

Article

# Understanding different migration data sources, a workplan: February 2019

Examining the issues with comparing the UK's various migration data sources, and our plans to explain the differences between these sources.

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# 1 . Introduction

Office for National Statistics (ONS) is transforming the way we produce population and migration statistics, to better meet the needs of our users. Working in partnership across the Government Statistical Service (GSS), we are progressing a programme of work to put administrative data<sup>1</sup> at the core of our evidence on international migration (UK) and on population (England and Wales) by 2020.

This ambition is based on our current plans for acquiring access to the further administrative data sources we need to deliver this. Our work programme is also an integral part of the work over the next four years to make a recommendation to the UK government in 2023 about the future of population and housing censuses in England and Wales.

We have long acknowledged that the International Passenger Survey (IPS) has been stretched beyond its original purpose and that we need to consider all available sources to fully understand international migration. Users have also told us that they want to have a coherent understanding of what different data sources tell us and how they compare, including other administrative data and survey sources across government.

In our [research engagement report](#) published on 30 January 2019 we indicated that we will carry out further work to compare what existing survey sources tell us about population and migration, including the IPS, the Labour Force Survey (LFS) and the Annual Population Survey (APS).

This note sets out some comparisons between the sources that highlight the issues. While they are not directly comparable for a number of reasons, there are differing patterns for EU and non-EU citizens, and the latest LFS data suggest a different trend. This note also sets out the workplan we have put in place to further investigate these differences within the context of our wider transformation plans. This context is important, as our work with administrative sources may reveal insights that help us make sense of the survey data.

## 2 . Background

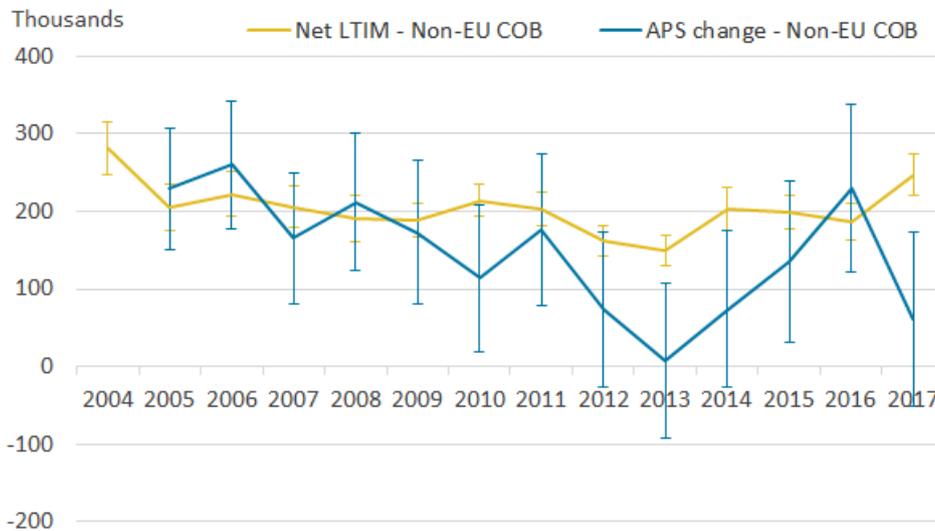
In December 2016, we published an article explaining the [definitional differences](#) between Long-Term International Migration (LTIM) flows produced using the International Passenger Survey (IPS) and the change in the estimates of the non-UK born population measured by the Annual Population Survey (APS).

In theory, the change in the number of non-UK born people living in the UK from year-to-year should be close to the net flow of non-UK born people into the UK. However, the two surveys are designed to measure different things, in different ways, based on different types of data, and neither has complete coverage. These differences are reproduced from our 2016 article in Annex A.

Since we published that article, the IPS, APS and Labour Force Survey (LFS) series appear to have continued to diverge, with the annual changes in APS stocks showing a highly variable pattern. This can be seen in Figures 1 and 2, which show a comparison of LTIM net migration estimates and annual changes in APS estimates of the population, non-EU born and the EU born populations.

**Figure 1: Comparison of Long-Term International Migration net migration estimates and annual differences in Annual Population Survey estimates of the population, non-EU born population**

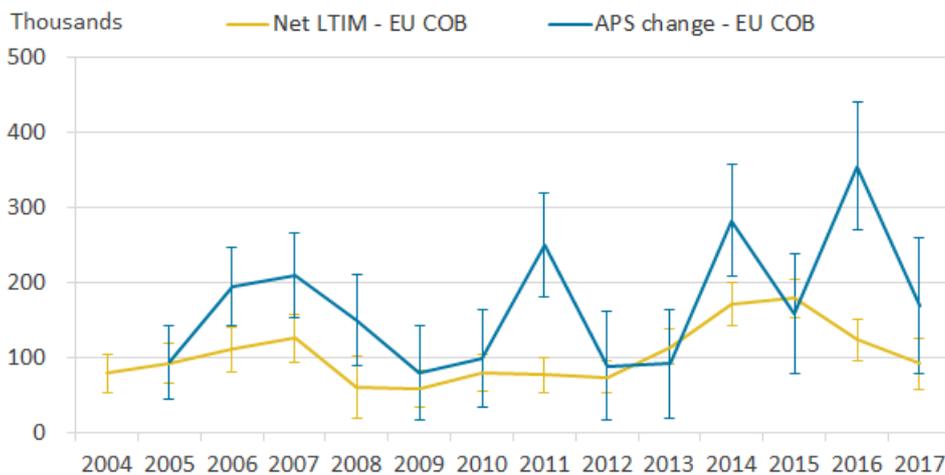
UK, 2004 to 2017



Source: Office for National Statistics - International Passenger Survey, Annual Population Survey

**Figure 2: Comparison of Long-Term International Migration net migration estimates and annual differences in Annual Population Survey estimates of the population, EU-born population**

UK, 2004 to 2017



Source: Office for National Statistics - International Passenger Survey, Annual Population Survey

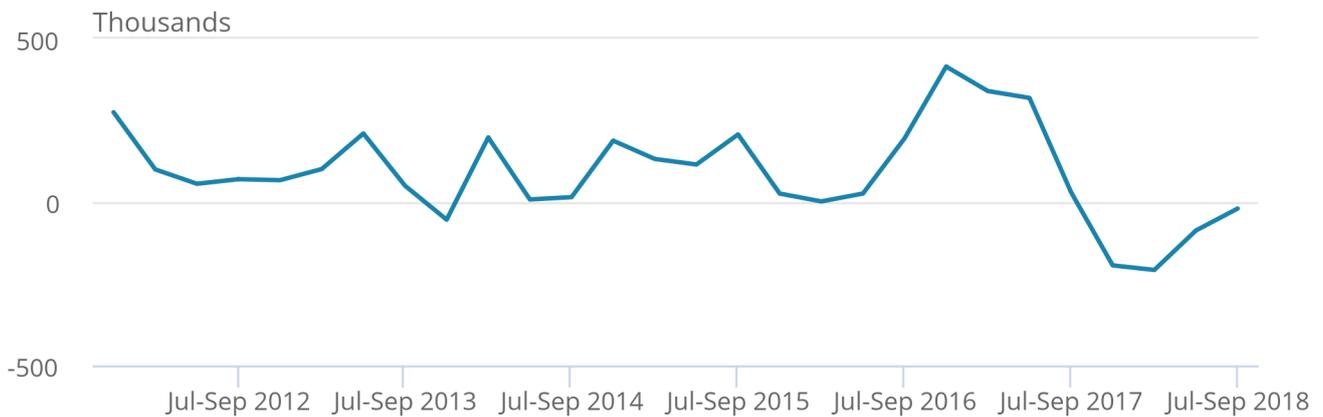
In addition, the latest LFS data show that the non-UK born population could be falling (Figures 3 and 4).

**Figure 3: Annual differences in Labour Force Survey estimates of the population, non-EU born population**

UK, between October to December 2011 and July to September 2018

Figure 3: Annual differences in Labour Force Survey estimates of the population, non-EU born population

UK, between October to December 2011 and July to September 2018



Source: Office for National Statistics - Labour Force Survey

Notes:

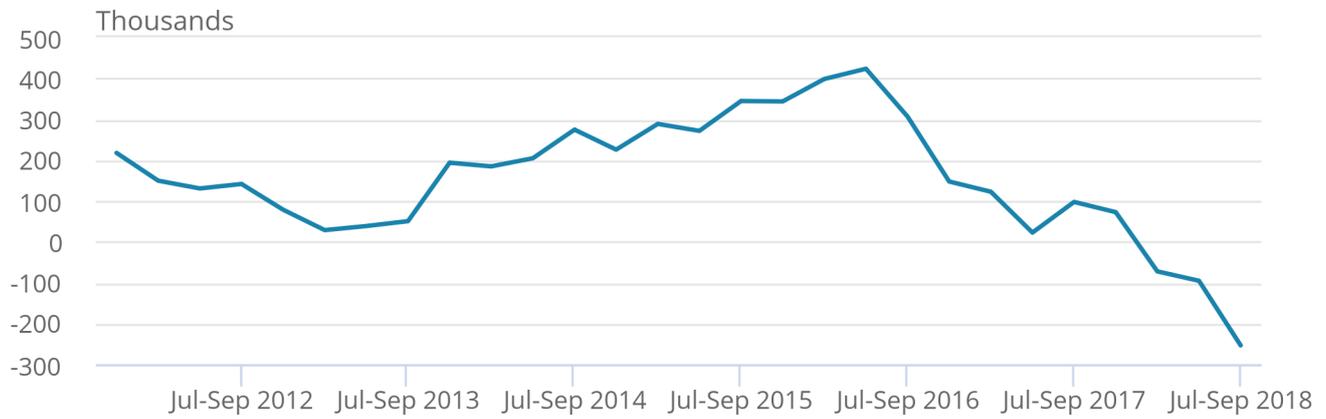
1. Labour Force Survey estimates are based on 2017 weights.

**Figure 4: Annual differences in Labour Force Survey estimates of the population, EU-born population**

UK, between October to December 2011 and July to September 2018

**Figure 4: Annual differences in Labour Force Survey estimates of the population, EU-born population**

UK, between October to December 2011 and July to September 2018



Source: Office for National Statistics - Labour Force Survey

Notes:

1. Labour Force Survey estimates are based on 2017 weights.

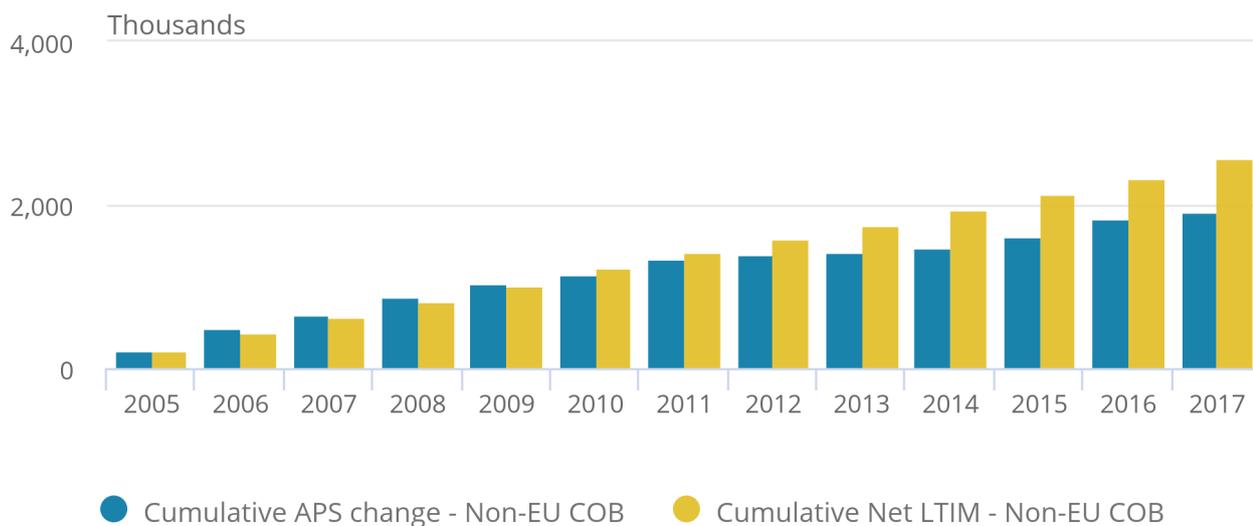
When the cumulative effect of the difference between LTIM net migration and the annual differences in APS estimates of the population is explored we can see in Figures 5 and 6 how the EU series has been diverging since 2005, whereas the non-EU series only began to diverge after 2011.

**Figure 5: Comparison of cumulative LTIM net migration estimates and annual differences in APS estimates of the population, non-EU born population**

UK, 2005 to 2017

Figure 5: Comparison of cumulative LTIM net migration estimates and annual differences in APS estimates of the population, non-EU born population

UK, 2005 to 2017



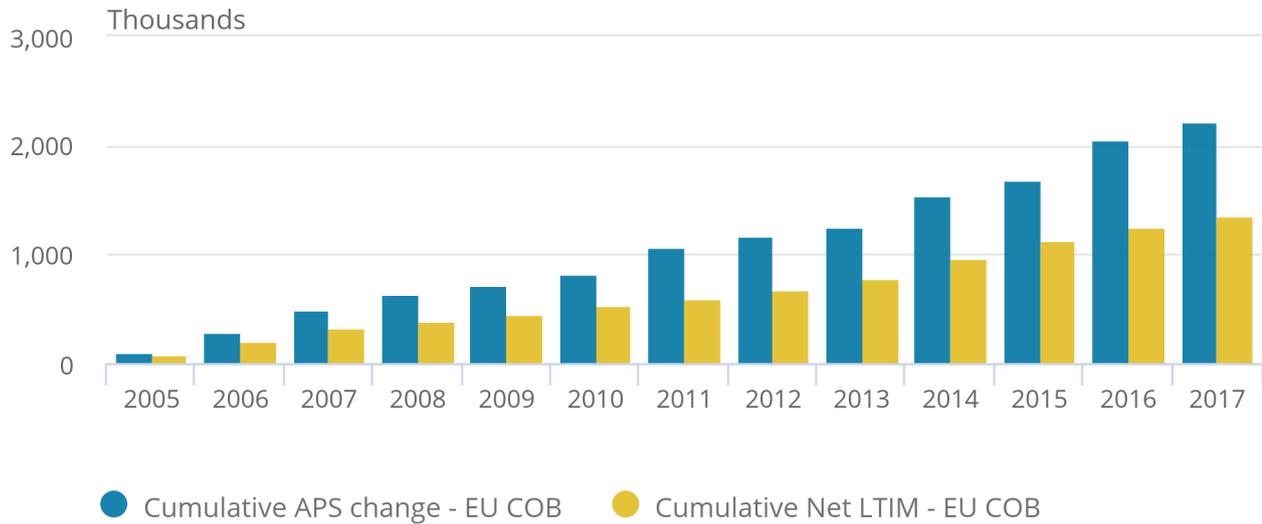
Source: Office for National Statistics - International Passenger Survey, Annual Population Survey

**Figure 6: Comparison of cumulative LTIM net migration estimates and annual differences in APS estimates of the population, EU-born population**

UK, 2005 to 2017

Figure 6: Comparison of cumulative LTIM net migration estimates and annual differences in APS estimates of the population, EU-born population

UK, 2005 to 2017



Source: Office for National Statistics - International Passenger Survey, Annual Population Survey

### 3 . Workplan

The workplan set out in this section is designed to build on the work published in December 2016, bringing the analysis up-to-date. The overall aim is to explore what is going on in each of the surveys to understand the differing patterns seen in the data and to identify potential areas where the data sources may be strengthened. This could be achieved either directly in the survey itself, or by bringing a range of sources together to strengthen the outputs.

One area that we are keen to investigate is how outliers may have impacted on the survey estimates and the extent to which this may have caused some of the observed volatility.

We intend to hold a workshop with migration experts later in the spring to explore our initial findings and to challenge assumptions about the different sources that may influence interpretation or conclusions based on these.

Action	Intended outcome	Timing
1 Explore the impact of survey methodology changes, changing or differential response rates, attrition, clustering and outliers on all three surveys.	Identification of any survey- specific anomalies having an impact with a view to identifying potential improvements. For example, if there is evidence of outliers identifying how to treat these within the survey estimates.	Initial view spring 2019 Further update summer 2019
2 Investigate census non-response link study findings to understand whether any issues were found for country of birth. Explore whether we have any more evidence that could be used to bring this up-to-date.	Identification of any bias resulting in country of birth variable on the Labour Force Survey (LFS) or Annual Population Survey (APS) due to increased levels of non-response.	Initial view spring 2019 Further update summer 2019
3 Working with Home Office, explore policy changes that may have coincided with the increased volatility in survey estimates.	Identification of whether these policy changes may have impacted on the survey.	spring 2019
4 Explore and quantify where possible the impact of definitional differences between the sources.	Clarity on the extent to which the definitional differences between the surveys contribute to the observed differences.	spring 2019
5 Explore whether specific groups are driving the divergence. This will cover country of birth, reason for migration, age and sex. It will also explore specific cohorts of migrants to understand whether there are any unusual patterns.	Identification of specific groups for further investigation within the surveys with a view to identifying potential improvements or further avenues for investigation.	spring 2019
6 Use the year of arrival variable on the LFS and APS to make comparisons between inflow estimates from the different sources for different groups.	Identification of whether there are differences in inflows between the sources for specific groups with a view to identifying potential improvements.	summer 2019
7 Investigate the extent to which the APS and LFS sample short-term migrants, including those showing circular patterns of movement, and how these migrants may contribute to the observed differences.	An understanding of the extent to which the LFS and APS include short-term migrants, where these impact most and how they may be driving the increased volatility in changes in the population by country of birth over time.	summer 2019
8 Explore the International Passenger Survey (IPS) evaluation of imbalance for travel and tourism estimates to identify what impact this may have on migration estimates.	Identification of whether the survey processes that cause the imbalance in travel and tourism estimates also impact on migration with a view to developing a method to adjust for these.	summer 2019
9 Explore available administrative data that can be used to triangulate estimates from the IPS, APS and LFS.	Further evidence for specific groups that may also contribute to providing potential improvements.	summer 2019

## 4 . Next steps

We intend to publish an initial update on the progress of this work in spring this year, with a fuller assessment later in the summer.

Please send any feedback on this workplan to [pop.info@ons.gov.uk](mailto:pop.info@ons.gov.uk)

Please indicate in your response if you do not wish for the Centre for International Migration (ONS) to keep your details. Your personal information will be stored and processed securely as outlined in the Privacy information for our stakeholders document.

## **5 . Annex A: Differences between sources of stocks and flows data**

Annex A: Differences between sources of stocks and flows data

## Stocks data derived from the Annual Population Survey (APS)

## Flows data derived from Long-Term International Migration (LTIM) and the International Passenger Survey (IPS)

Sampling frame	<p>Represents all private households.</p> <p>Excludes most communal establishments.</p> <p>Has a lower response rate than IPS (more detail is available) and it is not clear whether recent declining rates affect the fitness for purpose of the APS for measuring migration, especially at disaggregated levels where it could be more important to know the demographics of the non-response.</p> <p>Estimates cover the UK. Lowest geography is local authority by single country.</p> <p>APS primarily covers all those living in households (where the address is their main residence) within a given year, whereas LTIM covers all people entering and exiting the UK within that year who intend to stay for a year or more. This means the APS does not cover many people in communal establishments<sup>1</sup> and LTIM does not cover short-term migrants.</p>	<p>Samples passengers as they arrive in or leave the UK through ports regardless of residence type.</p> <p>Adjustments made for those known to be missed, for example, asylum seekers.</p> <p>Has a smaller sample size but also smaller confidence intervals than the change in the APS estimates.</p> <p>Has high response rates with a sampling design intended to be robust in terms of quality versus response.</p> <p>Estimates cover the UK. Lowest geography is region by single country.</p>
Timing of the survey	<p>APS estimates are averages over a whole year.</p>	<p>Single, point-in-time interview.</p> <p>Collected on an ongoing basis throughout the year, with estimates produced quarterly.</p> <p>The IPS (and LTIM) is made up of one-off interviews that occur on an ongoing basis throughout the year compiled to estimate the total flow in each year. Although LFS and APS data on migration are used as stock estimates, the methodology means that each estimate is measured over an extended period of time (three months in the case of the LFS and a year in the case of the APS) and so is not a true point-in-time stock estimate.</p>
Definition of a migrant	<p>A migrant is defined as someone whose main residence is in the UK at the time of interview and their country of birth is non-UK or whose nationality is non-British.</p> <p>Length of time in the UK is currently not used to define a migrant in the APS and so long-term and some short-term migrants can be included in the sample (though would be weighted to population estimates, which exclude short-term migrants).</p> <p>The APS classifies a migrant by their self-reported country of birth or alternatively by their nationality. Meanwhile the IPS and LTIM follow the UN definition that a move to a new country for a period of at least 12 months is classed as long-term migration and uses the citizenship of the passport held. Consequently LTIM includes only long-term migrants and includes long-term migrants who are British citizens, or who were born in the UK.</p>	<p>The UN definition is used to define a migrant: "a person who moves to a country other than that of his or her usual residence for a period of at least a year (12 months), so that the country of destination effectively becomes his or her new country of usual residence". Therefore anyone staying or going for less than 12 months is excluded from LTIM.</p>
Nationality	<p>As stated by respondent. If respondent has dual nationality, the first one given is recorded in the survey.</p> <p>The APS defines migrants based on their nationality or country of birth. While a person's country of birth is normally clearly defined and will not change, a person's nationality may change and is self-reported once on first contact. In the IPS a person's citizenship is taken from the passport shown at the time of the interview.</p>	<p>Citizenship is taken from the passport shown at the time of the interview, or (if this is not available) taken as stated by respondent.</p>

Actual versus intended migration	<p>The APS asks for the date of arrival in the UK for non-UK born migrants. This can be used to calculate the actual length of time the respondent has lived in the UK.</p> <p>However, no information is provided regarding how long they may remain in the UK making it difficult to identify short-term migrants.</p>	<p>The IPS collects information on intended length of stay in or outside the UK. However, LTIM includes some adjustments for migrants whose actual length of stay is different from their original intentions.</p> <p>It is generally possible to differentiate between long-term and short-term migrants.</p>
Asylum seekers	<p>Included if living in a private residence. Those living in communal establishments are excluded.</p> <p>Persons arriving as asylum seekers or as refugees on resettlement schemes are identified and removed from the IPS. However, one of the components of LTIM is an adjustment for asylum seekers and refugees based on Home Office administrative records.</p>	<p>Included. Some asylum seekers could be surveyed by the IPS, but an adjustment is included in LTIM based on Home Office data on asylum seekers.</p>

## Notes

1. This is touched on further in an ONS report highlighting that the LFS may not have been fit for purpose for redistributing migrants at local level. [Back to table](#)