PERIPHERAL EUROPE BEYOND THE TROIKA. ASSESSING THE 'SUCCESS' OF STRUCTURAL REFORMS IN DRIVING THE SPANISH RECOVERY

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ABSTRACT

Since 2014 the Spanish economy has recovered positive GDP growth, and the country has been growing well above the Eurozone average. This recovery has sparked an academic and political debate concerning the role that structural reforms, prescribed by the 'Troika', have played in peripheral Europe. For certain scholars and institutions, these structural reforms have allowed the market, through greater wage flexibility, to make the necessary adjustments to restore economic growth, resulting in a 'healthy' economic recovery. But, to what extent is this mainstream narrative solidly backed up by the empirical evidence? Can Spain be held up as an international example of the success of these reforms?

The aim of this paper is to shed light on this debate. We consider that labor market reforms and wage devaluation policy are not the drivers of economic recovery. Instead, we offer an alternative explanation for recovery based on the theory of demand-led growth.

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Abstract

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For certain scholars and institutions, these structural reforms have allowed the market, through greater wage flexibility, to make the necessary adjustments to restore economic growth, resulting in a 'healthy' economic recovery. But, to what extent is this mainstream narrative solidly backed up by the empirical evidence? Can Spain be held up as an international example of the success of these reforms?

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1. Introduction

Over the last decade, Spain's macroeconomic development, like other peripheral Eurozone economies, has gone through two different periods.

Between 2009 and 2013, Spain suffered a double-dip recession, which had dramatic consequences on GDP and employment. The origins of the first recession (2009) are linked to the global financial crisis and the imbalances accumulated by the Spanish economy during the expansionary period of 1995-2008 (private indebtedness, housing bubble, financial fragility and current account deficit). The causes of the second recession (2011-2013) can be attributed to the Eurozone sovereign debt crisis and the implementation of exceptionally restrictive macroeconomic policies (fiscal austerity and internal devaluation). During those years, Spain was one of the Eurozone countries most affected by the economic crisis, especially in terms of job losses.

A second period, however, commenced in late 2013, when the Spanish economy recovered positive GDP growth. Since then, Spain has been growing well above the Eurozone average (3.3% compared to 2.0% in 2015-2017).

This recovery has sparked an academic and political debate concerning the role that structural reforms have played in peripheral Europe in recent years. In this debate, European authorities, the IMF and the OECD have hailed the Spanish case as an example of the 'success' of austerity policies and structural reforms (European Commission, 2018; IMF, 2017; OECD, 2017).

As is well known, the policies and reforms adopted in peripheral Europe in response to the sovereign debt crisis were led and closely monitored by the so-called 'Troika' (Armingeon *et al*., 2016). The political economy of the sovereign debt crisis opened up the opportunity for a fresh agenda of reforms: severe fiscal cutbacks, banking sector restructuration, public administration restructuring and pension system reform. In Spain, however, the most important structural reforms were the labor market reforms of 2010 and, especially, 2012[1].

Mainstream approaches attribute the accumulation of the current account and financial imbalances in Eurozone peripheral countries before the crisis to a rapid increase in unit labor costs compared to EU core countries, resulting in a loss of competitiveness. In order to correct these macroeconomic imbalances, EU and IMF authorities insisted on the need to implement strict fiscal austerity packages as well as an internal devaluation policy through labor market reforms.

For certain scholars and institutions, this policy agenda has resulted in a 'healthy' economic recovery (see Bank of Spain 2016, 2017 and 2018, and also Doménech *et al.*, 2016). According to these analyses, supply-side structural reforms have allowed the market, through greater price and wage flexibility, to make the necessary adjustments to restore economic growth. In particular, this mainstream narrative considers that labor market reforms have enabled three positive recovery paths: 1) an improvement in price competitiveness and exports, thanks to a reduction in relative unit labor costs; 2) an increase in corporate profitability and, therefore, a growth in investment; and 3) a higher rate of job creation as a result of labor market flexibility[2].

Although many studies (Stiglitz, 2012; Goda *et al*. 2017; OECD 2011 and 2015) have documented the significant negative effects of these structural reforms on peripheral Eurozone countries– widening inequalities, deflationary effects and low-paid jobs–, mainstream narrative interprets these results as the "collateral effects" of a macroeconomic policy that was needed to re-establish economic growth in the medium term.

Yet, to what extent is this mainstream narrative sound and solidly backed up by the empirical evidence? Are labor market reforms really the main determinant of Spain's recovery? Can Spain, therefore, be held up as an international example of the success of these reforms?

In this paper we try to shed light on this debate. Our starting point differs from that of the mainstream narrative. We consider that labor market reforms and wage flexibility do not explain export growth, private investment and job creation, and that wage devaluation policy is therefore not the driver of economic recovery in Spain. Instead, we offer an alternative explanation for recovery, thus contrasting the two different narratives to explain the same phenomenon.

In our view, the drivers of recovery do not stem from recent supply-side reforms but must rather be sought in the demand-side of the economy, as the theory of demand-led growth emphasizes (Setterfield, 2002; Lavoie, 2015). Our hypotheses are that: 1) exports are not explained by unit labor cost reductions, but by external demand; 2) investment is not explained through wage reductions either, but as a consequence of the 'accelerator effect' traditionally considered by Keynesian literature; and, 3) job creation is not due to greater labor flexibility, but to the evolution of aggregate demand, since demand for labor is a derived demand. These hypotheses lead us to propose an alternative narrative for recovery.

This paper is organized in five sections. After this introduction, the second section presents some key stylized facts regarding the economic recovery in Spain. The third section sets out the two mentioned explanations of the transition from crisis to recovery, contrasting mainstream narrative with our alternative interpretation. The differences between the two explanations can be summed up in the three hypotheses already presented. In the fourth section, we empirically test these hypotheses, estimating an export function, an investment function and an Okun curve for the Spanish economy (although relating GDP growth with employment growth rather than the unemployment rate). Finally, the fifth section summarizes our conclusions.

2. The recovery of the Spanish economy after the crisis: some stylized facts

Table 1. Main components of aggregate demand (2000-2017)

	Year-to-year growth rate, %					Contributions to GDP growth, %				
	2000-2008	2009-2013	2009	2011-2013	2014-2017	2000-2008	2009-2013	2009	2011-2013	2014-2017
Gross domestic product	3.5	-1.8	-3.6	-1.9	2.8	3.5	-1.8	-3.6	-1.9	2.8
Household consumption	3.1	-2.5	-3.7	-3.0	2.4	1.8	-1.4	-2.1	-1.7	1.3
- Non-durable goods	3.6	-4.4	-6.4	-4.5	2.9	0.8	-0.9	-1.4	-0.9	0.6
- Durables and semi-durables	2.4	-4.6	-5.8	-5.9	4.2	0.3	-0.6	-0.7	-0.7	0.5
- Fixed and quasi-fixed expenditure	3.1	0.4	0.4	-0.3	1.3	0.7	0.1	0.1	-0.1	0.3
General government consumption	5.1	-0.3	4.1	-2.4	1.0	0.9	-0.1	0.8	-0.5	0.2
Gross capital formation	4.8	-8.5	-17.2	-7.1	5.7	1.3	-2.1	-5.0	-1.6	1.2
- Households	6.7	-20.3	-21.0	-24.0	7.6	0.5	-1.1	-1.7	-1.2	0.2
- Government	5.3	-12.0	10.5	-20.8	0.9	0.2	-0.5	0.5	-0.8	0.0
- Corporations	4.0	-2.9	-22.9	2.7	6.3	0.6	-0.5	-3.7	0.4	1.0
Exports of goods and services	4.1	2.2	-11.0	4.3	4.6	1.0	0.6	-2.7	1.1	1.4
- Exports of goods	4.6	3.3	-11.5	5.2	3.9	0.7	0.6	-1.9	0.9	0.8
- Exports of services	3.3	-0.1	-10.0	2.1	6.1	0.3	0.0	-0.8	0.2	0.6
- Exports of non-tourist services	6.0	-0.3	-10.8	1.6	5.9	0.3	0.0	-0.5	0.1	0.3
- Exports of tourist services	0.3	0.3	-8.9	2.8	6.5	0.0	0.0	-0.3	0.1	0.2
Imports of goods and services	5.6	-3.8	-18.3	-2.6	5.0	-1.5	1.2	5.4	0.7	-1.4
- Imports of goods	5.7	-3.3	-19.4	-2.1	4.7	-1.2	0.8	4.7	0.5	-1.1
- Imports of services	5.6	-6.1	-13.0	-4.8	6.2	-0.3	0.3	0.7	0.2	-0.3
- Imports of non-tourist services	4.9	-6.5	-13.2	-5.1	4.9	-0.2	0.3	0.6	0.2	-0.2
- Imports of tourist services	8.9	-4.3	-12.3	-3.3	10.5	-0.1	0.0	0.1	0.0	-0.1

		-0.5	1.7	2.7	1.8	0.0
External demand						
Domestic demand		4.0	-3.5	-6.3	-3.7	2.7

Source: Authors' own from Annual Spanish National Accounts (INE)

In this section, we present some stylized facts related to the development of economic growth in Spain. We focus particularly on the period of recovery. We do not aim to provide an exhaustive description of this period, but merely to highlight those elements that must be taken into account in any –whether mainstream or alternative– explanation of the recovery. Table 1 presents the growth rates of aggregate demand components and their contribution to GDP growth.

Based on the information in Table 1, as well as other empirical evidence that will be presented, we identify the following six key stylized facts:

a) The 2009 global financial crisis sparked a generalized collapse of all components of aggregate demand in Spain, with the exception of public expenditure.

Spain witnessed strong debt-led growth in private investment and consumption between 2000-2008, sparking a real estate bubble (Buendía, 2018). Once the global financial crisis broke, the imbalances accumulated by the Spanish economy became evident and triggered a sharp decline in private domestic demand. As for external demand, the collapse in international trade sparked a decline in Spanish exports of goods and services (-11% in real terms).

The authorities first reacted to the economic crisis by implementing a fiscal stimulus package that included both reducing taxes and upping public expenditure. Public demand had a positive contribution to GDP growth of 1.3 percentage points in 2009, although GDP fell by 3.6% that year.

b) Between 2011 and 2013, fiscal policy became strongly restrictive and procyclical. In contrast, export growth and household consumption played a (partially) stabilizing role.

The change to a restrictive fiscal policy triggered by the sovereign debt crisis had strong negative effects on domestic demand between 2011 and 2013, causing a second recession that had a major impact on employment. During those years, the contribution of public consumption and investment to GDP was strongly negative (-1.3% on annual average). In 2013, public investment was 51% lower than in 2008 in real terms. The reduction in public demand was amplified by the fiscal multiplier.

At the same time, however, other independent components of aggregate demand acted as a safety net for the decline, since they fell more slowly (for example, certain types of household consumption) or because they continued to grow during this period (such as exports).

Once they had recovered from their 2009 fall, exports again rose sharply after 2010, with a performance similar to that recorded during the pre-crisis expansionary period (see Figure 1). As Table 1 shows, the average annual growth of exports of goods and services in the periods 2000-2008 and 2011-2017 has been very similar, at around 4% in real terms.

Figure 1: Exports, chain linked volumes, 1999q1 = 100
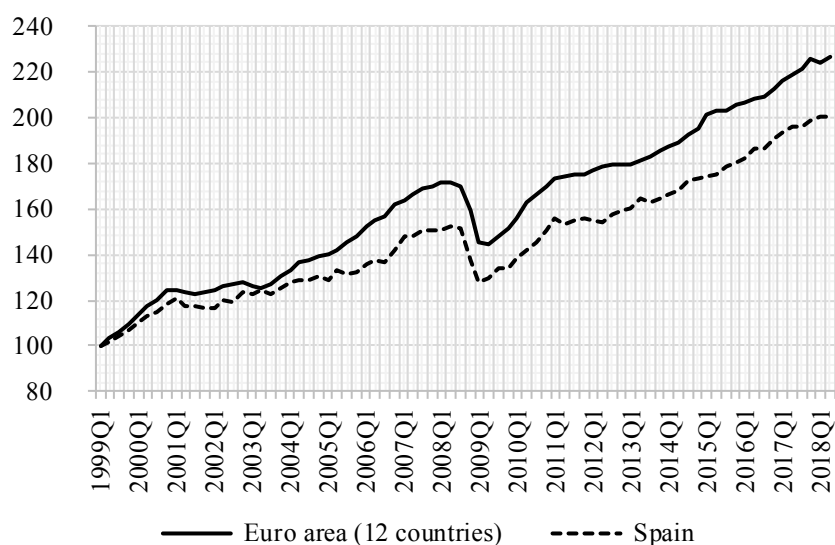
Source: Eurostat

Exports are a key factor in explaining the transition from recession to recovery. Yet, the behavior described above casts serious doubts on the idea that cost-competitiveness gains deriving from internal devaluation policy triggered an export boom that accounts for GDP recovery after 2014.

The export share on GDP increased sharply during the double-dip recession (from 25% in 2008 to 32% in 2013), and continued to climb during the recovery period (up to 34% in 2017). Nevertheless, this change is mainly due to the fact that domestic demand collapsed after the Great Recession and remained in decline until mid-2014. Therefore, the increase in the ratio of exports to GDP is not mainly the result of a faster growth in the numerator compared to the pre-crisis period, but rather because of stagnation in GDP, whose level in 2017 was approximately the same as in 2007 (Figure 2).

Figure 2: Exports and domestic demand, chain linked volumes, 1999q1 = 100

Source: Quarterly Spanish National Accounts (INE)

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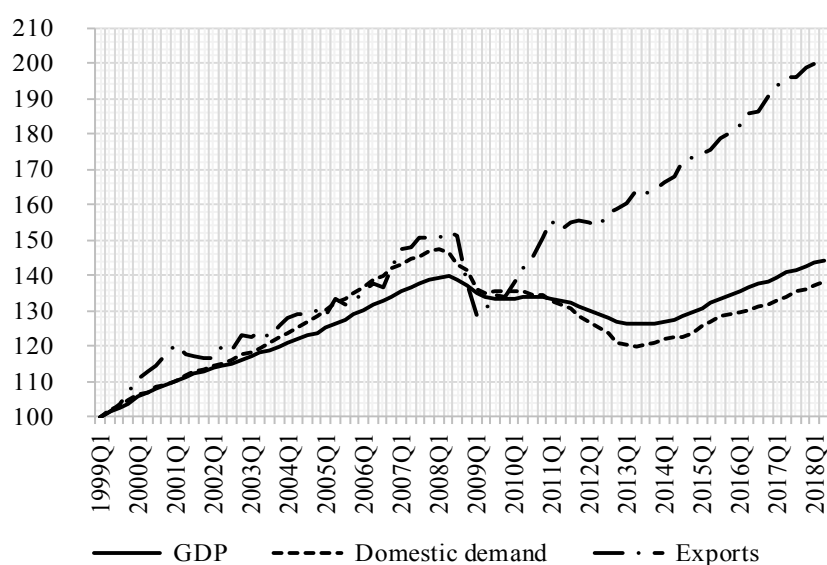
Household consumption is the other component of aggregate demand that acted as a brake during recession, slowing down the fall in GDP. Here, we find two opposing trends. On the one hand, the decrease in household gross disposable income (GDI) during the recession led to a significant induced drop in final consumption expenditure. On the other hand, the downward stickiness of certain quasi-fixed expenditures triggered major reductions in the household saving rate from 2010 onwards, helping to stabilize aggregate demand to some degree.

As a consequence, the reduction in consumption expenditure during these years was much lower than the fall in disposable income: while households' GDI was 34,500 million euros lower in 2013 than in 2009, their consumption had decreased by only 6,900 million euros (in nominal terms).

In Figure 3, we analyze the evolution of household consumption by different types of goods and services. We see how the adjustment in household consumption during the double-dip recession of 2009-2013 mainly focuses on non-durable, durable and semi-durable goods, while fixed and quasi-fixed expenditures continue to grow (in nominal terms) during this period.

Figure 3: Household expenditure by type of good (current prices, 2008=100)
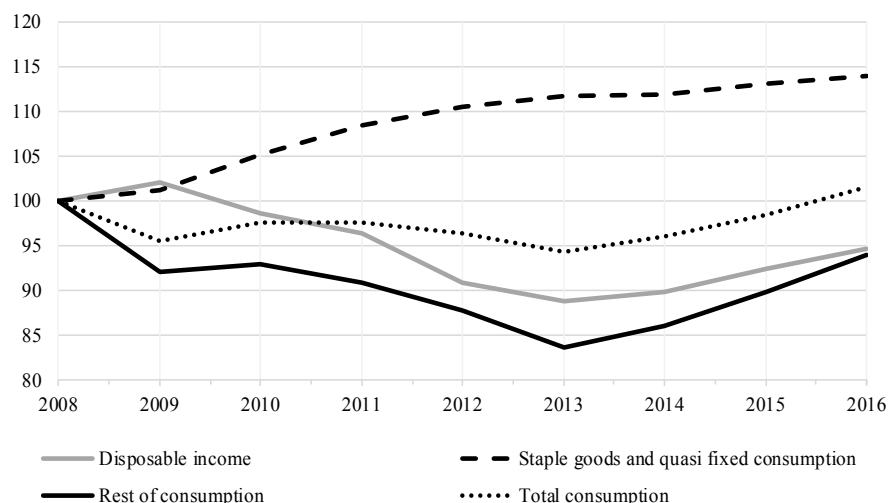
Note: "Autonomous consumption" is given by consumption GDI in fixed and quasi-fixed expenditures. The "rest of consumption" is the sum of non-durable, durable and semi-durable goods.
Source: Annual Spanish National Accounts (INE) and authors' own.

This performance of "autonomous consumption" explains the downward stickiness in total consumption and the stabilizing role played by this kind of expenditure in aggregate demand. In fact, autonomous consumption increased its share in total consumption from 38% in 2008 to 45% in 2013, and in GDP from 21% in 2008 to 36% in 2013.

c) The leading macroeconomic variable of the business cycle, and which triggers the change from recession to recovery, is private investment (particularly, investment in equipment).

Consumption has a great share in aggregate demand, determining how output evolves. Meanwhile, investment is the most volatile component of demand, and consequently its fluctuations drive changes in production and employment.

The turning point from negative to positive GDP growth occurred in the third quarter of 2013 (see Figure 4), and the leading variable of the business cycle is investment in equipment, as it

begins to grow three quarters before the trough. Once investment in equipment changed its trend and started to grow, other investment components followed suit, and finally household consumption and GDP began to grow in late 2013. As mentioned earlier, exports have been growing steadily since 2010.

Figure 4: Leading macroeconomic variables (trough 2013q3=100, chain linked volumes)
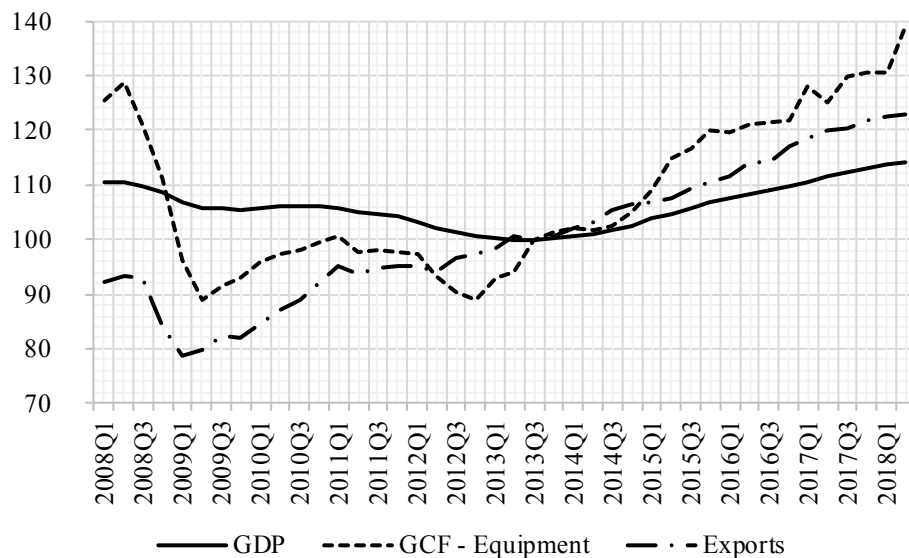
Source: Quarterly Spanish National Accounts (INE) and authors' own.

During 2013, and due to the influence of exports and autonomous consumption, firms' capacity utilization rate began to grow, driving companies to start investing again. This first investment recovery affected aggregate demand through the multiplier effect, and led to the creation of new employment. These causal relationships are outlined in Diagram 1, where numbers 1 and 2 represent this effect from exports and autonomous consumption on investment, and numbers 3 to 5 the influence of other factors that are also presented below in this section.

Diagram 1. Causal relations in Spanish economic recovery
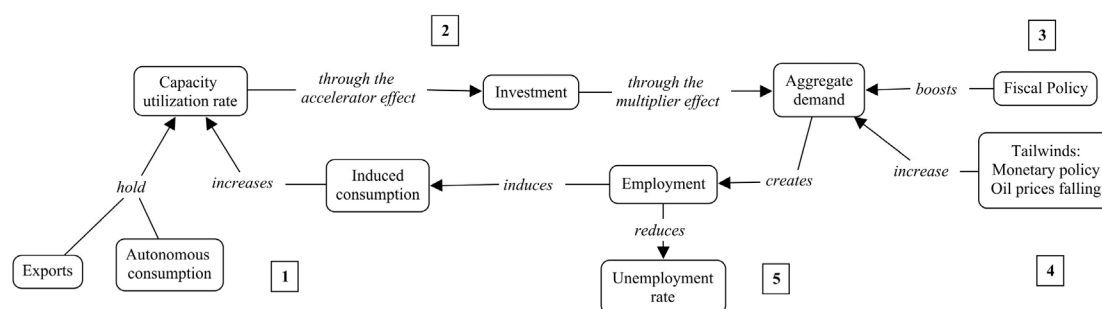
Source: Authors' own

d) <u>Different external tailwinds and the softening of fiscal austerity policy have had a significant impact on Spanish GDP growth since 2014 (numbers 3 and 4 in Diagram 1).</u>

The ECB has progressively reduced official interest rates in recent years, maintaining a negative marginal deposit facility rate since 2014 and a main refinancing rate equal to 0% since March 2016. This fall in interest rates has involved a reduction in the financial burden of households and non-financial corporations, increasing household disposable income and profit margins, and thus bolstering consumption and investment.

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Additionally, Brent crude oil prices fell from an average of 110 dollars per barrel in the period of 2011-2013, to an average of 50 dollars in 2015-2017. Traditionally, the Spanish economy has been highly dependent on imported oil, with current account and domestic prices being extremely sensitive to changes in international oil prices. Since 2014, the reduction in oil prices has provided substantial relief for domestic energy consumption, leading to an increase in disposable income and reducing costs for firms.

Moreover, fiscal policy became clearly expansionary in 2015 (electoral year), after four years of intense austerity. Table 1 shows that the contribution of public demand –public consumption and public investment– to GDP growth was negative (-1.3%) for the 2011-2013 period, while it was slightly positive in 2014-2017. The end of fiscal cutbacks helped the private sector to restart economic growth, activating the fiscal multiplier[3].

All the competing narratives to explain the recovery –mainstream and alternative– recognize the importance of these factors vis-à-vis explaining high growth rates in Spain. For instance, the Bank of Spain (2017, Box 1.2) shows that Spanish GDP growth over the 2014-2016 period was 2.2 pp higher, in cumulative terms, than envisaged in 2014. This difference is explained by the fall in oil prices, more expansionary monetary and fiscal policies and, on the opposite side, by the lower than expected growth of world markets.

We can see in Figure 5 how the impact of these tailwinds has been greater in the Spanish economy than in the Eurozone average, given Spain's strong dependence on energy imports and bank financing, and the prevalence of variable-rate mortgages.

Figure 5. Estimated cumulative contributions of various temporary factors to changes in Spanish and euro area GDP in 2014-2016
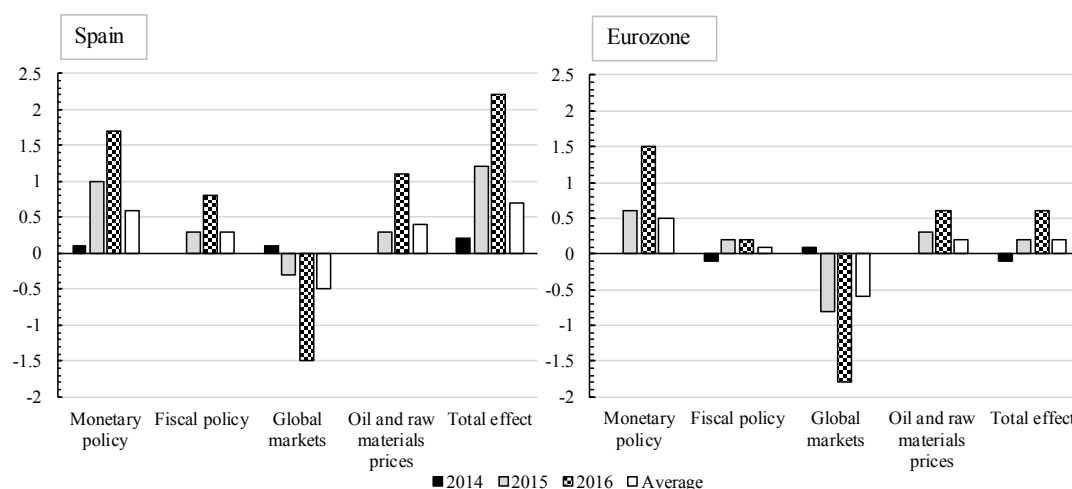
Source: Authors' own based on Bank of Spain estimates (2017: pp. 55)

e) Once recovery starts, the strong dynamism of household consumption reinforces GDP growth. This is due to particularly intense job creation and to fresh reductions in the savings rate.

Rising employment sparked by company decisions to resume investment played a major role in the economic recovery. This is because employment in Spain is extremely sensitive to business cycles (due to an industrial structure that is highly specialized in labor-intensive sectors), such that job creation triggered a rapid growth in consumption, which in turn fed companies' capacity utilization rate (number 5, in Diagram 1).

Indeed, despite wage devaluation, household disposable income began to rise in 2014. This growth in household disposable income led to an even greater increase in private consumption (when household disposable income was 50 billion euro higher in 2017 than in 2013, consumption rose by 73 billion euro), partially financed by a reduction in the household savings rate (from 9.6% to 5.7%). Private consumption thus became one of the main drivers of the recovery[4].

There are different factors explaining this reboot in private consumption. First, the major adjustment experienced by durable goods during the recession created a pent up demand for them, stimulating rapid consumption of this type of products once disposable income had begun to recover (contrary to what happened to staple goods and quasi-fixed expenditure).

In addition to the pent up demand effect, the rapid creation of employment –albeit concentrated in low paid jobs– seems to be the key factor underlying this performance of household consumption. The marginal propensity to consume among individuals who find a job is higher than among the unemployed, and is also higher than those currently employed. Therefore, increases in income from job creation tend to be translated to spending to a greater degree (Martínez and Urtasun, 2017).

f) The external sector experienced a significant adjustment during the double-dip recession, mostly related to imports contraction.

One of the most notable changes to occur during the double-dip recession was the adjustment of the Spanish external sector. Throughout the first recession of 2008-2009, the Spanish economy underwent a strong current account balance adjustment, with a deficit cut on its balance of goods and services of 4.8 pp of GDP. Most of the adjustment during this period was indeed driven by the collapse of imports, which decreased at an annual average of -4% due to dwindling domestic demand (see Table 1).

Whereas the annual nominal growth rate of imports fell from 7.7% in 1999-2008 to 3.5% in 2011-2017 (together with much lower GDP growth), exports followed a far more similar trend in both periods. The difference between pre-crisis and post-crisis periods lies mainly in import growth rates.

Once domestic demand had recovered and GDP growth had returned in 2014, imports began to grow again. On this occasion, however, the contribution of external demand to Spanish growth remained neutral, although this contribution had been negative in previous expansionary periods. In other words, high growth rates now became compatible with external surpluses.

According to mainstream approaches, this is evidence of the 'success' of structural reforms. However, certain temporary factors, such as the fall in oil prices or the exceptional performance of tourism thanks to political problems in other countries, have had a strong positive influence on Spanish net exports, and the decrease in interest rates has led to a noticeable improvement in the incomes balance. For example, energy imports would have been 20 billion euro higher in 2017, or the equivalent of 1.7% of GDP, with 2014 oil prices (97.22 $/barrel) rather than actual 2017 prices (51.57 $/barrel)[5]. Furthermore, the ratio between imported intermediate products and the total consumption of intermediate products has not fallen.

3. Two narratives for the same recovery: confronting the mainstream explanation with the alternative hypothesis

The stylized facts presented in the previous section show that equipment investment is the variable leading recovery. It started to grow three quarters before GDP bottomed out, thanks to the role played by exports and autonomous consumption in companies' capacity utilization. Through a series of macroeconomic linkages seen in Diagram 1, this change triggers the new

recovery trend, which is reinforced by external tailwinds and the abandonment of cutbacks in public demand.

Nevertheless, when interpreting these stylized facts, the mainstream narrative and our alternative explanation of the recovery differ in the explanatory power assigned to structural reforms for explaining some of these macroeconomic linkages. In this section, we explain in detail these differences, which can be summed up in three "mainstream hypotheses" and their corresponding "alternative hypotheses".

3.1- The key role of structural reforms in the mainstream explanation of Spanish economic recovery.

We take the Bank of Spain (2016) as a good representation of this mainstream narrative. According to this view, competitiveness gains derived from labor market reform are the main driver underlying growth recovery, since their positive effects on exports would explain the initial recovery of investment:

> "*The recovery observed in the Spanish economy since mid-2013 is the result of a combination of various factors. (...) One of the most significant factors is the increase in recent years in the competitiveness of the Spanish economy, understood in a broad sense, encompassing both lower costs (labour and financing costs) and lower prices, compared with the euro area as a whole. (...) The adjustment in prices and costs, which has triggered the depreciation in the real exchange rate of the Spanish economy, gave rise in the early years of the crisis to a highly dynamic export performance and a significant correction in the external imbalance. In turn, the strength of export sales drove up demand for production resources, enabling the recovery in activity to spread to domestic expenditure components*" (Bank of Spain, 2016, p. 39).

Moreover, structural reforms would also have had a direct positive impact on investment (since they led to lower interest rates and higher company profits), and on employment creation:

> "*Indeed, the export momentum encouraged both business investment decisions, which were also boosted by the decline in the cost of borrowing, and employment creation, in a setting in which the successive reforms of the regulatory framework of the labour market have brought wage costs and, in general, employment conditions more in step with different sector- and firm-specific developments. Lastly, the improved employment dynamic that has accompanied the present expansionary phase has prompted, inter alia, a significant recovery in private consumption, even against the backdrop of moderate wage growth*" (Bank of Spain, 2016, p. 39).

From this standpoint, growth recovery occurred thanks to three main influences that reinforce the "natural" pattern of recovery given by the business cycle, described in Diagram 1. In Diagram 2 we now incorporate –with dashed lines– these three influences pointed out by the mainstream approach.

Diagram 2. Causal relations in Spanish economic recovery (mainstream approach)
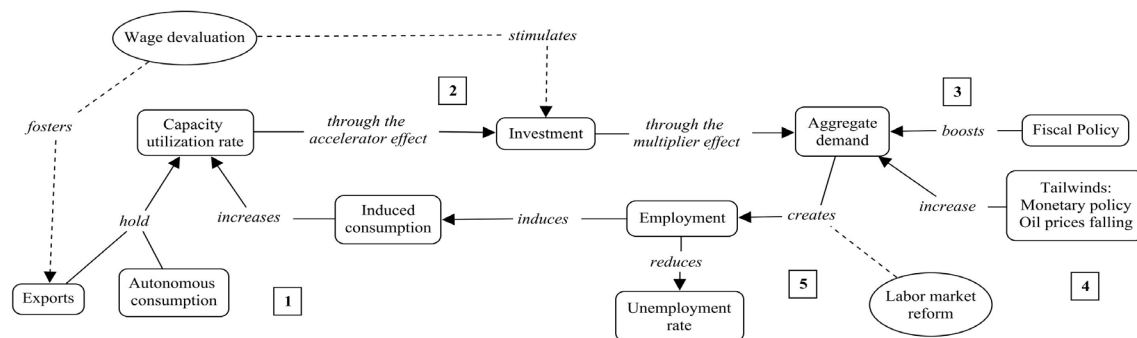
Source: Authors' own elaboration

Driver 1. Labor market reforms led to international competitiveness gains that fostered export growth.

Mainstream analyses have tended to attach great importance to the role played by exports in the Spanish recovery, and rightly so. As seen in Table 1, exports grew at an annual rate of 4.4% during the 2011-2017 period, and were the only component of aggregate demand to grow before 2013. The question under discussion is the root cause of this good performance. The mainstream narrative is that this can be explained by internal devaluation:

> *Mainstream hypothesis 1: The growth of exports is largely explained by the improvement in price-competitiveness, as a result of the significant reduction in unit labor costs stemming from labor market reform.*

Rising unemployment, lower dismissal costs, new conditions for unilateral employer wage-setting decisions and the decentralization of collective bargaining stimulated by labor markets reforms entailed a sizeable cut in wages and, therefore, a significant reduction in unit labor costs. From the beginning of the crisis up until 2018, Spanish unit labor costs have fallen by almost 20 per cent relative to the Eurozone average. This would have led to a reduction in export prices and thus to enhanced price competitiveness and, therefore, to an export-led recovery. As a result, these supply-side reforms would have corrected the structural imbalances of the previous growth pattern (inflationary pressures, external deficit and private external indebtedness).

Driver 2. Export demand translates into more private investment, which is also reinforced by increased firm profitability.

Due to the increase in the capacity utilization rate and to the need to reallocate production resources to meet fresh demand from external markets, more exports result in more capital formation. Moreover, this narrative defends that labor market reforms directly and significantly foster investment, since lower wages increase profit margins, thereby creating favorable expectations for new investment.

> *Mainstream hypothesis 2: Wage devaluation and increased profit margins have had a positive effect on demand, since improved corporate profitability has a significant positive impact on private investment.*

Driver 3. Labor market reforms allow for more employment intensive growth, and this job creation boosts household consumption.

According to the mainstream narrative, wage devaluation triggers not only international competitiveness gains and enhanced profitability. It also amplifies job creation once it begins, causing employment to recover faster in Spain than in the Eurozone (2.2% per year versus 1.2%).

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Once again, the Bank of Spain (2016, p. 45) explains this tendency as an effect of labor market reforms: "employment generation has been stronger in the recent recovery, probably reflecting the containment of labor costs and the more flexible use of labor, in both cases related, at least in part, to the reform of the regulatory framework of the labor market".

Likewise, Doménech *et al.* (2018) explain this supposed relation between wage devaluation and job creation by arguing there is a structural and important wage/employment trade-off in the Spanish economy. Recent labor reforms would have been able to modify this trade-off between employment and wages by making the labor market more flexible, favoring greater elasticity of employment to changes in GDP. That is to say, regulatory changes in the labor market would have caused a shift in the Okun curve, such that the Spanish economy now requires lower GDP growth to reduce its unemployment rate than in previous periods.

Rapid job creation, despite the spread of low-wage jobs after the labor market reforms of this period, leads to an increase in household disposable income and therefore in household consumption (as seen in the previous section). In this way, the third mainstream hypothesis would read as follows:

> *Mainstream hypothesis 3: Labor market reforms and wage devaluation have led to greater employment elasticity to changes in GDP, explaining rapid job creation during recovery and leading, therefore, to increased household consumption.*

The three hypotheses we present are the cornerstone of the mainstream narrative of the Spanish recovery. They "contributed to laying the foundations of the recovery" (Bank of Spain, 2018, p. 50).

3.2- An alternative explanation of the Spanish recovery based on the role of demand.

Counter to the previous explanation, we do not believe that the supply-side reforms applied in Spain under the supervision of the so-called Troika are the drivers of the 2014-2018 recovery.

Regarding the role that wage reduction may have played in explaining economic recovery in Spain, we must remember the dual role that wages play in the economy: they are a cost for companies but also a source of income for households. As a result, their reduction might foster private investment (if it is sensitive enough to profitability) and exports (if lower wages are translated to export prices). Yet wage devaluation can also reduce consumption -since the propensity to consume out of wages is higher than that out of profits- and therefore corporate investment as well.

In this sense, abundant empirical literature has emerged recently which, using the theoretical framework provided by Bhaduri and Marglin (1990), estimates the macroeconomic consequences of a change in functional income distribution –resulting, for example, from a reduction in wages– and assesses whether a reduction in the wage share has net positive or negative effects on GDP growth.

Although, in theory, the net effect of a wage reduction on aggregate demand is theoretically undetermined –two influences pulling in opposite directions confront each other– there is empirical evidence to show that Spain is a wage-led economy (Naastepad and Storm, 2007; Onaran and Obst, 2016; Álvarez *et al.*, 2018). That is to say, a reduction in the wage share –like the one caused by the wage devaluation strategy over the last decade– has negative effects on economic growth. In fact, Álvarez *et al.* (2018) find that the internal devolution policy applied in Spain detracted an average of 0.2 percentage points of annual economic growth during the period 2009–17.

This literature therefore casts serious doubts on the mainstream hypotheses previously mentioned, and advocates seeking an alternative explanation for the recovery.

Our alternative explanation is based on the theory of demand-led growth. From our point of view, the main determinants of the recovery are to be found in the expansion in investment and consumption, arising from changes in external and domestic aggregate demand. Thus, the accelerator effect and the multiplying effect are the vectors that set the recovery in motion, thanks to the role played by the autonomous components of aggregate demand. Exports growth and, to a lesser extent, quasi-fixed household consumption initiate recovery, which is translated first to private investment, then to job creation, and finally to other components of domestic demand. But the drivers of this change are not enhanced price-competitiveness, higher profitability or greater employment-to-GDP elasticity. The drivers are the following:

Driver 1. Exports play a key role in recovery, providing a safety net for the fall in GDP. However, the evolution of exports is not the result of wage reduction, but is explained by changes in the demand of the main trading partners.

The first recession led to a general fall in all components of aggregate demand, including exports. As this contraction occurred, the capacity utilization rate also decreased rapidly. However, after a certain time, the stabilizing effect of the autonomous components of demand halted the fall in the capacity utilization rate, thus enabling investment to recover (see Figure 6). The longer or shorter time that the autonomous components of demand take to slow down the recession depends on their share of GDP.

Figure 6. Recession and capacity utilization rate, 100=2008q1 (2008-2017)
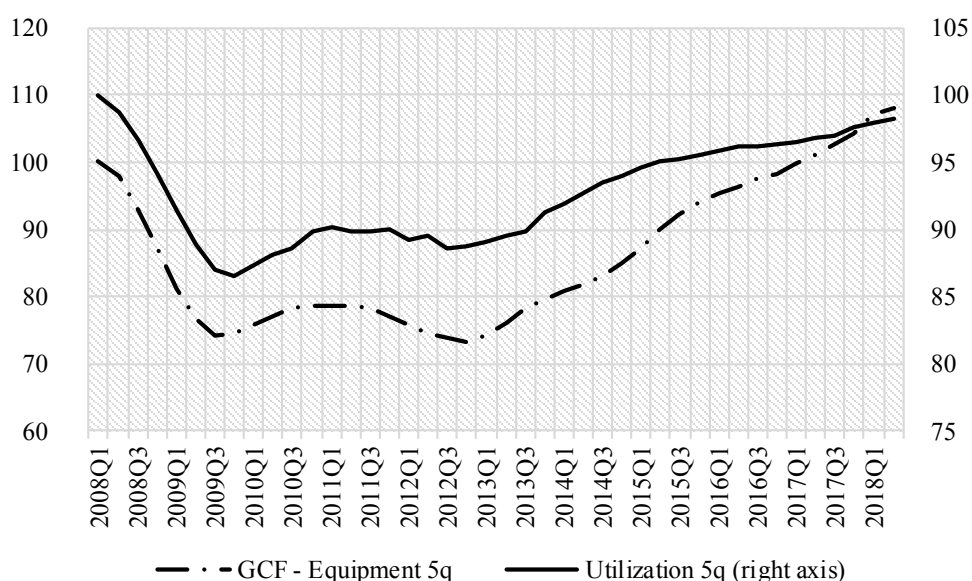
Note: Moving average for utilization rate
Source: Quarterly Spanish National Accounts (INE) and authors' own elaboration.

During the economic recovery, this stabilization mechanism has been mainly due to exports. Their counterbalancing role –exports have been growing since 2010– is vital to the change in the capacity utilization rate and, therefore, to induced private investment[6]. However, our approach differs from the mainstream approach in the causal explanation.

Usually, exports equations include the GDP growth rate in the countries where exports are sold, together with some measure of competitiveness, as the main determinants. While mainstream narrative emphasizes the latter, we consider the former to be far more significant:

> *Alternative hypothesis 1: The growth of exports is mainly explained by improved external demand from the main trade partners. The reduction in unit labor costs plays a much lesser role in explaining the evolution of exports.*

Driver 2. Higher capacity utilization drives private investment through the accelerator effect.

Private corporate investment is the key variable to trigger recovery. Yet restoring it is not mainly due to improved profitability –as a result of wage devaluation– but rather to the boost that expected demand exerts on installed capacity, with new needs for capital goods. Our hypothesis concerning the recovery of investment reads as follows:

> *Alternative hypothesis 2: Although the recovery of profitability may be an additional factor when explaining investment growth, the main determinant of investment is the 'accelerator effect' (an increase in aggregate demand that results in a proportionately larger rise in capital investment), and the improved use of installed capacity due to greater demand.*

Driver 3. The multiplier effect of investment triggers job creation and household consumption. The gradual rise in domestic demand leads to the rapid recovery in employment.

The recovery of private investment triggers the multiplier effect and, with it, new job creation and household consumption. Due to the high elasticity of employment to GDP, its growth is very rapid, reinforcing the role of private consumption and domestic demand in the recovery.

Nevertheless, in our view, this new job creation has little to do with the labor reforms adopted during the period 2010-2012. The relationship between job creation and economic growth, although higher than in the Eurozone average, remained stable, before and after these reforms (Figure 7). Thus, our third hypothesis would be as follows:

> *Alternative hypothesis 3: Wage devaluation has not translated into greater job creation, since the demand for employment is a derived demand that responds fundamentally to the evolution of aggregate demand. That is to say, labor reforms have not changed the relationship between employment and economic growth, and the elasticity between both variables remains similar.*

Figure 7. Employment growth for each percentage point of GDP growth
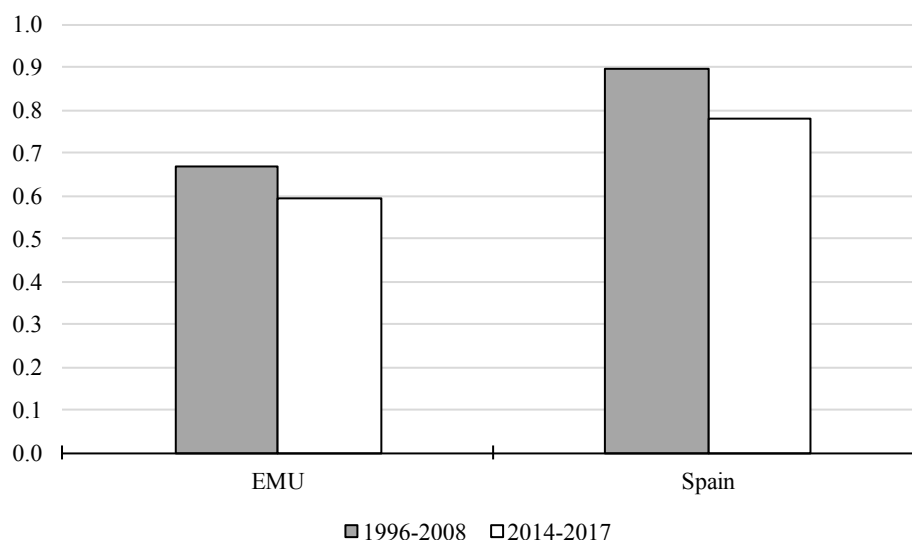
Source: AMECO

Finally, we again underline the important role played by external tailwinds to explain the high growth rates experienced by the Spanish economy in recent years. Clearly, they have nothing to do with the structural reforms imposed by the Troika during the double-dip recession. This tendency is also reinforced by the abandonment of strict fiscal austerity in 2015.

4. Are "structural reforms" really successful? An empirical evaluation.

In this section, we empirically test the effects of structural reforms in Spain. To that end, we estimate three single equations in order to test which hypotheses from the previous sections – namely those regarding exports, investment and employment– may be accepted or rejected. We verify with this the explanatory power of the mainstream and alternative hypotheses.

We follow the Box-Jenkins methodology for time series and dynamic regressions to estimate our equations, using quarterly data from 1999q1 until 2018q2. In all cases, we include different time dummies to account for the outliers of the residuals. For each estimation, we have included, as explanatory variables, both the contemporaneous value and the first or second lag of the corresponding variables, finally maintaining those that were statistically significant.

To correct for serial correlation, we introduce as many lags of the dependent variable as needed. Additionally, we test for stability of the coefficients with a "CUSUM test" in all our estimations. The results of the test point to the stability of the parameters throughout the period. Residuals are distributed as white noise. Sources and definitions of the data used for the estimations can be found in Appendix 1.

4.1. The determinants of exports: external demand or price-competitiveness?

Contrasting the mainstream hypothesis on the effects of wage devaluation on exports with our alternative hypothesis proves fairly straightforward. As is usually done when estimating an export function, we regress gross exports on a demand variable (real GDP of OECD countries) and also on a price-competitiveness indicator (REER), to compare their respective effects.

Specifically, we estimate the following equation:

$$X_t = \gamma_0 + \gamma_1 X_{t-1} + \gamma_2 Y_t^{OECD} - \gamma_3 REER_{t-2} \tag{1}$$

where the dependent variable (X_t) is gross exports, and the explanatory variables are real GDP of OECD countries (Y^{OECD}) and real effective exchange rate (REER) in terms of export prices vis-à-vis the 37 main partners of the Spanish economy. All variables are measured in seasonal differences of logarithms to make them stationary and to facilitate the interpretation of the results, and values are calculated in constant terms.

Table 2. Estimation results of the exports function.

$X_t =$	-0.01	$+0.46X_{t-1}$	$+1.65Y_t^{OECD}$	$-0.33REER_{t-2}$	$+0.06D09q4$	$+0.07D10q1$
	(0.00)****	(0.08)****	(0.23) ****	(0.15)**	(0.02)**	(0.02)***
Adjusted-R^2=0.85; Ljung-Box test (lag=4) = 1.2 (p-value=0.274);						
J-B test (lag=2) = 1.29 (p-value=0,52)						
SD in parenthesis. Significance levels 0.001****, 0.01***, 0.05**, 0.1*						

Source: authors' estimations

In Table 2, we present our estimates, and we graph in Figure 8 the contributions of each of these determinants to the growth of exports. As can be seen, external demand (Y^{OECD}) is the major determinant of the evolution of exports. The real effective exchange rate (REER) displays a negative and statistically significant effect on exports although, confirming the first alternative hypothesis, this effect is very weak and price-competitiveness has little capacity to explain the evolution of exports (see Xifré, 2017, and Storm and Naastepad, 2016, for similar results).

Moreover, if we use relative unit labor costs as the competitiveness indicator rather than using the real effective exchange rate (REER), the effect of this variable is even smaller (see Table A2, in the Appendix). This is consistent with the fact that the fall in unit labor costs due to internal devaluation in Spain has not been fully reflected in a drop in export prices (see Figure 9, and Villanueva *et al.*, 2018). Finally, the inertia component is relevant, pointing to the stability of exports regardless of the business cycle.
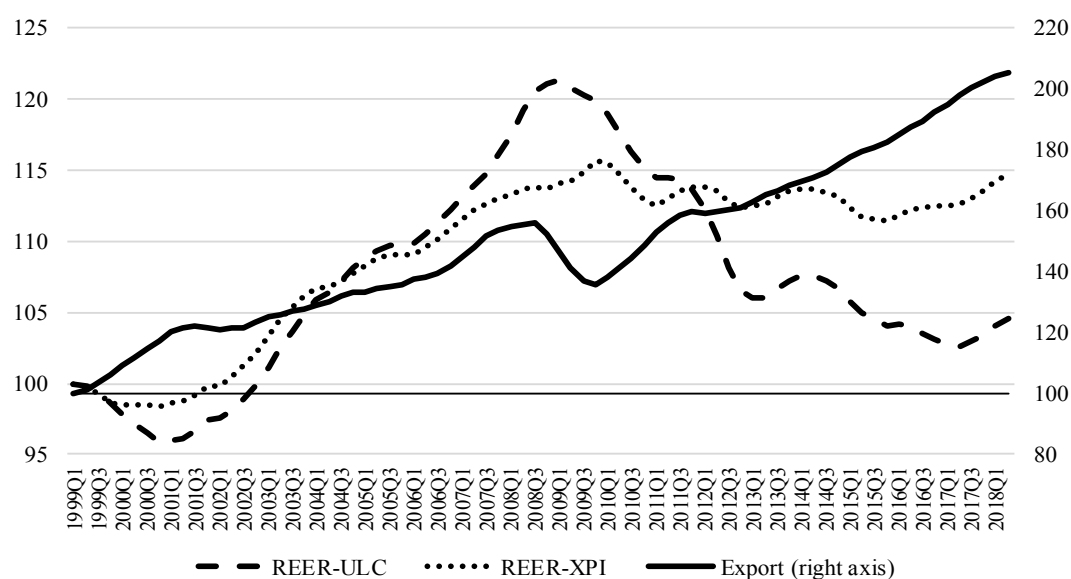
Figure 8: Determinants of export growth (%)
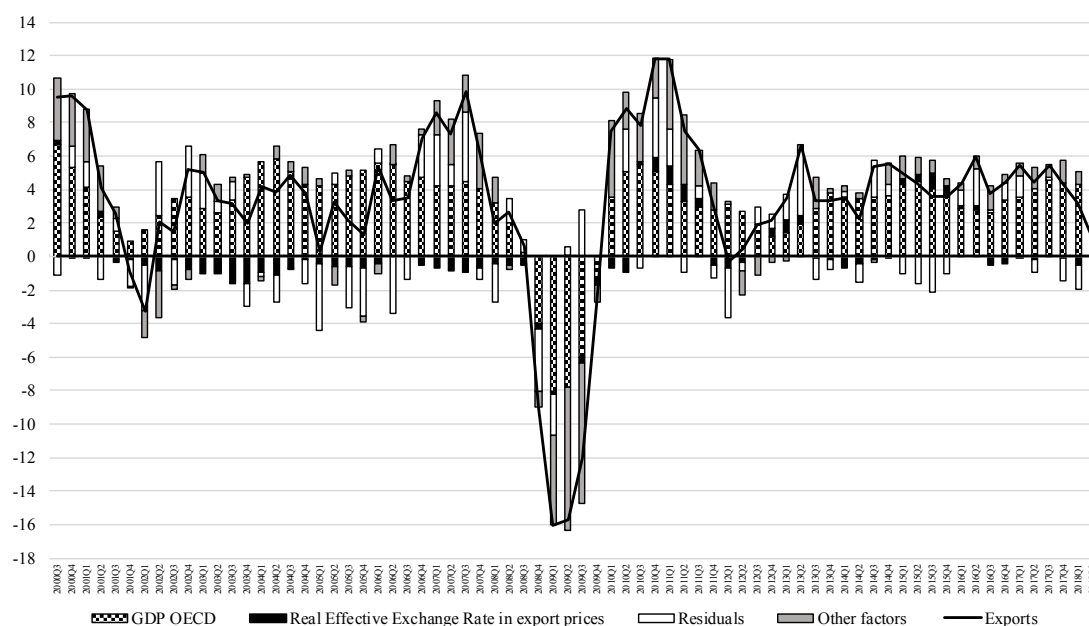
Source: authors' own

*Other factors include the inertia component, time dummies and the constant

Figure 9: Real effective exchange rates vs 37 partners and exports (1999q1=100)

- - - REER-ULC   .... REER-XPI   —— Export (right axis)

Source: Eurostat and Quarterly Spanish National Accounts (INE)

Taking these data, it is therefore difficult to argue that improvements in price competitiveness – due to internal devaluation and reduced labor costs relative to the EU core countries– have boosted export growth and, therefore, triggered economic recovery. Accordingly, we can reject the mainstream hypothesis and accept the alternative one.

4.2. Investment, aggregate demand and profitability. Revisiting the investment function.

The reduction in unit labor costs derived from internal devaluation policy has not been transferred into a parallel reduction in either domestic or export prices, but rather into an

increase in corporate profits. Thus, internal devaluation may not have been effective at boosting exports although it may have helped expand corporate investment through enhanced profitability.

In this section, we estimate an investment function in order to test the second mainstream and alternative hypothesis, in an effort to pinpoint to what extent increased corporate profits or the accelerator effect may have been responsible for the upturn in corporate investment during the recovery years.

Following Bhaduri and Marglin (1990), we propose a corporate investment function where the main determinant of capital formation is the profit rate, showing a direct and positive link between the two variables.

If we define the profit rate (r) as the ratio of gross profits in real terms to corporate capital stock (P/K), we can decompose this rate into the following three components:

$$r = \frac{P}{K} = \frac{P}{Y} * \frac{Y}{Y^*} * \frac{Y^*}{K} = \pi * Ut * \alpha \qquad [2]$$

- The profit share (π=P/Y), measured as the ratio of gross corporate profits to added value, includes the effect of profit margins or cash flows, and the corporate financial constraint (Fazzari *et al*., 1988). We assume that profit share is a proxy for corporate margins.

- The capacity utilization rate (U_t), measured as the relation of output to "potential output" or output at full utilization (Y/Y*), reflects the "accelerator effect", i.e., a proxy for expected demand.

- The output capital ratio at full capacity (α=Y*/K), measured as the relation of potential output to gross corporate capital stock, represents technical efficiency in the use of installed capital (Steindl, 1979).

Therefore, we estimate the following equation of the investment function[7]:

$$I_t = \gamma_0 + \gamma_1 I_{t-1} + \gamma_2 \pi_{t-1} + \gamma_3 U_{t+1} + \gamma_4 \propto_t \qquad [3]$$

Table 3 presents the estimation results of this function. All independent variables have a positive and statistically significant coefficient, and Figure 10 depicts the contribution of each explanatory variable, taking into account the changes they experienced during this period. Results confirm that the main determinant of investment is the 'accelerator effect' of demand, both in expansionary and recessionary periods.

This is particularly evident in the current recovery, with capacity utilization being the "trigger" of investment recovery in 2013. In contrast, profit share plays only a very minor role in the recovery of investment during the current recovery.

Table 3. Estimation results of the investment function.

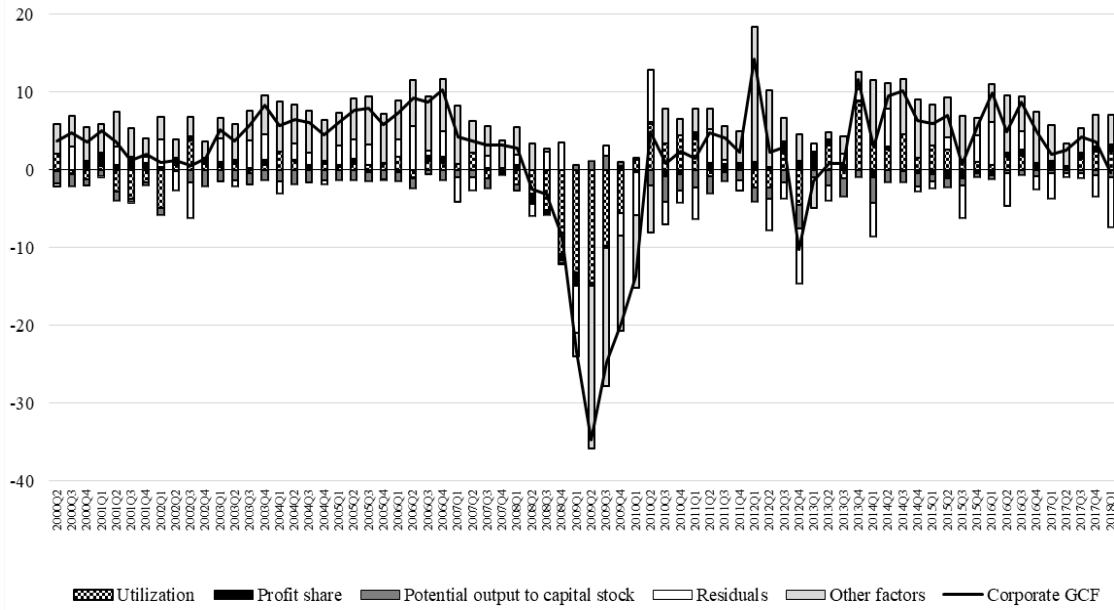| I_t =	−0.02	+0.56I_{t-1}	+0.4 π_{t-1}	+1.02Ut_{t+1}	+0.25 α_t	−0.09D09q2	+0.14D12q1
	*(0.01)***	*(0.06)*****	*(0.22)**	*(0.14)*****	*(0.14)**	*(0.04)***	*(0.03)*****

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Adjusted-R^2=0.85; Ljung-Box test (lag=4) = 4.5 (p-value=0.34); J-B test (lag=4) = 1.04 (p-value=0,59)
SD in parenthesis. Significance levels 0.001****, 0.01***, 0.05**, 0.1*.

Source: authors' estimations

Figure 10: Determinants of corporate GCF growth (%)

Source: authors' own elaboration.
*Other factors include the inertia component, time dummies and the constant

4.3. Unemployment and labor market reforms.

The third mainstream hypothesis is that recent labor market reforms have shifted the Okun curve (the relationship between unemployment variation and GDP growth rate, Figure 11). That is, the Spanish economy currently requires lower GDP growth rates to reduce its unemployment rate than in the previous cycle of expansion due to wage restraint and increased flexibility in the labor market.
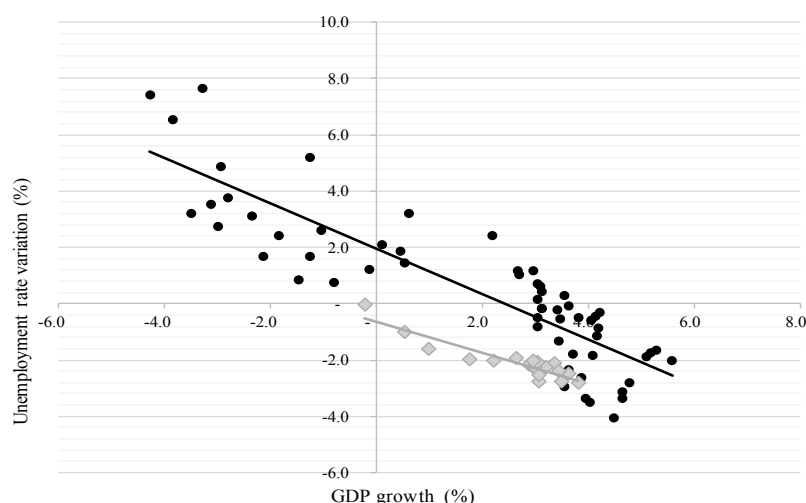
Figure 11. Okun curve in Spain (1999-2018)

Note: Unemployment rate in seasonal differences and GDP in seasonal differences of natural logarithms: 1999Q1-2013Q2, black, and 2013Q3-2018Q2, grey.
Source: Authors' own elaboration from Quarterly Spanish National Accounts and Economically Active Population Survey (INE).

One objection to this argument is that variations in the active population (L) are not being taken into account. The unemployment rate may be falling faster with the same GDP growth because of a decrease, or a lower increase, in the active population. Indeed, when comparing the unemployment rate of the recent and the previous expansion periods, the main difference is precisely the evolution of the active population. Whereas in the period 1995-1999, the unemployment rate fell by 8.2 percentage points, in the period 2013-2017 it fell by 10.4 pp. However, this behavior is explained by the evolution of the economic activity rate: in the first period, the active population grew by 840,000 people, whereas it fell by 400,000 people in the second.

Therefore, in order to properly gauge the relationship between economic growth and job creation, analyzing how employment –not unemployment– changes as GDP changes is more appropriate (Figure 12).

Figure 12. Employment and GDP growth (1999-2018, %)
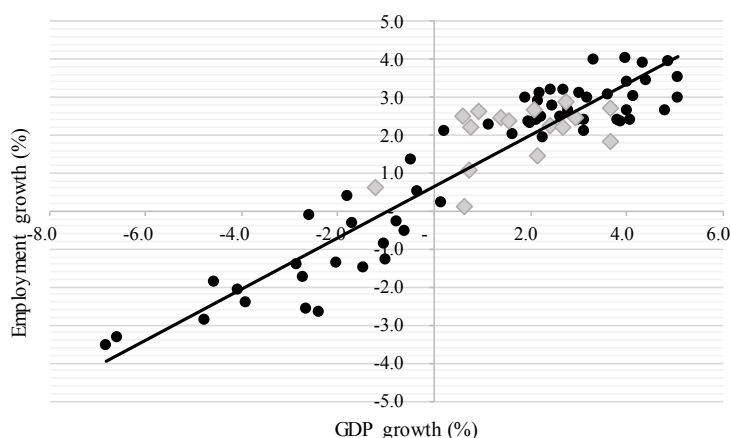
Note: y-o-y growth rates: 1999Q1-2013Q2, black, and 2013Q3-2018Q2, grey.
Source: Authors' own elaboration from Quarterly Spanish National Accounts and

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Economically Active Population Survey (INE).

As can be seen in Figure 12, the elasticity of employment to changes in GDP during the recovery years remains relatively constant and similar to that observed in the period prior to 2007. During the expansionary phase of 1996-2008, employment grew at an annual rate of 3.4%, similar to GDP (3.6%), thus implying an employment-to-GDP elasticity of 0.95. In the period 2014-2017, employment grew by 2.2%, and GDP by 2.8%, meaning an employment-to-GDP elasticity of 0.80. For a better comparison of similar periods, we may consider the first quarters of the previous expansion (1995-1999, the recovery years). In this case, the elasticity of employment to changes in GDP was also higher (0.92 in 1995-1999 vs 0.80 in 2014-2017).

To better assess the mainstream and the alternative hypotheses, we estimate the equation of the Okun curve, although we use employment instead of unemployment to avoid the bias introduced by changes in the active population. Therefore, we can test whether GDP has a greater impact on employment growth after the implementation of labor market reforms and wage devaluation.

$$E_t = \gamma_0 + \gamma_1 E_{t-1} + \gamma_2 E_{t-2} + \gamma_3 Y_t \qquad [4]$$

where the dependent variable is the employment growth rate and the only explanatory variable is the GDP growth rate, together with two lags of the dependent variable to correct for autocorrelation[8]. We logically expect a strong positive relationship between employment and income, and we are especially interested in testing the stability of this relation. In Table 4, we present the estimates, and see that the contribution of GDP growth to employment growth before the crisis (in 1999-2008) was 49.7 pp., similar to that experienced during the recent recovery period (48.6 pp). Furthermore, the CUSUM test results confirm that the GDP coefficient is stable throughout the whole period, meaning there is no structural change.

Table 4. Estimation results of the employment function

$E_t =$	−0.03	$1.08E_{t-1}$	$−0.45E_{t-2}$	$+0.43GDP_t$	+0.12D05q1	−0.02D09q1
	(0.00)***	(0.11)****	(0.08)****	(0.09)****	(0.01)**	(0.01)***
Adjusted-R^2=0.92; Ljung-Box test (lag=1) = 0.1(p-value=0.74);						
J-B test (lag=1) = 0.26(p-value=0.88)						
*SD in parenthesis. Significance levels 0.001****, 0.01***, 0.05**, 0.1**						

Source: authors' own estimations

We can thus reject the third mainstream hypothesis: the labor market reforms imposed by the Troika do not evidence any relevant impact on job creation; the employment-GDP relation has remained constant. Indeed, employment recovered rapidly during the period 2014-2017, yet not due to labor reforms or wage devaluation, but because of an increase in demand-led investment in firms and to the labor-intensive nature of the Spanish economy. In previous recoveries, the job creation rate was similar.

5. Conclusions

In this paper, we discuss the determinants of the economic recovery experienced by Spain in the period 2014-2017, presenting two confronting narratives to explain this recovery.

Spain is presented by the IMF and the European Commission as an example to be followed by other peripheral Eurozone countries: a case of successful implementation of the structural

supply-side reforms recommended by these institutions, which would have allowed rapid recovery.

According to this mainstream narrative, the rapid recovery in the Spanish economy was possible thanks to the positive effects that wage devaluation had on improved price competitiveness and profitability, allowing swift increases in export, investment, job creation and household consumption.

However, we have seen that this narrative does not tie in with the empirical evidence. Therefore, we propose a second alternative narrative, in line with the demand-led growth theory.

According to our findings, the labor market reforms and widespread wage reduction were not the drivers of economic recovery. Recovery stems from the demand-side of the economy. The expansionary effect of the autonomous components of aggregate demand, and particularly of exports, had a positive impact on the capacity utilization rate, and equipment investment experiences an upturn. At that point, recovery begins and once the accelerator effect kicks in, rapid job creation exerts a strong influence on private consumption. Nevertheless, exports are not driven by the fall in wages, but by the external demand of the main trading partners. Investment is not driven principally by profitability, but by the accelerator effect, and rapid job creation is not the result of wage devaluation, but the effect of demand-side factors together with structural high elasticity to GDP.

Furthermore, there was also a major shift in fiscal policy in 2014, from a negative contribution to growth of -1.3 percentage points during the crisis, to a positive one of 0.2 during the recovery period. The end of fiscal cuts helped the private sector to restart economic growth, activating the fiscal multiplier. Finally, strong tailwinds add to this virtuous circle and also support GDP growth during the period 2014-2017. Our main conclusions can be summed up as follows in Table 5.

Table 5. Summary of the main arguments of the mainstream and alternative hypotheses

Argument	Mainstream arguments	Our findings
Evolution of exports in recovery	The fall in ULCs entails a recovery of the competitiveness lost before the crisis, and determines a strong external sector contribution to GDP growth.	There is a significant contribution of the external sector to recovery, but this contribution is not due to internal devaluation but to external demand.
Investment in recovery	Wage devaluation increased profit margins and profitability. This increase sparked the recovery of investment.	Investment is mainly determined by the "accelerator effect". The recovery of profitability played a minor role, offset in any case by the negative effect of wage devaluation on consumption.
Job creation during recovery	Labor market reforms and wage devaluation led to greater employment-to-GDP elasticity, explaining rapid job creation during recovery.	Wage devaluation did not translate into greater job creation, since labor reforms did not change the employment-to-GDP elasticity. Employment demand responds to demand-side factors.

Source: Authors' own elaboration

Unlike what is presented by the mainstream narrative, wage devaluation is not one of the main causes of Spanish economic recovery. Although it may have had some minor positive effects on external competitiveness or on corporate investment, these effects were more than offset by its recessive outcomes on domestic demand, as confirmed by the empirical literature based on the Bhaduri-Marglin model (Spain is a wage-led economy).

Increasing inequalities, poverty, deflationary effects and low-paid jobs are not the "collateral effects" of a macroeconomic policy needed to re-establish economic growth. These harmful effects of the policies imposed by the Troika were not needed to favor the return of GDP growth, since the explanatory causes of the recovery do not come from the supply-side structural reforms implemented during the crisis.

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Appendix 1. Data and alternative estimations

Table A1. Variable definitions and sources

Variable	Description	Units	Source
GDP	Real Gross Domestic Product	Millions of €. Base 2010	QSNA (INE)
Corporate GCF	Real Gross Capital Formation of private companies	Millions of €. Base 2010	QSNA (INE)
Gross exports	Real Exports of goods and services	Millions of €. Base 2010	QSNA (INE)
Gross profits	Real corporate profits	Millions of €. Base 2010	QSNA (INE)
Profit share	Gross profits over GDP at factors cost	Percentage rate	QSNA (INE)
Employment	Total number of employed persons	Millions of persons	Active Population Survey (EAPS)
Capacity utilization	Ratio of potential output and actually realized in the manufacturing sector	Percentage rate	BDSICE [321100.D]
Capital stock	Net capital stock of the corporate sector	Millions of €. Base 2010	QSNA (INE) / BBVA & IVIE
Potential output-capital stock ratio	Proportion of total potential output and net corporate stock	Percentage rate	Own elaboration
OECD GDP	Real GDP of the OECD countries	Index 2005=100	BDSICE [695082]
REER	Real Effective Exchange Rate vis-à-vis 37 main	Index 2010=100	European Commission
- Exports prices	In terms of relative export prices	Index 2010=100	European Commission
- Unit Labor Costs	In terms of relative unit labor cost	Index 2010=100	European Commission

QSNA: Quarterly Spanish National Accounts
(INE) http://www.ine.es/dyngs/INEbase/en/operacion.htm?c=Estadistica_C&cid=1254736164439&menu=ultiDatos&idp=125473557
6581
EAPS: Economically Active Population Survey
(INE) http://www.ine.es/dyngs/INEbase/en/operacion.htm?c=Estadistica_C&cid=1254736176918&menu=resultados&idp=12547359
76595
BDSICE: Base de datos de Series de Indicadores de Coyuntura Económica (Ministerio de
Economía) http://serviciosede.mineco.gob.es/Indeco/BDSICE/HomeBDSICE.aspx
BBVA & Ivie: El stock y los servicios del capital en España (Fundación BBVA)
https://www.fbbva.es/microsites/stock09/fbbva_stock08_index.html

Table A2. Alternative export equations

	Model 1	Model 2	Model 3
(Intercept)	−0.014***	−0.012**	−0.012***
	(0.004)	(0.004)	(0.003)
X_{t-1}	0.521***	0.456***	0.448***
	(0.078)	(0.082)	(0.076)
Y^{OECD}_t	1.477***	1.646***	1.579***
	(0.224)	(0.234)	(0.214)
Dummy2009q4	0.062**	0.057*	0.048*
	(0.022)	(0.022)	(0.021)
Dummy2010q1	0.071**	0.071**	0.061**
	(0.021)	(0.021)	(0.020)
$REER_{t-2}$		−0.331*	
		(0.147)	
$RULC_{t-2}$			−0.257**
			(0.075)
R-squared	0.85	0.86	0.87
adj. R-squared	0.84	0.85	0.86
N	73	72	72
AIC	−355.77	−353.6	−359.37

Source: authors' estimations

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[1] In short, the 2010 reform eased dismissal procedures and lowered the cost. The 2012 reform went much further, significantly reducing job protection legislation, decentralizing wage setting mechanisms and giving preference to company-level agreements over sectoral agreements. The reform greatly facilitated unilateral decisions by employers and restricted the automatic extension of collective agreements.

[2] Mainstream literature sometimes incorporates a fourth mechanism related to the structural reforms undertaken during this period: the reduction in long-term interest rates and the increase in "macroeconomic stability" and "confidence" derived from fiscal consolidation. Nevertheless, we consider that the fall in the risk premium of Spanish sovereign debt is mainly due to ECB intervention in bond markets. In fact, between mid-2010 and mid-2012, the risk premium in Spain continued to rise despite severe public spending cutbacks. It was not until the summer of 2012, when the ECB intervened with Draghi's 'whatever it takes´ speech, that sovereign debt interest rates began to fall.

[3] Abundant empirical and theoretical literature on fiscal multipliers proliferated during the crisis, particularly after the IMF (2012) acknowledged it had underestimated their values. Its main conclusion was that fiscal multipliers might stand somewhere in the range of 0.9 to 1.7, particularly in times of crisis, when the multiplier is higher. The ECB (2016), European Commission (2016) and Uxó et al. (2018) offer arguments supporting the notion that the fiscal multiplier was well above 1 in Spain during this period.

[4] Nevertheless, real consumption in 2017 was still 4% lower than in 2008.

[5] This simulation does not include other short and medium-term effects, such as the quantity effect of oil imports, the effect of other energy imports (such as natural gas), or the effect on the transfer of oil prices to domestic prices, wages and demand. Therefore, the total stimuli of a fall in oil prices are greater than those computed here.

[6] As pointed out in section 2, the increased household propensity to consume due to the rigidity of fixed and quasi-fixed consumption expenditure ensures some downward stickiness in final consumption and therefore a stabilizing effect as well. In this case, however, and unlike what happens with exports, our narrative does not differ from the mainstream narrative in explaining the evolution of this component of aggregate demand.

[7] Dependent variables are measured in seasonal differences of natural logarithms (since the ADF tests suggest that most variables in levels had a unit root). The inclusion of a lagged dependent variable corrects for autocorrelation. Capacity utilization has been forwarded one quarter to capture expectations, and the profit share has been lagged one quarter, thus embracing the "cash flow" effect.

[8] Introducing wages or unit labor costs into this equation, as neoclassical economics does, would be meaningless, as analyzed by Felipe and McCombie (2008). How the demand for employment changes when wages change requires assessing the overall effect of a change in income distribution on investment, consumption and net exports. As already mentioned, empirical studies based on the Bhaduri-Marglin model find that Spain is a wage-led economy (Naastepad and Storm, 2007; Onaran and Obst, 2016; Álvarez et al., 2018): reductions in the wage share tend to detract potential growth from the economy, since the positive effect of lower labor costs on net exports fails to offset weaker domestic demand.

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