

IN-PERSON ACCESS TO BANKING SERVICES IN SPAIN: A COMPARISON WITH OTHER COUNTRIES AND OTHER TYPES OF SERVICES

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Abstract

This paper presents a detailed analysis of the distribution of in-person access to banking services in Spain, compared with other European countries and other types of services. In accordance with the results of this diagnostic exercise, three main conclusions may be drawn. First, Spain has more bank branches and ATMs per thousand population than other European countries. This is largely due to differences in population distribution across countries. Indeed, once Spain's high population dispersion is taken into account, effective coverage of in-person access to banking services in Spain is similar to the euro area average. Second, the population resident in sparsely populated rural inland municipalities (essentially in Castile-Leon, Aragon and Castile-La Mancha) has the lowest coverage in terms of in-person access to banking services, whether through bank branches, ATMs or other alternative arrangements. Third, in this group of municipalities, coverage of in-person access to banking services is relatively similar to that of access to other privately-provided services (such as bars or shops) but lower than that of access to certain quasi-public services (such as health care or pharmacists).

Keywords: access, banking services, rural areas.

JEL classification: R51, I31, J11.

Resumen

Este trabajo presenta un análisis pormenorizado de la distribución de los puntos de acceso presencial a los servicios bancarios en España, en comparación con otros países europeos y con otros servicios de diversa índole. De acuerdo con los resultados de este ejercicio de diagnóstico, se pueden extraer las siguientes conclusiones principales. En primer lugar, el número de oficinas bancarias y de cajeros automáticos por cada mil habitantes es mayor en España que en otros países de nuestro entorno. Esto se debe, en buena medida, a las diferencias internacionales en cuanto a la distribución de la población en el territorio. En efecto, una vez que se tiene en cuenta la elevada dispersión geográfica de la población en España, la cobertura efectiva de puntos de acceso presencial a los servicios bancarios en nuestro país se situaría en torno a la del promedio de la Unión Económica y Monetaria. En segundo lugar, la población que reside en municipios rurales escasamente poblados del interior peninsular (fundamentalmente, en Castilla y León, Aragón y Castilla-La Mancha) es la que presenta una peor cobertura en términos de puntos de atención presencial a los servicios bancarios, ya sea a través de una oficina bancaria, de un cajero automático o de algún otro medio alternativo. En tercer lugar, en este grupo de municipios la cobertura de puntos de acceso presencial a servicios bancarios es relativamente similar a la de otros servicios de provisión privada —como bares o comercios—, pero inferior a la correspondiente a algunos servicios con un cierto componente de provisión pública —como la atención sanitaria o las farmacias—.

Palabras clave: accesibilidad, servicios bancarios, zonas rurales.

Códigos JEL: R51, I31, J11.

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1 Introduction

In recent months, the difficulties that certain population groups face to access banking services¹ in Spain have gradually gained ground in the public debate.² When measuring such accessibility, a distinction should be drawn between the in-person (i.e. via a bank branch, an ATM, a mobile branch or a financial agent) and remote (e.g. online or over the phone) provision of these services. Indeed, the accessibility of in-person banking services is determined by factors (such as the customer's geographical proximity to the physical locations where the services are provided) which are, in principle, very different from those which influence access to remote banking services (e.g. customers' digital skills).

Against this backdrop, this paper aims to characterise the coverage of in-person access to banking services in Spain.³ Specifically, in Section 2 we analyse recent developments in the number of bank branches and ATMs per thousand population in Spain and in other euro area countries. The findings reveal that, while in 2021 the number of banking service access points in Spain still remained relatively high (the third highest in the euro area, behind only Portugal and Austria), since 2008 the number of bank branches and ATMs has fallen more sharply in Spain than in the rest of the euro area. However, it should be noted that this high number of bank branches and ATMs in Spain is largely associated with its high population dispersion. Thus, effective coverage of in-person access to banking services in Spain is similar to the euro area average once cross-country differences in population distribution are taken into account.

Following the international comparison, Section 3 provides a detailed analysis of the accessibility of in-person banking services in Spain's different regions and municipalities. The findings reveal significant inter- and intra-regional heterogeneity. Thus, residents of sparsely populated, isolated rural municipalities face the greatest difficulties in accessing banking services in terms of the distance they need to travel to the closest point of service, be it a bank branch or any of the other alternatives deployed by banks in certain municipalities (ATMs, financial agents and mobile branches, among others). Specifically, according to the metrics analysed, the rural areas of regions such as Castile-Leon, Aragon and Castile-La Mancha, which are characterised by the high dispersion of their rural population, have poorer in-person access to banking services.

To supplement these findings, Section 4 compares the accessibility of in-person banking services in Spanish rural areas with that of other types of services, such as health

1 The main banking services are those which comprise cash services, acceptance of repayable funds (especially deposits), lending and payment services. See Ministerial Order EHA/2899/2011 of 28 October 2011 on transparency and customer protection in banking services.

2 See, for example, the update to the *Strategic Protocol to Strengthen the Social and Sustainability Commitment of Banking*, signed by the banking associations on 21 February 2022, to include new measures to ensure personalised customer service.

3 Leaving the number of in-person points of access to banking services to one side, there are other dimensions related to the services' accessibility or quality (such as opening hours or the volume of resources available to provide banking services to customers) which are also very important. These dimensions are not analysed in this paper, since, for the time being, insufficient information is available to accurately quantify them.

care, pharmacies, the post, hospitality and retail trade. This exercise shows that, between 2008 and 2021, the number of in-person points of access fell more sharply in the case of banking services than in that of the other services analysed. This may partly explain why some population groups – particularly those who have more difficulties in accessing banking services remotely – have the sense that banking services have deteriorated more in recent years. In addition, in 2021 the number of in-person points of access to banking services in rural municipalities stood below that of some quasi-public services, such as health care, pharmacies and the post. However, once the different alternative arrangements deployed by banks in the most recent period are taken into account, the number of in-person points of access to banking services in rural municipalities is similar to that of other essentially privately provided services, such as bars and shops. In this regard, the rural municipalities of Castile-Leon and Cantabria are those with a more pronounced differential between in-person access to banking services and access to the other services. This differential cannot be explained by a higher population dispersion in these areas, since, in principle, the distribution of the population affects the in-person provision of the different services, be they banking or other services, equally.

Lastly, Section 5 provides some final considerations and a brief overview of the main lines of research on the risks of financial exclusion under way at the Banco de España. The research includes work on the importance of financial education and the general public's acquisition of digital skills, in addition to analyses, drawing on the best practices adopted internationally, of the effectiveness of different initiatives that could be rolled out in Spain to mitigate the risk of financial exclusion.

With respect to other related papers in the literature, Goerlich, Maudos and Mollá (2021), which compares the accessibility of some essential public services (health care and education) at local level with access to bank branches in December 2020, should be noted. More recently, Maudos (2022) expands such analysis to cover not only bank branches, but also ATMs, financial agents, Correos (the Spanish postal service) offices and mobile branches in December 2021. Compared with these analyses, this paper also analyses the changes in the accessibility of banking services since 2008 and vis-à-vis those observed in the rest of the euro area, placing particular emphasis on the comparison with other types of services, such as pharmacies, bars and shops. In this regard, Alloza et al. (2021) show that, in Spain, rural areas have worse access to local services (nursery schools, primary healthcare centres, libraries) than their European counterparts, whereas these differences are not significant in the case of urban areas. These findings are consistent with the poorer coverage of in-person access to banking services in Spanish rural areas than in urban ones. However, the lack of homogeneous data prevents us from performing as granular a comparison between the rural areas of different countries in the case of banking services.

2 The accessibility of banking services in Spain and Europe

Determining the sufficiency of access to banking services is an extraordinarily complex task that is not exempt from some degree of subjectivity. For example, one bank branch per thousand population may be considered sufficient or not depending, among other factors, on the characteristics and the quality of the service provided. In light of the difficulty of accurately assessing the sufficiency – in absolute terms – of the provision of banking services (a task which, in addition, is largely influenced by the insufficient granular data on some very important aspects associated with the provision of such services), it may be particularly informative, as a starting point for preparing a diagnosis of the situation, to compare the number of in-person points of access to banking services in Spain with that in other European countries. Specifically, this section compares recent developments, in Spain and in the euro area, in the number of bank branches and ATMs per thousand population, as an indicator of in-person access to banking services.⁴

In the case of Spain, the total number of bank branches has decreased considerably from the peak reached in 2008.⁵ Thus, at end-2021 there were 58% fewer bank branches than in 2008, such that the ratio of bank branches per thousand population fell from 1 to 0.41 in that period. While there has also been an adjustment to the bank branch network in the euro area as a whole, the reduction in Spain, which began with significantly higher levels, has been sharper. Specifically, between 2008 and 2021 the number of bank branches in the euro area decreased by just under 40%, and the ratio of bank branches per thousand population fell from 0.57 to 0.33 (see Chart 1.1).⁶

The reduction in the number of branches since 2008 has been widespread among euro area countries, although the adjustment has been more pronounced in those countries with a higher number of branches per inhabitant at the start of the period. In other words, countries have converged somewhat in terms of bank branches per inhabitant. Thus, the sharpest drop arose in Cyprus and Spain, which had the highest number of branches per thousand population in 2008 (1.17 and 1, respectively). Conversely, the adjustment was less severe in countries such as Estonia, the Netherlands and Ireland, which had far lower levels for that ratio (0.2 branches per thousand population) (see Chart 1.2).

The number of ATMs has also fallen significantly, albeit less sharply than in the case of branches. In 2008 Spain had 1.34 ATMs per thousand population (0.95 in the euro area). In 2021 this figure had fallen to 1.01 (0.81 in the euro area). Since many of these ATMs are located at the bank branches themselves, the sharper downsizing in the number of branches than in the number of ATMs in Spain would be compatible with the installation

⁴ Annex 1 contains more information on the definitions and data sources used in this paper.

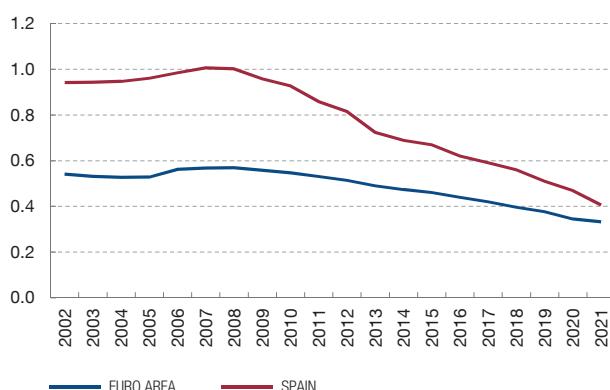
⁵ The branch network of deposit institutions and specialised lending institutions, the reference used in this section, peaked in Spain in September 2008, at around 46,000 branches.

⁶ The data published by the European Central Bank (ECB) in its Banking Structural Financial Indicators database include deposit institutions' (i.e. banks, savings banks and credit cooperatives) and specialised lending institutions' operational branches in each country. The latest available figure refers to 2021.

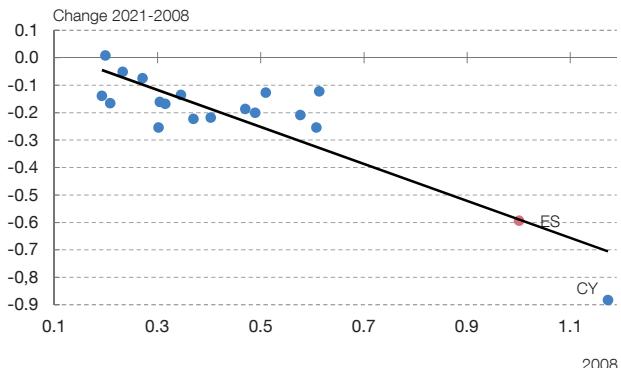
Chart 1

BANK BRANCHES IN SPAIN AND THE EURO AREA

1 BANK BRANCHES PER THOUSAND POPULATION



2 DECREASE IN BANK BRANCHES PER THOUSAND POPULATION BETWEEN 2008 AND 2021



SOURCES: Eurostat, ECB and Banco de España.

NOTE: Deposit institutions and specialised lending institutions in Spain are considered.

and maintenance of standalone ATMs (i.e. not on a bank branch's premises). As commented in the following section, this strategy has at least in part maintained access to cash and mitigated the risks of financial exclusion for a relatively important segment of the population.

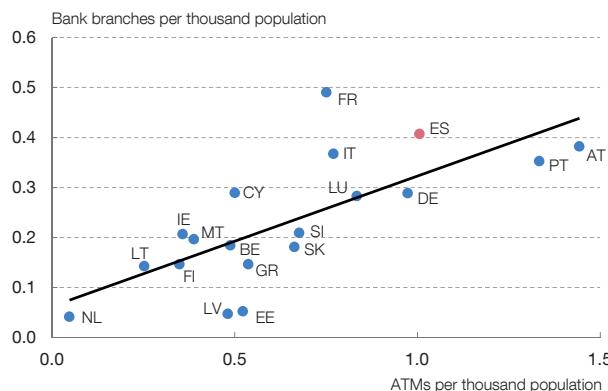
Two of the factors behind this greater downsizing in bank branches and ATMs in Spain than that recorded in the euro area as a whole should be highlighted. First, the banking consolidation and restructuring in the Spanish financial system in the wake of the 2008 financial crisis. Second, private sector deleveraging, which also followed the onset of the financial crisis, together with the growth of online banking, has resulted in lower in-person demand for financial products from households and firms. While these two factors affected all euro area economies, they had a greater impact in the case of the Spanish economy. For example, between 2008 and 2021 the number of banks decreased by just under 50% in Spain, whereas, in the euro area as a whole, the number of banks fell by around 35%. Meanwhile, the volume of bank lending to households and firms as a percentage of GDP fell in Spain from the 2009 peak of 170% to 93% in 2019. Once again, this was a sharper drop than that observed in the euro area (from 109% to 90%).

As a result of the aforementioned consolidation process, in 2021 there were just over 19,000 bank branches and close to 48,000 ATMs in Spain. This represents, as mentioned above, 0.41 bank branches and 1.01 ATMs per thousand population. There were 0.33 bank branches and 0.81 ATMs per thousand population in the euro area in 2021. Thus, Spain is second only to France as the euro area country with most bank branches per thousand population (see Chart 2.1). In terms of the sum of bank branches and ATMs, in 2021 Spain was third in the euro area, with 1.41 cash access points per thousand population, behind

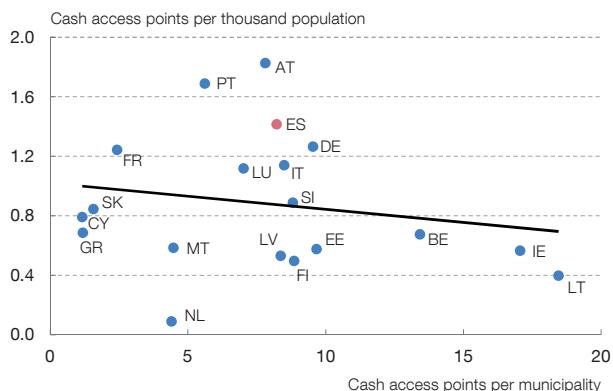
Chart 2

BANK BRANCHES AND ATMs IN SPAIN AND THE EURO AREA

1 BANK BRANCHES AND ATMs IN 2021



2 CASH ACCESS POINTS IN 2021



SOURCES: Eurostat, ECB and Banco de España.

only Portugal and Austria. However, in terms of access points per municipality, Spain stood at around the euro area average (8.2 cash access points per municipality), slightly below countries like Germany and Italy (9.5 and 8.5, respectively) (see Chart 2.2).

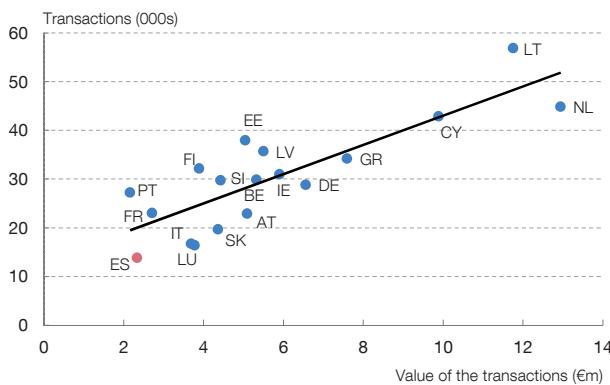
In addition to having a very high number of ATMs and bank branches per inhabitant compared with other countries, Spain is the euro area country where fewest transactions are processed per ATM and with fewest staff per bank branch. Specifically, each ATM processed 13,800 transactions (for a value of €2.3 million) in 2021, compared with 22,700 transactions (for a value of €4.2 million) in the euro area (see Chart 3.1). The Spanish banking sector also has around half as many workers relative to the number of bank branches as in the euro area as a whole (8.5 versus 15.2 per bank branch in 2021), which suggests that Spanish branches are smaller on average. In other words, in Spain bank branches and ATMs have, on average, a relatively low volume of business, which could pose a greater threat to their economic viability. In addition, while the percentage of the Spanish population that uses online banking resembles that of the euro area as a whole, Spain is among the euro area countries where a higher percentage of transactions are performed in cash (behind only Malta). This underscores the need to maintain the cash access infrastructure for the population as a whole (see Chart 3.2).

Both the lower use of ATMs in Spain (despite the high use of cash in the country) and the small average size of bank branches could be due to its elevated population dispersion, which results in a higher rate of sparsely populated municipalities with a lower number of potential customers per branch and/or ATM. This significant population dispersion would also explain the contrast between Spain's relative position in banking service accessibility depending on whether it is measured in per capita terms (far higher than the other euro area countries) or in per municipality terms (in line with the euro area average).

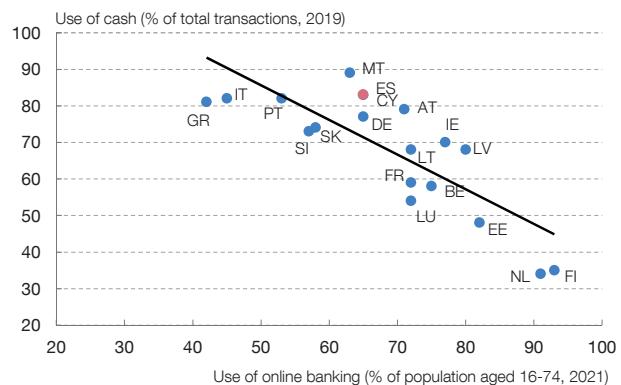
Chart 3

ATM TRANSACTIONS AND CASH USE

1 CASH WITHDRAWALS PER ATM IN 2021



2 USE OF ONLINE BANKING AND CASH



SOURCES: ECB, European Commission and Banco de España.

NOTE: The information on Cyprus, Estonia, Italy, Luxembourg and the Netherlands in Chart 3.1 and the figure for use of online banking in Germany in Chart 3.2 refer to 2020.

Indeed, the population distribution in Spain is characterised by a high prevalence of uninhabited territory and the existence of a significant number of small isolated municipalities (see Gutiérrez et al. (2020)). Insofar as this particular population distribution could hinder the harnessing of economies of scale in the provision of certain services, it could also be affecting their degree of accessibility by certain groups (see Alloza et al. (2021)). Specifically, territories with a higher population dispersion and many isolated municipalities should be expected to have a higher number of banking service access points per capita.

In keeping with this hypothesis, we observe that countries such as Belgium and the Netherlands, which are characterised by low population dispersion, have a smaller number of cash access points per thousand population than other countries (such as Spain and Portugal) whose population dispersion is higher. In addition, when comparing European regions (NUTS 3; provinces in the case of Spain) using information for 2020, we also observe that some Spanish provinces (such as Cuenca, Teruel, Huesca and Soria) with a particularly elevated population dispersion have, as a general rule, a higher number of cash access points per thousand population (see Chart 4.1).

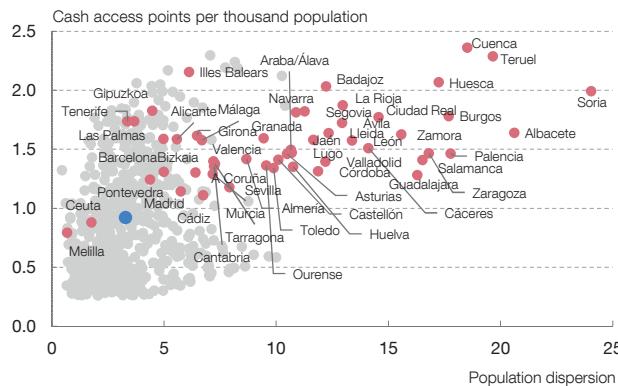
In any event, to test this hypothesis more comprehensively, it is possible to estimate a model in which the number of cash access points per thousand population at regional level is explained as a function of population density and dispersion.⁷ In this model, the portion of the number of bank branches and ATMs unexplained by such variables can therefore be construed as a measure of accessibility that already factors in the regional population distribution differences.

⁷ Population dispersion is proxied via the coefficient of variation, which is calculated as the ratio of the standard deviation to the average number of inhabitants per km² in each European region. This measure takes its minimum value when each km² of a region has the same number of inhabitants and, therefore, the population dispersion is very low.

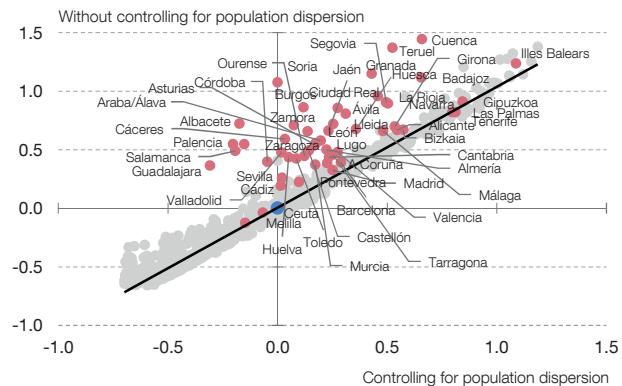
Chart 4

CASH ACCESS POINTS IN SPANISH AND EURO AREA REGIONS

1 CASH ACCESS POINTS IN 2020 AND POPULATION DISPERSION



2 CASH ACCESS POINTS IN 2020 TAKING INTO ACCOUNT POPULATION DISPERSION



SOURCES: Eurostat, ECB and Banco de España.

NOTE: Each dot in both charts refers to a NUTS-3 level European region. The red dots denote Spanish provinces and the blue dot the region of Paris. In Chart 4.2, the region of Paris is the omitted category. Therefore, the rest of the dots take values in differences vis-à-vis Paris, which takes the value 0 as the reference region.

According to the results obtained through the estimation of this model, once the specific geographical distribution of their population is taken into account, Spanish provinces generally have a number of in-person banking service access points that is in line with the other euro area regions. For instance, when this exercise is performed, provinces such as Albacete, Soria, Huesca, Teruel and Cuenca fall from the upper end of the regional distribution of the number of access points per thousand population in the euro area to its midpoint (see Chart 4.2). In any event, it should be noted that, even when taking into account the geographical distribution of its population, the Balearic Islands would remain at the upper end of this distribution. This is partly explained by the high demand for banking services in this region from the non-resident population.

3 The accessibility of banking services in the regions and municipalities of Spain

The analysis presented in the previous section documents the existence of differences in the accessibility of in-person banking services (proxied by the availability of bank branches and ATMs) across different euro area countries and regions. Such exercise suggests that there are also significant inter- and intra-regional differences in the number of cash access points in Spain (see Posada Restrepo (2021)). The purpose of this section is to delve deeper into this high regional and municipal heterogeneity in Spain.

A significant component of such heterogeneity is the result of the fact that, between 2008 and 2021, the bank branch closure process in Spain was highly asymmetric across the country.⁸ Specifically, during this period the municipalities which lost all of their bank branches were mainly concentrated in areas of Castile-Leon, Aragon, Catalonia, the Valencia region, Castile-La Mancha and Extremadura (see Chart 5.1). Thus, these areas are also those with a greater increase, between 2008 and 2021, in the distance that an inhabitant had to travel to the closest bank branch (see Chart 5.2).

This deterioration in local access to bank branches was essentially concentrated in sparsely populated rural municipalities (see Banco de España (2021)).⁹ Specifically, between 2008 and 2021 a total of 900 Spanish municipalities, 96% of which were rural municipalities,¹⁰ lost local access to a bank branch. As a result of this process, the average distance that a resident in a municipality has to travel to reach the closest municipality with a bank branch (i.e. bank branch accessibility) grew to a greater extent in rural municipalities. Specifically, the average distance to the closest bank branch increased from 3.3 km in 2008 to 4.9 km in 2021 in the case of rural municipalities, while it remained practically unchanged (around 0 km) in urban municipalities¹¹ (see Table 1).

In addition, the distance to the closest municipality with a bank branch increased above all in those rural municipalities with the worst demographic dynamics between 2008 and 2021 and where savings banks were more prevalent in 2008. In other words, both supply and demand-side factors are significant when explaining the bank branch closure process in the rural world (see Box 1). All this seems to have resulted in an increase in the risk of financial exclusion for inhabitants of rural municipalities. This vulnerability would be exacerbated because it is precisely these municipalities that are characterised by having an older and less digitalised population,¹² in addition to having poorer broadband coverage than urban municipalities (see Alloza et al. (2021) and Banco de España (2021)).

⁸ An initial analysis of this bank branch closure process can be found in Banco de España (2017).

⁹ Eurostat defines a municipality as rural if at least 50% of the population live in low-density 1 km² cells. These low-density cells do not belong to a group of contiguous cells with more than 5,000 citizens and more than 300 citizens/km². For more details, see [Methodological manual on territorial typologies](#).

¹⁰ Note that we identified 11 municipalities without a bank branch in 2008 that did have one in 2021. Accordingly, in this period, the number of branchless municipalities increased by 889, rather than by 900.

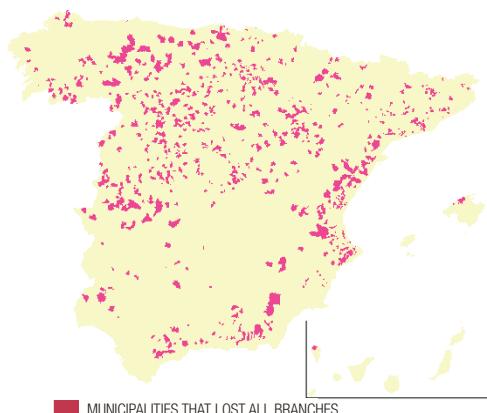
¹¹ Provided there is at least one bank branch in a given municipality, the distance to the closest branch is deemed to be 0 km, regardless of how many have been closed in that municipality in recent years.

¹² According to the European Commission's Digital Economy and Society Index (DESI), 59.3% of Spain's rural population used online banking in 2021, compared with 68.5% of its urban population.

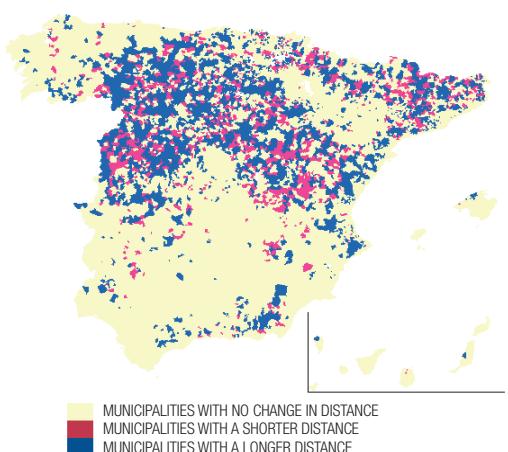
Chart 5

BANK BRANCH CLOSURES IN 2008-2021 AND CHANGE IN THE DISTANCE TO THE CLOSEST BRANCH

1 MUNICIPALITIES THAT LOST ALL BRANCHES BETWEEN 2008 AND 2021



2 MUNICIPALITIES BY CHANGE IN DISTANCE TO THE CLOSEST BANK BRANCH



SOURCES: INE and Banco de España.

NOTE: In Chart 5.1, the areas with red dots denote municipalities that had at least one bank branch in 2008, but none in 2021. In Chart 5.2, the blue dots denote those municipalities where between 2008 and 2021 the distance to the closest municipality with a bank branch grew; the red dots, municipalities where it decreased and the yellow dots, municipalities where it remained unchanged.

Table 1

DISTRIBUTION OF THE BANK BRANCH NETWORK. BASIC CHARACTERISTICS

	National		Urban		Rural	
	2008	2021	2008	2021	2008	2021
Branchless municipalities	3,595	4,484	32	71	3,563	4,413
Branchless municipalities (% of total)	44.3	55.1	2.4	5.4	52.5	64.9
Population without a bank branch	946,115	1,604,139	34,399	136,764	911,716	1,467,375
Population without a bank branch (% of total)	2.0	3.4	0.1	0.3	13.8	23.3
Bank branches per thousand population	1.0	0.4	0.9	0.4	1.2	0.7
Distance to the closest bank branch (km)	2.8	4.1	0.0	0.1	3.3	4.9
Distance to the closest bank branch from a branchless municipality (km)	6.3	7.4	1.8	1.9	6.3	7.5

SOURCES: INE and Banco de España.

However, it is worth noting that, in absolute terms, most of the bank branch closures since 2008 have taken place in urban municipalities. Specifically, 88% of the branches closed over the period 2008-2021 were located in urban municipalities. Consequently, the number of bank branches per thousand population has fallen more steeply in urban municipalities (62%, from 0.9 to 0.4) than in rural ones (43%, from 1.2 to 0.7) (see Table 1). In other words, urban municipality inhabitants have suffered sharper downsizing in terms of the number

of bank branches per capita, which could have contributed to these citizens (particularly those with low digital skills) having also perceived in recent years a slight deterioration in the quality of the banking services provided in person.

In any event, in addition to bank branches, the availability of other alternative arrangements for accessing banking services should be taken into account, especially in those rural municipalities that have lost access to bank branches in recent years. Specifically, two types of alternatives to in-person access to banking services stand out. First, those offering the personalised service traditionally rendered by bank branches (e.g. financial agents and mobile bank branches). Second, those acting as an in-person self-service access point, such as standalone ATMs, cashback and, more recently, arrangements between some banks and Correos.¹³ Taking into account all these arrangements, 619 of the 900 Spanish municipalities which lost access to a bank branch between 2008 and 2021 still currently have some form of alternative access to banking services (see Chart 6.1). A total of 118,000 people (0.25% of the total population and 1.9% of the rural population in Spain) reside in the remaining 281 municipalities, which have become branchless and do not have alternative access to banking services.¹⁴

As a result of all this, at end-2021 there were 3,389 municipalities (41% of the total, 3,364 rural and 25 urban) without any type of in-person access to banking services. Thus, in 2021 11.2% of the rural population (705,733 people, 1.5% of the total population) resided in municipalities without any type of in-person banking service, compared with 23.3% of the rural population (1,467,000 people, 3.4% of the total population) that resided in branchless municipalities. In other words, the alternative channels deployed by banks provided coverage to around 761,000 people.

For rural municipalities, the average distance to the closest banking service access point, whether a bank branch or another alternative arrangement, at end-2021 was 3.2 km. However, in the inland areas of Castile-Leon, Aragon, northern Extremadura and Castile-La Mancha (characterised by a higher rate of sparsely populated, isolated rural municipalities) we observe a greater presence of municipalities without banking services at less than 5 km. By contrast, in the southern half of the peninsula most municipalities have at least one banking service access point within a 5 km radius (see Chart 6.2).¹⁵

It is therefore worth analysing in depth the regional differences in the accessibility of in-person banking services in rural areas, taking into account the percentages of the population affected and the role of alternative arrangements in each region. The regions with the highest percentages of rural population resident in branchless municipalities are Castile-

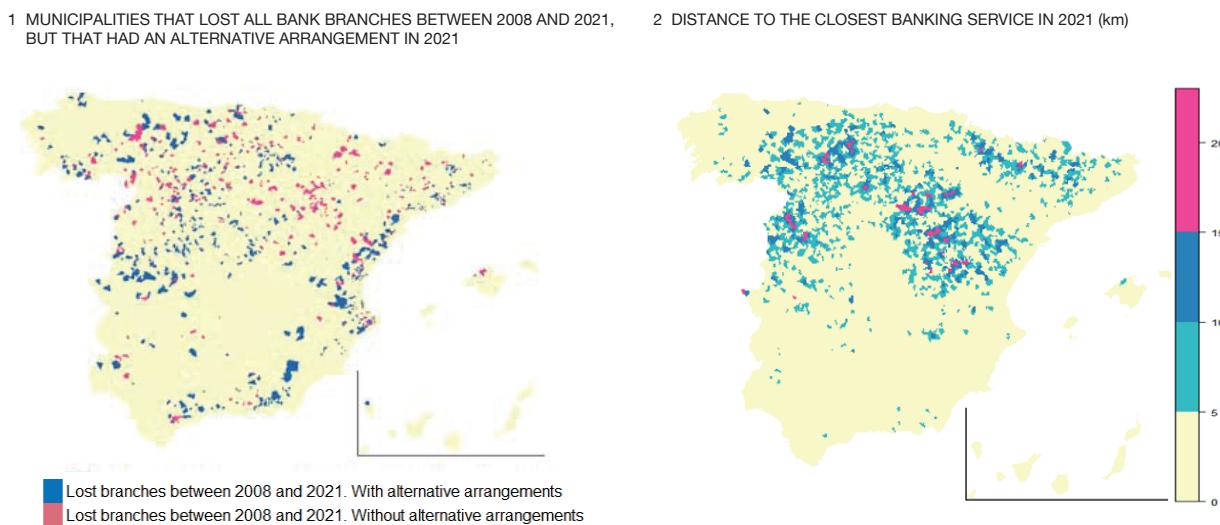
¹³ Correos offices also offer the possibility of performing some additional basic transactions, such as paying bills.

¹⁴ Note that the information on alternative arrangements for access to banking services used in this paper does not cover some of the less significant banks. As a result, the percentages of the population without access to banking services in their municipality of residence could be slightly lower (see Annex 1 for further details).

¹⁵ Note that these comparisons could be affected by differences in municipality surface area, since for a municipality with a banking service access point the distance will be 0 km for its entire population, regardless of its surface area.

Chart 6

THE ROLE OF ALTERNATIVE ARRANGEMENTS AND THE SITUATION IN 2021



SOURCES: INE and Banco de España.

NOTE: In Chart 6.2, a colour higher up the scale denotes a longer distance to the banking service provided by a branch or an alternative arrangement.

Leon (49.7%), Valencia (35.6%), Madrid (34.7%), Catalonia (34.6%) and Cantabria (30.8%) (see Table 2). In terms of the rural population's share of each region's total population (to take into account differences in the different regions' rurality), Castile-Leon has the highest percentage (17.8%), followed by Extremadura (7.5%), Navarre (7%), Cantabria (6.9%), Rioja (5%) and Aragon (4.8%), all of which are above the national average (3.4%). In addition, the average distance to the closest bank branch, in the case of the rural municipalities, is highest in Castile-Leon (7.4 km), Castile-La Mancha (5.1 km), Aragon (4.7 km) and Valencia (4.7 km). However, cross-regional differences in the accessibility of banking services in urban municipalities are negligible based on the metrics used in this analysis, since almost all urban municipalities have at least one bank branch.

In all regions the alternative arrangements for accessing banking services help reduce both the distance to the closest access point and the percentage of the population resident in municipalities without in-person access. For example, although 49.7% of Castile-Leon's rural population resides in a branchless municipality, this percentage falls to 34.2% when considering both bank branches and other alternative arrangements for in-person access to banking services (see Table 2). In this respect, the regions where alternative arrangements play a more prominent role in reducing the percentage of the rural population without access to banking services in its municipality of residence are, in this order, Madrid (from 34.7% to 4.9%), Valencia (from 35.6% to 7.5%) and Catalonia (from 34.6% to 12.8%).

This cross-regional heterogeneity in the provision of banking services and in terms of the role that alternative arrangements for accessing such services play could at least

Table 2

ACCESS TO BANKING SERVICES BY REGION IN 2021

	Total				Rural			
	Average distance to the closest access point (km)		Population without access to banking services (% of total population)		Average distance to the closest access point (km)		Population without access to banking services (% of rural population)	
	Bank branches	Bank branches and alternative arrangements	Bank branches	Bank branches and alternative arrangements	Bank branches	Bank branches and alternative arrangements	Bank branches	Bank branches and alternative arrangements
National total	4.1	2.7	3.4	1.5	4.9	3.2	23.3	11.2
Andalusia	1.3	0.3	1.6	0.3	1.9	0.5	13.3	2.2
Aragon	4.6	4.2	4.8	4.1	4.7	4.3	19.9	17.2
Asturias	1.2	0.6	1.1	0.3	1.5	0.8	5.9	1.6
Balearic Islands	0.3	0.2	0.2	0.0	0.5	0.3	1.9	0.3
Canary Islands	0.1	0.0	0.1	0.0	0.4	0.1	2.3	0.7
Cantabria	2.8	1.6	6.9	3.4	3.5	2.0	30.8	16.1
Castile-Leon	7.2	4.7	17.8	12.2	7.4	4.8	49.7	34.2
Castile-La Mancha	4.7	3.7	4.2	2.7	5.1	4.0	13.1	8.4
Catalonia	2.8	1.5	3.9	1.3	3.6	2.0	34.6	12.8
Valencia	3.0	1.0	3.4	0.7	4.7	1.5	35.6	7.5
Extremadura	3.4	1.5	7.5	2.4	3.7	1.7	20.5	6.6
Galicia	1.0	0.4	2.5	1.1	1.3	0.5	9.0	4.2
Madrid	2.4	0.8	1.0	0.1	4.3	1.6	34.7	4.9
Murcia	0.3	0.0	0.4	0.0	1.0	0.2	12.2	2.2
Navarre	2.4	2.4	7.0	5.9	2.7	2.6	17.8	15.6
Basque Country	1.4	0.8	3.3	1.8	2.0	1.2	28.4	16.6
Rioja	4.3	1.5	5.0	1.9	4.5	1.5	21.6	8.0

SOURCES: INE and Banco de España.

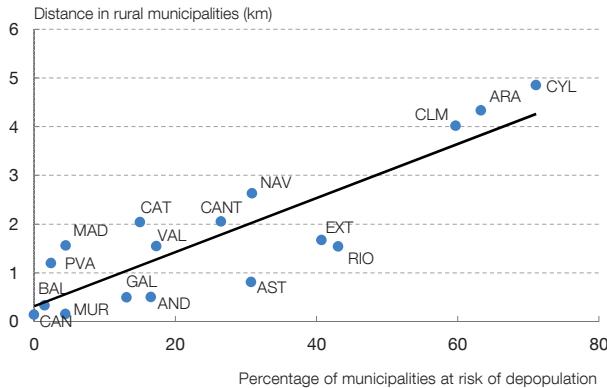
partially be due to differences in the spatial distribution of the population. Thus, the provision of services, in general, and of banking services, in particular, is likely to be costlier in sparsely populated rural municipalities where harnessing the economies of scale that lower the cost per user is not possible. This would adversely affect banking service accessibility. Indeed, banking service accessibility is worse in those Spanish regions with a higher rate of municipalities at risk of depopulation¹⁶ (particularly Castile-Leon, Aragon and Castile-La Mancha) (see Chart 7). These municipalities, characterised by an elderly population and concentrated mainly in the rural areas of inland Spain, are also those with the greatest difficulties in accessing other essential services, such as primary education and health care (see Alloza et al. (2021) and Goerlich, Maudos and Mollá (2021)). Therefore, the following section provides a comparative analysis, at municipal level, of the degree of access to in-person banking services and to other types of services.

¹⁶ Defined here as those municipalities with negative population growth between 2001 and 2018, a negative natural population balance since 2001 and a population density of below 12.5 inhabitants per km². For more details, see Banco de España (2021).

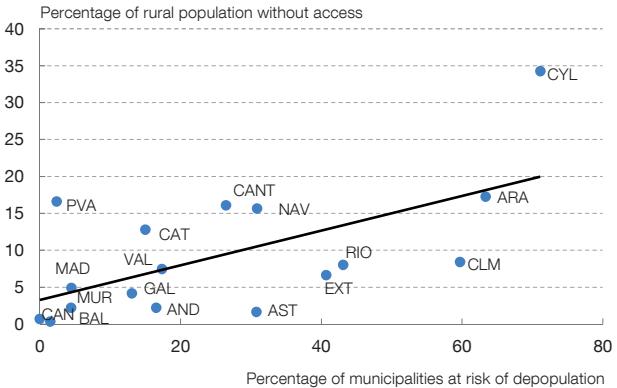
Chart 7

ACCESSIBILITY OF BANKING SERVICES AND MUNICIPALITIES AT RISK OF DEPOPULATION IN 2021, BY REGION

1 DISTANCE TO THE CLOSEST BANKING SERVICE AND MUNICIPALITIES AT RISK OF DEPOPULATION, BY REGION



2 POPULATION WITHOUT BANKING SERVICES AND MUNICIPALITIES AT RISK OF DEPOPULATION, BY REGION



SOURCES: INE and Banco de España.

NOTE: The distance is measured from the centre of each municipality to the centre of the closest municipality with some form of banking service. If the municipality has some form of banking service, the distance would be zero.

Abbreviations: AND: Andalusia; ARA: Aragon; AST: Asturias; CANT: Cantabria; CYL: Castile-Leon; CLM: Castile-La Mancha; CAN: Canary Islands; CAT: Catalonia; VAL: Valencia; EXT: Extremadura; GAL: Galicia; BAL: Balearic Islands; RIO: Rioja; MAD: Madrid; MUR: Murcia; NAV: Navarre; PVA: Basque Country.

4 The accessibility of different types of services in rural Spain

Having identified the vulnerability of some Spanish rural municipalities in terms of access to in-person banking services (see Section 3), it is worth asking how such accessibility conditions compare with those for other services in the same municipalities, such as primary health care, pharmacies, postal services, bars, shops, petrol stations, dental clinics and opticians.¹⁷

It is worth noting here that between 2008 and 2021 the number of bank branches and ATMs in Spain declined faster than the number of in-person points of access to other services (see Chart 8.1). In particular, compared with the 58% and 23% falls in the number of bank branches and ATMs, respectively, the number of points of access to primary health care services, pharmacies and bars held stable or even increased, while the number of shops declined by 17%. Thus, the rural population without access to bank branches increased by more than 9 percentage points (pp) between 2008 and 2021, while the population without local access to bars and shops held stable or even declined slightly over the same period (see Chart 8.2).

Meanwhile, taking the conditions of access to different types of services in 2021 as the reference point, 49% of rural municipalities (home to 11.2% of Spain's rural population, and accounting for 1.5% of the total population) had no in-person means of accessing banking services, whether via branches or any other alternative arrangements (see Chart 9.1). Conversely, in the case of primary health care services – considered a universal general government service –, in 2021 only 5% of municipalities (home to 3% of Spain's rural population) had no point of access, whether via health centres or surgeries.

With respect to pharmaceutical services – considered a service of general interest provided in regulated establishments –, 36% of municipalities (6% of the rural population) had no pharmacy or pharmaceutical dispensary,¹⁸ although some pharmacy services are offered by healthcare centres in such rural municipalities. Similarly, while access to post offices is comparable to access to bank branches, with around 65% of municipalities and 20% of the rural population lacking a local in-person point of access, Spain has 6,011 rural postal workers who travel to municipalities without a post office in order to guarantee the right to a universal postal service in every municipality.¹⁹

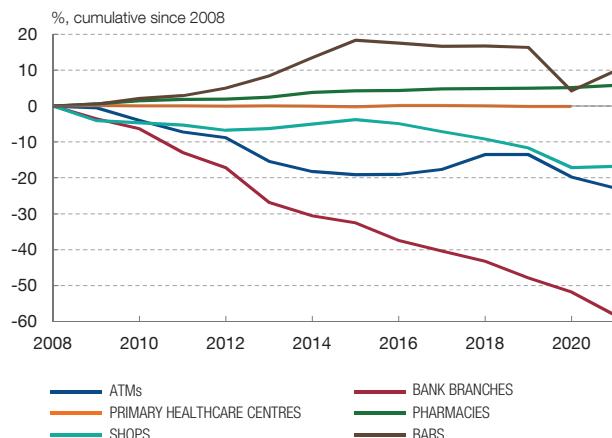
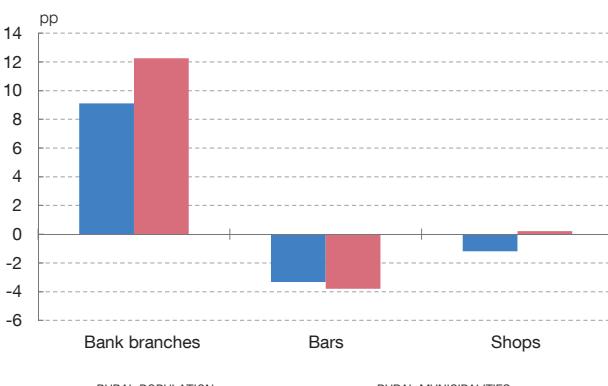
In the case of other services provided on a predominantly private basis, 42% and 47% of rural municipalities had no bars or shops, respectively (affecting 9% of the rural population). Lastly, in 2021 the accessibility figures for other less frequently used private services, such as dentists or opticians, were significantly worse than those for banking services.

¹⁷ The services included in the analysis in this section are those for which information is available at municipal level. Bars and shops refer to the establishments classified in Divisions 56 and 47 of NACE Rev. 2 (see Annex 1 for further details).

¹⁸ Pharmacy services can be provided at pharmacies or at "pharmaceutical dispensaries", which guarantee access to pharmacy services in certain areas that do not meet the minimum population requirements for opening a pharmacy.

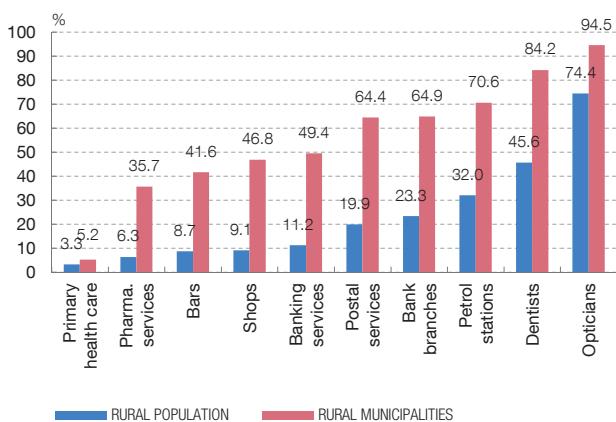
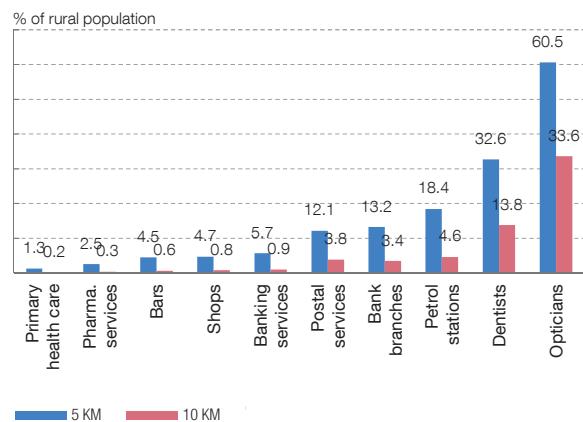
¹⁹ See Law 43/2010 and the 2021 Integrated Annual Report of Sociedad Estatal Correos y Telégrafos, S.A.

Chart 8

2008-2021 VARIATION IN POINTS OF ACCESS TO DIFFERENT SERVICES**1 NUMBER OF ACCESS POINTS****2 2008-2021 VARIATION IN THE PERCENTAGE OF THE POPULATION AND RURAL MUNICIPALITIES WITHOUT LOCAL ACCESS TO SERVICES**

SOURCES: Banco de España, Consejo General de Colegios Farmacéuticos, Ministerio de Inclusión, Seguridad Social y Migraciones and Ministerio de Sanidad.

Chart 9

POINTS OF ACCESS TO DIFFERENT SERVICES IN 2021**1 RURAL POPULATION AND MUNICIPALITIES WITHOUT LOCAL ACCESS TO EACH SERVICE****2 POPULATION IN RURAL MUNICIPALITIES AT A DISTANCE OF MORE THAN 5 KM AND 10 KM FROM THE CLOSEST SERVICE**

SOURCES: Banco de España, Correos, *El País*, Ministerio de Inclusión, Seguridad Social y Migraciones and Ministerio de Sanidad.

NOTE: Pharmaceutical services include both pharmacies and pharmaceutical dispensaries. Banking services include both bank branches and financial agents, mobile bank branches, standalone ATMs and arrangements between some banks and Correos. Postal services do not include "rural postal workers".

In terms of the number of people forced to travel more than 5 km to access the closest service, the rankings are very similar as regards the conditions of access to the different services analysed in this section. Specifically, in 2021 around 81,000 people had to travel more than 5 km to access primary health care services, rising to 158,000 in the case of pharmaceutical services, 290,000 in the case of bars and shops, 357,000 in the case of in-person banking services and 3,809,000 in the case of opticians (see Chart 9.2).

Chart 10

MUNICIPALITIES WITHOUT ACCESS TO VARIOUS SERVICES

1 MUNICIPALITIES WITHOUT ACCESS TO BANKING SERVICES,
PHARMACEUTICAL SERVICES, SHOPS, BARS, POSTAL SERVICES, PETROL
STATIONS, DENTISTS AND OPTICIANS

2 MUNICIPALITIES WITHOUT ACCESS TO BANKING SERVICES, BUT WITH LOCAL
ACCESS TO THE OTHER SERVICES (EXCL. PRIMARY HEALTH CARE)



SOURCES: Banco de España, Correos, *El País*, Ministerio de Inclusión, Seguridad Social y Migraciones and Ministerio de Sanidad.

Overall, in 2021 1,535 rural municipalities in Spain had no in-person means of accessing the services analysed (not including primary healthcare services, which are available in almost all municipalities in the form of surgeries). In other words, of the 3,364 rural municipalities without access to in-person banking services, 46% of them also had no access to other services (such as pharmacies, bars or shops) involving economic transactions. These municipalities are largely to be found in the inland areas of Castile-Leon, Aragon and Castile-La Mancha, regions already identified in the preceding section as those where banking services are hardest to access (see Chart 10.1). As for the 1,829 municipalities without access to banking services but where other services are available (which were home to 8.4% of Spain's rural population, accounting for 1.1% of the total population), these are mainly to be found in areas of Castile-Leon, Castile-La Mancha and Aragon, but also in Cantabria, the Basque Country and Catalonia (see Chart 10.2).

A detailed, region-by-region analysis of rural accessibility to the different services considered in this section confirms significant cross-regional differences (see Table 3). In particular, the regions with the highest percentages of rural dwellers unable to access banking services in their municipalities of residence also suffer from worse accessibility in terms of the other services. Again, this state of affairs may be attributed, at least partially, to the greater prevalence of widely dispersed, sparsely populated municipalities in these regions.

In any event, the cross-regional differences between the accessibility of in-person banking services and that of other types of services can be used to identify the areas of the country where population dispersion – which could, in principle, have a similar impact on the in-person provision of the different services analysed across all regions – does not help explain the lower coverage of in-person banking services in relative terms. In this regard, Castile-Leon and Cantabria stand out, overall, as the regions in which the gap between

Table 3

PERCENTAGE OF THE RURAL POPULATION WITHOUT LOCAL ACCESS TO SERVICES, BY REGION

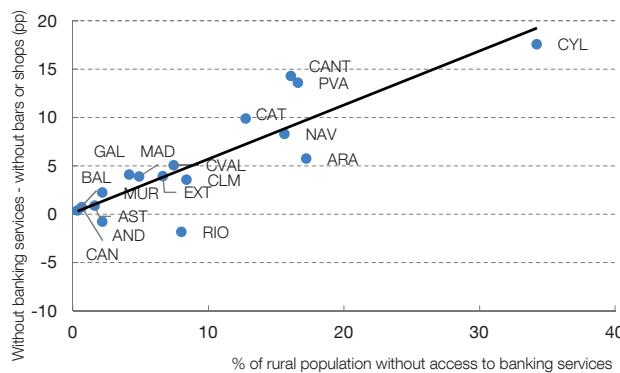
	(1) Primary health care	(2) Pharmacies and pharmaceutical dispensaries	(3) Bars	(4) Shops	(5) Bank branches and alternative arrangements	(6) Post offices	(7) Bank branches	(8) Petrol stations	(9) Dentists	(10) Opticians
National total	3.3	6.3	8.7	9.1	11.2	19.9	23.3	32.0	45.6	74.4
Andalusia	4.7	2.1	6.2	4.0	2.2	6.2	13.3	24.7	31.1	69.6
Aragon	3.0	6.6	18.7	18.7	17.2	30.7	19.9	38.0	61.9	78.0
Asturias	2.1	0.2	1.0	2.3	1.6	6.8	5.9	14.9	18.7	47.8
Baleares Islands	0.0	0.0	0.0	0.6	0.3	7.0	1.9	15.6	24.8	67.8
Canary Islands	1.6	0.7	0.0	0.0	0.7	3.2	2.3	3.9	33.3	50.7
Cantabria	0.1	2.0	4.7	5.4	16.1	51.8	30.8	29.8	49.1	88.9
Castile-Leon	0.5	19.9	24.2	26.1	34.2	51.3	49.7	49.9	67.5	89.1
Castile-La Mancha	1.2	1.9	9.4	7.2	8.4	16.4	13.1	34.7	46.5	78.4
Catalonia	11.5	12.6	5.9	10.1	12.8	17.0	34.6	37.7	57.9	81.1
Valencia	0.9	0.1	3.8	5.2	7.5	16.0	35.6	33.2	43.0	64.5
Extremadura	1.5	1.8	10.9	5.0	6.6	10.6	20.5	31.3	51.6	81.9
Galicia	0.0	0.0	0.7	0.6	4.2	10.3	9.0	18.9	31.6	52.8
Madrid	9.0	1.5	2.7	3.4	4.9	7.5	34.7	36.6	28.8	100.0
Murcia	7.8	0.0	0.0	2.2	2.2	2.2	12.2	28.0	43.7	31.8
Navarre	3.5	11.0	10.2	14.5	15.6	28.6	17.8	19.8	45.6	75.7
Basque Country	4.6	15.6	4.7	10.6	16.6	30.1	28.4	48.5	49.0	80.1
Rioja	0.6	13.0	14.3	21.4	8.0	37.0	21.6	41.0	53.1	94.8

SOURCES: Banco de España, Correos, Ministerio de Inclusión, Seguridad Social y Migraciones and Ministerio de Sanidad.

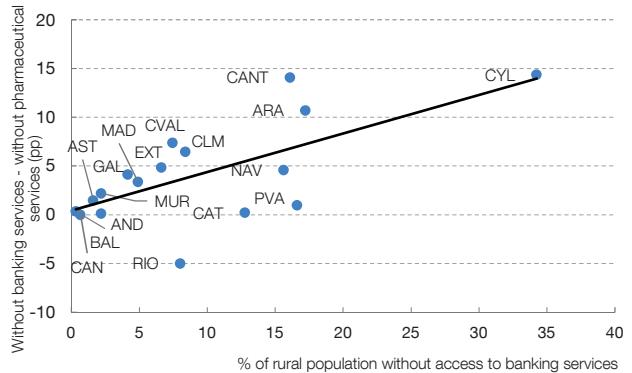
Chart 11

ACCESS TO BANKING SERVICES, BARS, SHOPS AND PHARMACEUTICAL SERVICES, BY REGION

1 RURAL POPULATION WITHOUT LOCAL ACCESS TO BANKING SERVICES, BARS OR SHOPS



2 RURAL POPULATION WITHOUT LOCAL ACCESS TO BANKING SERVICES OR PHARMACEUTICAL SERVICES



SOURCES: Banco de España, Ministerio de Inclusión, Seguridad Social y Migraciones and Ministerio de Sanidad.

NOTE: The horizontal axes of both panels show the percentage of the rural population in each region without local access to banking services. The vertical axis of Chart 11.1 reflects the difference between the percentage of the rural population without banking services and the percentage without bars or shops. The vertical axis of Chart 11.2 shows the difference between the percentage of the rural population without banking services and the percentage without pharmacies or pharmaceutical dispensaries.

Abbreviations: AND: Andalusia; ARA: Aragon; AST: Asturias; CANT: Cantabria; CYL: Castile-Leon; CLM: Castile-La Mancha; CAN: Canary Islands; CAT: Catalonia; VAL: Valencia; EXT: Extremadura; GAL: Galicia; BAL: Balearic Islands; RIO: Rioja; MAD: Madrid; MUR: Murcia; NAV: Navarre; PVA: Basque Country.

in-person access to banking services and access to other services is widest. For instance, the gap between the percentage of the rural population resident in municipalities without in-person banking services and the percentage of the rural population resident in municipalities without bars or shops stands at 17.5 pp in Castile-Leon and 14.3 pp in Cantabria, while falling to only 5.3 pp on average nationwide (see Chart 11.1). The gap between access to banking services and access to pharmacy services points to a very similar conclusion: Castile-Leon and Cantabria are the regions with the largest difference between the percentage of the rural population without access to banking services and the percentage of the population without access to pharmacy services (see Chart 11.2).²⁰

20 The Basque Country also stands out, with a gap of 13.6 pp in the case of bars and shops, albeit with a significantly narrower gap in the case of pharmaceutical services.

5 Final considerations and work schedule

The current process of technological change and the emergence of new financial products and intermediaries²¹ have left banks with no choice but to step up their investment in technology in order to adapt to a new way of understanding the banking business. Thus, the challenges facing the sector call for a change to its costs structure. On the one hand, banks must cover the new costs required to adapt to the new technological reality, while, on the other, adjusting the expenses associated with the physical infrastructure on which their traditional business has been and continues to be based. Against this backdrop, the banking sector has undergone a process of transformation, adjusting its existing capacity to emerge more robust and resilient. While such developments may be regarded as beneficial in terms of financial stability and, by extension, to society as a whole, they have at the same time made it somewhat harder for certain groups (particularly the less digitally skilled) to access banking services.

Any initiatives that might be implemented to address this challenge should be designed, first of all, on the basis of an exhaustive analysis, so as to pinpoint the areas and groups most at risk of financial exclusion. Second, in a context in which various economic policy objectives may coincide, a rigorous assessment is essential to identify which of the initiatives could meet each objective as efficiently as possible.

The Banco de España is currently drawing up an agenda for research into these matters, structured around three key lines of work. First, this paper represents the launch pad for the analysis and monitoring of the availability of in-person points of access to banking services nationwide. Based on the findings set out in this paper, the accessibility of in-person banking services in Spain, in per capita terms, is better than in other euro area countries. However, once the significant geographical dispersion of the Spanish population is factored in, the effective coverage in terms of in-person points of access to banking services in the country is around the euro area average. In this regard, this paper identifies some sparsely populated inland rural municipalities that have relatively limited access to banking services, whether in the form of a branch, an ATM or any of the other alternative arrangements set in place by banks in recent years. In any event, such accessibility, which is significantly worse than that observed for such services of general interest as healthcare, pharmaceutical and postal services, appears similar to the accessibility of other privately provided services in those same municipalities, such as bars or shops.

Second, the Banco de España is also working on an analysis of the use of online payment methods and banking by households based on their socio-economic characteristics, in both rural and, above all, urban settings. A preliminary analysis of the information drawn from the Survey of Financial Competences²² and the Survey of Household Finances²³

21 See Sánchez and Quintanero (2022).

22 See the [Spanish Survey of Financial Competences](#), Banco de España.

23 See the [Spanish Survey of Household Finances](#), Banco de España.

suggests that the groups least likely to interact digitally with their banks are also the least financially literate. It is also worth noting that vulnerability to the risk of financial exclusion due to a lack of financial and digital literacy appears to affect not only the most elderly, but also the households and individuals in the lowest income and educational attainment percentiles.

Third, based on the analytical exercises currently in progress and drawing on international experiences, work is now under way on analysing the ability of various initiatives to effectively and efficiently mitigate any risks of financial exclusion that may arise from the changes in the conditions for accessing banking services (in-person and online). In particular, a review is being conducted of the main instruments for intervening (by both the public and private sectors) in the provision of banking services currently being rolled out in other European countries. Also under consideration is the start-up of pilot projects in Spain — similar to those launched in, for instance, the United Kingdom —²⁴ for identifying which measures are most effective in addressing the various risks of financial exclusion arising in different regions across the country and for different groups of the general public.

²⁴ See the [Community Access to Cash Pilots](#).

Box 1

DETERMINANTS OF BANK BRANCH CLOSURES IN SPAIN

The branch network consolidation process that took place in Spain between 2008 and 2021 did not follow a standard pattern across the country. This box explores various developments that might help explain why this process led to a particularly marked increase in the distance to the closest branch in mainland Spain's inland rural municipalities (see Section 3). In particular, two main factors are considered: the declining population over the period (demand-side factor) and the presence of savings banks at the start of the period (supply-side factor).¹

In terms of demographic shifts, Spain has seen population loss in a substantial number of rural municipalities since 2008. For the most part, these are to be found in the inland parts of mainland Spain, the exception being the Madrid region, whose population has increased (see Chart 1.1). Aside from their small size, such municipalities are generally characterised by orographic conditions and a socio-economic situation that make it hard to provide certain services (see Alloza et al. (2021)).

Meanwhile, the conversion of savings banks into commercial banks in the wake of the global financial crisis exacerbated the deterioration in access to banking services in municipalities where such banks accounted for a larger relative share.² It is worth noting here that in 2008 the distribution of savings banks across Spain varied considerably from region to region. For

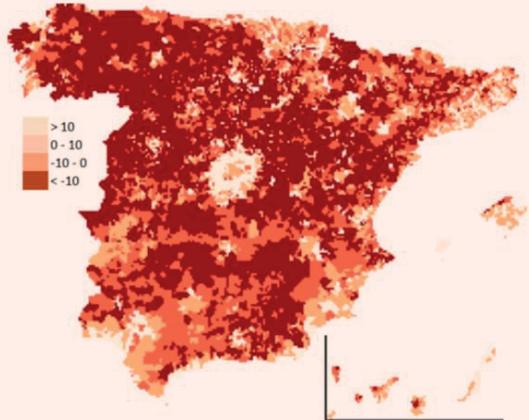
instance, savings banks accounted for a sizeable proportion of branches in Castile-Leon, Castile-La Mancha and Aragon, characterised by a higher number of rural municipalities (see Chart 1.2).

Thus, population decline in some municipalities and the savings bank restructuring process appear to have reduced both the demand for and the supply of banking services in some municipalities more than in others, and may have played a significant role in the increase in distance to the closest branch between 2008 and 2021, particularly in certain rural areas. Indeed, at municipal level, population changes between 2008 and 2021 and the ratio of savings bank branches-to-total branches in 2008 were closely correlated with changes in the distance to the closest municipality with a bank branch. In other words, municipalities with a declining population and a greater prevalence of savings banks at the start of the period saw a bigger deterioration in the closest branch indicator over the period analysed (see Chart 2).

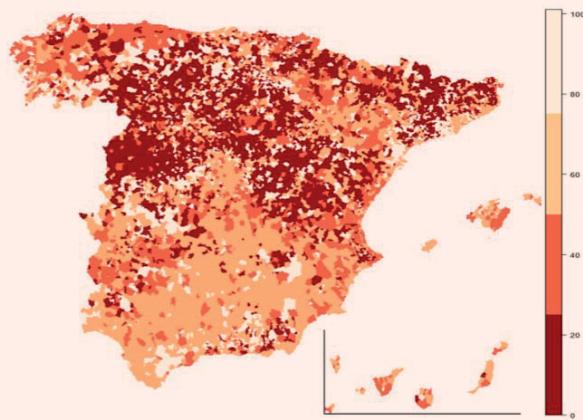
With a view to testing these correlations statistically, a regression is estimated at municipal level in which the dependent variable is the change in the distance to the closest municipality with a bank branch between 2008 and 2021.³ Table 1 shows the different specifications considered.⁴ Column (1) includes the

Chart 1
CHANGE IN POPULATION AND THE NETWORK OF SAVINGS BANK BRANCHES IN SPAIN AT MUNICIPAL LEVEL

1 CHANGE IN POPULATION BETWEEN 2008 AND 2021 (%)



2 SAVINGS BANKS IN 2008 (as a % of total bank branches)



SOURCES: INE and Banco de España.

NOTE: The percentage of savings banks is considered equal to zero in municipalities without a bank branch.

- 1 See Martín-Oliver (2019), Jiménez Gonzalo and Tejero Sala (2018) and Fuentelsaz, González and Palomas (2016) for a detailed description of the determinants of branch closures in Spain.
- 2 At provincial level, Barcelona, Valencia and Madrid were the provinces most affected by the integration of various banks within their territory (see Jiménez Gonzalo and Tejero Sala (2018)).
- 3 By definition, this variable takes a value of 0 in the case of municipalities with bank branches in 2021, even where the number of such branches had fallen since 2008.
- 4 All of the specifications include province fixed effects.

Box 1

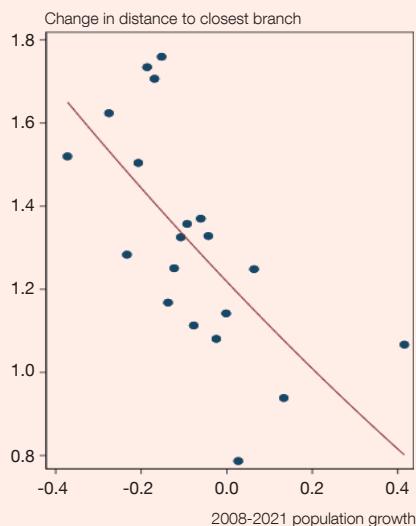
DETERMINANTS OF BANK BRANCH CLOSURES IN SPAIN (cont'd)

two explanatory variables of interest: 2008-2021 population growth and the percentage of savings banks in 2008. The estimates for this specification confirm that both variables are significant and that their sign is in line with expectations. Thus,

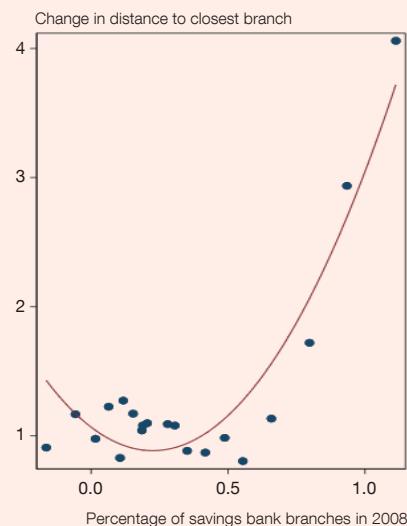
in municipalities with a declining population, the distance to the closest municipality with a bank branch increased over the period. Specifically, a 1% fall in population is associated, *ceteris paribus*, with a 1.29% increase in the distance to the closest

Chart 2
DISTANCE TO CLOSEST BRANCH AND DETERMINANTS OF SUCH DISTANCE

1 CHANGE IN DISTANCE AND POPULATION BETWEEN 2008 AND 2021



2 CHANGE IN DISTANCE BETWEEN 2008 AND 2021 AND PERCENTAGE OF SAVINGS BANK BRANCHES IN 2008



SOURCES: INE and Banco de España.

NOTE: The chart shows the correlation at municipal level between the change in bank branch accessibility, i.e. the distance to the closest municipality with a bank branch, and potential explanatory factors: population change and the percentage of savings bank branches out of total branches in 2008. For visualisation purposes, each dot represents a grouping of data. The red lines represent an estimate of the correlation between the two variables shown on the axes.

Table 1
DETERMINANTS OF BANK BRANCH CLOSURES, 2008-2021

Variables	(1)	(2)	(3)	(4)	(5)
2008-2021 population growth	-1.29*** (0.39)	-1.15*** (0.34)	-0.79*** (0.27)	-0.87*** (0.31)	0.03 (0.07)
Percentage of savings banks	1.60*** (0.22)	1.07*** (0.22)	1.22*** (0.21)	1.34*** (0.23)	0.32** (0.12)
Branches per capita within a 5 km radius		0.47*** (0.07)	0.44*** (0.07)	0.43*** (0.07)	-0.01 (0.06)
Rurality dummy			1.25*** (0.20)		
Observations	8,106	8,106	8,106	6,782	1,324
R ²	0.14	0.17	0.18	0.17	0.08
Province fixed effects	Yes	Yes	Yes	Yes	Yes
Sample	All	All	All	Rural municipalities	Urban municipalities

SOURCES: INE and Banco de España.

NOTE: *, ** and *** denote significance at the 10%, 5% and 1% levels, respectively. The dependent variable in all of the columns is the change in the distance to the closest municipality with a bank branch between 2008 and 2021. Standard errors in brackets clustered at provincial level.

DETERMINANTS OF BANK BRANCH CLOSURES IN SPAIN (cont'd)

bank branch. Meanwhile, a larger increase in the distance to the closest branch was also observed in municipalities where savings banks were more prevalent in 2008.

In any event, any decision on branch closures by savings banks is likely to have been taken based not only on the branches located in a particular municipality, but also the branches located within a specific radius. To capture the impact of the greater or lesser per capita concentration of branches in the area close to a municipality, column (2) contains a specification that includes one additional variable: the number of branches per capita within a 5 km radius of each municipality. The positive and significant coefficient associated with this variable suggests that more branches were closed where there was a higher concentration of branches within a 5 km radius.

Meanwhile, to better understand the role that rural location plays in the deterioration in bank branch accessibility following the

2008 financial crisis, column (3) includes a dummy variable in the regression, taking the value 1 when a municipality is rural and 0 when it is urban. The coefficient estimated for this variable is positive and significant, meaning that the distance to the closest branch increased more in rural municipalities, even once the differences in population dynamics and the prevalence of savings bank in 2008 have been accounted for.

Lastly, columns (4) and (5) consider the specification from column (2), albeit estimated separating the sub-samples of rural and urban municipalities, respectively. As can be seen, the estimated effects of the explanatory variables are statistically significant only in the rural municipalities sub-sample. In other words, the supply-side factors (prevalence of savings banks and the availability of branches within a 5 km radius) and the demand-side factors (demographic shifts) only appear to explain differences in the change in distance to the closest branch in the case of rural municipalities.

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Annex 1 Data sources

Banking statistics on euro area countries. SSI: Banking Structural Financial Indicators, European Central Bank:

- Number of branches: including the operational branches of deposit institutions in each country, i.e. branches of banks, savings banks and credit cooperatives, and specialised lending institutions.
- Number of ATMs: including branch ATMs, standalone ATMs and ATMs of independent operators.
- Number and amount of ATM cash withdrawals.
- Employees in the sector.

Statistics on cash use in euro area countries. Study on the payment attitudes of consumers in the euro area (SPACE).

Cash access points in the euro area. Internal information provided by the European Central Bank (ECB).

Statistics on online banking. Digital Scoreboard, European Commission.

Bank branches in Spain. Operational branches of deposit institutions (branches of banks, savings banks and credit cooperatives). Municipal-level data are available at the Banco de España's Register of branches of supervised entities.¹

Other channels for accessing banking services. Information provided by banks to the Banco de España on the number of financial agents, mobile branches, standalone ATMs and arrangements with the Spanish postal service at municipal level. The information refers to December 2021 and has been provided by Spain's ten significant institutions, as well as by a considerable number of less significant institutions.

Statistics on other services at municipal level:

- Primary health care, pharmacies, pharmaceutical dispensaries, dentists, opticians: Ministerio de Sanidad.²
- Pharmacies: information for Spain as a whole pre-2021 provided by Consejo

¹ See the [Register of branches of supervised entities](#), Banco de España.

² See the [General Register of health centres, services and establishments](#), Ministry of Health.

General de Colegios Farmacéuticos.³

- Post offices: information provided by Correos.
- Petrol stations: information provided by *El País*.⁴
- Bars and shops: Ministerio de Inclusión, Seguridad Social y Migraciones.⁵
“Bars” refers to food and beverage service activities (Division 56 of NACE Rev. 2), while “shops” refers to retail trade, except of motor vehicles and motorcycles (Division 47 of NACE Rev. 2).

³ See Annual changes in total pharmacy numbers.

⁴ Obtained on the basis of the geolocation of these establishments available from various online sources. The authors are grateful to Kiko Llaneras for sharing the data. For further details, see “*¿A cuánto está tu pueblo de un hospital o una escuela? Un mapa del contraste entre el campo y la ciudad*”, *El País*.

⁵ See the Transparency Portal, Spanish Government.

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