

Regional concentration of the Spanish banking market

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The profound restructuring of Spain's banking sector has resulted in a significant increase of concentration across almost all provinces. Despite the much needed correction of installed capacity in response to the crisis, the resulting situation may warrant assessment of its potential implications for competition.

The deep restructuring undergone by the Spanish banking sector to correct the imbalances built up during the preceding expansionary phase has led to significant branch reduction, largely as a consequence of mergers within the sector. In parallel, there has been a notable increase in market concentration – now much higher than the European average. While the level of concentration at the national level is important, it conceals major differences at the regional level. Using information at the provincial level of the network of branches as a proxy for bank business, results show that concentration varies greatly across the provinces, although increasing substantially during the crisis and almost across all of Spain. The increase in concentration has been so intense that in some provinces it exceeds the threshold that in some countries would require an assessment of potential impact on competition.

The profound restructuring of the Spanish banking sector has resulted in a smaller number of competitors and increased market concentration. Specifically, by September 2015, the number of deposit-taking institutions had fallen by 24% (from 286 to 198) since the start of the crisis in 2008. In parallel, the market share of the five largest entities grew by 37% (from 42.4% to 58.3%) between 2008 and 2014, and the Herfindahl-Hirschman Index (HHI)² of market concentration

rose sharply (69%) from 497 to 839. This decrease in the number of competitors and rise in concentration has been much more pronounced than the European average, revealing the deeper restructuring undergone by the Spanish banking system during the crisis.

The thorough restructuring has completely changed the relative position of Spain's banking market concentration vis-à-vis the European context.

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² The Herfindahl-Hirschman Index (HHI) is defined as the sum of the squares of the market shares of all the banks operating in the market analysed. The HHI has certain advantages over absolute indices such as CR_i (market share of the "i" biggest banks): it takes into account the total number of competitors and its results are not sensitive to the number of banks included (1, 3, 5, 10, etc.).

Since 2008, it has risen from a level below the euro-area average to concentration indices that exceed the average for European banks in late 2014. This situation could have implications for the strength of competition.

However, national indicators may not be the most relevant when it comes to judging the intensity of competition, at least for those banks for which the significant geographical dimension for competition is the regional market rather than the national market. And this may be the case of many Spanish entities, whose business is concentrated in regional markets rather than covering the country as a whole.

It should also be remembered that bank restructuring has had an uneven impact across the country, at least in terms of the adjustment to installed capacity. As explored in this article, the intensity of the reduction in the branch network has varied across Spain's provinces and is more pronounced in those where entities that received public aid have a stronger presence, and on which the Memorandum of Understanding (MoU) imposed harsher restrictions in terms of cutting their installed capacity. The differing intensity of the adjustment goes hand in hand with a differing intensity of increase in market concentration, such that concentration rose more in those provinces with the most branch closures.

Against this backdrop, this article aims to analyse the regional dimension of the Spanish banking market, constructing concentration indices at the provincial scale based on the distribution of each deposit-taking institution's branch network (including banks, savings banks, and credit unions). Specifically, indices have been constructed for 2008 and 2014, to allow for an analysis of the impact of restructuring on banking market concentration.

The results of the analysis have significant economic policy implications. In some provinces, the increase in concentration exceeds thresholds

that in other countries would be considered worrisome, currently reaching levels high enough to affect the strength of competition. This is a situation which therefore needs to be monitored.

Along with this introduction, this article is divided into four sections. The first section analyses the progress of bank concentration in the European context. The second focuses on an analysis at the provincial level of bank concentration in Spain, after analysing the differences in intensity of the adjustment that has taken place in the branch network. The following section analyses the possible impact of the current levels of concentration in terms of competition, based on the concentration indices constructed, taking the thresholds used in the United States as a benchmark. Finally, the article sets out some of the conclusions of the analysis performed.

Trends in bank concentration in Spain in comparison with the European context

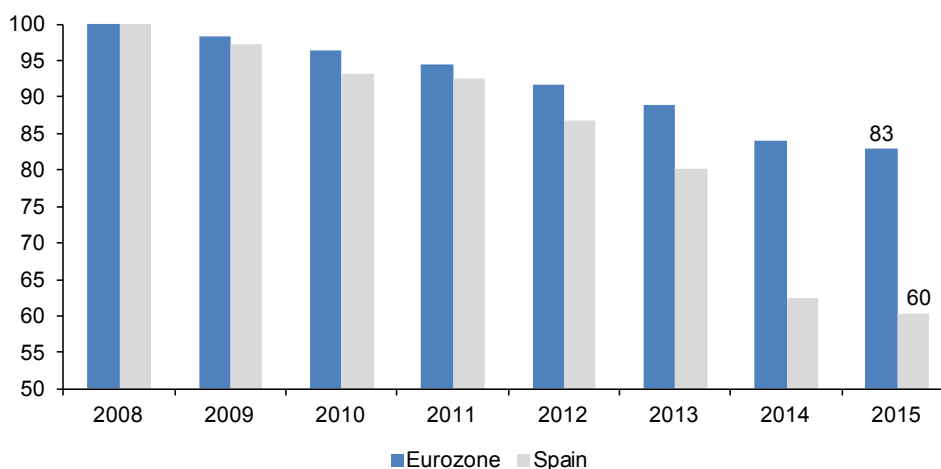
In the years since the start of the crisis in 2008, the number of credit institutions has fallen by 40% in Spain, compared with a drop of 17% in the euro area. The decline has been so intense that Spain ranks second in the euro area in terms of the

In the years since the start of the crisis in 2008, the number of credit institutions has fallen by 40% in Spain, compared with a drop of 17% in the euro area. However, Spain remains second on the EU ranking in terms of branch network density.

contraction, behind only Cyprus and Greece. The number of banks has also fallen in the largest European economies, but with differing intensities: 36% in France, 20% in Italy and 11% in Germany.

Exhibit 1

Number of credit institutions (2008=100)



Source: ECB.

Table 1

Market concentration in the EU-27 banking sectors

HHI				CR ₅			
2008		2014		2008		2014	
Germany	191	Germany	301	Germany	23	Luxembourg	32
Italy	307	Luxembourg	329	Luxembourg	30	Germany	32
Luxembourg	309	Austria	412	Italy	31	Austria	37
United Kingdom	431	Italy	424	United Kingdom	38	United Kingdom	39
Austria	454	United Kingdom	462	Austria	39	Italy	41
SPAIN	497	France	584	SPAIN	42	Ireland	48
Poland	562	Poland	656	EU-15	44	EU-15	48
EU-15	642	Ireland	677	EU-27	44	France	48
EU-27	650	EU-15	703	Poland	44	EU-27	48
Ireland	661	EU-27	710	Ireland	50	Poland	48
France	681	Romania	797	France	51	Hungary	53
Hungary	819	Bulgaria	836	Romania	54	Romania	54
Bulgaria	834	SPAIN	839	Hungary	54	Bulgaria	55
Romania	922	Sweden	880	Bulgaria	57	Slovenia	56
Sweden	953	Hungary	905	Slovenia	59	SPAIN	58
Czech Republic	1,014	Czech Republic	949	Sweden	62	Sweden	59
Cyprus	1,019	Belgium	982	Czech Republic	62	Czech Republic	61

Table 1 (*continued*)**Market concentration in the EU-27 banking sectors**

HHI				CR ₅			
2008		2014		2008		2014	
Portugal	1,114	Latvia	1,001	Cyprus	64	Cyprus	63
Greece	1,172	Slovenia	1,026	Denmark	66	Latvia	64
Slovakia	1,197	Portugal	1,164	Portugal	69	Belgium	66
Latvia	1,205	Denmark	1,190	Greece	70	Denmark	68
Denmark	1,229	Slovakia	1,221	Latvia	70	Portugal	69
Malta	1,236	Cyprus	1,303	Slovakia	72	Slovakia	71
Slovenia	1,268	Malta	1,648	Malta	73	Finland	80
Lithuania	1,714	Lithuania	1,818	Belgium	81	Malta	82
Belgium	1,881	Netherlands	2,131	Lithuania	81	Netherlands	85
Netherlands	2,167	Greece	2,195	Finland	83	Lithuania	86
Estonia	3,120	Estonia	2,445	Netherlands	87	Estonia	90
Finland	3,160	Finland	3,310	Estonia	95	Greece	94

Source: ECB and author's calculations.

The reduction in the number of credit institutions has taken place in parallel with a cut in installed capacity, leading to an increase in the ratio of the population to branches. Specifically, from 2008 to 2014, in Spain the ratio has risen by 47%, from

The concentration of the Spanish banking market was below the European average in 2008 although by the end of 2014 had risen above it.

991 to 1,454. Although this growth is more than twice the EU15 average in terms of the sharp cuts in the branch network, Spain remains second on the EU rankings in terms of branch network density. The gap with the euro area is huge: 1,454 vs. 2,111.

The reduction in the number of competitors has led to an increase in the concentration of the European banking market. Thus, for the EU-27 (weighted) average, the market share of the five largest credit institutions (CR₅) rose by 7.5%, from 44% in 2008 to 48% in 2014 (Table1). In the case

of the HHI, the concentration has risen by 9%, from 650 to 710.

In Spain, bank concentration has increased more intensely: 38% on the CR₅ and 69% on the HHI. This stronger increase explains how, although the concentration of the Spanish banking market was below the European average in 2008, by the end of 2014, had risen above it: 22% higher in terms of CR₅ and 18% in terms of HHI. On the EU27 ranking, Spain has gone from having the 6th lowest CR₅ in 2008 to 11th in 2014, and from 6th to 13th in terms of HHI.

Concentration of provincial banking markets

As mentioned in the introduction, the existence of significant differences across regions means that analysing banking market concentration at the national level alone may reveal only a partial picture. As a result, it is important to complement the results of the national analysis with one that has a narrower scope. This is particularly so given that many Spanish entities do not operate

nationally, but only within certain regions or even just a handful of provinces. Moreover, as will be discussed below, the average national market concentration value masks huge differences between provinces.

The limitation of the analysis of Spanish banking market concentration at the regional scale is that there is only public information on the provincial distribution of the network of branches of each deposit-taking institution. Data referring to 2014 is available from the most recently published annual reports for banks (AEB), savings banks (CECA) and credit unions (UNNAC).³ No information is available for other relevant business variables (such as total assets, credit, deposits, etc.).

In any event, the provincial distribution of the branch network is valuable information with which to approximate and quantify the regional concentration of the banking system in Spain, which explains why it has been used in a number of studies. Based on this information, it is possible to construct provincial concentration indices, in terms of both market share of the largest entities (CR_j) and HHI.

As a preliminary analysis of the evolution of provincial banking markets, it is worth analysing the changes that have taken place in the provincial distribution of the network of branches in Spain, as, as will be discussed below, there are significant differences between provinces, affecting changes in concentration.

To this end, Table 2 shows the change taking place in the number of offices in each province between 2000 and 2008 (expansionary phase) and between 2008 and September 2015 (crisis).

Since the start of the crisis, Spain's branch network shrunk in all of Spain's provinces, without exception, returning to the number of branches that existed 31 years earlier, in 1984.

The first thing that stands out is that whereas over the period 2000-2008, the branch network grew by 17% (6,776), between 2008 and

Table 2

Number of branches in the Spanish provinces

	2000	2008	2015 (September)	Variation		Percentage	
				2000-2008	2008-2015 (September)	Variation 2000-2008	Variation 2008-2015 (September)
Álava	281	350	250	69	-100	25	-29
Albacete	317	350	299	33	-51	10	-15
Alicante	1,358	1,748	1,126	390	-622	29	-36
Almería	538	709	486	171	-223	32	-31
Asturias	893	978	805	85	-173	10	-18
Ávila	199	217	138	18	-79	9	-36
Badajoz	660	753	645	93	-108	14	-14
Balearic Islands	1,060	1,261	918	201	-343	19	-27
Barcelona	5,204	5,866	3,439	662	-2,427	13	-4
Burgos	524	550	384	26	-166	5	-30
Cáceres	483	452	385	-31	-67	-6	-15

³ Although the Bank of Spain's *Boletín Estadístico* (Statistical Bulletin) publishes data on the distribution of credit and deposits by province, the information is not disaggregated to the level of individual entities.

Table 2 (continued)

Number of branches in the Spanish provinces

	2000	2008	2015 (September)	Variation 2000-2008	Variation 2008-2015 (September)	Percentage Variation 2000-2008	Percentage Variation 2008-2015 (September)
Cádiz	635	807	523	172	-284	27	-35
Cantabria	485	509	428	24	-81	5	-16
Castellón	574	683	395	109	-288	19	-42
Ciudad Real	445	477	407	32	-70	7	-15
Córdoba	608	696	526	88	-170	14	-24
Coruña, A	924	994	697	70	-297	8	-30
Cuenca	248	254	230	6	-24	2	-9
Girona	769	863	506	94	-357	12	-41
Granada	713	852	639	139	-213	19	-25
Guadalajara	211	274	208	63	-66	30	-24
Guipúzcoa	538	597	510	59	-87	11	-15
Huelva	367	450	309	83	-141	23	-31
Huesca	383	359	240	-24	-119	-6	-33
Jaén	600	635	519	35	-116	6	-18
León	488	551	428	63	-123	13	-22
Lleida	550	590	415	40	-175	7	-30
Lugo	373	336	257	-37	-79	-10	-24
Madrid	4,829	6,104	3,965	1,275	-2,139	26	-35
Málaga	918	1,406	915	488	-491	53	-35
Murcia	1,064	1,364	918	300	-446	28	-33
Navarra	707	719	571	12	-148	2	-21
Ourense	420	375	222	-45	-153	-11	-41
Palencia	228	225	152	-3	-73	-1	-32
Las Palmas	510	776	501	266	-275	52	-35
Pontevedra	775	829	543	54	-286	7	-34
Rioja, La	426	497	341	71	-156	17	-31
Salamanca	369	408	294	39	-114	11	-28
Sta.Cruz de Tenerife	556	716	516	160	-200	29	-28
Segovia	192	210	143	18	-67	9	-32
Seville	1,237	1,530	1,004	293	-526	24	-34
Soria	165	150	114	-15	-36	-9	-24
Tarragona	712	836	516	124	-320	17	-38
Teruel	239	236	198	-3	-38	-1	-16
Toledo	590	674	560	84	-114	14	-17
Valencia	2,176	2,663	1,617	487	-1,046	22	-39
Valladolid	529	613	408	84	-205	16	-33
Bizkaia	899	1,059	773	160	-286	18	-27
Zamora	247	256	199	9	-57	4	-22
Zaragoza	1,047	1,212	735	165	-477	16	-39
Ceuta and Melilla	37	46	39	9	-7	24	-15
Total	39,300	46,065	31,356	6,765	-14,709	17	-32
Foreign	91	102	73	11	-29	12	-28
Total	39,391	46,167	31,429	6,776	-14,738	17	-32
Max	5,204	6,104	3,965	1,275	-7	53	-9
Min	37	46	39	-45	-2,427	-11	-42

Source: Bank of Spain.

September 2015 it contracted by 32% (14,738), returning to the number of branches that existed 31 years earlier, in 1984. Since the start of the crisis, the network has shrunk in all of Spain's provinces, without exception.

However, the provincial-level analysis reveals important differences in the intensity of the adjustment during the crisis, with a range of variation which goes from a minimum of -9% (in Cuenca) to a maximum of -42% (Castellón). In four provinces the branch network has contracted by more than 40% (Castellón, Barcelona, Girona and Ourense).

The data show that, in general, the biggest number of office closures has taken place in those regions in which the network grew most during the years of expansion. This is the logical consequence of the correction of the imbalances that had built up. Specifically, there is a 90% correlation between the changes in the branch network between 2000 and 2008 and those taking place between 2008 and 2014.

In terms of the population served by a bank branch, network density has declined over the course of the crisis, with a rise in the number of inhabitants per branch from 998 in 2008 to 1,481 in September 2015 (a 48% increase).

Nevertheless, there are significant differences between provinces in terms of network density, with a range of variation that goes from a minimum of 690 inhabitants per branch in Teruel to a maximum of 2,386 in Cádiz (see Exhibit 2). In general, those provinces with the densest networks are the most densely populated (a 90% correlation using 2015 data), which shows the importance of population density in explaining the differences in network density between provinces.

In order to look at market concentration, Table 3 contains the values for the market share of the 1, 3 and 5 largest deposit-taking institutions in each province in 2008 and 2014 and shows the

changes taking place between the two years. In the case of CR_1 , with just a few exceptions, the value of the index rose between 2008 and 2014, varying between a minimum of 19% (Badajoz) and a maximum of 46% (Teruel) in 2014. It is noteworthy that in seven Spanish provinces, a single deposit-taking institution accounts for more than 35% of all branches, and there are two provinces in which a single institution has a share of 40% or more (Teruel and Cáceres). By contrast, in 2008, in just four provinces, one entity accounted for more than 35% of branches and in no province did a single entity account for more than 40%.

The number of competitors tends to be small in those provinces with a low population density and high concentration. Specifically, in 2014, in six of these provinces (Huesca, Teruel, Segovia, Soria, Ceuta and Melilla) fewer than 10 deposit-taking institutions had branches. Conversely, in provinces such as Madrid, Barcelona, and Valencia, the number of competitors exceeded 40 (over 80 in Madrid).

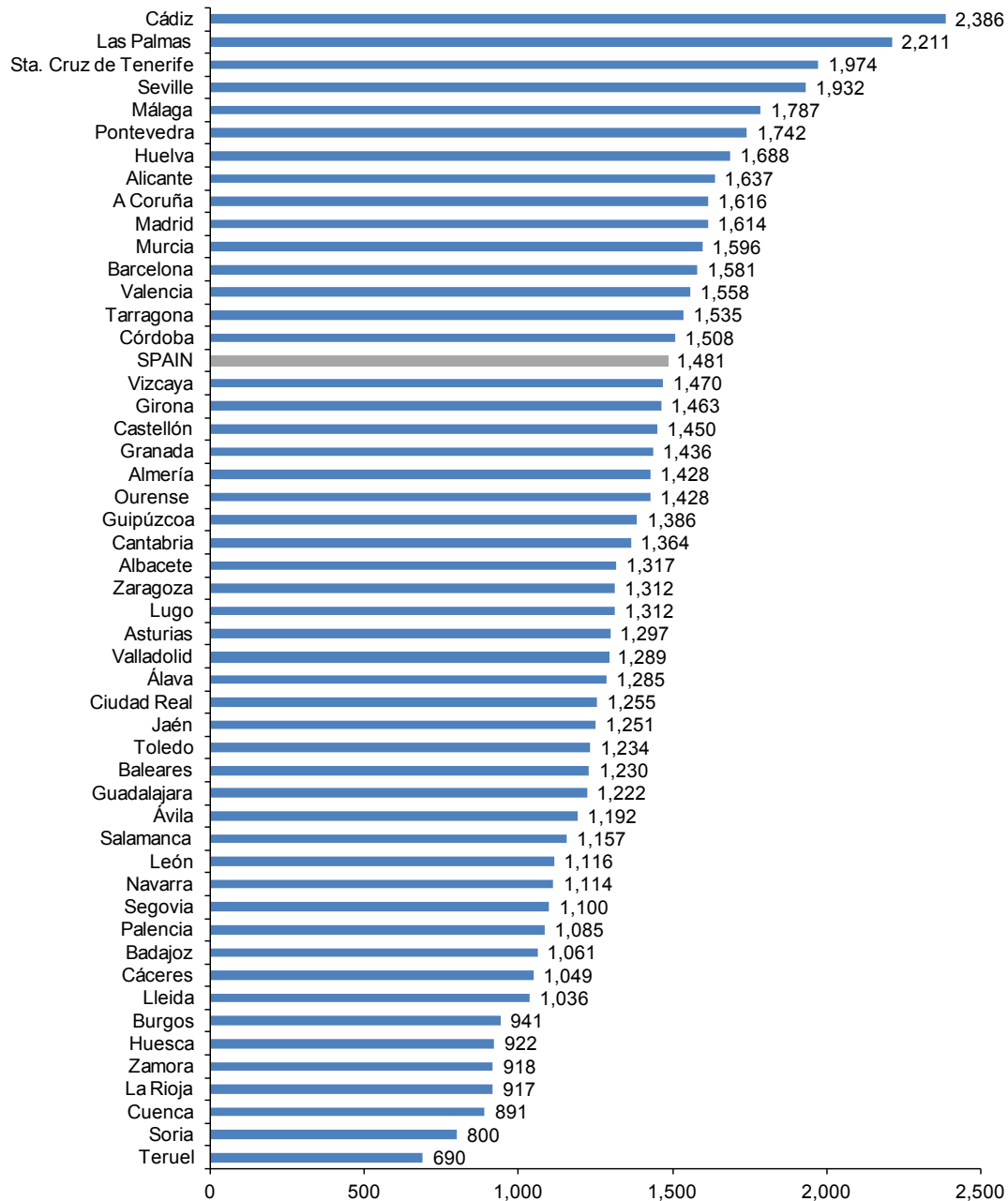
Taking CR_5 as the reference (as is usually done at national level) all Spain's provinces saw an increase in concentration during the crisis, with a maximum increase of 31.6% (Barcelona) and a minimum of 0.6% (Ciudad Real). In eight provinces, CR_5 rose by more than 20%. In 2014, the highest concentration in terms of this indicator was again in Teruel (not taking into account the autonomous cities of Ceuta and Melilla) and the lowest was in Badajoz.

Analysis of HHI is more interesting given its advantages over CR_i absolute concentration indicators. In this case, there are again significant differences between provinces, with a range of variation in 2014 of between a maximum of 3,421 (Teruel) and a minimum of 1,122 (Badajoz).

Between 2008 and 2014, HHI increased in all provinces but one (Ávila), more than doubling in Zaragoza. In 16 of the total 52 provinces, concentration rose by more than 50%.

Exhibit 2

Population per bank branch in the Spanish provinces. September 2015



Sources: Bank of Spain, INE and author's calculations.

Table 3

Market share in terms of bank branches of the 1,3 and 5 largest deposit-taking institutions

	CR ₁			CR ₃			CR ₅		
	2008 (%)	2014 (%)	Variation (pp)	2008 (%)	2014 (%)	Variation (pp)	2008 (%)	2014 (%)	Variation (pp)
Álava	28	31	3.3	47	68	20.9	65	76	10.7
Albacete	26	25	-1.1	60	61	0.9	66	80	14.7
Alicante	19	25	6.4	37	53	16.8	50	76	26.1
Almería	26	34	8.5	52	59	6.5	62	77	15.2
Asturias	22	24	2.0	49	56	6.9	67	77	10.2
Ávila	40	33	-6.5	61	58	-3.2	74	76	2.6
Badajoz	19	19	-0.6	41	46	5.6	56	66	9.8
Balearic Islands	20	23	3.3	50	56	6.4	65	73	7.8
Barcelona	22	28	6.6	40	59	19.4	52	83	31.6
Burgos	28	33	4.2	61	68	7.6	71	82	11.0
Cáceres	37	40	3.3	58	63	4.9	71	76	5.3
Cádiz	19	30	10.4	44	56	12.6	59	76	16.9
Cantabria	29	32	3.1	60	70	10.1	74	84	10.2
Castellón	18	21	3.6	41	52	10.5	57	72	14.3
Ciudad Real	23	23	0.0	54	51	-3.0	73	73	0.6
Córdoba	28	29	1.1	53	59	6.5	66	77	11.6
Coruña, A	23	30	6.8	44	58	13.7	61	83	22.0
Cuenca	31	31	0.1	68	73	4.8	78	87	9.7
Girona	21	34	13.3	47	62	15.4	60	84	23.9
Granada	31	29	-2.1	62	68	6.3	71	81	9.5
Guadalajara	24	30	5.4	58	68	10.6	67	82	15.1
Guipúzcoa	22	25	2.9	46	52	5.3	63	70	7.4
Huelva	33	34	0.7	55	68	13.1	68	83	15.0
Huesca	28	39	10.9	65	80	14.9	77	91	14.2
Jaén	22	27	5.1	48	69	21.1	68	80	11.7
León	23	26	3.5	45	49	4.3	62	71	9.2
Lleida	27	32	4.2	48	60	12.3	63	79	16.8
Lugo	24	30	6.4	45	56	10.9	63	80	17.0
Madrid	18	20	1.4	41	53	12.0	55	70	16.0
Málaga	22	27	5.4	39	50	10.6	50	68	17.4
Murcia	18	25	6.2	48	61	13.4	63	80	17.0
Navarra	26	31	4.9	54	64	10.0	69	89	19.7
Ourense	30	39	8.7	58	65	6.8	70	86	16.2
Palencia	21	35	13.7	47	67	20.0	67	86	18.1
Palmas de Gran Canaria, Las	21	22	0.8	43	59	16.1	60	81	21.7
Pontevedra	26	31	5.2	45	58	13.4	63	80	17.6
Rioja	23	30	7.1	51	58	6.9	62	78	16.8
Salamanca	25	31	6.5	53	70	16.5	77	79	2.0
Santa Cruz de Tenerife	28	37	8.7	50	82	32.2	71	90	19.0
Segovia	39	39	-0.1	61	70	8.6	76	89	13.5
Seville	25	31	6.3	46	58	11.9	60	77	16.5
Soria	32	33	0.6	73	72	-0.9	79	85	5.7
Tarragona	23	32	9.2	51	68	17.7	66	87	21.2
Teruel	37	46	9.1	76	89	13.2	90	95	4.7

Table 3 (continued)

Market share in terms of bank branches of the 1, 3 and 5 largest deposit-taking institutions

	2008 (%)	CR ₁ 2014 (%)	Variation (pp)	2008 (%)	CR ₃ 2014 (%)	Variation (pp)	2008 (%)	CR ₅ 2014 (%)	Variation (pp)
Toledo	26	29	2.2	58	56	-2.0	72	79	6.3
Valencia	16	21	5.2	37	52	15.0	50	71	21.4
Valladolid	18	28	10.3	41	54	12.7	57	76	19.0
Vizcaya	23	27	4.1	46	55	9.6	62	78	16.4
Zamora	26	33	6.7	62	74	12.0	87	92	5.6
Zaragoza	19	37	18.1	46	68	22.3	61	83	22.8
Ceuta	23	27	4.2	58	68	10.5	81	100	19.2
Melilla	24	32	7.8	57	74	16.5	86	100	14.3
Max	40	46	18.1	76	89	32.2	90	100	31.6
Min	16	19	-6.5	37	46	-3.2	50	66	0.6

Sources: AEB, CECA, UNNAC and author's calculations.

Although the results at the autonomous region level are not given here, due to space constraints,

Is the increase in the level of bank concentration in some provinces a cause for concern?

The potential increase in international competition anticipated in the context of banking union is compatible with the existence of certain niches of market power at the regional level. As we have seen, concentration has increased considerably in some provincial markets, and this has undoubtedly contributed to the drop in the number of competing banks as a result of the mergers that have taken place.⁴ Although concentration does not necessarily imply less competition, the levels reached in some cases raise some concerns.

A useful benchmark to help focus attention when monitoring potentially excessive concentration (or any increase thereof) is the 1,800/200 rule used by the U.S. Department of Justice (2000) to assess mergers. According to this rule, a merger needs closer examination to assess its potential effects on competition if the relevant market HHI exceeds 1,800 points after the merger and if it rises by more than 200. For the ECB (2015) an HHI value in excess of 1,800 implies a high

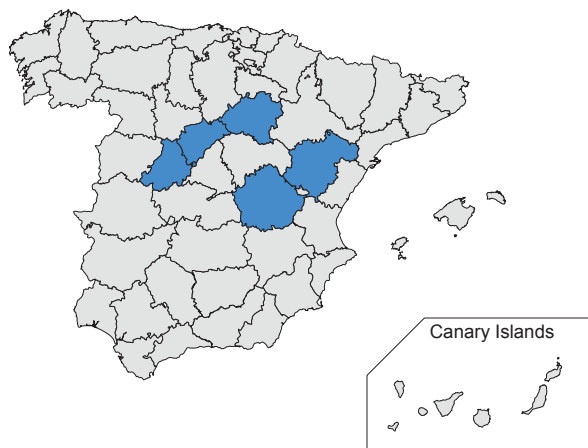
the biggest rise in concentration took place in Aragon, with an increase in HHI of 109%, followed by the Basque Country (103%) and Catalonia (98%). The intense process of branch closures and increase in bank concentration has been driven by the mergers that have taken place between the former savings banks, and the acquisition of banks or savings banks by other entities. In 2014, Aragon was the autonomous region with the highest bank concentration measured in terms of HHI (2,162), followed by Cantabria (2,016). The regions with the lowest concentrations are Andalusia, Extremadura and the Valencia region, with values of below 1,100.

⁴ The number of national banks and savings banks has fallen from 94 in 2008 to 48 in 2014, and the number of credit unions from 81 to 63.

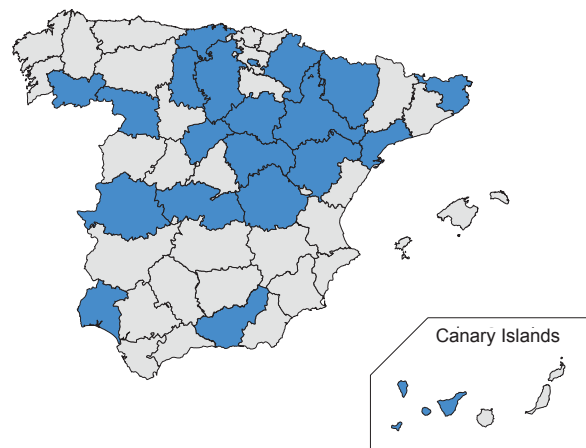
Exhibit 3

Spanish provinces where the HHI exceeded 1,800 in 2014 and the increase between 2008 and 2014 exceeded 200

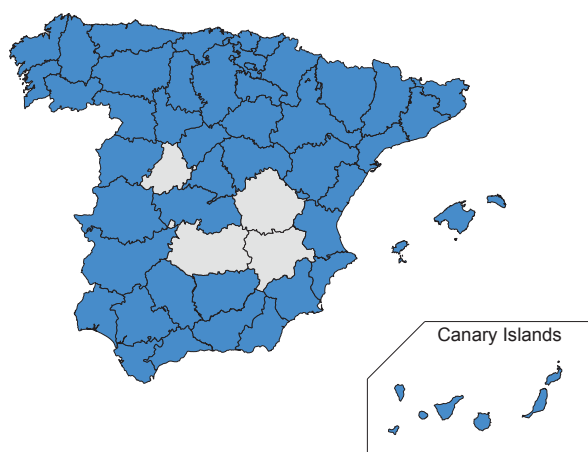
a) 2008: HHI > 1,800



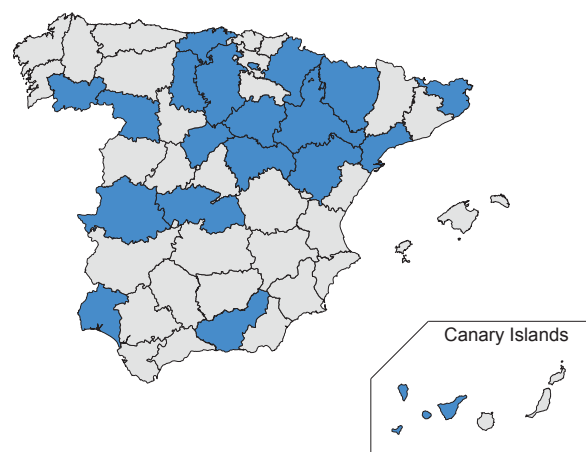
b) 2014: HHI > 1,800



c) Variation 2008-2014 > 200



d) HHI > 1,800 (2014) and variation 2008-2014 > 200



Sources: AEB, CECA, UNNAC and author's calculations.

concentration, while values of between 1,000 and 1,800 imply moderate concentration.

Exhibit 3 shows the application of the 1,800/200 rule more precisely in graphical form. The four panels of the exhibit indicate the provinces in which the increase in concentration between 2008 and 2014 exceeded 200 points, those where it was over 1,800 in both years, and those where it met

both conditions simultaneously in 2014. Based on this rule, from 2008 to 2014, the HHI increased by more than 200 points in 48 of Spain's 52 provinces, and the HHI value in 2014 exceeded 1,800 in 22 provinces. If we consider both thresholds together, the thresholds of this rule are exceeded in 21 provinces. This is the case in Burgos, Cáceres, Cantabria, Gerona, Granada, Guadalajara, Huelva, Huesca, Navarra, Ourense, Palencia, Santa

Table 4

Bank market concentration in the Spanish provinces. HHI

	2008	2014	Variation	Percentage change
Álava	1,184	1,610	426	36
Albacete	1,315	1,497	182	14
Alicante	737	1,280	543	74
Almería	1,240	1,732	492	40
Asturias	1,124	1,424	300	27
Ávila	1,956	1,693	-263	-13
Badajoz	921	1,122	201	22
Balearic Islands	1,089	1,391	301	28
Barcelona	836	1,621	785	94
Burgos	1,622	1,865	243	15
Cáceres	1,764	2,032	269	15
Cádiz	906	1,526	619	68
Cantabria	1,535	2,016	480	31
Castellón	799	1,186	387	48
Ciudad Real	1,298	1,332	34	3
Córdoba	1,286	1,553	266	21
Coruña, A	1,082	1,692	610	56
Cuenca	2,020	2,098	78	4
Girona	1,011	1,862	851	84
Granada	1,577	1,830	253	16
Guadalajara	1,209	1,944	735	61
Guipúzcoa	1,068	1,326	259	24
Huelva	1,538	2,033	495	32
Huesca	1,759	2,633	874	50
Jaén	1,154	1,572	419	36
León	1,055	1,365	310	29
Lleida	1,182	1,710	527	45
Lugo	1,119	1,627	508	45
Madrid	772	1,181	409	53
Málaga	814	1,277	463	57
Murcia	991	1,516	525	53
Navarra	1,328	1,840	512	39
Ourense	1,538	2,016	477	31
Palencia	1,125	1,945	820	73
Palmas de Gran Canaria, Las	956	1,516	559	58
Pontevedra	1,169	1,643	474	41
Rioja	1,192	1,567	375	31
Salamanca	1,275	1,681	405	32
Santa Cruz de Tenerife	1,304	2,089	785	60
Segovia	1,933	2,234	301	16
Seville	1,063	1,584	521	49
Soria	1,873	2,230	357	19
Tarragona	1,154	1,961	807	70
Teruel	2,485	3,421	936	38

Table 4 (continued)

Bank market concentration in the Spanish provinces. HHI

	2008	2014	Variation	Percentage change
Toledo	1,508	1,918	410	27
Valencia	694	1,209	515	74
Valladolid	881	1,436	555	63
Vizcaya	1,029	1,465	436	42
Zamora	1,654	2,285	631	38
Zaragoza	938	2,107	1,169	125
Ceuta	1,391	1,860	469	34
Melilla	1,474	2,078	604	41
Max	2,485	3,421	1,169	125
Min	694	1,122	-263	-13

Sources: AEB, CECA, UNNAC and author's calculations.

Cruz de Tenerife, Segovia, Soria, Tarragona, Teruel, Toledo, Zamora, Zaragoza and Ceuta and Melilla.

As the detailed information in Table 4 shows, in one province (Zaragoza) the increase in HHI exceeds 1,000 points, in five the increase lies between 800 and 1,000 points (Girona, Huesca, Palencia, Tarragona and Teruel) and in seven it is between 600 and 800 (Barcelona, Cádiz, Coruña, Guadalajara, Santa Cruz de Tenerife, Zamora and Melilla). The increase is less than 200 points in just three provinces (Albacete, Ciudad Real and Cuenca). It is worth noting that although in 2008, the HHI exceeded the 1,800 threshold in just five provinces, by 2014 the number had risen to 22.

Conclusions

The profound restructuring undergone by the Spanish banking sector has helped to correct the imbalances that built up in the preceding expansionary phase, making it necessary to resort to mergers as a cost-cutting strategy. Cutting branch networks was a particularly important part of this strategy, given that the number of branches existing at the time of the outbreak of the crisis was incompatible with the deleveraging effort needed by the Spanish economy. As a result of

this correction in installed capacity, the network became less dense, although it remains one of the densest in the EU.

As a consequence of these mergers, the degree of concentration in the Spanish banking market rose sharply, such that although it started at a level below the European average in 2008, it now exceeds it.

The increase in concentration does not necessarily imply a reduction in competition, particularly bearing in mind progress towards banking union. Nevertheless, the relevant geographical dimension when judging competition is often not the national scale, as many entities operate at sub-national levels, being concentrated in one or more regions or even just a few provinces. Moreover, it should be borne in mind that the cuts to the branch network have varied widely between provinces, such that the change in concentration and its current level in provincial markets is also very uneven.

In this context, the construction of banking concentration indices at the provincial level, using the information available on the distribution of the branch network of Spanish deposit-taking institutions at the individual level in 2008 and

2014, allows for an analysis of the impact of restructuring over this adjustment period.

The results yield the following conclusions:

- The restructuring undergone by the Spanish banking sector to correct the imbalances that built up during the preceding expansionary phase has led to a significant increase in market concentration, which is now above the European average. Concentration is much higher than in Europe's largest countries.
- The level of concentration at the national level conceals major differences at the regional level. According to individual information on the provincial distribution of bank, savings bank, and credit union branches, there are now some provinces where the concentration is three times that in others. The differences are bigger still in terms of the increase in concentration that has taken place during the crisis (2008-2014).
- Concentration has increased in almost all Spain's provinces, and in some, the increase has been so intense that it exceeds the thresholds that in other countries would require close examination of the possible consequences for competition. Specifically, in 2014, the HHI value exceeded 1,800 points in 22 of Spain's provinces, a threshold above which concentration is considered high. This substantial number of provinces contrasts with the just five over this threshold in 2008. Moreover, in 21 provinces, concentration has increased by over 200 points and is currently over 1,800, values that, in the United States would require a detailed analysis to assess the potential impact on levels of competition.

References

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