GLAINTELLIGENCE

Update 08-2016

Birth trends in London

November 2016

Key findings

- Annual births in London rose between mid-2002 and mid-2012 by some 30 thousand births, peaking at over 134 thousand, before falling in subsequent years.
- Even at their peak in the early-2010s, annual births in London were below numbers seen in 1965 when births reached nearly 144 thousand.
- The patterns in birth trends seen in London have been mirrored in other city regions in England & Wales although proportional growth was higher in London than the majority of city regions.
- Over the previous decade, births grew faster than population in London but it is not expected that births will keep up with the projected level of population growth for the Capital.
- Patterns of fertility vary by age across London but all show the common trends of a fall in fertility at younger ages and an increase at older ages.
- The proportion of children born to non-UK born mothers has increased and by 2005, over half of all live births in London were to mothers born outside the UK.
- There has been rapid growth in the number of births to EU-born mothers following the enlargement of the EU in 2004, 2007 and 2013; up 218 per cent between 2001 and 2015.
- Birth rates have seen their biggest increase in the most affordable parts of London, such as Barking & Dagenham, but have fallen in the least affordable (Kensington & Chelsea).
- There is considerable variation across London regarding how births translate to demand for reception places but for the Capital as a whole, 79 per cent of births give rise to a demand for state-funded reception places.

Introduction

This Intelligence Unit update analyses a range of data for London and the rest of the country, looking at trends in the number and patterns of births, and potential subsequent impacts on demand for school places.

This Update covers the following:

- Trends in London births over time
- Comparison of birth trends in London to England & Wales as a whole
- Comparison of London to other city regions in England
- Drivers of changes in birth numbers
- How births affect demand for places in school reception classes

The data used throughout refers to annual live births, registered by home location of mother.

The timeframe for the data available varies between mid-year and calendar year. Mid-year data runs from 1st July to 30th June and is referenced as year to mid-, so 1st July 2013 to 30th June 2014 would be year to mid-2014 or mid-year 2014. Calendar year data runs 1st January to 31st December and is referenced either as year to end- or simply by the year the data covers.

The majority of the analysis looks at the period post-2002 because this is the time that saw major changes in births. Prior to this, births had remained relatively stable throughout the 1990s.

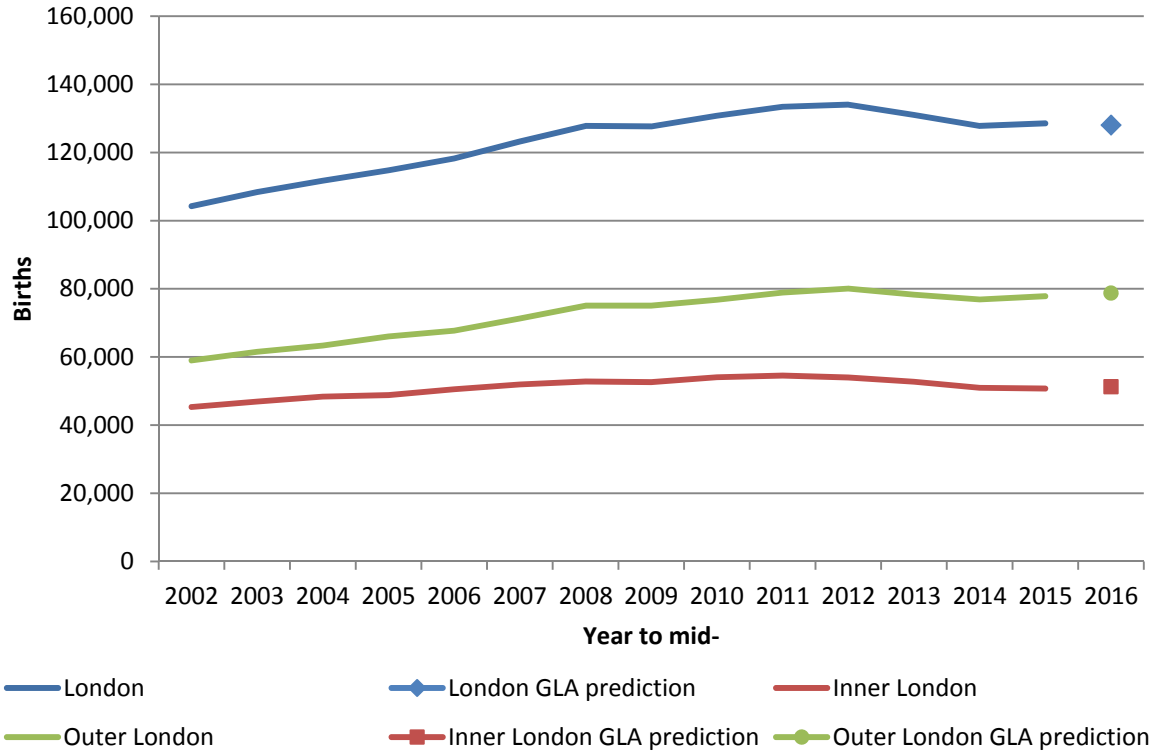
Birth trends in London since 2002

Annual births in London rose year on year from 104,259 in mid-2002 to 134,037 by mid-2012 (with a slight dip in mid-2009) – see Figure 1. Since then they have fallen from this peak. In mid-2015 there were some 128,520 births; a rise of just over 700 births compared to the previous year after two consecutive years of falling births. In Inner London births have been falling since mid-2011 and are now at the same level as mid-2006 whereas although births in Outer London have fallen in recent years, they still remain some ten thousand higher than mid-2006.

2015 data are the most recent official estimates available. However, the GLA Demography Team has used General Practitioner (GP) registration data to provide more timely estimates of live births in London. The method provides an indication of annual births almost a year ahead of official estimates provided by the Office for National Statistics (ONS). Estimates of births for the year to mid-2015 were produced for London local authorities using this method – 97 per cent of these estimates at local authority level lay within two per cent of the subsequent official estimates. For London as a whole, the GLA mid-2015 prediction fell within 0.4 per cent of the ONS official estimate.

New estimates of births for the year to mid-2016 have been produced based on recently obtained GP registration data which indicate London-wide births of 129,900 for the year to mid-2016. The accompanying note and methodology document are available to view on the London Datastore: http://data.london.gov.uk/dataset/estimating-births-using-gp-registration-data

Figure 1: Births, London, mid-2002 to mid-2016



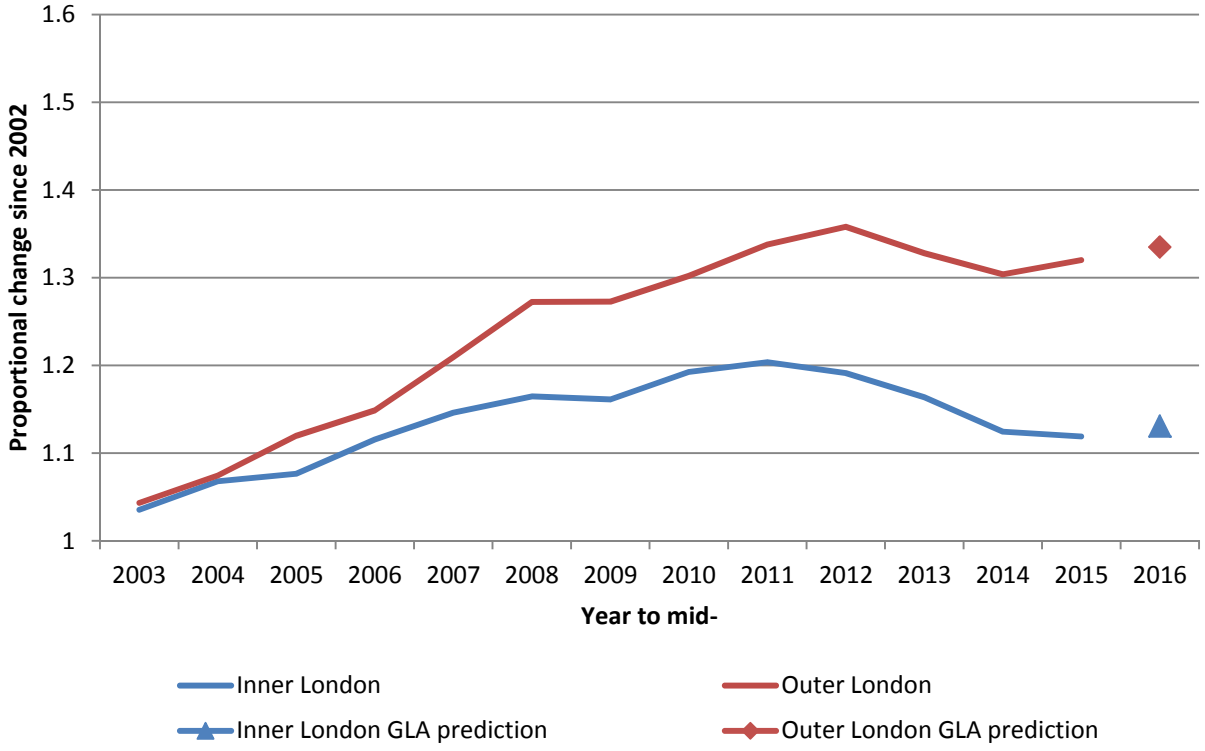
Source: ONS mid-year estimate components of change; GLA birth predictions

The rise in births in London has not been uniform across the Capital. Figure 2 shows the proportional change in Inner and Outer London relative to year ending mid-2002. During the year ending mid-2002 there were 104,259 births in London of which 43.4 per cent were in Inner London. By the year ending mid-2015, the number of births in the Capital had risen to 128,520 of which only 39.4 per cent were in Inner London.

The rate of growth in Outer London has been higher than that in Inner London. In the year ending mid-2012, the number of births in Outer London was 35.8 per cent higher than for the year ending mid-2002. In comparison, in Inner London, the number of births was 19.1 per cent higher for the same years.

For the most recent year (year to mid-2015), the number of births in Outer London rose compared to the previous year whilst the number in Inner London declined; a 959 rise versus a 246 fall.

Figure 2: Proportional change in births, Inner and Outer London, mid-2002 to mid-2016



Source: ONS mid-year estimate components of change; GLA birth predictions

Table 1 sets out the number of births for three select years (years to mid-2005, -2010, and -2015) with the data for the most recent year being shown in Figure 3. Over the first period comparing year to mid-2005 to mid-2010, all boroughs saw their number of births rise. However for the second period comparing year to mid-2010 to mid-2015, births fell in nearly two thirds of boroughs.

When comparing the year to mid-2005 with the most recent data available (year to mid-2015), the number of births in the majority of boroughs was higher with the exception of six boroughs, all of which are in Inner London. Of these, Kensington & Chelsea and Camden saw 300 fewer births each with Hammersmith & Fulham, Lambeth, Westminster, and Southwark all experiencing a fall between these two years. Between these two years, the number of births rose by more than one thousand in two boroughs; Redbridge (+1,287) and Hillingdon (+1,075). These two boroughs also saw the largest percentage rise in the number of births.

As can be seen in the top map of Figure 3, with the exception of Newham and Wandsworth, the highest numbers of births during the year to end mid-2015 were in Outer London boroughs (Croydon, Ealing, Barnet, and Brent).

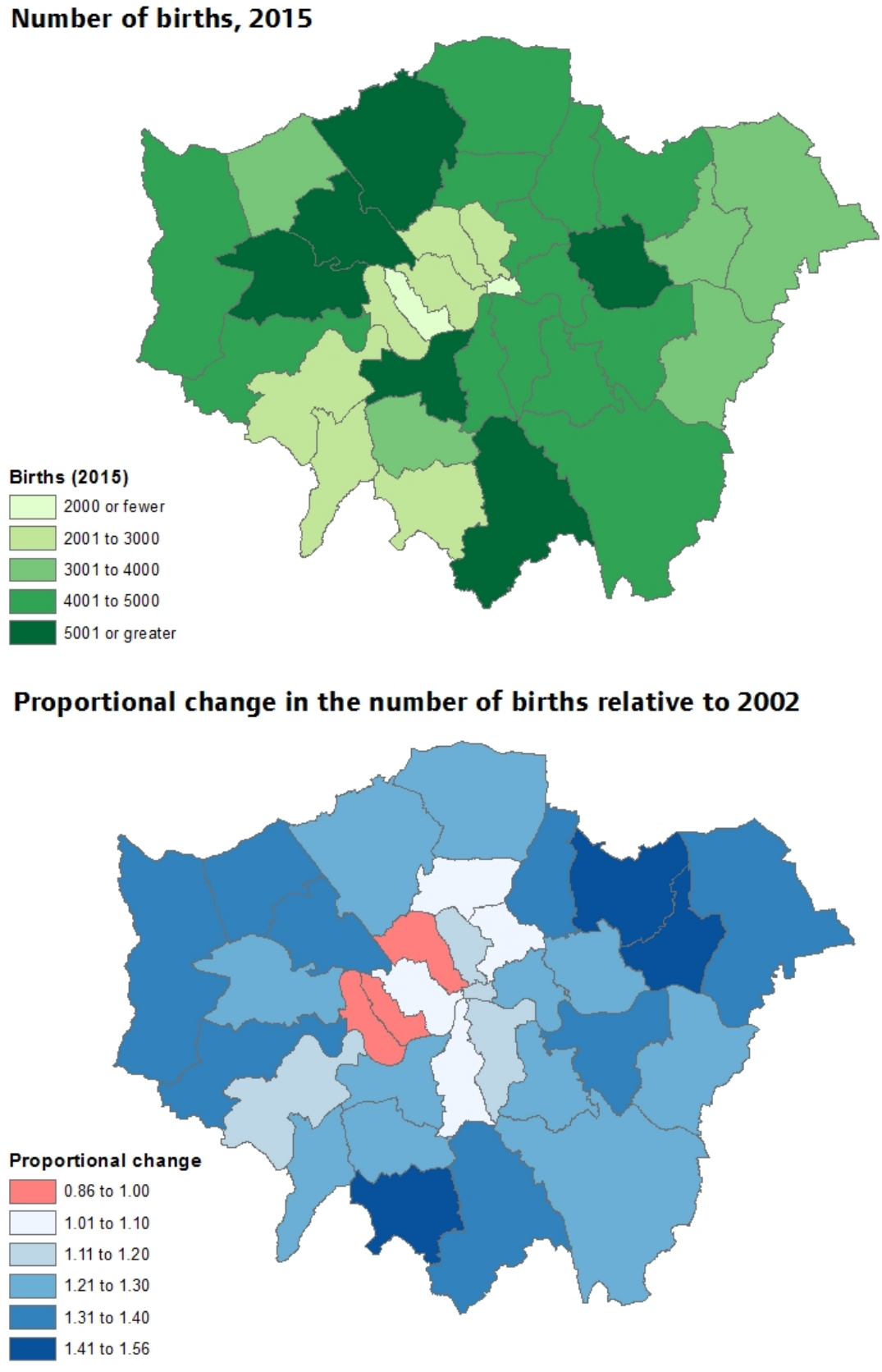
While Newham and Croydon had the highest overall number of births, it is the boroughs of Redbridge, Barking & Dagenham, and Sutton that saw the largest proportional change in annual births when compared to year ending mid-2002. In Redbridge and Barking & Dagenham, the number of births rose by more than 50 per cent with those in Sutton rising by over 40 per cent. Only Kensington & Chelsea, Camden and Hammersmith & Fulham saw their number of births fall relative to 2002 (Figure 3).

Table 1: Borough births, select mid-years

	Mid-2005	Mid-2010	Mid-2015	Change mid-2005 to mid-2010	Change mid-2010 to mid-2015
Barking & Dagenham	2,916	3,644	3,697	728	53
Barnet	4,602	5,338	5,222	736	-116
Bexley	2,758	3,010	3,093	252	83
Brent	4,415	5,049	5,157	634	108
Bromley	3,599	4,142	4,098	543	-44
Camden	3,036	3,103	2,735	67	-368
City of London	63	76	63	13	-13
Croydon	4,879	5,327	5,705	448	378
Ealing	4,809	5,746	5,389	937	-357
Enfield	4,350	4,959	4,895	609	-64
Greenwich	3,940	4,546	4,547	606	1
Hackney	4,382	4,587	4,399	205	-188
Hammersmith & Fulham	2,657	2,836	2,371	179	-465
Haringey	3,960	4,349	4,112	389	-237
Harrow	2,876	3,344	3,509	468	165
Havering	2,483	2,727	3,138	244	411
Hillingdon	3,407	4,160	4,482	753	322
Hounslow	3,666	4,371	4,339	705	-32
Islington	2,734	3,000	2,908	266	-92
Kensington & Chelsea	2,173	2,265	1,823	92	-442
Kingston upon Thames	2,037	2,270	2,314	233	44
Lambeth	4,668	4,929	4,549	261	-380
Lewisham	4,140	4,974	4,763	834	-211
Merton	2,886	3,474	3,330	588	-144
Newham	5,240	6,129	5,998	889	-131
Redbridge	3,514	4,345	4,801	831	456
Richmond upon Thames	2,566	2,984	2,621	418	-363
Southwark	4,644	4,872	4,641	228	-231
Sutton	2,353	2,701	2,822	348	121
Tower Hamlets	3,933	4,494	4,587	561	93
Waltham Forest	3,956	4,634	4,670	678	36
Wandsworth	4,372	5,404	5,057	1,032	-347
Westminster	2,763	3,003	2,685	240	-318
Inner London	48,765	54,021	50,691	5,256	-3,330
Outer London	66,012	76,771	77,829	10,759	1,058
LONDON	**114,777**	**130,792**	**128,520**	**16,015**	**-2,272**

Source: ONS mid-year estimate components of change

Figure 3: Geographical distribution of births and changes in births, mid-year, borough



Source: ONS mid-year estimate components of change

In summary, births in London have risen to reach 128,520 for year ending mid-2015 from 104,259 in 2002. In some boroughs the rise in births was greater than 50 per cent. Outer London as a whole has seen births rise at a faster rate than Inner London. Births peaked in 2012 before falling slightly in subsequent years although there are indications that they will continue to rise in the coming years albeit at a slower rate than over the previous decade.

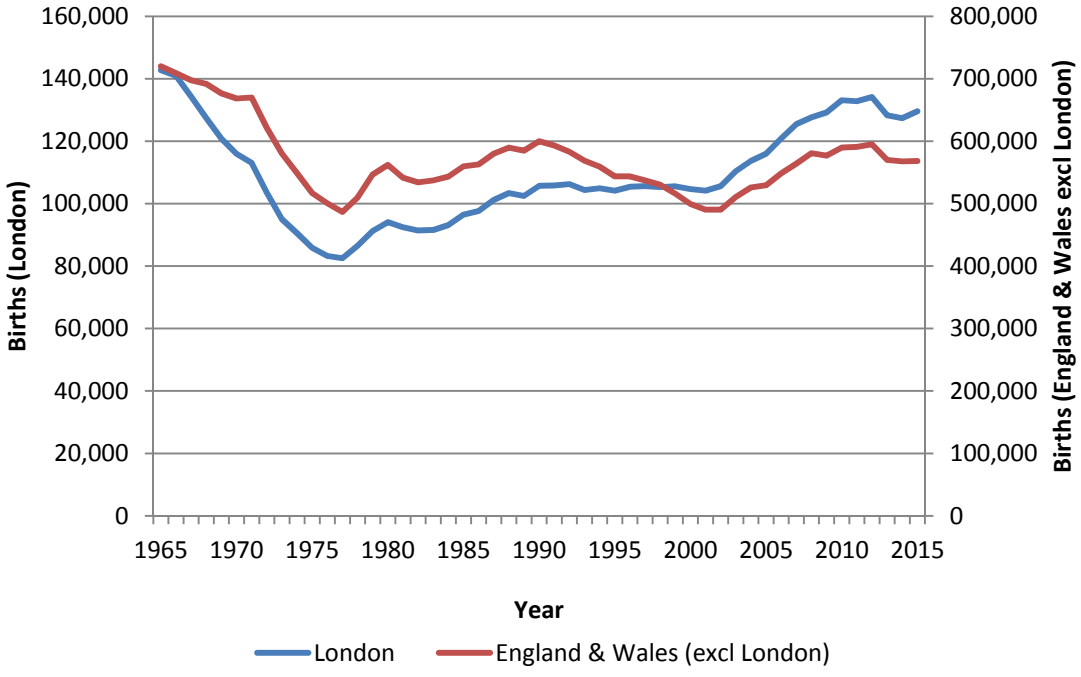
Comparison with remainder of England & Wales

Birth trends in London have generally been mirrored across the country although there have been some differences, most notably during the 1990s. Births in London have generally risen at a faster rate than those in England & Wales during the 2010s. For the most recent year births in London rose by 1.74 per cent whereas in England & Wales the increase was less at 0.07 per cent.

As discussed, births in London have shown a rising trend since mid-2002, falling slightly in more recent years. Calendar year data is available back to 1965 and allows a longer term trend to be seen as well as comparing the trend in London to that in England & Wales. England & Wales in this context excludes London.

Figure 4 shows calendar year births in London and England & Wales (excluding London) between 1965 and 2015. The pattern of births in both areas is similar for the majority of the period indicating that trends in London are also seen nationwide.

Figure 4: Calendar year births, London and England & Wales (excl London), 1965-2015



Source: Registrar General (1965-1974), Office of Population Census and Surveys (1975-1991), ONS Vital Statistics (1991-2012), ONS Birth Summary Tables (2013 to present)

The number of births in both areas fell sharply from 1965 through to the late 1970s hitting a low in both areas in 1977. In 1965 there were 142,776 births in London and 719,949 in England & Wales when London is excluded. By 1977, births in London had fallen by 42.2 per cent to 82,519 with those in England & Wales also dropping, albeit by less; a fall of 32.4 per cent to 486,740.

Births rose steadily throughout the mid- and late 1980s in both areas after which the patterns seen diverge. In London births remained relatively stable throughout the 1990s at around 105 thousand, some 22 thousand higher than in the late 1970s but still considerably below the highs seen in 1965. In England & Wales however, births reached a new peak in 1990 of just over 600 thousand before declining for the remainder of the decade to a low of 490,198 in 2001, a fall of 18.3 per cent when compared to 1990.

Since the 2000s births have risen sharply in London as well as England & Wales. However they still remain below the numbers of births seen in both areas during the mid-1960s. In 1965 there were 142,776 births in London compared to 129,615 in 2015 (calendar year). Table 2 compares births at borough level for 1965 and 2015. In London, the number of births in 2015 is on par with the number seen in 1968. In England & Wales, growth has been slower and births throughout the 1960s and early 1970s remain higher than current levels.

Table 2: Births, London, 1965 and 2015

	1965	2015	Difference
Barking & Dagenham	2,411	3,850	1,439
Barnet	4,878	5,261	383
Bexley	3,784	3,162	-622
Brent	6,416	5,204	-1,212
Bromley	4,887	4,098	-789
Camden	3,981	2,699	-1,282
Croydon	5,700	5,833	133
Ealing	5,551	5,210	-341
Enfield	4,222	5,027	805
Greenwich	3,694	4,644	950
Hackney and City of London	5,870	4,569	-1,301
Hammersmith & Fulham	4,408	2,345	-2,063
Haringey	5,551	4,108	-1,443
Harrow	3,293	3,601	308
Havering	4,330	3,275	-1,055
Hillingdon	3,877	4,394	517
Hounslow	3,520	4,455	935
Islington	6,056	2,939	-3,117
Kensington & Chelsea	3,668	1,805	-1,863
Kingston upon Thames	2,357	2,350	-7
Lambeth	7,435	4,620	-2,815
Lewisham	5,755	4,814	-941
Merton	2,912	3,412	500
Newham	5,163	6,226	1,063
Redbridge	3,816	4,798	982
Richmond upon Thames	2,824	2,609	-215
Southwark	5,817	4,587	-1,230
Sutton	2,507	2,764	257
Tower Hamlets	3,871	4,560	689
Waltham Forest	3,875	4,651	776
Wandsworth	6,443	5,038	-1,405
Westminster	3,904	2,707	-1,197
LONDON	**142,776**	**129,615**	**-13,161**

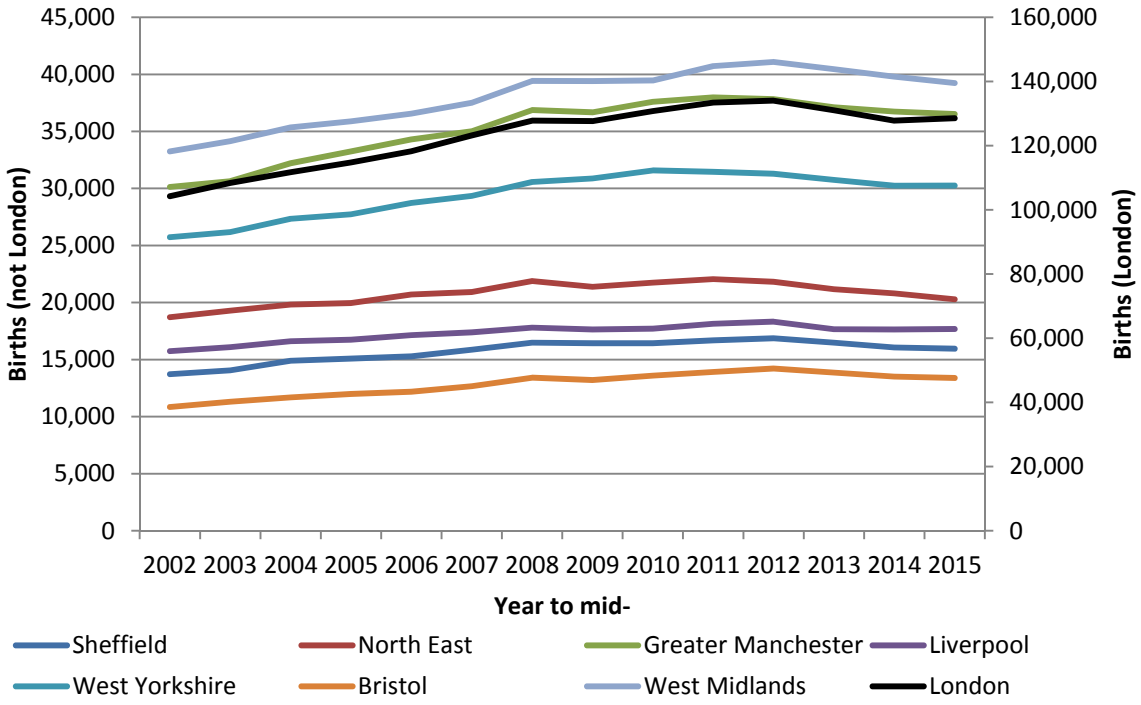
Source: Registrar General (1965); ONS Birth Summary Tables (2015)

Comparison with other city regions in England

Although overall patterns seen in London with regards to births are similar to those in England & Wales, growth in births has been higher in London since the late 1980s than the country as a whole. To determine whether other cities share the trends seen in London, London is compared to the seven city regions in England defined by ONS[1] in a recent report. The local authorities that make up each of these city regions are detailed in the Appendix of this Update and are referred to in this Update by the name used by ONS, which in most instances refers to the metropolitan area name or the dominant city.

Figure 5 compares mid-year births in London with those of the seven city regions in England: Sheffield, North East, Greater Manchester, Liverpool, West Yorkshire, Bristol, and the West Midlands. All seven regions have seen the numbers of births rise overall over the period mid-2002 to mid-2015. Births in all regions peaked in 2011 or 2012 before falling in more recent years.

Figure 5: Births, city regions, mid-2002 to mid-2015



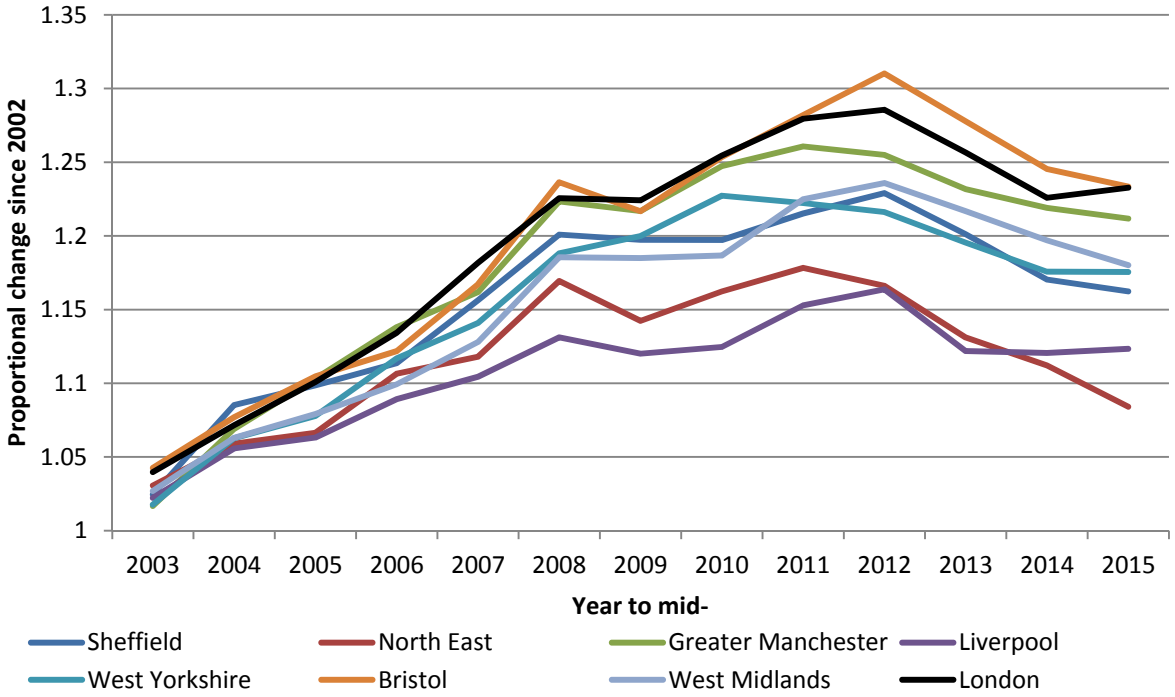
Source: ONS mid-year estimate components of change

Births have risen in London and the other seven city regions relative to mid-2002. Figure 6 shows that this proportional rise has been highest in London, Bristol, and Greater Manchester over the period peaking in 2012 when London saw 28.6 per cent more births than 2002. This compared to 31.0 per cent more in Bristol but only some 16 per cent more in the North East and Liverpool regions.

Overall, all city regions saw a rise in births over the period, but the proportional change in London has been among the largest.

[1]ONS (2016). Population dynamics of UK city regions since mid-2011
https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/articles/populationdynamicsofukcityregionssincemid2011/2016-10-11

Figure 6: Proportional change in the number of births, city regions, relative to mid-2002



Source: ONS mid-year estimate components of change

Key drivers of birth patterns

The growth in births in London over the past decade is the result of a number of inter-related drivers including: population change, fertility, migration, and affordability. These are explored in more detail in the following sections.

Population change

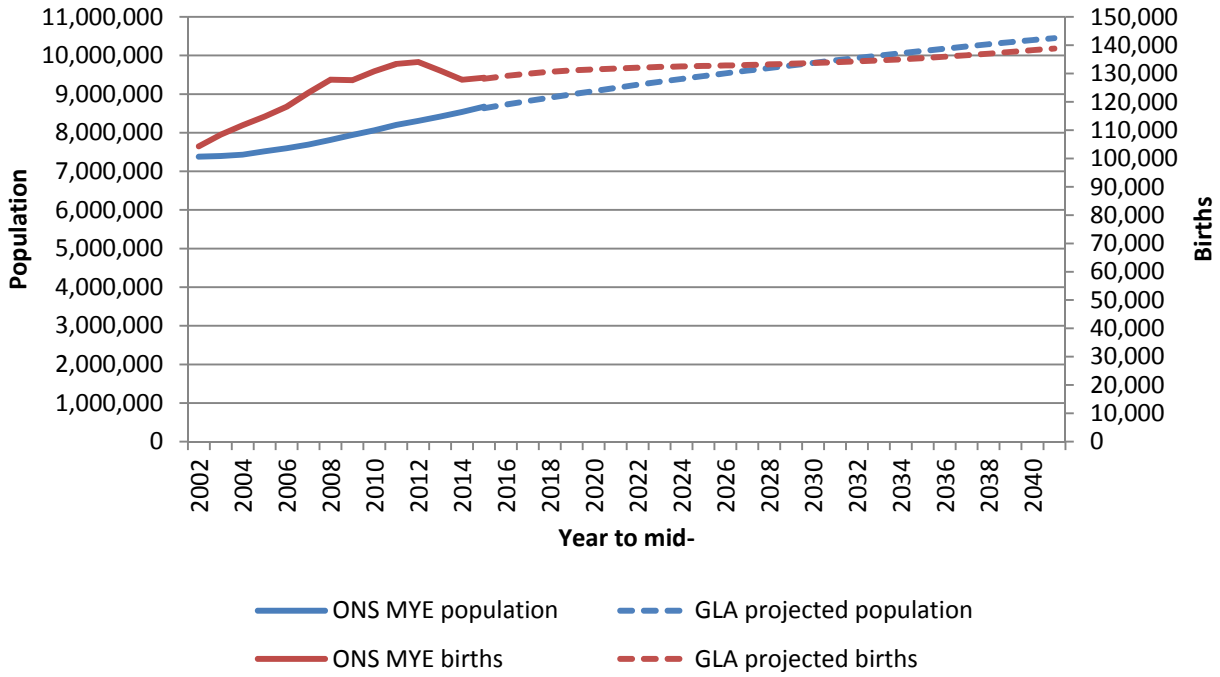
London's population has risen year on year since mid-2001 to reach 8.67 million by mid-2015 (a rise of 18.5 per cent or 1.35 million people). A growing population means more women and so all else being equal, more births. Figure 7 shows London's population and birth estimates to mid-2015 as well as projected population and births to mid-2041.

While London's population has risen, annual births rose at an even faster rate during the 2000s. However in recent years births have declined while London's population has continued to grow. Projections suggest that the growth in births will start to level or increase at a much slower rate than London's population.

Although London's population is growing, this growth is not uniform across all ages. Figure 8 shows the age structure for London for two different years. Growth in population is projected to be greatest in the older age groups particularly in the over 90s which are projected to rise in number by more than 50 per cent between mid-2014 and mid-2024.

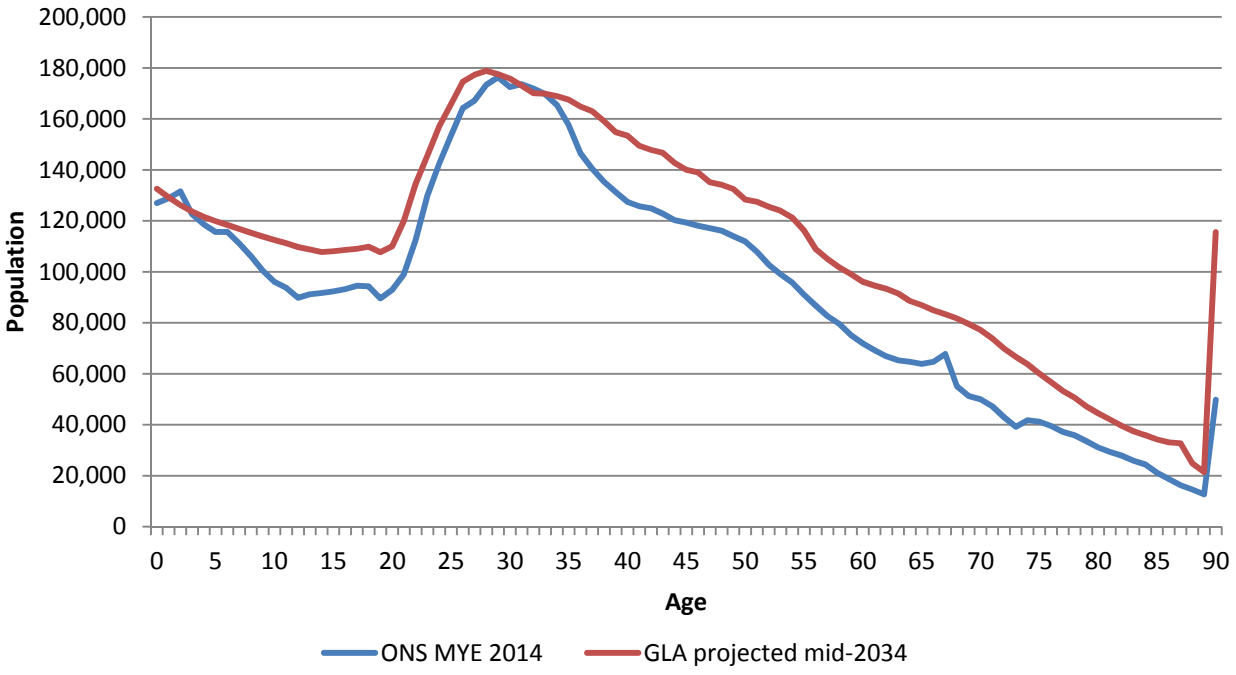
Those of peak childbearing age (age 20 to 40) are projected to grow on average 5.2 per cent between mid-2014 and mid-2024 and 9.5 per cent between mid-2014 and mid-2034 compared to over 30 per cent for some older age groups.

Figure 7: Total population and births, London, mid-2002 to mid-2041



Source: ONS mid-year estimate; GLA 2015 round trend-based population projections (long-term migration scenario)[2]

Figure 8: Age structure, London, mid-2014 and mid-2034



Source: ONS mid-year estimates; GLA 2015 round trend-based population projections (long-term migration scenario)

[2] The GLA 2015 round trend-based population projections and associated report are available to download from the London Datastore: https://data.london.gov.uk/dataset/2015-round-population-projections

Fertility

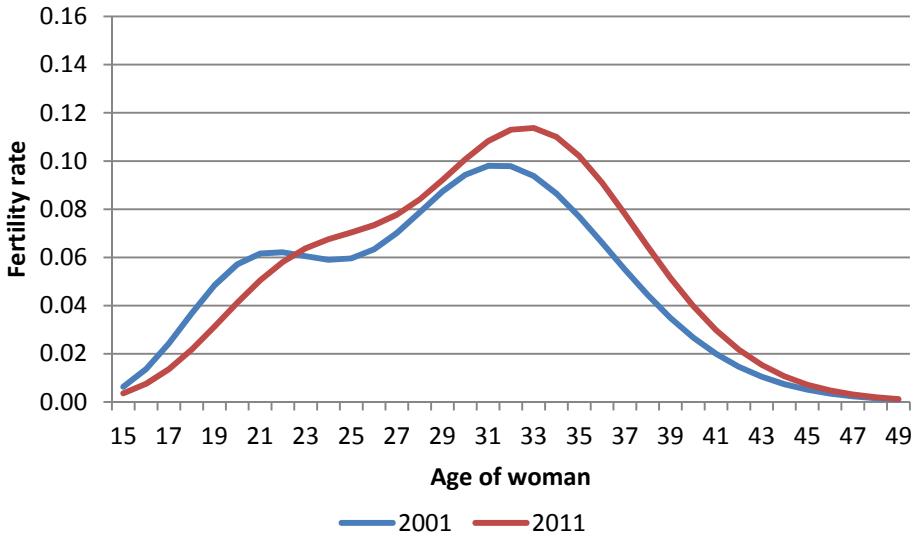
The number of births in an area is not just dependent upon the size and age structure of the population, but also on fertility - the propensity of women to have children. A number of statistical measures of fertility exist - this analysis will consider two of most commonly used of these: Total Fertility Rate (TFR) and Age-Specific Fertility Rates (ASFR).

The Total Fertility Rate (TFR) can be used as a general purpose measure of fertility. It is defined by ONS as *"…the average number of live children that a group of women would each bear if they experienced the age-specific fertility rates of the year in question throughout their childbearing lifespan. It provides a snapshot of the level of fertility in a particular year and does not necessarily represent the average number of children that a group of women will have over their lifetime"*.

The age-specific fertility rate (ASFR) measures the annual number of births to women of a specified age or age group. They are often presented as births per 1,000 women. In the charts that follow they are presented as births per individual woman in each age group. The numerator is the number of live births to women in a particular age group during a period of time, and the denominator an estimate of the number of person - years lived by women in that same age group during the same period of time.

The distribution of fertility rates is dictated by the cultural and socio-economic characteristics of residents in an area. London's fertility has varied over time and analysis has shown that the mean age at childbearing has risen[3]. In 2001 London exhibited a bi-modal fertility rate distribution, with distinct peaks for women in their early twenties and thirties (Figure 9). By 2011 this had become a single mode distribution with a peak in the early thirties. Some of this shift towards having children later results from women remaining in education for longer and subsequently prolonging childbearing to focus on their careers (Ní Bhrolcháin and Beaujouan, 2012)[4].

Figure 9: Fertility rate curves, London, 2001 and 2011



Source: GLA Update 02-2014, Fertility in London 2001 and 2011

[3] GLA Update 02-2014 considers London's fertility in greater detail: https://data.london.gov.uk/dataset/fertility-london-2001-and-2011
[4] Ní Bhrolcháin, M. and Beaujouan, É. (2012). Fertility postponement is largely due to rising educational enrolment. *Population Studies*, 66(3), pp.311-327. Available at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3479627/

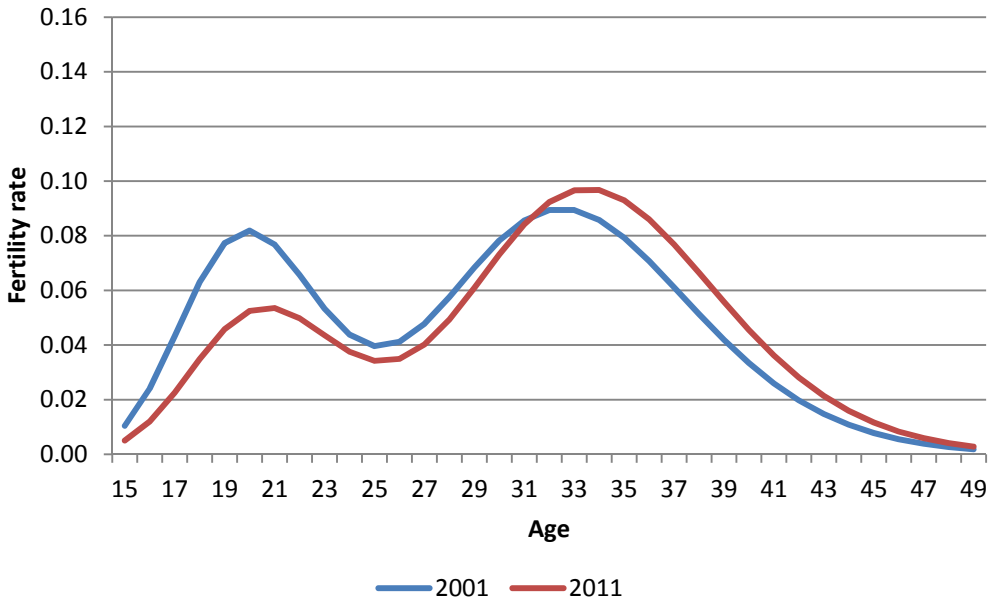
Although London as a whole has seen a shift to a single mode distribution with a peak in childbearing amongst women in their early thirties, this pattern varies considerably across London.

Selected local authority fertility patterns

The following section looks at the age-specific rates for three selected London authorities that illustrate the range of patterns seen across the city.

In Lambeth (Figure 10), a bi-modal distribution still exists although the first peak amongst women in their late teens and early twenties has reduced considerably and the later peak has shifted from the early to mid-thirties.

Figure 10: Fertility rate curves, Lambeth, 2001 and 2011

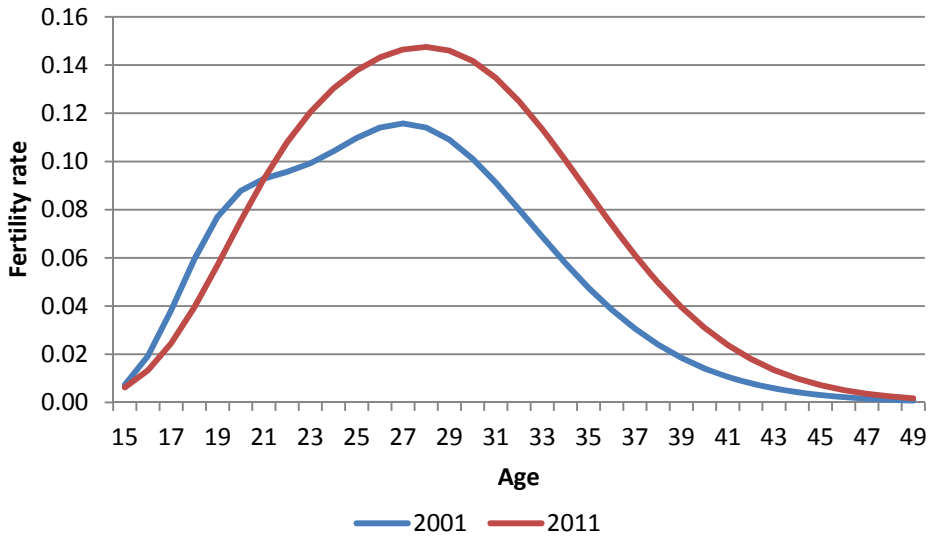


Source: GLA Update 02-2014, Fertility in London 2001 and 2011

The Outer London borough of Barking & Dagenham (Figure 11) continues to demonstrate a single peak that largely encompasses women in their mid-twenties to mid-thirties. The fertility of women in the borough has risen as well as shifting to older age groups.

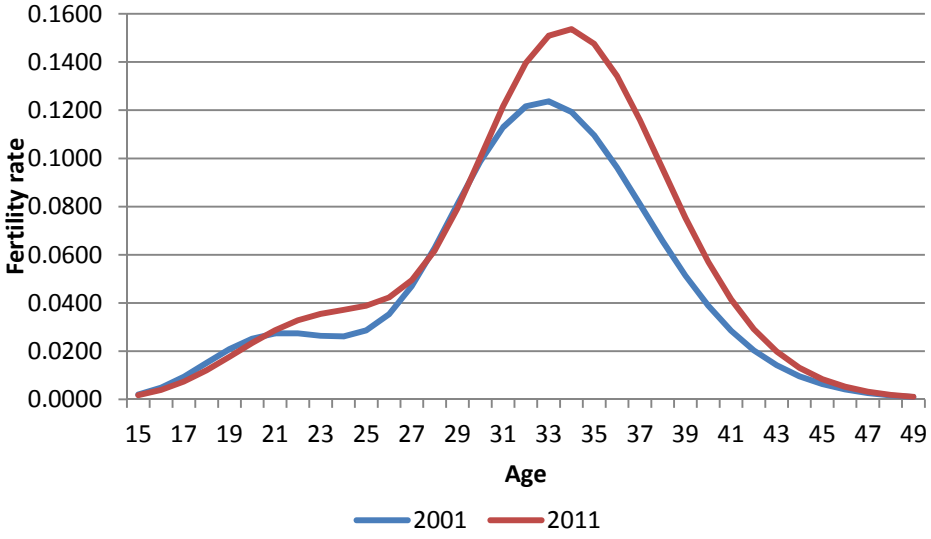
Richmond-upon-Thames also exhibits a single peak distribution – see Figure 12. The peak in Richmond-upon-Thames is much more pronounced and occurs at an older age (mid-thirties) highlighting that there is a greater concentration of childbearing over a narrower age range when compared to Barking & Dagenham, where it is spread much more broadly.

Figure 11: Fertility rate curves, Barking & Dagenham, 2001 and 2011



Source: GLA Update 02-2014, Fertility in London 2001 and 2011

Figure 12: Fertility rate curves, Richmond upon Thames, 2001 and 2011



Source: GLA Update 02-2014, Fertility in London 2001 and 2011

Table 3 gives the mean age at childbearing (MAC)[5] and TFR. Mean age at childbearing has risen in all boroughs and borough groups between 2001 and 2011 - the result of falling fertility at younger ages and increasing fertility at older ages. In 28 boroughs the mean age at childbearing is over 30 years (compared to only 12 boroughs in 2001) and in Greater London rose from 29.7 to 31.0 years between 2001 and 2011. Further analysis of London's fertility can be found in Update 02-2014: https://data.london.gov.uk/dataset/fertility-london-2001-and-2011

[5] Mean age at childbearing (MAC) is the mean age of mothers at the birth of their children if women were subject throughout their lives to the age-specific fertility rates observed in a given year.

Table 3: Mean age at childbearing (MAC) and TFR, borough, 2001 and 2011

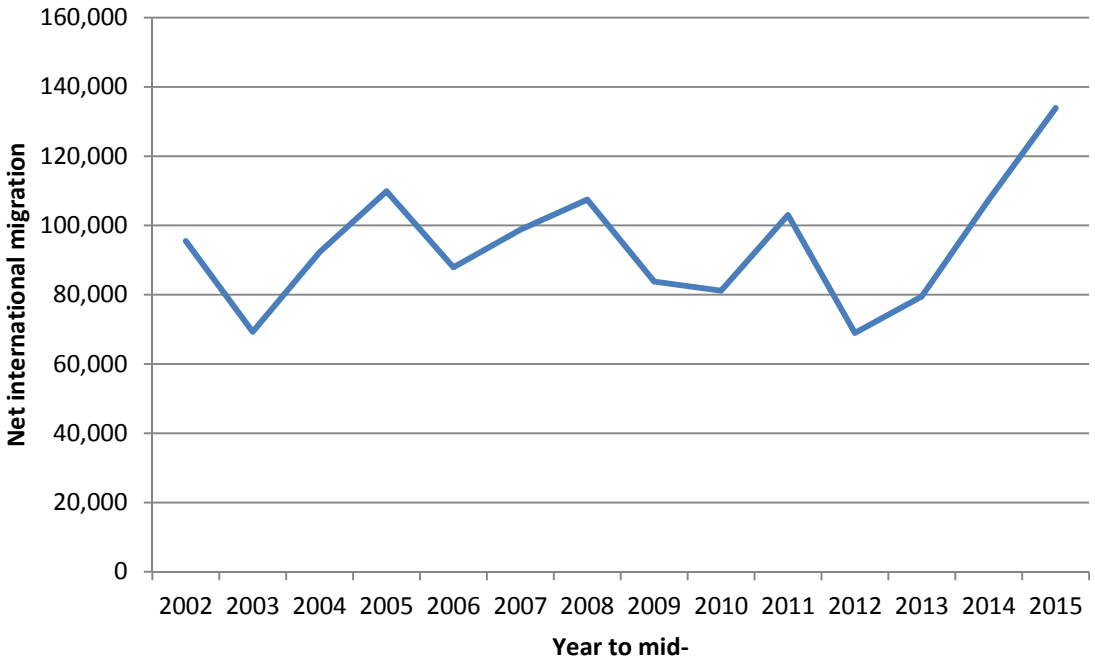
	2001		2011	
	MAC	TFR	MAC	TFR
Barking & Dagenham	27.38	1.85	29.04	2.43
Barnet	30.66	1.56	31.29	1.88
Bexley	28.94	1.73	29.89	2.09
Brent	29.69	1.68	30.48	1.9
Bromley	30.1	1.6	30.7	2.02
Camden	30.9	1.36	33.2	1.43
City of London & Hackney	28.9	2.06	30.62	1.76
Croydon	28.88	1.69	30.01	2.07
Ealing	29.96	1.63	30.78	1.96
Enfield	29.43	1.76	30.48	1.99
Greenwich	28.83	1.77	30.02	2.08
Hammersmith & Fulham	31.02	1.43	32.89	1.45
Haringey	29.7	1.78	30.87	1.79
Harrow	30.42	1.58	30.65	1.89
Havering	29.14	1.6	30	1.92
Hillingdon	29.21	1.67	30.34	2.05
Hounslow	29.24	1.7	30.44	2.02
Islington	30.18	1.41	32.2	1.41
Kensington & Chelsea	32.11	1.32	33.71	1.45
Kingston upon Thames	31.22	1.45	32.07	1.74
Lambeth	29.33	1.65	31.43	1.58
Lewisham	29.36	1.65	30.64	1.94
Merton	30.39	1.55	31.15	1.97
Newham	28.34	2.25	29.96	2.18
Redbridge	29.57	1.73	30.26	2.05
Richmond upon Thames	32.32	1.55	33.05	1.89
Southwark	29.68	1.7	31.69	1.75
Sutton	29.4	1.53	30.2	1.99
Tower Hamlets	28.5	1.83	31.51	1.58
Waltham Forest	28.97	1.83	30.38	2.13
Wandsworth	31.33	1.41	32.93	1.59
Westminster	31.26	1.28	32.67	1.42
Greater London	**29.7**	**1.63**	**31**	**1.83**

Source: GLA Update 02-2014, Fertility in London 2001 and 2011

Migration

London attracts larger numbers of people from overseas than leave London to move abroad and as a result London's net international migration is positive (Figure 13). It does however fluctuate considerably from year to year and ranged from just under 69 thousand in mid-2012 to nearly 134 thousand, its highest level over the period, in the year to mid-2015.

Figure 13: Net international migration, London, mid-2002 to mid-2015



Source: ONS mid-year estimate components of change

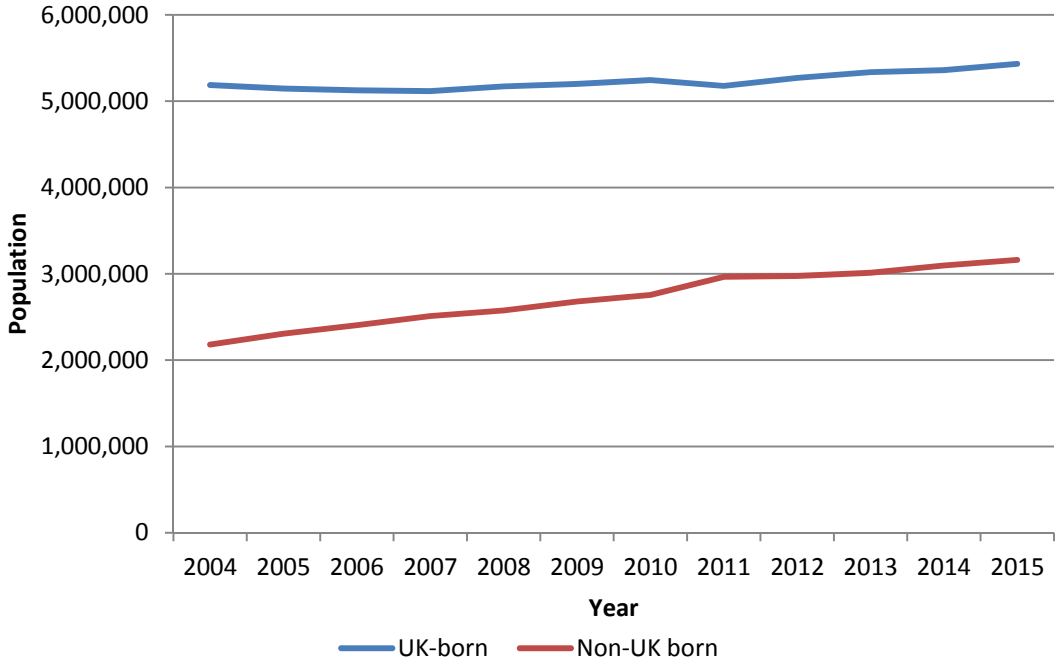
Both the UK-born and non-UK born populations of London have been growing (Figure 14). However the non-UK born population has been growing at a faster rate rising by 982 thousand (or 45.0 per cent) over the period. The UK-born population rose by only 246 thousand over the same period, equivalent to a 4.7 per cent increase.

In 2004, 70.4 per cent of London's population were born in the UK. By 2015 although this had dropped to 63.2 per cent, the UK-born population still made up the majority of London's population.

Comparing the UK and non-UK born population in London in 2011 shows differences in the age structure – see Figure 15. The greatest proportional differences between the UK-born and non-UK born population occur in two distinct age groups: children and those of working and childbearing age. The proportion of children who are UK-born is considerably higher which is to be expected as fewer children migrate and those that are born to people who have migrated to the UK fall into the UK-born category.

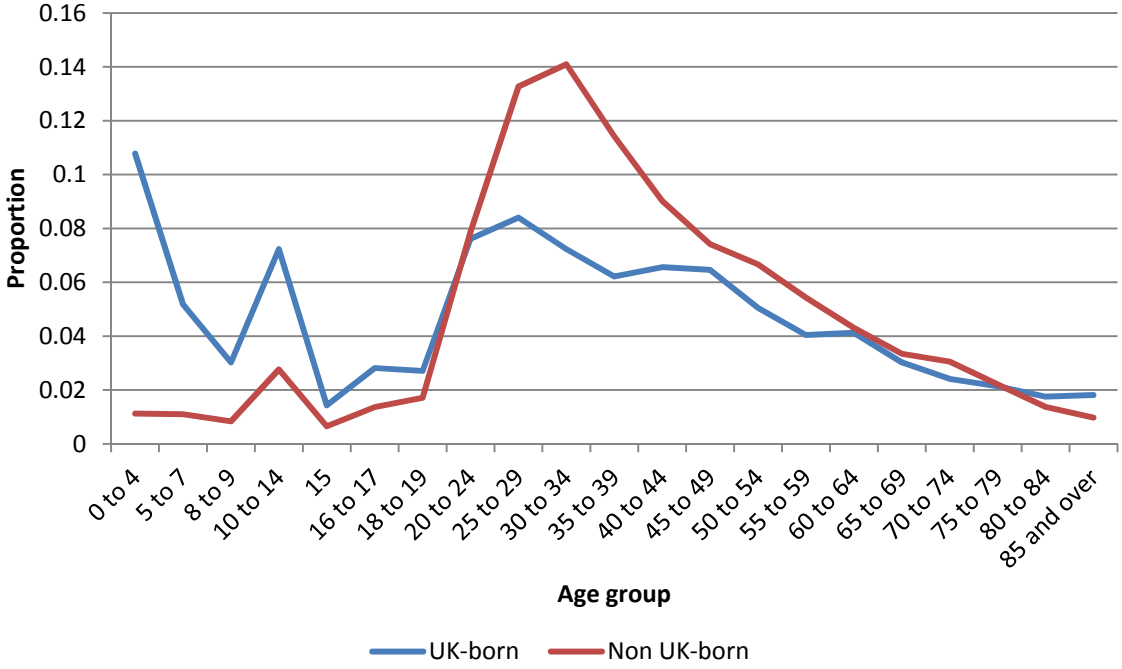
The higher proportion of non-UK born residents who are of working and childbearing age is a result of the tendency of people to migrate for employment reasons, which occurs most commonly among persons in their twenties and early thirties.

Figure 14: UK-born and non-UK born population, London, 2004 to 2015



Source: ONS country of birth estimates

Figure 15: Age structure: UK and non-UK born, London, 2011

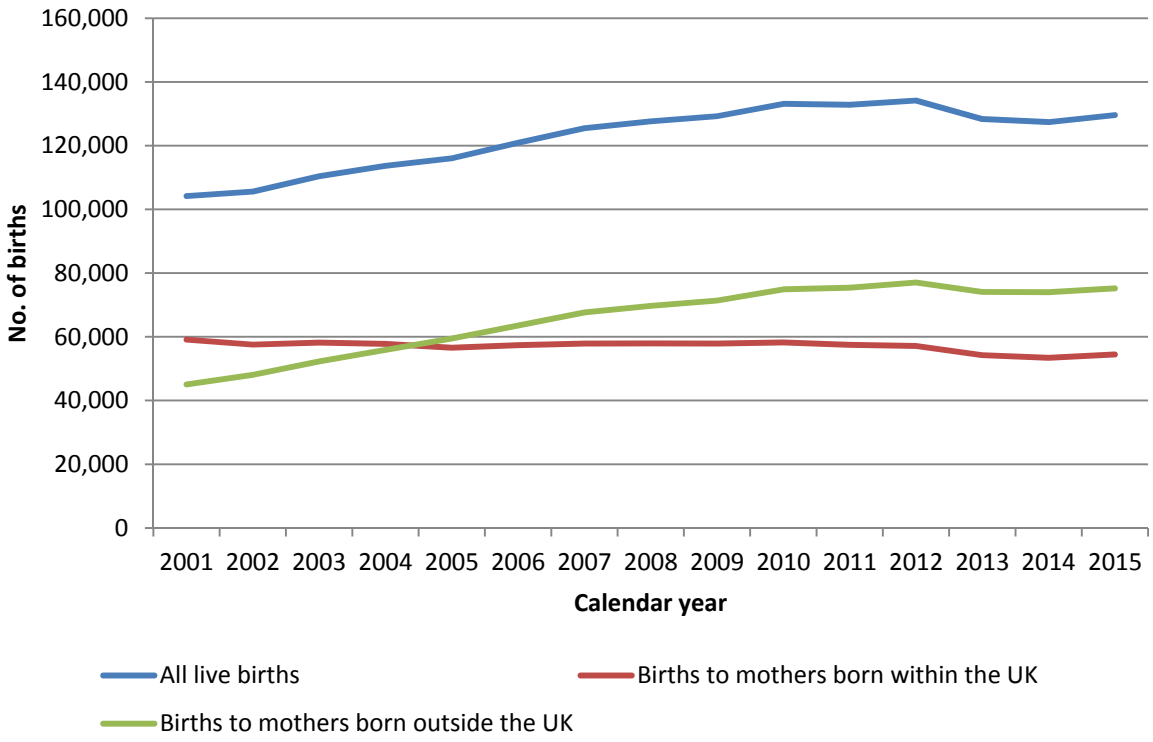


Source: ONS Census 2011 DC2109EWr

As already discussed, births in London have largely shown a rising trend throughout the 2000s and 2010s. Figure 16 splits these births into those born to mothers also born in the UK and those to mothers born outside the UK. In 2004 births to UK-born mothers made up 50.8 per cent of all births in London but by 2005 this had switched and births to non-UK born mothers made up the majority at 51.2 per cent. This trend has continued with 58.0 per cent of births in 2015 being to mothers resident in London but born outside the UK.

Overall the number of births to non-UK born mothers rose year on year from some 45 thousand in mid-2001 to over 77 thousand by mid-2012, a rise of 71.1 per cent over the period. Births for UK-born mothers were steady over the same period, averaging 58 thousand births a year. Births to both groups fell in 2013 and 2014 but rose again in 2015.

Figure 16: Births to UK-born and non-UK born mothers, London, 2001 to 2015



Source: ONS parents' country of birth estimates

The EU has grown in size three times between 2004 and 2013. In 2004, ten additional countries consisting largely of nations in Eastern Europe joined the EU[6]. This was followed by Bulgaria and Romania in 2007[7] and most recently Croatia in 2013 to take the total number of EU nations to 28. Citizens of these countries benefit from free movement enabling them to live, work and study in any other member state.

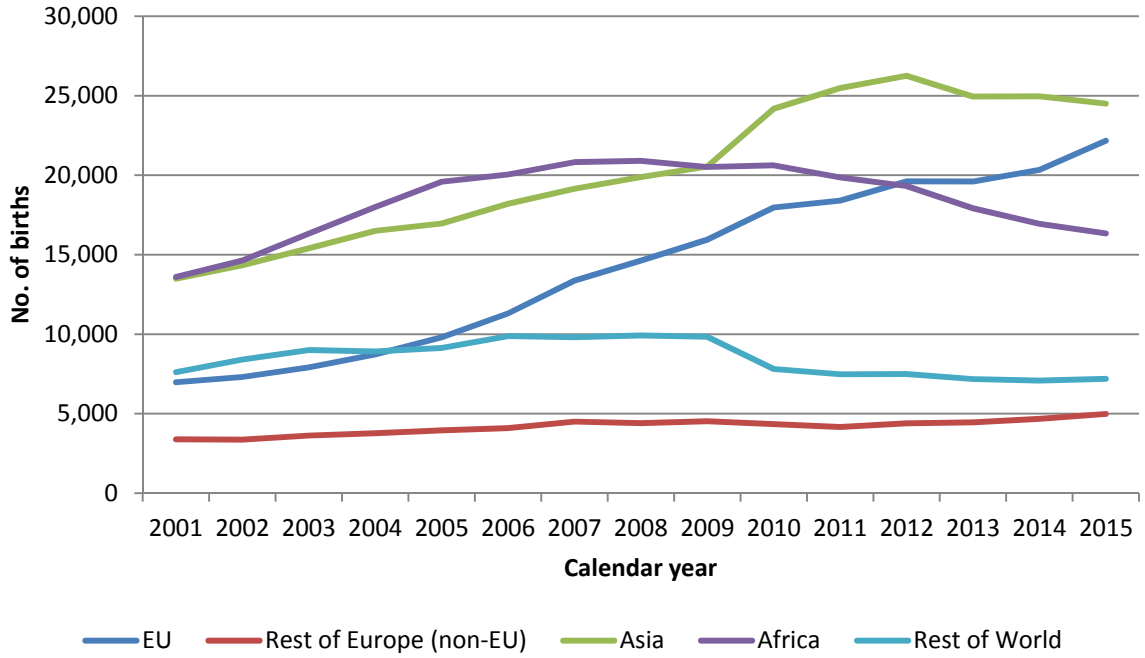
[6] In 2004, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia joined the EU. They became known first as the A8 (Accession 8) countries but are known as the EU8. Cyprus and Malta joined the EU at the same time.

[7] Bulgaria and Romania joined in 2007 and were known first as the A2 (Accession 2) countries and subsequently as the EU2. Unlike the EU8, work restrictions were put in place for Bulgarian and Romanian nationals until 1 January 2014.

Figure 17 shows that the number of births to non-UK born women born in EU countries has risen sharply from the mid-2000s onwards tying in with the enlargement of the EU – overall over the period 2001 to 2015, the number of births to these women rose by over 15 thousand equivalent to an increase of 218 per cent.

Births to non-UK women born in Asian countries also rose particularly between 2009 and 2012 to reach over 26 thousand births in 2012, up from some 13 thousand in 2001. Births to these women have fallen in recent years to just below 25 thousand but still remain higher than the majority of the 2000s and 2010s.

Figure 17: Births to non-UK born mothers by region of birth of mother, London, 2001 to 2015

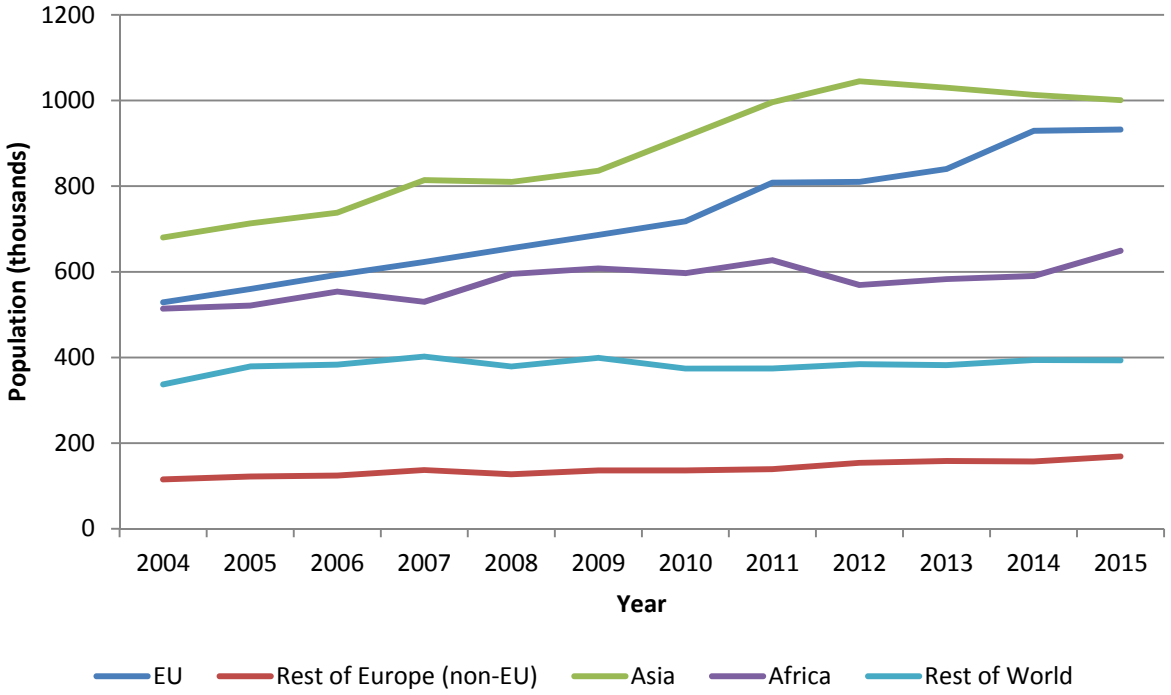


Source: ONS parents' country of birth estimates

The split of London's population by region of birth is shown in Figure 18. The trends seen for those born in Asian or EU countries are mirrored in the patterns of births to non-UK born mothers, i.e. the population of Asian-born in London rose sharply (a rise of 29.0 per cent) between 2008 and 2012 with births to Asian-born mothers reflecting this (an increase of 32.1 per cent).

The number of people born in an EU country living in London rose from some 529 thousand in 2004 to over 930 thousand in 2015 (a 76.2 per cent increase). Births in London to mothers born in an EU country rose considerably faster, more than doubling from nearly nine thousand to over 22 thousand over the same period.

Figure 18: Population by region of birth, London, 2004 to 2015



Source: ONS country of birth population estimates

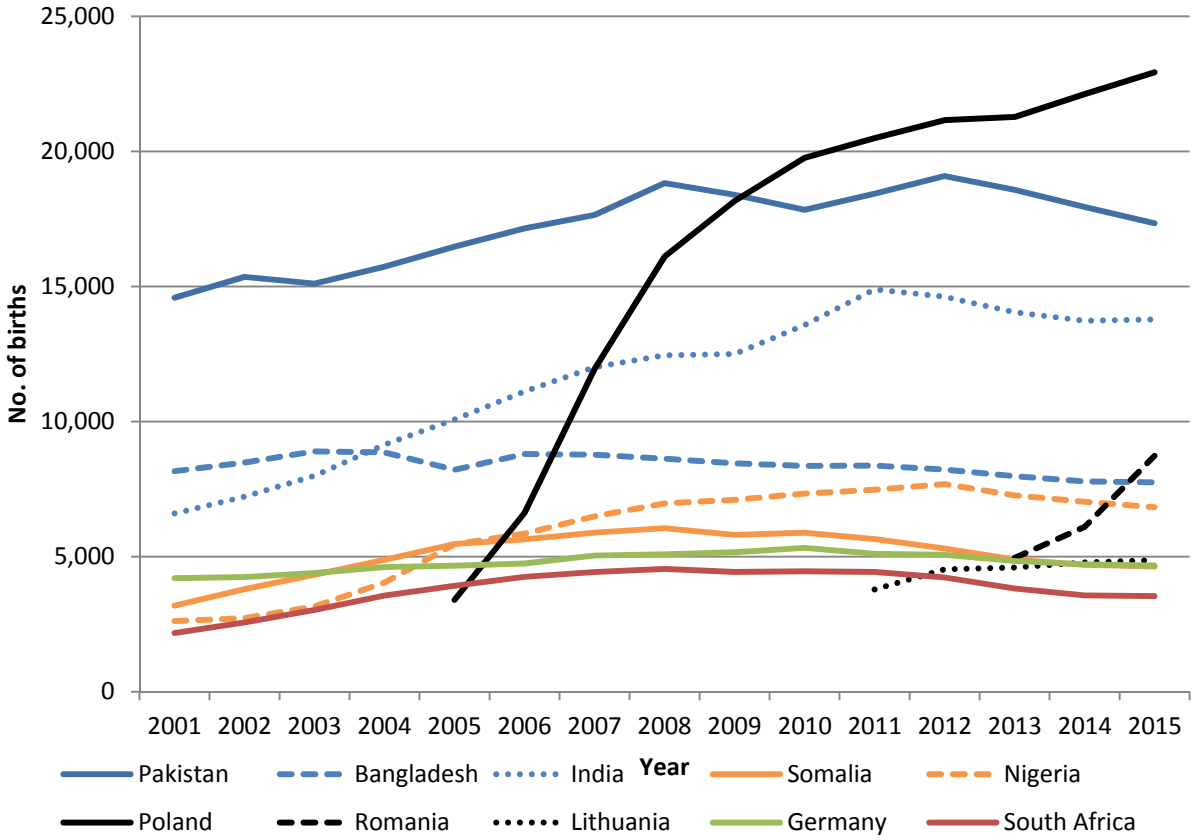
Although not available at London level, Figure 19 shows births for the top ten countries of birth of non-UK born mothers living in England & Wales. In 2015, there were nearly 23 thousand births in England & Wales to women born in Poland, over 17 thousand births to Pakistani-born women and nearly 14 thousand to Indian-born women. In 2010, births to Polish-born mothers overtook those to Pakistani-born mothers for the first time.

Births to Polish-born women rose at the fastest rate of all countries shown over the late 2000s from some three thousand in 2005, the year after Poland joined the EU, to nearly 12 thousand two years later in 2007 and subsequently to over 23 thousand in 2015. Births to Romanian-born women are showing a similar trend albeit eight years later – some five thousand in 2013 to nearly nine thousand in 2015.

The number of births to Pakistani-born women remains high, averaging over 17 thousand births per year between 2001 and 2015. Births to these women rose during the 2000s peaking in 2012 at over 19 thousand before declining in more recent years to levels seen in the mid-2000s.

Further analysis of births to non-UK born mothers can be found in GLA Update 11-2015:
https://data.london.gov.uk/dataset/births-by-parents--country-of-birth--2014

Figure 19: Top countries of birth of non-UK born mothers, England & Wales, 2001 to 2015[8]

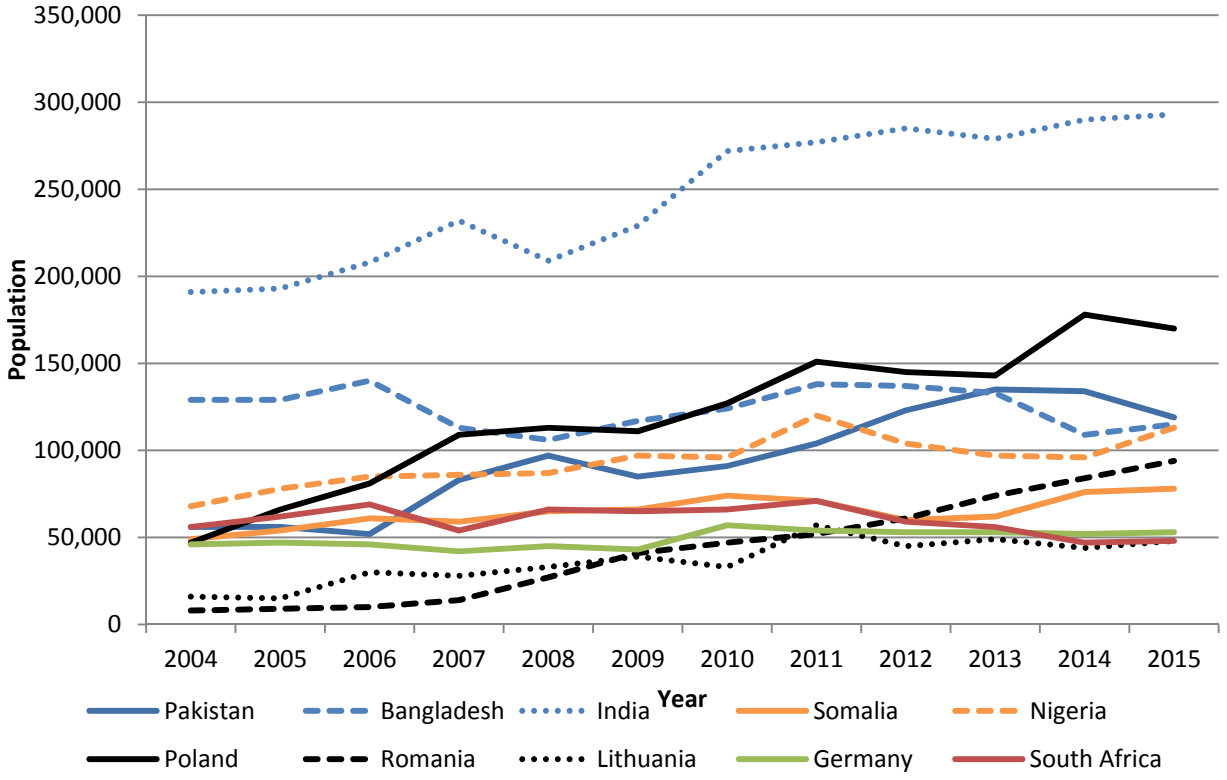


Source: ONS parents' country of birth estimates

Figure 20 shows the population in London by country of birth based on the top ten countries of birth of non-UK born mothers. The trends seen in the population are, as expected, reflected in the patterns seen in births to women born in these countries.

[8] 2014 value for South Africa not provided as this country was not in the top ten that year. The figure shown has been calculated by taking an average of the number of births to women born in South Africa in 2013 and 2015.
No data is available for Poland, Romania or Lithuania prior to that shown as ONS only publish data if the country features in the top ten that year.

Figure 20: Population by country of birth, London, 2004 to 2015



Source: ONS country of birth estimates

Fertility rates of migrants to London

Fertility rates vary greatly between countries and regions of the world. The following section considers the influence of the country of origin of migrants on their propensity to have children.

Table 4 gives the TFR for women from the top countries of birth of non-UK born mothers for those living in England & Wales compared to those living in their home country. From this it can be seen that for women born in a European country, the TFR is higher for those who live in England & Wales compared to those living back in their home country, i.e. Polish women resident in England & Wales have a TFR of 2.13 compared to those back in Poland whose TFR is only 1.33. The same is the case for Romanian women – a TFR of 2.93 vs 1.47.

The opposite however is the case for women from Africa, namely Nigeria and Somalia. These women have a considerably higher TFR back in their home country. With the exception of Bangladesh, the TFR for women from Asian countries (Pakistan and India) is similar in both England & Wales and their home country. For Bangladeshi women however, the TFR is higher in England & Wales – a TFR of 3.25 vs 2.29.

This indicates that the fertility characteristics of women may vary based on whether they are resident in their home country or have migrated overseas. Research by Wilson (2015)[9] considers this further alongside migrant fertility convergence.

[9] Wilson, B. (2015). Origin, destination and convergence: Understanding the fertility of international migrants and their descendants *PhD thesis, The London School of Economics and Political Science (LSE)*. Available at http://etheses.lse.ac.uk/3238/1/Wilson_Origin_destination_and_convergence.pdf

TFRs may not always be the most appropriate measurement of new migrant fertility because in some instances migration may act as a trigger for fertility meaning that women may delay childbearing until they have migrated and are established in the UK. This can give rise to an effect known as 'tempo distortion', which can lead to artificially high TFRs being measured for some migrant groups.

Research by Waller (2014)[10] on the fertility of Polish-born women and Robards and Berrington (2015)[11] establishes that Pakistani- and Bangladeshi-born women who tend to migrate to England & Wales largely for family reasons have higher childbearing in the years following their arrival which then falls with time (although still remains at higher levels than for women from other countries). For Polish- and Indian-born women who often migrate for employment or to study, childbearing is often low, not rising until a few years after arrival. The age at which a woman migrates will also influence their childbearing and as a result their fertility.

Table 4: TFR, select countries, 2011

Country of birth/ Home country	Non-UK born women by country of birth living in England & Wales	Women living in their home country regardless of country of birth
UK	N/A	1.82
Poland	2.13	1.33
Pakistan	3.82	3.80
India	2.35	2.56
Romania	2.93	1.47
Bangladesh	3.25	2.29
Nigeria	3.32	5.80
Lithuania	2.29	1.55
Germany	1.74	1.36
Somalia	4.19	6.77
South Africa	1.79	2.44

Source: ONS Birth Summary Tables; ONS Parents' country of birth estimates[12]; World Bank[13]

[10] Waller, L. (2014). Is the fertility of Polish women higher in the UK than in Poland? Available at: http://www.openpop.org/?p=761
[11] Robards, J. and Berrington, A. (2015). The fertility of recent migrants to England and Wales: interrelationships between migration and birth timing ESRC Centre for Population Change Working Paper 65
[12] The TFR for non-UK born women by country of birth living in England & Wales is derived from mothers' self-reported country of birth in the 2011 Census returns and in birth registrations.
[13] The World Bank collates data from (1) United Nations Population Division. World Population Prospects, (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Report (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme.

Affordability

The rise in the number of births in Outer London and the decline in the number of births in Inner London could be linked to the affordability of housing, in particular family housing. If affordability falls in Inner London relative to surrounding areas, it may be that more people move to Outer London or even out of London. Figure 21 shows the ratio of house prices to median earnings[14] over time for London and its two neighbouring regions. All three areas have seen their ratios rise between 1999 and 2015 although in recent years this increase has been much greater in London, reaching 11.3 in 2015. The fall in affordability in London since 2011 correlates with a fall in births in the city, though this alone is insufficient to conclude that it is the cause.

Figure 21: Ratio of house prices to median earnings, select regions, 1999 to 2015

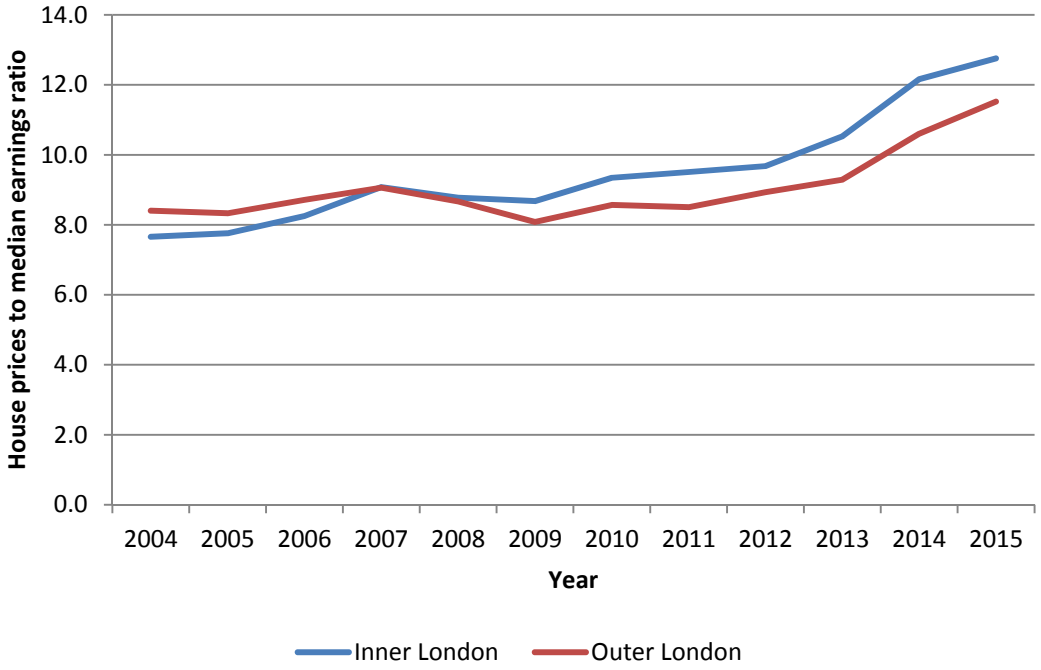
Source: GLA calculated from ONS Annual Survey of Hours and Earnings (ASHE), and Land Registry data

Comparing the ratio of house prices to mean earnings for Inner and Outer London shows that from 2008 onwards Inner London has had a higher ratio than Outer London and that this difference has increased compared to the late 2000s. By 2015, the ratio in Inner London was 12.8 compared to 11.5 in Outer London.

It is not possible to split the data by type of housing but overall suggests that over the period shown, Outer London has become more affordable relative to Inner London. This could partly explain the increase in births seen in Outer London in recent years (see Figure 2).

[14] Only full-time workers are included and those who are self-employed are excluded.

Figure 22: Ratio of house prices to median earnings, Inner and Outer London, 2004 to 2015



Source: GLA calculated from ONS Annual Survey of Hours and Earnings (ASHE), and Land Registry data

The ratio of house prices to median earnings varies by borough with the Inner London boroughs of Kensington & Chelsea, Westminster, Hammersmith & Fulham, and Camden having the highest ratios (Figure 23). Kensington & Chelsea has a ratio of 38.1, considerably higher than the next closest borough of Westminster with 23.4.

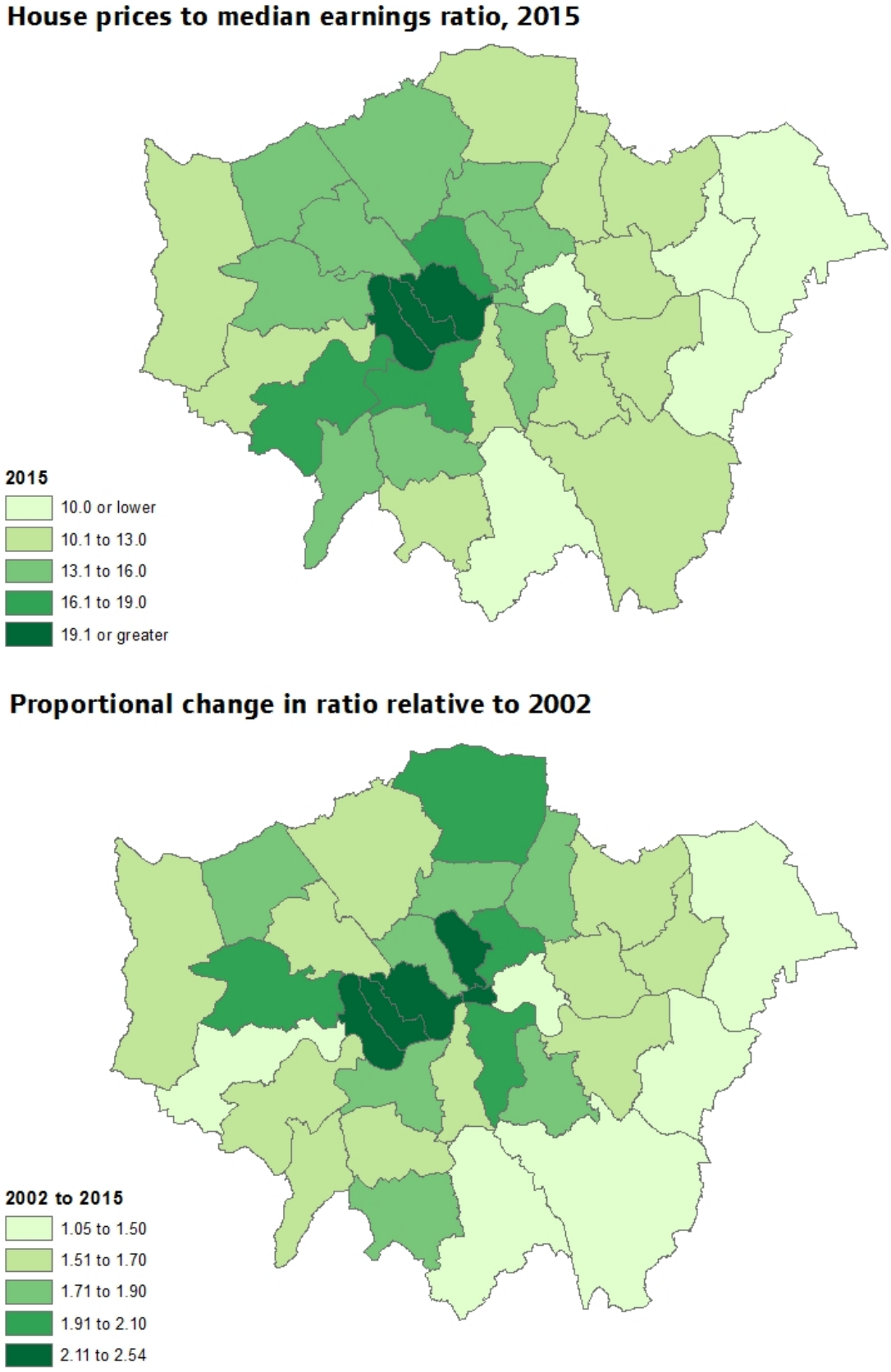
The lowest ratio of house prices to median earnings of 7.4 is found in the Outer London borough of Barking & Dagenham. With the exception of Tower Hamlets which has a ratio of 8.9, the other three boroughs with a ratio less than ten are all in Outer London (Bexley, Havering, and Croydon).

The boroughs with the highest ratio of house prices to median earnings can be considered the least affordable and are also the boroughs which between 2010 and 2015 saw their number of annual births fall. For example, births in Kensington & Chelsea fell by 422 whereas Hammersmith & Fulham saw a drop of 465. Both Westminster and Camden saw their births fall by over 300 over the period.

The opposite is the case in boroughs which have the lowest ratio of house prices to median earnings. These boroughs have seen their number of births rise perhaps due to these areas being more affordable and therefore attractive to those looking to raise a family. Of these boroughs, the number of births in Havering rose the most; up 411 births between 2010 and 2015, followed by Croydon which saw 378 more births over the same period.

Redbridge however is an anomaly as it saw the greatest rise in the number of births between 2010 and 2015 – an increase of 456, although ranks 22nd in terms of its affordability.

Figure 23: Geographical distribution of house prices to median earnings ratio, borough



Source: GLA calculated from ONS Annual Survey of Hours and Earnings (ASHE), and Land Registry data

How do births affect demand for school reception places?

The rise in the number of births in London over the previous decade in turn led to an increase in demand for places in London schools. The relationship between births and demand for places is of importance for school place planners as the number of births in an area provides an indication as to the likely number of children that will need a school place at reception level (age 4).

The relationship between the two will vary across boroughs as a result of take up of independent or alternative education as well as migration flows in and out of a borough. Cross border mobility also affects the relationship as some children will attend school in a borough different to the one in which their live.

Table 5 gives the number of children on the reception roll at state-funded schools based on the annual school capacity assessment returns to the Department for Education (DfE) as well as the number of births in the borough five years previously[15]. This allows the proportion of births translating to children on reception roll in local schools to be calculated.

For the most recent data available for London as a whole, the ratio of births in academic year 2009/10 to children on state-funded reception roll in academic year 2014/15 was 0.793.

Figure 24 shows the variation in this proportion across all London boroughs from 0.379 in the City of London to 1.095 in Havering.

Two boroughs (Havering and Bexley) have a proportion that is greater than one indicating that there are more children on roll in reception than there were births in the borough five years prior. This will be the result of migration into these boroughs from elsewhere. It is likely that this is also internal migration, i.e. moves to these boroughs from elsewhere in the UK, most probably from elsewhere in London. It should also be noted that children will not necessarily attend school in the borough in which they reside.

Analysis carried out by the GLA visualises internal moves of school-aged children to highlight which boroughs attract children and from where: https://data.london.gov.uk/dataset/internal-migration-flows-school-age-children-visualisation

The proportion in the City of London will be low not only because of the small geographical size of the authority meaning that pupils will be close to other schools in neighbouring boroughs but also because there is only one state-funded primary school.

Low proportions of births translating to children on reception roll in boroughs such as Kensington & Chelsea (0.452), Westminster (0.512) and Hackney (0.623) result from both migration of young children out of the borough prior to starting school (with low in-migration) as well as a higher proportion of independent school take-up[16].

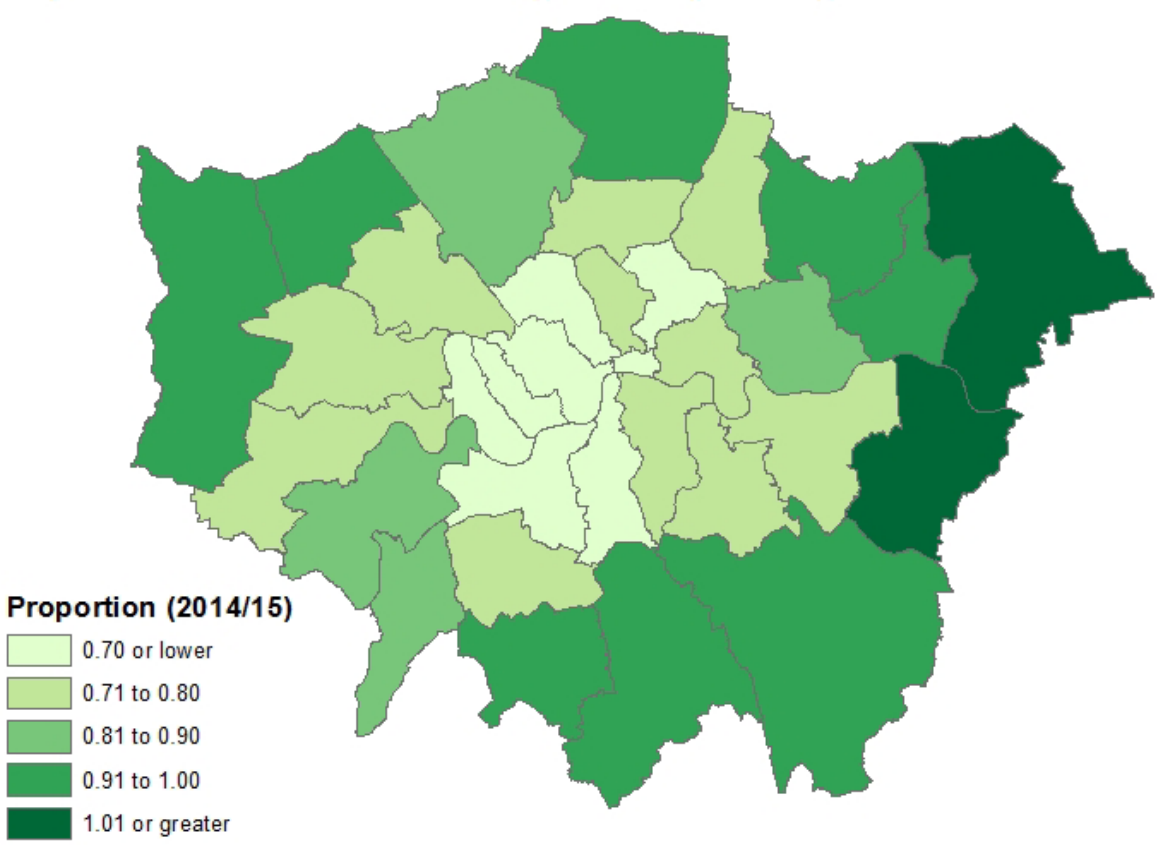
[15] Births shown are for academic year 2009/10 calculated by combining ONS mid-year birth estimates for mid-year 2010 and mid-year 2011.
[16] GLA Update 04-2013 analysed cross border mobility of primary school age children: https://data.london.gov.uk/dataset/cross-border-mobility-primary-school-age-children-london

Table 5: Births and reception roll, borough

	Local reception roll	Births	Proportion
	2014/15	2009/10	2014/15
Barking & Dagenham	3,580	3,653	0.980
Barnet	4,335	5,372	0.807
Bexley	3,277	3,024	1.084
Brent	3,871	5,101	0.759
Bromley	4,056	4,140	0.980
Camden	1,648	3,095	0.533
City of London	29	77	0.379
Croydon	4,902	5,389	0.910
Ealing	4,614	5,768	0.800
Enfield	4,685	4,966	0.943
Greenwich	3,612	4,552	0.793
Hackney	2,846	4,571	0.623
Hammersmith & Fulham	1,511	2,826	0.535
Haringey	3,220	4,347	0.741
Harrow	3,254	3,361	0.968
Havering	3,008	2,748	1.095
Hillingdon	4,062	4,183	0.971
Hounslow	3,408	4,387	0.777
Islington	2,115	3,002	0.705
Kensington & Chelsea	1,022	2,260	0.452
Kingston upon Thames	1,977	2,281	0.867
Lambeth	3,221	4,921	0.655
Lewisham	3,865	4,982	0.776
Merton	2,627	3,485	0.754
Newham	4,948	6,163	0.803
Redbridge	4,152	4,377	0.949
Richmond upon Thames	2,601	2,969	0.876
Southwark	3,468	4,927	0.704
Sutton	2,521	2,699	0.934
Tower Hamlets	3,443	4,493	0.766
Waltham Forest	3,684	4,666	0.789
Wandsworth	2,991	5,427	0.551
Westminster	1,545	3,017	0.512
London	104,098	131,227	0.793

Source: DfE School Capacity Return Tables; ONS mid-year estimate components of change

Figure 24: Proportion of births translating to reception age children, borough, 2014/15



Source: DfE School Capacity Return Tables; ONS mid-year estimate components of change

As can be seen in Figure 24 a clear geographical pattern emerges with regards to the ratio of births to children on roll in reception. Inner London boroughs have much lower proportions largely due to migration of young children from these boroughs prior to starting school as well as in some areas an affluent population resulting in higher take-up of independent school places than in other areas. The proportion rises with distance from Central London with Outer London boroughs, particularly those in the East having much higher proportions of births translating to children on roll at age 4. These boroughs have higher levels of in-migration of children combined with fewer children leaving and in some boroughs, a much lower take-up of independent or alternative education. Consequently a higher proportion of births translate to children on roll.

Appendix – City Regions

The city regions used in this Update for comparison to London are based on those outlined by ONS in the Appendix of their report 'Population dynamics of UK city regions since mid-2011'. They consist of:

West Midlands
The area of the West Midlands Combined Authority which covers the area of the West Midlands metropolitan county. This includes the local authority areas of Birmingham, Coventry, Dudley, Sandwell, Solihull, Walsall, and Wolverhampton.

Greater Manchester
The area of the Greater Manchester Combined Authority which covers the area of the Greater Manchester metropolitan county. This includes the local authority areas of Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford, and Wigan.

West Yorkshire
The area of the West Yorkshire metropolitan county, including the local authority areas of Bradford, Calderdale, Kirklees, Leeds, and Wakefield.

North East
The area of the North East Combined Authority, including the local authority areas of County Durham, Gateshead, Newcastle upon Tyne, North Tyneside, Northumberland, South Tyneside, and Sunderland.

Liverpool
The area of the Liverpool City Region Combined Authority, including the local authority areas of Halton, Knowsley, Liverpool, St. Helens, Sefton, and Wirral.

Sheffield
The area of the South Yorkshire metropolitan county, including the local authority areas of Barnsley, Doncaster, Rotherham, and Sheffield.

Bristol
The area of the West of England Combined Authority, including the local authority areas of Bath and North East Somerset, City of Bristol, North Somerset, and South Gloucestershire.

For more information please contact Demography, GLA Intelligence
Greater London Authority, City Hall, The Queen's Walk, More London, London SE1 2AA
Tel: 020 7983 4889 e-mail: demography@london.gov.uk