Tertiary Education Commission
Te Amorangi Mātauranga Matua

Educational performance indicators for industry training organisations

Methodology V1.0

Methodology: Educational performance indicators for industry training organisations

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Version history

Table 1: Version history of the methodology

Version	Date	Comments

Draft V0.1	June 2017	› Incorporated two documents into one:
		  – Educational Performance Indicators for ITOs and MACs – definitions and rules (Jul 2014)
		  – Methodology for calculating cohort-based completion and retention rates for industry training (Dec 2016)
		› Renamed "Credit completion" to "Credit achievement" to better reflect the process and to make this consistent with other documents
		› Updated formula wording to ensure that year n means the reporting year, and improved the cohort-based programme completion and cohort apprentice retention rate definitions and methodology wording (Note: there are no changes to the calculations)
		› Removed industry cash contribution information as this is not an EPI, and is part of financial reporting and monitoring

Final V1.0	February 2018	Published on TEC website.

Related documents and links

Table 2: Related documents and links

Document	Last updated	TEC reference
Financial monitoring of industry training organisations	March 2017	http://www.tec.govt.nz/funding/funding-and-performance/monitoring-tertiary-education-sector/itos/
Fund conditions	January 2018	http://www.tec.govt.nz/funding/funding-and-performance/funding/fund-finder/industry-training-fund/conditions/
Industry Training and Apprenticeships Act 1992	April 2014	http://www.legislation.govt.nz/act/public/1992/0055/latest/DLM266246.html?search=ts_act_industry+training_resel&p=1&sr=1
ITR user guide	July 2014	http://www.tec.govt.nz/funding/funding-and-performance/reporting/itr/
Standard training measures, offsets, and learner counts – methodology	February 2018	http://www.tec.govt.nz/funding/funding-and-performance/performance/teo/itos/
Tertiary Education Strategy	June 2014	http://www.education.govt.nz/further-education/policies-and-strategies/tertiary-education-strategy/

Introduction

Purpose

1. This document sets out the methodology used to calculate the educational performance indicators (EPIs) for industry training organisations (ITOs). The EPIs are calculated using data reported through the Industry Training Register (ITR).

2. Each year we publish EPIs for credit achievement, programme completion, and apprentice retention, once data for the reporting year is finalised.

Scope of this document

3. This document describes the definitions and methodologies used for calculating the following EPI measures:

    a) Credit achievement rate.

    b) Cohort-based programme completion rate.

    c) Cohort-based first year retention rate for apprentices.

    d) Learner participation.

    e) Parity.

Overview of the indicators

4. The EPIs set out in this document apply to both industry trainees and apprentices (collectively referred to as learners) enrolled with ITOs.

5. The EPIs contribute to assessing whether the government's spending on industry training represents value for money, and the extent to which learners are developing competencies that will contribute to the productivity of workplaces.

Credit achievement

6. The credit achievement rate represents the credits achieved by learners at an ITO as a proportion of the total number of credits learners are expected to achieve in a given period at each ITO.[1]

7. Monitoring the credits achieved by learners provides information about the extent to which learners are retained in training and actively progressing toward the completion of their programme.

Cohort-based programme completion

8. The cohort-based programme completion rate measures how many learners in a starting cohort go on to complete a programme at the same New Zealand Qualifications Framework (NZQF) level after a given period of time.

9. Monitoring the completions provides information on the extent to which learners are obtaining recognisable and transferable skills.

Cohort-based retention of New Zealand Apprentices

10. The first year retention rate measures how many New Zealand Apprentices are still enrolled in their apprenticeship after their first 12 months eligible for funding.[2]

11. Apprentices who are retained in training for at least one year are more likely to go on to complete their apprenticeship.

Learner participation

12. The participation of different groups of learners in industry training is measured to help ensure all groups have access to relevant training.

13. The Tertiary Education Strategy (TES) sets out the Government's long-term strategic direction for tertiary education, and includes focus on priority groups: Māori, Pasifika, and young people.

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[1] Expected credits are the raw delivered standard training measures (STMs) multiplied by 120. For more information on the calculation of STMs, refer to TEC's publication: *Standard training measures, offsets and learner counts – methodology* (http://www.tec.govt.nz/funding/funding-and-performance/performance/teo/itos/).

[2] Eligible for funding is where a learner has a status of active or grace on the last day of a month. For retention, the learner must have been eligible for funding for 13 months or more to be counted as retained.

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14. Measuring participation provides information to employers on the extent to which their investment in industry training results in appropriate access to training opportunities. This is particularly important in workplaces with relatively high employment by people from priority groups.

Parity

15. This measure provides information on educational outcomes of Māori and Pasifika compared with non-Māori and non-Pasifika learners. It reflects the extent to which the programmes ITOs develop are appropriate to the educational needs of Māori and Pasifika.

General methodology that applies to all indicators

16. The definitions and methodology in this document apply to all industry trainees and New Zealand Apprentices unless otherwise stated.

17. Overall, educational performance is based on measuring performance of all learners. To calculate the EPIs for the different learner types:

    a) For industry trainees, select records with the fund code IT.

    b) For New Zealand Apprentices, select records with the fund code NZA.

18. The master national student number (NSN) is used for all learners.

19. The final cut-off date for calculating EPIs is 1 April of the following year. All data entered into the ITR up to and including 31 March will be included in the calculations. Any data submitted after 31 March relating to the previous reporting year will be captured in the ITR but not included in the EPIs.[3]

20. Year always refers to a calendar year, ie, 1 January to 31 December (inclusive).

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[3] TEC may agree on a case-by-case basis to include data after this date where it is considered necessary to ensure and demonstrate appropriate accountability for public funding. Any change to the cut-off date for any year will be advised in advance of 31 March.

Methodology: Educational performance indicators for industry training organisations

Credit achievement

What it reports

21. The credit achievement rate measures the number of credits achieved by learners within the reporting year, as a proportion of the number of credits those learners were expected to achieve in the year.

Formula

Formula 1: Credit achievement rate

$$\frac{\textit{Credits achieved by all learners at an ITO in year n}}{\textit{Total credits expected by all learners at an ITO in year n}}$$

Definitions

22. *Credits achieved*: the sum of the credit values of all unit standards assessed as achieved in year n where:

    a) the unit standard is recorded on the learner's enrolment

    b) the credit value is from the assessed version on the learner's record of achievement and

    c) the assessment date is on or after the participation start date and, where the enrolment has been completed or withdrawn, on or before the participation actual end date.

23. *Year n*: the reporting year.

24. *Credits expected:* the credit value of standard training measures (STMs) calculated at a programme version level for each month.[4]

Methodology

25. The credits achieved include those associated with all programme enrolments registered in the ITR:

    a) NZQF qualifications (programme type NQ)

    b) Complex apprenticeships (programme type MAS)

    c) Supplementary credit programmes (programme type SCP) and

    d) Limited credit programmes (programme type LCP).

26. For complex apprenticeships, STMs are calculated at the parent enrolment level, while credits achieved are from either the parent enrolment or sub-enrolment.

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[4] For information on how to calculate STMs see Standard training measures, offsets, and learner counts for industry training organisations).

27. The unit standards on the enrolment are used because the credit achievement rate is calculated for a particular ITO as recorded in the ITR.[5]

28. The source of evidence of credit achievement data is the New Zealand Qualifications Authority's Record of Achievement. The date of credit achievement is the date the unit standard was assessed as achieved.

29. The first reported achievement of the unit standard is used.

30. The credit value is the unit standard version reported as achieved, not the value of the unit standard on the enrolment.

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[5] Only credits achieved that are reported to the ITR are included in the credit achievement calculation.

Methodology: Educational performance indicators for industry training organisations

Cohort-based programme completion

What it reports

31. The cohort-based programme completion rate measures how many learners in a starting cohort go on to complete a programme at the same NZQF level after a given period of time.

32. This cohort-based approach does not require a learner to complete the particular programme in which the learner originally enrolled. The learner is only expected to complete a programme at the same level to be counted as completed.

Formula

Formula 2: Cohort-based programme completion rate

$$\frac{\textit{Total number of learner enrolments at an ITO in the starting cohort that complete a programme at level x within a given timeframe by year n}}{\textit{Total number of learner enrolments at an ITO in the starting cohort at level x}}$$

Definitions

33. *Learner enrolment:* an enrolment for an industry trainee or apprentice.

34. *Cohort*: based on the ITO, learner type (industry trainee or apprentice) and NZQF level of the programme enrolment.

35. *In the starting cohort:* the earliest participation start date in the ITR in a calendar year relevant to the starting cohort.

36. *Complete:* a programme enrolment at the cohort level with status of completed in the ITR.

37. *Level x:* the NZQF level of the programme.

38. *Given timeframe:* a specific number of calendar years:

    a) Three years for industry training programmes at NZQF levels 1 to 3.

    b) Four years for industry training programmes at NZQF level 4 and above.

    c) Six years for apprenticeship programmes.

39. *Year n:* the reporting year.

Methodology

Entry into a cohort

40. Cohorts are established from 2011 onwards as 2011 is the start of the ITR.

41. A cohort belongs to an ITO. If a learner is enrolled in two programmes at the same level at different ITOs they are in two cohorts.

42. The cohort entry year is the year of the earliest participation start date in the learner type and NZQF level of the programme enrolment.

43. The cohort entry year is considered as year one for the relevant given timeframe required to complete.

44. A learner can only be active in one cohort at an ITO, learner type and NZQF level. Active is where the learner is currently enrolled and has not completed.

45. A learner can enter a new cohort at an ITO as the same learner type and NZQF level after completing a programme at that NZQF level, including within the same year. A learner can be counted as entering the cohort twice in the same year, provided the second entry into the same cohort occurs after a completion in that cohort.

46. A learner can enter a new cohort after they have withdrawn from the programme where the withdrawal end date was at least five years (1,825 days) earlier than the new participation start date and there have been no other enrolments in the same NZQF level since the original enrolment.

47. Cohorts exclude:

    a)   enrolments that have been deleted

    b)   enrolments where the participation start date and participation actual end date are in the same calendar month and year and

    c)   enrolments in LCPs.

Cohort completions

48. Completions are to be recorded at each NZQF level.

49. Only programmes completed after the cohort entry date are to be counted.

50. Only enrolments that complete at least one calendar month after the start month are counted.

Complex apprenticeship programmes

51. For complex apprenticeships the enrolment and completion of the parent programme only will be used in calculating cohort rates. The sub-programme enrolments will not be included in any cohort entry, exit or calculation.

Merged ITOs and ITOs reporting through multiple EDUMIS numbers[6]

52. Where a learner has previously enrolled at an ITO that has subsequently merged with another ITO, then the first enrolment at the new ITO is counted as the earliest participation start date.

53. Where an ITO is reporting through two or more EDUMIS numbers due to a merger, the enrolments relating to these will be re-coded to a single EDUMIS numbers, and treated as if they were in a single ITO.

Reporting

54. The cohorts will be reported separately in three groups:

    a)   Industry trainees at levels 1 to 3.

    b)   Industry trainees at levels 4 and above.

    c)   New Zealand Apprentices and Modern Apprentices.

55. The totals for these three groups are aggregated to report an overall cohort rate for an ITO.

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[6] A 4-digit code assigned by the Ministry of Education to an education organisations. Also known as provider code or MoE number.

Cohort-based retention of New Zealand Apprentices

What it reports

56.   The first year retention rate measures how many New Zealand Apprentices are retained in their apprenticeship after their first 12 months of training.

Formula

Formula 3: Cohort-based apprentice retention rate

$$\frac{\textit{Total number of New Zealand Apprentices who start in year n-1 who are still in training after 12 months at the ITO}}{\textit{Total number of New Zealand Apprentices who start in year n-1 at the ITO}}$$

Definitions

57.   *Start in year n-1*: earliest participation start date in a New Zealand Apprenticeship at the ITO in the year prior to the reporting year.

58.   *Still in training after 12 months*: the number of months eligible for funding[7] is 13 months or more in a New Zealand Apprenticeship at the ITO during year n-1 and year n.

59.   *Year n:* the reporting year.

Methodology

Entry into a cohort

60.   The apprentice must be enrolled in a New Zealand Apprenticeship programme.

61.   An apprentice is counted as retained if they were eligible for funding for at least 13 distinct months during year n-1 and year n. The months do not have to be consecutive.

62.   Any enrolments where the apprentice has completed the apprenticeship within the retention period are not included in the retention rate but will be reported separately as part of the retention reporting.

63.   An enrolment in a New Zealand Apprenticeship will not be included where:

   a)   the apprentice previously enrolled as a modern apprentice and

   b)   that modern apprenticeship enrolment is included in an active cohort for the cohort-based programme completion rate.

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[7] Eligible for funding is where the enrolment month has a status of active or grace.

Learner participation

What it reports

64. Learner participation measures the proportion of learners in a TES priority group (Māori, Pasifika, and young people aged under 25 years).

65. The participation of different groups of learners in industry training is measured to help ensure all groups have access to relevant training.[8]

Formula

Formula 4: Participation of learners

$$\frac{\textit{Number of distinct (Māori, Pasifika, or under 25 years) learners enrolled at the ITO in year n}}{\textit{Total number of distinct learners enrolled at the ITO in year n}}$$

Definitions

66. *Distinct learners enrolled at the ITO*: a distinct count of each learner in the ITO, where the learner had a status of active or grace at the end of any month during the reporting year.

67. *Māori, Pasifika:* a distinct count of each learner with a reported ethnicity of Māori or Pasifika.

68. *Under 25 years:* a distinct count of each learner whose age is under 25 years as at 1 July of the reporting year.

69. *Year n*: the reporting year.

Methodology

70. Each learner is counted once (a distinct count). If an ITO reports a learner against multiple programmes in year n, the learner is only counted once at that organisation, based on their NSN, ethnicity, and programme level.

71. In calculating the proportions of Māori and Pasifika learners, only those learners who have stated an ethnicity are included in the denominator.

72. Learners can report multiple ethnicities and be reported against more than one ethnicity.

73. A learner's ethnicity is based on the latest record submitted to the ITR by any ITO at the time of reporting. The latest record that was active at the time of reporting will be used and may not reflect the information held by the ITO.

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[8] This methodology document also describes how other TES priorities are calculated where indicators and dimensions are combined; for example, calculating credit achievement for Māori at NZQF level 4 and above. See *Parity* on page 16.

Parity

What it reports

75. Parity calculations measure how well priority groups are achieving compared with other groups at the same level. It compares Māori and Pasifika learners with non-Māori and non-Pasifika learners.

76. Tertiary education provides learners with the skills to more effectively participate in society and the community. This benefits them, their families and New Zealand. To grow these benefits, we need to ensure that all individuals from all backgrounds have the opportunity to realise their talents through tertiary education.[9]

Formula

Formula 5: Credit achievement at NZQF level 4 and above for Māori and Pasifika learners

$$\frac{\textit{Credits achieved by (Māori, Pasifika, non-Māori/non-Pasifika) learners at an ITO at NZQF level 4+ in year n}}{\textit{Total credits expected by (Māori, Pasifika, non-Māori/non-Pasifika) learners at an ITO at NZQF level 4+ in year n}}$$

Formula 6: Cohort-based programme completion at NZQF level 4 and above for Māori and Pasifika learners

$$\frac{\textit{Total number of (Māori, Pasifika, non-Māori/non-Pasifika) learner enrolments in the starting cohort that complete at an ITO at level 4+ within a given timeframe by year n}}{\textit{Total number of (Māori, Pasifika, non-Māori/non-Pasifika) learner enrolments at an ITO in the starting cohort at level 4+}}$$

Definitions

Formula 5

77. *Credits achieved*: the sum of the credit values of all unit standards assessed as achieved in year n where the:

   a) unit standard is recorded on the learner's enrolment

   b) credit value is from the assessed version on the learner's record of achievement and

   c) assessment date is on or after the participation start date and, where the enrolment has been completed or withdrawn, on or before the participation actual end date.

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[9] Tertiary Education Strategy 2014-19 (https://education.govt.nz/further-education/policies-and-strategies/tertiary-education-strategy/)

78. *Māori, Pasifika:* a distinct count of each learner with a reported ethnicity of Māori or Pasifika.

79. *Non-Māori/non-Pasifika:* a distinct count of each learner with a reported ethnicity is not Māori or Pasifika.

80. *NZQF level 4+:* a programme enrolment that is at level 4 and above.

81. *Year n*: the reporting year.

82. *Credits expected:* the credit value of standard training measures (STMs) calculated at a programme version level for each month.[10]

Formula 6

83. *Māori, Pasifika:* a distinct count of each learner with a reported ethnicity of Māori or Pasifika.

84. *Non-Māori/non-Pasifika:* a distinct count of each learner with a reported ethnicity that is not Māori or Pasifika.

85. *Learner enrolment:* an enrolment for an industry trainee or apprentice.

86. *Cohort*: based on the ITO, learner type (industry trainee or apprentice) and NZQF level of the programme enrolment.

87. *In the starting cohort:* the earliest participation start date in the ITR in a calendar year relevant to the starting cohort.

88. *Complete:* a programme enrolment at the cohort level with status of completed in the ITR.

89. *NZQF level 4+:* all learners with a programme enrolment that is at level 4 and above, irrespective of learner type (industry trainee or apprentice).

90. *Given timeframe:* a specific number of calendar years:

     a)   Three years for industry training programmes at NZQF levels 1 to 3.

     b)   Four years for industry training programmes at NZQF level 4 and above.

     c)   Six years for apprenticeship programmes.

91. *Year n:* the reporting year.

Methodology

92. The methodologies are the same as the credit achievement and cohort-based programme completion EPIs set out in this document on pages 9 and 11 respectively.

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[10] For information on how to calculate STMs see Standard training measures, offsets, and learner counts for industry training organisations).

Calculating all measures by other dimensions

93. This section sets out the various dimensions and methodology by which participation and achievement may be calculated.

Ethnicity

94. A learner's ethnicity is the latest record submitted to the ITR by any ITO at the time of reporting. Latest and historical records are maintained, and are accurate at the time the information was submitted to the ITR.

95. Learners can report up to three ethnicities in the ITR. All three fields are used to assign a learner's ethnicity, so a learner could be counted up to three times when reporting total percentages of disaggregated ethnicities. For example, a learner reports their ethnicities as Māori and Pasifika, and subsequently will be counted as both Māori and Pasifika.

96. For a learner to be reported as "non-Māori or non-Pasifika", none of the three reported ethnicities can include Māori or Pasifika.

97. Non-response (Not Stated) and other residual categories are excluded from calculating ethnic group percentages.

Age

98. A learner's age comes from the date of birth listed on the National Student Index, and is based on the learner's age as at 1 July of the reporting year.

NZQF level

99. This is the NZQF level for which the programme was approved for funding. Performance can be analysed by the level of the programme in which a learner is enrolled.

100. The NZQF level comes from the programme dimension of the ITR.

101. For complex apprenticeships, the NZQF level of the parent programme is used.

Industry

102. The industry reflects the industry in which the learner's employer is primarily working, and is obtained from the Industry Code in the Training Agreement.

103. The industrial classification used is the Australian and New Zealand Standard Industrial Classification (ANZSIC) 2006.

Region

104. The region is where the learner's place of employment is located, and is determined by the territorial authority. The learner's territorial authority is obtained from the Employment Location TLA Code on the Training Agreement.

105. The territorial authority is based on Statistics New Zealand 2006 classification of territorial authority.

Appendix 1: Acronyms used in the methodology

Table 3: List of acronyms used in this methodology

Acronym	Term
EPI	Educational performance indicator
IT	Industry training
ITO	Industry training organisation
ITR	Industry Training Register
LCP	Limited credit programme
MAS	Complex apprenticeship
NQ	NZQF qualification
NSN	National student number
NZA	New Zealand Apprenticeship
NZQA	New Zealand Qualifications Authority
NZQF	New Zealand Qualifications Framework
SCP	Supplementary credit programme
STM	Standard training measure
TEC	Tertiary Education Commission Te Amorangi Mātauranga Matua
TES	Tertiary Education Strategy

Appendix 2: Example overall cohort-based programme completion rate

The overall cohort-based programme completion rate is calculated using the aggregated data from each of the three cohorts: industry trainees at levels 1 to 3, industry trainees at levels 4 to 7, and apprentices. Each of the starting cohorts' years will be different, but all finish in the same reporting year.

Example: Cohort-based programme completion reporting for the 2016 reporting year
Year n is the reporting year.

Cohort	2011 Year n-5	2012 Year n-4	2013 Year n-3	2014 Year n-2	2015 Year n-1	2016 Year n	2017 Rates published		Individual cohort rates	
Industry trainees levels 1 to 3				Year 1 Enter IT L1-3	Year 2	Year 3 3-yr cohort	51%		$\dfrac{1{,}645}{3{,}230}$ =	51%
Industry trainees levels 4 to 7			Year 1 Enter IT L4-7	Year 2	Year 3	Year 4 4-yr cohort	61%		$\dfrac{4{,}920}{8{,}015}$ =	61%
Apprentices	Year 1 Enter NZA/MA	Year 2	Year 3	Year 4	Year 5	Year 6 6-yr cohort	71%		$\dfrac{405}{570}$ =	71%

Overall cohort rate

$$\text{Complete:} \quad \frac{405}{570} \; + \; \frac{4{,}920}{8{,}015} \; + \; \frac{1{,}645}{3{,}230} \; = \; \frac{6{,}970}{11{,}815} \; = \; \textbf{59\%}$$

Enter cohort:

Appendix 3: Examples of cohort-based programme completion entries and exits

Example	2013	2014	2015	2016	Summary	Cohort	Reporting year
Enrolment in level 4 industry training; withdrawn and re-enrolled in an NZA	Enrolment (IT L4)	Withdrawal (IT L4)			> Enters 2013 IT L4 cohort, and withdraws in 2014 > Remains in 2013 IT L4 cohort	2013 IT L4	2016
		Enrolment (NZA L4)		Completion (NZA L4)	> Enters 2014 Apprentice cohort as NZA and exits in 2016 with a completion	2014 Apprentice	2019
First enrolment in level 2 industry training; another enrolment in level 2 industry training after completion of first enrolment			Enrolment (IT L2)	Completion (IT L2)	> Enters 2015 IT L2 cohort and exits in Feb 2016 with completion	2015 IT L2	2017
				Enrolment (IT L2)	> Enters 2016 IT L2 cohort in March and is still active as enrolment is *after* the completion	2016 IT L2	2018
First enrolment in level 4 industry training; another enrolment in level 4 industry training before first enrolment is completed	Enrolment (IT L4)		Completion (IT L4)		> Enters 2013 IT L4 cohort and exits in Dec 2015 with a completion > No entry into 2015 IT L4 cohort as learner was still active in 2013 IT L4 cohort > Second completion is not counted as there is no related cohort entry	2013 IT L4	2016
			Enrolment (IT L4)	Completion (IT L4)			
Two enrolments in different years in level 4 industry training; completion for the second enrolment occurs first	Enrolment (IT L4)			Completion (IT L4)	> Enters 2013 IT L4 cohort > No entry in 2014 IT L4 cohort as learner still active in 2013 IT L4 cohort > Exits 2013 IT L4 cohort with a completion in 2015 > Completion in 2016 is not counted as there is no related cohort entry	2013 IT L2	2016
		Enrolment (IT L4)	Completion (IT L4)				

Example	2013	2014	2015	2016	Summary	Cohort	Reporting year
Enrolment in MA; withdrawn and re-enrolled in NZA	Enrolment (MA L3)	Withdrawal (MA L3) ~~Enrolment (NZA L4)~~			> Enters 2013 Apprentice cohort > NZA enrolment is ignored, as it is the same cohort as the MA > Learner remains active in 2013 Apprentice cohort	2013 Apprentice	2018
Enrolment in level 2 industry training; withdrawn in the following year then re-enrolled again in level 2 industry training		Enrolment (IT L2)	Withdrawal (IT L2)	Enrolment (IT L2)	> Enters 2014 IT L2 cohort > Withdrawal is ignored due to subsequent re-enrolment in 2016 within 5 years from withdrawal	2014 IT L4	2016

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