in rule bases and it is important to understand the difference between the two.

An attribute is unknown if it has simply not been provided (or in the context of an interview, the question has not yet been asked).

An attribute is uncertain if some or all of the information necessary to prove a conclusion has been provided but the conclusion can still not be determined.

The following truth tables show how uncertainty works with **and** and **or** statements:

P	Q	P AND Q
TRUE	UNCERTAIN	UNCERTAIN
UNCERTAIN	TRUE	UNCERTAIN
FALSE	UNCERTAIN	FALSE
UNCERTAIN	FALSE	FALSE
UNCERTAIN	UNCERTAIN	UNCERTAIN

P	Q	P OR Q
TRUE	UNCERTAIN	TRUE
UNCERTAIN	TRUE	TRUE
FALSE	UNCERTAIN	UNCERTAIN
UNCERTAIN	FALSE	UNCERTAIN
UNCERTAIN	UNCERTAIN	UNCERTAIN

Determining whether an attribute's value is certain or known

The known and certain operators are used on rule conditions and cause the condition to evaluate a predictable way when the underlying attribute in the condition has a particular value:

The **uncertain** operator causes the condition to return true only if its value is uncertain. A condition using the uncertain operator returns false if the underlying value is not uncertain.

The **known** operator is commonly used in procedural rules that drive an investigation. For example, forcing attributes to be known in a particular order before determining a goal.

The **currently known** operator is used to test whether an attribute is known, without causing it to be brought up in the question search and asked of the user, ie it will test the *current* state of the attribute. It is used a lot where the rule base runs off data (rather

than an interactive interview) where the data may or may not be provided, and the fact that a piece of data has not been provided has meaning (e.g. if the ‘eligibility for entitlement funding’ is simply not returned in the ILR then we can infer that the learner is not eligible for entitlement).

The **unknown** operator is most commonly used for defaulting values in the rule base where the user has the option of providing an overriding value (either directly or through an inferred attribute).

For example:

Operator	Example
certain	the claimant is eligible for the benefit if it is certain whether or not the claimant is entitled to a payment or the claimant's eligibility status is certain
uncertain	the outcome is unclear if it is uncertain whether or not the means have been achieved or the status of the investigation is uncertain
known	the interview has been completed if it is known whether or not the claimant is eligible for a payment or the claimant's rate of benefit is known
unknown	the generic heading should be shown if it is unknown whether or not the person is eligible or the person's rate of entitlement in unknown
currently known	income details are available if the applicant's income is currently known

Section 3: Interface Agreement

Inputs

global					
AreaCostFactor1618	the provider's 16-18 area cost factor	number	5		PIMS
DisadvantageProportion	the provider's disadvantage proportion	number	5		PIMS
ProgrammeWeighting	the provider's programme weighting	number	5		PIMS
RetentionFactor	the provider's retention factor	number	5		PIMS
SpecialistResources	the provider has specialist resources	boolean			PIMS
UKPRN	the provider's UKPRN	number			ILR

Public Name	OPA Local Name	Data Type	Precision	Temporal	Source

Learner

Public Name	OPA Local Name	Data Type	Precision	Temporal	Source
DateOfBirth	the learner's date of birth	date			ILR
LearnRefNumber	the learner's reference number	text			ILR
PlanEEPHours	the learner's planned EEP hours	number			ILR
PlanLearnHours	the learner's planned learning hours	number			ILR
PostcodeDisadvantageUplift	the learner's postcode disadvantage uplift	number	5		Postcode Disadvantage Uplift Factors

LearnerFAM

Public Name	OPA Local Name	Data Type	Precision	Temporal	Source

LearnFAMCode	the learner FAM's code	number			ILR
LearnFAMType	the learner FAM's type	text			ILR

LearningDelivery

Public Name	OPA Local Name	Data Type	Precision	Temporal	Source
AimSeqNumber	the learning delivery's aim sequence number	number			ILR
AimTitle	the learning delivery's learning aim title	text			LARS Learning Aim
AimType	the learning delivery's aim type	number			ILR
AwardingBodyCode	the learning delivery's awarding body code	text			LARS Learning Aim
CompStatus	the learning delivery's completion status	number			ILR
LearnActEndDate	the learning delivery's actual end date	date			ILR
LearningAimTypeCode	the learning delivery's learning aim type code	text			LARS Learning Aim
LearnPlanEndDate	the learning delivery's planned end date	date			ILR
LearnStartDate	the learning delivery's start date	date			ILR
SSATier2Code	the learning delivery's SSA tier 2 code	text			LARS All Annual Values

LearningDeliveryFAM

Public Name	OPA Local Name	Data Type	Precision	Temporal	Source
LearnDelFAMCode	the learning delivery FAM's code	text			ILR
LearnDelFAMType	the learning delivery FAM's type	text			ILR

Outputs

global

Public Name	OPA Local Name	Data Type	Size	Precision	Temporal	Uncertain Derivation
InterfaceVersion	the current version of the interface specification	text	6			null
RulebaseVersion	the current version of the rulebase	text	8			null

Learner

Public Name	OPA Local Name	Data Type	Size	Precision	Temporal	Uncertain Derivation
LrnDV_AcadProg	the learner is studying an academic programme	boolean				null
LrnDV_ActualDaysILCurrYear	the learner's actual number of days this funding year	number	3			0
LrnDV_Age31Aug	the learner's age at 31st August	number	3			0
LrnDV_AreaCostFact1618Hist	the provider's historic 16-18 area cost factor	number	1	5		0
LrnDV_Block1DisadvUpliftNew	the learner's new block 1 disadvantage uplift	number	1	5		0
LrnDV_CoreAimSeqNumber	the learner's latest core aim sequence number	number	3			0
LrnDV_PrvDisadvPropnHist	the provider's historic disadvantage proportion	number	1	5		0
LrnDV_FullTimeEquiv	the learner's FTE	number	1	5		0
LrnDV_FundLine	the learner's funding line type	text	100			null
LrnDV_HighNeeds	the learner is high needs	boolean				null
LrnDV_LearnActEndDate	the learner's actual end date	date				null
LrnDV_LearnPlanEndDate	the learner's planned end date	date				null

LrnDV_LearnStartDate	the learner's start date	date				null
LrnDV_NatRate	the learner's national rate	currency	10	5		0
LrnDV_OnProgPayment	the learner's on-programme funding	currency	10	5		0
LrnDV_AcadMonthPayment	the learner's payment period	number	2			0
LrnDV_PlannedDaysILCurrYear	the learner's planned number of days this funding year	number	3			0
LrnDV_ProgWeightHist	the provider's historic programme weighting	number	1	5		0
LrnDV_ProgWeightNew	the learner's new programme weighting	number	1	5		0
LrnDV_ThresholdDays	the learner's qualifying period in days	number	2			0
LrnDV_RateBand	the learner's rate band	text	50			null
LrnDV_PrvRetentFactHist	the provider's historic retention factor	number	1	5		0
LrnDV_RetentNew	the learner's new retention status	number	1	5		0
LrnDV_StartFund	the learner is a start	boolean				null

Section 4: Funding Calculation Rule Base

Assumptions

Scope of calculations

This rule base will only be required to process data based on ILR records where FundModel = 25. References to LARS assume that the funding model-dependent data has been filtered for the relevant funding model/ILR subset code.

Funding Elements

Source of Funding

This element creates a learner level source of funding flag using the 'Learning Delivery Funding and Monitoring' entity in the ILR to find the source of funding code. The learner is set to EFA where at least one of the learner's aims is EFA funded, where no EFA funded aims are found if the learner has at least one SFA funded aim the learner is set to SFA funded otherwise a value of Other is returned.

the learner's source of funding	
"EFA"	for at least one of the learner's learning deliveries the learning delivery's number of FAM records > 0 and for at least one of the learning delivery's FAMs the learning delivery FAM's type = "SOF" and the learning delivery FAM's code = "107"
"SFA"	for at least one of the learner's learning deliveries the learning delivery's number of FAM records > 0 and for at least one of the learning delivery's FAMs the learning delivery FAM's type = "SOF" and the learning delivery FAM's code = "105"
"Other"	**otherwise**

Funding Line Type

This section determines under what EFA funding category the learner falls based on the source of funding and age of the learner.

the learner's funding line type	
"14-16 Direct Funded Students"	the learner's source of funding = "EFA" and any the learner's age at 31st August = 14 or the learner's age at 31st August = 15 and for at least one of the learner's learning deliveries the learning delivery's number of FAM records > 0 and for at least one of the learning delivery's FAMs the learning delivery FAM's type = "LDM" and any the learning delivery FAM's code = "320" or the learning delivery FAM's code = "321"
"16-19 High Needs Students"	the learner's source of funding = "EFA" and the learner's age at 31st August < 19 and the learner is high needs
"16-19 Students (excluding High Needs Students)"	the learner's source of funding = "EFA" and the learner's age at 31st August < 19 and the learner is not high needs
"19-24 High Needs Students"	the learner's source of funding = "EFA" and the learner's age at 31st August >= 19 and the learner's age at 31st August <= 24 and the learner is high needs
"19-24 High Needs Students"	for at least one of the learner's learning deliveries the learning delivery's start date is earlier than the first day of the current funding year and the learner's age at 31st August >= 20 and the learner's age at 31st August <= 24 and the learner's source of funding = "EFA" and the learner is ALS and the learner is not LDA
"25+ High Needs Students"	the learner's source of funding = "SFA" and the learner's age at 31st August >= 25 and the learner is high needs
"19+ Continuing Students (excluding High Needs Students)"	the learner's source of funding = "EFA" and the learner's age at 31st August >= 19 and the learner is not high needs
"16-18 Traineeships (Non-EFA)"	the learner's source of funding = "SFA" and for at least one of the learner's learning deliveries the learning delivery's number of FAM records > 0 and for at least one of the learning delivery's FAMs the learning delivery FAM's type = "LDM" and the learning delivery FAM's code = "323"
"Adult Skills Funded EFA Model"	the learner's source of funding = "SFA"
"Unknown"	**otherwise**

On-Programme Funding

This element calculates the total funding for the learner. Funding = (National Funding Rate * Historic Retention Factor * Historic Programme Weighting) * (1 + Historic Disadvantage Proportion) * Area Cost Allowance.

the learner's on-programme funding	
(the learner's national rate * the provider's historic retention factor * the provider's historic programme weighting) * (1 + the provider's historic disadvantage proportion) * the provider's historic 16-18 area cost factor	the learner is a start and the learner's funding line type <> "14-16 Direct Funded Learners"
0	**otherwise**

National Funding Rate Elements

Learner's National Rate

This element calculates the appropriate National Funding Rate for each student based on their total planned hours (planned qualification hours plus planned employability, enrichment and pastoral hours).

The learner's national rate is split into five bands, one full time and four part time, based on bands of hours (defined by the learning hours threshold elements).

the learner's rate band	
"Full Time (at least 540 hours)"	the learner's total planned hours >= the learning hours threshold for full time learners
"Part Time (450-539 hours)"	the learner's total planned hours >= the learning hours threshold for part time band 4 learners
"Part Time (360-449 hours)"	the learner's total planned hours >= the learning hours threshold for part time band 3 learners
"Part Time (280-359 hours)"	the learner's total planned hours >= the learning hours threshold for part time band 2 learners
"Part Time (up to 279 hours) FTE"	the learner's total planned hours >= the learning hours threshold for part time band 1 learners
"None"	**otherwise**

the learner's national rate	
the national rate for full time learners	the learner's rate band = "Full Time (at least 540 hours)"
the national rate for part time band 4 learners	the learner's rate band = "Part Time (450-539 hours)"
the national rate for part time band 3 learners	the learner's rate band = "Part Time (360-449 hours)"
the national rate for part time band 2 learners	the learner's rate band = "Part Time (280-359 hours)"
the national rate per FTE for part time band 1 learners * the learner's FTE	the learner's rate band = "Part Time (up to 279 hours) FTE"
0	**otherwise**

Learner's Total Planned Hours

This element returns the sum of the planned learning hours and planned employability, enrichment and pastoral hours from the ILR.

the learner's total planned hours	
the learner's planned learning hours + the learner's planned EEP hours	the learner's planned learning hours is currently known and the learner's planned EEP hours is currently known
the learner's planned learning hours	the learner's planned learning hours is currently known
the learner's planned EEP hours	the learner's planned EEP hours is currently known
0	**otherwise**

the learner's FTE = the learner's total planned hours / the funded hours per FTE

Uplifts and Factors

Learning Delivery Academic Flag

This element calculates a flag for each aim to determine whether or not it is deemed academic (based on the aim type). This flag is used in later steps to determine what programme cost weighting the core aim should carry.

the learning delivery is an academic aim	
false	the learning delivery's learning aim type code is unknown
false	the learning delivery is general studies
true	the learning delivery's learning aim type code = "0001" or the learning delivery's learning aim type code = "0002" or the learning delivery's learning aim type code = "1413" or the learning delivery's learning aim type code = "1430" or the learning delivery's learning aim type code = "1431" or the learning delivery's learning aim type code = "1432" or the learning delivery's learning aim type code = "1433" or the learning delivery's learning aim type code = "1434" or the learning delivery's learning aim type code = "1435" or the learning delivery's learning aim type code = "1453" A-Level
true	the learning delivery's learning aim type code = "0003" or the learning delivery's learning aim type code = "1081" or the learning delivery's learning aim type code = "1422" or the learning delivery's learning aim type code = "2999" GCSE
true	all the learning delivery's learning aim type code = "0016" and the learning delivery's awarding body code is currently known and the learning delivery's awarding body code = "IB" or the learning delivery's learning aim type code = "1401" International Baccalaureate
true	the learning delivery's learning aim type code = "1446" or the learning delivery's learning aim type code = "1447" Pre-U
true	the learning delivery's learning aim type code = "1420" FSMQ
true	the learning delivery's learning aim type code = "1440" Access to HE
false	**otherwise**

General Studies

This element flags general studies aims for the learning delivery academic flag.

the learning delivery is general studies if

the learning delivery's learning aim title is currently known and
the learning delivery's learning aim title contains "General Studies" and
the learning delivery's learning aim type code is currently known and
any

the learning delivery's learning aim type code = "0002" or
the learning delivery's learning aim type code = "1413" or
the learning delivery's learning aim type code = "1430" or
the learning delivery's learning aim type code = "1434" or
the learning delivery's learning aim type code = "1453" or
the learning delivery's learning aim type code = "0001" or
the learning delivery's learning aim type code = "1432"

Learner is Studying an Academic Programme

This element uses the learning delivery academic flag to determine whether or not the learner's core aim represents an academic programme or a vocational programme (if the learner is not academic the default value is vocational).

the learner is studying an academic programme	
true	the learner's number of core aim records = 0
true	for at least one of the learner's learning deliveries the learning delivery's aim sequence number = the learner's latest core aim sequence number and the learning delivery is an academic aim
false	**otherwise**

Learner's New Retention Status

This element sources the in-year retention status for each learner calculating an in year value from 2013/14 data. For academic learners the calculation sets the learner as retained if any of the aims in the programme are continuing, completed or on a planned break otherwise the learner is not retained. For vocational learners this logic runs only on the core aim.

the learner's new retention factor	
0	the learner is not a start
1	the learner is studying an academic programme and for at least one of the learner's learning deliveries the learning delivery's completion status is currently known and any the learning delivery's completion status = 1 or the learning delivery's completion status = 2 or the learning delivery's completion status = 6
1	the learner is not studying an academic programme and for at least one of the learner's learning deliveries the learning delivery's aim sequence number = the learner's latest core aim sequence number and the learning delivery's completion status is currently known and any the learning delivery's completion status = 1 or the learning delivery's completion status = 2 or the learning delivery's completion status = 6
0.5	**otherwise**

Historic Retention

This is a lookup value based on the retention factor used for the 2013/14 allocation passed into the calculation and used for the on programme funding element.

the provider's historic retention factor	
the provider's retention factor	the provider's retention factor is currently known
1	**otherwise**

New Programme Weighting

These two elements source the in-year programme cost weighting for each learner calculating an in year value from the core aim recorded in the 2013/14 data. The learning delivery's programme weighting uses the SSA Tier 2 code of the core aim recorded in the 2013/14 data (if the learner is academic a default of 1 is set). This element is then used to calculate the learner's new programme weighting where a core aim is recorded. If there is no core aim recorded (as there may not be for academic learners in the annual school census) the weighting is set to a default value of 1.

the learner's new programme weighting	
InstanceValueIf(the learner's learning deliveries, the learning delivery's programme weighting, the learning delivery's aim sequence number = the learner's latest core aim sequence number)	the learner's number of core aim records > 0
1	**otherwise**

the learning delivery's programme weighting	
1	the learner is studying an academic programme
1	the learning delivery's SSA tier 2 code is unknown
1.3	any the learning delivery's SSA tier 2 code = "03" or the learning delivery's SSA tier 2 code = "03.1" or the learning delivery's SSA tier 2 code = "03.2" or the learning delivery's SSA tier 2 code = "03.3" or the learning delivery's SSA tier 2 code = "03.4" or the learning delivery's SSA tier 2 code = "04.1" or the learning delivery's SSA tier 2 code = "04.2" and the learner's provider does not have specialist resources
1.6	any the learning delivery's SSA tier 2 code = "03" or the learning delivery's SSA tier 2 code = "03.1" or the learning delivery's SSA tier 2 code = "03.2" or the learning delivery's SSA tier 2 code = "03.3" or the learning delivery's SSA tier 2 code = "03.4" and the learner's provider has specialist resources
1.2	any the learning delivery's SSA tier 2 code = "04" or the learning delivery's SSA tier 2 code = "04.3" or the learning delivery's SSA tier 2 code = "05" or the learning delivery's SSA tier 2 code = "05.1" or the learning delivery's SSA tier 2 code = "05.2" or the learning delivery's SSA tier 2 code = "06.1" or the learning delivery's SSA tier 2 code = "07" or the learning delivery's SSA tier 2 code = "07.1" or the learning delivery's SSA tier 2 code = "07.3" or the learning delivery's SSA tier 2 code = "07.4" or the learning delivery's SSA tier 2 code = "09.1" or the learning delivery's SSA tier 2 code = "09.2" or the learning delivery's SSA tier 2 code = "13" or the learning delivery's SSA tier 2 code = "13.1" or the learning delivery's SSA tier 2 code = "13.2"
1	**otherwise**

Historic Programme Cost Weighting

This is a lookup value based on the programme cost weighting factor used for the 2013/14 allocation passed into the calculation and used for the on programme funding element.

the provider's historic programme weighting	
the provider's programme weighting	the provider's programme weighting is currently known
1	**otherwise**

Historic Area Cost

This is a lookup value based on the Area Cost factor used for the 2013/14 allocation passed into the calculation and used for the on programme funding element.

the provider's historic 16-18 area cost factor	
the provider's 16-18 area cost factor	the provider's 16-18 area cost factor is currently known
1	**otherwise**

Disadvantage Elements

New Block 1 Disadvantage Uplift

This element sources the future factor for disadvantage block 1 calculating an in year value based on the IMD 2010 uplift matched of the learners home postcode from 2013/14 data.

the learner's new block 1 disadvantage uplift	
the learner's postcode disadvantage uplift	the learner's postcode disadvantage uplift is currently known
1	**otherwise**

Historic Disadvantage Proportion

This is a lookup value based on the disadvantage funding (block 1 and block 2) from the 2013/14 allocation passed into the calculation and used for the on programme funding element. This value is calculated as the total Block 1 and Block 2 elements of your 2013/14 allocation as a proportion of the total programme funding (less disadvantage and before area cost).

the provider's historic disadvantage proportion	
the provider's disadvantage proportion	the provider's disadvantage proportion is currently known
0	**otherwise**

Parameters

These are fixed values that are passed through the various elements of the funding calculation.

the first day of the current funding year = 2013-08-01

the last day of the current funding year = 2014-07-31

the 1st June of the current funding year = 2014-06-01

the funded hours per FTE = 600

the national rate for full time learners = £4,000

the learning hours threshold for full time learners = 540

the national rate for part time band 4 learners = £4,000

the learning hours threshold for part time band 4 learners = 450

the national rate for part time band 3 learners = £2,700

the learning hours threshold for part time band 3 learners = 360

the national rate for part time band 2 learners = £2,133

the learning hours threshold for part time band 2 learners = 280

the national rate per FTE for part time band 1 learners = £4,000

the learning hours threshold for part time band 1 learners = 0

Date Rules

Summer School Students

Summer school students are not funded by the EFA in 2013/14 and so need to be identified so they can be excluded when valid starts are calculated. These are identified as those students who are <= 15 years old whose earliest start date falls on or after 1st June of the relevant academic year.

the learner is a summer school student if

the learner's age at 31st August <= 15 and
the learner's start date is on or later than the 1st June of the current funding year

The Learner is a Valid Start

The learner is counted as a start this year if their actual learning this year meets the appropriate number of threshold days - which is based on the planned learning this year.

the learner is a start if

the learner's qualifying period in days > 0 and
the learner's actual number of days this funding year >= the learner's qualifying period in days and
the learner is not a summer school student

Learner Qualifying Period

This element calculates the qualifying period of the learner based on the planned duration of their programme.

the learner's qualifying period in days	
42	the learner's planned number of days this funding year >= 168
14	the learner's planned number of days this funding year >= 14
0	**otherwise**

Learner's Planned Days in Funding Year

This element calculates the learner's planned programme duration as the difference between the learner's start date this year and their planned end date this year.

the learner's planned number of days this funding year	
the number of days (inclusive) from the learner's start date this year to the learner's planned end date this year	the learner's start date this year is certain and the learner's planned end date this year is certain and the learner's planned end date this year is on or later than the learner's start date this year
0	**otherwise**

Learner's Actual Days in Funding Year

This element calculates the learner's actual programme duration as the difference between the learner's start date this year and their actual end date this year.

the learner's actual number of days this funding year	
the number of days (inclusive) from the learner's start date this year to the learner's actual end date this year	the learner's start date this year is certain and the learner's actual end date this year is certain and the learner's actual end date this year is on or later than the learner's start date this year
0	**otherwise**

Start Date Calculations

The start date used in planned duration elements is calculated in 2 steps.

The first step is to pick the earliest of the learning deliveries start dates.

the learner's start date = the earliest of all the learning delivery's start date for the learner's learning deliveries

The second step adjusts the start date to the start of the academic year if it falls before the start of the academic year.

the learner's start date this year	
uncertain	the learner's actual end date is currently known and the learner's actual end date is earlier than the first day of the current funding year
the first day of the current funding year	the learner's start date is earlier than the first day of the current funding year
the learner's start date	the learner's start date is on or earlier than the last day of the current funding year
uncertain	**otherwise**

Planned End Date Calculations

The planned end date used in planned duration elements is calculated in 2 steps.

The first step picks the latest of the learning deliveries planned end dates.

the learner's planned end date = the latest of all the learning delivery's planned end date for the learner's learning deliveries

The second step adjusts the planned end date to the end of the academic year if it falls after the end of the academic year.

the learner's planned end date this year	
uncertain	the learner's start date is later than the last day of the current funding year
the last day of the current funding year	the learner's planned end date is later than the last day of the current funding year
the learner's planned end date	the learner's planned end date is on or later than the first day of the current funding year
uncertain	**otherwise**

Actual End Date Calculations

The actual end date used in planned duration elements is calculated in a number of steps.

The first step is to use the planned end date if there is no actual end date.

the learning delivery's adjusted actual end date	
the learning delivery's actual end date	the learning delivery's actual end date is currently known
the learning delivery's planned end date	**otherwise**

The second step is to pick the latest end date across all the learner's aims. The learner's actual end date is the latest of the learning deliveries actual end dates (or planned end date if the actual end date is unknown).

the learner's actual end date = the latest of all the learning delivery's adjusted actual end date for the learner's learning deliveries

The third step is to adjust the end date to the end of the academic year if it goes beyond the end of the academic year.

the learner's actual end date this year	
uncertain	the learner's start date is later than the last day of the current funding year
the last day of the current funding year	the learner's actual end date is currently known and the learner's actual end date is later than the last day of the current funding year
the learner's actual end date	the learner's actual end date is currently known and the learner's actual end date is on or later than the first day of the current funding year
uncertain	**otherwise**

Learner's Payment Period

This is the period (1-12) which the payments are allocated to.

the learner's payment period	
ExtractMonth(the learner's start date this year) + 5	the learner is a start and ExtractMonth(the learner's start date this year) <= 7
ExtractMonth(the learner's start date this year) - 7	the learner is a start and ExtractMonth(the learner's start date this year) >= 8
0	**otherwise**

Learner Age

This element derives the learner's age as at 31st August of the academic year in question.

the learner's age at 31st August = the number of years between the learner's date of birth and MakeDate(ExtractYear(the first day of the current funding year), 8, 31)

Core aim Selection

There can be more than one core aim in a learner's dataset in one academic year, therefore a set of logic is applied to pick the latest core aim in the set. This achieved in 4 steps.

Step 1 identifies the core aim(s) from all the learner's aims.

the learning delivery is a core aim if

the learning delivery's aim type = 5

Learner's Number of Core Aims

Step 2 calculates how many core aims are in the learner's dataset - some learners in the annual school census may not have a core aim identified. Where this is the case the core aim records count will be set to 0 and these learner's will receive a programme cost weighting of 1. This element is also used to determine the academic/vocational status of the learner.

the learner's number of core aim records stage 1 = the number of the learner's learning deliveries for which it is the case that the learning delivery is a core aim

the learner's number of core aim records	
the learner's number of core aim records stage 1	the learner's number of core aim records stage 1 is currently known
0	**otherwise**

Learner's Latest Core Aim

Step 3 picks the latest core aim from the learner's dataset using the core aims start date.

the learner's latest core aim start date	
the learning delivery's start date which is the latest for all of the learner's learning deliveries for which it is the case that the learning delivery is a core aim	the learner's number of core aim records > 0
uncertain	**otherwise**

Core Aim Sequence Number

Step 4 then extracts the aim sequence number for the latest core aim selected in step 3. The aim sequence number is used as a key identifier in many other elements of the funding calculation.

the learner's latest core aim sequence number	
the learning delivery's aim sequence number which is the greatest for all of the learner's learning deliveries for which it is the case that the learning delivery's start date = the learner's latest core aim start date	the learner's number of core aim records > 0
0	**otherwise**

Entity Counts

We need to work out the record counts in two stages because when a learner has no learner FAM entities for example, you get an unknown rather than a zero.

the learner's number of FAM records stage 1 = the number of the learner's FAMs

the learner's number of FAM records	
the learner's number of FAM records stage 1	the learner's number of FAM records stage 1 is currently known
0	**otherwise**

the learning delivery's number of FAM records stage 1 = the number of the learning delivery's FAMs

the learning delivery's number of FAM records	
the learning delivery's number of FAM records stage 1	the learning delivery's number of FAM records stage 1 is currently known
0	**otherwise**

High Needs

the learner is high needs if

the learner is a start and
any
- all
  - the learner's age at 31st August >= 19 and
    the learner is LDA
- or
  all
  - the learner's age at 31st August < 19 and
    the learner is ALS

the learner is ALS if

the learner's number of FAM records > 0 and
for at least one of the learner's FAMs
- the learner FAM's type = "ALS" and
  the learner FAM's code = 1

the learner is LDA if

the learner's number of FAM records > 0 and
for at least one of the learner's FAMs
- the learner FAM's type = "LDA" and
  the learner FAM's code = 1

Annex 1 – Derivations

Academic or Vocational programme

Level	Qualification types
3	• GCEs – AS, A2, A with AS Levels. Double awards count as 2 academic qualifications • IB Diploma – counts as 3 academic qualifications • IB Certificates • Cambridge Pre-U Diploma – counts as 3 qualifications • Access to HE Diploma – counts as 3 academic qualifications
2	• GCSEs – including vocational • GCSE Short Courses – count as half an academic qualification • Free standing maths qualification

Level	Number of academic qualifications	Non-academic qualifications
3	3 or more	
	2	No single aim with 300 or more planned guided learning hours (GLH)
	1	No single aim with 150 or more planned GLH
2	3 or more	No single aim with 300 or more planned GLH
	At least 2 and less than 3	No single aim with 200 or more planned GLH
	At least 1 and less than 2	No single aim with 100 or more planned GLH

Core Aim

In order to calculate historic Retention and Programme Cost Weighting the Core Aim has been derived from your 2011/12 data as the core aim flag does not exist in data submitted prior to 2013/14.

This derivation is based on the following hierarchies (1 being the first step in the hierarchy) – before each hierarchy is run the students programme type is identified as vocational or academic based on the range of learning aims against each student and each hierarchy only runs across aims that match the programme type:

Vocational Programmes

1. The aim with the highest in-year guided learning hours (GLH).

2. Where multiple aims have equal in-year GLH, then only the retained vocational aim is selected.

3. Where multiple aims have equal retention the aim with the highest programme cost weighting is selected.

4. Where all of the above are equal, the aim with the lowest aim sequence number is selected.

Academic Programmes

1. The retained aim is selected.

2. Where multiple aims have equal retention the aim with the lowest aim sequence number is selected.

Programme cost weightings by sector subject area (SSA)

SSA tier 2 code	SSA tier 2 description	Programme cost weighting banding	Programme cost weighting factor
1	Health, public services and care	Base	1
1.1	Medicine and dentistry	Base	1
1.2	Nursing and subjects and vocations allied to medicine	Base	1
1.3	Health and social care	Base	1
1.4	Public services	Base	1
1.5	Child development and wellbeing	Base	1
2	Science and mathematics	Base	1
2.1	Science	Base	1
2.2	Mathematics and statistics	Base	1
3	Agriculture, horticulture, and animal care	High/specialist[2]	1.3/1.6
3.1	Agriculture	High/specialist	1.3/1.6
3.2	Horticulture and forestry	High/specialist	1.3/1.6
3.3	Animal care and veterinary science	High/specialist	1.3/1.6
3.4	Environmental conservation	High/specialist	1.3/1.6
4	Engineering and manufacturing technologies	Medium	1.2
4.1	Engineering	High	1.3
4.2	Manufacturing technologies	High	1.3
4.3	Transportation operations and maintenance	Medium	1.2

[2] The high weighting (30%) will include non-specialist agriculture and animal care. The specialist weighting (60%) will apply where there is a requirement to run specialist facilities such as a farm or equine stables.

SSA tier 2 code	SSA tier 2 description	Programme cost weighting banding	Programme cost weighting factor
5	Construction, planning and the built environment	Medium	1.2
5.1	Architecture	Medium	1.2
5.2	Building and construction	Medium	1.2
6	Information and communication technology	Base	1
6.1	ICT practitioners	Medium	1.2
6.2	ICT for users	Base	1
7	Retail and commercial enterprise	Medium	1.2
7.1	Retailing and wholesaling	Medium	1.2
7.2	Warehousing and distribution	Base	1
7.3	Service enterprises	Medium	1.2
7.4	Hospitality and catering	Medium	1.2
8	Leisure, travel and tourism	Base	1
8.1	Sport, leisure and recreation	Base	1
8.2	Travel and tourism	Base	1
9	Arts, media and publishing	Base	1
9.1	Performing arts	Medium	1.2
9.2	Crafts, creative arts and design	Medium	1.2
9.3	Media and communication	Base	1
9.4	Publishing and information services	Base	1
10	History, philosophy and theology	Base	1
10.1	History	Base	1
10.2	Archaeology and archaeological sciences	Base	1

SSA tier 2 code	SSA tier 2 description	Programme cost weighting banding	Programme cost weighting factor
10.3	Philosophy	Base	1
10.4	Theology and religious studies	Base	1
11	Social Sciences	Base	1
11.1	Geography	Base	1
11.2	Sociology and social policy	Base	1
11.3	Politics	Base	1
11.4	Economics	Base	1
11.5	Anthropology	Base	1
12	Languages, literature and culture	Base	1
12.1	Languages, literature and culture of the British Isles	Base	1
12.2	Other languages, literature and culture	Base	1
12.3	Linguistics	Base	1
13	Education and training	Medium	1.2
13.1	Teaching and lecturing	Medium	1.2
13.2	Direct learning support	Medium	1.2
14	Preparation for life and work	Base	1
14.1	Foundations for learning and life	Base	1
14.2	Preparation for work	Base	1
15	Business, administration and law	Base	1
15.1	Accounting and finance	Base	1
15.2	Administration	Base	1
15.3	Business management	Base	1
15.4	Marketing and sales	Base	1
15.5	Law and legal services	Base	1

Area costs uplift by region

London A – 1.20	London B – 1.12
Camden	Barking and Dagenham
City of London	Barnet
Fulham	Bexley
Greenwich	Brent
Hackney	Bromley
Hammersmith	Croydon
Haringey	Ealing
Islington	Enfield
Kensington and Chelsea	Harrow
Lambeth	Havering
Lewisham	Hillingdon
Newham	Hounslow
Southwark	Kingston upon Thames
Tower Hamlets	Merton
Wandsworth	Redbridge
Westminster	Richmond upon Thames
	Sutton
	Waltham Forest

Bedfordshire and Hertfordshire non-fringe – 1.03	
Bedford	North Hertfordshire
Central Bedfordshire	Stevenage
Luton	

Berkshire, Surrey, and West Sussex fringe – 1.12	
Bracknell Forest	Slough

Berkshire, Surrey, and West Sussex fringe – 1.12	
Crawley	Spelthorne
Elmbridge	Surrey County Council
Epsom and Ewell	Surrey Heath
Guildford	Tandridge
Mole Valley	Waverley
Reigate and Banstead	Windsor and Maidenhead
Runnymede	Woking

Berkshire non-fringe – 1.12	
Reading	Wokingham
West Berkshire	

Buckinghamshire non-fringe – 1.07	
Aylesbury Vale	Wycombe
Milton Keynes	

Cambridgeshire – 1.02	
Cambridge	Huntingdonshire
East Cambridgeshire	Peterborough
Fenland	South Cambridgeshire

Hampshire and Isle of Wight – 1.02	
Basingstoke and Deane	Isle of Wight
East Hampshire	New Forest
Eastleigh	Portsmouth
Fareham	Rushmoor
Gosport	Southampton

Hampshire County Council	Test Valley
Hart	Winchester
Havant	

Hertfordshire and Buckinghamshire fringe – 1.10	
Broxbourne	South Buckinghamshire
Chiltern	St Albans
Dacorum	Three Rivers
East Hertfordshire	Watford
Hertsmere	Welwyn Hatfield

Kent and Essex fringe – 1.06	
Basildon	Harlow
Brentwood	Sevenoaks
Dartford	Thurrock
Epping Forest	

Oxfordshire – 1.07	
Cherwell	South Oxfordshire
Oxford	Vale of White Horse
Oxfordshire County Council	West Oxfordshire

West Sussex non-fringe – 1.01	
Adur	Horsham
Arun	Mid-Sussex
Chichester	Worthing

Education Funding Agency

Any enquiries regarding this publication should be sent to us at fundingqueries.efa@education.gsi.gov.uk.

This document is available for download at http://www.education.gov.uk/aboutdfe/executiveagencies/efa/funding/fundings/a00222378/funding-guidance-2013-to-14.