

An EPICENTER publication

The economic cost of

CATALONIA'S

hypothetical independence
and departure from the EU

Professor Francisco Cabrillo
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Foreword

In recent years from abroad, as one attentively keeps up with the *procés* debate and after having devoted time to the study of the political economy of secessions, I have become exceedingly surprised by the scarce economic substantiation of the proposal for an independent Catalonia. The dazzling lack of essential knowledge to assess the repercussions of the *procés*, both in the Catalan society's well-being and in its sustainability, demands to be studied. Catalonia's departure from both Spain and the European Union would mean drastic changes in its economy that should be analysed in depth, so that those who decide are fully informed of the risks involved in secession.

To become aware of the economic cost of independence is not a trivial matter and can have a serious impact, as it affects all Catalans (including Catalans against independence and non-Catalans residing in Catalonia), whether they are businessmen, workers, investors, pensioners, university students, lecturers or researchers. Citizens' choices will be better off if both the economic cost of secession for Catalonia is publicly known and if all the consequences of separation are explained in a coherent and clear manner.

This is precisely the objective of the study carried out by Professor Francisco Cabrillo, joined by research teams from EPICENTER and Fundació Civismo. In the study, various crucial dimensions of the subject are addressed with scientific rigor, using top-notch prevailing economic theory and relevant statistical analysis methods.

The authors first analyse Catalonia's economic external ties: exports, national and foreign tourism, and foreign direct investment. This connection has traditionally been very intense. In the event of independence, Catalonia would suffer a notable loss of the benefits from these relationships, especially after leaving the European Union, the European Single Market,

and the Eurozone. Exports would have to face both tariff barriers and non-tariff barriers to gain access to the rest of Spain and other EU countries. The (already-existing) political uncertainty could generate irreversible displacement in tourism and foreign investment to other autonomous communities. Recently there has been an exodus of the corporate headquarters of companies and financial entities from Catalonia to the rest of Spain, with the threat in the medium-term of the relocation of production centres. This would guarantee an adverse impact on employment levels in Catalonia.

Next, the authors emphasize the important problem of conjectured state regulation of economic activity in an independent Catalonia. It is established that in the Catalan community, political interests are prone to interventionist temptations of the markets. They think, with founded reason in my opinion, that they will continue to be so after a hypothetical secession. From regulatory theory and empirical evidence, we know that the more excessive regulations are produced, the greater the distortions of competition in the markets. This results in price increases (for consumers) and production costs (for companies), which generate persistent inefficiencies in the productive factors of allocation, leading to reduced social welfare.

The effects on public finances deserve great attention. The pro-independence leaders have the regional financing system applied to the community in their sights, which they consider deeply unfair (*"Espanya ens roba"*). The analysis highlights that the existing interterritorial tax system in Spain is similar to that of other advanced countries, based on the principle that relatively richer regions transfer resources to poorer regions in order to guarantee basic public services of comparable conditions for all the country's inhabitants. It is, therefore, absolutely normal for Catalonia to receive less than what it collects, but this is not why it is underfunded. According to the authors, there is no guarantee that the rulers of an independent Catalonia would efficiently manage all tax revenues and maintain the public debt at sustainable levels over time, in accordance with the famous 'Reinhart and Rogoff rule' (Do not exceed a ratio of 90% of GDP in the medium term).

Secession would also bring a new currency different from the euro. The authors study the currency pairs exchange of a sovereign currency (fixed, floating) and its effects on the economic, banking, and financial activity. A critical factor is the uncertainty around whether the new currency would enjoy international convertibility or not. Of course, a prolonged use of the

euro as the currency in circulation is a possibility, which would assume total surrender of the monetary policy to the European Central Bank. Such surrender in sovereignty would also result in case the authorities chose a 'currency board'. In every potential scenario of a Catalonian currency, the authors project more inflation, devaluations, exchange controls, and other consequences in the development of the new State.

Finally, the study tackles fundamental questions about institutional quality, a key factor in economic growth shown by empirical evidence from other countries. According to the prevailing literature, the authors analyse the main indicators i.e.: political stability (with absence of violence), efficacy of government and public administration, rule of law, institutional corruption control, the efficacy of the economic activity's regulatory framework, and administration's finance accountability. Catalonia has not received high ratings on these indicators in the past. The authors fear that given the "public choice" ingrained in the Catalan society, this would not improve in an independent Catalonia and would inevitably hinder the economic activity of the region.

This interesting and in-depth study should receive the public attention it deserves and enlighten Catalan political leaders as well as all citizens. It should be remembered that once the decision to leave Europe has been made, the return will not be up to the Catalans, but rather up to the unanimous acceptance of all EU countries, something that may take many years, or never be achieved.

**Juergen B. Donges, Political Economy Institute,
University of Cologne**

1. Objectives

The objective of this study is to analyse the economic effects of a conjecture independence of Catalonia, Spain. This would both mean breaking with the rest of Spain and leaving the European Union (EU).

Whilst the former would appear to be permanent, the latter could be temporary as the new state would likely request entry into the EU, with a mandatory negotiation period, which could be prolonged for at least two reasons. First, because any member state could veto its entry and, second, in any case it would be necessary to reach agreements on issues ranging from budget to representation quotas with the governing bodies of the EU. A long process of talks would significantly increase the cost of Catalonia's independence. Therefore, it is reasonable to think that the departure from the EU would entail considerably higher economic costs for Catalonia, due to its smaller size and population.

Not only that, such a process of secession would have economic costs both for Catalonia and the rest of Spain, regarding its public finances and monetary policy. The Catalan private sector would also suffer a notable decline, especially in three fundamental areas: foreign trade, tourism, and foreign investment, that can already be appreciated. As the increasing interventionism of recent years indicates¹, the hypothetical independent Republic of Catalonia's new institutional and regulatory framework would project a more hampered environment for such industries.

1 Calvo, S. & López, L. (2018). "Libertad Económica en las Regiones de España", *New Direction Foundation*.

To analyse the economic cost of achieving an independent Catalonia, this study explicitly avoids positions in favour or against the independence path, exposing only the price to pay for the presumed new state. Whether the price to pay is acceptable or excessive is up to the reader's consideration.

2. Some relevant areas of the private sector

A detailed economic assessment of the private sector in Catalonia, as well as the possible consequences of secession, the analysis focuses on several fundamental aspects to measure the effects of the independence movement in the autonomous community, as well as its impact on highly relevant variables for the economy of Catalonia.

The selected variables present information on how foreign trade has evolved over the years since the so-called referendum was held, specifically in strategic sectors on which the Catalan economy largely depends: tourism and the evolution of foreign direct investment (FDI).

This chapter comprises three sections. First, Catalan foreign trade, addressed in relation to its commercial partners as well as the destination of its exports. Data on trade shows both the rest of Spain and the EU are the main import and export partners of the region, which makes the independence scenario a straightforward yet serious risk for the regional economy. Second, tourism, which at the end of 2019 amounted to 12 per cent of the Catalan economy and employed 14 per cent of the regional population. The referendum held in 2017 and secessionist-fuelled violence have affected tourism in Catalonia: tensions in the streets increased as independence was demanded by force and visiting certain emblematic places in Barcelona was discouraged. With Catalonia's capital city plagued by these disturbances, the potential of this sector was clearly impaired, which also plays a crucial role in the inflow of capital. There have also

been poorly executed tourism campaigns² which appear to reject foreign visitors. The third section addresses the evolution of FDI, through an analysis of capital flows to Catalonia since October 2017. The objective is to see how separatism has affected foreign investors, as well as the plausible displacement of this investment to other Spanish regions such as Madrid. This relocation is understood in a broad sense, since it includes a series of variables such as corporate headquarters, the creation of companies and jobs, as well as tourism.

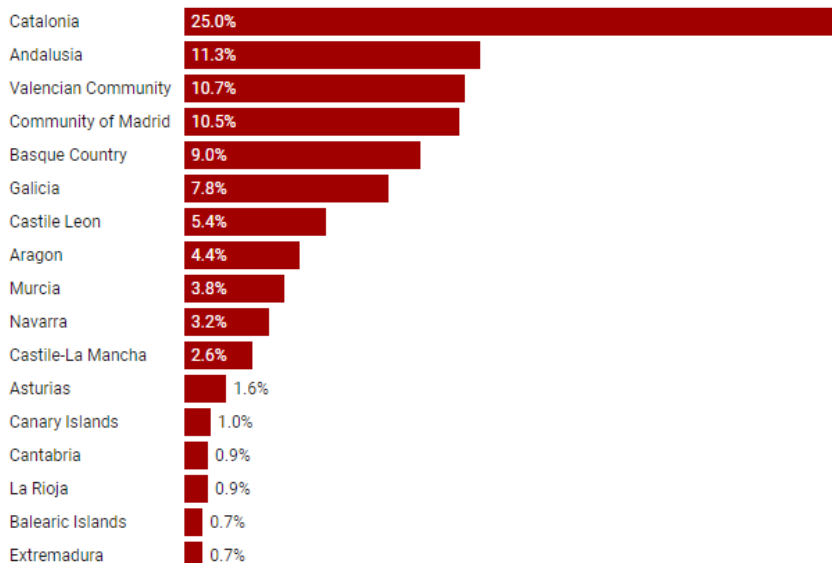
The analysis of these areas and their evolution since the burst of the secessionist movement determines the degree to which the losses experienced in Catalonia in these three sectors would be linked to the referendum. Without assessing any political aspects, this alone represents a big hit to the Catalan economy, especially when the instruments being adopted in some instances to achieve independence are armed civil unrest, vandalism, crime, and the destruction of urban space. Radical behaviours that alone have a considerable impact on public spending dedicated to infrastructure recovery.

2.1. Catalonia's foreign trade outside Spain and the EU

Foreign trade contributes enormously to the Catalan GDP and has been steadily increasing for years –as of 2019, its imports and exports accounted for 71 per cent of GDP. This paired with its tourism sector places Catalonia as a region closely related to foreign soil and peoples. In fact, it is the autonomous community with the greatest weight in total Spanish exports, as 25.6 per cent of all Spanish exports are of Catalan origin.

2 There have been a number of campaigns against tourism from Barcelona's city council run by Ada Colau, as well as various initiatives from the Federation of Associations of Neighbours of Barcelona against mass tourism.

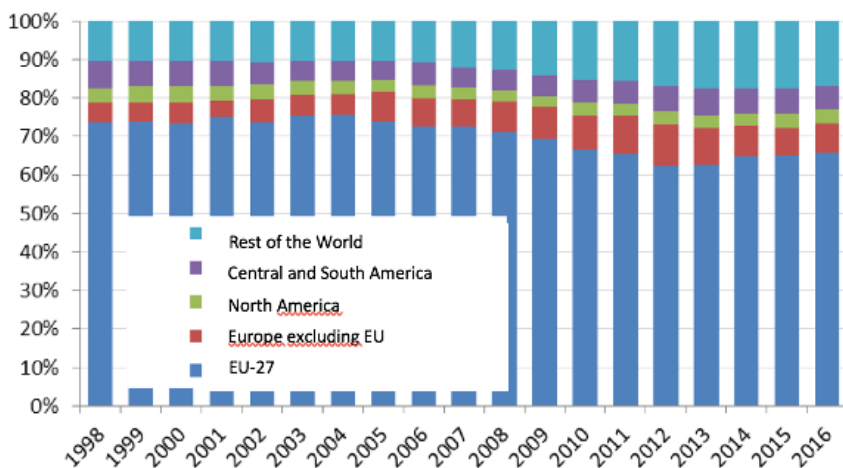
Graph 1. Percentage of the value of exports in Spain in 2018, by autonomous communities (Goods and services)



Source: Spanish Institute of Foreign Trade (ICEX, in Spanish)

However, despite this great export potential, it should be noted that this is possible since Catalonia is a Spanish region integrated into the EU.

Graph 2. Distribution of Catalan exports by destination (percentage)



Source: Catalan Institute of Statistics

Table 1. Foreign trade of Catalonia by country (in millions of euros)

Year	Total exports	EU-28	Germany	France	Italy	Portugal	United Kingdom	Europe excluding EU	Switzerland	United States	Central and South America	Rest of the World	Japan	China
1998	27,147.8	19,997.2	4,138.7	4,670.3	2,947.5	2,298.1	1,859.4	1,353.5	381.5	950.9	1,893.9	2,852.3	208.7	138.3
1999	27,890.6	20,638.7	4,065.4	4,929.7	2,897.3	2,600.6	1,912.6	1,326.8	372.9	1,104.7	1,794.6	2,933.7	219.1	125.1
2000	33,796.5	24,777.5	4,695.7	6,018.8	3,367.9	2,940.8	2,277.9	1,812.4	443.3	1,354.6	2,162.3	3,562.8	289.3	187.0
2001	36,694.5	27,491.4	4,859.6	6,942.4	3,799.1	3,299.4	2,525.6	1,646.1	468.4	1,218.0	2,419.4	3,809.5	289.5	215.5
2002	37,275.9	27,466.7	4,499.7	6,874.9	3,792.6	3,409.6	2,885.1	2,226.8	803.6	1,283.0	2,177.2	3,997.0	288.6	321.5
2003	37,648.5	28,358.2	4,705.2	7,046.8	3,904.8	3,342.1	2,965.8	2,035.7	503.7	1,282.6	1,890.2	3,975.5	278.7	437.5
2004	39,485.1	29,807.5	4,832.2	7,734.4	4,170.0	3,499.0	2,980.9	2,218.8	505.3	1,231.7	2,000.3	4,114.9	352.2	358.6
2005	42,703.4	31,533.3	4,981.8	8,664.5	4,138.6	3,701.5	3,019.9	3,311.5	1,447.0	1,184.8	2,077.0	4,490.5	400.7	370.8
2006	47,216.0	34,216.8	5,120.5	9,149.6	4,716.5	3,671.5	3,421.3	3,482.9	1,438.0	1,441.3	2,880.0	5,061.8	447.9	414.7
2007	49,678.4	36,023.5	5,226.2	9,933.2	5,054.0	3,742.7	3,567.8	3,549.0	1,220.7	1,440.1	2,538.5	6,001.0	426.4	470.7
2008	50,515.7	35,971.9	5,070.7	9,921.1	4,965.0	4,011.0	3,070.5	3,991.0	1,280.7	1,311.4	2,661.1	6,451.8	397.1	483.5
2009	41,461.7	28,731.5	4,187.9	8,509.0	4,007.4	3,444.5	2,021.7	3,400.8	1,355.5	1,121.0	2,207.8	5,888.7	273.8	547.2
2010	48,871.6	32,563.8	4,651.8	9,285.7	4,885.2	3,827.6	2,417.4	4,300.1	1,835.9	1,412.0	2,949.2	7,487.6	430.6	678.2
2011	54,989.2	35,929.4	5,532.0	10,434.6	5,015.7	3,725.4	2,713.6	4,410.2	2,381.8	1,583.4	3,241.4	8,548.4	459.9	790.5
2012	58,880.7	36,716.6	6,663.7	10,211.2	4,851.1	3,385.3	2,958.2	6,376.5	2,890.9	1,699.8	3,919.4	9,986.1	611.3	1,021.7
2013	58,981.3	36,940.2	6,713.1	9,893.4	4,630.3	3,632.2	3,229.8	5,678.3	2,334.8	1,660.9	4,120.8	10,386.3	637.3	1,118.9
2014	60,313.7	39,054.6	6,935.3	9,899.7	4,919.2	4,085.9	3,714.5	4,798.2	1,980.8	1,774.9	3,865.1	10,633.9	714.9	1,050.4
2015	63,906.3	41,566.7	7,588.4	9,821.4	5,537.9	4,562.7	4,096.3	4,594.5	2,044.7	2,148.4	4,232.2	11,143.9	827.2	1,173.8
2016	65,160.6	42,878.8	7,736.3	10,460.7	5,932.3	4,366.0	3,910.4	4,838.5	2,162.9	2,156.6	3,901.3	11,138.1	801.2	1,308.1

Source: Catalan Institute of Statistics

As all the data in Graph 2 and Table 1 show, the independence of Catalonia could become economic suicide, given the fact that exports are one of the main pillars of Catalonia's economic activity with the EU common market, as its main destination receiving 80 per cent of its exports³. In an independent Catalonia, these transactions would likely be subject to tariffs, which would put them at risk of becoming more expensive by up to 15 per cent.

In recent times, many nationalist politicians have been defending the region's independence as, in their opinion, its exports do not depend as much on the rest of Spain as they used to years ago. However, the figures show that Catalonia is more strongly linked commercially to small Spanish regions than to large foreign countries. In total, Catalonia sends between

3 Cerezal, P. (September 26, 2017). El 80% de las ventas catalanas va al resto de España y a la UE. *Expansion.com*. Available at: <https://www.expansion.com/economia/2017/09/26/59c94eaa46163f261a8b45bf.html> (last accessed: June 3, 2020)

20 and 30 per cent of what it sells outside the region to the rest of Spain – for example, more products to the neighbouring region of Aragon than to France or Germany combined. It exports a similar volume to both the United States and Cantabria, even though the GDP of the world's leading power is 1,300 times larger than that of Cantabria, according to the latest data from the Ministry of Economic Affairs.

**Table 2. Geographical distribution of trade of Catalonia
(in millions of euros)**

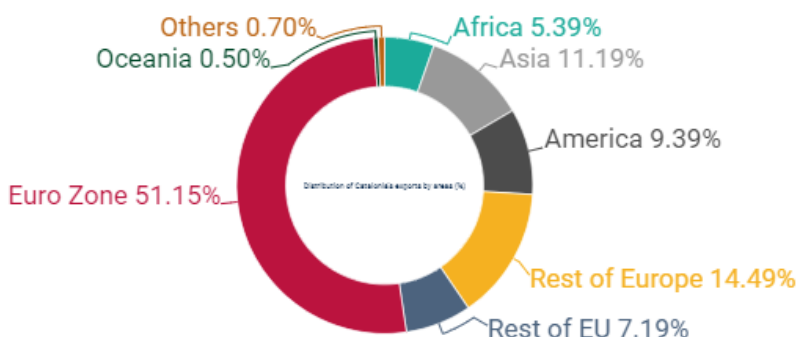
Year	Own Autonomous Community	Exports		Imports		Trade Balance		Effective Production
		Rest of Spain	Rest of the world	Rest of Spain	Rest of the world	Rest of Spain	Rest of the world	
1995	25,004	31,282	17,974	17,007	25,731	14,275	-7,757	74,259
1996	28,147	32,842	20,726	18,640	27,009	14,202	-6,283	81,714
1997	30,153	35,570	24,662	20,111	31,747	15,459	-7,085	90,385
1998	32,837	36,387	26,924	20,684	35,764	15,703	-8,840	96,147
1999	33,39	41,370	27,677	21,286	39,925	20,085	-12,248	102,438
2000	36,153	44,472	33,538	24,247	48,67	20,224	-15,132	114,163
2001	39,174	45,500	36,397	23,804	50,319	21,696	-13,921	121,071
2002	39,446	43,470	36,872	22,285	51,616	21,185	-14,744	119,787
2003	39,955	43,492	37,277	24,544	54,033	18,949	-16,757	120,724
2004	41,248	47,037	39,121	24,905	60,556	22,133	-21,435	127,407
2005	42,103	47,756	42,361	26,645	67,449	21,111	-25,088	132,22
2006	42,835	51,012	46,776	28,258	74,524	22,753	-27,748	140,623
2007	43,676	52,742	49,678	28,144	80,215	24,598	-30,537	146,096
2008	42,628	50,401	50,514	29,421	77,127	20,981	-26,613	143,543
2009	34,798	42,358	41,461	21,212	57,456	21,146	-15,995	118,617
2010	33,554	44,331	48,866	21,783	67,296	22,548	-18,430	126,751
2011	33,556	42,410	54,955	24,271	71,537	18,139	-16,582	130,921
2012	31,842	39,884	58,853	24,077	69,770	15,807	-10,917	130,579
2013	31,114	38,455	58,957	23,873	67,381	14,582	-8,424	128,526
2014	30,965	39,240	60,291	21,324	72,221	17,915	-11,929	130,496
2015	31,231	39,497	63,885	21,638	76,178	17,859	-12,293	134,612
2016	31,402	38,861	65,142	21,313	77,825	17,548	-12,683	135,405
2017	8,131	10,078	17,649	5,538	21,506	4,540	-3,858	35,858

Source: C-Intereg.

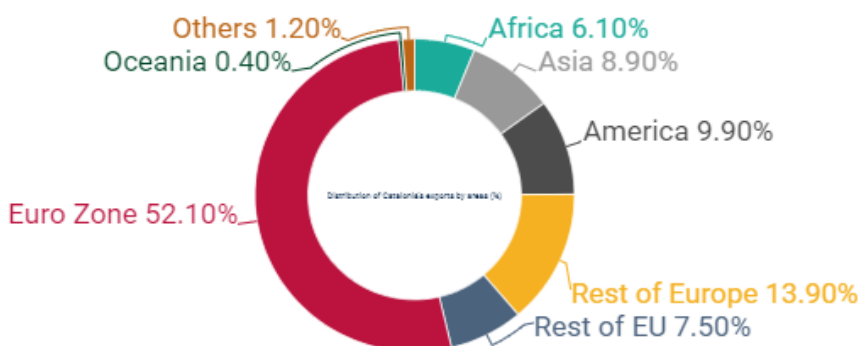
Note: Effective Production (Agricultural and Industrial Goods)

Catalonia's trade relations with other Spanish regions have intensified over the last decade to reach all time high figures. Globally, most of Catalonia's exports go to EU destinations, as indicated in Graph 3 and Table 3. The remainder goes to other economies which, in the case of the United States, barely represent 3 per cent of Catalonia's exports.

Graph 3. Distribution of Catalonia's exports by area (percentage). January-June 2019/2020.



January-June 2020



January-June 2019

Source: Monthly Foreign Trade Report of Catalonia

Table 3. Exports of Catalonia by geographical area

Geographical Area	% of Total
Europe	76.7
European Union	63.4
Euro Zone	56.1
Germany	12.3
France	19.3
Portugal	5.9
Rest of EU	7.3
Rest of Europe	13.3
United Kingdom	4.4
Turkey	1.6
America	7.9
North America	3.8
USA	3.5
Latin America	4.1
Brasil	0.6
Mexico	1.2
Asia	9.8
Asia except Middle East	7.2
China	3.2
Japan	1.0
Middle East	2.6
Saudi Arabia	0.5
Africa	4.9
Morocco	1.9
Oceania	0.5
Others	0.2
Total	100.0

Source: Monthly Foreign Trade Report of Catalonia. June 2020.

In this context, the separatist logic seems to forget that secession with no regard to the Spanish Constitution (EC) and Spanish law would not only hinder access to the Spanish national market, but also denies its entry to the EU single market. Considering that 17 of the 20 main Catalan trading partners are EU member states, independence is a potential economic suicide.

Aragon is the leading destinations of Catalan products, with sales worth 10.8 million euros per year, followed by France, with 9.9 billion euros at the end of 2019. In third place, Germany, with 6.935 million. Fourth in the list is Valencia, whose purchases amount to 4.994 million. The list of main commercial partners is completed by Italy, Portugal, Madrid, United Kingdom, Andalusia and the Balearic Islands.

The five regions that compose its main markets (Aragon, Valencia, Madrid, Andalusia and the Balearic Islands) have 22 million inhabitants and have an almost as great weight in the turnover of Catalan companies as the other five countries, populated by 286 million citizens. These 10 geographical areas, between nations and autonomous communities, account for 55% of Catalan exports and a quarter of the region's GDP.

Table 4. Main markets for Catalan sales (2018)

Main Catalanian Sales Markets	Millions of Euros
Aragon	10,782
France	9,900
Germany	6,935
Valencian Community	4,994
Italy	4,919
Community of Madrid	4,256
Portugal	4,086
United Kingdom	3,714
Andalusia	2,884
Balearic Islands	2,640
Castile La Mancha	2,218
Basque Country	2,173
Cantabria	2,024
Switzerland	1,981
Netherlands	1,952
Castile Leon	1,848
USA	1,775
Belgium	1,377
Canary Islands	1,304
Galicia	1,179

Source: C-Intereg.

Even though imports do not present the same relevance for Catalonia's economy, they are also worth studied, as they are highly dependent on Spain and the EU. As shown in Table 5, other EU member states are by far Catalonia's main trading partners in terms of imports.

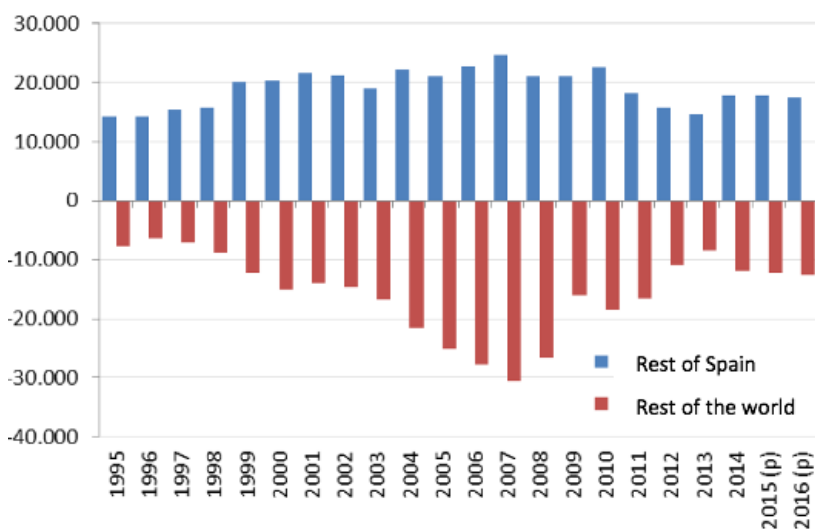
Table 5. Imports by geographic areas and countries
(in millions of euros)

Year	Total Imports	EU-28	Germany	France	Italy	Portugal	United Kingdom	Europe excluding EU	Switzerland	North America	USA	Central and South America	Rest of the World	Japan	China
2010	67,621	37,893	9,741	6,526	6,583	1,471	2,092	4,270	1,302	2,480	2,363	3,483	19,495	1,655	6,382
2011	72,173	40,964	11,995	7,282	6,676	1,531	1,963	4,842	1,480	2,724	2,603	3,579	20,063	1,708	6,185
2012	70,324	38,976	10,949	6,888	5,876	1,516	2,171	5,129	1,383	2,282	2,139	4,029	19,908	1,584	5,839
2013	67,86	39,721	11,155	7,225	5,399	1,843	2,233	4,702	1,346	2,132	2,012	2,818	18,487	1,266	5,561
2014	72,909	42,844	12,564	7,607	5,761	1,707	2,543	4,920	1,549	2,709	2,515	2,805	19,632	1,363	6,032
2015	76,988	45,417	13,869	7,282	6,055	1,779	2,683	4,150	1,546	2,818	2,652	2,971	21,632	1,728	7,391
2016	78,159	46,493	14,497	7,243	6,298	1,663	2,476	4,608	1,980	2,819	2,667	2,712	21,526	1,883	7,533
2017	85,168	48,652	15,129	7,81	6,735	1,620	2,537	5,175	2,009	2,886	2,662	3,247	25,208	2,082	8,607
2018	90,899	51,390	15,882	8,188	7,144	1,777	2,834	5,825	2,498	3,446	3,185	3,015	27,224	2,019	8,764
2019 (p)	93,037	52,862	15,389	8,044	7,063	1,891	2,879	5,035	1,799	4,027	3,659	2,98	28,134	1,992	9,121

Source: Idescat
(p): Provisional data.

Historically, Catalonia has registered a positive trade balance with the rest of Spain, but a negative trade balance with the rest of the world.

Graph 4. Evolution of Catalonia's trade balance with the rest of Spain and with the rest of the world



Source: Own elaboration based on Idescat data

2.1.1. Recent history, current situation, and changes generated by the new 'border effect'

In an independent Catalonia, the 'border effect' would have an impact on export prices, facing tariffs that would make goods up to 15 per cent more expensive. This would not only cause a decrease in sales of goods from Catalonia in addition to the slowdown in trade, but would also create negative consequences on the competitiveness of its economy and its GDP⁴.

As it is quite apparent, amid the establishment of new borders and bilateral trade restrictions not the totality of trade is lost⁵. Nevertheless, belonging to an area of economic integration encourages the reduction of entry barriers. If it is shown that belonging to a supranational organisation intensifies trade, in the opposite sense, not belonging to it limits it⁶. As a result, trade flows from an independent Catalonia with the member states could be affected by this 'border effect'.

Under equal conditions of size and distance, the number of times the flow of commercial exchanges occurs within a country's borders is sensibly higher than trade with any other country⁷ ⁸. As a matter of fact, "if both countries [Spain and Catalonia] were outside of the EU, the difference in the intensity of exports is significant and has a negative sign. More specifically, the estimate allows us to confirm that this difference in the intensity of exports is approximately 43 per cent lower, *caeteris paribus*"⁹. Therefore, if independence materialised, trade would suffer a notable decline.

There is little solution to this if Catalonia were to achieve independence, as very few countries would want to contradict Spain. Furthermore, this would entail a strong incentive for other European territories to pursue independence as they could later be integrated back into the EU as member states.

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- 4 Fernández, J. (2012, noviembre). 'Efectos económicos de una secesión en Cataluña', *Temas para el debate*. Fundación Sistema. Available at: <http://www.jonasfernandez.com/articulos/89-efectos-economicos-de-una-secesion-en-cataluna> (last accessed on August 2, 2020).
 - 5 Feito Higuera, J.L. (2014). 'Razones y sinrazones económicas del independentismo catalán', *Panel Cívico, Sociedad Civil*: 1-72.
 - 6 Moncada Gómez de la Torre, M. (2016). 'La cuestión catalana: el efecto frontera', *Anuario Jurídico y Económico Escorialense*, 49: 295.
 - 7 Minondo Uribe-Etxebarria, A. (2006). "El efecto frontera". *Boletín Económico de ICE*, 2888: 65-75.
 - 8 McCallum, J. (1995). "National Borders Matter: Canada-U.S. Regional Trade Patterns". *The American Economic Review*, Vol. 85 (3): 615-625.
 - 9 Moncada Gómez de la Torre, M. (2016). 'La cuestión catalana: el efecto frontera', *Anuario Jurídico y Económico Escorialense*, 49: 323.

Few trade destinations would remain for an independent Catalonia, although the United Kingdom or the United States could emerge as alternatives. However, due to the existing demand, they would not amount even to a small part of what the EU and Spain currently represents.

The 'border effect' would occur as there would be tariff repercussions to an exit of Catalonia from the EU. The increase in costs, in a hypothesis that includes a maximum cost aggregate, would be 15 per cent.

Therefore, the commercial options and the tariffs applied to an independent Catalonia would be considerably less advantageous than what the EU bloc currently offers to Spanish Catalonia¹⁰. Catalonia is much more competitive, more profitable, and more globalised as part of Spain than as an independent country.

2.2. The importance of tourism

As well as trade, the Catalan economy depends greatly on tourism. Trade represents 12 per cent of its GDP, which places it above the Spanish and European average. 14 per cent of Catalonia's active population works directly in this sector. It remains the most visited region in the entire country, attracting almost one out of four tourists entering Spain, and it is the area in which tourists spend the most money.

In 2019 alone, 19.4 million tourists arrived in Catalonia. In addition, they spent 21.3 billion euros, 4.1 per cent more than in 2018. However, despite these figures, Catalonia ranks third in average expenditure per capita with 1,102 euros spent by every tourist, behind Madrid and the Canary Islands.

2.2.1. Effects of the process of independence on Catalonia

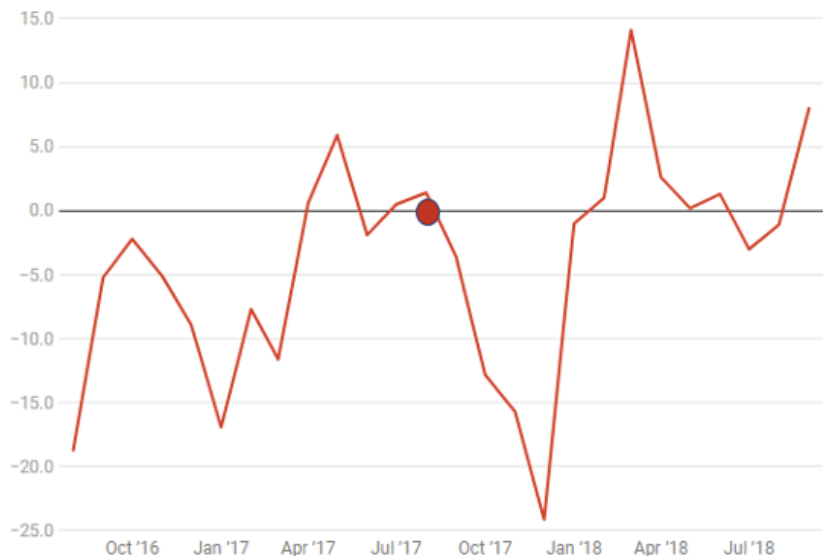
Tourism revenue has been greatly damaged since the road to independence gained intensity. According to Exceltur, the hotel and catering employers' association, political instability caused losses of 319 million euros to the Spanish tourism sector in 2017. This slowed the total growth of GDP from tourism from 4.7 to 4.4 per cent. Barcelona had the most severe impact, as expenditure per hotel room fell by 9.6 per cent as between October and November of 2017, compared to 2016. The biggest blow was the month of October (-11.2 per cent), when the referendum

10 Moncada Gómez de la Torre, M. (2016). 'La cuestión catalana: el efecto frontera', *Anuario Jurídico y Económico Escorialense*, 49: 323.

took place, and the fall slowed slightly in November (-8.1 per cent) after the implementation of article 155 of the Spanish Constitution in Catalonia. Nevertheless, figures did not recover by the end of 2017. The uncertainty caused by the Catalan parliamentary elections of December 21, 2017 made expenditure per room fall by 15.2 per cent that month.

The consequences of the process of independence were reflected in foreign tourism, specifically in the number of arrivals of EU citizens between October and December of 2017. Compared to the same period in 2016, those from France fell by 19.7 per cent; those from Germany 14 per cent; and from the United Kingdom 8 per cent. The biggest hit was experienced by Japanese tourism (-40 per cent). For example, Exceltur highlighted the adverse business prospects for the Catalan tourism sector at the beginning of 2018 and the consequences that this would entail. Hotel revenues would fall by 10 per cent, car rental companies by 6.8 per cent, and passenger transport companies by 3.5 per cent.

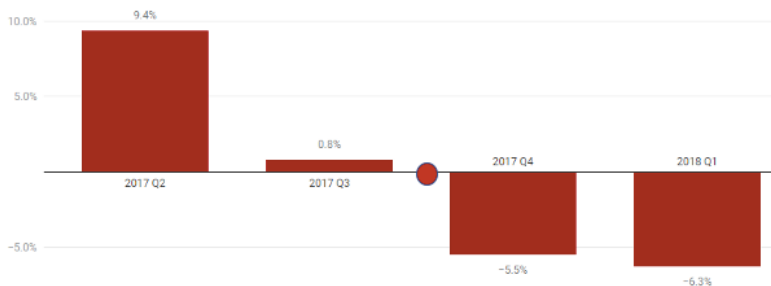
**Graph 5. Variation of foreign visitors in Catalonia (percentage).
Tourists and hikers.**



● Referendum of independence (Oct. 1, 2017)

Source: Idescat, based on data from the Statistics on tourist movements at the border and the Tourist Expenditure Survey from the National Institute of Statistics (INE).

Graph 6. Quarterly variation of the Harmonized Business Confidence Index of the hospitality and transportation sector (percentage)



● Referendum of independence (Oct. 1, 2017)

Source: Own elaboration based on data from Idescat

2.2.2. Effects of the displacement of Spanish tourism

From a straightforward perspective, an independent Catalonia would be a more complicated destination for travellers to get to as it would lose its EU member state status. According to the data from the Catalan statistical portal Idescat, during 2019 the income derived from tourism spending of Spanish nationals in Catalonia amounted to 1.9 million euros. When isolating this to the set of economies within Europe that have Catalonia as a preferred destination, this figure increases exponentially.

Tourists from outside of Europe represent approximately 30 per cent of total arrivals. The rest (70 per cent) come from Spain, Europe, France, and Italy. In terms of spending, approximately 14.7 million euros out of the 21 million euros spent in Catalonia in 2019 came from EU countries, excluding Spain.

2.3. Foreign direct investment

Regarding FDI, the data provided by Idescat shows foreign investment would be affected similarly to trade and tourism. The bulk of FDI inflows to Catalonia is primarily from the EU and, secondly from other OECD member countries.

Table 6. Foreign investment in Catalonia by geographical area (value in millions of euros)

Year	Total	OECD	European Union	North America	Latin America	Rest of America	Asia and Oceania	Africa	Tax havens
Q1/2020	668.0	612.9	265.0	7.3	10.3	0.0	361.0	0.5	3.4
Q4/2019	1,491.4	1,275.1	1,120.0	13.4	34.3	0.0	160.5	4.0	3.4
Q3/2019	396.1	362.9	326.5	11.2	20.4	2.6	8.4	1.5	3.7
Q2/2019	594.9	558.7	489.1	12.9	23.9	0.0	47.5	0.0	4.4
Q1/2019	739.2	685.3	581.2	11.0	3.9	0.5	96.0	6.5	6.8
Q4/2018	1,121.2	1,018.0	871.4	35.2	68.0	0.3	8.8	0.0	0.6
Q3/2018	1,011.9	975.4	854.9	36.1	4.1	2.3	56.9	1.0	3.7
Q2/2018	704.0	681.5	616.1	8.6	36.8	4.6	15.2	0.1	4.1
Q1/2018	396.1	346.8	328.6	18.2	7.0	0.1	29.4	0.1	0.0
Q4/2017	1,087.2	845.3	600.7	13.6	107.4	7.0	27.9	155.1	13.9
Q3/2017	543.9	517.6	453.1	16.4	11.6	2.5	27.4	0.8	2.0
Q2/2017	768.3	633.9	555.0	17.5	142.4	8.3	13.2	0.1	11.9
Q1/2017	1,030.4	936.9	925.1	4.7	7.5	0.0	1.9	0.7	3.3
Q4/2016	1,811.5	1,729.9	1,348.5	48.8	301.2	0.0	70.1	2.4	2.3
Q3/2016	5,124.1	4,973.2	4,132.4	43.8	747.0	0.0	140.3	0.0	7.0
Q2/2016	789.0	718.8	626.3	32.2	61.1	4.5	18.8	0.9	4.5
Q1/2016	550.3	509.4	441.7	35.1	19.5	5.3	12.6	2.2	4.3

Source: Idescat

The data speaks for itself. Catalonia's FDI in 2019 was 3.22 million euros. Of these, 2.52 million were of European origin –more than 78 per cent. Therefore, if Catalonia were to leave the EU, this investment would be significantly reduced, slowing down the inflow of money. Independence could also impact the relocation of companies, which now stands at 6,000 since 2017. This proves once again that Catalonia shows greater strength as part of Spain than as an independent economy.

2.3.1. Changes in Catalonia's FDI evolution over the period 2016-2020

Although there have not been significant changes in the evolution of FDI in Catalonia in recent years, we can see how the independence referendum (October 2017) produced a negative impact in the quarters that followed. After the celebration of the October referendum, the quarterly interannual variation shows a notable reduction in FDI, which could be justified by the political instability at that time.

Table 7. Variation of foreign investment by geographic areas (percentage)

Year	Total	OECD	European Union	North America	Latin America	Rest of America	Asia and Oceania	Africa	Tax havens
Q1/2020	-9.6	-10.6		-33.5	166.9				
Q4/2019	33.0	25.3	28.5	-62.1	-49.5				
Q3/2019	-60.9	-62.8	-61.8	-69.1	392.8				
Q2/2019	-15.5	-18.0	-20.6	49.5	-35.0				
Q1/2019	86.6	97.6	76.9	-39.5	-44.5				
Q4/2018	3.1	20.4	45.1	159.5	-36.7			-100.0	-95.9
Q3/2018	86.1	88.5	88.7	120.1	-64.4			25.6	81.6
Q2/2018	-8.4	7.5	11.0	-50.8	-74.2			1.7	-65.5
Q1/2018	-61.6	-63.0	-64.5	285.1	-7.1			-81.6	-98.7
Q4/2017	-40.0	-51.1	-55.5	-72.2	-64.3	0.0	-60.2		496.3
Q3/2017	-89.4	-89.6	-89.0	-62.5	-98.4		-80.4		-71.1
Q2/2017	-2.6	-11.8	-11.4	-45.7	133.2	86.4	-29.5	-92.6	166.3
Q1/2017	87.2	83.9	109.4	-86.5	-61.5	-99.9	-84.6	-69.6	
Q4/2016	4.5	64.6	43.5	-22.1		-100.0	-86.2	-20.1	
Q3/2016	332.8	384.9	317.8	170.2		-99.3	17.7	-99.2	
Q2/2016	-57.9	-60.4	-56.6	-39.9	-68.7	52.3	-43.5		-28.6
Q1/2016	-21.5	-4.1	6.0	-23.7	14.0		-89.5		457.2

Source: Idescat

Table 7 shows the negative variation during the second, third, and fourth quarters of 2017, as well as during the first quarter of 2018. The period immediately after the independence referendum was marked by the Spanish government's enactment of article 155 of the CE, after acts of vandalism and altercations with law enforcement. The repercussions on FDI reflect the burden posed on one hand by political instability, and on the other by the departure of large flows of money of EU origin from Catalonia.

The process of independence brought a 75 per cent decrease in FDI. An attempt to break Spain will have severe negative impacts on capital flows to the Catalan economy soon, as it is one of the indicators most sensitive to any type of secession.

2.3.2. Foreseeable effects of independence on FDI

According to investment flow data, “the amount of FDI in Catalonia, estimated at more than 63 billion euros, could suffer a cut of between 33 and 40 per cent (between 21 - 25 billion euros) due to the loss of attractiveness of an economy outside the Eurozone and the environment provided by the Spanish economy”¹¹.

Catalonia’s investing appeal lies, precisely, in its quality as a meeting point and connectivity hub within Spain. If the Catalan executive was to confront the Spanish government, the consequences would be enormous. The result has already been seen, so much so that in three-year period after the independence referendum, Catalonia went from receiving almost a third of the entire FDI that came to Spain to only 6 per cent. In FY 2018 alone, FDI figures fell by 12 per cent – between 2016 and 2018 Catalonia went from receiving 8.27 million euros to only 2.98 million. However, in the same period, the FDI directed toward the Community of Madrid grew rapidly from 44 per cent of total FDI to 85 per cent. This shows that the total amount of FDI in Spain has not decreased, but merely shifted to other regions which do not present conflicts.

Considering the decline that occurred during the process of secession, there is little reason to believe that these capital flows will remain constant over time were independence to occur. Especially taking into account that 80 per cent of this FDI comes from the EU – where Spain will remain, likely becoming Catalonia’s greatest competitor.

11 Diario La Información. (September 8, 2017). “La independencia supondrá un recorte de más del 33% en la inversión exterior”. Available at: https://www.lainformacion.com/economia-negocios-y-finanzas/independencia-catalana-inversion-extranjera-comunidad_0_1060995396 (last accessed on June 3, 2020).

3. Regulation of economic activity

3.1. *The end of the regulatory framework of Spain and the EU*

The economic activity of individuals and companies is subject to a complex system of regulation established by the various levels of government. Thus, a company that has its centre of activity in Barcelona is subject to the regulation of the city council, the autonomous community of Catalonia, Spain, and the EU. Were Catalonia to become independent and be outside the regulatory frameworks of both Spain and the EU, it would require vast changes in the regulatory authority of its economy.

This does not necessarily mean major changes. Catalonia could continue to enact much of the Spanish and EU legislation, especially if it applies to join the EU in the short term. Governments formed in the hypothetical new country will orient their policies according to their own objectives. For this reason, it is of paramount importance to analyse what has been the position of the Catalan executives in areas where Spanish legislation has given them greater regulatory privileges.

There are ways to measure the intensity and quality of regulation between nations and autonomous communities within Spain, as it is part of various international indices of business regulation, competitiveness, and economic freedom. If one takes a look at the results of the five most important indices — *Ease of Doing Business* (The World Bank); *Global Competitiveness Index* (World Economic Forum); *World Competitiveness Index* (World Competitiveness Centre); *Index of Economic Freedom* (Heritage Foundation); and *Economic Freedom of the World Index* (Fraser Institute) — Spain averages around fortieth worldwide and is average among European countries. Its level of regulation and state intervention in the

economy is similar (and sometimes better) than that of neighbouring countries, such as France, Italy, or Portugal. However, intervention in Spain is also significantly more intense than that of the most prosperous countries of Europe, such as Switzerland, Ireland, the United Kingdom, the Netherlands, or Germany.

A feature of this kind of rankings are the variables that measure regulation and the weight of the State in the economy to be analysed separately. Spain generally obtains higher scores—reflecting less state intervention—in areas such as international trade or monetary stability, which are determined by the EU. On the other hand, Spain performs worse on indicators that depend directly on its own government, such as public spending and taxation levels. Regarding regulation, Spain receives particularly low scores in labour market regulation and in the requirements and administrative costs for opening and starting up new companies (ease of doing business). In other words, Catalonia’s membership in the EU would mean a lower level of regulation and state intervention for the region than it would have if Spain were not a member of the EU.

3.2. Foreseeable characteristics of a new Catalan model

Politically, Spain is a highly decentralized country with numerous fiscal and regulatory powers have been transferred to its autonomous communities. As a result, the level of interventionism and regulation greatly varies between Spanish regions¹². Even though five years have passed since the last index was published, it is reasonable to think that interregional differences will not have changed much, since the variables generally show a great degree of stability (although not certainly in all cases). If anything, more recent studies indicate that some of the variables relating to regulation have worsened over the past few years in Catalonia¹³.

The position where each autonomous community ranks is important as they reflect preferences or tendencies for the degree of interventionism of their public policies. Additionally, it makes possible to reasonably foresee what would happen if an autonomous community were to detach itself from the rest of Spain and see its regulatory and fiscal powers expanded.

12 Cabrillo, F. (coord.), Biazzi, R. & Albert, R. (2011, 2013 & 2015). “Índice de Libertad Económica en España”. Civitas.

13 Calvo, S. & López, L. (2018). “Libertad Económica en las Regiones de España”, *New Direction Foundation*.

The 'Economic Freedom in Spain' Index consists of twelve variables: six related to public finances and six based on the regulation of a series of significant economic activities. Unfortunately, some variables are not significantly within the regulatory capacities of an autonomous community, which, therefore, need to be excluded for the purpose of our study.

The six variables of the study more directly dependant of the regional government suggest that that Catalonia obtains significantly better results in public finance than on regulation. Thus, in 2015, Catalonia occupied the 11th position (with number 1 being the least interventionist, and 17, the most), which reflects a level of interventionism higher than the regional average. But, as in international indices, an autonomous community can obtain very different values with different variables, so the figures must be disaggregated, and the most relevant ones subjected to specific analysis. The proportion of public employment in relation to total employment in Catalonia is the lowest of all the autonomous communities. The degree of fiscal effort that its citizens endure —although significantly higher than that of Madrid — is below the regional average, the same with its level of autonomous public spending. However, public debt ought to be taken separately from this trend as Catalonia has one of the highest regional debt-to-GDP ratios.

The result differs as far as regulation is concerned. In most of the variables in this section Catalonia shows strong regional interventionism, particularly with the environment and trade. Catalonia is the second most highly regulated autonomous community for environmental regulations, and has one of the most restrictive laws for business activity in this regard. Catalonia has the most interventionist trade policy in all of Spain. It also exceeds the national average in education, health, and housing regulation.

It may be expected that an independent government would guide Catalonia towards greater state interventionism when regulating its economic activity. It should be remembered that its regional Executive opposed the possibility (a result of the Market Unity Law) of introducing regulatory competition between the Spanish autonomous communities, allowing certain regions to apply a most favourable regulation for business activity.

As new regulatory powers were granted, the government of Catalonia would see added pressure from interest groups, which would have easier access to political power. This is often referred to as 'regulatory capture', or the use of the political influence of certain groups close to power to

achieve regulations favourable to their interests. Rules that would otherwise be detrimental to consumers and to most companies that were not in the orbit of those in power.

A good example of what the government's regulatory strategy could take place in an independent Catalonia is reflected in the housing law approved in September 2020 to regulate prices in the urban rental sector. The objective of this regulation is to limit the rent to be paid by tenants by freezing them and establishing price indices set by the regional government – in other words, a price ceiling. For rental agreements already in place it would create paralysis of the rent payment. In the case of a new rental agreement, the rent could not exceed that of the previous agreement. Even more worryingly, if the rental price exceeds that of the index set by the government, it should be reduced to the level stipulated by the index set by the government. Moreover, it surprisingly discriminates against both companies and private owners with incomes of more than 2,100 to 3,200 euros per month, depending on the characteristics of the family unit, and excludes business owners whose monthly income is lower than these amounts, from the application of this law.

This regulation will likely live a short life as there is a high probability that it will be declared unconstitutional by the Catalan parliament. However, if applied, its effects could be devastating for a sector as important as rental housing – not just for landlords, but also for potential tenants. Data shows that the law would cause a significant reduction in the supply of rental housing, which would make it even more difficult —especially for people with low economic resources— to find a flat to rent. Neither the national government nor any other autonomous community have approved similar laws to date, however it is likely that this law would be enacted in an independent Catalonia.

4. Public finances

The public finances of an autonomous community have essential functions such as collecting revenue, executing the budget through public spending, and the management of the public debt of a State. Revenue comes mainly from tax collection which in turn is spent to sustain the public sector. If revenues are insufficient to meet the expenses, the region or country will resort to issuing public debt. It should be noted that funding structures are not so simple, particularly in the autonomous communities of Spain.

As a result, public finances constitute without a doubt one of the points on which there is a discrepancy between Catalonia and Spain. Many people make the case that Catalonia is under-funded compared to other autonomous communities to justify that its pro-independence stance is not only understandable, but also legitimate.

Accordingly, this financial situation has caused the Catalan public debt to rise to 79.43 billion euros in the first quarter of 2020. 2.3 times higher than the public debt of the Community of Madrid, which has a lower GDP. This means that Catalonia is the third most indebted region of Spain with a debt-to-GDP ratio of 33.7 per cent, only behind Castilla-La Mancha (36.2 per cent) and Valencia (42.2 per cent).

It is important to be prudent when analysing whether or not Spain is 'stealing from Catalonia'. To do this, it is useful to shed light on the fiscal balance of the region, its public debt, the sustainability of its pensions, the costs of assuming new powers from those which are currently in the hands of the State, its fiscal situation, and the cost of borrowing with a currency other than the euro.

4.1. The debate about the 'fiscal deficit' of Catalonia

In Spain, there are two types of funding systems for the autonomous communities, greatly differentiated. On the one hand, the provincial (*foral*) regime and on the other, the regular one. The *foral* regime applies to the three Basque provinces and Navarra, and the regular regime to the rest of the autonomous communities, except for the Canary Islands which enjoy a regime adapted to their geographical circumstances, in accordance with the EU regulations.

The difference between the two regimes lies fundamentally in the power that the communities have over taxation. Thus, while Navarra and the Basque Country control practically all of these, the rest must be accountable to the central government, which then distributes the total collection based on various criteria. These are based on the three principles established on article 156.1 of the Spanish Constitution:

1. Financial autonomy. According to article 157.1 of the Spanish Magna Carta, the autonomous communities will have the following resources available:

- a) Taxes ceded totally or partially by the State, surcharges on state taxes, and other shares of state income.
- b) Own regional taxes, fees, and special contributions.
- c) Transfers from an interterritorial compensation fund and other allocations charged to the general state budget.
- d) Income from its assets and private law-based incomes.
- e) The product of credit operations.

2. Coordination. Article 158 of the EC indicates that "in the General State Budgets there may be an allocation to the autonomous communities based on the volume of state services and activities that they have assumed, and the guarantee of a minimum level in the provision of fundamental public services throughout the Spanish territory".

3. Solidarity. Finally, to guarantee the convergence of all the autonomous communities in the territory, regardless of their starting point, Article 158 of the EC establishes that "in order to correct inter-territorial economic imbalances and make effective the principle of solidarity, a Compensation Fund will be set up for investment expenses, the resources of which will be distributed by Parliament among the autonomous communities and provinces, where appropriate".

To comply with these three principles, the state establishes the tax levels and delegated taxes (totally or partially), as well as five funds whose regulation is established by Law 22/2009.

- Own and delegated regional taxes fund, which guarantees the financial autonomy of the autonomous communities.
- Global Sufficiency Fund, which ensures coordination between the transfer of resources and the powers of the autonomous communities.
- Fundamental Public Services Guarantee Fund, which ensures access to education, health, or justice for all the inhabitants of Spain.
- Convergence funds, whose objective is to reinforce the principle of solidarity, guarantee equity and promote a balanced development of the different territories. This fund is subdivided into the cooperation fund and the competitiveness fund.
- Interterritorial Compensation Fund, whose resources are in charge of the General State Budgets and are used for investment expenses, especially for those autonomous communities with lower income.

With this structure in mind, it is worth asking how these resources are distributed by the autonomous communities. However, the total resources received will not correspond to what is actually collected, since the principles established in the EC are based on financial autonomy and redistribution that guarantees balanced growth for all citizens.

4.1.1. The idiosyncrasy of the territorial funding system

The Spanish regional funding system is comparable to other countries' and has fulfilled a good part of the purposes for which it was designed¹⁴. However, that does not mean that it does not present problems that need to be fixed. Without losing sight of this, the argument that Catalonia is fiscally mistreated is wrong, since it is based on the fact that this region collects more taxes than the funding it actually receives. This is true, but in the same way that a resident of Spain pays more taxes when they have a higher income. Yet, in tax terms, Catalonia does not receive higher compensation than an individual citizen could receive.

14 De la Fuente, Á. (2019). 'Financiación autonómica: una breve introducción'. Estudios sobre la Economía Española 2019/07, FEDEA e Instituto de Análisis Económico.

The funding of the autonomous communities is sustained under a similar concept in such a way that the richest transfer some of their resources towards the poorest. Consequently, there are autonomous communities that receive more than what is collected and others that receive less.

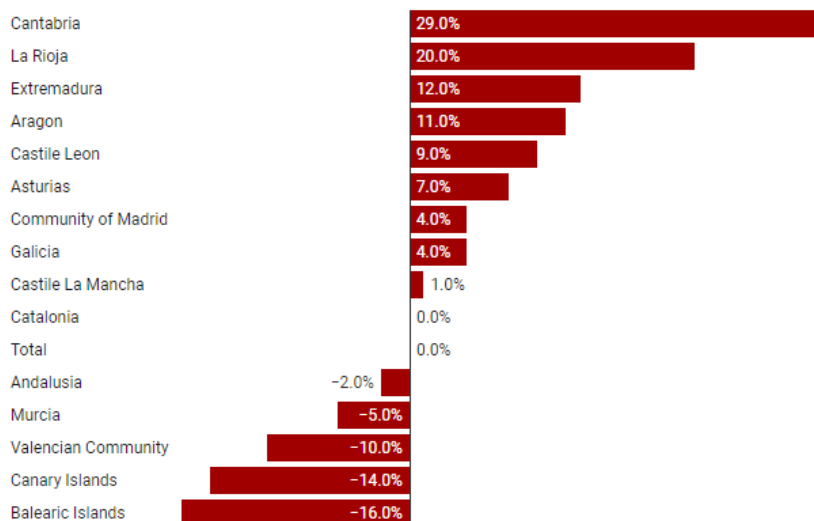
According to the funding system of the common regime of the autonomous communities, there is a tax priority order, and a community must occupy the same (or higher) ranking in spending per capita and in terms of revenue. If, for example, a certain region is third in collection per capita, it cannot be placed in a lower position in the per capita expenditures made by the general state administration in the autonomous communities.

On the other hand, another mechanism of special importance is the public services guarantee fund, which provides approximately 75 per cent of all resources. Its objective is to guarantee –and succeeds – that all Spaniards, regardless of the autonomous community in which they live, enjoy the same basic public services. Under this system, a person in Madrid cannot receive better health services just because he or she lives there.

Graphs 7 and 8 reflect the funding by autonomous communities at based on the amount of population in terms of need. To determine the latter, variables such as the population itself, the area of the autonomous community, its dispersion, the insularity, the protected population, those over 65 years of age, and those between 0 and 16 years old are considered.

These variables are used to calculate which autonomous community may have greater or lesser needs due to its demographic characteristics regarding fundamental services. That is, they are used to quantify the adjusted population.

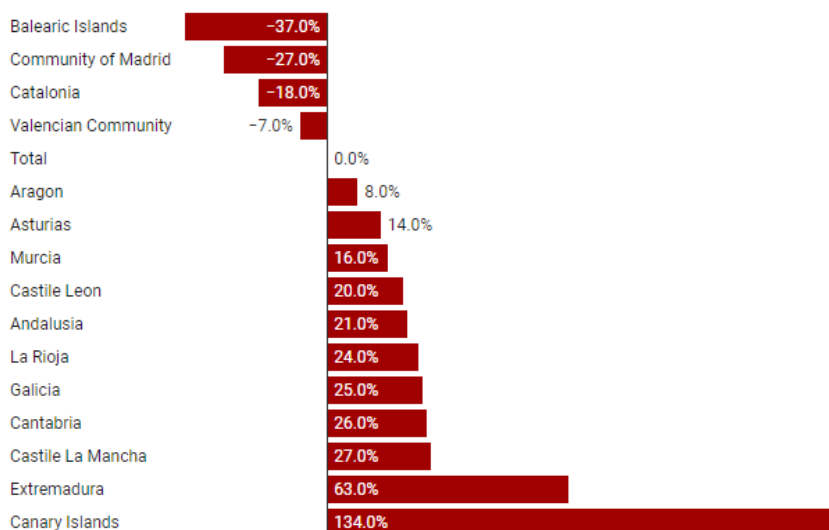
Graph 7. Autonomous financing per inhabitant adjusted to homogeneous competences (percentage)



Source: Own elaboration based on data from the Ministry of Finance

As we can see in Graph 7, Catalonia receives slightly more funding than the total average of all autonomous communities. In other words, all things being equal, Catalonia is not underfunded, which is the case with Andalusia, Murcia, Valencia, the Canary Islands and the Balearic Islands.

Graph 8. Regional financing in relation to fiscal capacity per inhabitant (percentage)



Source: Own elaboration based on data from the Ministry of Finance

On the other hand, when it comes to compare the homogeneous funding per inhabitant with the tax collection capacity of each autonomous community, Catalonia is the region that receives the third least amount of resources. Together with the Balearic Islands, Madrid, and Valencia, it has a greater fiscal capacity per adjusted inhabitant than what is later assigned to it. However, if the logic to be followed from this perspective were used to justify independence, Madrid and the Balearic Islands would have more reason to declare independence because they consider the system unfair.

4.2. The problem of the distribution of the Spanish public debt after the independence

As mentioned at the beginning of this section, Catalonia's public debt is the highest of all the autonomous communities. Although on a financial level it is advisable to cite the variables always in relation to assets, production, income flows, or even population, in this case the absolute terms take fundamental importance. Especially because the Catalan debt, with a value of 79.45 million euros, represents 6.48 per cent of Spain's

public debt. To get an idea of the magnitude, this is equivalent to the sum of all the regional debt of Aragon, Asturias, the Balearic Islands, the Canary Islands, Cantabria, Castilla-La Mancha, Castilla and Leon, Extremadura, Galicia, and La Rioja combined.

The problem here is what to do with that debt in the scenario of independence – would Catalonia pay for it? If it did not, how would that impact the Spanish debt-to-GDP ratio? Although these issues are not always straightforward, they should be simplified to some extent to understand their impact. If Spain's GDP did not count on the contribution of Catalonia, but the economy did carry its debt, total indebtedness (taking data from the first quarter of 2020 as data) would increase by more than 23 per cent. This is an increase in the debt-to-GDP ratio greater than the first months of the coronavirus crisis.

However, the negotiation process would require nuances that are not covered in this paper. In the extreme case of independence and debt default, although the effect on Spanish public finances would be very high, the cost for Catalonia would be even higher. Especially because the capacity of Spain to obtain funding from international markets far exceeds that of Catalonia. Given the difficulty that this region would face to with its new debt in the financial markets, it is important to know how much this would amount to after independence.

This is reflected in Table 8, created from data corresponding to the first quarter of 2020, which does not include the effects of the covid-19 crisis on debt and GDP. It contains the national/state debt attributable to Catalonia and the regional debt. The first is calculated under two parameters: based on the weight of its population and based on the weight of its production.

Table 8. State debt attributable to Catalonia and regional debt, and debt / GDP ratio (at market prices)

	By Population	By GDP
State Debt	177,747	207,224
Autonomic Debt	79,429	79,429
Total	257,176	286,653
Debt to GDP ratio	109%	121%

Source: Bank of Spain, data for the first quarter of 2020.

The debt-to-GDP ratio of a hypothetically independent Catalonia would oscillate, in the best-case scenario, between 109 and 121 per cent. This does not take into account the debt of local corporations and Social Security, which represented approximately 6 per cent of Spanish GDP at market prices at the end of Q1 2020. Putting aside the debt of local corporations for methodological reasons, if social security were to be included, this ratio would be between 112 and 126 per cent, as Table 9 reflects.

Table 9. State debt attributable to Catalonia, regional debt, social security debt, and debt / GDP ratio (at market prices)

	By Population	By GDP
State Debt	177,747	207,224
Social Security Debt	8,981	10,470
Autonomic Debt	79,429	79,429
Total	266,157	297,123
Debt to GDP ratio	112%	126%

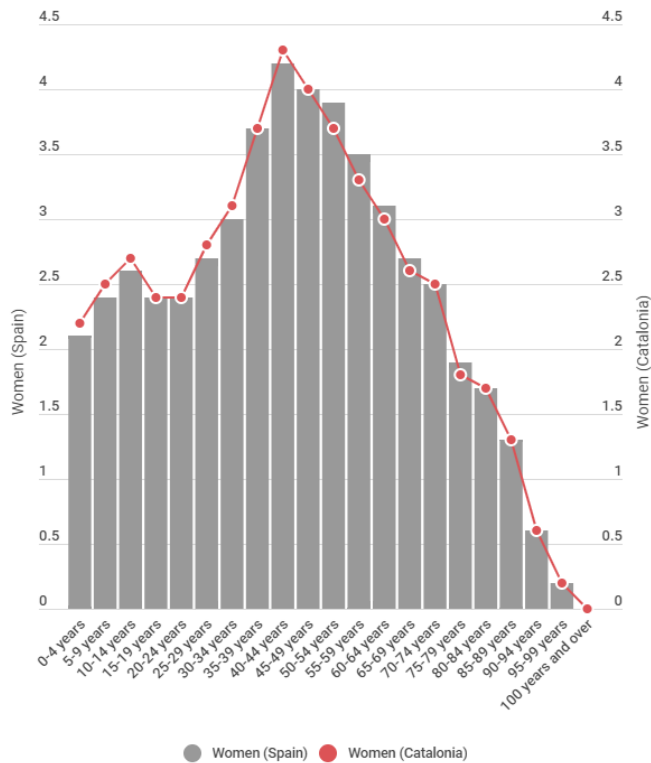
Source: Bank of Spain, data for the first quarter of 2020. GDP

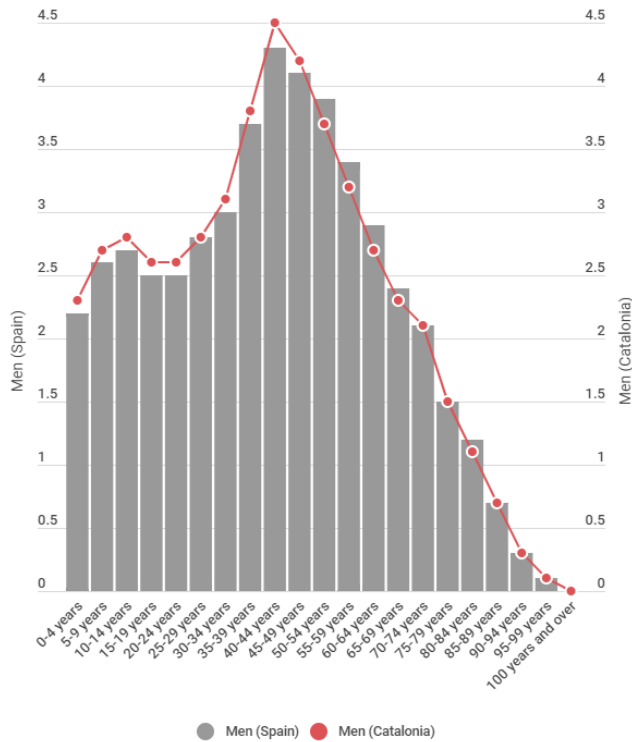
In other words, if Catalonia became independent tomorrow, its debt-to-GDP ratio would oscillate, in a conservative scenario, between 112 and 126 per cent.

4.3. The problem of sharing the future burden of pension payments

Catalonia's population pyramid is practically identical to that of the rest of Spain, so the conclusions about the long-term sustainability of the system would not differ in the hypothetical case of independence. For this reason, given that the social security system, unlike the tax system, applies to the entire territory, Catalonia would face the same problems as the whole Spain regarding the sustainability of the public pension system.

Graph 9. Population pyramid in Catalonia and in Spain as a whole, by sex





Source: National Institute of Statistics (2019)

Without delving too deeply into a subject that has been dealt with in greater detail on many occasions, it is worth noting the results of a study that best reflects the pensions situation within Spain's autonomous communities. The report¹⁵ shows that the situation in Catalonia is not susceptible to any major difference from the national one.

Table 10 shows the average contribution bases according to data from the Ministry of Labour, Migration and Social Security, and the continuous sample of working lives (MCVL in Spanish). Furthermore, displayed on the right, the regulatory base (a), an approximation of the effective regulatory base, as well as the average annual pension (b) of the new registrations.

15 Herce, J.A (2018). 'Las pensiones en las comunidades autónomas: Una lectura multidimensional de las diferencias regionales en materia de afiliación, cotizaciones y número y cuantía de las pensiones'. Instituto BBVA de pensiones, *Documento de Trabajo*, 25.

Finally, the concept of the pension rate (c) constitutes a variant of the replacement rate which for the comparative purposes of this work does not present any differences. As a result, the pension rate for new registrations for Catalonia stands at 66.6 per cent compared to 67.2 percent nationwide.

Table 10. Average contribution bases, regulatory bases, average annual pension and pension rate

Autonomous Community	Average Contribution (Ministry of Labor, Migration and Social Security)	Average Contribution (Continuous sample of working lives)	Ratio between them	Regulatory Base (a)	Annual Average Pension (b)	Pension Rate (c)
Andalusia	5,454.5	6,728.0	1.23	29,607.8	18,460.8	62.4%
Aragon	5,784.0	6,686.2	1.16	29,423.9	20,385.5	69.3%
Asturias	5,842.3	7,675.8	1.31	33,778.8	22,985.3	68.0%
Balearic Islands	5,719.3	6,599.0	1.15	29,040.0	18,898.0	65.1%
Canary Islands	5,103.3	6,123.7	1.20	26,948.6	17,790.5	66.0%
Cantabria	5,656.8	6,690.4	1.18	29,442.2	21,905.0	74.4%
Castile La Mancha	5,401.2	6,252.9	1.16	27,517.0	21,587.0	78.4%
Castile Leon	5,463.5	6,376.8	1.22	29,382.5	17,991.3	61.2%
Catalonia	6,159.4	7,132.0	1.16	31,385.9	20,901.0	66.6%
Valencian Community	5,312.4	6,370.5	1.20	28,034.6	19,325.5	68.9%
Extremadura	5,144.7	6,496.4	1.26	28,588.4	16,963.9	59.3%
Galicia	5,423.3	6,194.0	1.14	27,257.7	18,160.9	66.6%
Community of Madrid	6,474.0	7,696.4	1.19	33,869.3	22,425.1	66.2%
Murcia	5,458.3	6,568.7	1.20	28,906.9	18,410.8	63.7%
Navarra	6,642.8	7,607.8	1.15	33,479.3	22,317.4	66.7%
Basque Country	7,108.6	7,746.7	1.09	34,090.9	24,487.3	71.8%
La Rioja	5,615.0	6,943.3	1.24	30,555.4	20,074.7	65.7%
Ceuta and Melilla	4,587.3	7,784.0	1.70	34,254.8	21,632.1	63.2%
Spain	5,859.7	6,889.4	1.18	30,318.0	20,376.0	67.2%

- a) It is not an effective regulatory base, but illustrative of the one that the annual contributions of the last 19 years prior to retirement would create
- b) Of the new registrations of December 2017 (General Regime)
- c) Percentage of the annual pension on the annual regulatory base (illustrative)

Source: José Antonio Herce (BBVA Research Institute) based on data from the Ministry of Labour, Migration and Social Security.

Additionally, Catalonia's particular situation is only shared by Asturias and the Basque Country, two of the five most elderly communities: the proportion of pensioners aged 65 and over in relation to the rest of the population exceeds 100 per cent. In the case of Catalonia, this figure rose to 105.1 per cent as of December 31, 2017.

Table 11. Population aged 65 and over, number of pensions, proportion of pensioners and proportion of widows

Autonomous Community	Population aged 65 and over	Number of pensions (a)					Proportion of Pensioners (b)	Proportion of Widowhood (c)
		Total	Retirement	Widowhood	Disability	Orphanhood		
Andalucía	1,421.0	1,538.3	861.1	390.5	207.2	79.4	88.1%	31.2%
Aragón	283.3	300.7	191.1	75.7	23.6	10.4	94.2%	28.4%
Asturias	259.0	301.8	177.7	83.1	30.4	10.6	100.7%	31.9%
Balearic Islands	183.4	188.0	119.8	44.3	17.5	6.3	89.5%	27.0%
Canary Islands	347.4	312.7	174.4	79.7	39.7	18.9	73.1%	31.4%
Cantabria	125.0	139.5	84.5	35.7	13.4	5.8	96.2%	29.7%
Castile La Mancha	382.9	369.4	211.9	96.8	43.3	17.5	80.6%	31.45
Castile Leon	603.0	610.7	384.3	156.7	46.4	23.4	89.7%	29.0%
Catalonia	1,424.2	1,711.8	1,100.8	395.6	165.6	49.8	105.1%	26.4%
Valencian Community	955.4	974.9	597.4	242.4	95.6	39.4	87.9%	28.9%
Extremadura	218.1	224.9	125.3	61.5	26.2	11.9	85.6%	32.9%
Galicia	672.9	761.8	474.0	187.6	70.2	30.1	98.3%	28.4%
Community of Madrid	1,159.0	1,135.2	749.3	267.7	79.9	38.3	87.7%	26.3%
Murcia	230.5	244.8	138.9	61.6	31.9	12.4	87.0%	30.7%
Navarra	126.8	134.1	88.7	29.7	11.0	4.6	93.4%	25.1%
Basque Country	484.6	548.2	351.7	135.6	43.1	17.8	100.6%	27.8%
La Rioja	65.3	68.7	45.6	16.2	4.8	2.1	94.6%	26.2%
Ceuta and Melilla	18.8	16.3	7.5	5.1	2.2	1.6	67.0%	40.5%
Spain	8,960.6	9,581.8	5,884.0	2,365.5	952.0	380.3	92.1%	28.7%

- a) December 31, 2017
- b) Retirement and widowhood pensions for the population aged 65 and over
- c) Widowhood pensions on widowhood and retirement pensions

Source: José Antonio Herce (BBVA Research Institute) based on data from the Ministry of Labour, Migration and Social Security.

Finally, even disregarding the increase in cost derived from population ageing, pensions spending in Catalonia is over 23 billion euros, whereas it receives a bit more than 20 billion euros. This implies a deficit of around three billion euros that makes its pension system unviable.

4.4. The costs of assuming new competences (defence, justice, foreign affairs, etc.)

The cost of assuming new powers for Catalonia would not be negligible. Although the autonomous communities exercise great power over many functions carried out in their territories, there is still a good part of expenditure that is borne by the state (central administration).

Beyond public spending, there is a large amount of capital goods that would no longer be available. In other words, what would happen to the buildings, materials, and all capital goods owned by the state in Catalonia? If independent, Catalonia would have to pay a substantial amount of money to continue operating these buildings. This challenge would only add to the debt problem that would come with independence.

According to the system of territorialized public accounts (SCPT in Spanish) of 2014, which shows an estimate of the expenditure by function that corresponds to each of the autonomous communities, Catalonia spent around 37.9 billion euros, excluding the capital funds to maintain the regional public administrations. Table 12 highlights the administrative tasks, spending of the State law and order forces and bodies, the pensions system, or the payment of interest on the public debt.

Table 12. Estimate of expenditure by function corresponding to Catalonia

	Catalonia	Spain
General Administration and Public Goods and Services of National and General Interest	2,563	15,931
Social Protection	28,797	170,104
Regulation and Economic Promotion	1,627	15,107
Interest on Public Debt	4,963	31,738
Total	37,951	232,88

Source: System of Territorialized Public Accounts (2014)

Although there is no more recent official data on the SCPT since 2014, by considering the variations in national aggregates in these matters, it may be estimated that the additional expenditure for Catalonia would range between 37.9 billion euros (mentioned above for 2014) and 39.8 billion euros. This is simply the most conservative estimate.

4.5. Taxes and tax burden in an independent Catalonia

What would the tax system be like in an independent Catalonia? Although the promises made by Catalan regional rulers and promoters of sovereignty confirm the region would be richer, reality might eventually quite different from the initial promises. Such level of government intervention has frequently resulted in more money in the public coffers while less money in the pockets of the citizens.

It seems likely that Catalonia's tax revenue would be higher in the short term after independence, without considering the possible long-term human and capital movements (which are the most difficult to estimate and the most important). However, just because its immediate collection would be higher than with the autonomous community financing system of a common regime (the current system in place), it does not imply that the Catalans would ipso facto enjoy a higher disposable income. Especially because it would depend on the new Executive lowering taxes in the same proportion as tax revenues increased.

Therefore, it would be possible to answer the question based on how Catalan rulers have behaved taxation-wise to the extent that they had the power to act autonomously. In the case of the personal income Tax, Spanish autonomous communities have the power to modify it. Thus, Catalonia's hypothetically independent authorities could use the margin bracket that allows them to vary the tax so that their citizens will pay less.

Although this only constitutes one example, Catalonia is the autonomous community that taxes the lowest incomes the most. The same occurs with other types of powers, such as deductions or the establishment of own taxes. In this sense, the 2019 autonomous tax competitiveness index (IACF, in Spanish), which considers the different tax figures and the details attached to them, indicates that Catalonia has the worst score in terms of tax competitiveness.

The number of Catalonia's own taxes today stands out as there are 15 of them – the most of any autonomous community. Not only that, but it is one of two regions which has increased its own taxes since 2015, from 11 to 15.

Table 13. Number of own taxes by autonomous communities (2015-2020)

Autonomous Community	2020	2019	2018	2017	2016	2015
Andalusia	8	8	8	8	8	8
Aragon	5	5	6	6	6	3
Asturias	6	6	6	6	6	6
Balearic Islands	3	3	3	3	3	2
Canary Islands	5	5	5	5	5	6
Cantabria	3	3	3	3	3	3
Castile La Mancha	2	2	2	2	2	2
Castile Leon	2	2	2	2	2	2
Catalonia	15	14	14	14	11	11
Valencian Community	3	3	3	3	3	3
Extremadura	5	5	5	5	5	5
Galicia	6	5	5	5	5	5
Community of Madrid	3	3	4	4	4	4
Murcia	6	6	6	6	6	6
La Rioja	4	4	4	4	4	5
Basque Country	-	-	-	-	-	-
Navarra	-	-	-	-	-	-
Ceuta and Melilla	-	-	-	-	-	-

Source: Treasury

Despite not being a collection measure, this reflects the propensity of the Catalan government to establish new taxes. These pose an obligation for not only for taxpayers, but also means an increase in bureaucracy which does not facilitate economic growth.

4.6. The cost of the public debt with a devalued currency compared to the euro

As mentioned earlier in this chapter, debt problems mainly have to do with the trust investors place in a country or region. This is usually backed by guarantees and the ability to repay it, measured by one's flows of income and expenses. The higher the level of trust, the better the financing conditions, which translates into a lower cost of debt. Greater confidence is also related to the amount of debt that a territory can issue at any given time. As has been seen with the coronavirus crisis, the financing conditions needed to keep the system afloat can change drastically and suddenly. For this reason, it is important not only to inspire confidence to bear lower costs, but also to obtain the necessary flows of capital in specific situations.

A key factor also related to confidence is the stability of the currency, as investors prefer strong and stable currencies. Although the profitability of the debt of a certain territory may be attractive, it can be completely diluted with a devalued currency, and even cause losses to investors. However, investors can hedge the currency, or use the appropriate financial instruments to ensure the profitability of the financial asset. This entails a cost, so it would cause a hypothetically independent Catalonia – outside of the Eurozone – to find it even more difficult to borrow money on the financial markets.

This would not be the worst problem. After all, if Catalonia has to offer higher returns to offset risks and costs to investors, it can. It would simply bear a higher cost, but would suffer a devastating double effect. On the one hand, investors' operations to hedge the currency would mean taking the opposite position in financial markets. That is, to sell the Catalan currency and buy the hedged pair, which would further devalue its currency. On the other hand, said devaluation would reduce its purchasing power with respect to the outside world.

As a result, the hypothetical independence of Catalonia would have the direct consequence of leaving the EU and the Eurozone. The new republic would have a standing public debt in euros to be paid back in a different currency. This conversion would have very negative effects on its economy, since the equivalence of said currency would certainly be less than one.

5. Monetary system

Monetary policy would be profoundly affected by the longed-for independence of Catalonia. Traditionally, the definition of the monetary system and the issuance of money have been considered one of the most important features of national sovereignty. Regardless of the level of decentralization of economic policy in each country, the management of the monetary system and the regulation of the financial market have always been the responsibility of the central administration. Until now Catalonia has not had any competences in these matters, however in the scenario of independence, Catalonia would have to create and regulate it all.

In recent history such monetary sovereignty has been managed in very different ways. Throughout much of the 19th century all the way to the early years of the 20th century, the world's most important countries largely renounced their sovereignty in this field by using the gold standard. This model was characterised not only by the fact that each national currency was defined in terms of a certain amount of gold, but also because the amount of money in circulation depended on gold reserves, so governments could not freely determine the money supply. With the disappearance of this pattern, countries saw their ability to create money much less restricted. This led, among other things, to inflation levels much higher than had previously existed and in some cases, to hyperinflation processes in which the purchase value of certain national currencies fell to extraordinarily low levels.

On the other hand, countries have coordinated their monetary systems in a variety of ways. At certain times they have established fixed exchange rates between currencies, forcing each nation that was part of the system to adapt its economic policy to maintain the foreign parity of its previously agreed currency. For almost fifty years, the international monetary system has been based on flexible exchange rates, in which the value of a currency is determined day by day by the supply and demand on the markets.

5.1. Creation of a new monetary system in Catalonia

It is a complicated case, as Spain belongs to the European Monetary Union. Therefore, the euro and the monetary policy that affects the Spanish economy today —and all its regions — is defined by the European Central Bank (ECB). The new state would have to create a monetary system and financial regulation immediately and consider what degree of coordination it would want to maintain (or could maintain) with other international monetary systems.

In debates on the economic effects of the hypothetical secession of Catalonia, the question of whether it could continue to use the euro as the currency of the new country has been raised on many occasions. The question is, however, much more complex than it may seem at first glance. It is important to consider two previous observations. First, no one can prohibit a state from using as its own currency, the currency issued by another country, or by a monetary area made up of several nations. Some countries use the dollar *de facto*, linking their own currency to the US currency. In Europe, some countries have linked their currencies to the euro, although they have generally done so as a step towards their integration into the European Monetary Union. What Catalonia could do is seek a solution after its departure from this union, which would result in the same problems.

As for the second observation, a monetary system is based on a series of institutions that go far beyond choosing a certain monetary unit. It is necessary to answer a series of questions referring both to the ordinary management of these new monetary institutions and to the policies to be adopted in times of crisis. This chapter reviews two basic topics: how would the money supply in Catalonia be fixed in each of the options that the country's economy could consider using, and what could the alleged State do with its new financial institutions. What is relevant for Catalonia is that if it decided to continue using the euro, it would be outside the decision-making bodies of the Monetary Union, its money supply would depend on its foreign exchange reserves, and its banks would not have the support of the ECB in difficult situations – such as the current Covid-19 crisis.

If the government of the hypothetical country decided to link its currency to the euro, so that public and private debts, credits, bank balances, and any type of obligation would not change. In practice, this would mean that the euro could continue to circulate freely in Catalonia, being used as a reference for all types of financial system operations and that, *a priori*,

there would be no effects on income distribution because of a change in the currency of reference. It is reasonable to think that this would be the option preferred by the hypothetical new republic, not only because of what it would mean for the stability of the financial system, but also because it would express the intention to join the EU in a few years. By handing over its monetary sovereignty to the ECB, Catalonia should not face serious problems of inflation or exchange risk (at least, as long as the market did not find reasons to doubt the irreversibility of the convertibility of the Catalan currency with the euro).

Managing convertibility could pose significant difficulties. To start the process, Catalonia would need to create a 'currency board' or 'conversion box', which performs the function of generating money supply. It would issue new currency but would be subject to a clear limitation in terms of quantity, as these new currencies would be convertible without limitation into euros. Therefore, the volume of issuance could not exceed that of its reserves in the reference currency. This would imply that when determining the volume of reserves, the balance of Catalonia's foreign sector would also determine its money supply. If this balance were positive, the currency board should not face any problem in keeping the money supply at the desired level. If this positive balance was very high, there would be no obstacles to slow the effects of excess foreign exchange.

5.2. Aftermath of the new currency and possible problems

The effects of a negative external balance would be a more problematic issue. This would bring with it a reduction in euro reserves and to maintain full convertibility, the monetary authority of Catalonia would have to reduce the country's money supply. Suppose that at any given moment, the demand for imported goods were to increase or the foreign demand for goods produced in Catalonia contract. This would lead to a current account deficit and a reduction in the foreign exchange reserve. The currency board and commercial banks would therefore see their euro reserves depleted, and the amount of money and loans made by the country's commercial banks would also decrease. This would create financing problems for both companies and the public. Economic activity would suffer, and national income would fall. Demand for goods and services would decrease. Unemployment would increase and companies would be forced to lower their prices. This process of deflation and internal devaluation would allow an adjustment to be made by reducing the demand for imported goods and increasing the competitiveness of Catalan companies in the international market. The adjustment would continue until Catalonia

obtained a balance of payments surplus, which would increase its reserves of euros and relaunch the economy. However, the cost of internal devaluation in terms of business destruction (or displacement), unemployment, and deterioration of well-being can be very high.

Could this really occur in Catalonia? Absolutely yes, and there are numerous examples of countries that have been forced to undergo an internal devaluation process to keep their exchange rate fixed. In the case of a country which chose to create a currency board with full convertibility to a reserve currency, the situation could become more difficult, as its monetary system would not have the support of the bank that issued the currency of reserve (in this case, the euro).

It is not possible to foresee how Catalonia's current account balance would evolve after its long-awaited independence. But there is no doubt that its exports would be greatly affected, both by separation from the rest of Spain and by their abandonment of the European customs union.

It can be argued that the current account balance is not the only element that determines the evolution of a country's foreign reserves. In a fully convertible monetary system, the money supply and account deficits could be maintained without problems if the country were to experience a surplus of capital due to foreign investment. However, if instead of a surplus the country suffered a capital account deficit, the situation would worsen, since it would lose reserves and its money supply would be reduced.

In the case of Catalonia, it is difficult to imagine that the hypothetical independence would generate a net inflow of capital – quite the opposite. Banks and financial institutions would have strong incentives to accelerate the offshoring process and move their registered offices outside of Catalonia to remain in the euro zone and benefit from the support of the ECB if they needed it. As a result, many residents in Catalonia could choose to transfer their accounts, deposits, and other financial assets to institutions within the Eurozone not only because of the economic uncertainty, but also because of the lack of security in the maintenance of convertibility with the euro. If the hypothetical government of Catalonia decided to suspend the convertibility with the euro, it would likely establish an exchange control system and could force the conversion of deposits into the new currency, whose value could be strongly diminished by depreciation.

There are precedents for the event of suspending the validity of a convertibility law. In Argentina, the US dollar and the Argentinian peso coexist together in a system adapted to the ongoing high inflation of the local currency. The best-known example occurred in 2002, although the government initially promised that after repealing the convertibility law, the currencies in which the deposits had been created would be respected, shortly after, these were *pesified* (Argentinian peso), entailing heavy losses for their holders. Credits were also *pesified* at the new exchange rate, which resulted in advantages for debtors and large losses for creditors.

Another peculiarity of the currency board convertibility system is that there is no institution that has proven to be the lender of last resort, which is very important in modern monetary systems. This role of central banks is intended to facilitate financing for banks with liquidity problems. In the Eurozone this aid mechanism is called 'Emergency Liquidity Provision' and is administered by the ECB and the central banks of the Eurozone. What would happen to the banks of Catalonia after the alleged independence? As the new country would be outside the European Monetary Union so the ECB would cease to perform this function in the new State. The role of lender of last resort could be played by the new Catalan central bank, but only if Catalonia chose to create an independent central bank which would develop its economic policy with a currency without fixed convertibility to the euro. If Catalonia opted for the convertibility and currency board model, this institution would not be able to act as the lender of last resort, since it would not be able to generate liquidity independently.

On one hand, it has been argued that there have been few banking crises in the countries that have chosen the convertibility and currency board, and that alternative mechanisms could be designed such as making the State itself a lender. On the other it has been pointed out that a currency board could carry out such a function if it had an excess of reserves in relation to the money supply generated. The majority position defends that a currency board cannot act as a lender of last resort and that the country's banks would lose an important guarantee when it comes to guaranteeing their solvency, which would create uncertainty for their depositors, with the consequent effects in the operation of the banking system.

The second option for Catalonia could consist of creating its own currency which could be issued without restrictions by the new Catalan central bank, which would have a floating exchange rate with the euro and the rest of international currencies, thus showing monetary sovereignty. This

model could be reached in two ways. First, the creation of an autonomous currency from the first moment after the postulated independence, which would allow the new bank of issue to undertake an independent monetary policy. Second, the abandonment of the convertibility and currency board system if the costs of maintaining it were too high in terms of employment and national income.

It would be perfectly feasible for the new Catalan authority to administer its monetary system efficiently, offering the means of payment the country's economy needs and guaranteeing a low rate of inflation. But the management of monetary variables is not an exclusively technical problem, but is highly conditioned by pressures from political and interest groups. A permanent temptation of governments has always been to use the powers of the central bank to finance public spending, and a clear boundary is needed to prevent this from happening. The EMU decided to directly prohibit this way of financing the States through legal regulations, yet the ECB is under pressure to become an instrument for financing public spending to an even greater degree than it is today. In a process as politicized as the independence of Catalonia, it is doubtful that the new central bank would follow an orthodox monetary policy if it did not face strong legal restrictions, or that regulations of this nature would be approved given the country's political structure.

The new currency would create all kind of doubts in international markets, due to the great uncertainty regarding the monetary policy of the new government. The fact that a country previously part of the Eurozone decided to break its ties with this currency would surely be interpreted as an indication of lack of strictness. The result would probably be a higher inflation rate in this area, which would lead to a depreciation of the new currency. This would constitute a clear incentive for residents to keep their savings outside of Catalonia. The government would likely enact exchange controls, *à la* Argentinian *corralito*, that restrict capital movements, cash withdrawal – at least temporarily – and could prohibit making the public's bank balances effective with the intent of stopping an unwanted bank run.

Unlike a model managed by a currency board, monetary autonomy would allow the new central bank to generate as much liquidity as it deemed appropriate, avoiding the internal devaluation process mentioned above, and acting as a lender of last resort to its banks. The costs could be very high in terms of inflation and economic stability, and such a policy would make it more difficult for Catalonia to join the EU.

5.3. Summary

All in all, the dilemma that a hypothetically independent Catalan government would face when choosing its monetary system could be summarized in choosing between stability and rules imposed from abroad; and independence with the capacity to apply its own policy under the risk of strong instability and uncertainty for the economy of the new country. There is no doubt that a much better position would be to remain within the EMU since the lack of autonomy would entail not only greater stability, but also the support of the ECB, which is so important for some countries. An independent Catalonia would be outside the monetary union, and therefore it would undoubtedly be much more expensive to maintain a stable currency for the new state.

6. Institutional quality

Most of the literature¹⁶ on this topic has reached a remarkable consensus about the importance of institutional development and its quality as an indicator of structural development and the long-term well-being of any country. Thus, while economic growth is key to determining the short-term trajectory of a state, institutional quality is vital to ensure that growth is sustained in the medium and long term.

The World Bank's *Worldwide Governance Indicators* names six variables are a most appropriate method to analyse institutional quality: control of corruption, effectiveness of the government, political stability and the absence of violence or terrorism, regulatory quality, rule of law, and accountability.

The use of these indicators is frequent in economic, democratic, and political institutions, and can be used to evaluate and forecast the quality of Catalan institutions as an independent republic. This analysis must be undertaken with the rest of Spain, with Madrid, as its characteristics constitute a good reference point¹⁷.

As Rodríguez-Pose (Rodríguez-Pose, A. & Hardy, D., 2020) points out, Madrid and Barcelona have evolved in radically opposite ways in the last three decades, from an institutional point of view. Barcelona had a much more favourable starting point due to its openness, greater proximity to the rest of the continent, and the conditions to emulate Milan and its victory over Rome. However, Madrid has opened to the world and renewed itself,

16 Some notable examples are Easterly y Levine (2003), Kuncic (2013) and Fabro y Aixalá (2013)

17 Rodríguez-Pose, A. & Hardy, D. (2020). "Reversal of economic fortunes: Institutions and the changing ascendancy of Barcelona and Madrid as economic hubs". *Growth and Change*, pp. 1-23.

offering better opportunities and advantages than Catalonia. Catalonia has experienced internal social and political fracture as well as a rapid deterioration of its institutions —largely attributable to spurious use and their lack of independence from political power. This is not exclusively directed towards the independence cause (though very relevant), but also to the satisfaction of private, corporate, and partisan interests, which has squandered the trust built over decades and has entailed an economic cost that is difficult to calculate but is undoubtedly important.

6.1. Political stability

When it comes to the supposed independence of Catalonia it is necessary to delve into the majority system that should exist to make this possible and at the same time, maintain solidity in government and political parties. On the other, it is worth analysing the behaviour of the electorate and the regional parties in recent years to forecast how the political landscape would be configured under the hypothetical scenario of independence.

An independent Catalonia would be supported by less than 50 per cent of the Spanish population, although it is difficult to establish what percentage of the adult population is in favour of separation since the results of the regional elections do not offer this data clearly. It would be necessary to define precisely what question is posed to voters. A well-known example of this problem can be found in the question that was voted on in the referendum for the independence of the province of Quebec, Canada in 1995. It was formulated in very ambiguous terms and asked the voter whether they agreed that Quebec became “sovereign, after having made a formal offer to Canada for a new economic and political partnership”. Many people voted in favour thinking that what was being asked was not the independence of the province, but a better agreement between Quebec and the rest of Canada.

Although the question of Catalonian independence was proposed by several regional parties, citizens voted on complex programs, which included many other issues which could have been personally important than secession, with high abstention rates: 41.5 per cent in the 2015 elections, and 35.2 per cent in the 2019 elections. Thus, the results do not reveal the opinion of more than one third of Catalonia’s population. A vote in favour of the sovereigntist parties of say, 51 per cent, with an abstention of 35 per cent, would legitimise secession, although only a third of the population (33.1 per cent) would have voted.

Public choice theory has studied in detail the problem of majority formation, and clearly argues that it makes no sense to pass all kinds of legal reforms, especially the most relevant ones, with a simple majority rule. When it comes to the voting rules applied in the EU institutions, for example, a simple majority applies for certain questions, while higher levels of approval are required for others. In some cases, even unanimity. The general principle is that the more important the issue being decided, the more demanding the voting rule should be. Approving a declaration of independence with a majority of 51 per cent has, therefore, little legitimacy. If this 51 per cent does not refer to the electoral roll, but to the number of people who actually cast their ballot, it is even less justifiable.

Why is it convenient to use qualified majorities in deciding the most important issues for the life of a country? The economist K. Wicksell analysed the advantages of the unanimity rule (which, de facto, extended to the rules of qualified majorities) as a way of ensuring that the action of the public sector was more efficient and beneficial for citizens. The idea is since a qualified majority rule constitutes a defence for the part of the population that does not agree with a specific measure proposed by a government, which could negatively affect their well-being. Furthermore, it creates incentives to negotiate solutions that enjoy wider popular acceptance. The majority rule could certainly be contrary to the interests of the groups currently in favour of independence, even at the cost of acting against the preferences of a large part of the population of Catalonia. But there is no doubt that a solution with a higher degree of agreement would be preferable. If a comfortable solution could not be reached among the inhabitants of the region, the most elementary prudence would recommend respecting the status quo. Otherwise, a large part of the Catalans would be left out of the constitutional consensus, which would also accentuate the polarization of the large percentage of the population that would be expelled from their own country in the hypothetical independence.

Throughout the last decade a certain stability has been observed about the parliamentary majority that the government of the region granted to the separatist movement in the last four regional elections. However, voting majorities have been progressively reduced, and the solidity of this block has been challenged by other formations that, even sharing similar public policy proposals, have gradually approached power. *Citizens*, the winner of the last regional elections, stands out.

Furthermore, in the last investiture votes the polarization was completed, with the chamber practically divided in half along the independence fault line.

Table 14. Number of votes in favour, against, or abstention in investiture voting

Year	In Favor	Abstention	Against
2010	62	28	45
2012	71	0	64
2015	70	0	65
2017	70	0	65

Source: CGPJ

Finally, even though the investiture has prospered in elections, instability has become the dominant note of coalition governments, as is currently the case with the government supported by JxCAT and ERC in continuous internal struggles. All of this reveals a trend of fragile executives, not only among nationalists and unionists, but also within the nationalist bloc, so it is not unreasonable to venture that this trend would continue in an independent Catalonia.

6.2. Absence of violence

In addition to the standard crimes in cities of certain socioeconomic or population characteristics, the main episodes of violence in Catalonia in recent years have been motivated by jihadist terrorism, as well as the pro-independence cause.

The former had no aspirations to change the composition of the government or the political status quo, but aimed to sow terror. The secession-related incidents harboured a clear political intention. However, even though it is seemingly possible that once Catalonia is independent, the exercise of violence against people (assaults, injuries, etc.), urban furniture, or private businesses (vandalism) could cease to have any excuse, such *modus vivendi* of vandalism could well be perpetuated under an uncertain

independent republic which might trigger civil unrests for an array of varied social reasons. Therefore, there are many scenarios in which violence would carry on.

6.3. The effectiveness of government and law enforcement

The neglect of many of the responsibilities of the Catalan public administration in comparison with the Spanish average is notable, especially in areas such as education or health¹⁸. However, as the nationalist leaders point out and their opponents criticise, this lack of compliance or effectiveness is mainly since the secession cause has been continuously treated as the absolute priority. Once independence is achieved, such neglect could not occur, although it could also happen that an administration accustomed to putting ideological and partisan elements before the fulfilment of its functions would continue to manifest this inclination in the face of new mandates or causes.

All this, in turn, bears witness to an administration influenced by political power, as is the case with the State security forces and, in the *Mossos d'Esquadra*, the Catalan autonomous police force, which has suffered enormous political interference due to the independence cause in recent years.

One element that constitutes a good indicator of the executive's ability to comply with and enforce the laws is the statistics of criminal activity. One of the best indicators of public trust in institutions is found in security or the government's ability to control crime and violence.

As is evident, breaking the law speaks more about the behaviour of the citizens than of the institutions. However, it also speaks volumes about the administration's ability to prosecute and minimize these transgressions. In addition to the interest that the path of the autonomous community holds in recent years; a trend that would continue, or even accentuate, under an independent Catalonia.

18 Thus, Catalonia has, for instance, the longest healthcare waiting lists/lines in Spain

Table 15. Crimes (% of growth). Cases per 100,000 inhabitants (2013-2019)

	2014	2015	2016*	2017	2018	2019
Spain	2%	4%	27%	8%	3%	1%
Catalonia	4%	10%	41%	-7%	11%	4%
Madrid	1%	2%	33%	13%	5%	-4%

* This sudden increase in the number of crimes is due to a methodological change in the CGPJ.

Source: General Council of the Judiciary (CGPJ)

As Table 15 shows, Catalonia has experienced a clear upward trend compared to the national average of criminal activity, particularly with Madrid, another large regional capital with high volume of the population. This growth in violent crimes could increase even if crimes of an economic nature, such as fraud, were eliminated from the calculation, as shown in Table 16.

Table 16. Violence (robberies, murders, homicides, etc.). Cases per 100,000 inhabitants (2013-2019)

Area	2013	2014	2015	2016	2017	2018	2019
Spain							
Homicide	1.09	1.05	0.99	0.92	0.78	0.7	0.72
Murder	0.63	0.52	0.57	0.43	0.43	0.36	0.44
Reckless Homicide	1.31	1.2	1.35	1.32	1.27	1.26	1.18
Robberies	64.73	65.88	63.27	61.77	59.51	55.12	51.04
Catalonia							
Homicide	1.16	1.33	1.01	0.64	0.97	0.76	0.69
Murder	0.66	0.53	0.91	0.61	0.45	0.32	0.26
Reckless Homicide	1.18	1.09	1.51	0.96	1.44	1.51	1.50
Robberies	66.35	69.74	68.25	63.66	66.53	59.7	58.88
Madrid							
Homicide	1.40	0.99	0.89	0.9	0.69	0.59	1.16
Murder	0.62	0.6	0.48	0.54	0.55	0.61	0.96
Reckless Homicide	1.05	0.82	0.87	0.74	1.71	1.03	1.04
Robberies	53.9	55.28	54.76	54.62	53.91	50.68	42.67

Source: General Council of the Judiciary (CGPJ)

It is not correct to refer to the acts of violence or vandalism solely related to the issue of the independence cause, but within a broader context. However, it is revealing to take a look at the damage statistics (vandalism), which have rapidly grown since 2016 in Catalonia and alarmingly exceeds the national average and that of the Community of Madrid.

Table 17. Crime rate for damage (vandalism). Cases per 100,000 inhabitants (2013-2019)

	2013	2014	2015	2016	2017	2018	2019
Spain	8.7	9.1	10.4	16.8	20.8	21.5	21.8
Catalonia	7.0	7.9	9.5	23.8	17.7	23.3	22.0
Madrid	6.5	6.3	8.2	12.1	14.0	16.7	17.0

Source: General Council of the Judiciary (CGPJ)

It could be argued that the higher relative number of criminal behaviours in Catalonia is due to the lower presence of state security forces and bodies. However, this is not the case as the presence in Catalonia is slightly higher than the national average (3.56 per 1,000, compared to 3.46 per 1,000, which is the Spanish average).

Table 18. Law and order forces (autonomic and state). Agents per 1,000 inhabitants. Total per capita

	2013	2014	2015	2016	2017	2018	2019
Spain	3.68	3.67	3.63	3.59	3.53	3.47	3.46
Madrid	5.02	5.01	4.96	4.94	4.84	4.74	4.69
Catalonia	3.73	3.72	3.7	3.61	3.54	3.48	3.56

Source: Statistical Bulletin of the personnel at the service of the Public Administrations

In view of this data, an independent Catalonia would have to deal with high crime rates. This would not be solved merely through greater resources, since everything indicates that the cause lies in an institutional weakness (in this case, of the forces of order), whose correction would require profound reforms.

6.4. Control of institutional corruption

Institutional corruption refers to the 'public office'¹⁹; that is, carried out by the public officials who use their position for spurious purposes for their own benefit or that of others. Political corruption occurs within a political

19 Hidenheimer, A. (1970). *Political Corruption: Readings in Comparative Analysis*.

party, regardless of whether or not the members occupy positions in a public administration.

In Spain, both types of corruption are especially intense in comparison with neighbouring countries (especially Western Europe), ranked 30th out of 179 in the latest edition of Transparency International's Corruption Perception Index (CPI). Within Spain, corruption differs greatly both regionally and in political parties. Regarding the autonomous communities, Andalusia and Valencia stand out as having the highest levels of corruption, while Catalonia is slightly below the national average in 7th place²⁰. However, regarding the nature of corruption cases and the costs associated with them, Catalonia exhibits a very different picture. The case of the '3 per cent', a scheme to obtain illegal financing for the democratic convergence of Catalonia (CDC) party, is one of the largest schemes in Spain, amounting to over 1.8 billion euros.

It should also be noted that Catalan regionalist parties have one of the highest corruption rates in terms of the volume of cases, especially those in favour of independence. In this regard, corruption (the violation of current legislation) has not benefitted the pro-independence cause – rather, independence has been used to cover up corruption. This type of corruption would continue under an independent Catalonia, and would even worsen in the face of greater pressure from its interest groups and the ability to control the courts and tribunals, etc.

6.5. Regulatory quality

Regulatory quality registers perceptions about the government's ability to formulate and implement public policies, and regulations that allow and promote the development of the private sector. Chapter 3 explained how an independent Catalonia would likely worsen its regulatory quality for two main reasons. First, due to greater state interventionism in its economic activity (something that would also be reflected in the taxation of the alleged republic, shown in Chapter 4). Second, because the regulatory capture would be easier in an independent Catalonia, as pressure would intensify for the rules to promote private or corporate interests, and worse regulation of social interactions.

20 Among other, it is worth noting the statistics presented at Casos-aislados.com

6.6. Accountability

This last indicator addresses the perception of the citizens of a country or region (Catalonia, in this case) of the ability to participate in democratic elections, as well as the level of freedom of expression, association, and the press. Many of the controversies in the last decade have been motivated by the pro-independence cause, having affected both blocks. For this reason, and to avoid any bias, this study does not assess this indicator. However, it must be emphasized that the current legislation is widely violated by the administration, as well as by a large part of the public. This leads us to believe that this behaviour could be more common in an independent Catalonia.

It should also be noted that this accountability would be hampered in an independent Catalonia, given that, as noted in Chapter 3, the pressure from interest groups in the region would be greater as they would have easier access to political power to pave the way for 'regulator capture'. This would lead to a presumably greater control of the courts and tribunals by the executive and interest groups, which could jeopardise the accountability of the Public administration.

7. Conclusion

According to the analysis, the road to secession would bring a high economic cost for Catalonia from all perspectives.

In terms of trade, independence would immediately cause Catalonia's departure from the EU, by which Catalonia would face higher transaction costs that would reduce its competitiveness, as well as the flow of foreign investment because of the increase in uncertainty between entrepreneurs and investors. At the same time, the displacement of tourism would reduce income from this sector, at least until the situation is normalised. The path that would be adopted by the foreign sector, investment flows, and the tourism sector would have a direct and substantial negative impact on economic activity and employment in Catalonia. This in turn would affect the rest of the sectors in the economy.

Catalonia would face serious problems regarding tax collection, as well as debt management placement. Based on this, Madrid or the Balearic Islands would have many more reasons to raise their independence. There are also doubts about the financial capacity of an independent Catalonia, which would find it difficult to maintain its administration under current conditions. The new country would be born with a very high public debt (more than 112 per cent of its GDP). It cannot be forgotten that its debt is currently protected by the Spanish State in the international financial markets, with the support of the ECB. Catalonia would lose the support under succession, which takes us directly to the issue of its monetary policy.

The new state would have to choose between a monetary system based on stability and the rules imposed from abroad, thus renouncing its sovereignty over its monetary policy, or advocating for a model with a high risk of severe instability and uncertainty. However, considering that an

independent Catalonia would ipso facto be outside the monetary union, it should prioritise the costs of maintaining a stable currency.

Finally, the institutional quality of Catalonia reflects a presumable situation of limited guarantees after independence, taking into consideration the analysis of the control of corruption, the effectiveness of the government, the political stability, the absence of violence and terrorism, the regulatory quality, the rule of law and the accountability. Furthermore, criminal activity is above the national average and in many cases exceeds the considered homologous region of Madrid. This reveals that the markedly interventionist Catalan government presents serious difficulties when it comes to maintaining the order necessary to develop economically, politically and socially.

All in all, the price to achieve independence would be high, something both the pro-independence and against-independence blocs should bear in mind.

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