Data Insight

European Union Settled Status (EUSS) Data Linkage Project (Wales): Preliminary findings for education

Authors: Ffion Lloyd-Williams, Matthew Curds, Stephen Drinkwater

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Summary of findings:

- Pupils born in Wales have a higher average primary school attendance in English medium schools compared to European Union (EU)-born pupils. However, this varies when splitting out EU countries into EU14 [1] and EU8 [2].
- Pupils born in Wales have a higher average primary school attendance in Welsh medium schools compared to EU-born pupils.
- Pupils born in Wales have a higher average secondary school attendance in English medium schools compared to EU-born pupils, however, this varies when splitting out EU countries into EU14 and EU8.
- We estimate pupils born in Wales have better attainment levels for all subjects at Foundation Phase (FP), Key Stage 2 (KS2) and Key Stage 3 (KS3) than EU8 [2] and EU14 pupils born in the EU living in Wales apart from Welsh Language at FP and KS3.
- A higher proportion of pupils born in EU14 countries achieved at least five GCSEs (A* to C) which includes English or Welsh language and Maths compared to pupils born in EU8 countries and Wales. However, some of the sample sizes are low.
- We estimate attainment at all levels for EU8 pupils born in the EU living in Wales do not appear to be as high as for EU14 pupils. Further analysis is required to explore this hypothesis.

Background

This Data Insight provides a preliminary analysis on education data relating to children born in the EU living in Wales and children born in Wales living in Wales, which details their attendance and attainment at school. It is based upon the analysis of Education Wales data linked to 2011 Census data. This analysis forms part of the EU Settled Status (EUSS) Data Linkage Project, which aims to link European Union (EU) citizen data with other data already held within the SAIL Databank, based at Swansea University. Using a range of de-identified data in the SAIL Databank, a control group of British citizens in Wales has been matched with EU citizens with similar characteristics using the 2011 Census. This provides a spine to identify country of birth, with a focus upon health (mental health), education, and employment.

This Data Insight examines the differences between Welsh pupils and EU14- and EU8-born pupils in relation to educational attainment and attendance at the Foundation Phase, Key Stage 2, Key Stage 3, and GCSE level in Wales. EU14 countries include Austria, Belgium, Denmark, Finland, France, Germany, Greece, Republic of Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, and Sweden. EU8 countries include Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, and Slovenia. Some results are also shown for EU27-born pupils. It has not been possible to undertake any analysis separately for countries in EU27 not part of EU14 or EU8 due to small numbers [3].

Our existing literature review found that language and lack of familiarity with the UK education system were the greatest barriers in education for children of EU citizens. Manzoni [4] found that both primary and secondary schools experienced particular challenges – where pupils not only know very little English, but are also unfamiliar with the teaching, learning, and cultural aspects of school life. This was exacerbated when children entering the later years of compulsory education had challenges with acquiring English to the level necessary to pass examinations. In a Scottish study, Porteous [5] found that although children may have English language skills, parents could feel disengaged with their children's education due to unfamiliarity with the English language and cultural norms. However, children with English as an Additional Language (EAL) who started school in England before age 9 have a similar average attainment at the end of Key Stage 4 compared to non-EAL pupils. By contrast, those arriving after age 12 and, especially, after age 14, performed worse than their non-EAL peers [6].

What we did

In the first instance, Education Wales data was linked to 2011 Census data for the period 2014 to 2019. For the Foundation Phase, Key Stage 2, and Key Stage 3, we identified all EU14- and EU8-born pupils and Wales born pupils living in Wales. It should be noted that within the EU groups, pupils will have arrived in Wales at different ages so their length of time in the Wales education system will vary. We performed statistical analysis using the R statistical package and appropriate statistical tests (including the Chi Squared test and Mann Whitney test [7]). This produced comparisons between the groups. Pupils who identified as being born in the UK in the 2011 Census rather than a specific nation were included within the Wales category. This may include some pupils with parents born outside the UK. Here, we report on differences between groups for English language, Maths, Science, and Welsh language. For GCSE results, we conducted statistical analysis (using the Chi Squared test and logistic regression) to produce comparisons between EU14- and EU8-born pupils with Wales-born pupils living in Wales. We compared the proportion of pupils who achieved five or more A* to C grades at GCSE, including in English or Welsh language and Maths.

What we found

Initial findings indicate small but statistically significant differences in school attendance between Welsh-born pupils and pupils born in EU14 and EU8 countries. They also indicate similar differences in school attainment between Welsh-born pupils in Wales and pupils born in EU14 and EU8 countries living in Wales. However, it is important to note that for all data presented here, there were differences in the number of pupils included in the analysis. Welsh pupils accounted for more than a million records when looking at attendance at different school types (primary and secondary). EU14- and EU8-born pupils accounted for around 100 to 10,000 records, depending on school type.

Attendance

In primary schools, Welsh-born pupils had a slightly higher - but statistically significant - mean and median attendance than EU-born pupils. However, when broken down to EU14 and EU8 country of birth, Welsh-born pupils had a slightly lower mean and median attendance than EU14-born pupils but higher attendance than EU8-born pupils (Table 1). In Welsh medium primary schools, Welsh-born pupils had a slightly higher mean and median attendance than EU-born pupils.

In secondary schools, Welsh-born pupils had a lower mean and median attendance than EU-born pupils. Breaking this down into the different groups: Welsh-born pupils had a lower mean and median attendance than EU14-born pupils, but higher than EU8-born pupils (Table 2). In Welsh medium secondary schools, Welsh born pupils had a lower mean and median attendance than EU-born pupils, however this was not statistically significant.

Table 1 – Average attendance in English medium schools for primary school pupils by country of birth, 2014 to 2019

Country of Birth	Mean	Median
EU14	95%	97%
EU8	93%	94%
EU27	94%	95%
Wales	95%	96%

Table 2 – Average attendance in English medium schools for secondary school pupils by country of birth, 2014 to 2019

Country of Birth	Mean	Median
EU14	95%	97%
EU8	93%	95%
EU27	96%	97%
Wales	95%	96%

Attainment

In the Foundation Phase, a higher percentage of Welsh-born pupils achieved the expected Level 5 for English language than EU14-born pupils (89% v. 87%). However, for Welsh language, a higher proportion of EU14-born pupils reached Level 5 than Welsh-born pupils (99% v. 92%). A higher percentage of Welsh-born pupils reached Level 5 for English language (89% v. 78%) and Maths (91% v 84%) than EU8-born pupils. Compared to all EU-born pupils, a higher percentage of Welsh-born pupils reached Level 5 for English language (89% v 82%) and Maths (91% v. 87%). By contrast, a higher percentage of EU-born pupils had reached Level 5 for Welsh language (95% v. 92%) than Welsh-born pupils (Table 3).

In Key Stage 2, a higher percentage of Welsh-born pupils achieved the expected level of Level 4 for Welsh language than EU14-born pupils (72% v. 70%). A higher percentage of Welsh-born pupils reached Level 4 for English language (86% v. 81%), Maths (92% v. 90%), Welsh language (72% v. 64%), and Science (93% v. 90%) than EU8-born pupils. A higher percentage of Welsh-born pupils reached Level 4 for English language (86% v. 83%) than EU-born pupils (Table 4).

In Key Stage 3, a higher percentage of Welsh-born pupils achieved the expected level of Level 5 for English language (65% v. 59%), Maths (60% v. 55%) and Science (68% v. 63%) than EU14-born pupils. A higher percentage of Welsh-born pupils reached Level 5 for Maths (60% v. 54%) and Science (68% v. 66%) than EU8-born pupils. A higher percentage of EU8-born pupils reached Level 5 for Welsh language (68% v. 66%) than Welsh-born pupils. For all EU pupils, a higher percentage of Welsh-born pupils reached Level 5 for Maths (60% v. 54%), English language (65% v. 62%), and Science (68% v. 65%) than EU-born pupils. By contrast, a higher percentage of EU-born pupils reached Level 5 for Welsh language (67% v. 66%) than Welsh-born pupils (Table 5).

Table 3 – Foundation Phase achieving the expected level of Level 5 by country of birth, 2014 to 2019

Country of Birth	English Language	Welsh Language	Maths
EU14	87%	99%	91%
EU8	78%	88%	84%
EU27	81%	95%	87%
Wales	89%	92%	91%

Table 4 – Key Stage 2 achieving the expected Level 4 by country of birth, 2014 to 2019

Country of Birth	English Language	Welsh Language	Maths
EU14	59%	70%	91%
EU8	81%	64%	90%
EU27	83%	91%	91%
Wales	86%	86%	92%

Table 5 – Key Stage 3 achieving the expected Level 5 by country of birth, 2014 to 2019

Country of Birth	English Language	Welsh Language	Maths	Science
EU14	59%	66%	55%	63%
EU8	65%	68%	54%	66%
EU27	62%	67%	54%	65%
Wales	65%	66%	60%	68%

GCSE attainment

Table 6 presents the percentage of pupils who achieved at least five GCSEs (grades A* to C), including in English or Welsh language and Maths. A higher proportion of pupils born in EU14 countries achieved at least five GCSEs than pupils born in EU8 countries and Wales. However, the sample sizes do vary as expected.

The Chi squared test showed:

- EU14-born pupils had a significantly higher percentage of GCSEs at Grade A* to C than Welsh-born pupils and EU8-born pupils, but there was no significant difference between EU8- and Welsh-born pupils.
- There was no difference in the percentage for achieving GCSE Grade A* to C in Maths between EU14- and Welsh-born pupils, EU8- and Welsh-born pupils, and EU14- and EU8-born pupils.
- For English language, EU14-born pupils had a significantly higher percentage of GCSEs at Grade A* to C than EU8- and Welsh-born pupils. Welsh-born pupils had a significantly higher percentage of GCSEs at Grade A* to C than EU8-born pupils.

Table 6 – Pupils with five GCSEs (A* to C) including in English/Welsh and Maths, 2014 to 2019

Country of Birth	Five A* to C GCSEs or more	Total pupils	Percentage
Wales	86,520	153,675	56%
EU8	600	1,085	56%
EU14	535	885	60%

Using logistic regression, we assessed the impact of the country of birth of a pupil on achieving at least five GCSEs, including in English or Welsh language and Maths. We found a positive correlation with pupils born in EU14 countries when compared to Welsh-born pupils, which was statistically significant at the 5% level of significance. However, we found a negative correlation with pupils born in EU8 countries when compared to Welsh-born pupils, which was not statistically significant.

We then converted these into log ratios to present the odds of a EU14- or EU8-born pupil achieving at least five GCSEs (A* to C), including in English or Welsh language and Maths, compared to a pupil born in Wales. We found that these odds for pupils born in EU14 were 19% higher than those of pupils born in Wales, statistically significant at the 5% level of significance. We also found the odds of pupils born in EU8 countries were 3% lower than those of pupils born in Wales - however, this was not statistically significant.

We adjusted the logistic regression to include further independent variables which are considered to have an impact on educational attainment. These are sex, deprivation, National Statistics Socio-economic Classification analytical class of the household reference person[8], and the medium of education. Detailed information on the first three variables included in the 2011 Census can be found in the Office for National Statistics 2011 Census: User Guide.

Assessing the impact of the country of birth of a pupil on achieving at least five GCSEs, including in English or Welsh language and Maths, we found a positive correlation with pupils born in EU14 countries when compared to Welsh-born pupils. This was statistically significant at the 1% level of significance. There was also a positive correlation with pupils born in EU8 countries when compared to Welsh-born pupils. This was statistically significant at the 1% level of significance.

All other independent variables - apart from deprivation with no allocated code - were statistically significant at the 1% level of significance when compared against their reference variable.

When converted into log ratios, we found that the odds of pupils born in EU14 countries to achieve at least five GCSEs, including in English or Welsh language and Maths, were 32% higher than those of pupils born in Wales. This was statistically significant at the 1% level of significance. We also found the odds of pupils born in EU8 countries to achieve at least five GCSEs in these subjects were 53% higher than those of pupils born in Wales. This was statistically significant at the 1% level of significance.

We also found that the odds for achieving at least five GCSEs, including in English or Welsh language and Maths, for:

- males were 35% lower than those of females
- pupils with at least one dimension of deprivation were lower than those of pupils with no deprivation
- pupils with a Household reference National Statistics Socio-economic Classification (NS-SeC) analytical class 2-8 were lower than those of pupils with NS-SeC analytical class 1
- pupils who had a Welsh medium education were 31% higher than those of pupils who had an English medium education.

These results should be treated with an element of caution as we continue to assess further variables to include in the analysis. These variables could impact these log ratios.

Why it matters

Attendance and attainment are related when looking at pupils having the best school experience and wider life chances. UK Government data shows all pupils with the highest attainment at the end of Key Stage 2 and Key Stage 4 have higher rates of attendance over the Key Stage than those with the lowest attainment. It is important to obtain an accurate knowledge of the educational outcomes for EU-born children living in Wales. This influences the policy decisions and services that the Welsh Government can deliver to address the needs of this population. It also enables researchers and policymakers to better understand the experiences of EU-born children living in Wales.

What next

We are carrying out further linking and analysis of de-identified data on EU citizens living in Wales, matching this to data held in the SAIL Databank. We are looking to include further variables that may explain GCSE attainment, especially in relation to the findings from our logistic regression analysis, and will be looking at attainment at A-Levels.

We are also exploring questions that are of importance to the Welsh Government. These include:

- What are the different types of school attended by EU-born children living in Wales?
- How do EU nationals and their children access and use health services, and are there differences to compared to other groups of individuals living in Wales?
- Do differences exist between EU nationals and UK born individuals living in Wales in the type of employment compared to qualifications obtained for the domiciliary and social care workforce?

Acknowledgements

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References

[1] EU 14 countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Republic of Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and Sweden).

[2] EU 8 countries (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia).

[3] EU 27 countries which are not EU14 or EU8 countries are: Bulgaria, Croatia, Cyprus, Malta, Romania.

[4] Manzoni C, & Rolfe H. How schools are integrating new migrant pupils and their families. (niesr.ac.uk) National Institute of Economic and Social Research 2019.

[5] Porteous H. Migrant Experiences in Aberdeen/shire: SSAMIS 2017 Report Series. (gla.ac.uk) 2017.

[6] Department of Education Attainment of pupils with English as an additional language Attainment of pupils with English as an additional language - GOV.UK (www.gov.uk) June 2019.

[7] The chi -square test is used to test whether two categorical variables are related to each other. A Mann-Whitney test is used to compare the differences between two independent samples when the sample distributions are not normally distributed and the sample sizes are small.

[8] National Statistics Socio-economic Classification (NS-SEC) classifications: Census 2021 - Office for National Statistics

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For further information please contact Cathrine.E.Richards@Swansea.ac.uk

ADR Wales Partners

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