

## README

Replication package of the paper “The Price Effects of Reducing Payment Card Interchange Fees”.

Authors:

Bitia Shabgard. Universitat de les Illes Balears

Javier Asensio. Universitat Autònoma de Barcelona

The code in this package runs the different regressions whose outcomes are reported in the paper. The file ‘Shabgard Asensio do file.do’ runs the Stata code, which uses the data available at ‘Shabgard Asensio data.dta’.

### Definition of variables

| Variable | Stata name (in logs) | Definition                     |
|----------|----------------------|--------------------------------|
| P        | p (lnp)              | Consumer price index (CPI)     |
| MSC      | msc (lnmsc)          | Merchant service charge        |
| IFs      | if (lnif)            | Interchange fee                |
| Valpos   | valpos (lnvalpos)    | Value of transaction at POS    |
| Volpos   | volpos (lnvolpos)    | Volume of transaction at POS   |
| NC       | nc (lnnc)            | Number of cards in circulation |
| NPOS     | npos (lnnpos)        | Number of POS devices          |
| Volatm   | volatm (lnvolatm)    | Volume of transaction at ATM   |
| Totexp   | tot (lntot)          | Total household expenditure    |
| GDP      | growthgdp            | GDP growth                     |

### Data sources

a) Bank of Spain (Banco de España)

The payment systems department of the Bank of Spain provided quarterly data related to national card payment networks from 2008:1 to 2019:4.

The data contains information on the number of devices accepting card payment located in Spain owned by Spanish banks (POS and ATM), volume and value of card transactions at POS and ATM, and volume of cards in circulation. The data also provides rich information on the MSC for domestic payment transactions across 21 different merchant sectors in Spain. The

definition of each merchant sector is based on the aggregation of up to 100 different business categories. Moreover, the data contains the IF levels, on which two time periods can be identified: the first period includes the data from 2008:1 to 2014:2 and the second period includes the data from 2014:3 to 2019:4. In the first period, the data comprises two different measurements of the IF. One measurement is carried out according to the details of the 2005 Agreement, so that the IF is reported in terms of turnover value. The second measurement in 2008:1 to 2014:2 period reports the IF in terms of intra-and inter-network transactions, and details the figures for the same merchant sectors as the MSC. In the second period, the IF is reported in accordance with the RDL 8/2014 and the Regulation No. 2015/751 on IF, which requires distinguishing between credit card and debit card payments. In this case, data is provided across 9 different merchant sectors. Current (March 2023) available data is at [https://www.bde.es/bde/es/areas/estadis/estadisticas-por/operaciones-y-si/relacionados/Principales\\_est\\_1733fa955514921.html](https://www.bde.es/bde/es/areas/estadis/estadisticas-por/operaciones-y-si/relacionados/Principales_est_1733fa955514921.html)

b) Spanish Statistical Institute (Instituto Nacional de Estadística, INE)

Consumer price index (CPI) and household total expenditure are obtained from the INE. The CPI is reported monthly and the household total expenditure is reported annually. Since the data related to the card payment is reported quarterly, in order to have the same frequency among data, the monthly and annual data are converted into quarterly ones as moving averages. Monthly CPI data by subgroups since 2002 are available at <https://www.ine.es/jaxiT3/Tabla.htm?t=50903&L=0>. Total expenditure is obtained from the microdata of the the Household Budget Survey (Encuesta de Presupuestos Familiares):: [https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica\\_C&cid=1254736176806&menu=resultados&secc=1254736195147&idp=1254735976608#!tabs-1254736195147](https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736176806&menu=resultados&secc=1254736195147&idp=1254735976608#!tabs-1254736195147)

c) Federal Reserve Bank of St. Louis

The FRED database reports quarterly growth rates of GDP (citing the OECD as its source): <https://fred.stlouisfed.org/series/NAEXKP01ESQ657S>