

Appendix 3: Jobs, HESA data about where foreign students go, house prices & delivery, GVA,

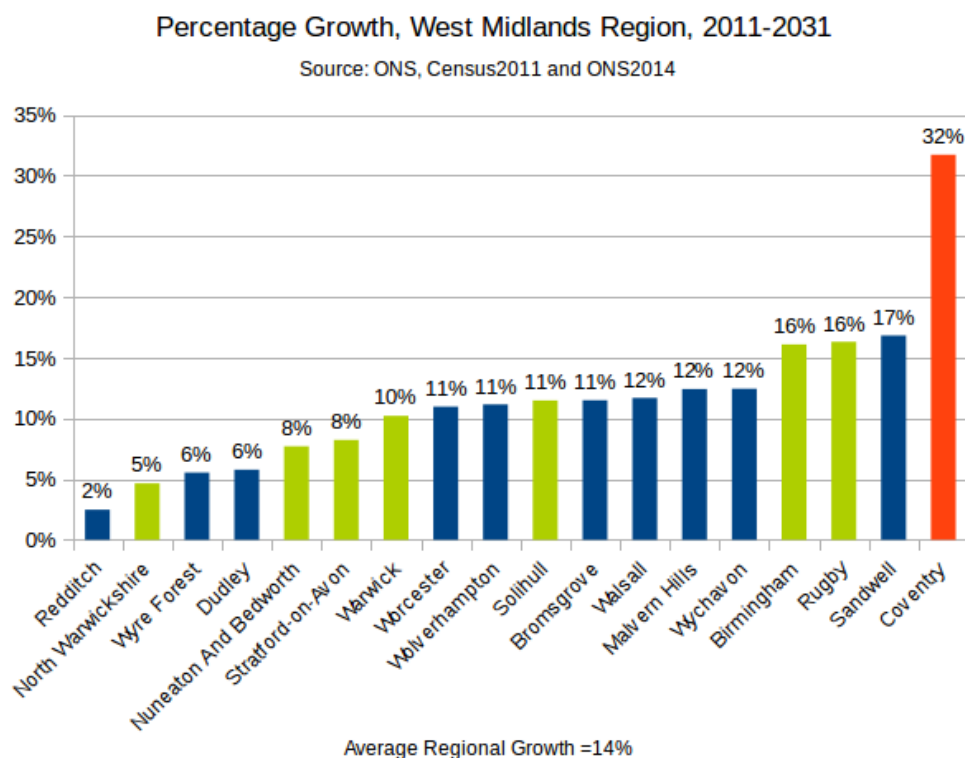


Figure One: Projected Population Growth 2011-2031

Our quarrel is with the graph above, in Figure 1, produced from the Census and SNPP2014. We argue that it is exceedingly improbable because

1. There was no sign of this runaway growth in Coventry between 2001 and 2011, during the peak years of Eastern European Migration. Growth was just average. (See Figure 2, below.)
2. The pattern of growth portrayed, of one local authority sticking out like a lighthouse, is not found in the last census decade (2001-2011) in any region in the country. The pattern is inherently highly unlikely – when there is economic or other growth in one town, people settle in nearby places and commute – that is the pattern seen in the 8 government regions 2001-2011. (See Figure 3, appendix, below)
3. Seven years into the current census decade – in 2018 - , there are no signs of massive growth happening here: [jobs growth](#) is mediocre (see Fig 4), [house prices](#) (Fig 5) remain low, house building is less than half of the level needed for all the supposed incomers, [births](#) are dropping and so are [reception class admissions](#).

NI registrations are abnormally high, but we think this is explainable – 16000 foreign students are at the two universities (Coventry University and Warwick University, which is actually in Coventry, not Warwick) and they will register for NI numbers so they can work. GVA (gross value added) is good but unremarkable; in the West Midlands Region, Coventry has the 6th best percentage growth in GVA 2011-2016.

4. No one, not Coventry Council, not the consultants used by them, nor the planning inspectors, could give any reason – in the real world - why super growth should happen in Coventry. If such growth is occurring, it must correspond to real economic or social events and forces. It cannot be mysterious forces. There is no explanation for a flood of people pouring into Coventry and staying here. .
5. That information alone should be sufficient to trigger a review of the projections for Coventry. It does not require from us, an explanation of what is going wrong. They are so improbable, on the evidence above that they do not have credibility. It is not good enough to say that the projections are within the 95% confidence interval – as Andrew Nash has responded. One time in 20, the true number will be outside the 95% interval, even if the error is simply sampling error. If the error is systematic bias in the underlying data (probably for emigrants) , then the amount of error is unlimited. Given the number of local authorities in England, there will be some extreme cases, which should be considered, as a matter of routine quality assurance, by an independent process.
6. What we think is happening – why are the projections so abnormal? It is our view, that the likely factor distorting the projections, is the very high number of international students. There are more non EU international students in Coventry, than in any other city in the country, except for London.- circa 16000 at any one time, and the city is relatively small, so the distorting effect will be magnified. We believe that students are counted in (via HESA and a GP registration) , as immigrants, but they are not being correctly counted out, as emigrants.

This can be seen from the following information. SNPP2014, had only 2650 emigrants annually, but there were 6500 non EU graduates in 2015 (info from FOI). This leaves, in the projections, circa 3850 of the graduates remaining in the UK. The question is, are they really still in the UK? And more particularly, could they be in Coventry, pumping up the population numbers?

(if some of the 2650 emigrants, are worker emigrants, or family movers emigrants, then the overestimation for students becomes even greater)

7. We have various lines of evidence that very few students stay in Coventry.
 1. FOI data from Warwick University showed that - looking at all students, [UK, EU, & non EU] - 4% lived in Coventry at application and 4% lived in Coventry 1 to 10 years after graduation. There was no tendency or attraction for students to stay in our fair and beautiful city. (see data below)
 2. HESA destinations survey data, shows that in 2013-14 and 2014-15, 82% of the non EU graduates from the 2 Coventry Universities - who were in work – had left the UK within 6 months. 95% of them had left the 2 local counties, Warwickshire and West Midlands. By scaling the data to Coventry, 99% had left the city within 6 months. Those still in study and other categories (marriage, illness, death) were ignored – work was considered the best indicator of a desire to settle in a place. As far as the other categories were concerned, it was assumed that the behaviour was as in 7.1 above ie, there is no tendency for them to stay.
 3. If this analysis is true, (ie 82% leave the country quickly) or reasonably so, then internal migration can account for only a small part of the 3850 graduates left out

of international emigration. At most 18% are still in the country where they can trigger some event, like registering at a GP or a university, which would identify them as an internal migrants. $18\% \times 6500 = 1170$. At most 1170 could still be in Manchester, or London or Bristol or somewhere else in the UK. That would still leave a surplus of 2680 per year, stranded in the numbers for Coventry, piling up every year. And that is a minimum estimate. Given that some of the 2650 emigrants are going to be workers or family movers, the padding being added to Coventry each year, is going to be upwards of 2680, and probably upwards of 3850. In either case, it adds a huge spurious number to the twenty year projected growth. Over 20 years, it adds 53000 to 77000 ghost individuals to the population.

4. By another route, the home office used to claim that 90000 foreign students were overstaying their visas. If you scale that to Coventry, (according to the proportion of non EU international students) it would have 3750 overstayers/year in the city, which agrees remarkably well with the previous analysis. We now know, from the exit checks data, that the number of overstayers, is negligible – even if they are legally extending their visas after graduation, from the preceding arguments, they are not going to be in Coventry. By this estimate, there would be 75000 phantom individuals wrongly padding the Coventry population growth 2011-2031
5. Are the immigrants into Coventry mainly students or workers? From Table MIG006 on NOMIS, you can calculate, from pretty good data (there was data on 6931 relevant census respondents from outside the UK), that 68% of international migrants who arrived in Coventry in the year before the census, had come for reasons of study. This means that our picture of the movements of students after graduation (as above), is very likely to apply ie They come, get their qualification, and leave - both the local area, and the UK - very rapidly. Out of c9000 immigrants, if 68% are students, ie 6120, and they mostly leave, then the emigration number in SNPP is still far too low.
6. The ONS single year of age graphs, show that a spike of young people came to Coventry in 2001, at university age, (ages 19-23), but 10 years on (at the next census in 2011), those young people had virtually all left the city. See graph below. The profile, is of young people coming here to study, getting their qualifications, and leaving – it could fit young workers, but the profile is not as good – the peak of age reported for young eastern european workers is around 25-27 – admittedly, they were not a factor in aging on the 2001 data. Repeating the exercise in 2021, will tell us where the peak age is of young short term residents in the city.
7. The GP practices in Coventry contracted to provide medical service to students at the universities, have hugely bloated patient registers – indicating that they are going to over inflate the contribution of students
8. Both Tony Champion and David Coleman have looked at our work and endorsed it.
8. The unreliability of the International Passenger Survey casts further doubt on the emigration figures for Coventry. One authority after another has cast grave doubt on it. AS recently as July 2017, The House of Lords Economic Affairs committee called it “wholly inadequate” and a week later, The UK Statistics Authority said it was “potentially misleading.” For Coventry, virtually all of the projected growth for 2011-2031 arises from net international migration – if the migration figures are in error, then the whole picture of exceptional growth vanishes.
9. Weaknesses of our argument – We struggle to get the data we need. we have only 2 years destination survey data from HESA - key component of our argument

– however that picture is confirmed by other evidence – FOI data on students at application and after graduation. Unfortunately for us, HESA data is not free to the public. Nor did Coventry University fulfill our FOI requests. - I am trying again with them – the uncooperative staff member there has left. I am hopeful that ONS will have much better access to many more sources – in the new Admin Datasets – that could actually tell us whether or not international students, or others stay in the country and in Coventry. .

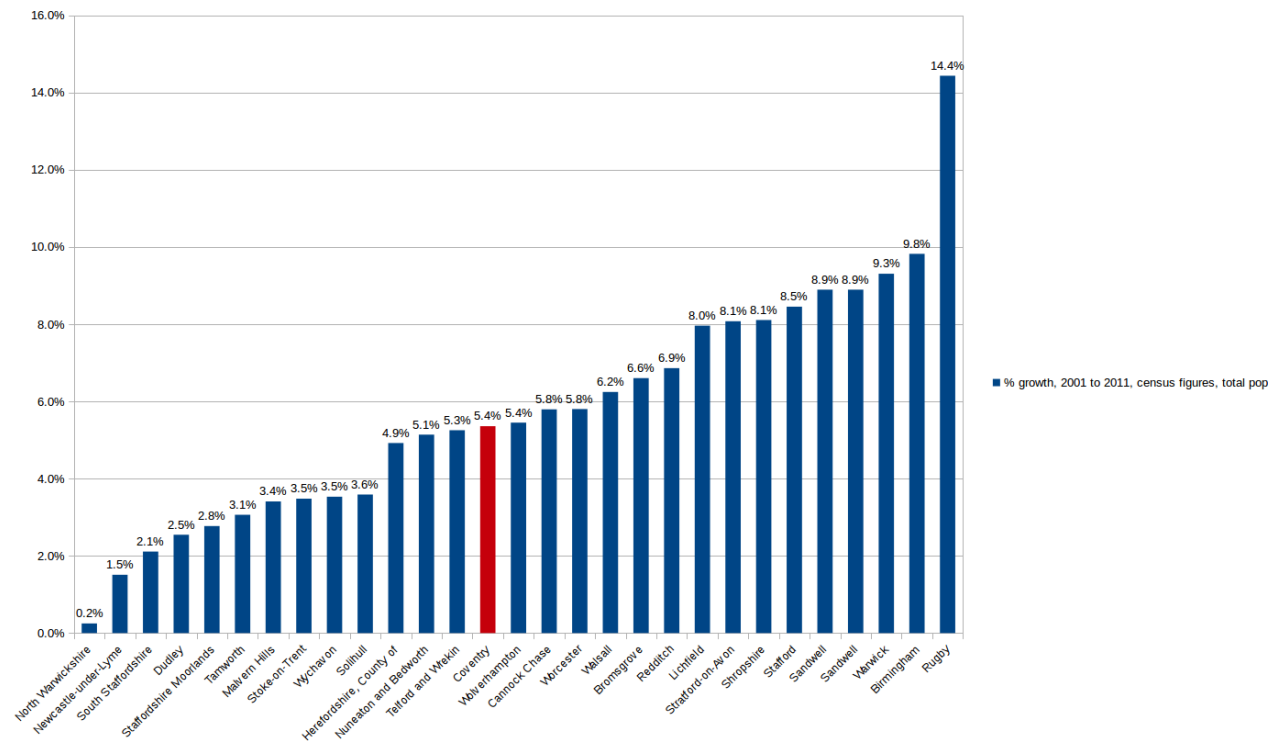
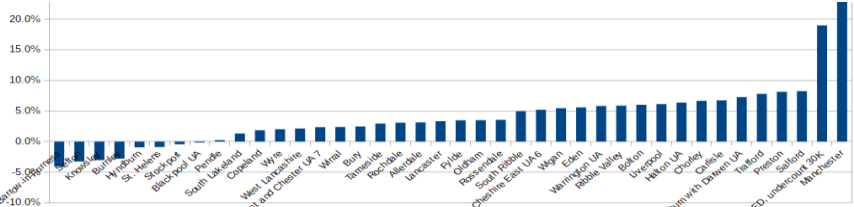
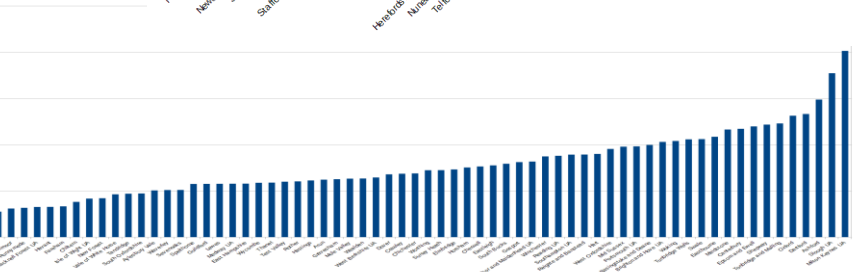
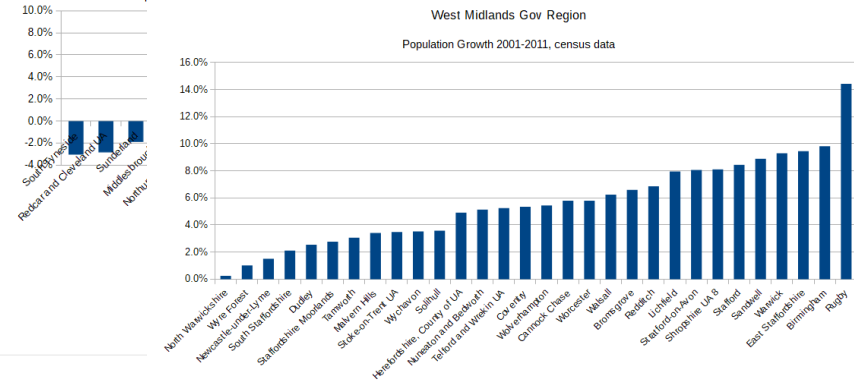
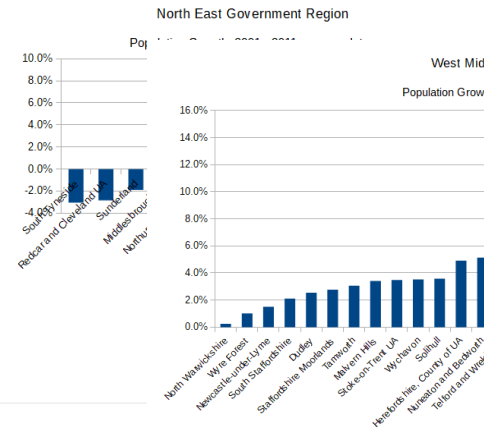
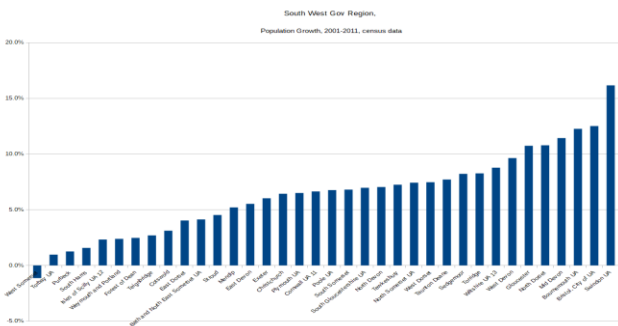
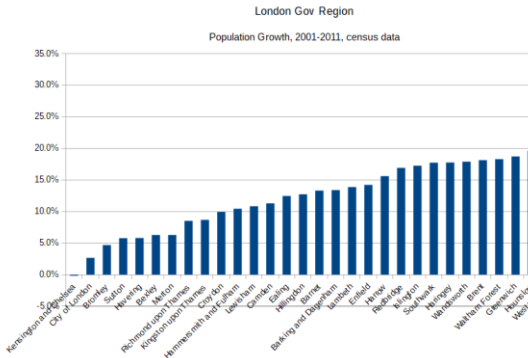
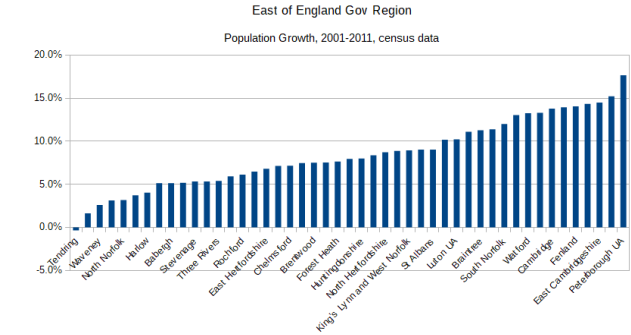
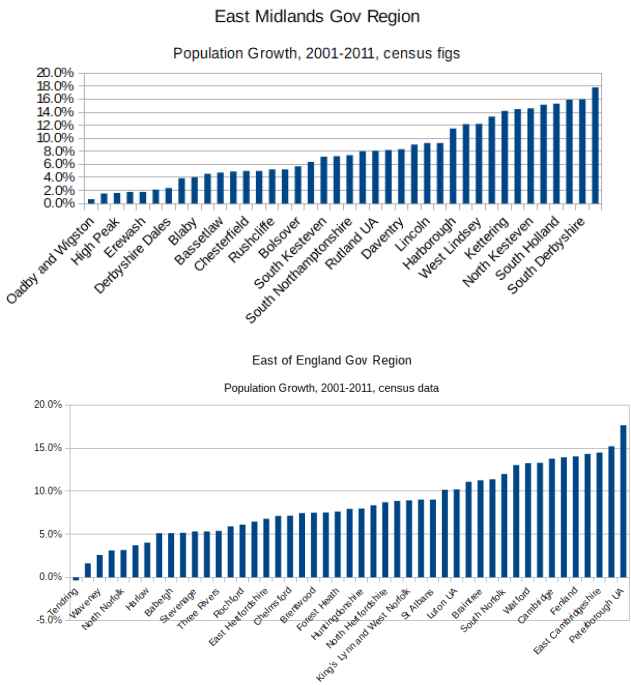


Figure 2 - Historic population Growth, West Midlands Reg, 2001-2011

Over the last census decade, 2001-2011, there was no sign of exceptional population growth. Growth was just average for the region. This was during the peak years of Eastern European migration into the UK. There is no evidence that foreign workers could be the cause of the population spike projected for 2011-31.

Appendix: Data, Commentary, and Graphs

Figure 3: Is Runaway Growth in a single local authority likely? Did it happen in the 8 Government Regions 2001-2011?



Note, there was an undercount of 30K, for Manchester in 2001 + there were boundary changes

Commentary on Figure 3. I looked at growth in the 8 Government Regions, over the 2001-2011 census decade. In general, the neighbours of a fast growing local authority also experienced rapid growth – it is just common sense. If one place has jobs or economic growth, people will move into the nearby towns for lots of reasons: to get a better school, or cheaper house, or more beautiful landscape, or to be near the partner's job or children's existing school. They won't all move to one place. It has certainly not been true in Coventry. Large numbers of people commute in and out. See **Table 1 Appendix04** Commuters WU01UK West Midlands nomis_2015_08_04_233504.xls See **Table 2 Appendix04** ONS WU01UK Census2011 revise Nov2014 Commuter Data

	Large Coventry Incommuting	Large Coventry Incommuting	Large Coventry Incommuting			
<u>Residence</u>	North Warwickshire	Nuneaton& Bedworth	Rugby	Stratfordon- Avon	Warwick	Totals
<u>Coventry as residence to elsewhere</u> Out Commuters	1134	4878	3805	1976	9249	21042
<u>Elsewhere to Coventry as Place of work</u> In Commuters	1614	11392	4909	1854	7903	27672
<u>Net In commuters to Coventry</u> ±	480	6514	1104	-122	-1346	6630
<u>Negative = Net Out commuters</u>						

In only two cases did it appear that there was runaway growth (such as to produce a situation like that projected for the West Midlands 2011-2031 where Coventry was going to outstrip all its neighbours.) While it looks like this might have happened in the NorthWest, with Manchester flying away from its neighbours, there is a likely explanation: there was a boundary change, and there was an undercount in 2001 of 30,000 young men, which also exaggerates the apparent growth to 2011. For Rugby, the population grew rapidly because of a policy decision – to build a very large number of new homes – it was not the result of any organic growth trend (say based on institutional or economic growth) that would be likely to continue into the future – essentially a large dormitory suburb was built. . In recent history, it has not happened that a single local authority has naturally grown at a rate far faster than its neighbours (my criteria was this. Coventry is projected to grow at 32% for 20 years. The next fastest growing town in the projections, Sandwell, is projected to grow at 17%. This produces a growth ratio of $32/17 = 1.88$ for 20 years . Over a 10 year period, this requires a growth ratio of 1.37 between the fastest growing town and its nearest rival)

Jobs.

There is no indication that rapid jobs growth is drawing people to Coventry. I compared jobs growth in the region over the period 2004-2016, and the period 2011-2016. In both periods, jobs growth in Coventry is just average: (Source annual population survey - workplace analysis
ONS [from Nomis on 27 April 2017])

West Midlands Region, Jobs Growth

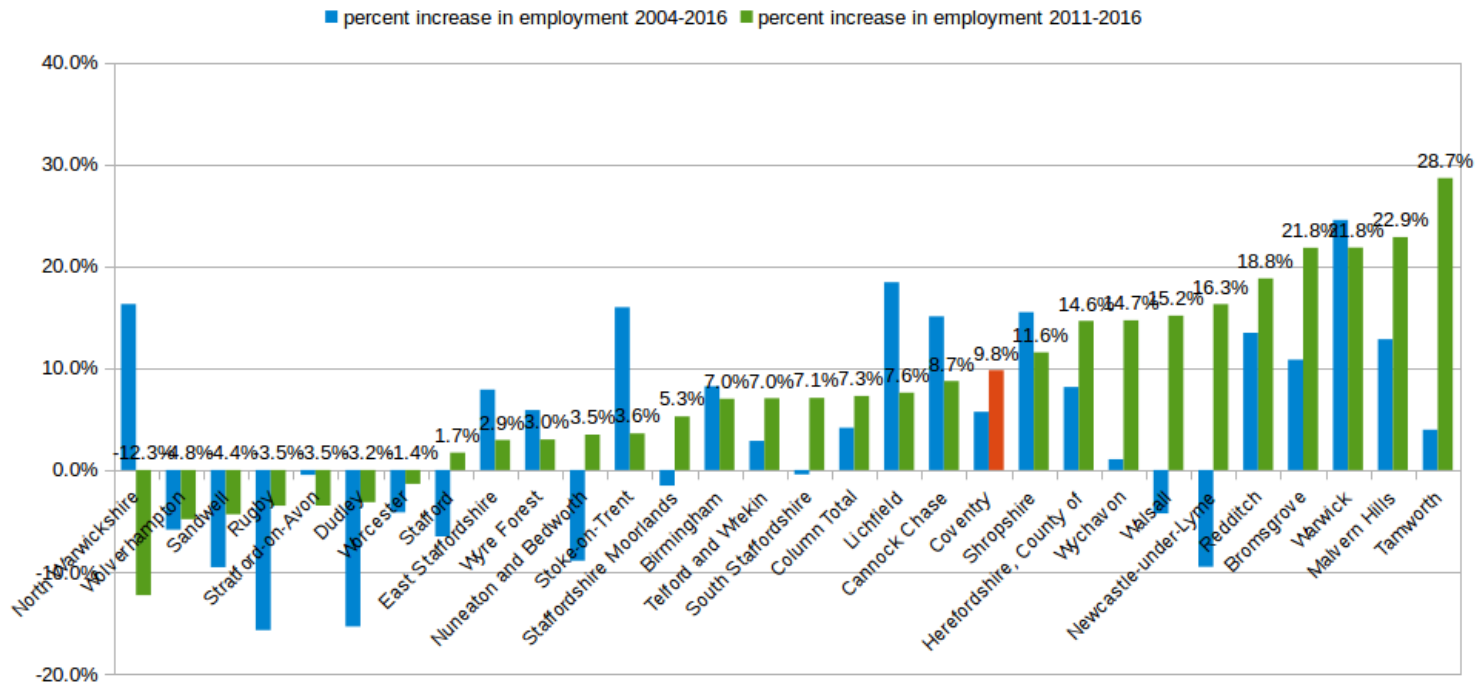
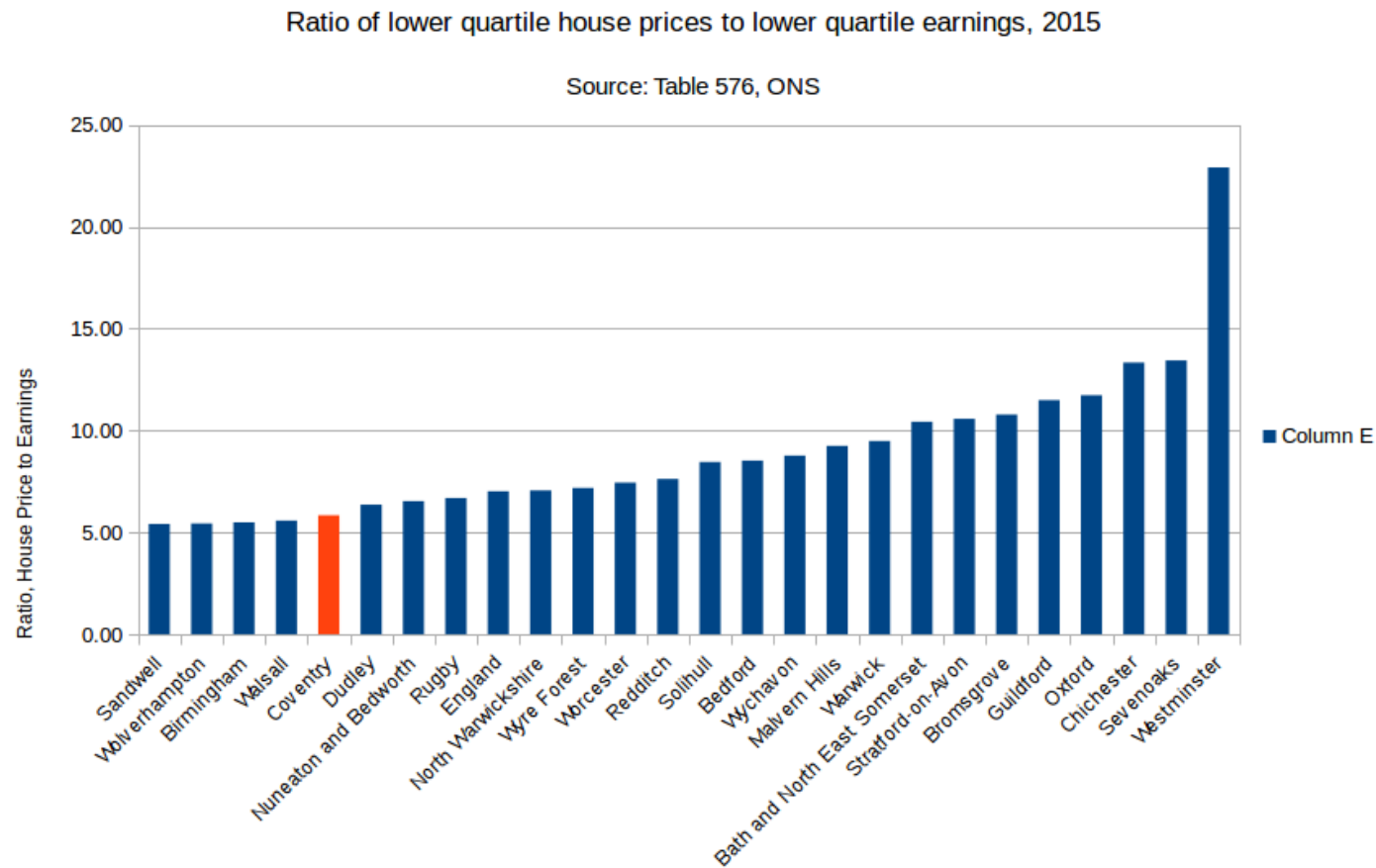


Figure 4
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House Prices

The SNPP2014 project Coventry to grow by 101,000 over 20 years, 2011-2031. At that rate, each year 5000 new people will come into the city annually. For that number of people, you would need 2100 additional houses, each year. However actual delivery has been far lower, around 862/yr if you exclude purpose built student flats. If there was a shortfall in the supply of houses of 1200 homes every year, prices would be skyrocketing. Instead, prices are low and among the most affordable in the country. One might speculate that low house prices was a driver of the projected growth ie, that people who are working in Warwick, or Solihull or other economically successful



places, are residing in Coventry, where they can find cheap accommodation, and commuting to work elsewhere. However, if that was an important factor, then you would see similar events in nearby towns with low house

prices such as Nuneaton, Rugby, Dudley – where low paid workers would also go to seek cheap housing etc. But those towns are not forecast to grow at anything close to the rate of Coventry. On balance, there is no evidence of a massive population influx, from house prices and delivery information, and no evidence that cheap accommodation is particularly drawing people into Coventry.

Housing Delivery

Appendix 1 figs1,2,3 Housing completions, demolitions and conversions - Coventry Annual Monitoring Report

Net completions		705	921	994	1098	1116	1436
Net conversions		220	180	50	156	118	374
Year		10/11/18	11/12/18	12/13	13/14	14/15	15/16

.If you add up the net completions for six years you get $6,270/6 = 1,045$ If you use 2011/12 to 2015/16 you get 5,565 which is virtually the 5,550 of Mark Andrews.

.If you add up the conversions for six years you get $1,098/6 = 183$

.If you deduct 183 from 1,045 you arrive at actual house completions of **862** not counting conversions of existing buildings.(these are largely office buildings converted into student accommodations – those classified as apartments, are counted as dwellings)

Births:

Births – if the population was expanding rapidly it is likely that births should also be increasing (unless it was a very unusual non reproductive population moving to Coventry: a vast number of celibate monks or nuns, or the pied piper was leading young children into the city)). In fact births are falling, and well below the level projected by SNPP2014 – more than a thousand a year.

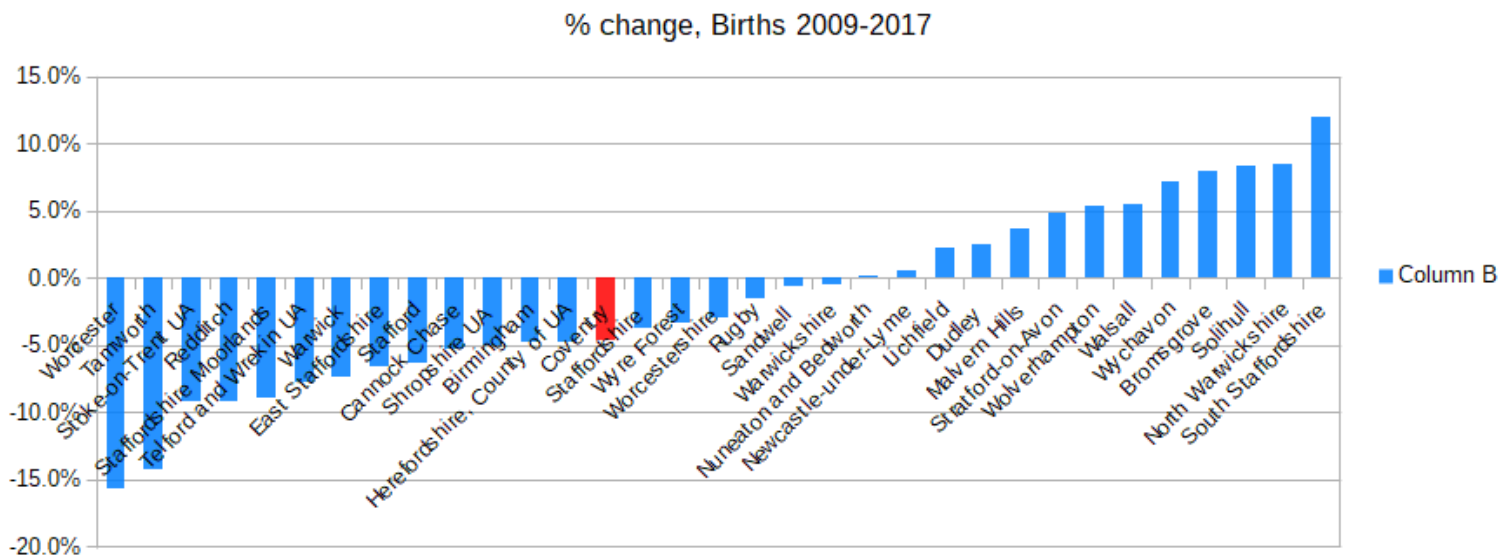


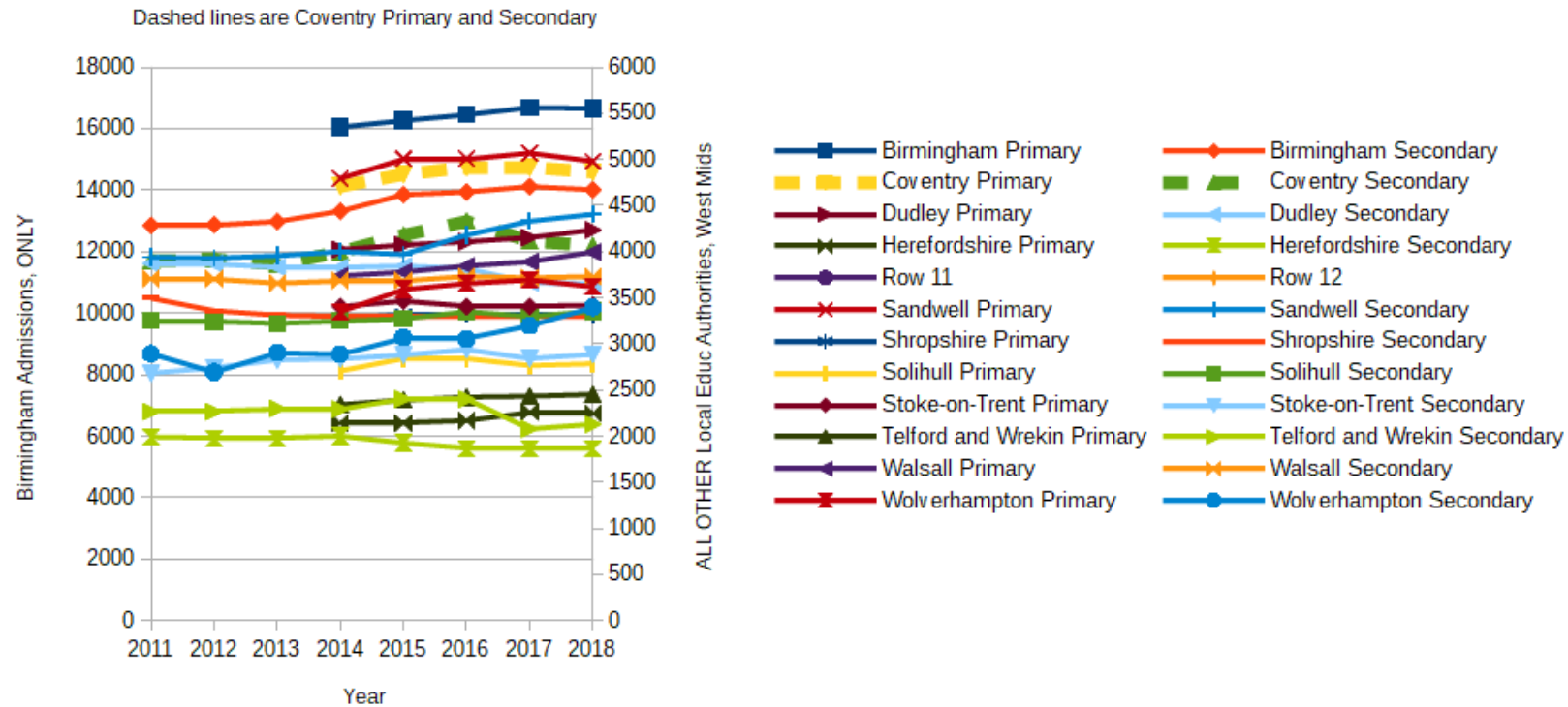
Figure 5

Drawing 1:

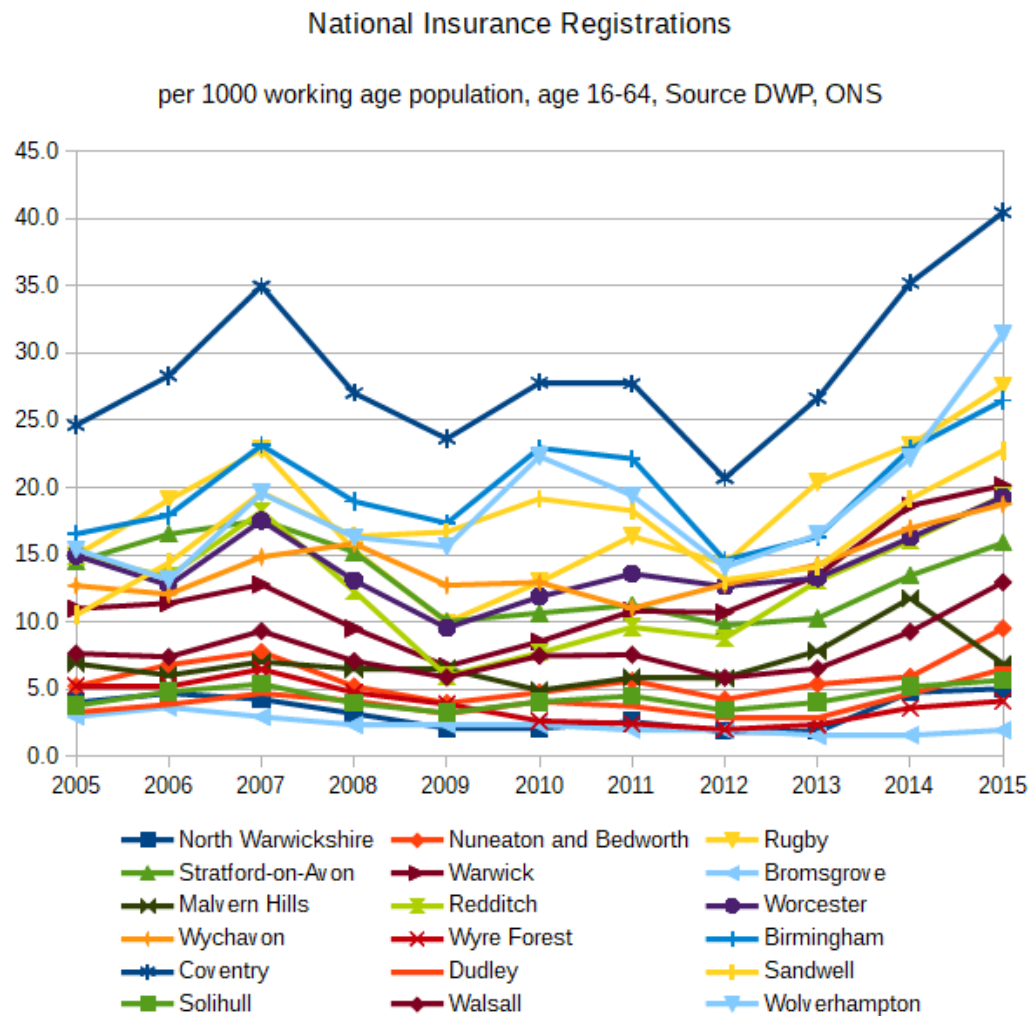
Reception Class admissions: Numbers of children entering reception class in Coventry are well below levels forecast from the mid year estimates and well below the levels expected by Coventry City Council forecasts. Again, unless this is a non reproductive group coming to Coventry, it is not consistent with a population that has been rapidly increasing since 2011 – you would expect births and school admissions to be going up, not down.

Primary and Secondary School Admissions

LEAs in the West Mids Govt Region



Drawing 2:



National Insurance Registration: Once again Coventry is abnormal. Why should it have very high NINO registrations/1000 working age people, when job creation is just average? See figure above for job creation. . The likely answer, is that foreign students register so that they can work. Endsleigh Survey data from 2015 suggests that 77% of all students now work term times. Foreign students are allowed to work 20 hours per week.

Figure 7

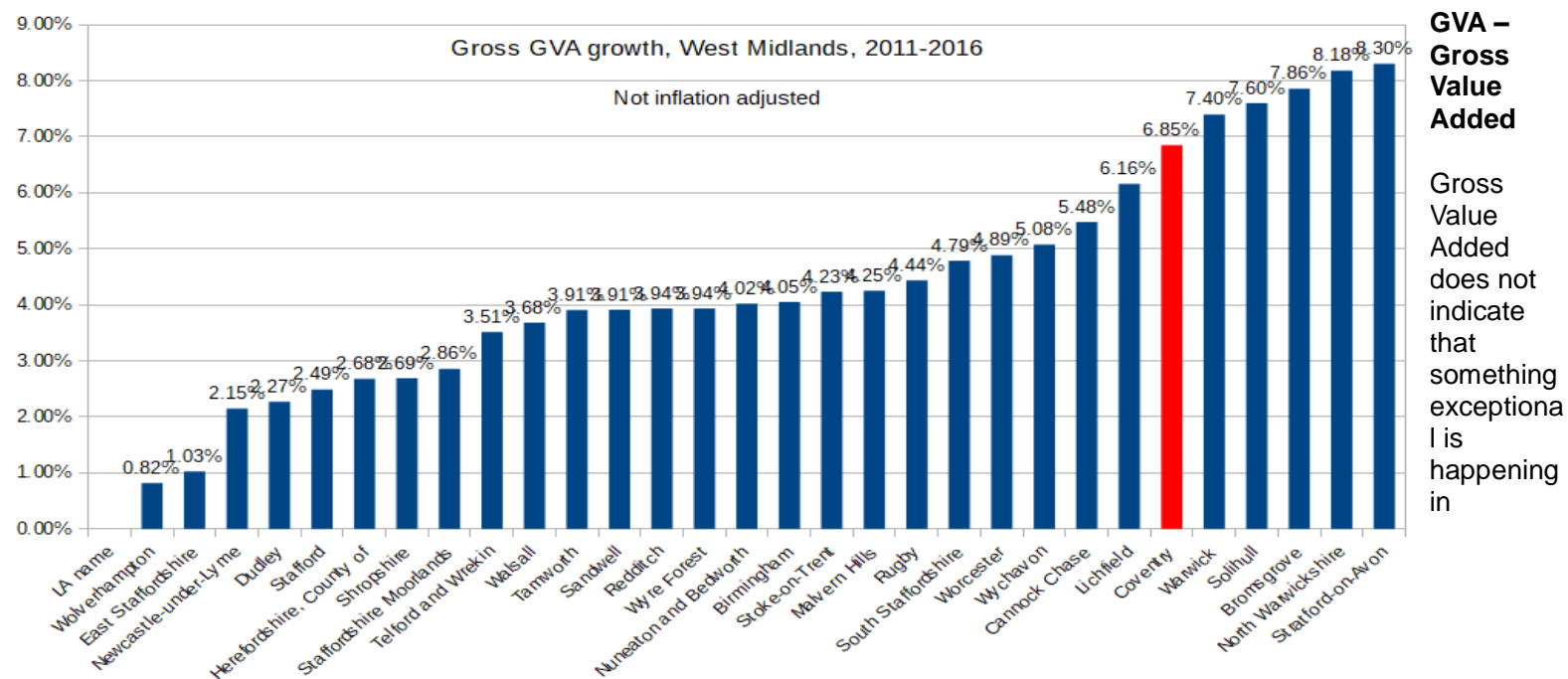


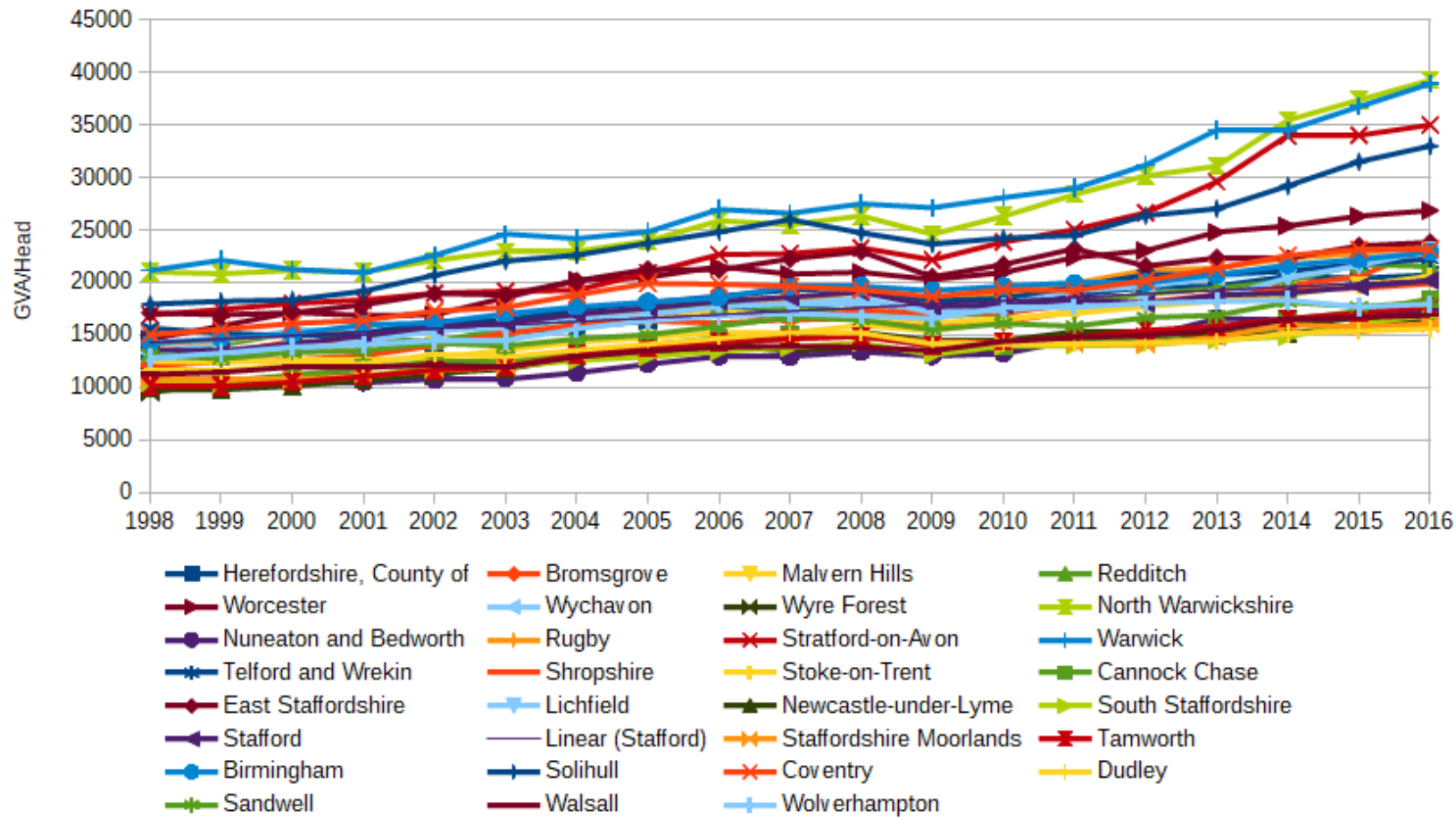
Figure 8

Coventry. GVA growth is good but not very different from other towns in the region. It certainly would not explain a huge spurt in population growth in Coventry alone. Simple logic would suggest that population growth would be going to the places with more economic growth Solihull, Warwick, and Stratford. Once again, you are left scratching your head and wondering why would huge population growth, far in excess of its neighbours, be happening in Coventry? What would attract the people?

On a per head basis, the contrast is even more stark (see fig below). All the growth towns, are much smaller, so per head growth is a lot higher.

(source <https://www.ons.gov.uk/economy/grossvalueaddedgva/bulletins/regionalgrossvalueaddedbalanceduk/1998to2016>)

GVA/Head Dec 2017 West Midlands



Figur

Single Year of Age Profile of Coventry: (Source ONS). The peak influx of young people comes at student ages ,20-21, and completely vanishes by 10 years later, according to 2011 census. The young migrants, whether they are students or workers, leave within 10 years of coming. The census tells us in 2011, the 2/3 of new arrivals in Coventry in the preceding year, had come to study. They are mostly students, apparently.

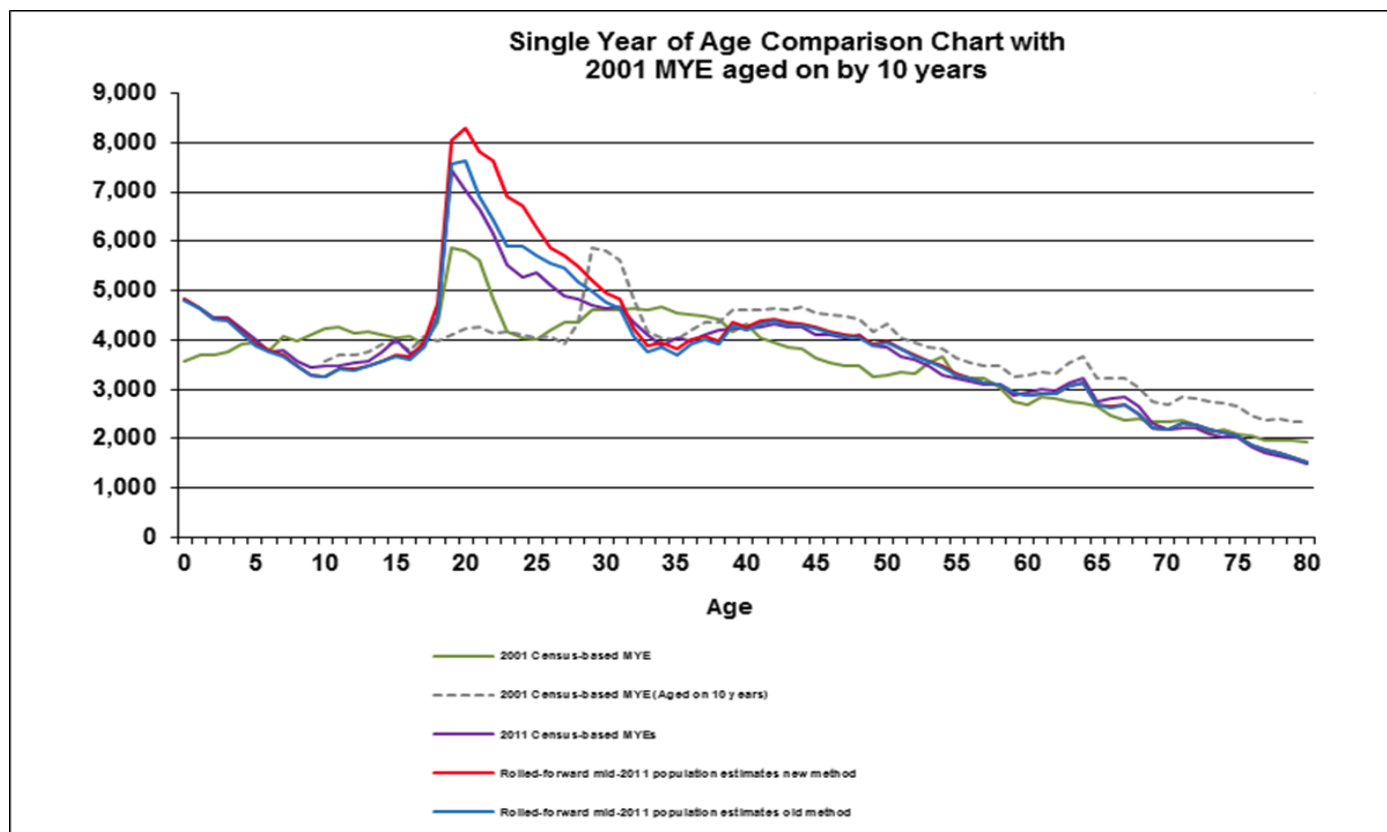


Figure 10

Data Sources:

FOI Data: Do ALL students stay in Coventry after completion of their studies?

To the Inspector,

Do Students stay in Coventry after graduation?

This note reports on the question of whether or not students remain in Coventry after graduation. I have sought to find out if they are a source of net population growth over time.

I have obtained data from Warwick University through Freedom of Information about the residence of students before and after their studies. Similar data was not available from Coventry University.

In summary about 3.95% of students are resident in the postcodes CV1 to CV6 at the time of application (1 Sept 2016), and a very similar percentage 4.13% are still resident in Coventry, averaged over 10 years (the classes of 2005/06 to 2014/15).

There is no significant growth in the Coventry population arising from students staying here after their studies. They do not stay here once they graduate.

The data:

Table 1: For students who completed their studies in the academic years						
14/15, 13/14, 12/13, 11/12, 10/11, 9/10, 8/9, 7/8, 6/7, 5/6,						
the numbers with a current home address within CV1-CV6 and the number where the current home address is outside that area.						
	Postcode Area					
Academic Year	Inside CV1-6	Not Known	Outside CV1-6	Grand Total		Percent Inside CV1-6
05/06	269	819	5719	6807		4.49%
06/07	192	602	6248	7042		2.98%
07/08	224	468	5413	6105		3.97%
08/09	242	458	5921	6621		3.93%
09/10	288	394	6674	7356		4.14%
10/11	383	415	8167	8965		4.48%
11/12	447	316	8310	9073		5.10%
12/13	416	196	9387	9999		4.24%
13/14	378	170	9571	10119		3.80%
14/15	415	103	9664	10182		4.12%
Grand Total	3254	3941	75074	82269		
					average	4.13%
note: the percentage has been calculated as a percent of the total where the current residence is known						
For some students, the university does not know their current address. These are the 'Not Knowns'.						
statistically, the known students, inside and outside Coventry, are sufficient to provide a reliable sample.						

For this sample, from 2005/06 to 2014/15, statistically, the 95% confidence interval for the percent of students remaining in Coventry after graduation is 3.05% to 5.20%. The percentage of applicants in 2016 is well within this range. There is a 95% probability that the number of students resident in Coventry at application and after graduation is the same – there is no change.

Table 2: FOI from Warwick University, at 1 Sept16 ,report on residence of students who have accepted an offer

	Resident at the time of application in CV1-CV8	Resident at the time of application outside of CV1-CV8	Total	percent
Undergraduates – full time	78	4806	4884	1.80%
Undergraduates – part time	45	90	135	33.33%
Postgraduates – full time	322	6261	6583	4.89%
Postgraduates – part time	42	677	719	5.84%
Total,	487		12321	3.95%

Warwick caveat that the numbers will not precisely reflect the numbers of students who actually start a course. What they have reported on in Table 2, is a proxy: ie the number of students who have received an offer and accepted it, as of 1 Sept 2016. The number who actually arrive and begin the course, will differ from this somewhat.

HESA Destinations Data

Very few non EU International Students stay in Coventry – Need for a full reassessment of the projections.

I am writing to share important new evidence about international students in Coventry obtained from the Higher Education Statistics Agency (HESA). I do not have time this week to present a detailed analysis, but I thought it important to put the raw numbers in your hands and to share the headline conclusions. I aim to submit a more detailed analysis early in January 2017 before your further sessions.

You will find below, a table of data about non EU International graduates of Coventry Universities for 2013/14 and 14/15 obtained from the HESA Destinations of Leavers from Higher Education survey (the DLHE).

The headline conclusions are:

- 1) **There are very large numbers of non EU international students graduating from the two Universities each year** (called “qualifiers” in the table) – over 6000/year. This is

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higher than my previous estimate of 3937 non-EU students graduating per year. If miscounted, they can seriously skew the population growth over the plan period.

- 2) **After graduation, very very few of these graduates are employed in the West Midlands or Warwickshire**, ("the local area"). Most of them leave the UK altogether while a small number obtain employment elsewhere in the UK. In 2013/14 just 45 of those surveyed were employed in the local area - , out of a total of 915 in employment and responding to the survey (4.9% of those employed.) Similarly in 14/15, just 65 were employed in the local area out of 1100 in employment and responding to the survey(5.9% of those employed)

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- 3) **There is a serious conflict between the International Passenger Survey /ONS estimates of international migration and this HESA data for Coventry**. The IPS output is that 87% of non-EU students remain in the UK after study (90,000/year for the whole UK). Looking at the HESA data, only 4.9-5.9% of employed students remain in the local area, and no more than 18.6% remain in the UK. The great majority of them are employed outside the UK.

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- 4) Using the IPS figures, which the ONS and DCLG data rely on, 3407 non EU students/year overstay in Coventry and require housing (see previous paper) **Over 20 years they would generate a need for $20 \times 3407/2.3 = 29626$ homes.**

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- a. **It must be emphasised that the IPS is the only source of emigration information for ONS.** Contrary to what Justin Gardner stated at the Examination on 2 November, there is no other source of emigration data.

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- i. **See Table 1 "Strengths and limitations of the IPS in relation to the uses of the data" in the UK Statistics Authority [The Robustness of the International Passenger Survey](#)**

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- ii. **It states that the IPS is "At risk of different types of non-sampling error such as: - currently [it] is the only data source available to estimate emigration"**

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- 5) Assuming that 5.4% of non EU students on graduating find employment in the local area, as per the HESA data, (the average of 13/14 and 14/15) , and contribute to Coventry housing need, **then the number of homes required would be approximately $6000 \times 5.4\% \times 20/2.3 = 2817$ homes**

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- 6) These new numbers explain why the "spike" in the age distribution of the Coventry population contains more people in their twenties than 19 and 20 year olds – GL Hearn, in

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their paper on students, suggested that the spike was not characteristic of a student population because it contained too many people of older ages (22,23,24, 25) . In fact, the large numbers of post graduate students (more than two thirds of the non EU students) explains the prevalence of people in the slightly older age range.

These calculations are based on a substantial sample – more than 2000 graduates returned questionnaires. Random Sampling error will be very small. We do not know, from these figures, where half of the respondents are – they have been categorised as “other” which includes those in continuing study, those in part time work and study, those who are unemployed, and uncategorised others. I hope in January to have further information about the whereabouts of those who are studying. For the time being, I think it a fair assumption that most of those in continuing study will go on to employment and have a similar pattern of work locations as the students who have already entered employment.

On the basis of this evidence, - and the huge disparity of projected growth - it is very urgent that a genuinely independent third party should re-examine the population projections for Coventry on the basis of all the available evidence including:

- The HESA destinations data
- The Annual Population Survey of the Labour Workforce Survey
- The Home office Visa data
- The actual IPS figures for Coventry.

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Comment [26]: <!--[endif]-->

I am not able to do this myself – HESA is only willing to supply a very small amount of information for free – they are not subject to FOI. To obtain the data for a 10 or 20 year period would be hugely expensive (hundreds of pounds) . **I suggest that Coventry Council should pay for it, but the third party should be selected by the Royal Statistical Society to assure independence.** It is the duty of the Council to produce a robust OAN. Clearly we are not there now. .

In a written ministerial reply, lodged with Hansard on 21 Sep 2016 at 17.17, the minister stated: “Our planning guidance sets out a clear methodology for assessing development needs for housing and it is clear that local authorities should plan for sufficient student accommodation in their area, including through engaging with universities and other higher education establishments”. (I have supplied a copy of this document to the inspection previously.). In the last session devoted to housing numbers, neither Mr. Gardner nor Mr. Andrews had any answer to the question of how they had engaged with the local universities. Very evidently, they haven’t.

I attach a recent article from the Financial Times about the unreliability of the International Passenger Survey. It explores in some detail the reasons why the IPS is failing. Here are a couple quotations from the article.

“MPs conducted an inquiry into the IPS three years ago and disagreed, calling it “little better than a best guess”....

Madeleine Sumption, director of the Oxford Migration Observatory, says it is “clear” that “we just don’t know what the net migration of non-EU students is.”She added:

“In order for the IPS to be correct, you would have to have non-EU students overstaying on a massive scale. The question is, is that plausible?”

Hesa Destinations Data: I was able to obtain two years of HESA destinations data for free. - see the raw data below. Otherwise you have to pay for it. Within the data, I looked at those graduates who were in work. I felt that being in work indicated an intention to settle in a place for more than a year. For those in study, I felt it was likely that they would not indicate their final intention, until they moved to work, so should be ignored. As 97% of those with expiring student visas leave the country, I felt that I could ignore absconders or overstayers. For those in further study, either they would comply with their visa, and leave the country, or move to work. . For those in some other category (marriage, death, other), I felt that the research on the movement of ALL students (see above) was likely to apply ie. there was no net tendency for them to remain in Coventry after graduation. In sum, I relied on the sub set of data, relating to graduates who had moved to work within 6 months to give a picture of where do non EU students go after graduation.

From:]

Sent: 09 December 2016 08:28

To:

Subject: HESA Data request 39514

Thank you for your enquiry. HESA is not subject to the Freedom of Information Act 2000 or the Environmental Information Regulations 2004 as it is an independent company, owned by its members, and not deemed to be a public authority. However we will always try to answer any enquiries. I have extracted the data you requested. According to the 2013/14- 2014/15 HESA Student Record and Destination of Leavers survey, the number of Non-EU domiciled qualifiers from Coventry University and The University of Warwick by level of qualification and the number of Non-EU domiciled leavers from Coventry University and The University of Warwick by activity* and level of qualification was:

2014/15							
Level of study	Warwickshire/ West midlands employment	Other UK employment/UK unknown	Overseas employment	Unknown	Other	Number of respondents	Number of qualifiers
Postgraduate	50(4.2%)	85(7.2%)	650(56.2%)	10	375(32.3%)	1170	4480
Undergraduate	15(1.5%)	55(5.2%)	245(22.6%)	0	760(70.7%)	1075	2050
Total	65(2.9%)	140(6.3%)	895(40.0%)	10	1135(50.8%)	2245	6530

2013/14

Level of study	Warwickshire/ West midlands employment	Other UK employment/UK unknown	Overseas employment	Unknown	Other	Number of respondents	Number of qualifiers
Postgraduate	35(3.0%)	80(6.9%)	595(51.8%)	5	440(38.3%)	1155	4380
Undergraduate	10(1.6%)	45(6.1%)	150(20.2%)	10	535(72.1%)	755	1850
Total	45(2.4%)	125(6.6%)	745(39.4%)	15	975(51.6%)	1905	6230

* Activity shown as In Warwickshire or West Midlands employment / In other UK employment / In overseas employment / Other. In employment includes both full-time and part-time work. Other includes in full-time study/ part-time study/ in study and working combination/ unemployed/ other.

Please note that the figures supplied have been subjected to our standard rounding methodology - see definitions for details. Percentages are based on unrounded data. Percentage calculations were made from the base population of total number of respondents.

Data for this enquiry has been extracted from the latest or most appropriate HESA datasets and may differ from HESA data published elsewhere.

[Please click here for more information about the fixed database.](#)

I have provided a link to our standard definitions below. I would advise you to take these into account when examining the data.

Student: <https://www.hesa.ac.uk/support/definitions/students>

Destinations: <https://www.hesa.ac.uk/support/definitions/destinations>

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This paper is about the reliability of the population projections for Coventry. At the heart of it, is the principle that statistics and projections are only as good as the underlying data. If the data is poor - i.e. it does not accurately measure population movements - and if the sample sizes are too small, no valid conclusions can be drawn. No amount of graphs, tables or extrapolation can remedy **fundamental faults with underlying data. Faulty data compromises the whole edifice.**

The headline findings of this research are:

- International migration is the only significant source of population growth in the plan period. In the existing Hearn and ONS projections for Coventry, it accounts for 95% of growth. **Without an accurate estimate of international migration, – which we do not have - you cannot estimate Coventry growth.**
- The sample size for Coventry in the International Passenger Survey is too small – around 50 per year for arrivals and 23 per year for emigrants. The UK Statistics Authority say that the IPS “*sample size is too small to enablereliable international migration estimates at a local authority level*”. **The Council relies on this survey for their decision, yet the UK Statistics Authority clearly says the sample is too small.**
- More than half of all migrants to Coventry are students. We know that most of these students leave after their studies. **The numbers of international students remaining in Coventry are greatly overestimated by ONS.** New research, from the Institute for Public Policy Research, based on three official government datasets, suggests the overestimate may be 2000 per year or more.
- **Most young people who move to Coventry do not stay here.** ONS2014 wrongly carries forward the influx of young people in their twenties (the bulge) to age 48 (the year 2031) when we know that they leave the city by their early thirties and do not contribute to housing need.
- **Birth rates and death rates used by GL Hearn are wrong.** The birth rate they allege is much higher than actual NHS figures, and the death rate is lower. Cumulatively, the excess is around 1000/year in 2014.
- Coventry house prices are very low compared to the UK average. **Demand does not outstrip supply.** Market signals over the last 10 years indicate that delivery rates of 1000 homes/year are wholly adequate to meet the need in Coventry.

For Coventry, international migration is the only significant net source of growth over the plan period to 2031 according to ONS figures. Without international migration there would be very little growth – over 20 years, just 5571, which equates to annual net growth of 279/year. Other growth factors cancel each other out: increases from births and deaths are nearly matched by losses from internal migration (i.e. people moving to other parts of England). It is therefore critical to have reliable measures of international migration when making an assessment of the future housing need of the city.

See Chart 1 below:

The scale of net international migration to Coventry, as measured by ONS, can be seen in latest ONS figures “[Local Area Migration Indicators, UK](#)”, which show a huge surplus of inward international migrants. for 2014/15.

Inward int'l migrants: 8,873
Outward int'l migrants 2,272

ONS derive their estimates of International migration very largely from the International Passenger Survey which was assessed by the UK Statistics Authority in 2013.

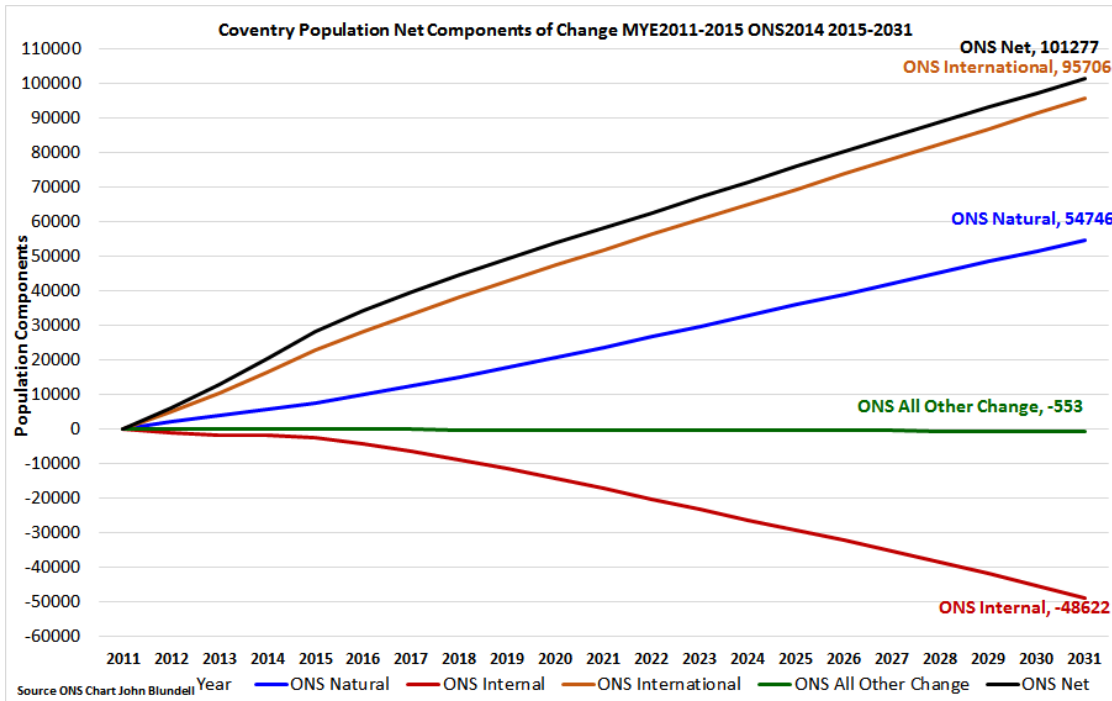


Chart 1, Components of Coventry Pop growth 2011-2031

1. Sir Andrew Dilnott, chair of the UK Statistics Authority wrote to Mark Harper MP on 25 June 2013, in a [published letter](#).

“ there is a consensus among users that the [IPS] survey does not provide sufficient robustness to meet some important needs for more local migration data; for example, at the local authority level or for smaller areas.”

“The IPS sample size is too small to enable the production of reliable international migration estimates at a local authority level, and cannot realistically be made sufficiently large to achieve robust local estimates

At this point, we could stop. The local plan cannot be sound because it is based on unreliable data. The UK Statistics Authority is the highest authority in the land for matters of official statistics. They have pronounced unequivocally, that the “IPS sample size is too small to enable reliable international migration estimates at local authority level”. That is enough to sink the Coventry local plan, which leans entirely on large international migration. – the projected growth of 101277 up to 2031, is 95% based entirely on an annual sample size which “is too small”.

It is conceded at the outset, that other parties, besides students - such as migrant workers - may contribute to international growth, but it will be shown that the non EU students are capable of accounting for a very considerable part of the alleged growth in population and that they are being hugely over counted. About migrant workers, and EU students we simply do not have the information currently available to assess their true levels of migration to Coventry; it is likely that EU students too are overestimated.

The IPS sample size for Coventry

The UK Statistics Authority report that the annual International Passenger Survey (IPS) collects about 5000 interviews with travelers departing and entering the UK each year who can be classed as international migrants (with the intention to depart or stay for more than a year) - 3000 inward migrants and 2000 outward migrants. This will include all types of migrants: workers, students, family etc By extrapolation 1.44% of these will relate to Coventry.

		Calculation	Notes.
Total net migration into the UK 2015	333000		
2014 net annual migration into Coventry,	4785	95706 net int'l migrants/20yrs	

according to ONS			
Percent of net international migration relating to Coventry	'1.44%	4785/333000	
Sample size of the IPS, of int'l migrants, in and out	5000		
Sample size, in the IPS, relating to Coventry	73 people	1.45%*5000	
Total number of international migrants est.	900000		
Scale factor: how to convert a raw number of migrants samples in the IPS (in -out) to a number of migrants	180	'900000/5000	A sample of 5000 is used to estimate a total group of 900000 in and out migrants.
Actual sample sizes,	in + out = 73 people (in – out)*180= 4832	In+out=73 (in – out) = 4785/180 = 27 in migrants surveyed= 100/2=50 out migrants surveyed = 73-50 = 23	Note, 4785 is the net int'l migration to Coventry in 2015
Uncertainty of the out migrants, 95% confidence interval (sample size 23)	'21%	See this link for sample size calculation with 95% confidence interval.	ONS use 95% for calculating the confidence interval of measured numbers.
Uncertainty of the in migrants 95% confidence interval	'14%		
Total uncertainty of the	35.00% or	'14+21%	Assumes int'l migrants are still in

NET IPS migration figure for Coventry , 95% confidence interval.	4832 ±1691	1691 = 35% of 4832.	Coventry. If they are students the FOI evidence, below, indicates that they have gone somewhere else in the UK, that students do not stay in Coventry post graduation.

Note on the 95% confidence interval: the net int'l migration will be calculated from the difference between the in migrants and out migrants in the IPS sample . As such the net migration will add the uncertainty of the two figures, of the in migration and out migration. The 95% confidence interval, for any calculated result will be plus or minus 35% - a very high level of uncertainty, plus or minus 1691/year.

For comparison, imagine trying to predict an election in Coventry, where there are 300, 000 people, on the basis of a survey sample of just 50 Labour voters and 23 Tory voters. I wouldn't bet very much on it.

IPS overestimates students who stay in the UK.

In addition to the problem of small sample size, new research from the Institute for Public Policy Research concludes that there is a fundamental flaw in the IPS process, - that Non EU students are not being identified, when they leave the country – which has the effect of pumping up the numbers of those thought still to be here and who are included in population projections.

From the IPPR work we are now able to compare growth forecasts from 4 different official data sources for non EU students coming to Coventry: the International Passenger Survey, Home Office Visa Data, the Annual Population Survey which is done through the Labour Force Survey, and HESA learner destinations data.

Exposition:

1) **Numbers of International Students:** The Higher Education Statistics Authority (HESA) gives these figures on the 20 UK universities with the most international students: (as reported by [UKCISA](#) (UK Council for International Student Affairs))

Institution	postgraduate students	undergraduate students	Total number of international students
University College London	7,200	6,345	13,545
The University of Manchester	5,650	6,565	12,215
The University of Edinburgh	4,530	5,550	10,080
Coventry University	3,715	5,385	9,100
The University of Sheffield	4,485	3,965	8,450
Kings College, London	4,205	4,140	8,345
The University of Birmingham	5,780	2,520	8,300
University of the Arts, London	2,015	6,130	8,145
Imperial College of Science, Technology and Medicine	4,235	3,730	7,965
The University of Warwick	3,695	3,730	7,425
The University of Oxford	5,190	2,155	7,345
The University of Glasgow	3,675	3,665	7,340
The University of Nottingham	3,075	4,170	7,245
The City University	4,205	3,000	7,205
London School of Economics and Political Science	4,995	2,055	7,050
Cardiff University	3,455	3,535	6,990
The University of Southampton	3,995	2,900	6,895
The University of Liverpool	2,040	4,825	6,865
University of Newcastle-Upon-Tyne	3,315	3,295	6,865
The University of Cambridge	3,960	2,400	6,360

Taking the two Coventry universities together, there were 16525 international students in Coventry in 2014/15, more than any other UK city except London. University students, if miscounted, will have a substantial impact upon estimates of population growth.

Below, I explore the likely impact of miscounting students. The figures do not allow of precise calculation, but they can provide a reliable order of magnitude comparisons with the passenger survey data for one year. Some fairly bald assumptions are required, in the

absence of publicly available detailed local data. Nonetheless, the figures available give a useful reality check on the data presented by Coventry Council and GL Hearn in the SHMA.

How many Coventry students are believed to remain here after graduation? Comparing official datasets.

- a) FOI information from Warwick University, previously submitted to this enquiry, shows that students are not attracted to remain in the city after their studies. The percentage of Warwick Univ students (both post grad and undergraduate) remaining resident in Coventry after their studies, is about 4%, which is the same as the percent of students starting a course, also 4%. Similar data has not been available from Coventry University; it is assumed a similar pattern applies.
- b) The International Passenger Survey estimates that 90,000 non EU students per year, are over staying in the whole of the UK after graduation.
- c) The Institute for Public Policy Research, in their recent report "[Destination education: Reforming migration policy on international students to grow the UK's vital education exports](#)" used three other official datasets to check the numbers of non EU over-stayers. All three datasets support the conclusion that the true number of over stayers, 5 years after entry, is no more than 30-40,000/yr. This was consistent across 3 independent sources: The Home Office Visa dataset, HESA Destination data about where students are employed after graduation, and the UK Data Service Annual Population Survey (APS) which is based on the Labour Force Survey.
- d) Two of these (the HESA and visa data) are large scale administrative datasets, which will be far more reliable than the IPS, because they will have much larger sample sizes. The other, the APS, is based on the largest household survey in the UK, so will have small sampling error.
- e) How would this affect Coventry?
 - 1. UKCISA, the UK council for International Student Affairs (using HESA data) report that there were 436,585 international students in the UK in 2014/15, of whom 312010 were non EU nationals.

If 1/3 of them finish their course each year, then there are 104003 non EU nationals ready to go home each year. (= 312010/3)
 - 2. The ONS International Passenger survey estimates that 90,000 of them do not actually leave = $90,000/104003 = 87\%$ of those finishing their course.
 - 3. Applying that information proportionately to Coventry
 - i. There were 16,525 international students (EU and non EU) in 14/15. If 1/3 of them finish their course each year then there would be 5508 ready to go home annually of whom 3937 (71.5%) are non EU. Assuming that 87% of them do not leave, - as the IPS predicts - would result in 3407 overstaying in Coventry each year.

- ii. According to the 3 independent datasets, (Home Office visa data, APS, and HESA) the true figure nationally for over staying students is no more than 30-40,000. Taking an average figure of 35,000 Non EU over-stayers nationally, then the percentage overstaying is 34%. That would have the the number remaining in Coventry after graduation at $0.34 \times 3937 = 1339$.
- iii. **Comparing these two results, the International Passenger Survey has an excess of 2068 attributed to Coventry per year. Over a 20 year plan period, this would spuriously add circa 41,360 extra people to the Coventry population, who have very likely left the UK. See below for working,**

Table 1: International Students 2014-15, in the UK all (source HESA, reported by UKCISA)

Non EU (undergraduate and post graduates)	312010
EU (undergraduate and post graduates)	124575
% non EU, nationally	71.47%
Total – all int'l students	436585

Apply this information to Coventry

	Total, all categories. Source: HESA/UKCISA	
International Students in Coventry 14/15		16525
Non EU students, in Coventry	Calculated = $71.47\% \times 16525$	11810

Table 2: Based on the International Passenger Survey, what percent of non EU students are overstaying?

Number of non EU students identified as overstaying by the Int'l passenger survey, per yr			90000
Number of non EU students ready to return home each year		Assume avg 3 years length of course. So number of non-EU completers = $312010/3$	104003
Percent of alleged over-stayers, based on the IPS data		$90000/104003$	87.00%

Table 3: How many non EU students are staying in Coventry, over 20 years, 4 datasets compared plus FOI information .

Data Source	number of non EU over-stayers per year,	Percent of total Int'l students finishing their course who over stay.	Calculation	Estimated Number of non EU students who are still counted in Coventry after graduation/yr.	20 year contribution to Coventry population growth	The overestimate, over 20 years. (IPS – admin dataset.)
International Passenger Survey (ONS)	90000	87.00%	$87.00\% * (16525/3) * 71.47\%$	3407	68140	
Home Office Visa stats – how many non EU students still have leave to remain 5 yrs after entry	40000	38.00%	$38\% * (16525/3) * 71.47\%$	1514	30280	37860
Annual Population Survey (UK Data Service) – based on Labour Force Survey	30-40,000 – (take 35,000 as the average number.)	34.00%	$34.00\% * (16525/3) * 71.5\%$	1339	26780	41360
HESA destination of leavers Survey data	¾ of non EU graduates are employed outside the UK, 6 mo after graduation	25.00%	$25.00\% * (16525/3) * 71.5\%$	985	19680	48460

A similar calculation, based on the HESA destination survey data, suggests even greater over counting of international students in Coventry

(annual over stayers according to IPS – annual over-stayers according to HESA)

$$= 3407 - 985 = 2422 \text{ students/yr}$$

over 20 years, this would add to the Coventry 48440 people who are not here. (20*2422)

Table 4: FOI data on the propensity of Warwick University students to stay in Coventry after graduation.

Data Source		Sample sizes			20 year contribution to Coventry population growth	The overestimate , compared to IPS
FOI data on the propensity of students to remain in Coventry after graduation –	The percent of students resident in Coventry at the start of their studies, and after their studies, remains constant at 4%	Thousands. -			0	68140

Discussion:

The HESA data and the Home office visa data, will be complete population censuses, and will have negligible sampling error. The APS is a survey so may have some sampling error but it is a very large survey, which will make the error small.

Numbers of over-stayers in Coventry have been calculated in this paper, by applying known national percentages of over-stayers (as determined from the Home Office, APS, and HESA data) - to the number of non EU international students in Coventry.

The IPPR research dealt specifically with non EU students. It did not assess how many EU students are staying on in the UK after graduation. In the Coventry context, information from FOI about the address of students before and after their course, - indicates that very few remain in the city. Of applicants who have accepted an offer to the university, in Sept 2016, about 4% came from CV1-CV6 postcodes. After graduation, the percent resident in CV1-CV6 (as measured from previous cohorts) was also 4% - a paper on this subject has been submitted to the EIP, in Sept 2016. On this evidence, it is unlikely that EU students are remaining in the City.

EU students in Coventry comprise a further 4,715 students. assuming that 1/3 complete each year, then these potentially add 1572/year to Coventry. If they are not staying, which the FOI figures indicate, then the international growth figures are further exaggerated over 20 years by $20 \times 1572 = 31440$. Taken together with the non EU students, the total is $31440 + 68140 = 99580$, virtually the same as the international growth estimated by the SHMA (95,706). Unfortunately, we do not have, currently, Home office visa data, LFS, or HESA data about these students – potentially it is available for HESA data certainly and could be investigated to confirm the situation –

It may be asked, why do the IPPR alternative dataset figures indicate that more students are in Coventry after graduation than the FOI figures? This is easy to answer. The IPPR figures measure students who are still in the UK – they may be in Coventry or they may have gone elsewhere in the UK. The FOI information, is specifically about Coventry. It indicates that IPPR figures, will provide upper limits to the number who are likely to remain resident in Coventry.

The analysis in the paper relates to a single year only 2014/15 for which data is readily available. Nonetheless it indicates a considerable problem in the estimation of international migration in Coventry, which should be investigated at a more detailed level.

If access was obtained to the underlying alternative databases – the ones used by the IPPR, it would be possible to carry out the analysis at local authority level, over a great number of years. – to get a really accurate analysis of the movements of students into and out of Coventry,. In view of the very large effects on population projections produced by the presence of students, it is now urgent that this analysis be done. Under the Government's transparency policy, the information should be available or the work could be commissioned through the Administrative Data Research Network where issues of personal data arise. Without such an analysis, Coventry cannot produce a sound plan.

Further statistical problems with the housing projections in the SHMA

Births and Deaths: We know that GL Hearn has used a birth rate which is too high and a death rate which is too low. Apart from the overestimates arising from miscounting students, this may add a further unjustified 866 extra births, and 159 missing deaths each year. Together these produce 1015 additional increment to the population each year. See the appendix for sources and working. Over the plan period, this would add 20300 to the population.

problems with the rolled forward population of Coventry. From ONS single year of age tables, We know that there is a spike or bulge in the population of Coventry, which appears sharply around age 19 and which dissipates entirely by age 30-33. Young people, who have come to Coventry to study or to work, have left the city. However, ONS2014 projections have them remaining in the city to age 59 See Chart 2 below.

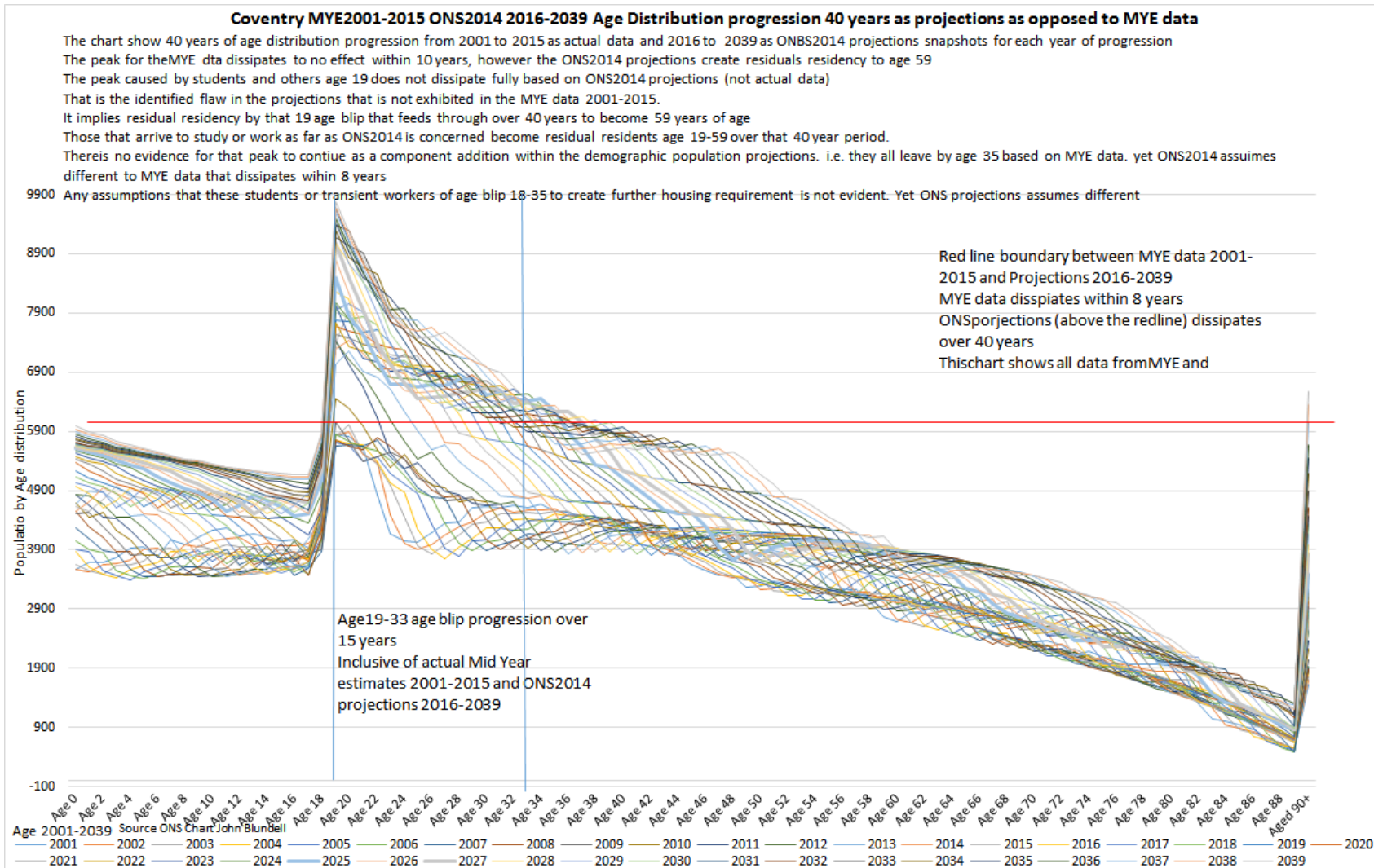


Chart 2: Rolled forward populations, by year, and single year of age

Coventry MYE2001-2015 ONS2014 2016-2039 Age Distribution progression 40 years as projections as opposed to MYE data

The MYE data 19-33 age cohort large increase 2009-2015 is used for the 5 year trending ONS2014 projections 2014-2039

5 years of actual MYE data 2009-2015 large increase 74508-97569 have been trended for a 20 year of ONS2014 projections 2014-2034

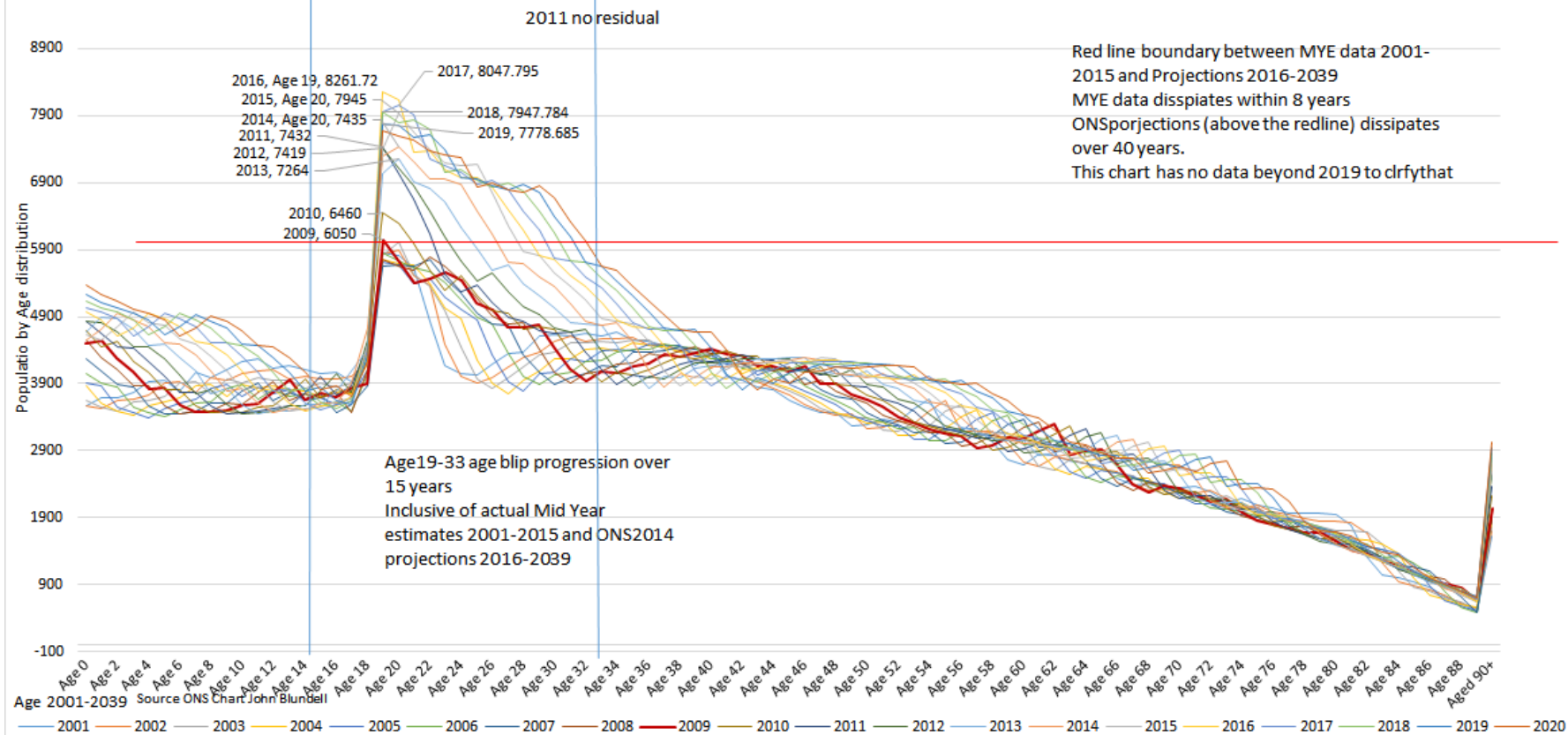
MYE data 2001-2015 shows no residual after age 33

ONS2014 shows significant increase (red line) 2014-2033 assumed to be the use of the trend acquired from 2009-2014

ONS use previous 5 years trending, i.e.

Coventry	2009	2014	Change	%
19-33	74608	92275	17667	23.68

9900 23% is trended into post age 33 causing residual anomaly with data post 2015 when MYEs show no residual at all to 2009.



Brexit:

A discussion and analysis of the effects of Brexit has already been supplied to this enquiry. It is reproduced in the appendix. If international migration is reduced by 50%, - as the government insists that it will do when they say that they will reduce net migration to the tens of thousands, - then there is no need to build housing on green belt - all projected growth can be accommodated on existing brownfield land in Coventry. See my submission on greenbelt.

Market Signals,

According to the NPPF, we are entitled to take market signals into account. Coventry is one of the most affordable places in the country to buy a house - see Chart 4 below, source ONS. Average house building of around 1000 units per year, for the last 5 years, has been sufficient to keep house prices very low in Coventry. There has been no indication of excessive demand in the HMA. If we really did need 2000 units per year, as the latest SHMA suggests, then prices would be soaring. The market is telling us that 1000 units a year, or 20,000 over the plan period, is adequate to meet the needs of the city.

Paul McDonald and Clive Birch have presented an analysis of actual house building since 2006 against the projected trajectory in the draft core strategy documents - actual building, as recorded in the AMR, has been at 50% of the projected trajectory and has been entirely adequate to keep prices in the city low.

McDonald and Birch gave these figures:

“2008 CCS

This plan ran from 2006 - 2026 with a total housing projection of 33,500 for 20 years
= **1,671 /year**.

The actual AMR figures for the first 1/2 of this period were 1,165, 1,149, 680, 496,705, 921, 994, 1098 and 1,116 = an average of **925/year**.

2014/2018 LOCAL PLAN

It was therefore with some surprise to find that the 2014 plan had increased further to 36,220 and even more astonishingly, increased by a further **6,180** to a mind blowing **42,400** for 2016. Where are all of these numbers coming from?

Again we can review the veracity of these projections by comparing ACTUAL data from the AMR for the first five years of this plan which runs from 2011 to 2031. The average house build for 2011 -2016 is in fact **1032/year** compared to $42,400/20 = \mathbf{2,120/year}$.

GL Hearn have tried to suggest in their 2015 paper on students, that the population spike in Coventry, around age 19-24, is unlikely to be students, because the peak, at 23-24, is later than the big rush of students to university. Wh