

Credit and Debit Card Transactions Micro-Data for Mexico

Abstract

The CATAR dataset contains information from the universe of transactions made at Point of Sales (PoS) terminals with credit and debit cards in Mexico.

Introduction

This dataset reports clusters of transactions at a highly disaggregated level. That is, transactions are grouped by postal code, type of card (debit or credit), card issuer, PoS issuer, the business activity of the retailer, type of fee charged to retailers (rate or fee), as well as the PoS payment processor company. For every possible combination of values of the above variables, the dataset reports the number of transactions, number of PoS, as well as the median, minimum, maximum, standard deviation and the total value of transactions in the cluster.

Variables

Date stamps of transactions are reported on a daily basis, while the dataset is updated every quarter. The variables in the dataset are listed below. The first 10 variables are reported by the data provider area. The latter 7 variables are calculated by EconLab staff for every possible combination of values (clusters) stemming from the 10 first variables:

- **Card issuer:** Bank issuing the card initiating the transaction. There are over 70 institutions reflected in this variable.
- **PoS issuer:** Bank managing the PoS. That is, the bank receiving the transaction.
- **PoS payment processor:** This is the payment processor company. There are only three in Mexico.
- **Postcode:** The dataset reports information from over 15,500 postcodes.
- **Business activity:** There are three layers in this variable. The most disaggregated layer classifies retailers into roughly 350 categories.
- **Type of fee:** Retailers are charged a fee for each transaction. Fees could be either a fixed rate or a fixed amount. Information of these charges are summarized in two variables. The first one indicates whether the fee is a rate or a nominal amount, while the second one reports the value of such fee.
- **Date:** Day of the transaction.
- **Card type:** Specifies whether a debit or credit card is used in the transaction.
- **Number of transactions:** Total number of transactions in the cluster.
- **Number of PoS:** Number of PoS in the cluster.
- **Maximum:** Greatest valued transaction in the cluster.
- **Minimum:** Least valued transaction in the cluster.
- **Median:** 50th percentile of transactions in the cluster.
- **Standard deviation:** Among transactions in the cluster.
- **The total value of transactions:** Sum of all transactions in the cluster.

Additional Comments

Online and offline payments. It is not possible to distinguish between transactions made at physical or digital PoS terminals. In other words, online and offline shopping are pooled in the dataset. Some categories in the business activity variable signal online payments but they are only a few. For instance, on the one hand, one business activity is coded as an “e-commerce retailer”; on the other hand, some business activities, like “airlines”, pool together online and offline payments.

Transaction aggregates. Aggregates from this dataset are made public on a daily basis on Banxico’s website. These aggregates are broken down into 30 broad business activities and 32 Mexican regions.

Other transactions with credit and debit cards. This dataset contains transactions made at PoS terminals. It does not provide information on other types of transactions with credit and debit cards, such as cash withdrawals, either domestic or international wire transfers (e.g. SPEI or SWIFT), nor other payment methods associated with a debit card account (e.g. CoDi or cheques).

Miscellaneous issues. Researchers working with this data have noted some issues that may require attention:

- In 2019, the universe of 3.7 billion transactions are clustered into 423 million cells. The average number of transactions and value of transactions per cell are 9 and \$MXN 5,400, respectively.
- In 2019, nearly 70% of cells reports postcodes as missing. In contrast, nearly all cells report a bussiness activity.
- The business activity variable could be seen as a description of the type of retailer. A number of them can be mapped into their type of goods/industries (e.g. shoe stores), some others categories are rather broad (e.g. chemical products).
- Banxico's website reporting aggregates provides useful insights on data kinks¹.

Keywords: Point of Sale, SPEI, CODI, SWIFT, credit, debit, Bank, issuer, transaction, postal codes.

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Related data sets available in Banco de Mexico's EconLab.

- **Commercial Loans Micro-Data for Mexico - EconLab.** The commercial loans database includes the universe of commercial loans granted in Mexico by banking financial institutions.
- **Housing Loans Micro-Data for Mexico - EconLab.** The housing loans dataset includes all mortgages granted in Mexico by financial institutions.
- **Workers' wages in formal employment - EconLab.** Detailed information by individual with salary, sector, economic and employer of formal employees.

¹ See "Sistema de Información Económica" > "Sistemas de pago de bajo valor" on Banxico's website. The link is [here](#).