Do Younger Generations Drive Less?

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Abstract

There are longstanding debates about the differences between generations. This includes claims that preferences for urban areas, ride-hailing and green lifestyles make younger generations less likely to own cars and drive when compared to prior generations. Using data from thirty-five years of national travel surveys I find large observed differences in driving habits and vehicle ownership between Millennials and prior generations. Once certain socioeconomic and demographic factors are controlled for these differences largely disappear. However, key areas of divergence remain, with younger generations driving less in urban areas, and when accounting for certain endogenous life choices that indirectly affect driving.

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1 Introduction

Much has been written about the changing preferences of younger generations, with Millenials and Gen Z no exception. Studies and survey evidence have shown that Millenials are more likely than older generations to be living at home with their parents or delaying getting married and starting a family (Astone and Peters, 2014, 2015; Fry, 2015; Amanda Barroso and Bennett, 2020; Kurz, Li and Vine, 2018). They are also less likely than older generations to engage in prosocial activities like charitable giving (Koczanski and Rosen, 2019). Recent evidence suggests that as Millenials age their political attitudes are not becoming more conservative, representing a break with past generations (Burn-Murdoch, 2022). These kinds of generational shifts in preferences may be in part shaped by the economic environment that different cohorts have grown up in (Cotofan et al., 2021).

One area where it has been suggested that younger generations may fundamentally differ from prior generations is in their choices about transportation and driving. A preference for urban living, public transport, ride-hailing apps and making greener choices have all been raised as reasons why Millenials and Gen Z might be in the process of leaving behind the car-centered lives of their predecessors (Buchholz and Buchholz, 2012; Badger, 2013; Caelainn Barr and Jones, 2016; Dias, 2019; Eliot, 2019). If so, this could have important implications for policy decision about transportation systems, congestion, urban planning and the environment.

However, the precise role of changes in preferences remains unclear, not least because it is difficult to disentangle from the role played by other changes in life circumstances experienced

by younger generations, such as economic conditions and living situations (Chatterjee et al., 2018). A study by Knittel and Murphy (2019) challenges the narrative that Millenials have fundamentally different preferences for driving and vehicle ownership. Using data on the United States they find little difference in preferences between Millennials and prior generations once confounding factors are controlled for.

In this paper I use data for the United Kingdom to examine whether younger generations have different preferences toward driving than older generations. The data comes from surveys spanning 1985 to 2020, allowing me to compare individuals at similar life stages across generations. The findings reveal large average differences between generations in the likelihood that individuals have driving licenses, their vehicle miles travelled and rates of vehicle ownership. A large part of these differences can be explained by demographic factors and endowments that vary across generations. This would seem to suggest that younger generations do not appear to have radically different preferences for driving and vehicle ownership than older generations.

However, this paper also uncovers two notable exceptions. First, there does still appear to be a divergence in generational driving preferences when looking at urban vs rural areas. Urban Millenials are less likely to drive than urban Baby Boomers. This potentially reflects a more widespread uptake of alternative transportation modes such as public transit and cycling. These findings contribute to the extensive literature exploring the way urban form affects transportation decisions (Bento et al., 2005; Brownstone and Golob, 2009; Duranton and Turner, 2018).

Second, accounting for choices that may be endogenous to different generations does leave

some scope for greater differences across generations. For instance, younger generations are less likely to marry or have children, and both marriage and having children are associated with increased personal driving. Accounting for the endogenous nature of these life choices indicates that Millenials do actually make a broader set of choices that result in less personal driving than prior generations.

Lastly, this paper uses data from the United Kingdom which is a valuable complement to prior work that has studied the US (Kurz, Li and Vine, 2018; Benjamin Leard and Munnings, 2019; Knittel and Murphy, 2019). The US has particularly high rates of driving, with road passenger miles per capita twice the median for developed countries (OECD, 2023). The UK, by comparison, is approximately at the OECD average. In certain respects the findings for the UK are similar to the US: baseline differences across generation do largely disappear when various demographic factors are accounted for. However, there are notable differences in terms of heterogeneity for urban vs rural areas and the extent to which endogenous life choices play a role. In both cases it does appear to be the case that younger generations do exhibit preferences that are less centred on personal driving than has historically been the case.

2 Data

The data used in this study is from the UK's National Travel Survey (Department for Transport, 2022). This is a household survey covering topics related to personal travel and transport policy. Individuals in sampled households are interviewed face-to-face to collect

personal information, such as age, gender, working status, car access and driving licence holding. They are also asked to complete a seven day travel diary and provide details of trips undertaken, including purpose, method of travel, time of day and trip length.

The earliest data used here is from the 1985/6 survey, and then annual surveys from 1988 to 2020.[1] This provides observations spanning more than three decades which is critical to being able to examine the generational comparisons of interest. Most importantly, gathering observations over this long time period means the sample has overlap between the Baby Boomer and Millenial generations, with observations for 26 to 39 year olds within both cohorts.

For this analysis the different generations are defined as follows. The Greatest generation have birth years between 1901 and 1927. The Silent generation have birth years between 1928 and 1945. Baby Boomers have birth years between 1946 and 1964. Gen X have birth years between 1965 and 1980. Millenials have birth years between 1981 and 1996. Gen Z have birth years between 1997 and 2012.

The main variables used to understand driving and vehicle ownership preferences are: (1) whether an individual has a license; (2) the number of vehicle miles travelled for each individual; and (3) the number of cars in a household. A number of control variables are also used. These include sex, marital status, employment status, number of adults in household, number of children in household, household structure categories, household income quintiles, property type, property tenure type, geographic region and geographic rural/urban categories.

[1]The first NTS survey was commissioned by the Ministry of Transport in 1965. However, the structure of the survey has changed over time and the data is more readily integrated from 1985 onwards.

The full dataset contains just over 500,000 observations. For the analysis I restrict the sample to individuals that are 17 years old or older based on the legal driving age in the UK. This reduces the sample to just under 400,000 observations.[2] Table 1 provides summary statistics on the sample data.

Table 1: Summary Statistics for Key Variables

	N	Mean	Std Dev	Min	Median	Max
License	392673	.7146837	.4515655	0	1	1
Cars	392636	1.172595	.8853269	0	1	9
VMT	392673	5231.427	7358.844	0	3000	175500
Married	392673	.5639858	.4958895	0	1	1
House-head	392673	.53651	.4986659	0	1	1
Employed	392673	.5851001	.4927054	0	1	1
House	392673	.8598961	.3470952	0	1	1
High-income	392673	.4056811	.491024	0	0	1
Children	392673	.302063	.459153	0	0	1
Homeowner	392673	.7180377	.4499557	0	1	1
North	392673	.5380991	.498547	0	1	1
Rural	392673	.289666	.4536079	0	0	1
Bus Trips Per Year	321060	55.66393	91.36096	0	1.5	260
Train Trips Per Year	294503	24.21686	52.39311	0	.25	260
Taxi Trips Per Year	294476	25.19428	45.89255	0	1.5	260
Bicycle Trips Per Year	213800	28.64952	66.98185	0	.25	260

Notes: This table contains summary statistics for the key variables used in the analysis. Most categorical demographic variables contain many categories, although they are simplified here to dummy variables for ease of presentation.

In many respects the data used here is similar to that in the US Department of Transportation's National Household Transportation Survey (NHTS) that has been used in other studies (Brownstone and Golob, 2009; Knittel and Murphy, 2019; Zhang and Li, 2022). As

[2] I did also consider further restricting the sample to individuals classed as the head of household or household reference person. However, this would entail halving the sample size to around 200,000. Moreover, this would effectively drop an interesting portion of the sample; namely Millenials that still live with their parents or in shared accommodation without family members. Because these characteristics can be adequately captured by the inclusion of certain controls, the less restrictive sample was maintained throughout.

well as being broadly comparable, the UK data has a number of benefits. First my sample spans a period that is seven years longer. Second, for almost the entire period the UK data has annual survey waves, while the NHTS is generally conducted every five to six years. Both features are valuable as they facilitates identifying changing trends in a smoother manner and over a longer time period.

3 Empirical Strategy

The main empirical strategy involves regressing each driving variable of interest on indicator variables for a person's generation. The omitted category is the Baby Boomer generation, and so the resulting coefficients capture how preferences for driving and vehicle ownership differ from Baby Boomers across generations. I then include various controls or limits to the sample depending on the specification.

$$y_{it} = \beta_0 + \beta_1 I_i^{Silent} + \beta_2 I_i^{Greatest} + \beta_3 I_i^{GenX} + \beta_4 I_i^{Millenial} + \beta_5 I_i^{GenZ} + \sum_k^K \beta_k X_{kit} + \epsilon_{it} \tag{1}$$

My first specification only controls for survey year fixed effects to account for general trends in transportation costs, economic growth, survey specific factors, and so on. The second specification then adds a wide range of demographic controls, including sex, marital status, household size and structure, income, employment status, household property type, housing tenure, geographic region and urban classification.

Despite including a range of controls, a reasonable concern is that individuals that belong to each generation are still at sufficiently different life stages during our sample period. The third and fourth specifications therefore repeat the first two, but now restrict the sample to individuals aged 26 to 39. For these individuals there is common support between Baby Boomers, Gen X and Millenials. This has the benefit of allowing a comparison of individuals of similar ages across generations. One potential limitation though is that this does entail comparing younger Baby Boomers born in the 1960s with older Millenials born in the 1980s. This may tend to attenuate any differences relative to comparing the average individual in each generation.

Beyond the main analysis, I also explore a key sources of heterogeneity and examine the role of endogenous choices. For heterogeneity, I examine whether the observed relationships differ in urban areas relative to rural areas. For endogenous choices, I expand the analysis to see if more fully accounting for the broader decisions that individuals in different generations make has an impact on the overall effect. Further details on these two extensions to the analysis are provided after the main results.

4 Results

4.1 Main Analysis

Table 2 shows the results of the main analysis. The first specification concerns driving licenses and clearly shows that there are indeed large differences across generations. 82% of

Table 2: Results for Relationship Between Driving Habits and Generation

	(1)	(2)	(3)	(4)	(5)	(6)
Greatest	-0.394	-0.204	-5318.8	-1835.7	-0.766	-0.184
	(0.0188)	(0.0128)	(177.8)	(79.30)	(0.0296)	(0.0126)
Silent	-0.128	-0.0571	-2639.9	-877.4	-0.302	-0.0763
	(0.0170)	(0.00829)	(248.4)	(96.12)	(0.0336)	(0.0102)
Baby Boomer	0	0	0	0	0	0
	(.)	(.)	(.)	(.)	(.)	(.)
Gen X	-0.0430	0.0103	-319.3	-5.903	-0.0855	-0.0173
	(0.00916)	(0.00476)	(171.3)	(82.25)	(0.0105)	(0.00619)
Millennial	-0.258	-0.0653	-2776.7	-619.7	-0.0302	0.0172
	(0.0187)	(0.00834)	(226.6)	(85.61)	(0.0233)	(0.0133)
Gen Z	-0.558	-0.237	-4949.1	-1097.8	0.221	0.0739
	(0.0363)	(0.0299)	(281.7)	(137.3)	(0.0315)	(0.0206)
Observations	392673	388256	392673	388256	392636	388223
R^2	0.088	0.293	0.053	0.254	0.062	0.400
Dependent Variable	License	License	VMT	VMT	Cars	Cars
Demographic Controls	No	Yes	No	Yes	No	Yes
Ages 26-39	No	No	No	No	No	No
Sample Mean	0.82	0.82	6,691.07	6,697.85	1.31	1.32

Notes: This table shows the regression results with the dependent variable as whether an individual has a driving license. Baby Boomers are the omitted category. All regressions limit the sample to individuals that are 17 years or older. Limits on the sample and any included controls vary by specification as described in the bottom rows. Coefficients on controls are not shown. Sample mean is for the omitted group.

Baby Boomers have a driving license. By comparison, younger generations are less likely to have a driving license, with only 56% of Millenials having one; a difference of 26%. A similar decline relative to Baby Boomers can also be seen for older generations.

However, it may be the case that much of this difference can be explained by other factors besides the fundamental tastes and preferences of each generation towards driving. For instance, the Baby Boomers in our sample may be wealthier than other generations, or be more likely to be married and have children. Other generations may simply have similar preferences for driving conditional on demographics and endowments. Any observed differences could merely be a function of differences in these demographics and endowments. To examine this the second specification now adds controls for important economic and demographic factors. The observed effects are markedly reduced, although still significant. Millenials are now only 6.5% less likely to have a driving license than Baby Boomers, conditional on demographics.

The results for vehicle miles travelled largely mirror those for the analysis of driving licenses. The average differences between generations are initially very large, as shown in specification three in Table 2. Baby Boomers drive an average of 6691 miles per year. Millenials drive 2777 miles per year less, which is a 42% reduction. Controlling for demographics closes the gap across all generations, leaving a difference of 620 miles per year for Millenials, which is a 9% reduction.

For vehicle ownership, Table 2 reveals that Baby Boomers live in households that have an average of 1.31 cars. Older generations live in households with significantly fewer cars. Interestingly, younger generations live in households with similar numbers of cars to Baby

Boomers. Millenial households have an average of 0.03 fewer cars, which is a 2% reduction and not statistically significant. Adding in the full set of demographic controls reduces some of the observed differences.

Notably Gen Z individuals live in households with 0.22 more cars than Baby Boomers, which is a 17% increase. While this may seem strange, what is likely going on here is that the number of cars is measured here at the household level. As such an individual may live in a household with one or more cars even if they do not actually drive. This seems perfectly consistent with the observed effects for younger generations, many of whom may still be living with their parents.

Despite including a range of controls for demographics and endowments, it is plausible that the individuals in the sample may still be at significantly different life stages. As such the results in Table 3 repeat the analysis with the sample now limited to individuals age 26 to 39. This causes the Gen Z generation to drop out as they have no individuals in the sample 26 or older. Similarly the Greatest and Silent generations also drop out as they have no individuals in the sample 39 or younger. Baby Boomers, Gen X and Millenials remain as these are the generations that share common support over this age range.

Compared to the analysis that used the full sample, the remaining generations now exhibit smaller differences relative to Baby Boomers across all three measures of driving habits. After also controlling for demographics the results reveal no statistically significant differences across generations.[3]

[3]The sole exception here is a positive effect on number of cars in the household for Millenials. This is likely in line with the effects seen for Gen Z earlier.

Table 3: Results for Relationship Between Driving Habits and Generation (Ages 26-39)

	(1)	(2)	(3)	(4)	(5)	(6)
Baby Boomer	0	0	0	0	0	0
	(.)	(.)	(.)	(.)	(.)	(.)
Gen X	-0.0439	0.00557	-653.9	85.43	-0.0572	0.00803
	(0.00483)	(0.00692)	(65.36)	(42.64)	(0.0104)	(0.0122)
Millennial	-0.136	-0.00978	-2009.2	-26.59	-0.0680	0.0461
	(0.00636)	(0.00760)	(76.28)	(65.97)	(0.0137)	(0.0139)
Observations	92496	91407	92496	91407	92484	91396
R^2	0.007	0.226	0.008	0.195	0.006	0.328
Dependent Variable	License	License	VMT	VMT	Cars	Cars
Demographic Controls	No	Yes	No	Yes	No	Yes
Ages 26-39	Yes	Yes	Yes	Yes	Yes	Yes
Sample Mean	0.78	0.79	6,695.32	6,721.85	1.09	1.10

Notes: This table shows the regression results with the dependent variable as an individual's annual vehicle miles travelled. Baby Boomers are the omitted category. All regressions limit the sample to individuals that are 17 years or older. Limits on the sample and any included controls vary by specification as described in the bottom rows. Coefficients on controls are not shown. Sample mean is for the omitted group.

4.2 Urban vs Rural

It seems plausible that generational effects may differ in urban or rural areas. Public transit, biking and ride-sharing services are much more readily available in urban areas. These alternative transportation options have also been associated with new habits uptaken by younger generations.

Table 4 repeats the analysis of generational driving habits, but this time interacts the generation effects with whether an individual lives in an urban or rural area. Results are shown for the version of the regressions that includes demographic controls and limits the analysis to the most comparable 26-39 age group.

Here I find evidence that living in an urban area can have important implications for gener-

Table 4: Results for Urban vs Rural Analysis (Ages 26-39)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Urban	-0.0547	-2255.6	-0.0564	4.032	23.44	6.457	-4.137
	(0.00941)	(266.3)	(0.0279)	(5.209)	(2.301)	(1.927)	(3.069)
Baby Boomer	0	0	0	0	0	0	0
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Gen X	0.00668	442.3	0.0388	-11.87	-6.674	-0.865	-0.592
	(0.00720)	(143.7)	(0.0175)	(3.219)	(0.987)	(1.444)	(2.197)
Millennial	0.00810	474.5	0.145	-10.89	-9.801	1.239	-5.338
	(0.0100)	(195.8)	(0.0228)	(3.687)	(1.430)	(1.748)	(4.402)
Urban × Baby Boomer	0	0	0	0	0	0	0
	(.)	(.)	(.)	(.)	(.)	(.)	(.)
Urban × Gen X	-0.00163	-500.7	-0.0434	6.663	5.853	0.343	1.958
	(0.00514)	(187.7)	(0.0168)	(4.519)	(1.318)	(1.697)	(2.239)
Urban × Millennial	-0.0228	-677.5	-0.129	7.129	7.803	-1.129	13.03
	(0.00966)	(228.5)	(0.0235)	(5.124)	(2.057)	(1.933)	(3.302)
Observations	91407	91407	91396	75746	68533	68535	53416
R^2	0.226	0.195	0.328	0.203	0.141	0.082	0.163
Dependent Variable	License	VMT	Cars	Bus	Train	Taxi	Bicycle
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ages 26-39	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample Mean	0.79	6,721.85	1.10	39.08	17.03	21.35	16.19

Notes: This table shows the regression results for the analysis of urban vs rural heterogeneity. Specifications one to three are results for the three main driving variables. Specifications four to seven are for several alternative transport modes. Baby Boomers are the omitted category. All regressions limit the sample to individuals that are 17 years or older. Limits on the sample and any included controls vary by specification as described in the bottom rows. Coefficients on controls are not shown. Sample mean is for the omitted group.

ational driving preferences. For each of the three driving variables studied the main results mask important heterogeneity. When allowing for generational effects to differ in urban and rural areas we see three key things. First, all individuals in urban areas drive significantly on average less than those in rural areas, all else equal. Second, when looking within urban areas I find that urban Millenials drive less than urban Baby Boomers. Third, when looking within rural areas I find that rural Millenials drive more than rural Baby Boomers.

To explore what non-driving modes of transportation individuals may be shifting to, I extend the analysis to look at the number of trips per year taken by different transport modes. These include domestic travel by: bus, train, taxi and bicycle. The results in Table 4 indicate that urban Millenials are at least partly substituting their lower likelihood of driving with an increased use of trains and bikes. Notably there is no significant increase in the use of taxis or buses. For rural Millenials, their increased likelihood of driving appears to be at least partly related to a lower use of buses and trains.

Importantly, 70% of all individuals, and more than 80% of Millenials and Gen Z, live in urban areas. Urban areas are also where externalities from congestion and pollution are most acute. As such the additional reduction in urban driving from younger generations is of particular interest.

4.3 Endogenous Life Choices

One important issue not addressed by the main analysis conducted thus far is endogenous life choices. Some of the demographic and socioeconomic variables being used as controls

may themselves be endogenous choices made by different generations. For instance, there is evidence that younger generations are more likely to still be living at home with their parents, or are delaying getting married and starting a family (Astone and Peters, 2014, 2015; Fry, 2015; Amanda Barroso and Bennett, 2020). Some of these decisions may be due to economic realities beyond their control, but plausibly some of these represent active choices that reflect different preferences to earlier generations. Where this is the case, simply controlling for characteristics like marital status or family structure may result in the earlier analysis prematurely ruling out generational differences in preferences toward driving. To examine this possibility I modify the main analysis in the following manner.

To start with I simplify several of the control variables by converting those that have multiple categories to dummy variables that capture the main groupings of interest.[4] Doing so does not qualitatively change the impact of the controls seen in the earlier regressions.

I then determine which of the control variables are to be treated as endogenous and which are exogenous. In the more restricted version I assume only family variables are endogenous (married, head-of-household and children). In the more expansive version I assume family, location and economic variables are endogenous (married, head-of-household, children, north, rural/urban, house type, employed, high income and homeowner). Sex and survey year are treated as exogenous in all cases.

Next I conduct two sets of regression. First, I regress each of the driving outcome variables

[4]Marital status becomes a dummy for married; head-of-household relation becomes a dummy for head-of-household; employment status becomes a dummy for employed; property type becomes a dummy for house; income quintile becomes a dummy for high-income; household structure becomes a dummy for whether the household has any children; property tenure becomes a dummy for homeowner; geographic region becomes a dummy for living in the north of the UK; and area type becomes a dummy for rural.

(license, vehicle miles travelled and cars in household) on the generation dummies and both the endogenous and exogenous controls. These results effectively replicate those found in the earlier analysis.

$$y_{it} = \beta_0 + \beta_1 I_i^{Silent} + \beta_2 I_i^{Greatest} + \beta_3 I_i^{GenX} + \beta_4 I_i^{Millenial} + \beta_5 I_i^{GenZ} + \sum_m^M \beta_m X_{mit}^{endog} + \sum_k^K \beta_k X_{kit}^{exog} + \epsilon_{it} \tag{2}$$

Second, I regress each of the endogenous controls on the generation dummies and any remaining exogenous controls, which in this case are sex and survey year.

$$x_{mit}^{endog} = \alpha_{0m} + \alpha_{1m} I_i^{Silent} + \alpha_{2m} I_i^{Greatest} + \alpha_{3m} I_i^{GenX} + \alpha_{4m} I_i^{Millenial} + \alpha_{5m} I_i^{GenZ} + \sum_k^K \alpha_{km} X_{kit}^{exog} + \upsilon_{it} \tag{3}$$

Fourth, I take the coefficients from these two sets of regressions and calculate the effect of each generation by combining the main effect with the portion of the effect from the endogenous variable that can be explained by generational differences. So for Millenials the combined effect would be:

$$\beta_4 + \sum_m^M (\beta_m \times \alpha_{4m}) \tag{4}$$

The resulting effects should give an upper bound on the overall potential effect that can be

attributed to generational differences.

Table 5 presents the results of this analysis. Specifications one and two are results for license, three and four are results for vehicle miles travelled and five and six are results for number of cars in the household. The difference between odd and even specifications are the range of variables deemed to be exogenous. The top panel of the table shows the main effects for the generation coefficients. These mirror those seen in the earlier analysis. The coefficients printed in the bottom panel are the combined effects as calculated using Equation 4.

These results show that the combined effects are generally larger in magnitude than the main effects, particularly when focusing on the license and vehicle miles travelled variables. This makes sense given the nature of the endogenous variables and their respective direct effects on driving habits. For instance, individuals that are married, have children and own their home are all more likely to have a license and more vehicle miles travelled, even after controlling for exogenous factors. Millenials are less likely to be married, less likely to have children and less likely to own their home, even after controlling for exogenous factors. If we view marriage, having children and owning your home as endogenous choices, we would expect the combined effect of being a Millenial to be larger than the main effect.

There is some uncertainty about which factors should be considered endogenous choices and which are exogenous endowments. A restrictive approach of only considering family variables as endogenous leads to a modest increase in the differences between Millenials and Baby Boomers. A more expansive approach of considering family, location and economic variables as endogenous leads to a large increase in the differences between Millenials and Baby Boomers. In both cases though, the resulting differences are sizeable and statistically

Table 5: Results for Endogenous Life Choices Analysis (Ages 26-39)

	(1)	(2)	(3)	(4)	(5)	(6)
Baby Boomer	0	0	0	0	0	0
	(.)	(.)	(.)	(.)	(.)	(.)
Gen X	-0.000600	-0.000600	-8.029	-8.029	0.0116	0.0116
	(0.00750)	(0.00750)	(38.64)	(38.64)	(0.0106)	(0.0106)
Millennial	-0.0219	-0.0219	-232.5	-232.5	0.0910	0.0910
	(0.00820)	(0.00820)	(58.23)	(58.23)	(0.0130)	(0.0130)
Observations	92496	92496	92496	92496	92484	92484
R^2	0.199	0.199	0.164	0.164	0.250	0.250
Baby Boomer	0	0	0	0	0	0
-	(0)	(0)	(0)	(0)	(0)	(0)
Gen X	-.019	-.043	-305.2	-627.5	.016	-.057
-	(.008)	(.005)	(36.2)	(75.4)	(.009)	(.01)
Millenial	-.069	-.134	-1045.9	-1935.5	.114	-.067
-	(.008)	(.006)	(43.2)	(90.5)	(.013)	(.014)
-						
Dependent Variable	License	License	VMT	VMT	Cars	Cars
Ages 26-39	Yes	Yes	Yes	Yes	Yes	Yes
Endogenous Family	Yes	Yes	Yes	Yes	Yes	Yes
Endogenous Location	No	Yes	No	Yes	No	Yes
Endogenous Economic	No	Yes	No	Yes	No	Yes
Sample Mean	0.78	0.78	6,695.32	6,695.32	1.09	1.09

Notes: This table shows the regression results for the analysis of endogenous choices. Specifications one and two are results for license, three and four are results for vehicle miles travelled and five and six are results for number of cars in the household. Baby Boomers are the omitted category. The top panel includes the main effects. The coefficients in the bottom rows are the combined effects after accounting for the role of endogenous variables. Note that the combined coefficients do not include significance stars even where they are statistically significant. All regressions limit the sample to individuals that are 17 years or older. Limits on the sample and the categories of variables treated as endogenous vary by specification as described in the bottom rows. Coefficients on controls are not shown. Sample mean is for the omitted group.

significant. Therefore, accounting for endogenous choices, rather than simply including all demographics as exogenous controls, does suggest there are still significant differences in driving preferences across generations.

5 Conclusion

There are large average differences between generations in the likelihood that individuals have driving licenses, their vehicle miles travelled and rates of vehicle ownership. This paper shows that a large part of these differences can be explained by variations in other demographic factors that vary across generations. The implication is that younger generations do not appear to have radically different preferences for driving and vehicle ownership than older generations. In fact, any meaningful differences seem to disappear entirely when comparing a narrower group of 26 to 39 year old Baby Boomers with Millenials of the same age.

However, this paper also uncovers two interesting exceptions. First, there does still appear to be a divergence in generational driving preferences when looking at urban vs rural areas. Millenials in urban areas drive significantly less than urban Baby Boomers, with some evidence they substitute towards trains and bikes. Second, accounting for life choices that may be endogenous to different generations, such as the decision to marry or have children, also indicates that Millenials make decisions that ultimately result in less personal driving.

These results have important implications when considering public policies aimed at tackling social problems associated with driving, such as congestion or air pollution. There are also potential implications for the impact of ride-hailing and automated driving. This was not

possible to directly address using the data in this study, and so remains an important area for further research.

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