



Methodological note on e-commerce statistics

Methodological note on e-commerce statistics in Spain via means-of-payment entities

In general, e-commerce is understood as any purchase made online, irrespective of the payment method used. Its basic characteristic consists of a purchase order, which needs to be carried out via an electronic means, regardless of the actual payment mechanism.

The methodology used by Spain's National Authority for Markets and Competition (CNMC) for these e-commerce quarterly statistics only takes into consideration e-commerce (business volume and number of transactions) carried out using bank payment cards corresponding to the collaborating Spanish payment entity: Sistema de Tarjetas y Medios de Pago S.A. (www.sistemapay.es). The CNMC keeps a census of all the e-commerce transactions carried out through virtual points of sale that have Spain as their point of origin and/or destination and whose payment is carried out through the payment method network previously mentioned¹.

1. Definition used for e-commerce

The definitions for e-commerce used by the different statistical institutions may vary, and discrepancies especially occur when comparing what each one understands as an electronic medium.

Thus, the U.S. Census Bureau defines e-commerce as that which measures the value of goods and services sold online via public networks such as the internet, or private networks based on systems such as the Electronic Data Interchange (EDI). E-commerce sales are sales of goods and services for which the purchase order or the price negotiation and conditions of sale take place via the internet, an extranet such as the EDI network, or another online system. The payment may or may not be completed online.²

Alternatively, Statistics Canada (StatCan) defines e-commerce as commerce that takes place via the internet. In other words, transactions that are carried out over a computer-based system, consisting of the transfer of property or the use of tangible or intangible assets.³

This definition therefore does not cover sales carried out via the EDI through dedicated networks, ATMs, or financial transactions via the internet (even though the bank fees resulting from these operations would be included).

¹ These statistics do not consider bank transfers, cash on delivery, and other types of payments that are not carried out with bank cards as payment methods. For example, for means of payment like PayPal, only PayPal transactions linked to a credit card and not those linked to a bank account will be taken into consideration.

² <http://www.census.gov/>

³ <http://www.statcan.gc.ca/pub/88f0006x/2009005/part-partie1-eng.htm>

Finally, both Eurostat⁴ and the OECD⁵ use a definition for e-commerce based on criteria specifying that the purchase order completed must be electronic in order for the transaction to be considered as e-commerce.

As can be seen, under these definitions the actual payment method of the transaction does not matter. What is however important is the system used for carrying out the purchase order.

Therefore, e-commerce may be defined as all transactions carried out electronically via the internet, excluding those carried out through ATMs, EDI, regardless of the payment method used, and also the exchange mechanism used (membership, auction, negotiation between the parties, etc.).

However, given that the available source of data is the means-of-payment entity (Sistema de Tarjetas y Medios de Pago S.A.) with whom the corresponding Agreement has been signed, this Authority evaluates business and e-commerce volumes based on the number and amount of operations carried out through the entity that has signed the agreement throughout the period (quarter). These are practically all the bank card means of payment that operate in Spain.

The registry of e-commerce operations used is a census comprising all e-commerce transactions that have been paid for using bank cards corresponding to the collaborating means-of-payment entity mentioned and through virtual points of sale.

In particular, commercial transactions between Spanish e-commerce websites that have a virtual point of sale installed (virtual PoS) are analysed, along with individuals and legal entities who use bank payment cards issued by Spanish entities for their means of payment, and also the transactions of non-residents who carry out operations on Spanish websites with a Spanish virtual point of sale.

A virtual PoS is understood to be any software tool that sends card payment requests to the financial entities and expressly identifies the transaction as e-commerce (generated online).

It must be pointed out that the statistics do not include e-commerce operations that have been paid for via bank transfer, cash on delivery or other payment methods. Although other payment methods are used for e-commerce transactions, payment via bank cards is the method that best corresponds with the essence of e-commerce. This means that, even though the statistics do not entirely cover the volume of e-commerce (by not including data available related to online commercial transactions paid for using payment methods other than bank cards), it still covers a significant proportion of e-commerce with origin and/or destination in Spain.

E-commerce operations are broken down based on the following criteria: total invoicing; number of transactions; geographical origin/destination and branch of economic activity affected by the transaction (the CNAE: National Classification of Economic Activities is used for this classification).

⁴ <https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:E-commerce>

⁵ https://www.oecd-ilibrary.org/science-and-technology/oecd-guide-to-measuring-the-information-society-2011_9789264113541-en

Lastly, although the operations registered may be carried out both by individuals and businesses, our registry mainly covers transactions completed by individuals.

2. Geographical segmentation according to origin and destination of the transactions

The statistics analyse the number of e-commerce transactions and the business volume generated from the point of view of the geographical origin and destination of the transactions. Thus, the data is grouped under the following types of commercial transactions:

- **Spanish commercial transactions with foreign countries:** these are purchase operations made with one of the payment methods chosen by customers of the agreement signatory (Spain), on e-commerce websites that use a virtual point of sale from another country. Until the fourth quarter of 2020, the classification by geographical area in this category was made according to the country of the owner of the virtual point of sale. As of the first quarter of 2021, the classification is made by the country of the business (where the terminal is located or registered). This section also includes transactions at virtual businesses located in Spain but operating under a foreign payment service processor.
- **Foreign commercial transactions with Spain:** these are purchase operations made in foreign countries using payment methods on e-commerce websites that involve the payment method being processed through a virtual point of sale from the agreement signatory (Spain). The classification by geographical area is made according to the card issuing country. This section also includes transactions with cards marketed in Spain, but issued by entities that, being in Spain (foreign or domestic), are processed by an international operator.
- **Transactions within Spain:** these are purchase operations made with the payment methods chosen by customers of the agreement signatory (Spain) on e-commerce websites that use a virtual point of sale from the agreement signatory (Spain).

3. Segmentation according to transaction activity sector

The data provided by the means-of-payment entity are identified with activity codes or specific codes assigned to specific individual companies. Up until the first quarter of 2010, the CNMC matched these codes with the National Classification of Economic Activities of 1993 (CNAE-1993) or the Statistical Classification of Products by Activity of 2002 (CPA-2002).

Since the second quarter of 2010, these codes were updated in line with the activity and product codes included in the CNAE-2009 and the CPA-2008. Subsequently, the CPA-2008 was amended by the CPA 2.1 version which has been adopted as the national classification of products to date. On this basis, the CNMC has compiled a list of the emerging economic activities that were not previously included, and has also reviewed the old categories and adapted them to the new economic activity and classification of products.

The new CNAE-2009 involves the Spanish adaptation of the new Eurostat economic activity classification (NACE Rev.2)⁶. The CNAE-2009 has agreed the classification on an international level, in such a way that the comparability of statistical information is safeguarded among the different countries. The classification rules are a translation of those found in the NACE Rev.2 methodological introduction published by Eurostat and have been agreed upon by the Member States.

The CNAE-2009 is structured on four levels. The first level corresponds to an alphabetic code that represents up to 21 different *sections*. The next three levels are numerical digits that range from two to four digits long. The second level represents the *division* (there are 88 divisions) and it is represented by the first two numerical digits. The third level is the *group* (272 groups), and finally there is the *class* (629 classes). The *group* is represented by three numerical digits and the *class* by four numerical digits.

The CPA 2.1⁷ defines the economic activity categories established in the CNAE-2009 by level of product. The CPA 2.1 provides an even more detailed breakdown than the CNAE-2009 and summarises the level of products by the economic activity from which it is originated. Both classifications are agreed in such a way that the CPA 2.1 expands upon the CNAE-2009 with two more numerical digits and reflects more specific product categories.

The CPA is a macro-classification of products which constitutes the European version of the Central Product Classification (CPC) prepared and recommended by the UN. The CPA is legally binding in the European Community (Commission Regulation (EU) No 1209/2014). The CPA 2.1 version has been adopted as national product classification, in substitution of the CPA-2008, being 1st January 2015 the date of entry into force.

The number of levels has been reduced from 5 digits in the CNAE-1993 to 4 digits in the CNAE-2009. This is due to the number of classes with four digits being sufficient to statistically represent the relevant economic activities.

The main areas of activity included in the CNAE-2009 are:

- A.- Agriculture, livestock farming, forestry and fisheries.
- B.- Extractive industries.
- C.- Manufacturing industry.
- D.- Electricity and gas supply, steam and air conditioning.
- E.- Water supply; sewerage, waste management and remediation activities.
- F.- Construction.
- G.- Wholesale and retail trade; repair of motor vehicles and motorcycles.

⁶https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736177032&menu=ultiDatos&idp=1254735976614

⁷https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736177035&menu=ultiDatos&idp=1254735976614

- H.- Transport and storage.
- I.- Hotels and restaurants.
- J.- Information and communications.
- K.- Financial and insurance activities.
- L.- Property activities.
- M.- Professional, scientific and technical activities.
- N.- Administrative activities and support services.
- O.- Public administration and defence; compulsory social security.
- P.- Education.
- Q.- Healthcare and social work activities.
- R.- Arts, recreation and entertainment activities.
- S.- Other services.
- T.- Activities of households as employers of domestic personnel; household activities producing goods and services for own use.
- U.- Activities of extraterritorial organizations and bodies.

In theory, e-commerce is largely made up of the retail of goods and services. In all cases, it should be clarified that the source of data does not always enable a distinction to be made between purchases directly from the manufacturer and purchases through a supplier (retail trade). For this reason, even though the volume of exchanges that are non-identifiable in terms of their origin of sale (manufacturer or supplier) is low compared to the total, whenever there are doubts it has been decided to group the exchanges on a retail level.

For example, the code 4771 “Clothing Items” would include, without distinction, both clothing sales through the website of the manufacturer itself, and the sales of the same items completed online in virtual clothing stores.

Furthermore, given that the largest proportion of this type of commerce corresponds to retail, it is in this category where the statistics offer the greatest degree of disaggregation, even using the CPA 2.1 (National Classification of Products by Activities) for some goods and services.

In this way, a greater level of detail is obtained thanks to the CPA, which only uses 6 digits for two categories: *Optics, Photography and Precision* (470083) and *Commercial Art Galleries* (470069).

The reason the CPA must be used is due to the fact that there is a set of transactions that had previously appeared as hidden in the more aggregated categories. Given the relative importance of these transactions in the total, they need to be represented in detail. This makes it possible to dynamically show the goods and services that are most successful in e-commerce.

