

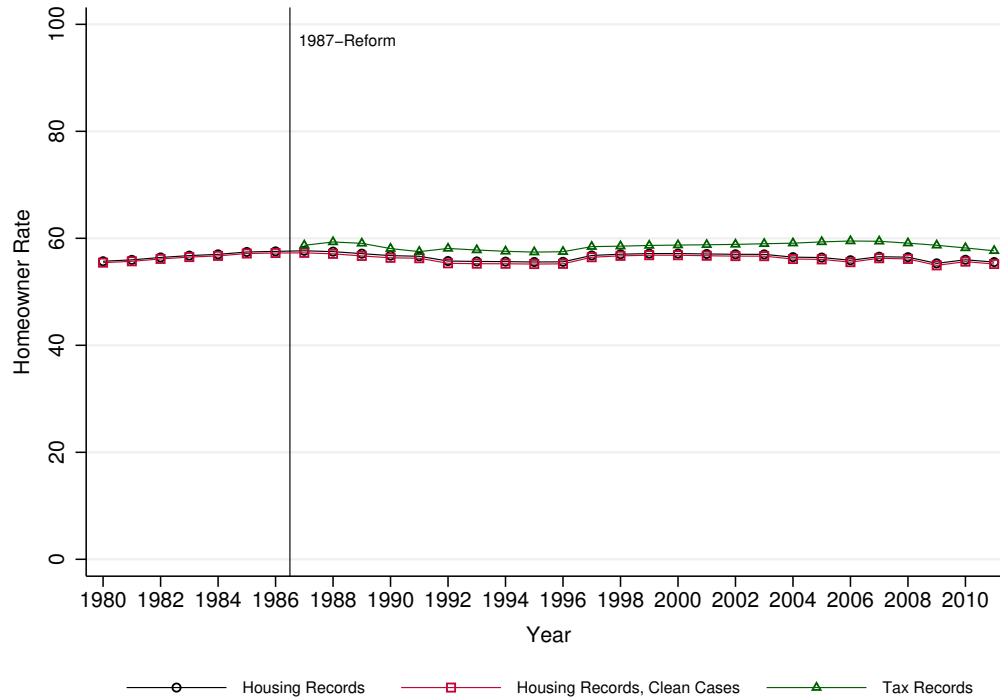
**Online Appendix to**  
**Do People Respond to the Mortgage Interest Deduction?**  
**Quasi-Experimental Evidence from Denmark**

Jonathan Gruber, MIT and NBER  
Amalie Jensen, Princeton University  
Henrik Kleven, Princeton University and NBER

June 2020

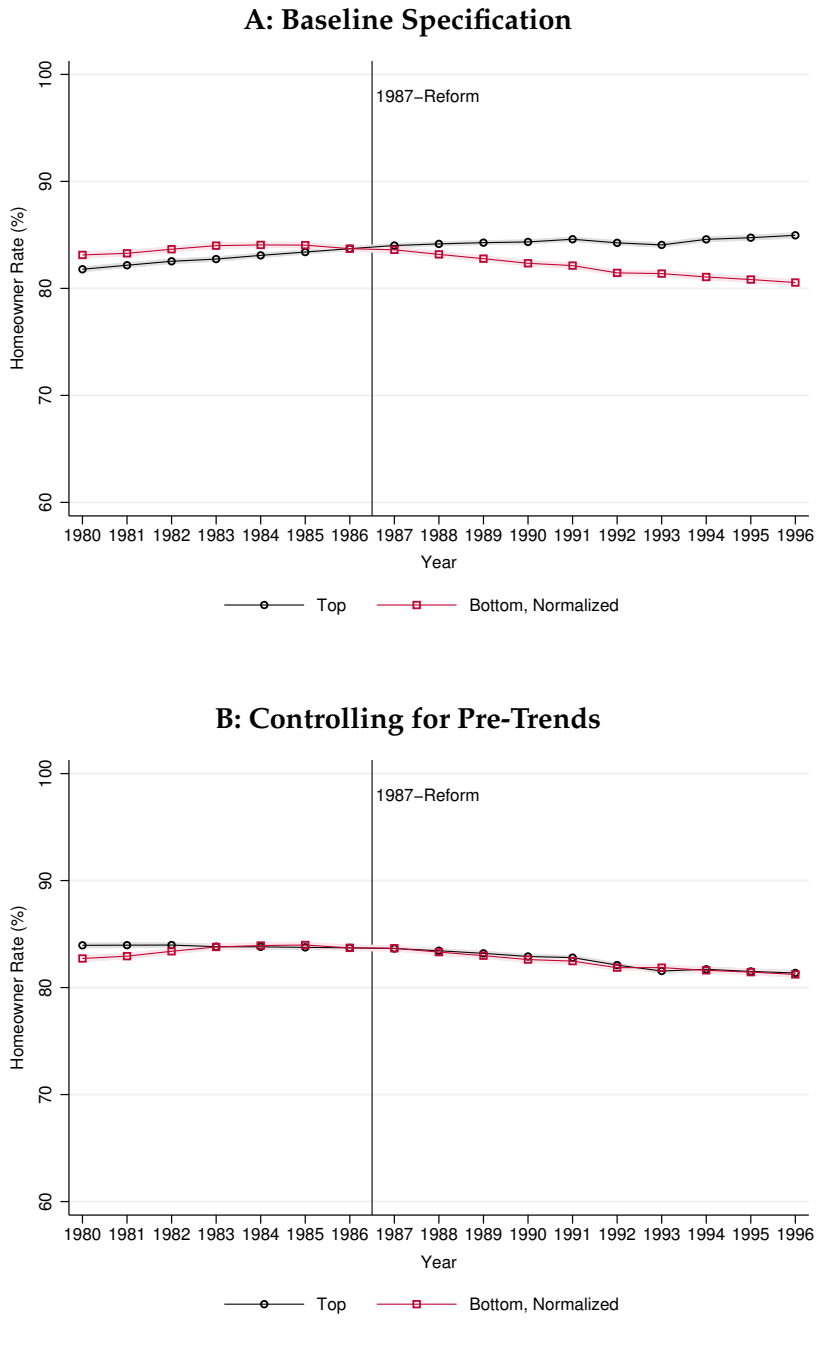
## A Online Appendix

Figure A.I: Validation of Homeownership Measure



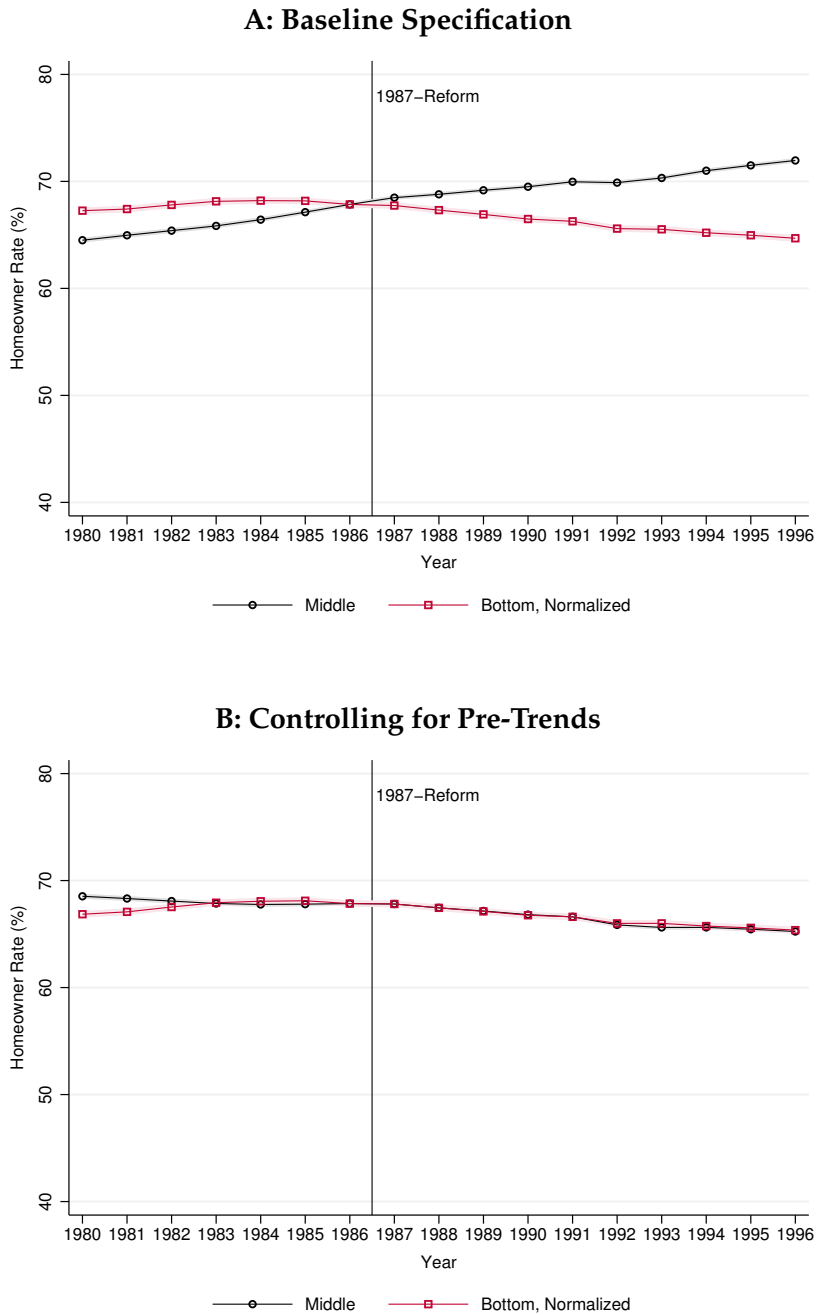
Notes: The figure compares our homeownership measure based on housing records to the ideal measure based on tax records available from 1987. The figure shows three homeowner rate series for the Danish population above age 20: our baseline measure using information from the housing records on living in an owner-occupied home, our measure using the housing records but including only "clean" cases (see text), and the ideal measure using information from the tax records on housing wealth. The two measures using housing records are essentially identical, and both of them are very close to the precise tax-based measure in terms of both the trend and the level. The level of homeownership is somewhat lower when using the housing register, because by construction this measure does not capture owners who are not residing in their owned property.

Figure A.II: Effect on Homeowner Rate Comparing Top and Bottom Groups



Notes: Panel A is constructed in the same way as Panel A of figure 3, but using taxpayers in the bottom bracket as controls. Panel B controls for pre-trends as follows: we estimate a group-specific linear time trend in the homeowner rate using only pre-reform data between 1983-1986. When estimating the year coefficients for each group over the full period 1980-1996 (based on equations (11)), we residualize the outcome variable using the estimated pre-trend from the first stage. The actual homeowner rates in 1986 were 83.7% for taxpayers in the top bracket and 52.1% for taxpayers in the bottom bracket.

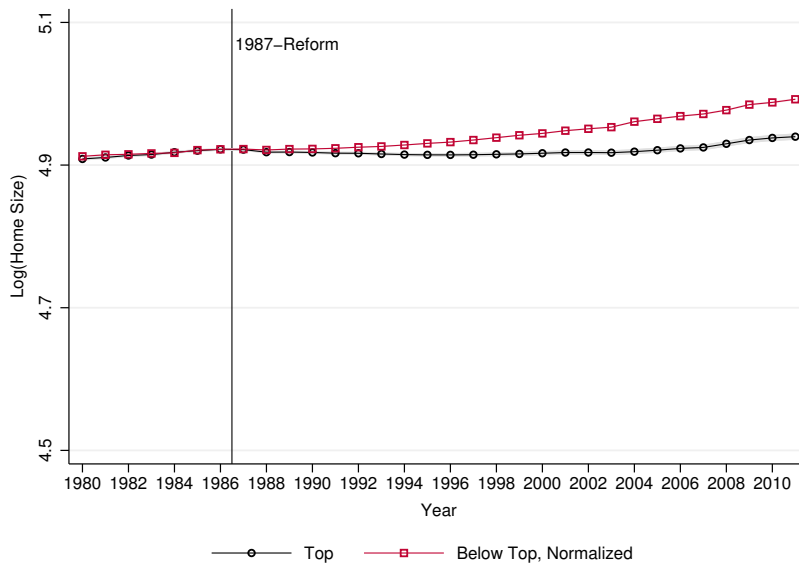
Figure A.III: Effect on Homeowner Rate Comparing Middle and Bottom Groups



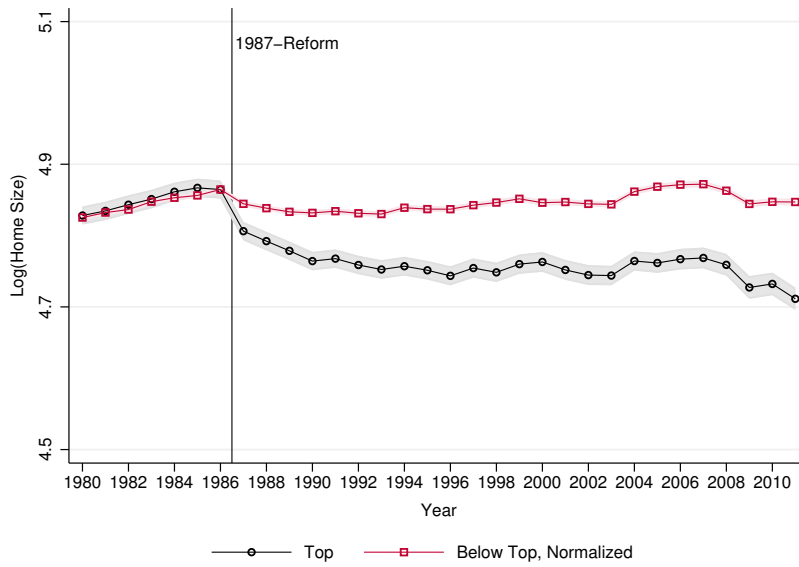
Notes: Panel A is constructed in the same way as Panel A of figure 3, but using taxpayers in the middle bracket as treatments and taxpayers in the bottom bracket as controls. Panel B controls for pre-trends as follows: we estimate a group-specific linear time trend in the homeowner rate using only pre-reform data between 1983-1986. When estimating the mean predicted outcome for each group over the full period 1980-1996 (based on equations (11)), we residualize the outcome variable using the estimated pre-trend from the first stage. The actual homeowner rates in 1986 were 67.9% for taxpayers in the middle bracket and 52.1% for taxpayers in the bottom bracket.

Figure A.IV: Effect on Home Size in the Very Long Run

**A: All Households**

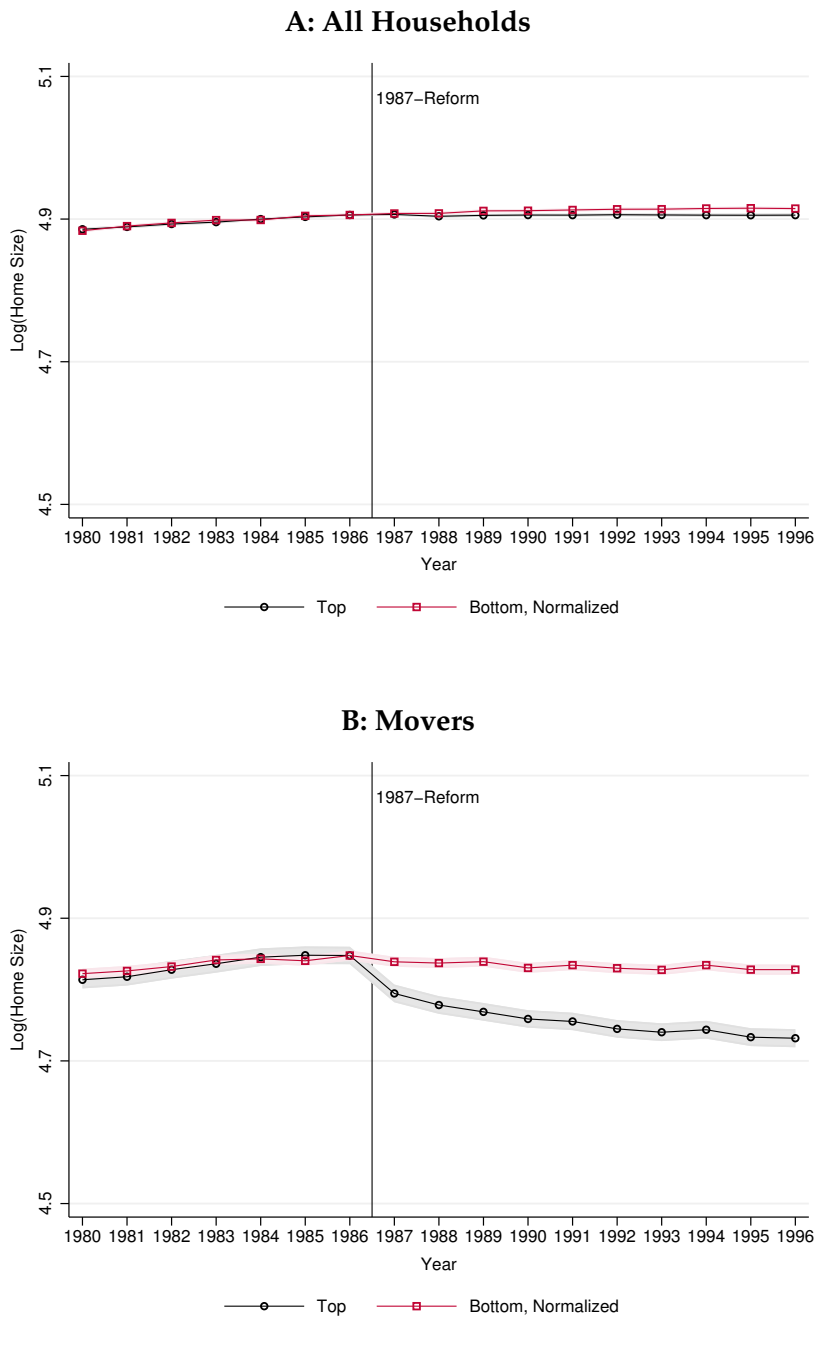


**B: Movers**



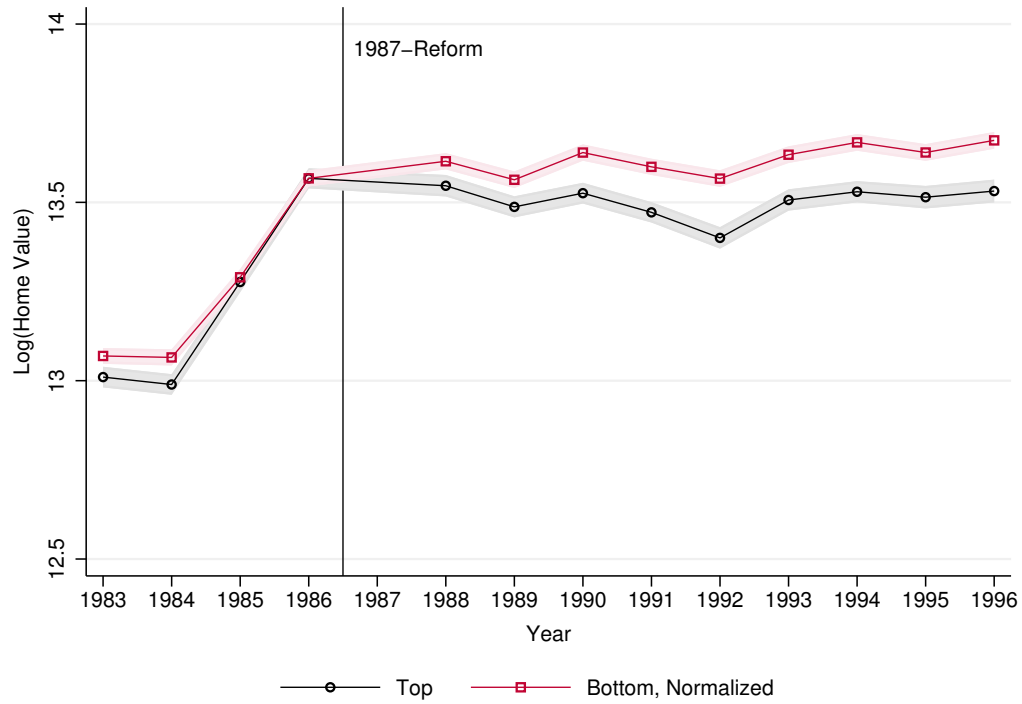
Notes: The figure is constructed in the same way as Figure 4, but using the longer balanced panel of individuals observed in all years between 1980-2011.

Figure A.V: Effect on Home Size Comparing Top and Bottom Groups



Notes: This figure is constructed in the same way as Figure 4, except that here we use taxpayers in the bottom bracket as controls.

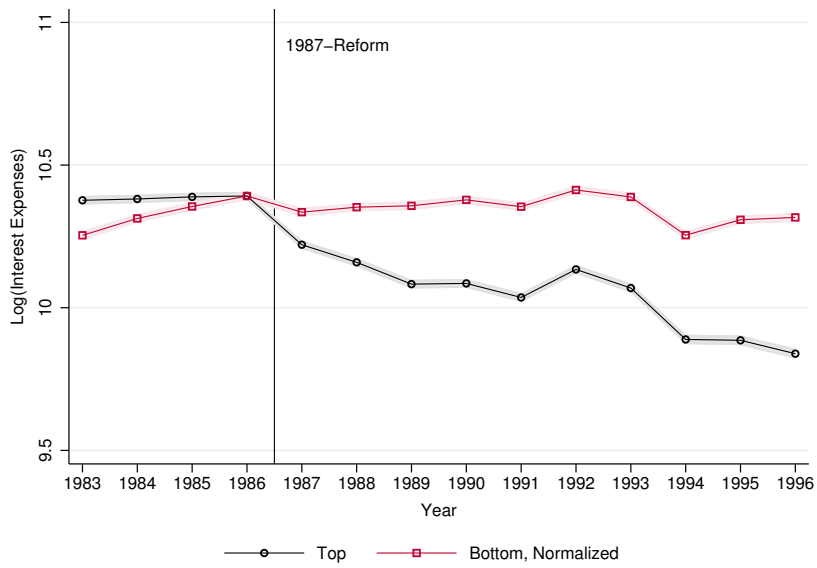
Figure A.VI: Effect on Home Value Comparing Top and Bottom Groups



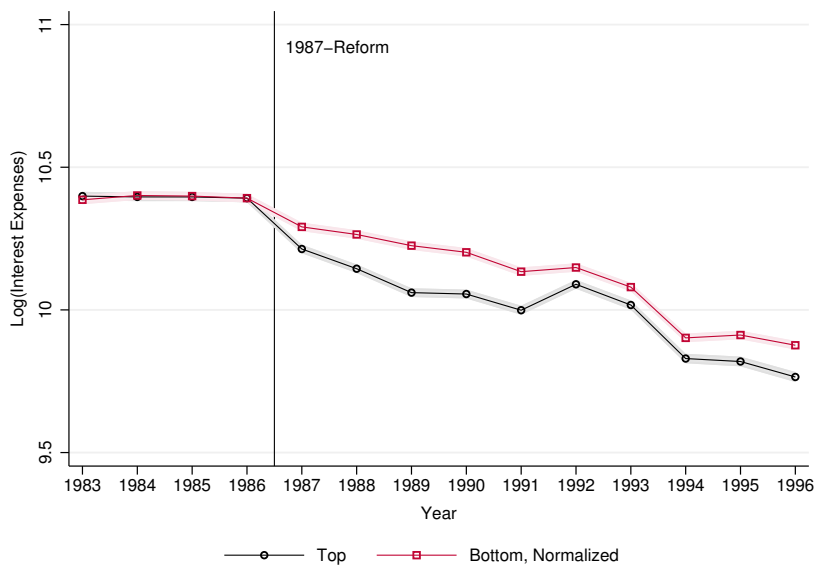
Notes: This figure is constructed in the same way as Figure 5, except that here we use taxpayers in the bottom bracket as controls.

Figure A.VII: Effect on Interest Expenses Comparing Top and Bottom Groups

**A: Baseline Specification**



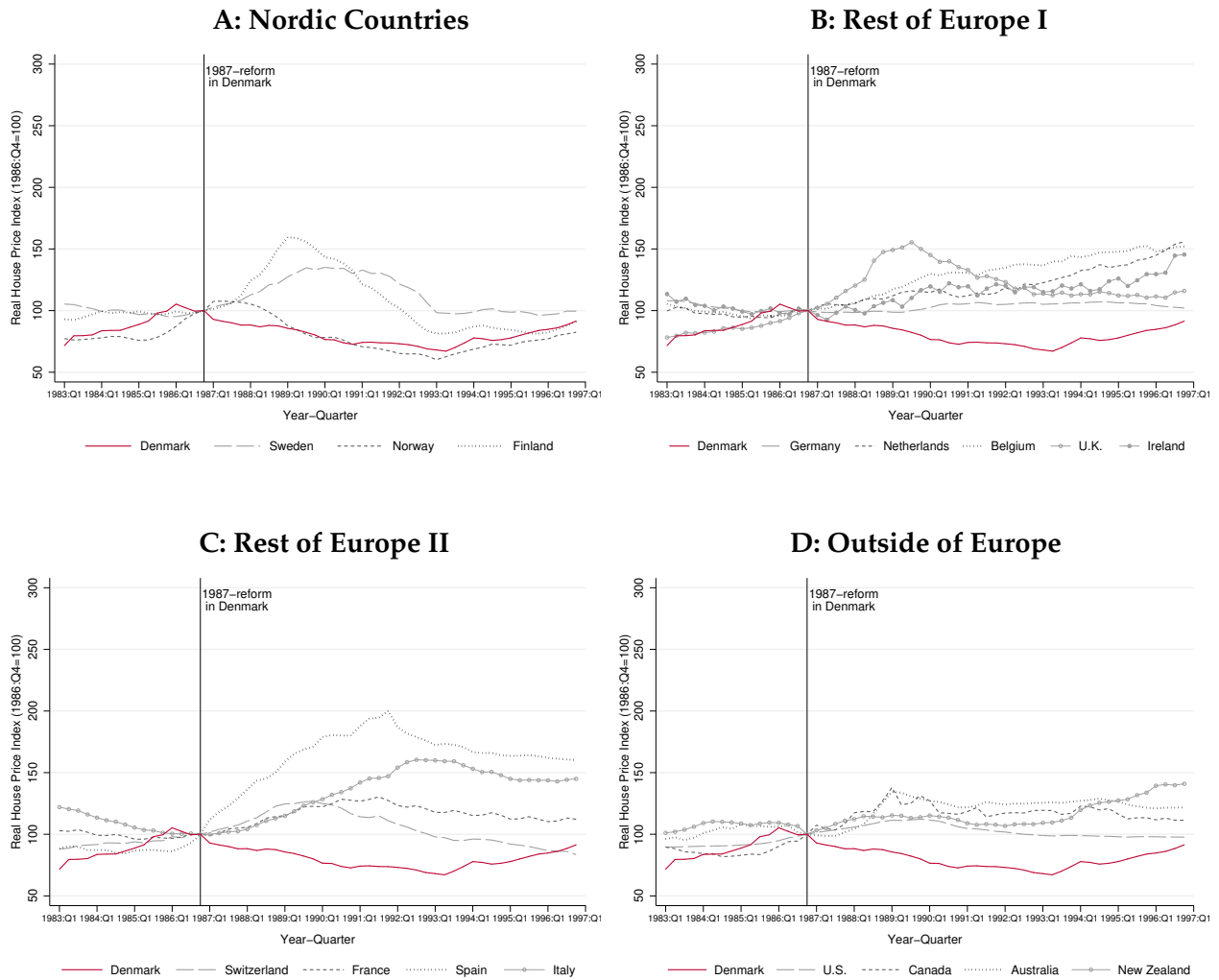
**B: Controlling for Pre-Trends**



Notes: This figure is constructed in the same way as Figure 6, except that here we use taxpayers in the bottom bracket as controls.



Figure A.VIII: House Prices Across Countries



Notes: The graphs show residential property prices (in real prices, indexed, 1986:Q4=100). All house price series are from the Bank for International Settlements' online database (Source: National sources, BIS Residential Property Price database, <http://www.bis.org/statistics/pp.htm>). Each panel shows the time series for Denmark compared to a pool of other developed countries. Panel A compares Denmark to other Nordic countries, Panel B and C compare Denmark to other European countries, and Panel D compares Denmark to English-speaking countries outside of Europe.