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Surplus and capital profitability in the Spanish economy, and comparison with the Euro area. A political economy approach

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ABSTRACT

The article studies the evolution of both surplus and profit rates in the Spanish economy during the phase of the housing bubble, the subsequent crisis and the recent economic recovery (1995—2017), comparing as well core and peripheral economies of the Eurozone. From various methodological approaches and showing several indicators, this paper finds an underlying deep profitability crisis and an alarming drop in what we call the productivity of surplus, without reaching previous levels of profitability at the end of the period. This path has been offset by a reduction in interest rates, which promoted corporate indebtedness. The huge decrease of profitability in Spain is however consistent with its peripheral insertion into the Euro area. In opposition, the more advanced economies of the region were able to keep the level of capital profitability and even increasing the volume of surplus.

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Profit rate; surplus; interest rates; wages; political economy

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1. Introduction

This article focuses on the dynamics of capital profitability in the Spanish economy between 1995 and 2017, together with a comparison with economies in the center and periphery of the Euro area (EA). Specifically, it studies different indicators of the volume of surplus and profitability rates, with some of their determinants such as surplus (labor) productivity, employment and price indices, and complemented with a comparative analysis of profitability with several economies of the region.[1] This theme is of the greatest relevance since the generation and appropriation of surplus constitutes the foundation of economic activity, as claimed from a political economy approach (Shaikh 2016).

This research contributes in turn to clarify various controversies: what has happened with both the surplus and the profit rate in Spain? Is this evolution important to explain the cycles of growth (1995—07), crisis (2007—13) and the last recovery (2013—17)? To what extent do these results correspond to other economies in the Eurozone, and especially the peripheral ones? By extension, a systematic study of profitability makes it possible to address the controversies about the fundamentals of its evolution. In light of the controversies in the literature of the Spanish crisis, opposite accounts are

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ultimately associated with the distribution of income (rigidities in the labor market and profit-squeeze for Neoclassicals, or underconsumption and the housing boom due to falling wages for heterodox, mainly post-Keynesians) or finances (monetary policy and interest rates, debt, speculation), both influenced by economic policy.[2] In constrast to these approaches, this paper highlights the problem with the process of surplus generation behind the economic boom of 1995—07, which explains the severity of the subsequent crisis and the absence of a complete restoration of profitability conditions during the recent recovery period. But despite the deterioration of various indicators of the profit rate, the comparative analysis reveals that, ultimately, the problems of profitability in Spain are common to other peripheral economies of the region. In this research, the central economies of the Eurozone are Austria (Aut), Belgium (Bel), Germany (Ger), Finland (Fin), Luxembourg (Lux) and the Netherlands (Net), while the periphery is made up of Portugal (Por), Spain (Spa), Italy (Ita), Greece (Gre) and Ireland (Ire).[3]

In the case of the Spanish economy, this analysis is especially important due to the intensity of economic cycles: GDP grew 3.8% between 1995 and 2007 (NSI 2019a),[4] a level significantly higher than the average of the EA and other advanced economies (AMECO 2020; Eurostat 2020; OECD 2020). However, between 2008 and 2013, GDP declined at a rate of −1.8% annually, and despite the subsequent rebound, only in 2017 did the GDP exceed the level of 2008. In addition, the expansionary phase prior to the Great Recession had its main driving force in the inflation of construction assets —mainly of the residential type, or real estate boom—, which justifies investigating the dynamics of profitability. In this sense, we claim that economies of both the core and periphery of the Eurozone are profit—led, though different levels of productivity, sectoral structure and external insertion may be manifested in apparently supply/demand/debt/wage—led growth patterns.

The paper begins by theoretically addressing the main categories (surplus, capital and rates of return), and the following sections show the empirical results: first, regarding the volume of surplus; subsequently, the set of profit rates, and then interest rates and net profitability. In the last section, a comparative analysis of some profitability indicators and complementary variables is carried out in relation to the center and the periphery of the Eurozone.

2. The profit rate: concepts, measures and literature

2.1. Surplus and capital

Profit, or surplus, together as capital, constitute two of the most relevant concepts of economic analysis, which differentiate as well the main schools of economic thought. From a political economy perspective, the generation of surplus is the engine of production. Consequently, economic growth requires an adequate level of surplus, and in addition, crises are associated with profitability problems (Carchedi 2012; Roberts 2016; Shaikh 2016, Mateo 2019)

Within heterodox economics, the controversy on productive and unproductive labor has to be considered when measuring surplus, since not every economic activity involving an income flow must necessarily be productive of value (see Shaikh and Tonak 1994). Yet, given difficulties posed by the System of National Accounts (SNA), some

theoretical controversies, but also due to the purpose of taking a broad conception of productive labor, it has been decided to exclude only two sets of activities. First, FIRE activities ('Financial and insurance activities' and 'Real estate activities'): a part of these sectors is considered to truly belonging to the circulation of the output generated in the productive sphere. Another fundamental reason is their link with the construction assets inflation, and in the case of real estate, its fictitious part. Secondly, the GOV sector ('Public administration and defense; compulsory social security'): it is mainly a set of non-market activities, despite using wage labor. The underlying logic is thus not strictly capitalist, since most of these activities are provided by the State as a social service and/or necessary for government institutions, so they are not part of the direct capital valorization circuit.[5]

Our reference category of profit (P) in the SNA is the gross operating surplus (GOS), from which to take out the corresponding 'unproductive' activities (GOS_{fire}, GOS_{gov}). Likewise, the GOS includes the mixed income (MxI), which corresponds to a non—capitalist circuit.[6] Given the limitations in data availability and reliability, only in a complementary way will it be deducted from the GOS.[7] On the other hand, depreciation (DEP) is deducted, thus taking the net measure (NOS), since it is the part available for capital accumulation. The NSI (2019b) base is used to discount the part of the institutional sectors of financial entities (DEP_{fin}) and government (DEP_{gov}). Therefore, unless otherwise specified, the reference measure will be the NOS of the productive sphere:

$$P = GOS - \left(GOS_{fire} + GOS_{gov}\right) - \left(DEP_{fin} + DEP_{gov}\right) \quad (1)$$

Sometimes, measures can include net taxes (NT), which are not disaggregated by sector, as well as deducting the mixed income, which will be duly mentioned in the article.

Capital is another key category for political economy, defined as a magnitude of value that goes through a cycle in which it assumes different forms: money, assets and labor power, and commodities. However, i) although labor force is also part of capital as social relationship, following Guerrero (1989), Bertrand and Fauqueur (1978) or Reuten (2005), there is no stock of variable capital (or a wage fund) independent of the constant (fixed and circulating) capital invested; and ii) capital incorporates as well the circulating capital stock, that is, inputs or intermediate consumption (IC), but it is not included because of lack of information.

The measure of capital thus presents even more difficulties than the surplus due to its complexity. Assuming insufficiencies and limitations, we use the statistical base prepared by the FBBVA/Ivie (FBBVA 2019), instead of AMECO (2020) and Prados de la Escosura (2020), because of its level of disaggregation. Consistent with the measures of surplus, the reference category will be the capital stock (K) of the activities considered productive, in net terms at replacement cost, corresponding to the previous year (t—1) and non-residential ($K = K_{nr}$), since residential assets (RES) are not part of a valorization process.

2.2. Profitability indicators

The first indicator of profitability is the magnitude, mass or volume of surplus. It is expected to be the foundation for investment, and by extension, for economic growth. In

real terms, the volume or mass of surplus ($P^* = NOS^*$) is calculated using the capital stock price deflator (P_k), since the relevant dimension is the purchasing power of capital assets (Shaikh 2016). This surplus can be put in relation to capital (K) or labor (L). In this way, it is theoretically pertinent to refer to what we call in this paper the (labor) productivity of surplus (q_e) of the productive sphere (p).

$$q_e = \left(\frac{P^*}{L}\right)_p = \left(\frac{P/P_k}{L}\right)_p = \frac{P}{P_k L} \tag{2}$$

This index (briefly: productivity of surplus) is a (kind of) variant of labor productivity. However, by excluding wages, 'q_e' relates productive labor to the actual purpose of production, surplus, and thus in terms of the purchasing power of capital assets. Besides, it allows to grasp the origin of the surplus production, but also to address the regime of growth: is it an extensive or intensive model? Because the absolute volume of surplus can be increased by the aggregation of labor —labor days— (extensive model) or by a greater amount of surplus per unit of labor (intensive model). In turn, and as is usually carried out in the literature on profitability, the surplus can be related to the capital stock, which gives rise to the rate of profit (r).

$$r = \left(\frac{B}{K}\right)_p \tag{3}$$

Yet, these profitability indicators are gross, as they refer —assuming the unavoidable empirical limitations exposed— to the total surplus generated. However, part of it can take different forms, being appropriated by different agents and/or manifested as a cost: i) part of the profit generated will be paid in the form of taxes; ii) another part will be transferred to creditors in the form of interest (i); iii) and even a fraction of the surplus is paid as wages to certain executives. Consequently, the distribution of the surplus could affect the amount available for accumulation, even if its total production is not altered. It should be noted that the main direction of causality comes from the total to the particular: from the profit rate to the interest rate ($r \rightarrow i$). Briefly, it is, first, the global development of productive forces, and thus the capacity to produce surplus, and second the economic cycle, what ultimately explains the relative level of interest rates and their fluctuations. This constitutes the general framework in which the interest rate is set, which must be lower than the profit rate, and based on the supply and demand for money capital.[8]

Finally, we later show as well the conventional profitability indicators for non-financial corporations measured by the Bank of Spain (BoS 2020), which provide an adequate complement to the general rate of profit: i) return on investment (ROI, R.1 in the BoS database); ii) ordinary return on equity (ORE, R3), iii) return on equity (RE, R15.29); and iv) the spread of the return on investment in relation to the cost of debt (R4 = R.1—R.2).

2.3. Literature on the profitability of capital in Spain and the Euro area

Unfortunately, capital profitability is marginal in the literature on economic cycles in Spain or the Eurozone, the imbalances of the growth phase (the housing boom), or

North—South divergences in the region.[9] Therefore, this line research is original. Apart from some brief comments in orthodox studies linked to the FBBVA, such as Pérez (2012) —but using the Bank for the Accounts of Companies Harmonized (BACH) database—, or the IMF (2013) reference to gross earnings (EBITDA) with respect to total assets, debt and business size in Spain, France, Germany and Portugal, the few references come from the sphere of political economy.

Thus, Murillo (2015) provides data on the rate of profit between 1994 and 2007, but with a different methodology that shows that the ratio has only decreased since 2002, while Boundi (2014) carried out a long term analysis for the period 1964—2009. In both cases, only the general rate of profit is studied, since the purpose is to study the capital accumulation process. Roberts (2016) focuses on profitability, but only on the gross profit rate, and using instead the AMECO database for the capital stock, so the evolution of profitability is very different, since it also increases until 2001—02.[10] In a Kaleckian framework, López and Palazuelos (2016) measure the general profit rate, but only between 1994 and 2007 according to the EU-Klems database, so leading to a very different profile. Similar results are obtained by Del Río (2015), in his case with the AMECO database. Therefore, there are no systematic studies of profitability indexes in Spain, but rather as a complement variable in papers focused on investment and/or financialization.

On the other hand, there is also a lack of comparative studies of profitability in the Eurozone, and without measuring the average rates of central and peripheral economies. One of the few worth mentioning is Franconetti (2015), who compares the profit rate in Spain with the US and some European economies in 1961–2013, but also he studies the regional rates of profit of Spain in 1965–2007. For the international comparison, the author uses AMECO, while for the regional analysis, he takes a domestic database, BD. MORES. Methodologically, depreciation is nonetheless included in the surplus, the measure of the capital stock is first taken at constant prices for each region, and then converted into current prices by means of the GVA deflator and aggregated for the country. His results differ between them, as the rates with AMECO and BD.MORES decreased by 26% and 2% in 1995–2013, respectively, much lower than the fall of the general profit rate in this paper.

There are partial long term studies as well, such as Maito (2018), who analyzes the profit rates of the United Kingdom, Germany and Netherlands since the 19th century, or Trofimov (2017), who compares the OECD countries between 1964 and 2009. The above-mentioned Roberts (2016) calculates the profit rates of Germany, Spain, Italy and Greece also in the long term, but deep methodological differences lead to quite different behavior of the ratios for these countries. At least, Albano de Freitas (2017) measures the average profit rate in the Euro area in his account of the crisis, but only until 2009, and based on AMECO database, while Milios and Sotiropoulos (2013) claim that the profit rates were higher in the European periphery (Greece, Spain and Ireland), but also without measures.[11] In light of these differences, it is not possible to make any comparison of this research for the Euro area.

3. Absolute dimension of profitability

3.1. The volume of surplus

The volume of surplus (constant prices) followed an evolution consistent with the economic cycles of the period: growth, decline and subsequent recovery. But depending on the methodology of analysis, there are relevant points to be made in order to fully grasp the macroeconomic dynamics.

In Figure 1, various expressions are shown. First, the gross surplus including net taxes (GOS+NT) reached its maximum in 2007, but if NT are discounted, the maximum profit is achieved one year later, in 2008. Then, if depreciation is deducted from this gross profit, the net magnitude (NOS) stopped growing in 2007. Now, the most relevant aspect is the exclusion of unproductive sectors, which reveals that the maximum for the NOS occurred 5 years earlier, in 2002.[12]

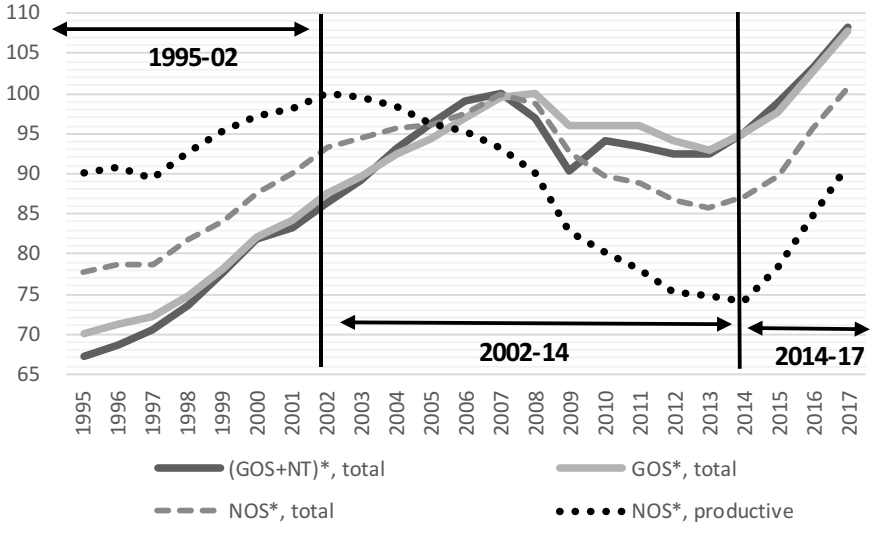

Figure 1. Measures of the volume of surplus, constant prices. Note. NOS: net operating surplus; NT: net taxes. Value 100 in the year prior to the outbreak of the crisis in which the maximum is reached, total economy and productive activities, at constant prices (*)
Source. FBBVA (2019), NSI (2019a, 2019b), OECD (2020).

Consequently, the progressive delimitation of the sphere for measuring the volume of profit shows that the underlying problem of profitability appeared well before the outbreak of the crisis in the second half of 2008. Thus, there was a real estate bubble not actually sustained by a consequent increase in the volume of surplus generated, so it manifested itself in a boom in financial and real estate gains.

In turn, the more concrete measure $(NOS{-}MxI)_p$ allows us to verify the slower rate of expansion of the productive surplus during the growth phase, 2.2% of average annual increase between 1997 and 2002, a more intense fall (−2.5%) and prolonged in time from 2002 to 2014, which in 2017 had not yet reached the level of surplus achieved 15 years

earlier. In this year, 2017, the volume of surplus was still 9% lower than the 2002 peak, and just one percentage point higher than in 1995.

3.2. Productivity of surplus

In view of the trajectory of the volume of surplus, it is pertinent to investigate their sources. The surplus (labor) productivity (q_e) reveals an extraordinary and striking fall (Figure 2), although the magnitude of the decrease depends on the calculation of both the surplus and labor input. The measure of total surplus (including net taxes) of the total economy per employee dropped almost 15% until 2009, and 21.6% per wage earner. If only the productive sphere is taken, these results reached −22.2% and −38.4%, respectively. Excluding NT, it turns out that the fall in q_e was significantly higher: −15.5% and −22.3% per employee and salaried worker in the total economy, and in the case of the productive sphere, they reached −34.7% and −40.8% respectively, an outstanding record. Even, if the mixed income is deducted, the drop until 2006 was almost −40% per L_w, but it then recovered, representing 92% of the initial level in 2017.

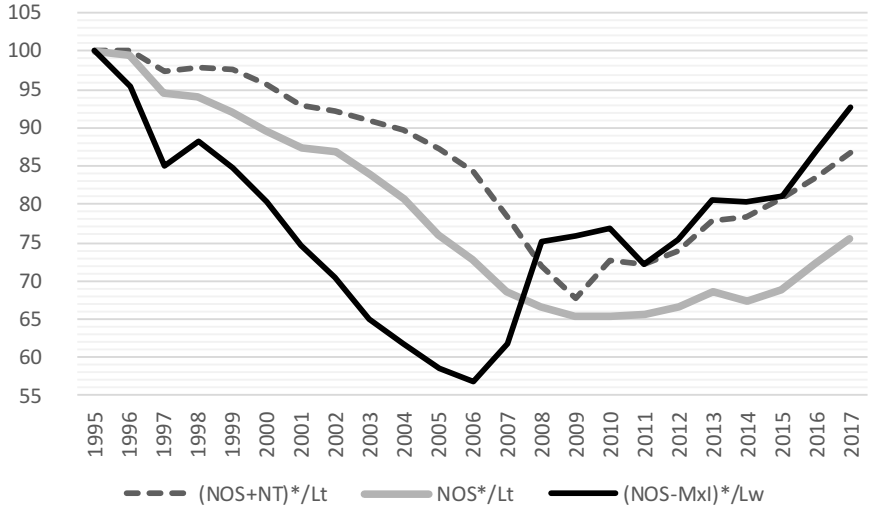

Figure 2. Measures of surplus productivity (1995 = 100). Note. NOS: net operating surplus; NT: net taxes, Lt: total employment; Lw: wage earners, MxI: mixed income; (*) constant prices
Source: FBBVA (2019), NSI (2019a, 2019b), OECD (2020).

Thus, as the measure of surplus becomes more delimited, the fall in the first part of the period reached a higher intensity. In any case, these results are certainly illustrative, firstly, because they reveal a central problem of the Spanish economy: the inability to expand the generation of surplus per unit of labor, that is, to achieve an intensive growth model during the periods of economic growth. Only a process of accumulation focused on activities of limited capital intensity —or intensive in the demand for labor— could avoid a steeper fall of the volume of surplus. Or alternatively, it was precisely this

accumulation model —largely the product of an underlying valorization problem— that exacerbated the difficulties of improving the capacity to generate surplus.

In addition, this measure had a worse evolution than labor productivity. The GDP per total employee rose during the expansion phase (1995—07) at 0.4% per year on average, and if non-productive activities were excluded, the average fell to 0.1% per year. Furthermore, taking the GVA instead of the GDP, the annual average rate became slightly negative. However, surplus productivity decreased at an even higher rate, —3% and —3.8% annually with L_t and L_w respectively.

4. Relative dimension of profitability

4.1. The general profit rate

The benchmark measure of profitability is shown in Figure 3, relating the NOS and the non- residential net capital stock of the productive sphere (K). The profile is absolutely clear: an exceptional and uninterrupted decline during both the boom and bust phases, and only from 2015 there is a rebound, but merely partial. In 1995, the profit rate was 27.6%, and reached a minimum of 11.5% in 2014, which represented a drop of 58.1%. The rate of fall in 1995—07 was —4% per year, which even worsened between 2007 and 2013, —5.7% annually (—8.2% between 2008 and 2010). These series in turn reveals the fragile foundations of the most recent economic recovery that began in 2013, as still in 2017 the profit rate was only half the level of 1995. Thus, it leads to the assumption that there have been non-structural changes associated with the distribution of the surplus that have fostered economic growth.

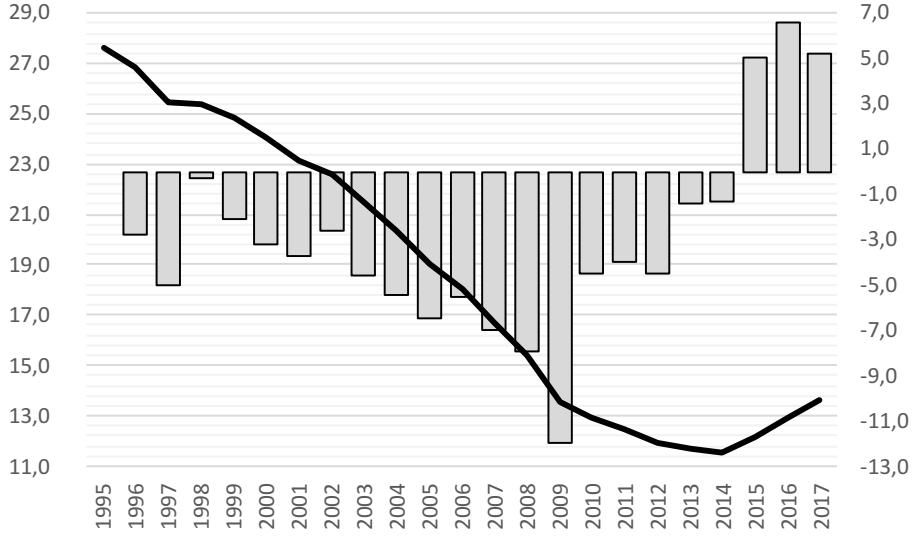

Figure 3. The general rate of profit. Series in percentage (left) and annual rates of growth (right) Source: FBBVA (2019), NSI (2019a, 2019b), OECD (2020).

However, what about other measures of the rate of profit? In Figure 4, a comparison can be observed with other series based on two parameters: i) the inclusion or not of NT, and ii) more relevant, the implications of taking either the productive sphere or the whole economy. In the first place, when calculating for the economy as a whole and incorporating NT, the profit rate experienced a drop 3—9 percentage points lower. The minimum of this ratio was reached a year earlier, in 2012, with a cumulative decline of —37.6%, compared to —43% of our benchmark 'r', and in 2017, its level was 27.7% lower than 1995 (35% in the case of the NOS of the productive sphere).

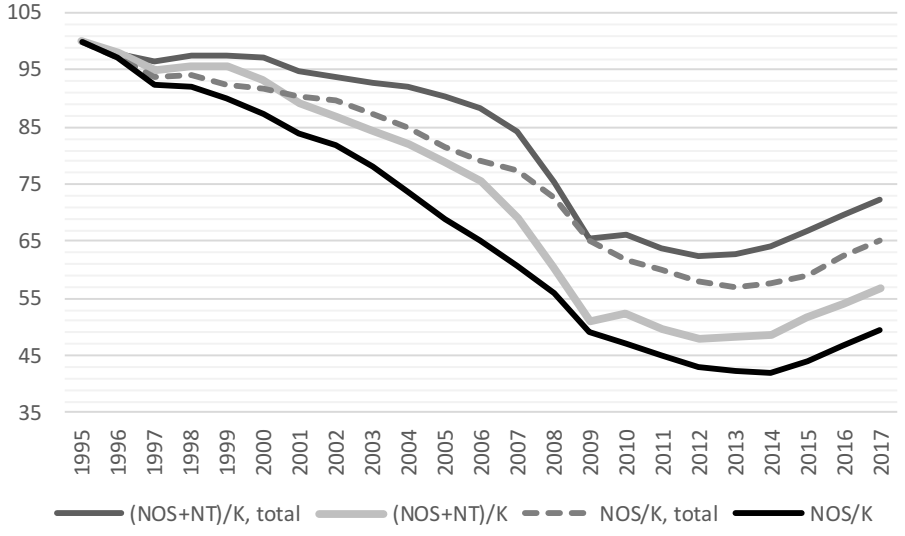

Figure 4. Comparison of profit rates for the total economy and the productive sphere (1995 = 100).
Note. Total is for the whole economy, otherwise, only the productive sphere
Source. FBBVA (2019), NSI (2019a, 2019b), OECD (2020).

Second, the exclusion of activities considered unproductive is the factor that had the greatest impact on the evolution of the profit rate. And more specifically, when FIRE activities are deducted. If we take the profit rate with the NOS of the productive sphere, it fell 7 points more, and from 2007 to 2017, the difference widened to 16—17 points. Thus, if the measure corresponding to the whole economy had dropped —43% until 2013, the profitability of the productive part fell by —59.8% until 2014. Indeed, it hardly changed in 2013—14, and in 2017 the drop was still —51%, compared to —35% of the measure for the whole economy. As a consequence, it can be inferred that precisely due to the residential assets bubble, it seems more than justified to calculate the rate of profit in the sphere of the economy without incorporating such sectors. And the result is clear: the deterioration in profitability was even deeper.

4.2. Conventional rates of return

In a complementarily way, the indicators of profitability provided the Central Balance Sheet of the Bank of Spain (BoS 2019c) are analyzed. Figure 5 shows these ratios, taking the index 100 in 2006, since after various oscillations, it is in that year when the definitive change of course did occur. If our general profit rate declined steadily over the years of the housing boom, these conventional ratios reveal that below that trend there was relative stability in terms of different dimensions of profitability. These indicators fell not so much previously, but mainly during the crisis, with a minimum reached between 2012 and 2014 depending on the measure. Compared to the 2006 level, ROI falls —46%, ORE declined by —59.5% and RE, —52.1%, a more intense fall than the profit rate previously analyzed in that period of time, which was —30%.

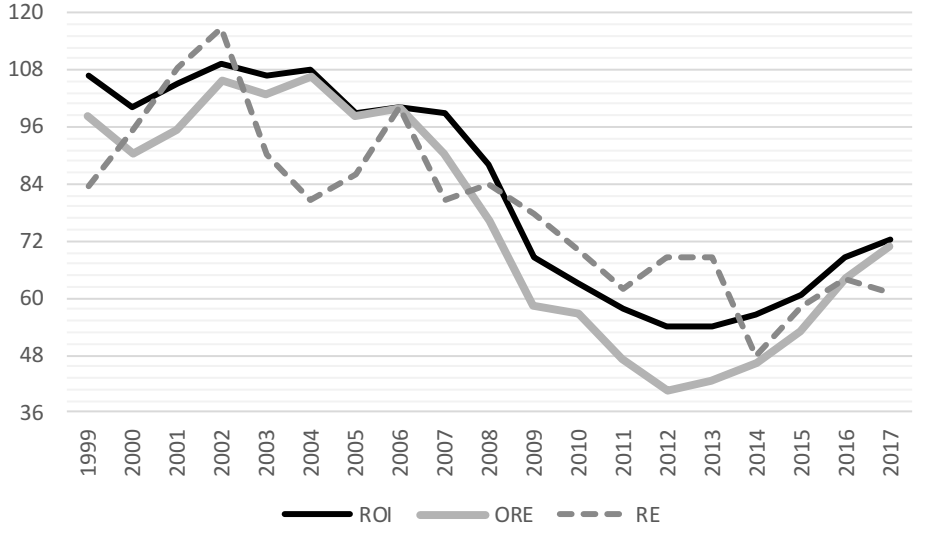

Figure 5. Conventional rates of return (2006 = 100). Note. Return on investment (ROI), ordinary return on equity (ORE), return on equity (RE)
Source: BoS (2019c).

Likewise, the subsequent recovery was merely partial, since these measures were still far from the profitability levels even in 2006: 28—29% lower in the cases of ROI and ORE, and up to 39% lower in terms of the RE. Thus, the inclusion of these indices does not contradict, but is rather consistent with the hypothesis of an underlying problem regarding business profitability during this period. Yet, unlike the general rate, these measures cannot explain the causes of the crisis, but only its depth and appearance, though it is interesting to notice that the change in trend already took place in 2006, 2 years before the crisis.

On the other hand, the average indices of profitability can hide deep geographic, sectoral and corporate size differences. In the latter case, Table 1 shows the progressive stratification of conventional profitability indices. Since 2005, they have been related to the size of the company, being higher as greater is the size (2002 for the RE), since in previous years the profitability of small and medium—sized companies was in absolute

Table 1. Conventional indicators of profitability by company size (1999–2017).

	ROI			ORE			RE		
Years	L	M	S	L	M	S	L	M	S
1999	7.4	10.9	11.4	9.6	14.6	12.3	12.8	17.6	14.3
2000	7.0	9.6	10.8	9.0	12.5	11.3	12.9	16.6	13.3
2001	7.5	10.2	10.4	9.8	12.9	10.5	14.0	16.7	12.8
2002	8.0	9.9	9.3	11.4	12.7	9.5	15.4	15.1	10.8
2003	7.9	9.7	8.3	11.2	12.9	8.8	14.8	14.2	9.2
2004	8.2	9.5	7.6	12.0	12.9	8.4	15.0	13.5	8.1
2005	8.5	8.1	4.8	12.7	10.4	5.5	15.8	12.8	7.6
2006	8.6	7.9	4.9	13.1	9.8	5.5	16.7	12.8	7.6
2007	8.5	7.8	4.7	12.2	9.1	4.8	16.3	13.2	7.8
2008	7.6	5.4	3.8	10.1	5.1	2.7	14.7	9.3	5.7
2009	6.4	3.9	2.1	8.8	3.5	0.7	12.0	6.6	3.3
2010	5.9	3.6	1.6	8.4	3.5	0.6	11.5	6.7	2.7
2011	5.5	3.6	1.3	7.2	3.2	0.1	11.0	6.7	2.2
2012	5.1	3.6	1.0	6.2	3.1	− 0.3	9.9	6.8	1.7
2013	4.9	4.4	1.4	6.0	4.6	0.5	9.6	7.5	2.1
2014	5.0	5.2	2.0	6.3	6.0	1.4	9.4	8.5	2.8
2015	5.0	6.4	2.7	6.6	8.0	2.6	9.6	9.9	4.0
2016	5.7	7.1	3.2	7.9	9.1	3.4	10.2	10.3	4.3
2017	5.9	7.7	3.7	8.4	9.8	4.2	10.5	10.1	4.6

Return on investment (ROI), ordinary return on equity (ORE) and return on equity (RE) for small (S), medium (M) and large (L) companies.
Source: BoS (2020).

terms higher than the largest ones. In addition, the drop in profitability was generally lower for these large companies. If we take the period 2006—12, the fall in ROI, ORE and RE for large ones reached 41—53%. Being high, it was less than the drop experienced by these indices in medium sized companies, which ranged from —47 to —68%. Still, smaller companies suffered an outstanding —80% decrease in the ROI and RE, which in the case of ORE ended up completely disappearing, as in fact happened with the spread ratio.

As a consequence, the stratification of profitability levels in favor of large companies occurred in the final stage of the real estate boom, intensified with the crisis but was again reduced during the most recent economic recovery. In turn, it must be considered that the cost of financing contributes to this hierarchy in profitability levels, expanding it significantly. Hence, the underlying profitability problem in the Spanish economy hided a large heterogeneity by size, in a country with a highly atomized business structure.

5. Changes in the distribution of surplus

Another type of distribution of surplus takes place within *capital*. One of the forces that offset the fall in the general rate of return was the extraordinary decrease in the cost of financing, as shown in Figure 6. Long term interest rates fell from 11.2% in 1995 to remain below 5% in 1998—99, and since 2002 these rate were even lower, less than 4%. After oscillating around 4—5% during the recession, since 2015 they are below 2%. Short term rates, for their part, fell from 9.3% in 1995 to just over 2% in 2003—05. Then, these rates declined again since 2008, and they became negative after 2015. As a result, long term rates dropped 50—60% between 1998 and 2002, more than 60% between 2003 and 2010, and since 2014 the decrease has even exceeded 80%. Meanwhile, short term rates fell about 10 percentage points more between 2002 and 2005, and after the rebound in 2006—08, they were below 10% in relation to the initial level until 2014, and to negative levels in subsequent years.

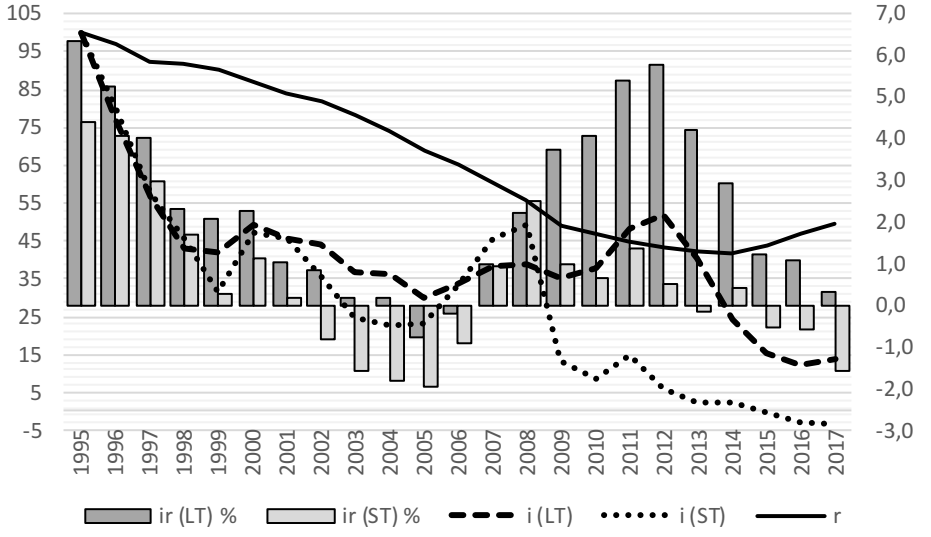

Figure 6. Comparative dynamics of nominal interest rates and the rate of profit (1995 = 100, left), and real interest rates (%, right). Note. Nominal short term (ST) and long term (LT) interest rates (i), and in real terms (ir)
Source. FBBVA (2019), NSI (2019a, 2019b), OECD (2020).

Therefore, there are several issues to consider. First, the decline in interest rates, being relatively higher than the fall in the general rate of profit, contributed to generating a positive spread in net profitability (r — i) as to drive investment. That is, the greater decrease in the lower limit (i) offset the fall in the upper ceiling (r), which can be approximated by means of the difference between profitability and financial cost (Figure 7). After increasing by 20% between 1999 and 2004, and more than a third since 2000, this index reached its maximum in 2004, two years after the maximum NOS*, and four years before the outbreak of the crisis. Its fall occurred mainly between 2007 and 2009 —above 20% each year— and then in 2011—12, more than a half. The minimum was reached in 2012, being in 2012—13.more than 90% lower than the level of 2004.

Second, the functionality of interest rates is also revealed when they increase. Short and long term rates increased in 2005—08, and the latter also in 2010—12, which meant a surge in the financial burden on companies, as shown in Figure 7. This burden was between 12 and 17% until 2004, over 20% after 2008 and decreasing since 2012. The rise in interest rates in the final phase of the growth cycle indeed made the fall in net profitability to appear superficially as a financial squeeze (i → r), although the actual direction of causality is the opposite (r → i).

6. Profitability measures in Spain and the Eurozone

In this last section, a comparison is made using various measures of capital profitability in Spain with a representative group of countries of the center and periphery of the Eurozone —considering the availability of data for the area— for the period 2001—17, as well as some determining factors. Now, the profit rate is shown first, then the volume of surplus and finally the complementary variables.[13]

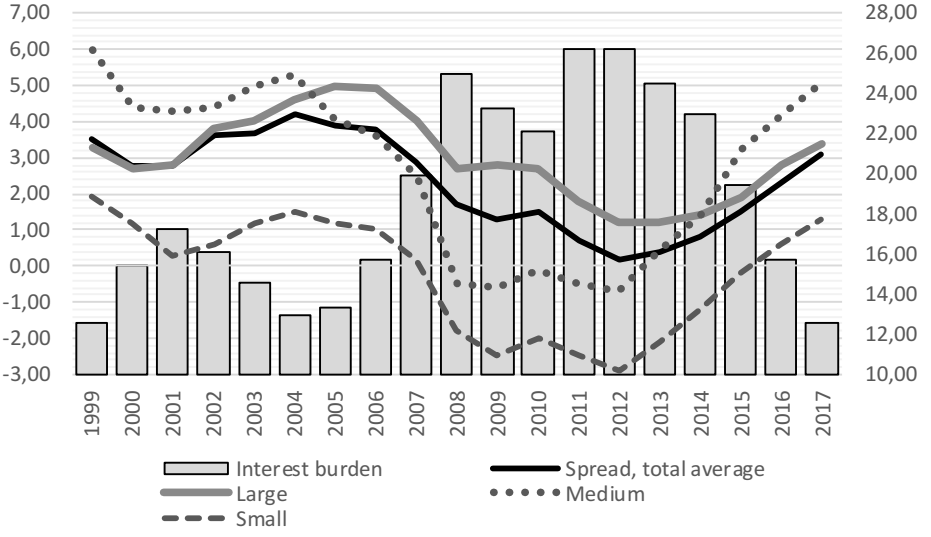

Figure 7. Spread of the return on investment and the debt cost (total and by company size, left) and the interest burden (%, right).
Source. BoS (2020)

It can be seen in Figure 8 that both the absolute level and the evolution of the general rate of profit for the whole economy in Spain correspond to the average of the periphery, and Italy, lower than the ratio in Greece, but higher than France and Portugal, and the core economies. After the Great Recession, absolute differences narrowed between the center and the peripheral countries.

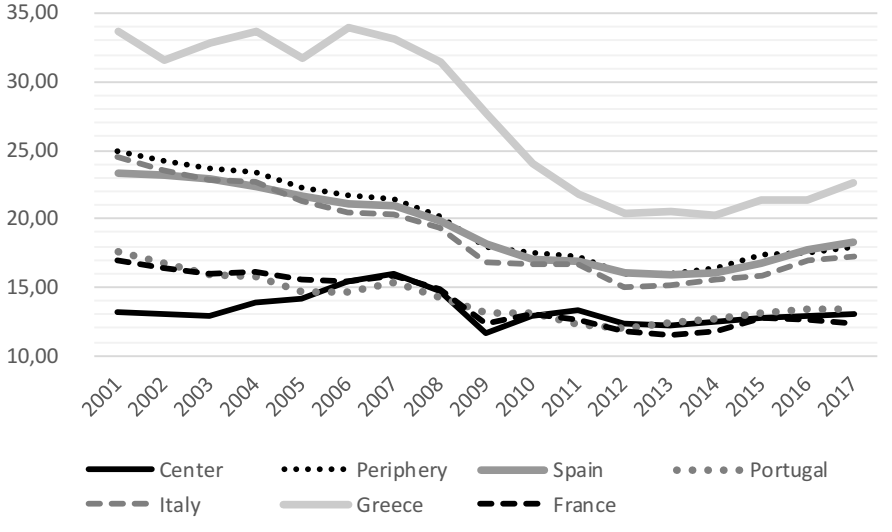

Figure 8. Profit rate for the whole economy: center and periphery of the Euro area, and national economies (%).
Source. FBBVA (2019), NSI (2019a, 2019b), OECD (2020).

If we compare the evolution of profit rates of the total economy and what has been called the productive sphere (Figure 9, above), there are two aspects to highlight. First, there is a clear asymmetry between the center and the periphery. While the profit rate in the former has a procyclical character —certainly softened during the last expansion—, in the latter the downward trend is evident. Second, the measure of profitability of the productive sphere deepens the divergence without altering the general trend. Mainly during periods of growth, this ratio rises relatively more in the center, but also decreases to a greater extent in the periphery.

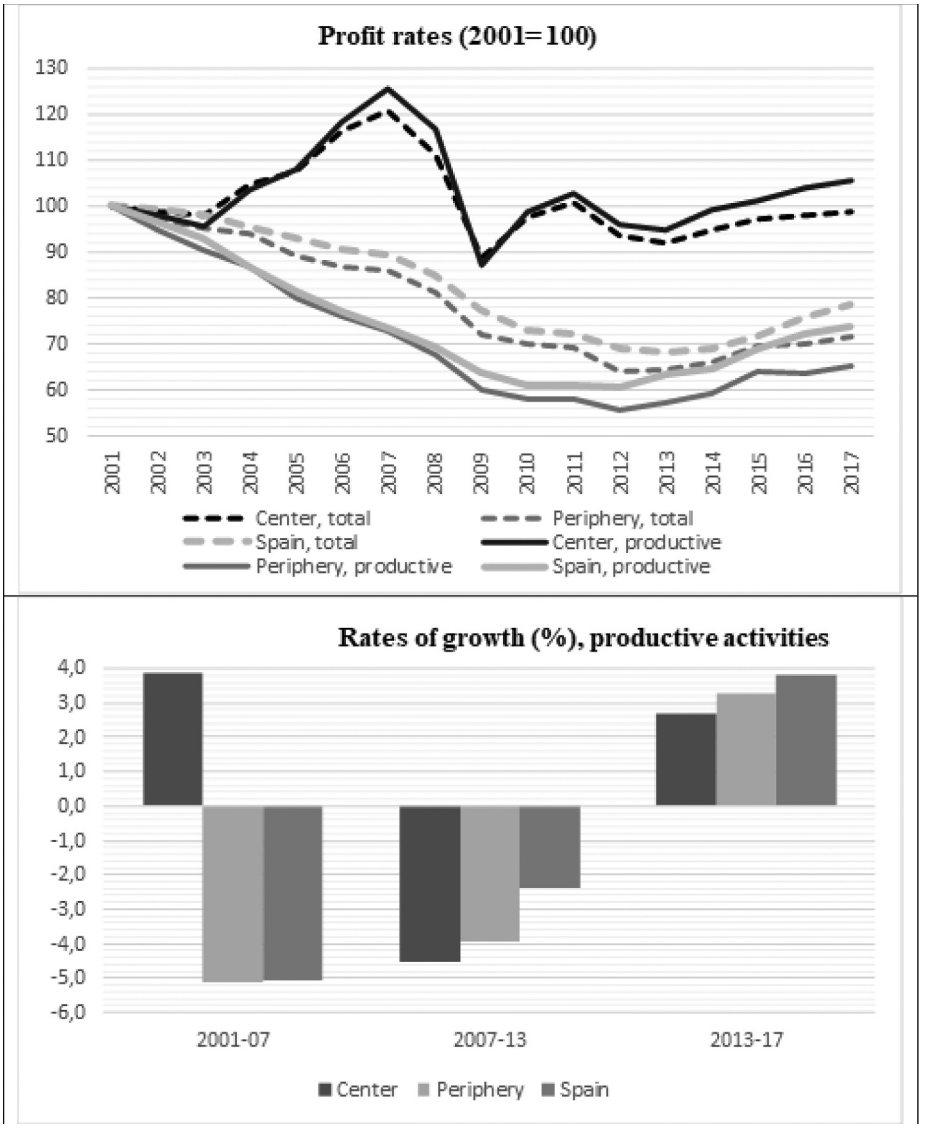

Figure 9. Profit rates: comparative evolution (total and productive activities) and growth rates of the productive area.
Source. FBBVA (2019), NSI (2019a, 2019b), OECD (2020).

This asymmetry is largely associated with the different evolution of profitability after the introduction of the single currency, or fixed exchange rates. If profitability (productive sphere) in the center grew by 25% in 2001—07, it fell by 27% in the periphery, with just 0.2 points of difference between the cumulative decline of the peripheral economies and Spain. In other words, while in those economies it grew at a rate of 3.8% per year, in the last ones it decreased at —5% (Figure 9, below).

Later, the evolution in the peripheral area (and Spain) is relatively better, but it must be considered that the greatest fall in the core of the EA actually occured between 2007 and 2009, when plummeted by 30%. Since 2009, the stability of the profit rate in this area has been higher, and indeed it increased by 21% in 2009—17, just 9% in the periphery and 15% in Spain. The measures of profitability in Spain are therefore largely aligned with the periphery, although with a smaller drop, and also the gap increased from 2012, that is, 2—4 points before and 8—9 in 2016—17. In 2012, the drop in the rate was 5 points higher in these peripheral economies, as the accumulated decrease almost reached 45%, and close to 40% in Spain.

Regarding the volume of surplus, an asymmetry between the center and the periphery is also verified, as well as the polarizing incidence of the productive sphere (Figure 10). In this case, the generation of surplus in Spain is relatively favorable in the measure for the whole economy, since it grew by 53% until 2008, and despite the subsequent drop, the total surplus in 2017 was 60% higher than the level of 2001. This result contrasts with the dynamics of the surplus in both central (15% higher in 2017) and peripheral economies (0.7% lower). Nevertheless, in Spain the gap with the productive sphere is greater, and in this case the surplus remained in an intermediate position between those groups of countries. In the core economies it grew by 31% until 2007, compared to a slight increase of less than 2% in Spain and a decrease of 3.5% in the periphery. With the subsequent decline and then recovery, the surplus of the core EA in 2017 was 20% higher than 2001 —but it had not recovered the levels of 2006—08—, while in Spain the increase had not even reached 5%, although this result contrasts with the drop of 8.7% in peripheral economies.

Comparing the volume of surplus in Spain with neighboring countries (France, Portugal, Italy and Greece), the balance turns out to be not so negative. Thus, if there is a problem of relative stagnation in Spain, in those economies there is a clear regression. And this, despite the increase in the volume of surplus in Greece in the years prior to the outbreak of the crisis, when it grew by 23.8% until 2006. Conversely, the subsequent drop is much deeper than in Spain, since in six years (2012) it suffered a loss amounting 48% of the level reached in 2006, being more than 30% lower in 2012—15 compared to 2001.

Even, the cases of both France and Italy are still more serious than Spain, since the surplus decreased almost continuously since 2001, with minimums in both cases in 2013 (32% and 34% lower, respectively). In the last boom cycle (2013—17) there was a recovery in these three countries, but with lower growth rates than the fall of the previous phase of the crisis. Consequently, the volume of surplus in 2017 for France was still 20% lower than in 2001, and around a quarter in Italy and Greece. So, despite all the problems of the Spanish economy, the recovery reached a rise of 5.4% per year in 2013—17, higher than the 3% drop during the recession. As a result, in 2017 for the first time the volume of surplus exceeded the previous level of 2001 by 4.7 points.

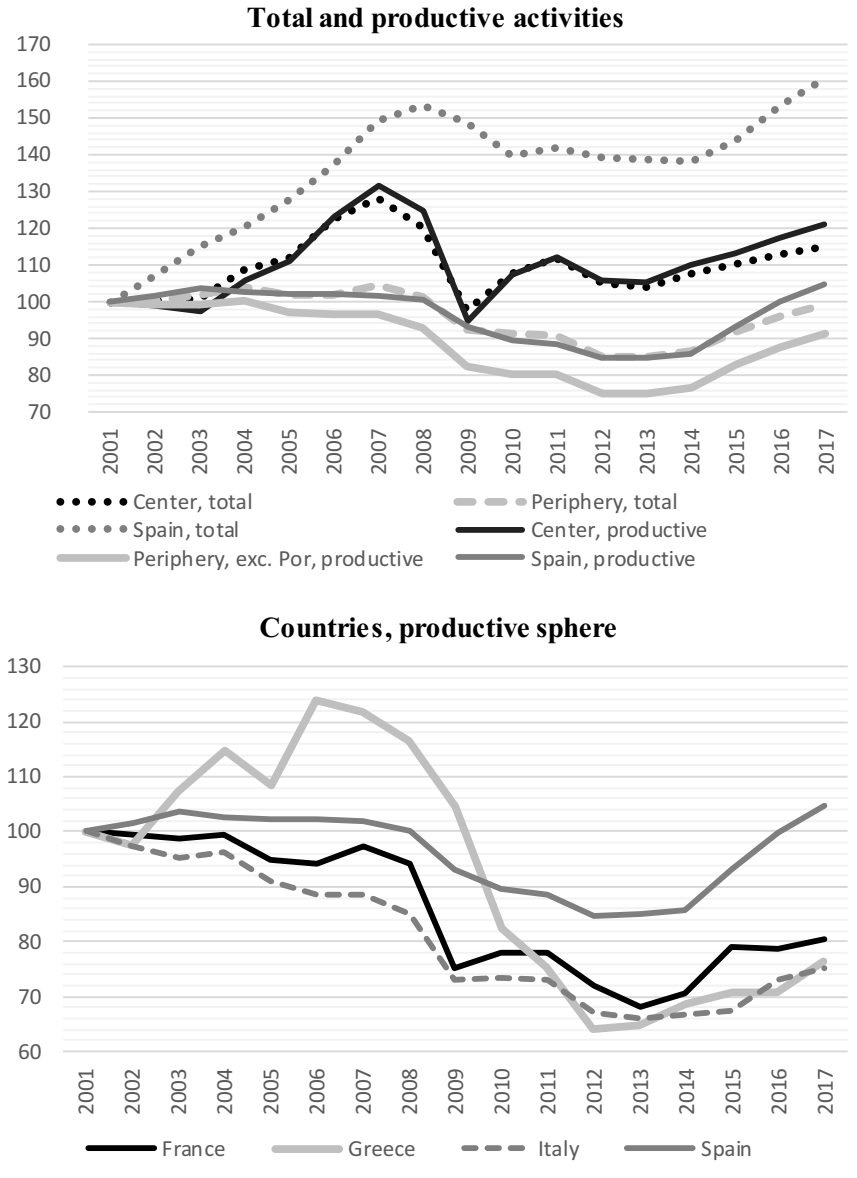

Figure 10. The volume of surplus, constant prices (2001 = 100).
Source. FBBVA (2019), NSI (2019a, 2019b), OECD (2020).

Behind this general dynamics of the return on capital, there are a series of factors that are summarized in Figure 11. The productivity of surplus showed a negative dynamic both in the center and in the periphery, yet the contrast is clear among them. The most advanced economies had an 'intensive' type of growth until the Great Recession, based on a surplus productivity increase of 28% until 2007, while employment barely grew at 0.4% annually. However, the peripheral economies suffered from an 'extensive' growth in those years, with almost 20% of accumulated decline of 'q_e', and an increase in employment of almost 17%. Spain followed this

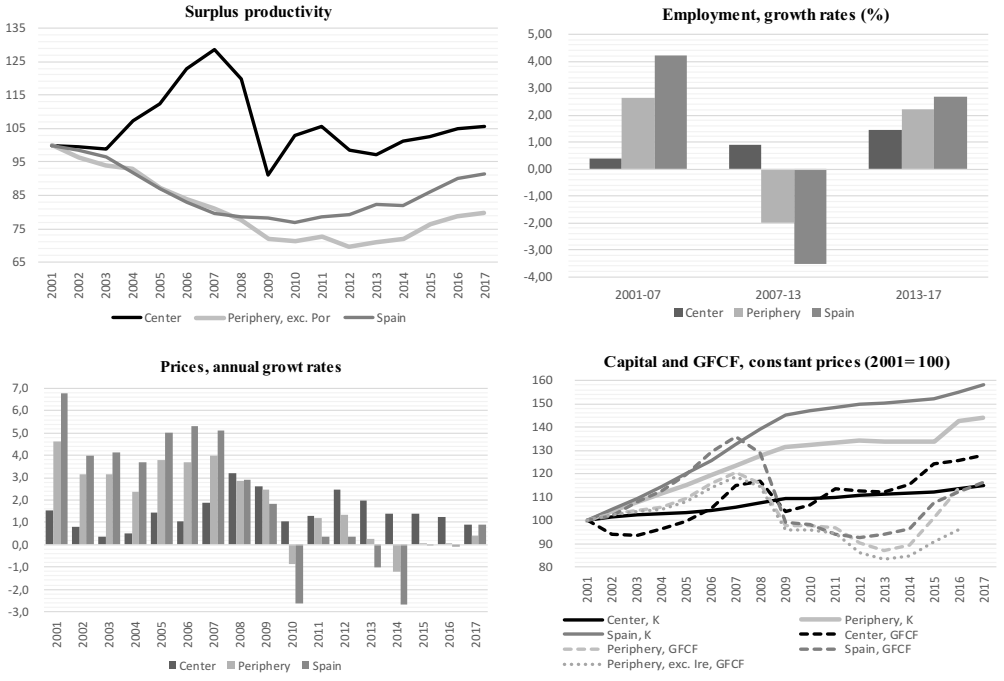

Figure 11. Determining factors of the profit rate. Note. Variables for the productive sphere. No GFCF data in 2017 for the periphery because of Italy
Source. FBBVA (2019), NSI (2019a, 2019b), OECD (2020).

peripheral dynamic, near two points more than the drop in surplus productivity, although there is a difference in terms of employment: the real estate bubble in Spain is more labor-intensive, as employment did rise by 28% until 2007.

Paradoxically, the behavior of surplus productivity was different in Spain with respect to the periphery during the recession, since the sectoral restructuring led to an increase of 0.5% per year until 2013, while it fell —2.2% in the periphery. However, to a large extent this is related to the greater elasticity of employment in Spain, where it did grow during the boom phases relatively more —rising 4.2% per year compared to 2.6% in the periphery, although the gap narrowed in the last phase, less than 0.5 points of difference—, but employment was also destroyed during the crisis at a rate that is almost the double, —3.5% compared to —1.9% per year.[14] Hence, it is possible to partially explain the evolution of surplus productivity in Spain from both sectoral restructuring and employment, not arising out of a real productive development.

In this sense, reference must be made to gross investment (GFCF) and its materialization in the capital stock. Globally, the volume of GFCF (GFCF*) in the core economies has been more dynamic. Although at the beginning of the century it suffered a fall, between 2003 and 2007 the GFCF grew at an average of 5.3% annually, and 3.6% in the peripheral ones. Subsequently, those economies did not suffer the extraordinary drop during the recession (—5.2% in the periphery), and

only decreased slightly (—0.4%), although since 2013 the recovery has certainly been more intense in the latter ones. It should however be noted that if Ireland is excluded, the GFCF* in the periphery would have been 4.2% lower in 2007 compared to 2001, given the outstanding dynamism of this economy in recent years. In Spain, investment followed the fluctuations of the peripheral area and even accentuated during the real estate bubble, when it reached an annual increase of 5.2% (2001—07).

The aspect to highlight is that the flow of GFCF materialized in a capital stock with an even more divergent path. On the one hand, the volume of capital in the central economies barely increased by 5.6% until 2007, and by 14% until 2017. This contrasts with the capital stock of the periphery, which grew almost a quarter (23.5% until 2007) and finally a 44% accumulated by 2017. This is important, since one of the ways in which it is shown the greater technological development of an economy is the capacity to generate surplus while managing to keep the cost of capital assets. In Spain, on the contrary, the volume of capital rose 9 points more than the peripheral economies until 2007, and 14 more in 2017.

As for the particular factors that affect profitability in Spain, low interest rates in real terms contributed to a large increase in private indebtedness. The debt of non-financial corporation to GOS ratio, being relatively high as it went from 4 to 6 times in the 2000s, does not differ much from other ratios, such as Belgium, France, or Netherlands. Yet, its rate of increase stood out in Spain. Between 2001 and 2007 it grew 58%, the largest increase except for Luxembourg, and higher than Italy (43%) or Greece and Finland (23—20%, respectively).[15]

7. Conclusion

The main conclusion of this paper is that the Spanish economy suffered an underlying capital valorization problem. In order to fully grasp this complex issue, it has been found that the exclusion of the sectors considered 'unproductive' allows us to reveal a greatest deterioration in profitability, as well as to realize that the volume of surplus begins to fall in 2002, six years before the outbreak of the crisis. The volume of NOS* fell by a quarter between 2002 and 2012—14, while the profit rate declined steadily during the years of both growth and crisis, almost 60% until 2014. This approach shows in turn the unstable base of the recent economic recovery of 2013—17, since the volume of the net profit had not reached by 2017 the level of 2002 —it was almost 10% lower—, and the rate of profit, although it increased in recent years, it represents half of the 1995 level.

These levels of profitability have contributed to, or have been supported by: i) an 'extensive' accumulation model in which the productivity of surplus decreased by 28—35% until 2011, and in 2017 it was 14—25 percentage points lower than 1995. This is the counterpart of an inflation of construction assets, largely supported by a relatively higher fall in interest rates, which generated a rise in the net rate of profit (r — i) that, in any case, plummeted since 2006.

Yet, the comparative study of profitability in Spain with core and peripheral economies of the Eurozone has revealed, first of all, the asymmetry between the levels and evolution of the profit rate and the volume of surplus between those areas. Secondly, it has been demonstrated that the profitability problems previously exposed for Spain are

indeed common to Spain's place in the monetary union. The decrease in the profit rate is similar to the average for the periphery, even 5 percentage points less until the minimum of 2012, and with a 'still partial' recovery in profitability in 2013—17 that exceeded this group of economies. As for the volume of surplus, the balance of the periphery (and for countries like Italy or France) was even worse. Then, the process of surplus generation in Spain to a large extent corresponds to its peripheral insertion. As expected, the particular aspect of Spain lies in the real estate boom, together with a process of accumulation materialized in a disproportionate growth of the capital stock. Consequently, indebtedness turned out to be of key relevance, since the non-financial corporations debt to GOS ratio rose by around 60%, much more than in other peripheral economies.

With these results, how is it possible that profitability has not been thoroughly analyzed in Spain, and without a comparison with other Eurozone economies? Can we ignore the evolution of this heterogeneous set of indicators to explain the reasons for the housing bubble, the impact of the crisis and the basis for the subsequent recovery? This paper does not provide all these answers, but at least tries to draw attention to the centrality of capital valorization in Spain, and the Euro area.

Notes

1. We assume the impossibility of an exact measurement of profitability due to difficulties in availability and statistical reliability —a problem that is not exclusive to this topic, on the other hand. For this reason, a heterogeneous set of indicators is presented, which strengthen the conclusions.
2. This debate is not addressed in this article, for which we refer to Mateo (2019), where can be found a thorough classification of subjectivist accounts of the crisis (the above-mentioned ones) in opposition to materialist conceptions of the crisis, leading to a concept of crisis as a possibility or a necessity of the accumulation of capital.
3. The terms *center* and *periphery* are taken from the (Latin American) structuralist approach to make reference to the internal structure of the Eurozone, where the center (periphery) refers to the countries with greater (less) productive development. Although it is true that the European periphery is a developed area, this comparison is common in the literature due to its relative backwardness and type of external insertion. See, among others, Milios and Sotiropoulos (2013), Gambarotto and Solari (2015) or Weissenbacher (2020). Certainly, there may be controversies with this classification. France occupies an intermediate place, but for the purposes of the paper, it rather has a semi-peripheral position, while Ireland, despite having many peculiarities, has been incorporated into the periphery.
4. Although the crisis erupts in the second half of 2008, 2007 may be used as a reference due to the evolution of macroeconomic variables.
5. For a deep and more extensive explanation, see XXX (2019).
6. It is however necessary to highlight some nuances: some of these incomes can actually be considered wages, but it also happens that certain executive salary perceptions would belong to the surplus.
7. In fact, it is also not possible to deduct the share of the capital stock corresponding to these small producers.
8. An opposite view would imply that finance would regulate the dynamics of accumulation, in turn determined by a supply and demand for money independent of structural aspects; and very important, that interest is not a part of the surplus. For a more detailed account, see Mateo (2018, 2020), as well as Evans (2004) or Shaikh (2016).

9. For example, it does not appear in Nölke's (2016) deep review regarding the debates on the causes of the Eurozone crisis, as occurs in turn in Stockhammer, Constantine and Reissl's (2020) broader comparative analysis of heterodox and orthodox approaches.
10. Mateo and Montanyà (2018) show some measures of both surplus and profit rates, but in this paper the results have been completed, updated and extended in the case of the comparison with the Eurozone.
11. More surprisingly, though Carchedi (2012) makes reference to a falling profitability in the Euro area in his Marxist—based analysis, no data is provided in his account.
12. In a complementary way, if the productive GOS is taken and the agricultural activities are excluded —given their particularities—, it turns out that the maximum is reached one year before, in 2006.
13. See Appendix for methodological aspects.
14. Although the core economies do not have the same capacity to create employment during the years of expansion, their higher stability makes that, in global terms, the balance turns out to be quite similar: these countries have increased employment by 14.4% between 2001 and 2017, 13.2% the periphery, and 14.8% Spain.
15. If the period 1996—07 is taken instead, the growth rate of this ratio is still much higher for Spain (134%) than for other peripheral countries, such as Greece, Italy or Portugal (79%, 71% and 68% respectively).

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Appendix

Capital profitability measures for the Eurozone and Spain (section 6) are based on the OECD database (National accounts. Detailed tables and simplified accounts. 6A. Value added and its components by activity, ISIC rev4), except the capital stock for Spain, which is taken from the FBBVA (2019) because lack of data in the former. Therefore, there are some differences in the NOS of sections 3—5 (GOS from the NSI, and depreciation comes from the accounts by institutional sectors (2019b) and OECD (2020), and the results in section 6 (comparison with the EA, from the OECD database). The NOS from the OECD series shows higher growth, which explains the lower drop in the rate of profit in Spain in the comparison with the Eurozone, though the trend is similar. The reference period in the last section is 2001—07 in order to include Portugal, since there is only data on its capital stock since 2000.