

Harmonised NEET Methodology - Technical Notes

Summary and background

There has been a change in the methodology used to calculate the not in education, employment and training (NEET) and not in education and training (NET) figures in the NEET Quarterly Brief.

This follows the announcement that the Office for National Statistics (ONS) will publish the first official statistics showing the number and proportion of young people NEET in the UK on 23rd May 2013, and the decision by the Department for Education (DfE) and the Department for Business, Innovation and Skills (BIS) to adopt their *harmonised* methodology for quarterly NEET statistics in England also.

Calculating numbers and proportion NEET can be viewed as a two-step process. First, establishing what 'counts' as education and training from the various questions asked in the Labour Force Survey (LFS) to identify those young people who are NET. Second, for young people who are NET, to identify those who are also either unemployed or economically inactive. Young people who are both NET and also either unemployed or economically inactive are NEET.

The second step is straightforward as the UK – along with all developed countries – follows the International Labour Organisation (ILO) definitions for labour market status, so young people who are either unemployed or economically inactive can be identified directly from the LFS dataset [using the ILODEFR variable].

However, the first step – establishing how to use the LFS to determine who should count as being in education and training – is arguably a matter of judgement. The Office for National Statistics (ONS) following consultation and development work with government departments (including DfE and BIS) and the devolved administrations in Wales, Scotland and Northern Ireland arrived at an agreed definition [detailed in Annex A]. In addition a convention has been agreed how to handle non-response or 'missing' data.

The main changes to the methodology are:

- The harmonised definition of education and training usually identifies slightly fewer young people as being confirmed in education or training (not allowing for 'missing data');
- However, the old NEET Statistics Quarterly Brief methodology assumed that in all cases where responses were 'missing' that the young person was NET. In the harmonised methodology missing data are pro-rated or apportioned in line with the responses that were given by young people of the same age and gender and economic activity.

The overall impact results in estimates of young people NET in the harmonised methodology usually being very similar to those published under the old methodology – sometimes a little higher, sometimes a little lower – with a corresponding impact on estimates of young people NEET.

A comprehensive comparison showing both NET and NEET time-series under both the old and harmonised methodologies are shown in Charts B1-B10; and the differences in Tables C1 and C2.

Who is NEET?

The acronym NEET stands for not in education, employment or training.

In the harmonised definition, a person is considered to be in education or training if they:

- are doing an apprenticeship (APPR8);
- are on a Government employment or training programme (SCHM12);
- are working or studying towards a qualification (QULNOW);
- have had job-related training or education in the last four weeks (ED4WK); or
- are enrolled on an education course and are still attending or waiting for term to (re)start (ENROL and ATTEND).

Therefore, a person who is not in any of the above forms of education or training, and who is not in employment, is considered to be NEET. The definition of “in employment” follows that used for the official labour market statistics. This definition is based on that recommended by the International Labour Organisation (ILO).

Methodology

NEET estimates are calculated in three steps:

- The first step is to deriving a variable to distinguish those in education or training (ET) from those not in education or training (NET); see Annex A1
- The second step is to cross-tabulate the derived ET/NET variable by economic status (in employment, unemployed or economically inactive); see Annex A2
- The third step involves processing the table to allow for non-response; see Annex A3

The importance of the third step is explained below.

Missing data

When calculating any statistic a decision has to be made on how to handle non-response or missing data. In the old Quarterly Brief methodology young people with no recorded response to any of the relevant education and training questions were classified as NET; in other words an assumption was made that they were all not in education and training. Arguably this had the impact of inflating the estimate of the number and proportion of young people NET. However, if the amount of missing data is broadly consistent over time, then the assessment of whether the number and proportion of young people NET is increasing or decreasing should be unbiased.

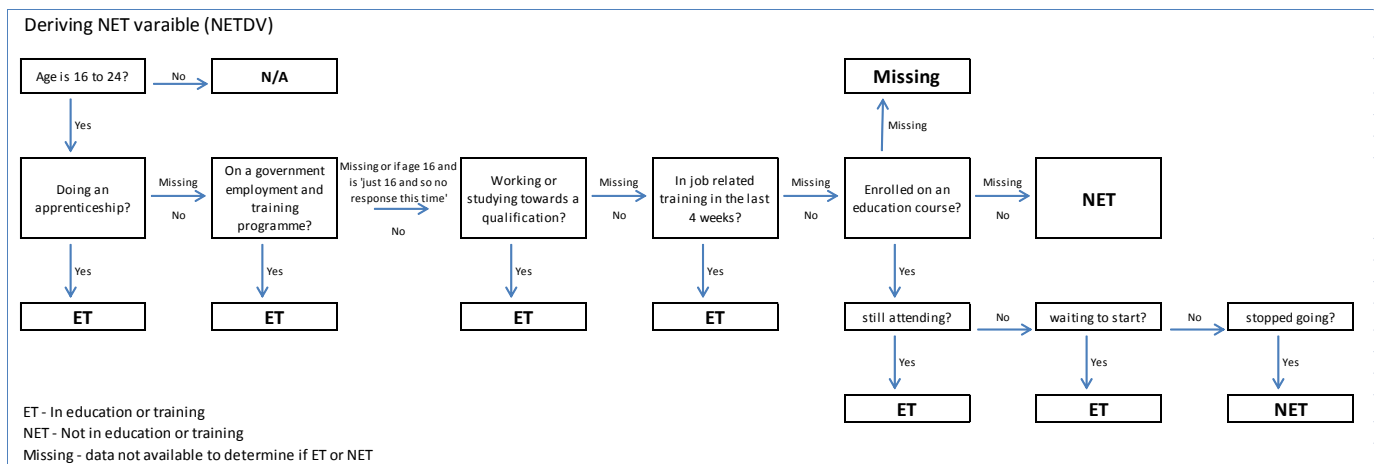
In the Labour Force Survey (LFS) missing data is particularly an issue with respondents who turn 16 during their household’s inclusion in the survey. This is because one strategy for minimising non-response in the LFS dataset is to ‘bring forward’ an earlier response if interviewed in a previous quarter [this will often be possible as the LFS is a panel survey, and households remain in the sample for 5 consecutive quarters]. However, questions about labour market activity and many education and training questions are just asked of respondents aged 16 and over. Consequently, for young people who have recently turned 16 there is often no response to ‘bring forward’ and their case is more likely to remain as missing data than older people in the LFS sample.

There is evidence that non-response in the LFS, particularly at age 16, has been increasing in recent years, and so the decision was taken to pro-rate or apportion non-response cases in the harmonised methodology. This is described fully in Annex A3, but in brief the ‘missing’ cases are split into the valid responses in line with the responses given by young people of the same age, gender and economic activity.

Annex A – Detailed methodology to calculate NET and NEET

A1: Derivation of not in education and training (NET)

The diagram below illustrates the general logic underpinning the definition of not in education and training (NET). More formally a flowchart describing the derivation of the NETDV variable will appear in the next edition of the [LFS User Guide Volume 4: LFS Standard Derived Variables](#) and in the future the NETDV variable itself will be available pre-derived on the LFS dataset.



The SPSS code to derive the NETDV variable is shown below. As variable names change the code will need to be adapted slightly, but the following code will run on datasets from Quarter 1 2012 onwards:

```
MISSING VALUES ALL (.).
EXECUTE.
```

```
COMPUTE NET=0.
DO IF (age> 15).
  DO IF (APPRCURR=1).
    COMPUTE NET = 2.
  ELSE IF (schm12 >= 1 AND schm12 <= 50).
    COMPUTE NET = 2.
  ELSE IF QULNOW = 1.
    COMPUTE NET = 2.
  ELSE IF ED4WK =1.
    COMPUTE NET =2.
  ELSE IF ENROLL = 1.
    DO IF (ATTEND = 1 or ATTEND = 2).
      COMPUTE NET = 2.
    ELSE IF ATTEND = 3.
      COMPUTE NET = 1.
    ELSE IF ATTEND = -8.
      COMPUTE NET = -8.
    ELSE.
      COMPUTE NET = 2.
    END IF.
  ELSE IF (APPRCURR=-8 OR QULNOW = -8 OR ENROLL = -8 or ED4WK=-8).
    COMPUTE NET = -8.
  ELSE IF (age=16 and (schm12=97 or schm12=-9)).
    COMPUTE NET =-8.
  ELSE.
    COMPUTE NET = 1.
  END IF.
END IF.
```

```
variable labels NET 'NET'.
value labels NET 0 'Error' 1 'Not in education/training' 2 'In education/training' -8 'Missing' -9 'Not applicable' .
variable level NET (nominal).
EXECUTE.
```

A2: Cross-tabulate NETDV with ILODEFR

Select by academic age 16-24 and create a crosstab of NETDV and economic activity (ILODEFR).

It is not shown in the diagram below, but it is essential to include a disaggregation by single-age and gender in order to pro-rate the missing data (grey below) correctly, as described in the following section.

ILODEFR	NETDV		
	In education or training (ET)	Not in education or training (NET)	Education/training status is missing
In employment			
Unemployed		NEET	
Inactive		NEET	

Green – EET: In education, employment or training
 Red – NEET: Not in education, employment or training
 Grey – Education/training status is unknown

A3: Convention for pro-rating missing data

The cross-tabulation above produces the following inputs for the pro-rating step:

- Not in education or training by economic status, age and sex (a)
- In education or training by economic status, age and sex (b)
- 'Missing data' - cases where answers to the education or training questions are missing by economic status, age and sex (c)

Around 80% of missing cases at age 16-24 are 16 and are 'brought forward' cases. This is a particular risk for young people who have just turned age 16 because labour market activity and many education and training questions are just asked from age 16. Consequently non-responses cannot be imputed with data from a previous quarter [as the LFS is a panel survey, and households are interviewed for 5 consecutive quarters], and in a non-responding household a proxy response is not possible either. Non-responders, who have provided neither the economic status nor education information, are classified as inactive as part of the standard derivation of economic status (ILODEFR, which is pre-derived on the LFS dataset).

In the harmonised methodology for calculating NET and NEET statistics those with unknown education status (c) are apportioned between both (a) and (b).

As educational and employment characteristics are related to age and gender, the apportioning would produce different numbers NEET if carried out in aggregate (all 16-24 year olds) than if carried out for 16 year old males, 16 year old females, 17 year old males, and so on. For this reason the harmonised NEET methodology has a convention that all apportioning of missing responses to education and labour market categories is carried out by single-age and gender and then added up to reporting categories.

Sex	Economic Activity	Age	In education and training	Not in education and training	Missing cases (-8)	In education or training pro-rated	Not in education and training pro-rated
Male Female	Employed Unemployed Inactive	16	a	b	c	$d = ((a/(a+b))*c) + a$	$e = ((b/(a+b))*c) + b$
		17					
		18					
		19					
		20					
		21					
		22					
		23					
24							

(e) provides the estimate for the number not in education and training (NET) if rows are combined for all forms of economic activity. But just combining numbers for those unemployed and inactive gives the number for those not in education, employment or training (NEET).

Annex B – Impact of the change in methodology on previously published figures, by age

As described in Annex A, the 16 year old age group contains the largest proportion of ‘missing data’ and therefore this is the age group most affected by the methodological change. The average absolute change between Q2 2000 and Q4 2012 for this cohort for both NET and NEET estimates was 0.4 percentage points with the largest difference occurring in Quarter 3 2012 (2 percentage points lower for both measures). As the amount of missing data in the LFS is tending to increase, the impact of the new methodology is most pronounced in the most recent quarters.

Charts showing the difference between the original and new NEET rates

Chart B1: Original and new 16 year old NEET rate: England, Q2 2000 – Q4 2012

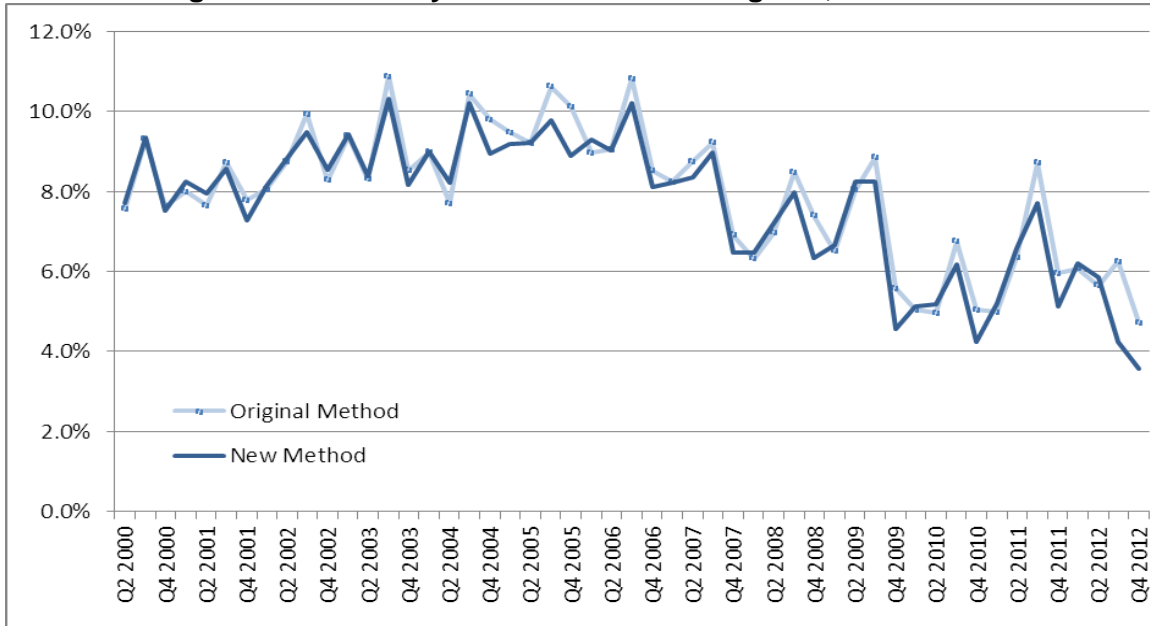


Chart B2: Original and new 17 year old NEET rate: England, Q2 2000 – Q4 2012

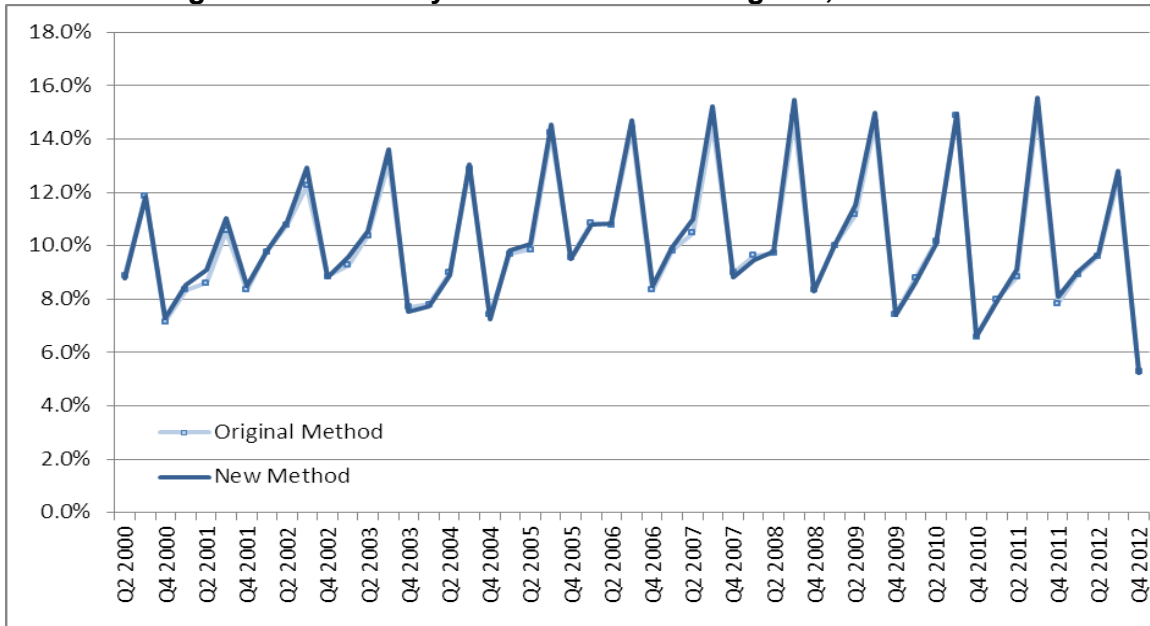


Chart B3: Original and new 18 year old NEET rate: England, Q2 2000 – Q4 2012

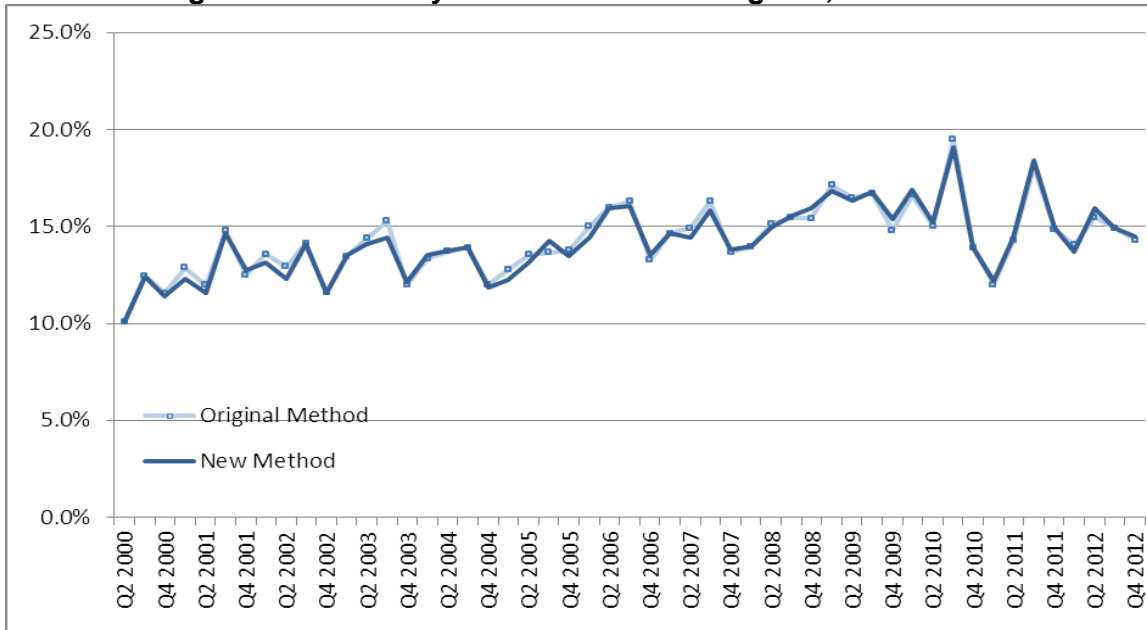


Chart B4: Original and new 16-18 year old NEET rate: England, Q2 2000 – Q4 2012

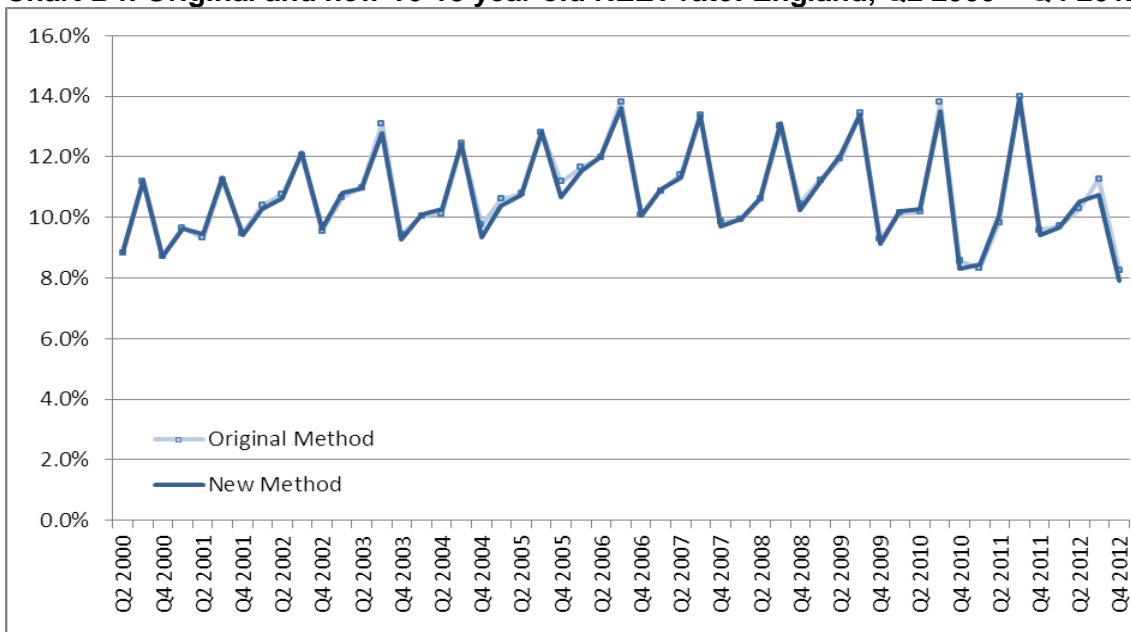
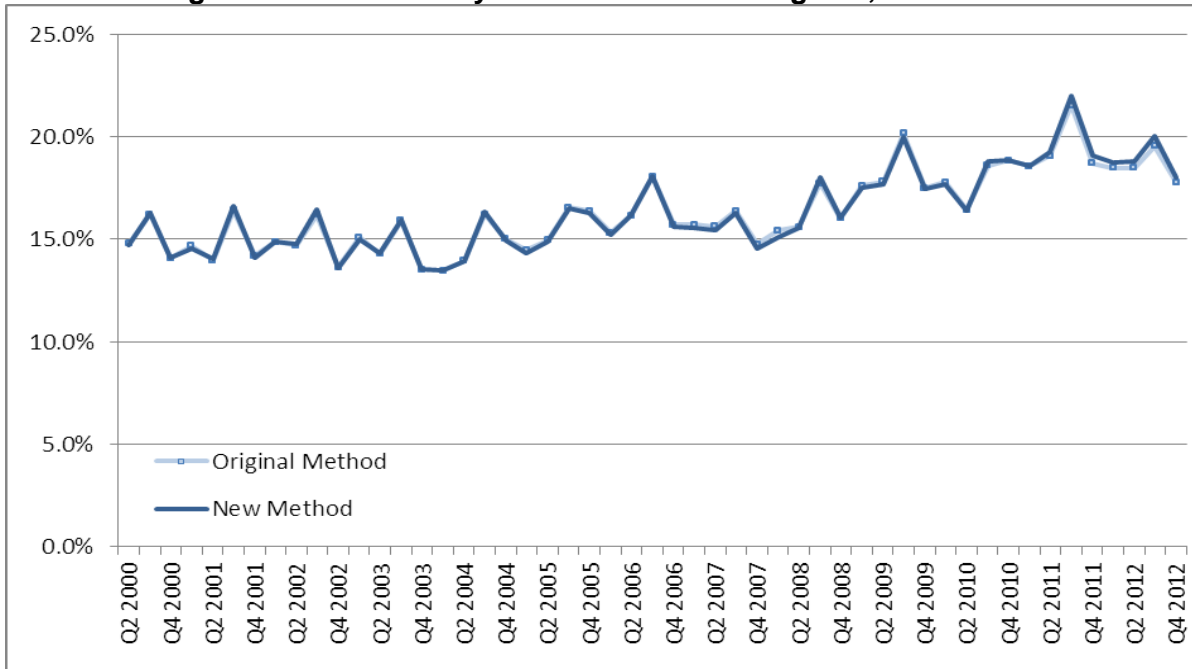


Chart B5: Original and new 19-24 year old NEET rate: England, Q2 2000 – Q4 2012



Charts showing the difference between the original and new NET rates

Chart B6: Original and new 16 year old NET rate: England, Q2 2000 – Q4 2012

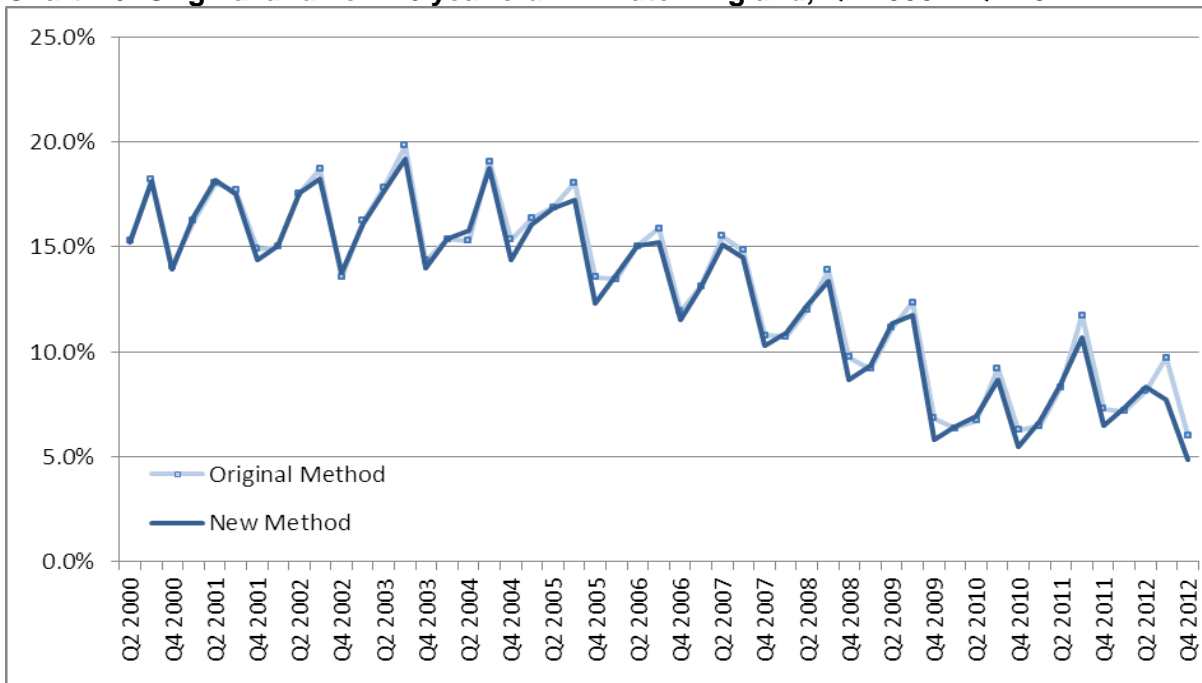


Chart B7: Original and new 17 year old NET rate: England, Q2 2000 – Q4 2012

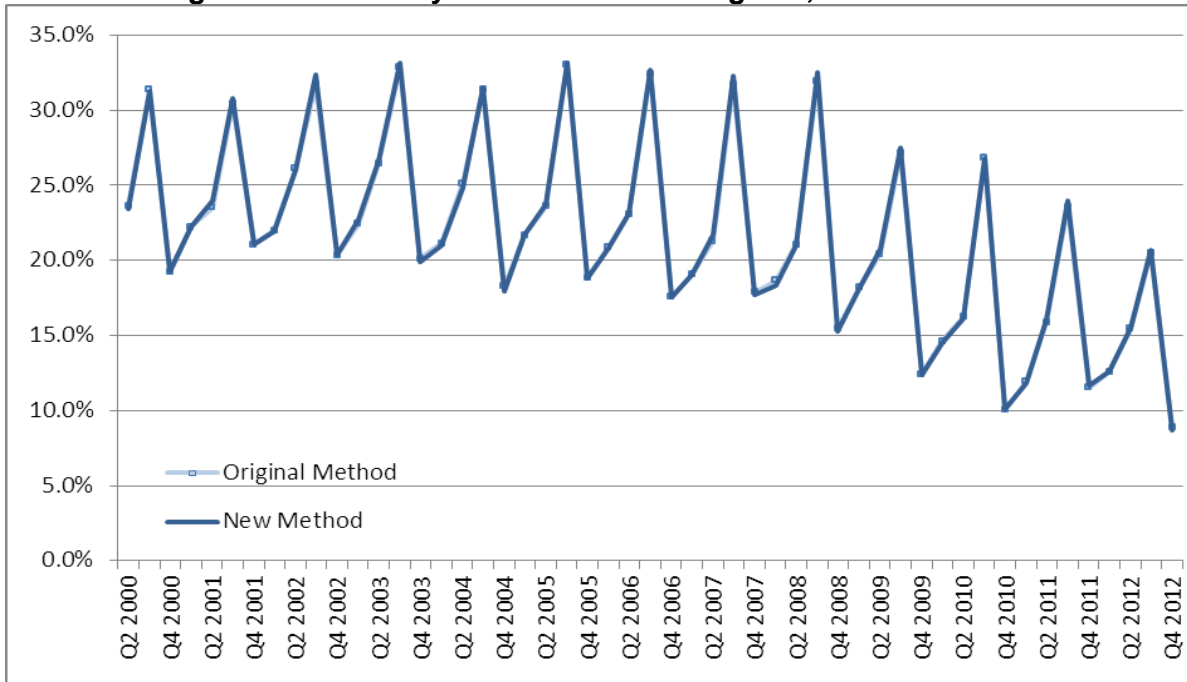


Chart B8: Original and new 18 year old NET rate: England, Q2 2000 – Q4 2012

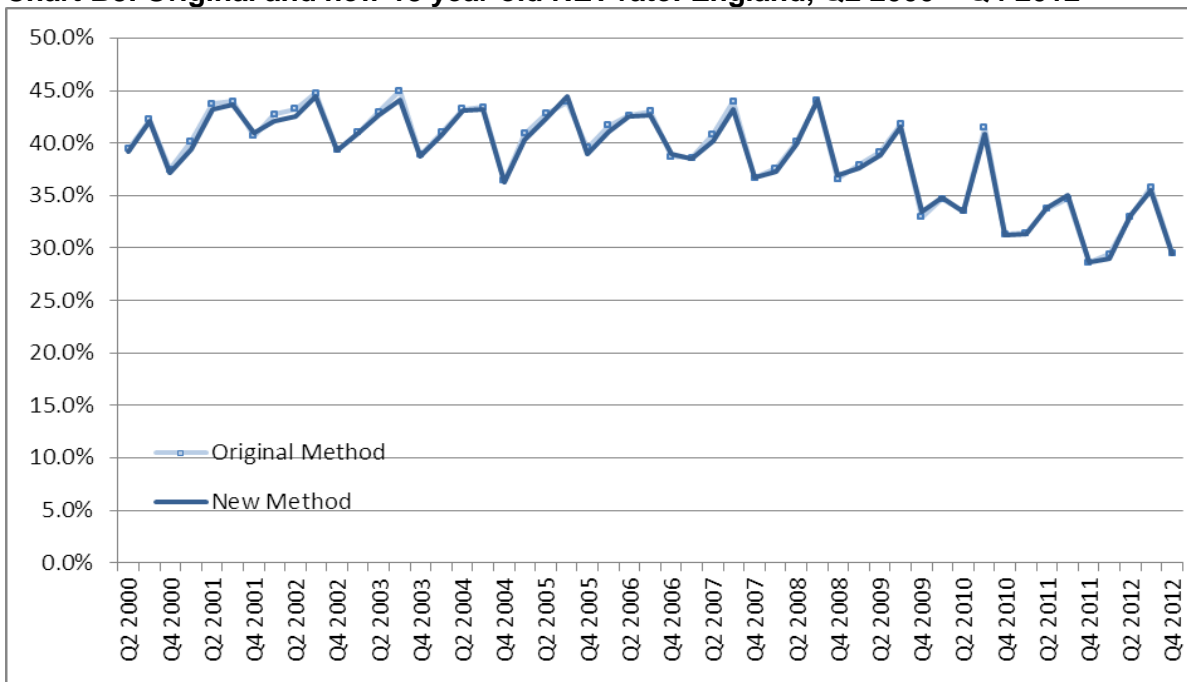


Chart B9: Original and new 16-18 year old NET rate: England, Q2 2000 – Q4 2012

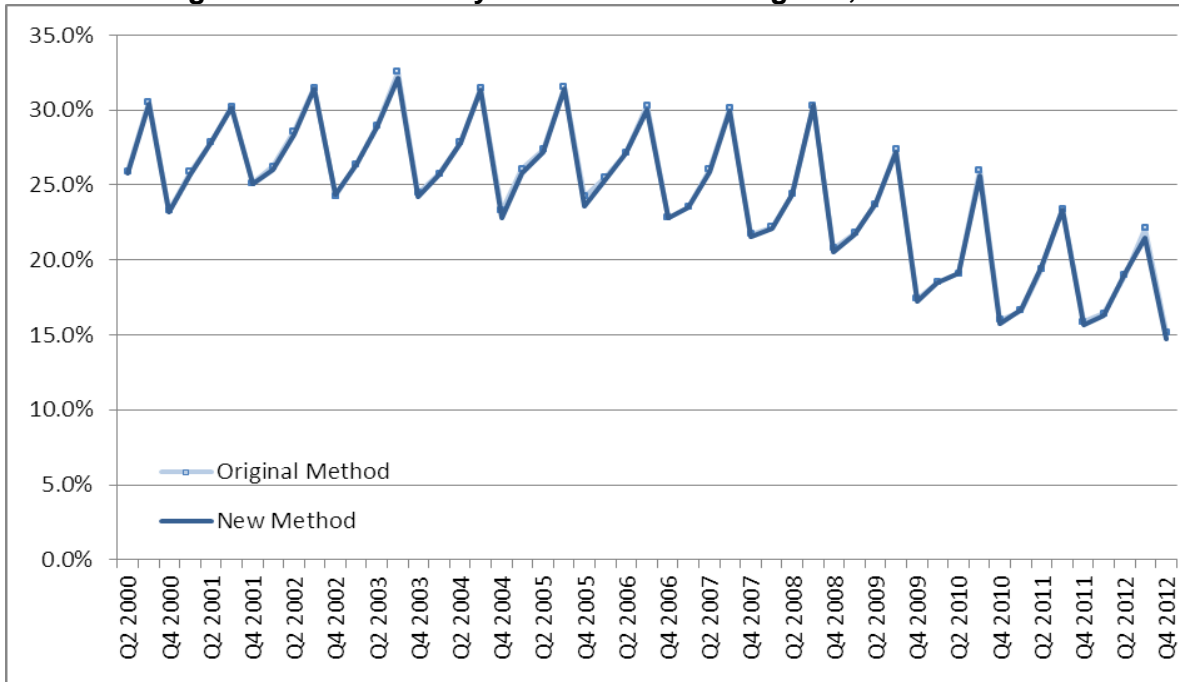
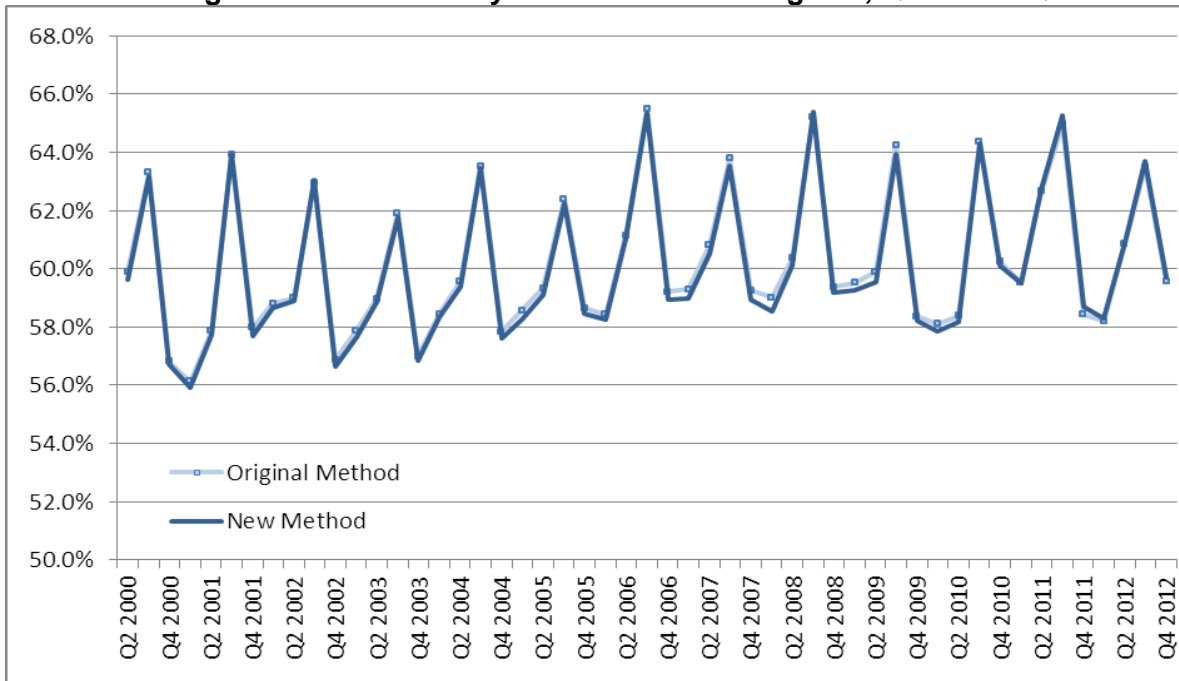


Chart B10: Original and new 19-24 year old NET rate: England, Q2 2000 – Q4 2012



Annex C – Comparison of old and new NEET and NET figures

**Table C1: Percentage point difference in NEET estimates (New – Old methodology):
England, Q2 2000 – Q4 2012**

Quarter	16	17	18	16-18	19-24	16-24
Q2 2000	0.2	-0.1	0.0	0.0	-0.1	-0.1
Q3 2000	0.0	0.0	0.0	0.0	0.0	0.0
Q4 2000	-0.1	0.1	-0.2	0.0	0.0	0.0
Q1 2001	0.2	0.2	-0.6	0.0	-0.1	-0.1
Q2 2001	0.3	0.5	-0.4	0.1	0.1	0.1
Q3 2001	-0.1	0.5	-0.1	0.1	0.2	0.2
Q4 2001	-0.5	0.2	0.3	0.0	-0.1	-0.1
Q1 2002	0.1	0.0	-0.4	-0.1	0.0	0.0
Q2 2002	0.1	0.1	-0.6	-0.1	0.1	0.0
Q3 2002	-0.4	0.7	0.0	0.1	0.2	0.2
Q4 2002	0.3	0.0	0.0	0.1	0.0	0.0
Q1 2003	0.1	0.3	0.1	0.2	-0.1	0.0
Q2 2003	0.1	0.2	-0.3	0.0	0.0	0.0
Q3 2003	-0.5	0.5	-0.9	-0.3	0.1	-0.1
Q4 2003	-0.4	-0.2	0.1	-0.1	0.0	-0.1
Q1 2004	0.0	-0.1	0.2	0.0	0.0	0.0
Q2 2004	0.5	-0.1	0.0	0.2	0.0	0.0
Q3 2004	-0.2	0.2	0.0	0.0	0.1	0.1
Q4 2004	-0.8	-0.2	-0.2	-0.4	-0.1	-0.2
Q1 2005	-0.3	0.1	-0.5	-0.2	-0.2	-0.2
Q2 2005	0.0	0.2	-0.4	0.0	-0.1	-0.1
Q3 2005	-0.9	0.3	0.6	0.0	0.0	0.0
Q4 2005	-1.2	-0.1	-0.3	-0.5	-0.1	-0.2
Q1 2006	0.3	-0.1	-0.6	-0.1	-0.1	-0.1
Q2 2006	0.0	0.1	0.0	0.0	0.0	0.0
Q3 2006	-0.6	0.3	-0.3	-0.2	0.0	-0.1
Q4 2006	-0.4	0.1	0.3	0.0	-0.1	-0.1
Q1 2007	0.0	0.1	0.0	0.0	-0.2	-0.1
Q2 2007	-0.4	0.5	-0.5	-0.1	-0.2	-0.2
Q3 2007	-0.3	0.6	-0.5	0.0	-0.1	-0.1
Q4 2007	-0.5	-0.2	0.1	-0.2	-0.2	-0.2
Q1 2008	0.2	-0.1	0.0	0.0	-0.3	-0.2
Q2 2008	0.2	0.1	-0.2	0.0	0.0	0.0
Q3 2008	-0.5	0.7	0.1	0.1	0.3	0.2
Q4 2008	-1.1	-0.1	0.5	-0.2	0.0	0.0
Q1 2009	0.1	0.0	-0.3	-0.1	-0.1	-0.1
Q2 2009	0.2	0.3	-0.2	0.1	-0.2	-0.1
Q3 2009	-0.6	0.4	0.1	0.0	-0.2	-0.1
Q4 2009	-1.0	0.0	0.6	-0.2	-0.1	-0.1
Q1 2010	0.1	-0.2	0.3	0.1	-0.1	-0.1
Q2 2010	0.2	-0.1	0.2	0.1	-0.1	0.0
Q3 2010	-0.6	0.1	-0.4	-0.3	0.2	0.0
Q4 2010	-0.8	0.0	0.1	-0.2	0.0	0.0
Q1 2011	0.2	-0.1	0.2	0.1	0.0	0.0
Q2 2011	0.2	0.3	0.2	0.2	0.2	0.2
Q3 2011	-1.0	0.4	0.4	-0.1	0.5	0.3
Q4 2011	-0.8	0.3	0.0	-0.2	0.3	0.2
Q1 2012	0.1	0.1	-0.3	0.0	0.3	0.2
Q2 2012	0.2	0.1	0.5	0.2	0.3	0.3
Q3 2012	-2.0	0.3	0.0	-0.5	0.5	0.2
Q4 2012	-1.1	-0.1	0.2	-0.3	0.2	0.1

**Table C2: Percentage point difference in NET estimates (New – Old methodology):
England, Q2 2000 – Q4 2012**

Quarter	16	17	18	16-18	19-24	16-24
Q2 2000	-0.1	-0.2	-0.2	-0.2	-0.3	-0.2
Q3 2000	0.0	-0.1	-0.2	-0.1	-0.1	-0.1
Q4 2000	-0.2	0.1	-0.3	-0.1	-0.1	-0.1
Q1 2001	0.2	0.0	-0.7	-0.2	-0.2	-0.2
Q2 2001	0.2	0.5	-0.6	0.0	-0.1	-0.1
Q3 2001	-0.2	0.4	-0.3	-0.1	0.0	0.0
Q4 2001	-0.5	0.0	0.3	-0.1	-0.3	-0.2
Q1 2002	0.1	-0.1	-0.6	-0.2	-0.2	-0.2
Q2 2002	0.0	-0.1	-0.7	-0.2	-0.1	-0.1
Q3 2002	-0.4	0.7	-0.3	0.0	0.1	0.0
Q4 2002	0.2	0.0	0.0	0.1	-0.2	-0.1
Q1 2003	-0.2	0.3	-0.1	0.0	-0.3	-0.2
Q2 2003	-0.2	0.2	-0.3	-0.1	-0.1	-0.1
Q3 2003	-0.6	0.3	-0.9	-0.4	-0.1	-0.2
Q4 2003	-0.4	-0.2	-0.1	-0.2	-0.1	-0.2
Q1 2004	0.0	-0.2	-0.2	-0.1	-0.1	-0.1
Q2 2004	0.5	-0.3	-0.1	0.0	-0.2	-0.1
Q3 2004	-0.3	0.2	-0.1	-0.1	-0.1	-0.1
Q4 2004	-1.0	-0.4	-0.2	-0.5	-0.2	-0.3
Q1 2005	-0.3	0.0	-0.6	-0.3	-0.3	-0.3
Q2 2005	-0.1	0.1	-0.5	-0.1	-0.2	-0.2
Q3 2005	-0.9	0.2	0.5	-0.1	-0.2	-0.1
Q4 2005	-1.2	-0.1	-0.6	-0.6	-0.2	-0.3
Q1 2006	0.2	-0.1	-0.6	-0.2	-0.2	-0.2
Q2 2006	0.0	0.0	-0.1	0.0	-0.1	-0.1
Q3 2006	-0.7	0.3	-0.4	-0.3	-0.2	-0.2
Q4 2006	-0.4	0.0	0.2	-0.1	-0.3	-0.2
Q1 2007	0.0	0.0	-0.1	0.0	-0.3	-0.2
Q2 2007	-0.4	0.4	-0.6	-0.2	-0.3	-0.3
Q3 2007	-0.3	0.5	-0.7	-0.2	-0.3	-0.2
Q4 2007	-0.5	-0.2	0.1	-0.2	-0.3	-0.3
Q1 2008	0.2	-0.3	-0.2	-0.1	-0.4	-0.3
Q2 2008	0.2	0.0	-0.2	0.0	-0.2	-0.2
Q3 2008	-0.5	0.6	0.1	0.0	0.2	0.1
Q4 2008	-1.1	-0.2	0.3	-0.3	-0.2	-0.2
Q1 2009	0.1	0.0	-0.4	-0.1	-0.3	-0.2
Q2 2009	0.2	0.3	-0.3	0.1	-0.4	-0.2
Q3 2009	-0.6	0.4	-0.2	-0.2	-0.3	-0.3
Q4 2009	-1.0	0.0	0.6	-0.2	-0.2	-0.2
Q1 2010	0.1	-0.2	0.1	0.0	-0.3	-0.2
Q2 2010	0.2	-0.1	-0.1	0.0	-0.2	-0.1
Q3 2010	-0.6	0.0	-0.6	-0.4	-0.1	-0.2
Q4 2010	-0.8	0.0	-0.1	-0.3	-0.1	-0.2
Q1 2011	0.2	-0.1	0.0	0.0	-0.1	0.0
Q2 2011	0.1	0.2	0.1	0.1	0.0	0.1
Q3 2011	-1.1	0.4	0.4	-0.1	0.3	0.2
Q4 2011	-0.8	0.2	0.0	-0.2	0.3	0.1
Q1 2012	0.1	0.0	-0.4	-0.1	0.1	0.0
Q2 2012	0.2	0.1	0.2	0.1	0.1	0.1
Q3 2012	-2.0	0.2	-0.2	-0.7	0.2	-0.1
Q4 2012	-1.1	-0.2	0.0	-0.4	0.1	0.0