

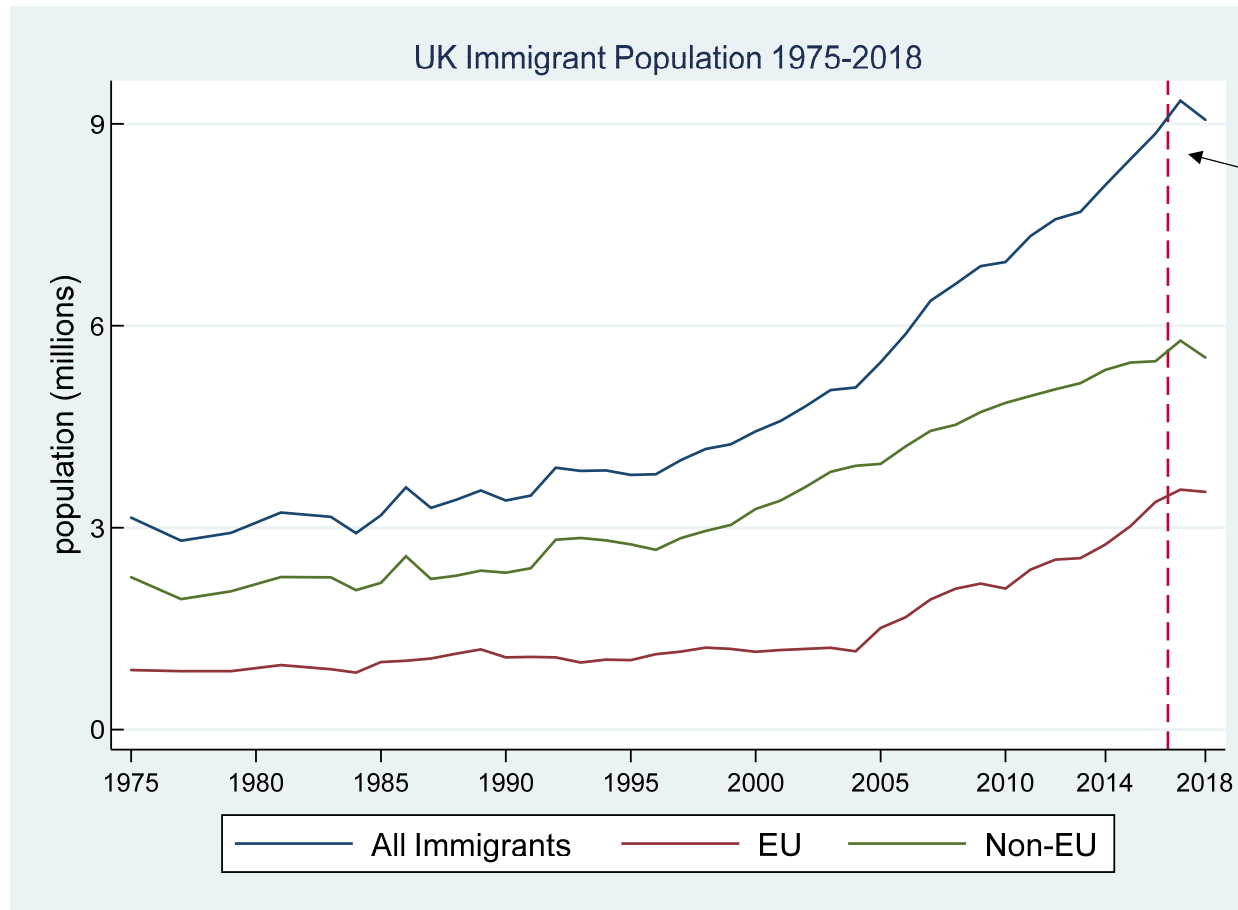
Immigration and the UK Labour Market

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The UK immigrant (country of birth) population has been growing significantly since the mid-1990s according to the LFS
(1 in 5 of working age population born abroad, one in 7 of total population)



LFS suggests stock of immigrants began falling around 2017q2

This has spawned a huge literature in academic circles and in the popular debate about whether immigration has had an effect on the labour market prospects of UK-born individuals

And the consensus (broadly) is that it hasn't affected wages or employment conditions of UK-born workers much either way

References:

- Dustmann, C., T. Frattini and I. Preston (2013) 'The Effect of Immigration along the Distribution of Wages', *Review of Economic Studies* 80: 145-73.
- Lemos S. and Portes, J., (2014), "New Labour? The Effects of Migration from Central and Eastern Europe on Unemployment and Wages in the UK", *The B.E. Journal of Economic Analysis & Policy*, Vol. 14, No. 1, pp. 299-338.
- Manacorda, M., A. Manning and J. Wadsworth (2011) 'The Impact of Immigration on the Structure of Male Wages', *Journal of the European Economic Association* 10: 120-51.
- Nickell, S. and J. Salaheen (2015) 'The Impact of Immigration on Occupational Wages: Evidence from Britain', Bank of England Staff Working paper No. 574

At least we think so

Knowing the number of immigrants living in the UK is something of an inexact science

Since we don't officially count the number of immigrants

And the various survey sources can and do send conflicting signals

Which is not exactly helpful for policy design or academic work

The LFS is the **only “high” frequency** source of UK data on the UK *population* of immigrants

(The decennial Census being the other source
National Insurance numbers only given to 16+)

And as such is the only source with which to base timely academic assessments of the impact of immigration and (hopefully) inform policy

Or with which to simply to count the number of immigrants in the population which may be useful for policy makers

So if the LFS mis-measures immigration then we might be in trouble
(Eg more attenuation bias in estimates of immigration’s effects)

The ONS publishes quarterly estimates of the stock of immigrants (in the labour market) based on the LFS but issued with a warning

<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/ukandnonukpeopleinthelabourmarket/november2018>

“What these statistics should be used for

Use these statistics to understand *the number of UK and non-UK people, by both nationality and country of birth*, who were employed, unemployed and economically inactive in the UK. As well as showing the number of people these statistics also show employment, unemployment and economic inactivity rates for UK and non-UK people by nationality and country of birth.

What these statistics should not be used for, and why

These statistics do not measure stocks or flows of recent migrants to the UK, because they include people resident in the UK for many years (many of whom will now be UK nationals) as well as more recent arrivals. This, along with a range of other factors, means that [net changes in the number of non-UK workers in the UK cannot be directly compared with long-term net migration](#) for non-UK nationals”

Is that too conservative an assessment?

Since the change in any stock is just the net change in flows

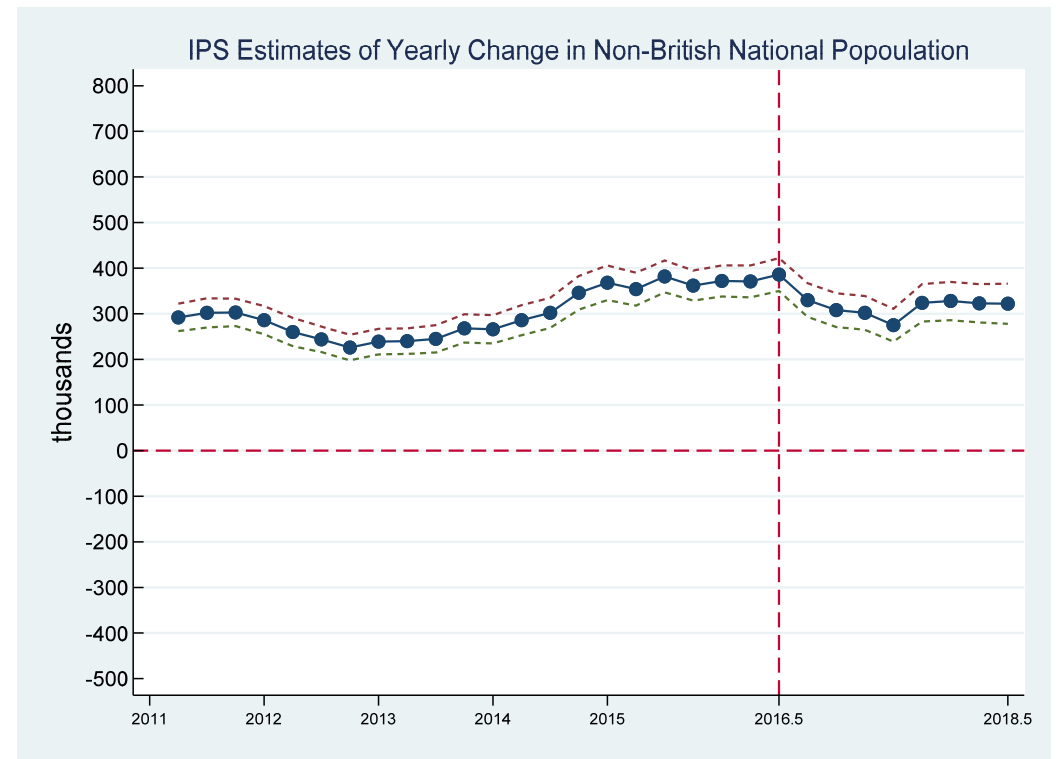
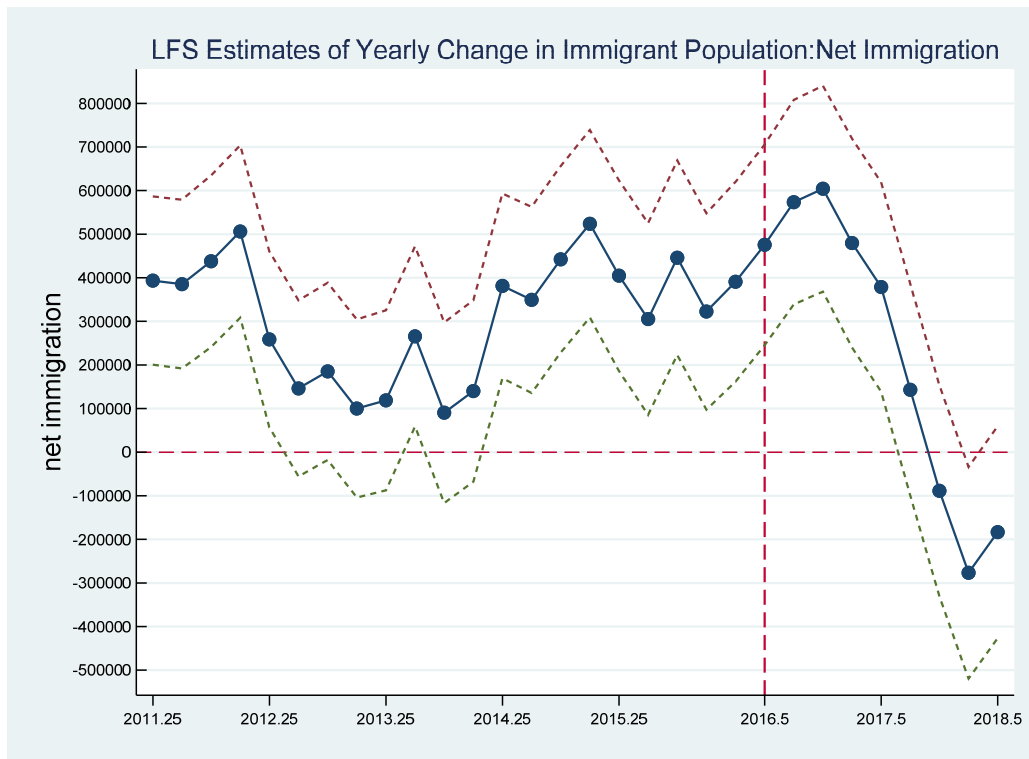
$$\begin{aligned}\Delta\text{stock}_{\text{immigrant}} &= \text{Inflows into UK} - \text{Outflows from UK} \\ &= \text{Net Change in Immigration}\end{aligned}$$

we can in theory compare the estimates of the change in immigrant population in the LFS with the estimate of the immigrant population net change in the IPS

(Can also estimate emigration from the LFS in this way since we have estimates of the net change and inflows, emigration can be calculated as a residual

$$\text{Outflows from UK} = \text{Inflows into UK} - \Delta\text{stock}_{\text{immigrant}}$$

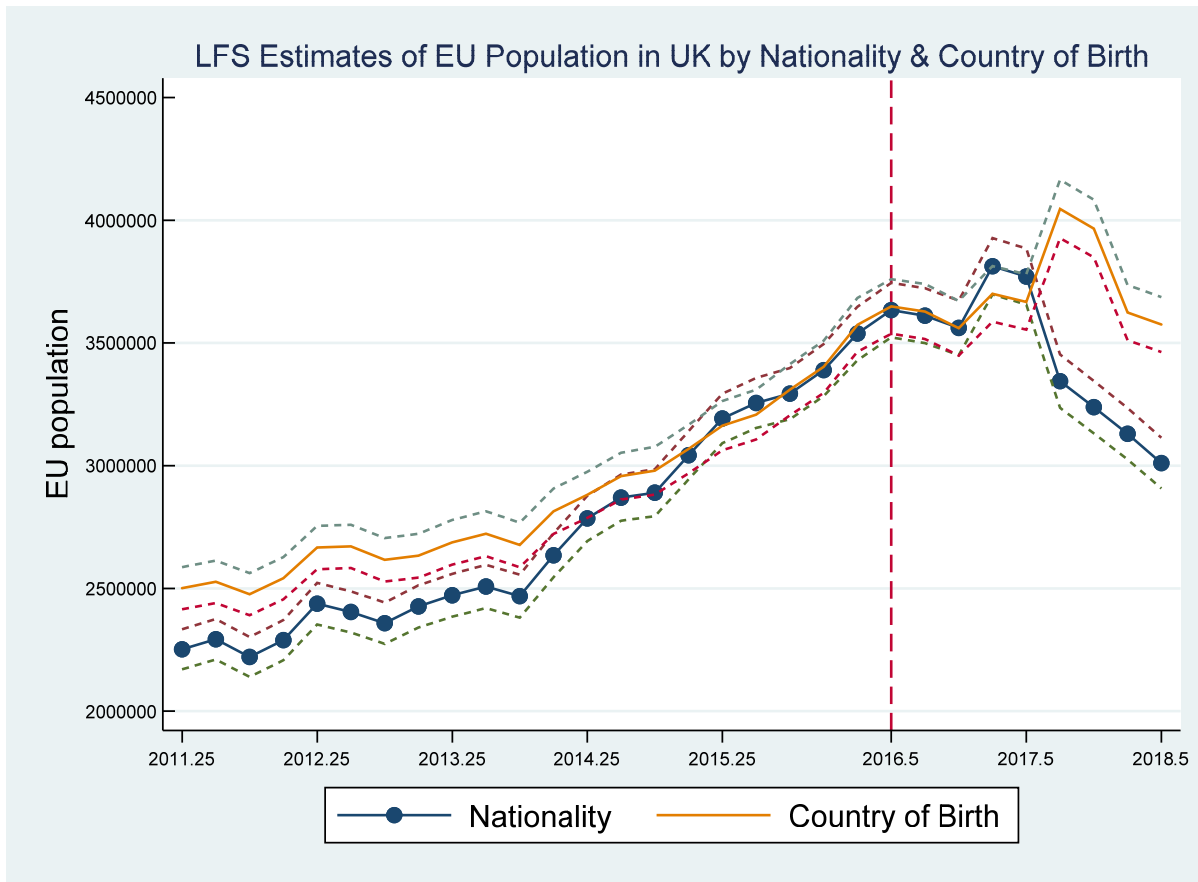
If we do this and compare with the estimates coming out of the IPS then...



Prior to Brexit LFS and IPS estimates not too far apart –within confidence intervals -despite definitions of an immigrant in the graphs above being

- a) LFS: country of birth b) IPS: nationality and 12 months expected stay

After Brexit. Hmmmm. Last 3 quarters LFS shows net change is negative (so the immigrant population is falling). IPS still large and positive



It is right to say that harder to do this comparison using “non-UK nationals” in LFS since nationality is indeed endogenous (to things like the Brexit vote)

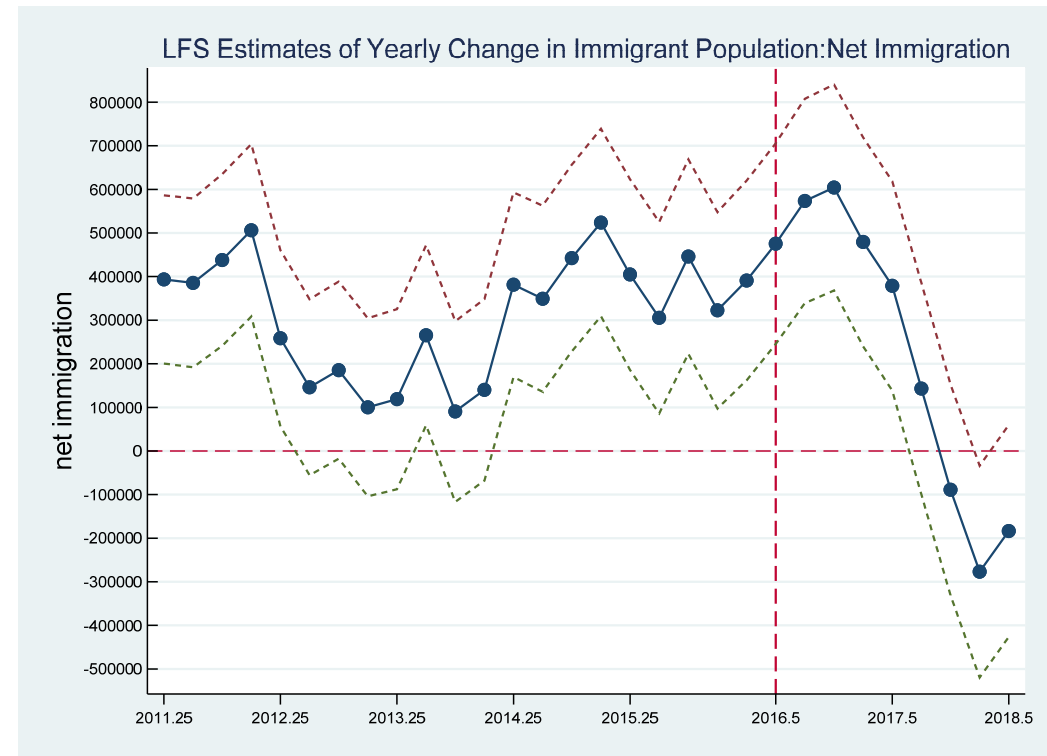
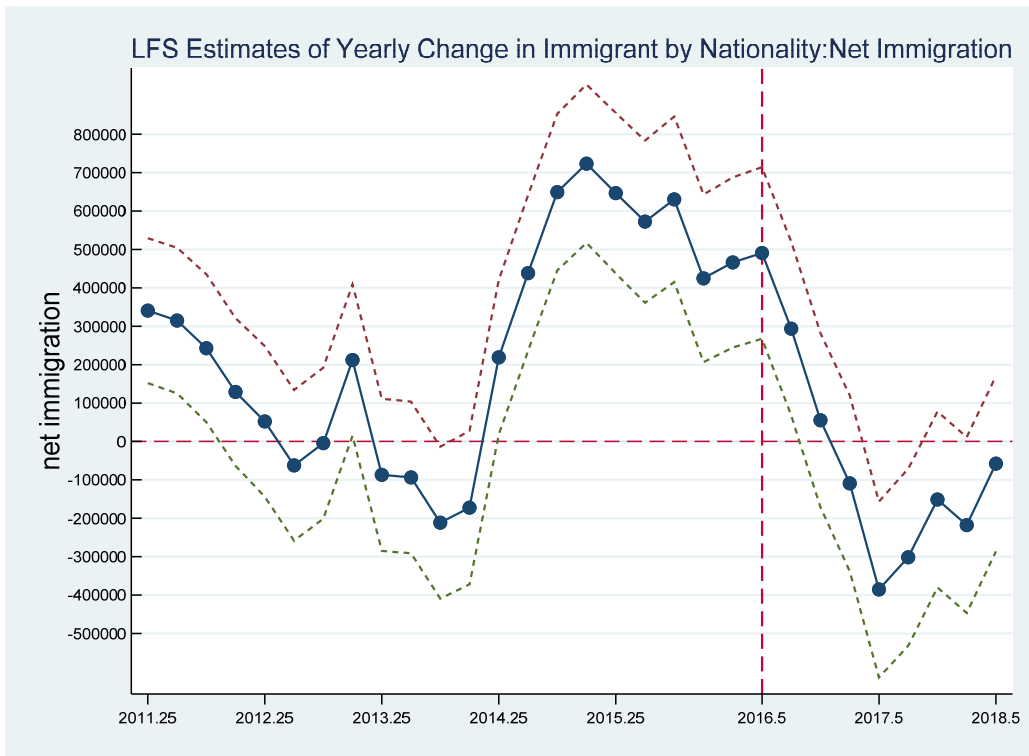
So people can change nationality without entering the country and so it is no longer the case that

$$\Delta \text{stock}_{\text{non-uk nationals}} =$$

$$\text{Inflows}_{\text{non-uk nationals}} - \text{Outflows}_{\text{non-uk nationals}}$$

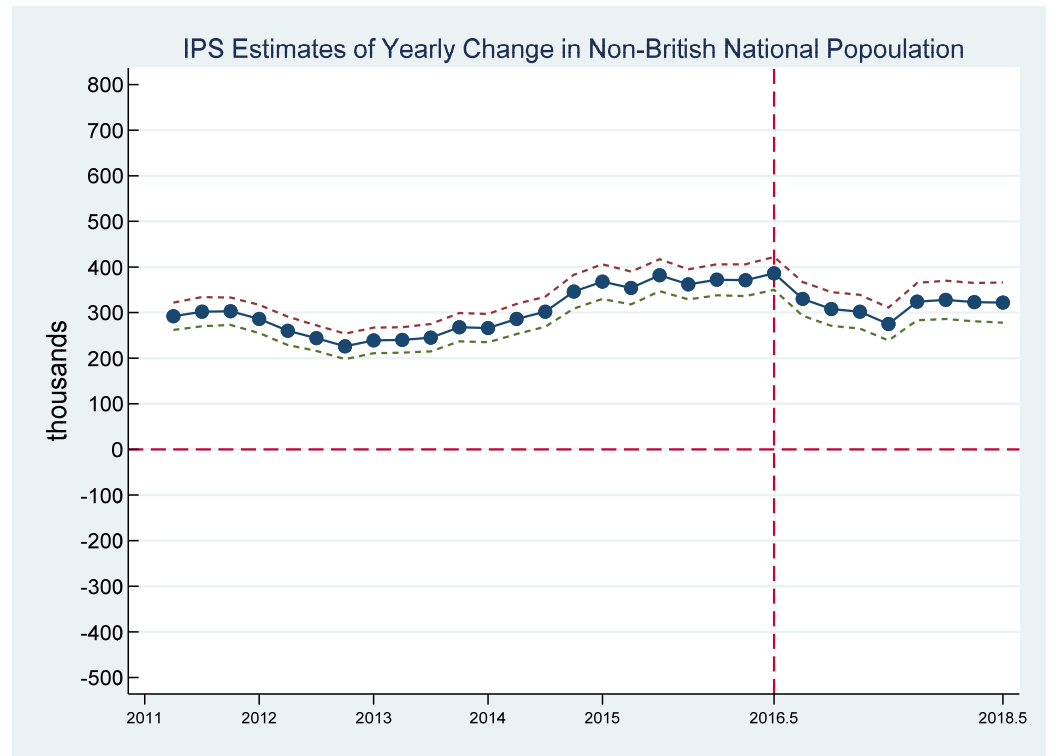
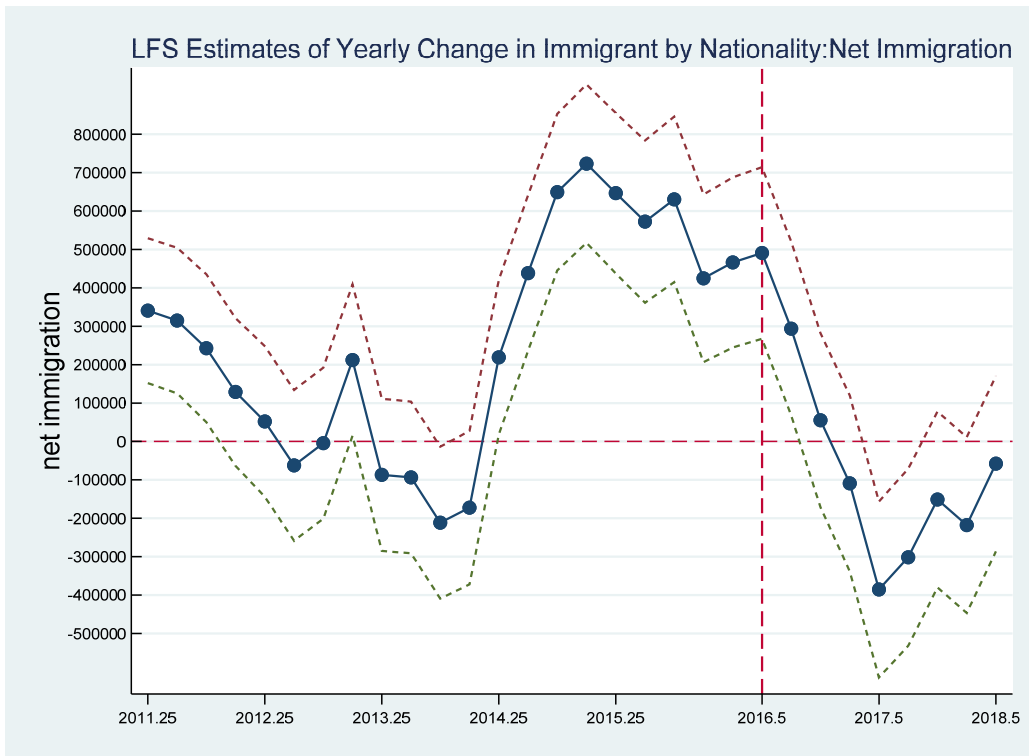
$$= \text{Net Change in Immigration}_{\text{non-uk nationals}}$$

Can see that EU national population has fallen much faster the EU country of birth after Brexit vote (having being insignificantly different before the vote)



LFS estimates of the change in immigrant stock using the 2 definitions of immigrant are different

Eg the nationality based definition starts falling before the Brexit vote...



But...

if look at change by nationality (even though ONS suggests not) still get big contrast with IPS

NB Nationality changes must also affect flows in IPS. How?

Does IPS deal with with dual nationality?

So what are we to do?

Just surrender to the fact that surveys measure different things and give up?

Or worry more about different signals coming from different surveys and consequent uncertainty for policy making and academic estimation of immigration's effects since the LFS is the best (only) thing we have to measure immigration populations?

- Eg the LFS suggests that the government has already met its target of reducing net immigration to the “tens of thousands” without doing anything (except having a Brexit vote)

But IPS implies the stock of immigrant (non-UK nationals) is continuing to rise (since net flows are positive)

Is the LFS under-sampling immigrants ?

Is the IPS over-estimating net flows?

Both? Neither?

LFS confidence intervals estimated using the formula

Estimate +/- 1.96 * 1.6 * SQRT(Estimate * Weight)

Eg So LFS have to make some assumptions about

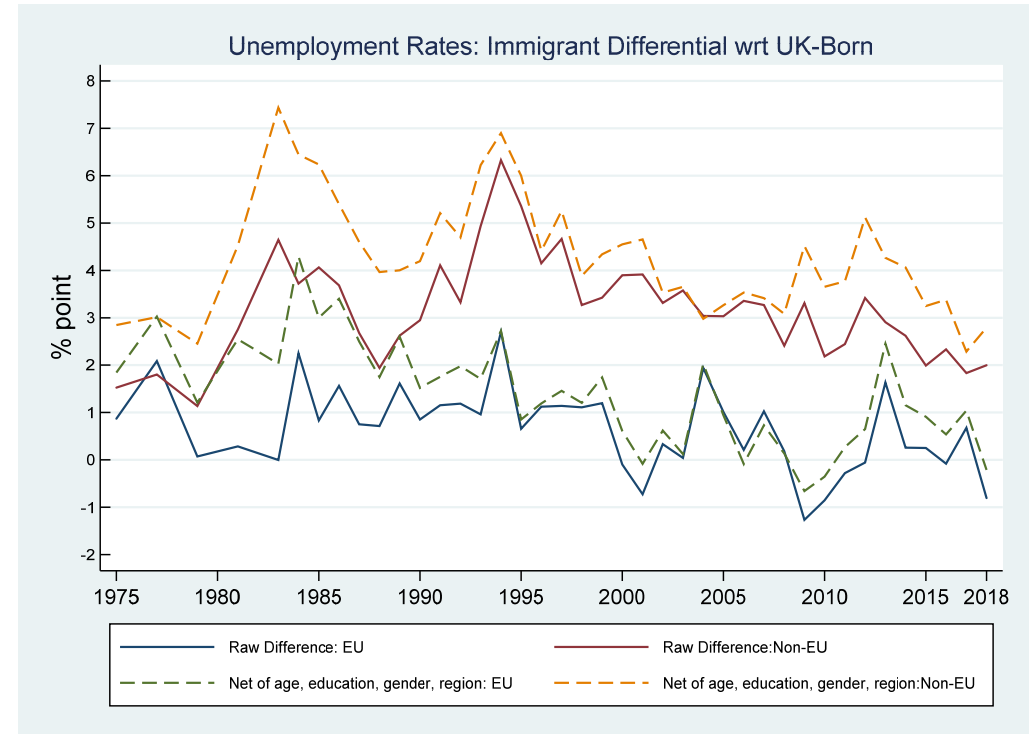
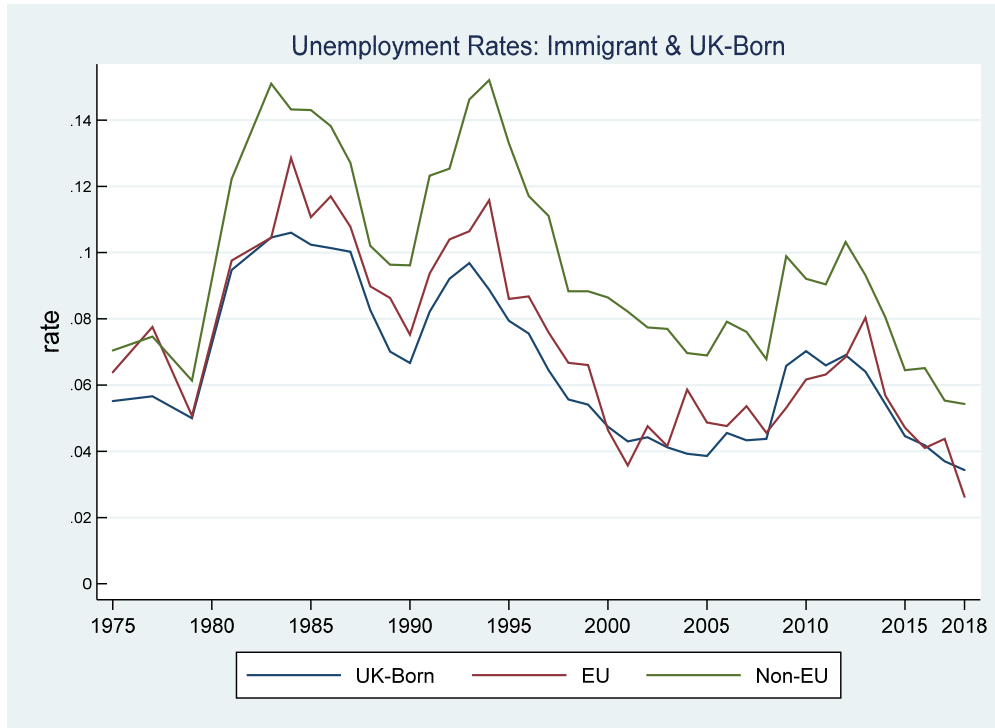
- a) Design Factor (immigrants – all ? – more clustered in housing so immigrants have a larger design factor over and above that of the household nature of the survey
Does it matter? Does it affect sampling strategy?
- b) LFS population grossing weights adjust differential response rates for age gender and local area but not for differential response rates for immigrants within these groups

Why this matters is that the LFS is a potentially rich (essentially the only) data source with which to examine the effects of immigration in the labour market

If immigration is measured correctly...

Examples of what can be done include...

1. Do Immigrants experience higher or lower unemployment rates compared to UK-Born?

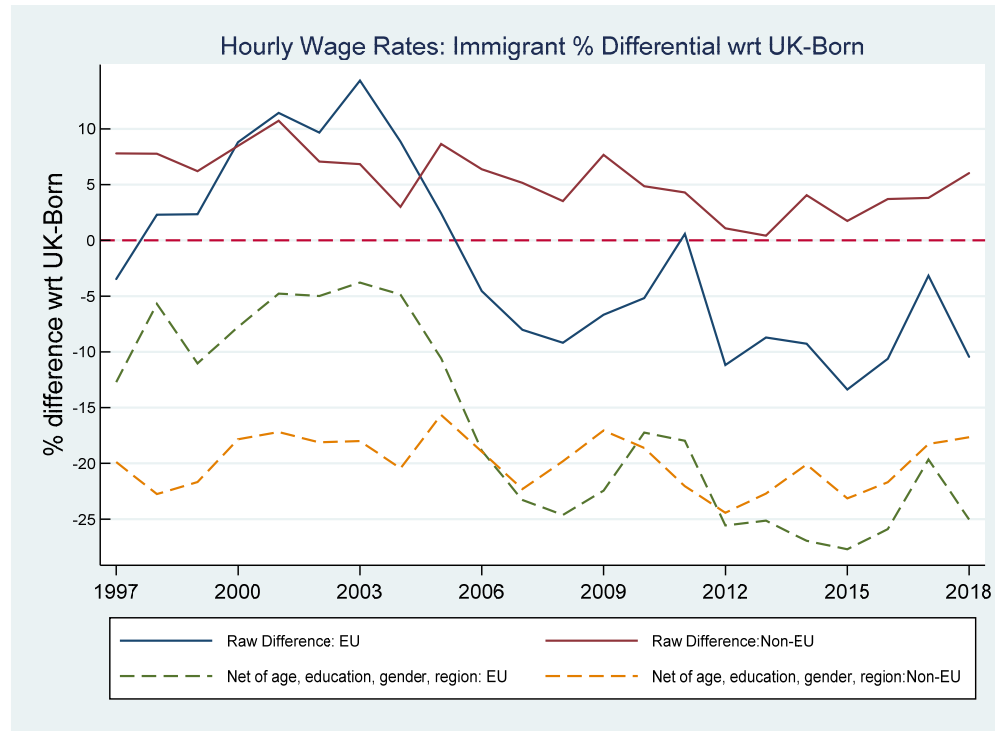
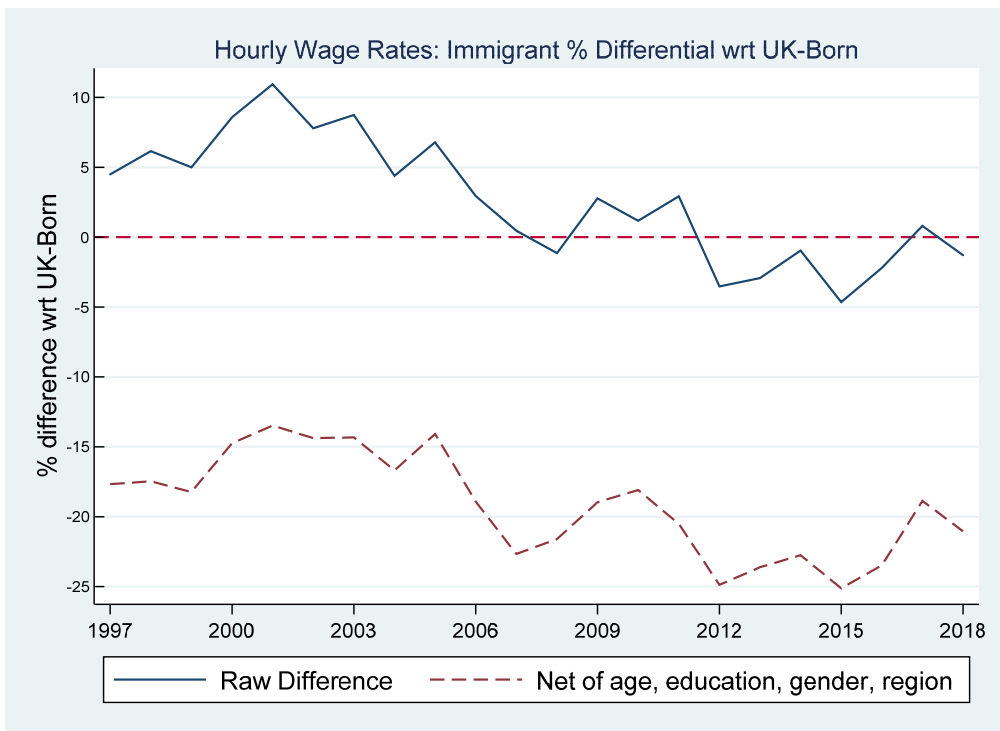


The left hand panel is the unemployment rate by migrant (country of birth) status. Suggests **both** a cycle effect and a trend (convergence)

The right hand panel plots the unemployment gap with and without adjusting for differences in characteristics (X=age education, gender region) $U_i = +b_1Immig + b_2X + e_i$

Right panel shows given age gender region and education, EU immigrant propensity to experience unemployment is a little higher. Non-EU migrants more so. Non-EU migrants even more likely to be unemployed when account for characteristics.

2. Do immigrants get higher or lower wages compared to UK-Born workers?



Graph shows wage differentials (coefficient on Immigrant dummy) from a regression without (raw) and with controls (X)

$$\text{Log}_e \text{ Wage}_i = +b_1 \text{Immig} + b_2 X + e_i$$

Raw Immigrant Wage Differential wrt UK-Born fallen to zero over time, But...

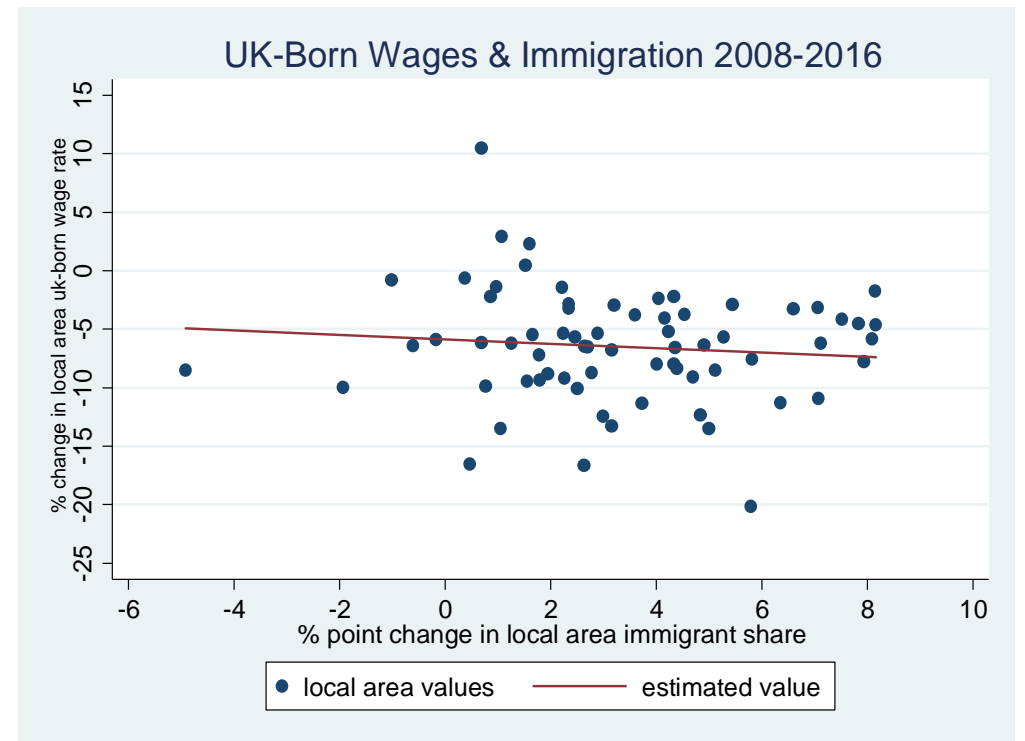
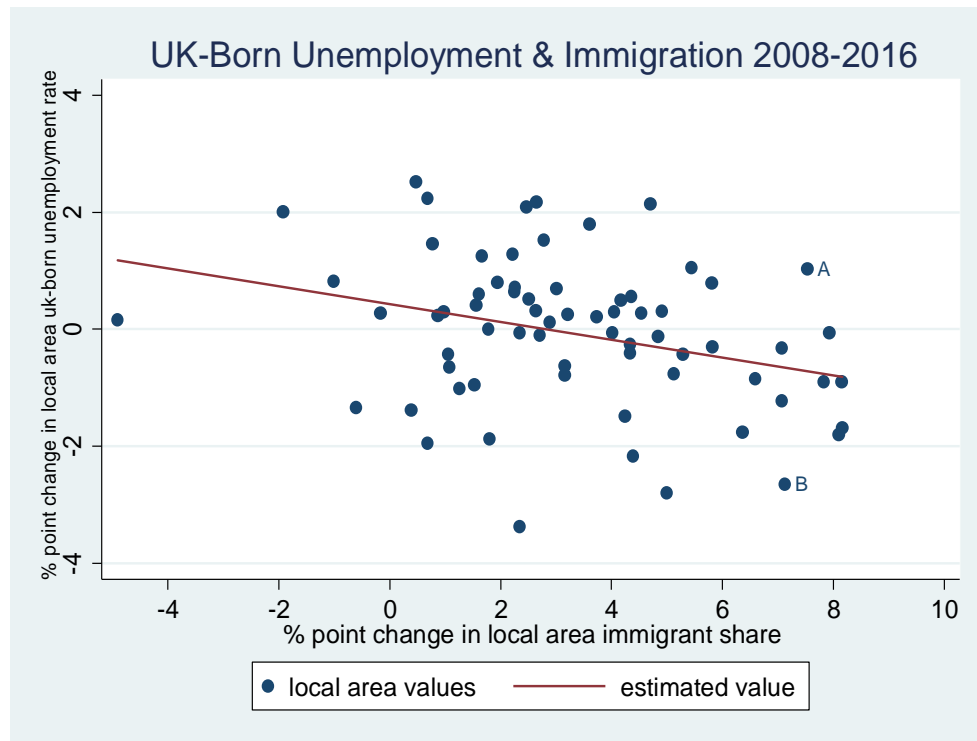
Net of age education gender and region wage differential is and has been since can measure – negative

- ie for given characteristics immigrants get paid much less (in the order of 20-25% less)

Similar patterns if split EU/Non-EU .Both get less (than UK-born) for given characteristics

Needs more research as to why

3. Do Immigrants affect labour market prospects of UK-Born workers?



Graphs show county level change in UK-born unemployment rates/wages plotted against county-level change in immigrant share. Each dot is a county. Red line shows (area population weighted) line of best fit to summarise any association

So the academic research on immigration's effects has found it very hard to find significant (statistically and/or economic) effects of immigration on either wages or unemployment (either positive or negative)

Academic research tries hard to establish immigration effects net of other influences (like migrants being attracted to prosperous areas)

But estimates can be sensitive to various types of specification (inclusion of different variables/definition of immigrant concentration/time period/instrument)

Need to keep checking and exercise critical faculties when reading work
How robust are the estimates? Does the estimation/model make sense?

Consider a couple of examples

Estimates of Immigration Effects on UK-Born Wages Across the Wage Distribution

	p10	p20	p30	p40	p50	p60	p70	p80	p90
	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se	b/se
Immigrant/Native _{region,t}	-0.528** (0.117)	-0.457** (0.108)	-0.309* (0.144)	-0.233 (0.118)	-0.265 (0.133)	-0.274 (0.152)	-0.380 (0.188)	-0.251 (0.186)	0.060 (0.116)
With regional trends									
Immigrant/Native _{region,t}	-0.382 (0.354)	-0.217 (0.243)	-0.413 (0.294)	-0.294 (0.334)	-0.311 (0.420)	-0.127 (0.472)	-0.354 (0.575)	0.034 (0.468)	0.079 (0.337)

Source LFS Note: author calculations. Estimates are from OLS regression of log hourly wage of UK-born in region r at time t at each decile of wage distribution conditional on controls for age, education and gender 2002-2018 Estimates include 17 regional fixed effects , 16 year dummies and 17 regional trends

Mean Log (Hourly Wage_UKborn)_{region,occ,time}

Immigrant/Native _{region,time}	-0.132** (0.040)	-0.088 (0.047)
Minimum Wage Bite _{region, time}		0.064** (0.032)

Source LFS Note: author calculations. Estimates are from OLS regression of mean log hourly wage of UK-born in region r at time t conditional on controls for age, education 2002-2017 Estimates include 15 year dummies and 17 regional trends 9 occupation trends

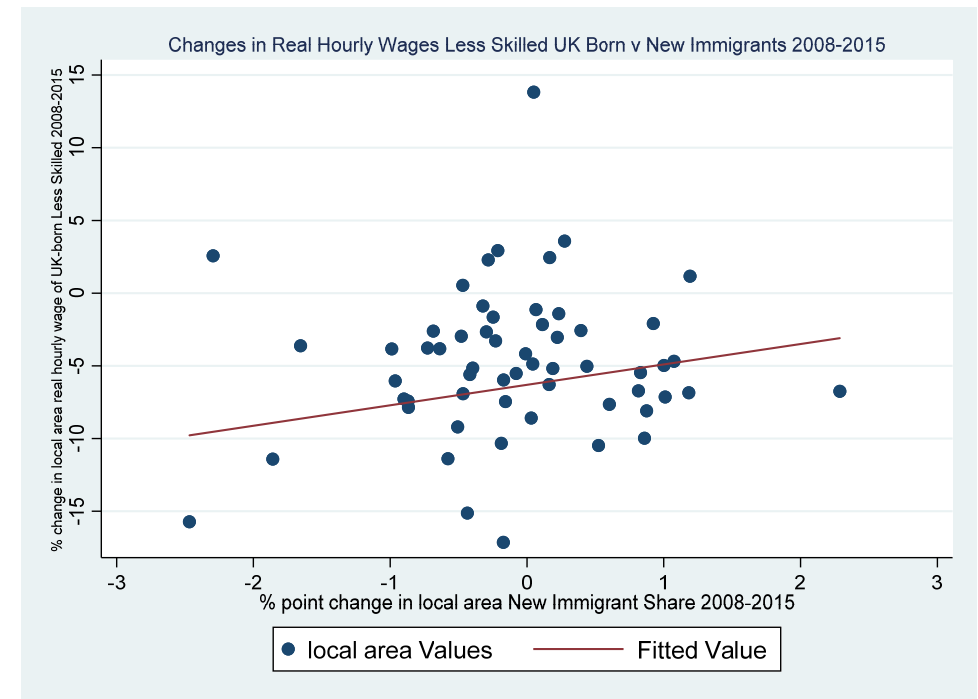
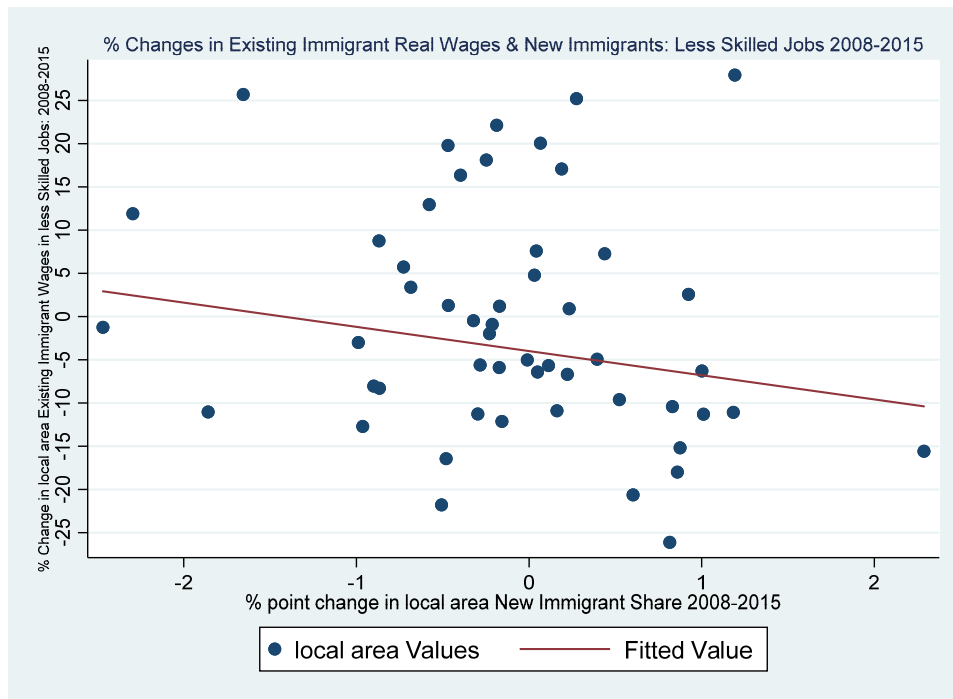
4. Are Immigrants and UK-Born Workers Imperfect Substitutes?

One theory used to explain the findings that immigrants don't appear to put much downward (or upward) pressure on wages or employment of UK-born workers is that the two groups are "imperfect substitutes"

Imperfect substitutes does not mean immigrants and natives are complements
So any \downarrow wage immigrants does not lead to a \downarrow in demand for natives as would if complements

Rather imperfect subs just makes labour demand curves relatively more inelastic
(a change in supply immigrants generates a smaller change in demand for UK-born)

But still implies employment/wages of UK-born will fall (just not as much)
(but also suggest that new immigrants are closest substitutes for previous immigrants)



A visual test of this hypothesis is to compare wage changes of UK-Born and Existing Immigrants to change in supply of new immigrants across areas (stop in 2015 as local areas suppressed)

Maybe there is something in it

Wages of existing immigrants in less skilled jobs (SOC 4, 6, 7, 8, 9) may have fallen more in areas with largest increase in new immigrants

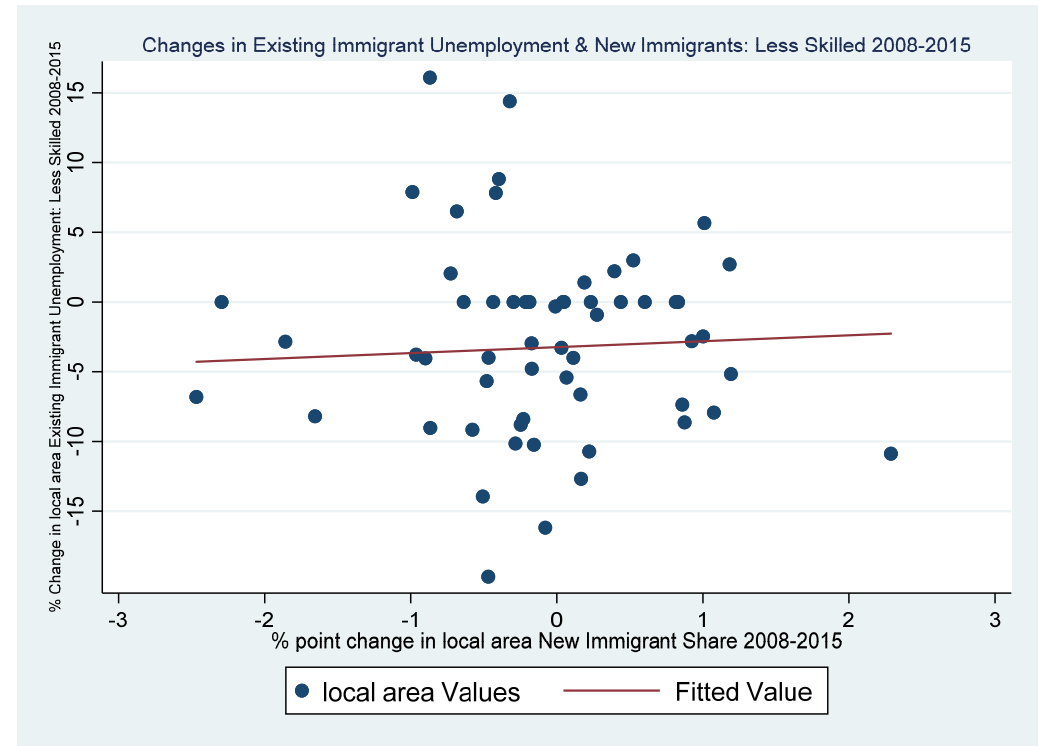
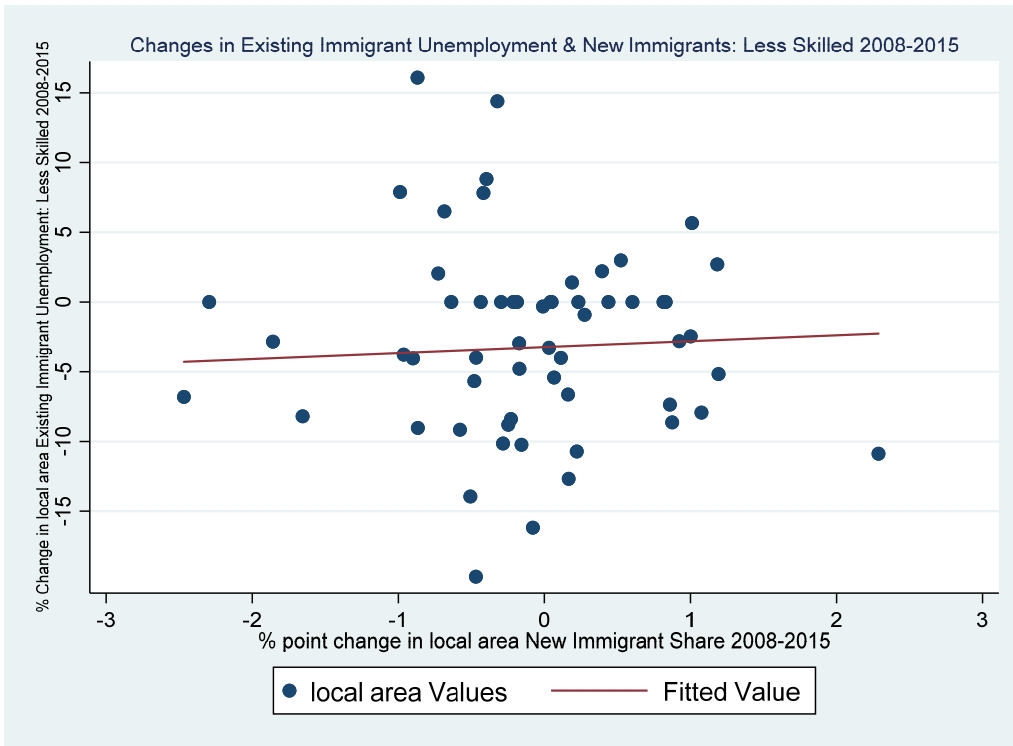
Consistent with idea the immigrants closest subs with other immigrants

And if do same for less skilled UK-born

Association is in opposite direction

So hard to argue that wages of less skilled locals depressed by new arrivals

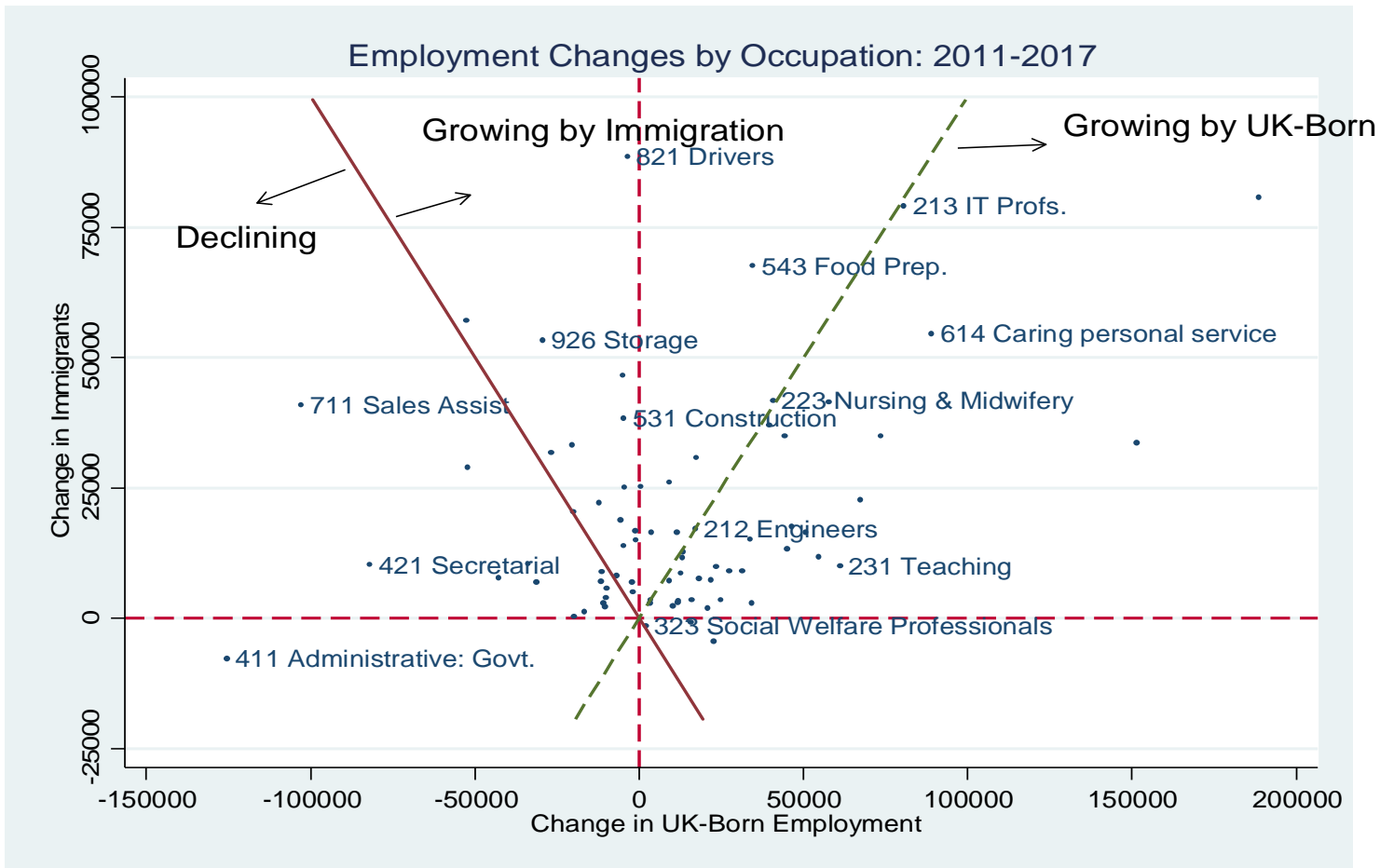
- needs further research



And if do unemployment not much effect for both existing immigrants and UK born less skilled (suggests any adjustment is on wages....)

- needs further research

5. Does immigration facilitate sectoral reallocation of UK-Born workers?



Some sectors expanding by UK-born (teaching)

Some by both (nursing)

Some by immigrants only (construction)

Some declining with rising immigrants (sales)

Some declining absolutely (govt admin)

Note: Each dot gives the change in immigrants and the change in uk-born employed in each 3 digit occupation. lines on Figure are 45 degree lines tracing along which get equal growth of immigrants and natives (equal and opposite growth in case of backward sloping line). For observations to right of green line number of UK-born workers grown faster than number of immigrants. Observations between red and green immigrant numbers growing faster than UK-Born. Observations to left of red line are declining – some with growing immigrant numbers offset by falling UK-born

Conclusions

Immigration likely to remain an issue at centre of public/political/academic debate for foreseeable future

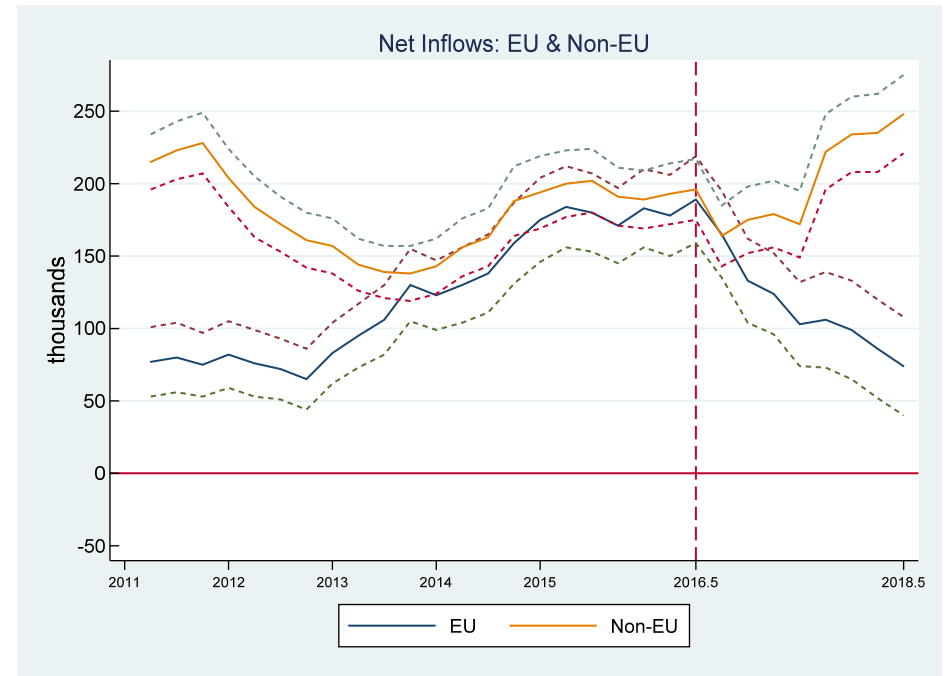
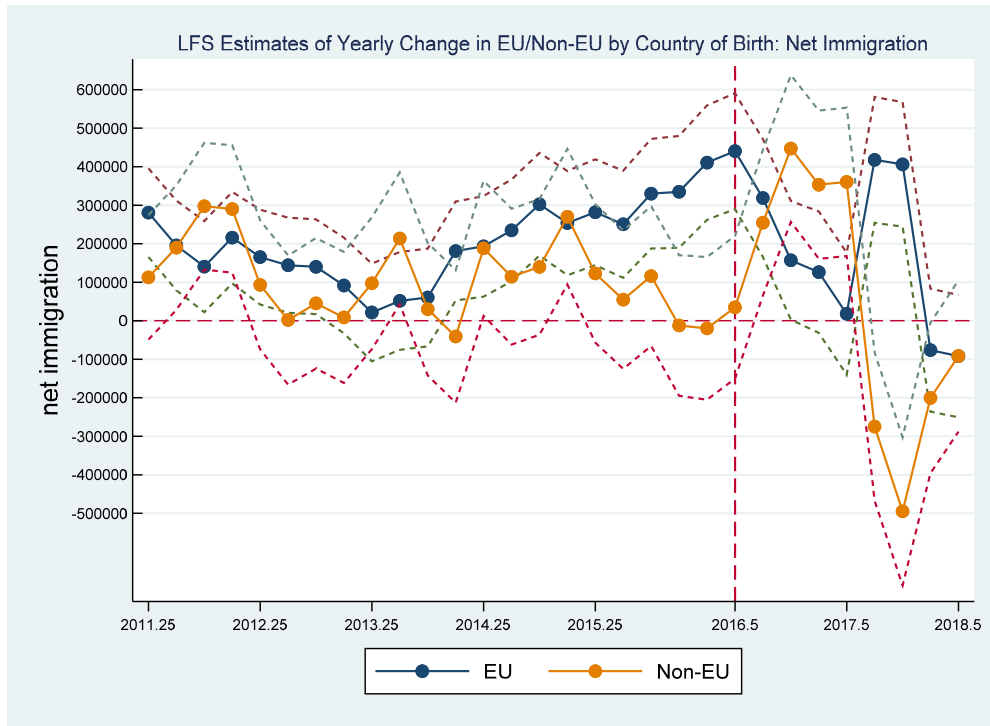
As such would seem important to try to get good estimates of the level as well as the change in the immigrant population

2 principal UK data sets that measure aspects of immigration currently seem to be saying different things

Introduces uncertainty into policy decisions and academic studies of immigration's effects

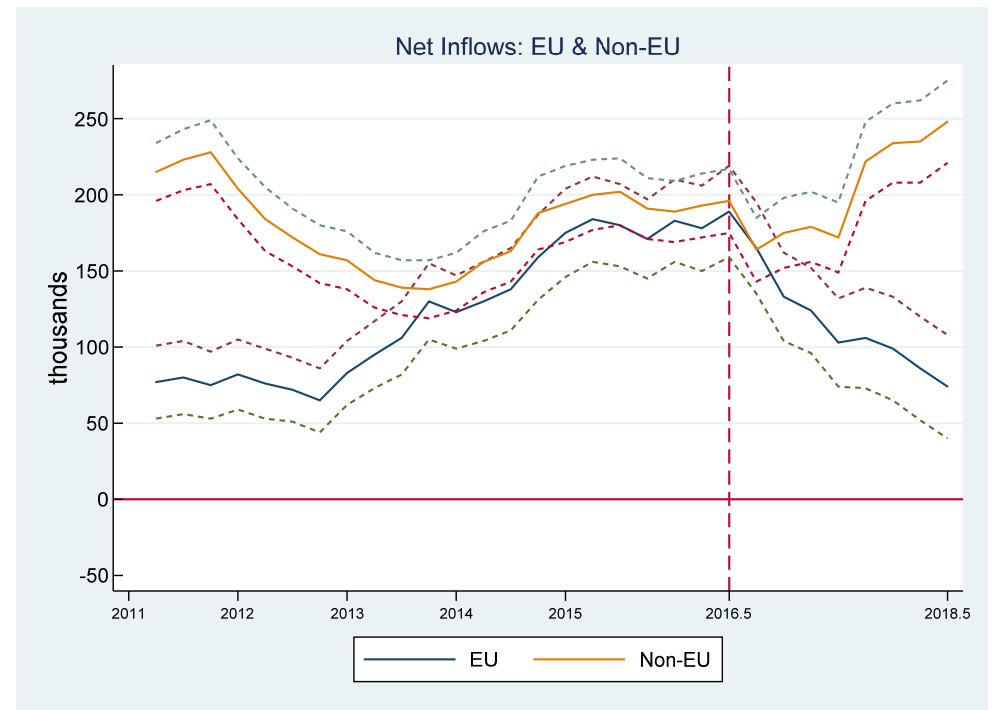
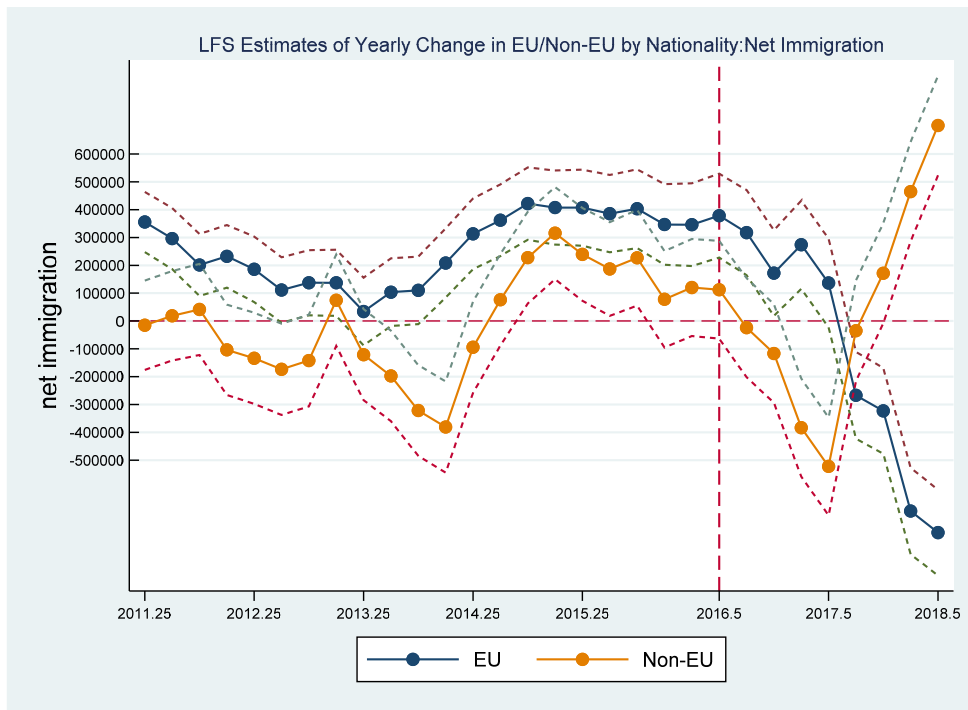
Probably need for more regular open discussion/dialogue between users and providers of the data about what can be done

Appendix



If split by EU/Non-EU

Definitions not consistent over time (country of birth suppressed 2017 q3 onward) so series diverge around this time



If split by EU/Non-EU harder to do

EU definitions not consistent over time (country of birth suppressed 2017 q3 onward) so series diverge around this time