Suggested presentation structure

**Introduction**

Declining Mobility

Choice or constraint as possible explanations

Choice: Regentrification, living in urban places, not needing a car and not wanting to drive (‘café culture’)

Constraint: Stagnant wages, more precarity of employment, learning to drive more expensive (change in test standards, costs of tests, number of lessons needed etc), owning and insuring cars more expensive (especially at younger ages; effect of EU equality legislation for women)

Cars as a household attribute

Cars like eyes – marginal benefits of going from zero to one much greater than from one to two

So, given constrained household budgets, only one person in household might own a car

Suggests gender inequality in car ownership and driving licence passing

Are cars needs or wants?

More a want in urban places, more a need in non-urban places

**Aims**

Understand overall trends in driving licence ownership and car use

By age, period, cohort

Differences between males and females

Convergence or divergence in mobility?

Influence of urban rural class

Necessity of driving

Influence of highest educational qualification

Typical earning potential and individual/household wealth

**Methodological**

Data

British Household Panel Survey

Longitudinal household panel survey. Households picked at random in 1991 and all household panel members followed (where possible) through time, even as they split off into new households (in which case members of new households also interviewed)

Originally 5,050 households, comprising around 9,000 individuals

Started in 1991, finished 2008

Incorporated into Understanding Society/UKHLS in 2010/11

Using from wave 3 (1993) onwards as questions on driving and driving licences changed

Questions and variables

Driving licence holders

Proportion of driving licence holders who drive

Highest educational classification (divided into three categories)

Urban Rural classification

Age, year, sex

Approach

Simple (and less simple) line graphs

Levelplots/heatmaps by age & year (known as a Lexis surface)

Age, period, cohort

Cohort effects detectable as they move at a 45 degree diagonal (one year by one year of age)

**Results**

*01 – proportion of dlos by sex, age group and period*

Rates increased from 1995 to 2005 for older age groups, reduced for lower age groups (<20, 2-25)

Changeover point in the thirties

*02 – proportion of dlos by sex, age, urban rural class, and for 1995 and 2015*

Slightly higher in non-urban than urban areas

A bigger difference for females than males (suggesting more male preference to have driving licences)

??? – quite a ‘busy’ and complex graph!

*03a – proportion of dlos – by sex, age, highqual and two periods*

For further non-vocational , age <20 category should be disregarded. (Perhaps based on one or two people who get degrees in their teens!)

At other ages, for further non-vocational, near 100% driving licence ownership at most ages, slight rise from 1995 to 2005 at oldest age group (>70 years)

For further vocational and no further, fall in driving licence ownership at younger ages (<20, 20-25, 26-35 years) – evidence of declining mobility due to constraint rather than choice

*04 – proportion of drivers driving by age, sex and period*

Upside down U-shaped (females) and J-shaped (males) relationship between age and proportion of drivers driving

The J-shape has changed for males over time – smaller proportions of young adult drivers driving, higher proportion of older adults driving; evidence of a bigger change between 2000 and 2005 than between 1995 and 2000

For females, slight rises in proportions of drivers driving over time, especially from around mid 20s onwards.

*05 – proportion of drivers driving by age, sex, urban rural class and two periods*

For females in non-urban areas, little evidence of less driving at younger ages, and more drivers driving at older ages

For females in urban areas, similar rates at younger ages and an increase in drivers driving from around 26 onwards.

For males, a fall (though not stat sig) in drivers driving at younger ages, though equalising towards female levels, in urban areas. A growth in drivers driving at older ages.

For males in nonurban areas, some indication (though not stat sig) of a decline in drivers driving aged 20-25, similar rates at ages 26-60, and slightly more age ages 61+

*06a – proportion of drivers driving by age, sex, highest qual, and two periods*

Again, disregard age group <20 years in further non-vocational

Large increase (from around 50% to 75%) of females 20-25 with further non-vocational qual and drivers licences driving – now above male rate at same age group

At later ages, for males and females with further non-voc, little evidence of a change over time.

For further vocational, increase in drivers driving from 1995 to 2005 at older ages for males and almost all ages for females. Female ‘catch-up’ to male levels.

For those with no further education, a hint (not stat sig) of a fall in proportion of drivers driving aged 20-25. Similar rates from around 26-50 for males and female, an increase for females around 51-60 years, and higher rates than previously for both sexes at older ages.

**Level plots**

*07 – proportion of dlos, by age, year, sex*

Evidence of historic cohort effects for females

Around 70% of women born up to around 1940 (55 in 1995) had driving licences. This rose to around 80% for women born around 5 years later (1945 cohort, 50 in 1995), and to around 90% for women born 10 years later still (1955 cohort, 40 in 1995). The rates stabilised at this 90% level for cohorts born between 1955 and around 1970/1975 (25 in 1995), both for newer cohorts seem to have fallen to around 80%.

For males driving licence ownership rates have long been over 90%, and seem to be in the 95%+ range for most cohorts born between around 1945 and 1970. For males born after this period there is evidence of a steady decline in driving licence ownership, to around 90% for cohorts born around 1975, to around 80% or lower for cohorts born around 1985 and later.

*08 – proportion of dlos, by age, year, sex, urclass*

Women living in urban areas have long has substantially lower (10-20%) driving licence ownership than men of the same age in urban areas. In urban areas, there has been catch-up of female licence owning rates to male rates for cohorts born from around the 1950s to the 1970s. For cohorts born from around the mid 1970s onwards there has been a decline in driving licence ownership rates for both males and females alike in urban areas.

For men living in non-urban areas driving licence rates have long been near 100%, but there has been a marked decline, to between around 85-90%, for males born around 1985 onwards, similar but slightly higher than for females of the same age born around the same time.

For women in non-urban areas the historic ‘catch up’ to male rates occurred from around the 1940 (55 in 1995) cohort onwards, earlier than for women living in urban areas.

*09 – proportion of dlos, by age, year, sex, highest qual*

The highest educational qualification strongly mediates the rates of female driving licence ownership, whereas for males rates of driving licence ownership had long been similar regardless of highest qualification, though somewhat (perhaps around 5%) lower with lower qualification levels.

For older female cohorts, and compared with those with higher qualifications (who had close to 100% driving licence rates), those with intermediate qualifications had around a 15% lower driving licence rate (around 80%), and for those with no further qualifications were around 15-20% lower still (around 55-60%). There was evidence of ‘catch up’ to high qualification levels for females with intermediate qualifications amongst cohorts born between around 1945 and 1970, with driving licence levels reaching around 95%, then a decline to around 80%, falling perhaps to the low 70%s, for later cohorts. Much weaker evidence of ‘catch up’ for women with no further education was reported, and for cohorts born after around 1970 levels have declined steadily to under 50%.

For males there has also been evidence of declining driving licence rates for cohorts born after around 1970-1975, most clearly evident for those with intermediate qualifications (a fall from around 97% to 90% then around 80%), then for those with no further qualifications (which seem to be to a lower level, but ‘noisier’ due to fewer observations), and to a lesser extent for those with higher educational qualifications.

*10– proportion of drivers driving, by age, year and sex*

For both males and females there is evidence of a historic cohort effect of successive cohorts with driving licences choosing to drive. For women this increased from around 20% for cohorts born around 1915, to 40% for those born around 1920, then around 57% for those born around 1925, and 75%-80% for those born after around 1935. Up until the early 2000s, rates for most female cohorts stabilised at around 80%, then increased to around 90% thereafter from around the age of 26 years onwards. A similar kind of historic cohort effect is evident for males, but without any period-based change in the 2000s, and with rates typically in the low 90%s.

At younger ages, between around the ages of 17 and 30, there has been great consistency over time in the proportion of people with driving licences who drive, with rates typically around 40% for teenagers, moving to slightly over 50% in the early 20s, then up to the high 80%s/low 90%s by the age of 30.

*11– proportion of drivers driving, by age, year, sex, and urban rural class*

The historic cohort effect, of increasing levels of drivers driving, is most clearly evident for those living in urban areas. Most of the period-based uptake in rates of female drivers driving, occurring in the early 2000s, is also apparent for those living in urban areas. For women living in non-urban areas rates have typically been higher, above 90%, and similar to the near 100% levels for males.

Living in urban areas is shown to slow down the rate at which young adult drivers drive as their age increases from around 17 to 30 years, with rates for both genders aged around 20 years in the mid 50%s, rising to around 80% by around age 30, then to around 90% at older ages. For both sexes living in non-urban areas, the vast majority of people with driving licences drive by around the age of 25.

*12– proportion of drivers driving, by age, year, sex, and highest educational qualifications*

The period-based change, occurring in the early 2000s, towards increased proportions of females born between around 1945 and 1970 who have driving licences driving, is most evident in females with intermediate qualifications levels, though also amongst other educational categories.

The historic trend towards successive cohorts with driving licences, born up to around 1940, driving, is most clearly evident in those with no further education, especially for females; it is evident to a lesser extent for those with intermediate qualifications but not for those with the highest educational qualifications (although the patches of white indicate missing data, as historically far fewer people had degrees than in more recent years).

The greatest difference between genders in drivers driving appears to be in those with no further education. For those with intermediate and higher qualifications the main change is an age effect, between around the age of 17 and 30 years.