Hardware / Software

The estimations were done on:

-Computer: Dell Precision T5500 Desktop with Intel Xeon CPU processors, 64-Bit operating system.

-Statistical software: Stata/MP version 11.2, 2-core for Windows (64-bit x86-64).

Replication

To replicate the published results:

- Save and decompress the zip folder on your computer (copy the **path** where it was placed)
- In Stata (or your preferred Stata do-file editor), open the do file named:

  …\Replication_files\do_files\main_analysis.do

- On line 9 of the do file, type the **path** saved above:
- global path "**path**\Replication_files"
- Save the do file and run it from Stata, it will create a log file which is saved in the "\output" folder with all the table results.

Variable Documentation

The "Replication_files\data" folder contains four datasets. They are described individually below.

thefts_sales.dta

This dataset was created by merging the AMIS thefts dataset with the AMIA sales data. The AMIS data comes directly from an AMIS IT system known as OCRA which tracks insured Mexican vehicle thefts (OCRA is integrated into Carfax vehicle histories). The sales data were purchased from AMIA and come at the model X year X state level. The car models are tabulated in Appendix Table 1 and 2. The dataset covers 1999-2004 for 31 states (Although there are 32 states in Mexico, in the AMIA dataset two states were treated as a single state - Baja California and Baja California Sur). Each vintage of cars is observed every calendar year. There is a year of theft and a year of sale variable. The former corresponds to the time dimension and the latter corresponds to the cohort (or vintage) dimension.

sales: number of vehicles sold in a (model X state X vintage) cell (data from AMIA).

thefts: number of vehicles stolen in a (model X state X vintage X year of theft) (data from AMIS).

LJmodel: 1 if the car model was at some point included in the Lojack program.

LJstate: 1 for Jalisco, Mexico State, Morelos and DF.

age: defined as year stolen- year sold (integer valued).

id__*: (model X state) dummies.

state_code : identifies the state.

yr_stolen: Identifies the year of theft.

year_sold: Year of sale of vehicle (vintage variable).

LJ: 1 if the (model X state X vintage) is sold with Lojack. Corresponds to Appendix Table 2 (information from interviews with Lojack and Ford Mexico).

NLJM_LJS_After: 1 for NLJM-LJS vehicles stolen after LJ introduced into state.

NLJS_LJM_After: 1 if LJstate=0, LJmodel=1 and Lojack has been introduced in the nearest Lojack state (For states surrounding Jalisco, it turns on starting 2001 (AGS,BC, CH, COL, DUR, GTO, NAY, SIN, SON and ZAC) , and in 2002, for the rest of the non-Lojack states.

NLJS_NLJM_After: 1 if LJstate=0, LJmodel=0 and Lojack has been introduced in the nearest Lojack state (For states surrounding Jalisco, it turns on starting 2001 (AGS,BC, CH, COL, DUR, GTO, NAY, SIN, SON and ZAC) , and in 2002, for the rest of the non-Lojack states.

LJage*: Age dummies for Lojack vintages.

timetrendstate_*: state-specific linear time trends.

timetrendstate2_*: state-specific quadratic time trends.

NLJS_LJM_After_dcat_*: Three dummies that partition NLJS_LJM_After into three distance terciles: dcat_1=1 if distance from largest city in NLJstate to largest city in LJstate is less than 320km, dcat_2=1 if distance is between 320 and 933km and dcat_3=1 if distance is greater than 933km.

NLJS_NLJM_After_dcat_*: Same as above for non-Lojack models.

model_group_code: Identifies the car model.

NLJS_LJM_After_Close: Sets NLJS_LJM_After=0 for d_cat==3.

NLJS_NLJM_After_Close: Sets NLJS_NLJM_After=0 for d_cat==3.

category: AMIA-defined partition into vehicle categories: compact car, luxury sedan, minivan, sedan, sports car, subcompact car, SUV, pick-up truck.

T_pre_geo_ext: This is an auxiliary variable used to calculate group sizes for Table 3. Defined as the mean number of thefts by car model in non Lojack states before Lojack introduction.

T_pre_LJ: This is an auxiliary variable used to calculate group sizes for Table 3. Defined as the mean number of thefts by car model among Lojack models in Lojack states before Lojack is introduced.

T_pre_wthn_ext: This is an auxiliary variable used to calculate group sizes for Table 3. Defined as the mean number of thefts by car model in Lojack states before Lojack introduction.

sales_grouped.dta

This dataset is used in the sales analysis (Table 5). The year of theft dimension is irrelevant. It simply uses the vintage size from the main dataset above. Sales data were available through 2005, hence this dataset covers 1999-2005.

crimes.dta

These publicly available data are from INEGI (Estadisticas Judiciales en Materia Penal).[1] The data I used are the convicted crimes dataset to look at kidnapping, drug related offenses and thefts per 1000 adults in the state. Crimes data were available through 2005, hence this dataset covers 1999-2005.

coverage.dta

Publicly available annual AMIS reports (AMIS SESA AUTOS) provides a panel of national-level insurance contracts by car model. These were merged to AMIS sales data of the same car models (as done in the main dataset). The relevant variable here is defined as:

coverage: insured/sales

[1] http://www.inegi.org.mx/est/contenidos/proyectos/registros/sociales/judiciales/default.aspx