Special Analysis

Corporate financing, the key factor of investment divergences in Italy and Spain

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Corporate investment fell dramatically in all developed countries at the time of the great recession in 2009, and especially in the Eurozone, which was then hit by the sovereign debt crisis in 2012. Although all countries experienced this decline, recovery since then has differed widely in the economies concerned. Specifically, whereas corporate investment in Spain has grown very strongly since 2013, in Italy recovery did not get underway until the end of 2014, and is still very far below its pre-crisis level. Yet these two southern European economies have been similarly affected by the different crises since 2009.

Demand is one of the first factors that obviously differentiate the two countries: the Spanish economy picked up in 2013, stimulated by significant foreign demand then domestic demand, when Italy was still in recession. This appears to be a determining factor to account for Spain's dynamism; in Italy, however, it was not sufficient: even in mid-2015, investment is still likely to be lower than that suggested by the growth in demand alone.

In addition to demand, financing conditions account for differences in investment dynamics between the two countries. This financing may be internal or through credit. In Spain, companies have made a considerable effort since 2009 to increase their savings so that they no longer have to depend on external financing in order to invest. Thus to a large extent, they were able to self-finance the upswing in investment. In Italy, in contrast, companies did not manage to increase their savings ratio, while at the same time access to credit became more difficult. As a result, their borrowing capacity hindered their investment capacity.

An econometric model was used to quantify the trend in capital goods investment in the light of these determinants. Between 2009 and 2012, investment in capital goods evolved differently in Spain and Italy, due to the increase in savings by Spanish enterprises, while the other factors had a less favourable impact in Spain than in Italy. In 2013 and 2014, weak investment in Italy, compared with the vigorous recovery in Spain, resulted in both a less favourable change in the determinants and a lower sensitivity to them by companies.

In 2015, investment in capital goods showed an upturn in Italy as credit terms eased and the self-financing efforts of companies bore fruit. In Spain, where the catch-up phase seems to have reached an end, investment remains dynamic but could slow slightly.

Corporate financing, the key factor of investment divergences in Italy and Spain

Corporate investment began to grow strongly once again in Spain from 2013, but struggled to get going in Italy

The investment crisis seemed harsher in Spain than in Italy

During the great recession of 2009, investment in value by non-financial corporations fell sharply both in Spain (–37%) and in Italy (–18%). Since then, it has developed differently in the two countries (*Graph 1*).

- In Italy, as in the other European countries, it picked up after 2010. Then it declined sharply once again - until the start of 2013, when it was virtually stable, until summer 2014. It did not make a vigorous recovery until the end of 2014.
- In Spain, the crisis seemed harsher; investment did not pick up in 2010, and virtually stagnated until 2012, before beginning to grow robustly.

Overall, Italian investment followed the profile seen in the Eurozone until the 2012 debt crisis, which affected the country more significantly.

In Spain, the investment profile diverged from that of its European partners as early as 2010. This difference is due to investment in construction.

In Spain, investment in construction plummeted in 2009 and remained poor until the end of 2014. This trend was very specific to Spain and was partly the result of a sharp decline in prices; above all, it was linked to the crisis in the construction of residential buildings, and not necessarily to overall demand or to the financial situation of enterprises.

This analysis is therefore limited to capital investment...

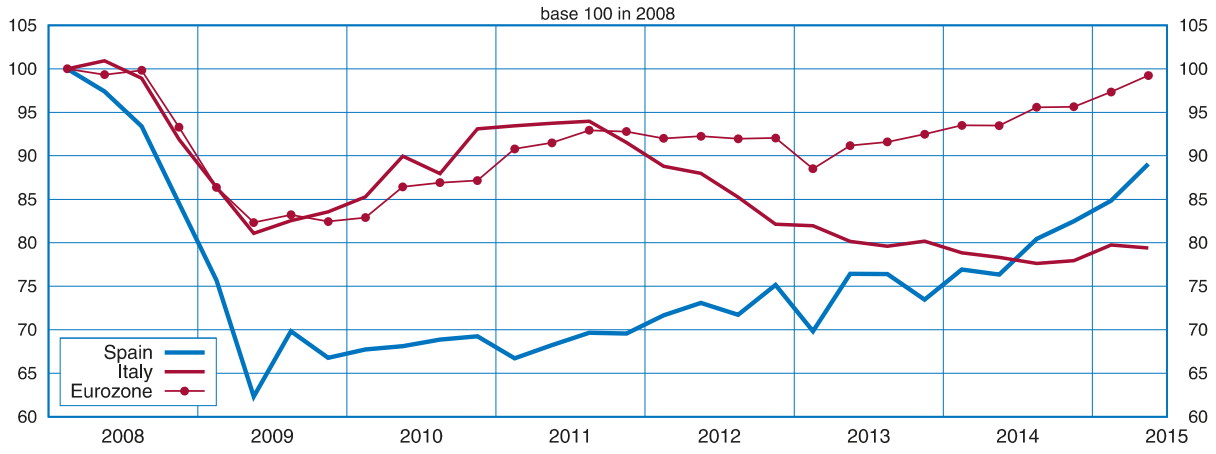
Here, we consider only corporate investment in volume in capital goods, for a better comparison of spending behaviour by Italian and Spanish enterprises.

As more detailed data is not available in the national accounts of these two countries, an approximation is made using investment in capital goods by all economic agents, as published in the quarterly accounts. However, for this type of asset annual variations in this aggregate are consistent with those in investment by companies only (*Box 1*).

... which has bounced back strongly since 2013 in Spain, but stagnated in Italy.

In volume, investment in capital goods evolved in a similar way in Italy and Spain from the great recession of 2009 until the end of 2012. Most notably, it declined in both countries in 2012, at the time of the Eurozone sovereign debt crisis. Since then it has recovered appreciably in Spain (+2.5% in volume per quarter on average), whereas in Italy it remained sluggish until summer 2014 (*Graph 2*).

1 - Investment in value by non-financial corporations



Sources: INE, ISTAT, Eurostat, calculations by INSEE

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The divergence since 2013 can be explained in part by a different demand profile, as Spain in particular has succeeded in attracting strong external demand

Demand for Spanish products started to recover in 2013...

The divergence in investment trends between Spanish and Italian enterprises since 2013 can be explained in part by a different demand profile.

Demand (domestic and foreign) for Spanish products started to recover in 2013, whereas demand for Italian products did not pick up until the end of 2014 (*Graph 3*).

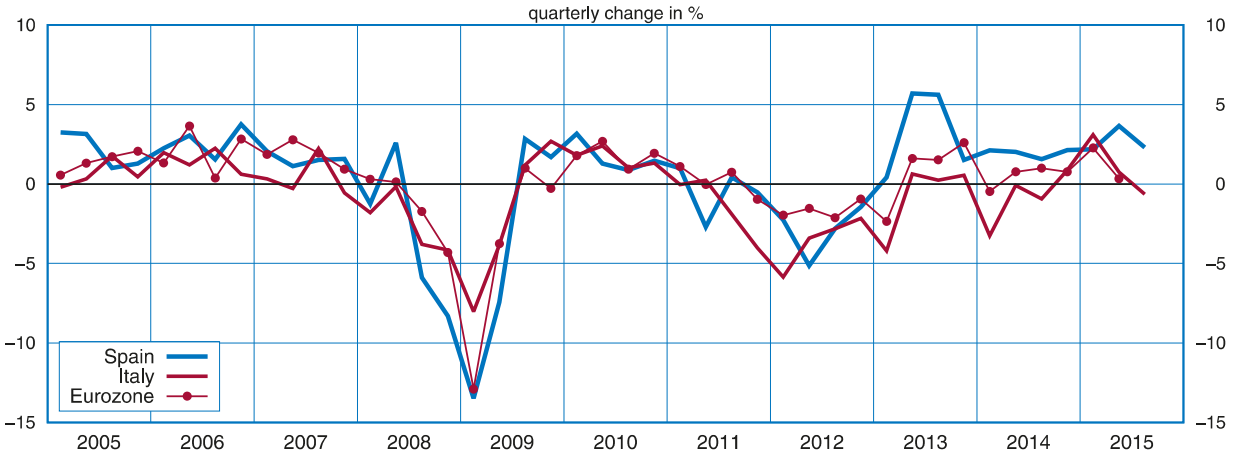
... driven by dynamic foreign demand...

Exports picked up from 2013 in Spain (+4.3%) but were sluggish in Italy (+0.7%) (*Graph 4*). However, the geographical orientation of exports from these two countries was initially very similar, as was world demand for their products.

... and gains in market share...

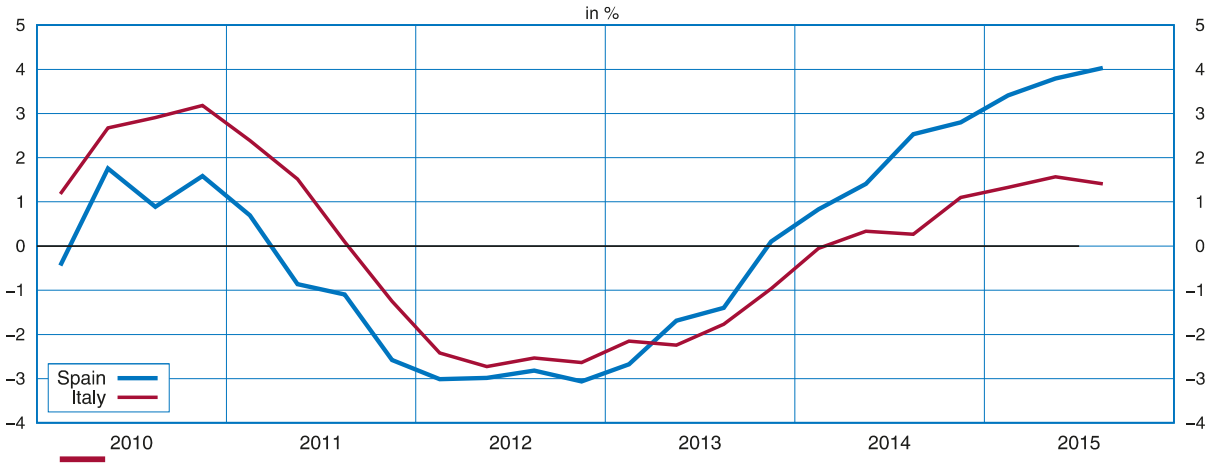
Spain was able to win market share in exports during the crisis, especially to the emerging countries in Asia: the share of exports destined for Asia rose from 5.6% in 2005 to 9.5% in 2014 (Ministerio de economia y competitividad, 2015). Italy, however, continued to lose market share. Spanish growth seems to have involved all exported products, and hence all production sectors. It seems to have been above all driven by corporate efforts on productivity, and hence competitiveness: productivity increased by 17% between 2008 and 2013 in manufacturing, against a backdrop of weak domestic demand, whereas it fell

2 - Gross fixed capital formation in capital goods, in volume



Sources: Eurostat, INE, ISTAT

3 - Final demand, excluding GFCF in capital goods (year-on-year variation in volume)



Note: final demand corresponds to domestic final demand (excluding changes in inventories) and exports
Sources: INE, ISTAT

Corporate financing, the key factor of investment divergences in Italy and Spain

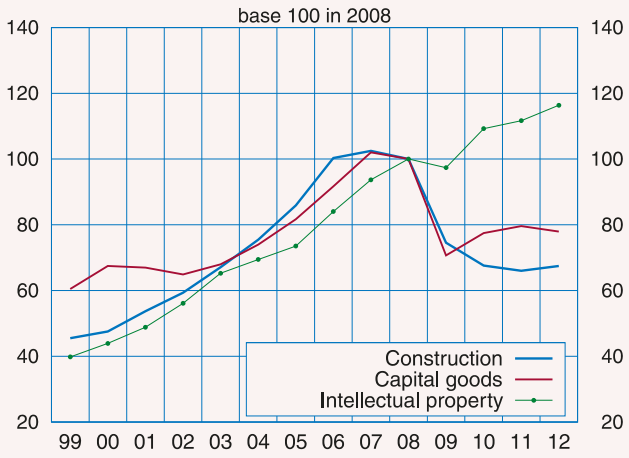
Box 1 - What data should be used to evaluate corporate investment in Italy and Spain?

For analysis of corporate investment – the term"corporate" used here refers to non-financial corporations (NFC) – in European Union Member States, there are three types of data available, which differ in scope or in periodicity:

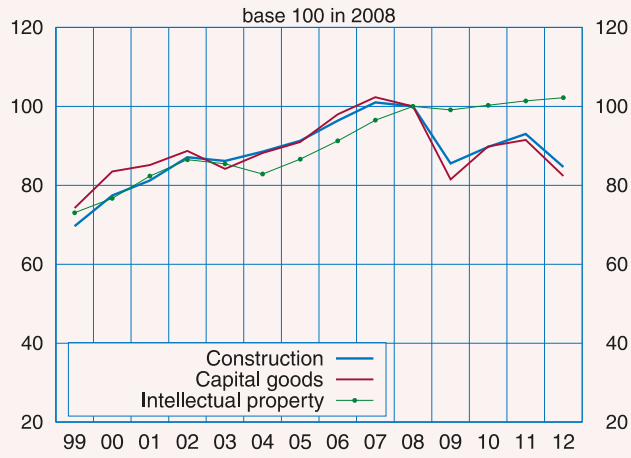
**** Annual national accounts***

The annual national accounts disseminated by the national institutes provide a full breakdown of investment by value, by asset (equipment, construction and intellectual property rights) and by sector (according to the NACE rev. 2 classification). With these two criteria, corporate investment can be tracked by asset. However, these data are only available up to 2012.

Spanish corporate investment in value by type of asset



Italian corporate investment in value by type of asset



Sources: Annual national accounts, INE, ISTAT, calculations by INSEE

**** Quarterly national accounts of non-financial corporations***

Both the Spanish and Italian quarterly national accounts provide company accounts which include their investments. However, this investment is not broken down into assets. In addition, it is only available by value and not by volume.

**** Quarterly national accounts by asset***

The quarterly national accounts give a breakdown of investment per asset for all branches and economic agents, in volume and value. No cross-referencing of these criteria is available: in particular, for a given asset, corporate investment is not differentiated from public investment. However, quarterly accounts offer the advantage of being published quickly.

In terms of variation, corporate investment in equipment can be approximated from total investment in equipment taken from the national quarterly accounts.

The weight of the public sector is considerable (13% on average in Spain, 9% in Italy according to the annual accounts) but it contributes little to variations as a whole, except in 2012 when the sharp drop in Spanish investment in capital goods was to a large extent attributable to general government.

However, it is not possible to associate investment in intellectual property with investment in company equipment in order to build a"productive" investment aggregate from the national quarterly accounts. The weight of the public sector is certainly greater (20% on average in Spain, 24% in Italy), due especially to the importance of research and development in the public sector. The public sector makes a substantial contribution to variations in investment on intellectual property. In Spain in particular, in 2012, it weighed heavily on investment in intangible assets, whereas in the private sector, this component of investment increased. Thus when considering investment in intellectual property it would not be possible to account for the change in productive corporate investment. For this reason, this aspect of investment was not used in this report.

Finally, in Italy, the chosen scope of investment in capital goods represented 50% of total corporate investment and 75% of productive corporate investment (40% and 70% respectively in Spain). ■

by 5% in Italy. However, although flows of external capital increased, they do not seem to have been a factor differentiating Spain from the Italian economy (*Box 2*).

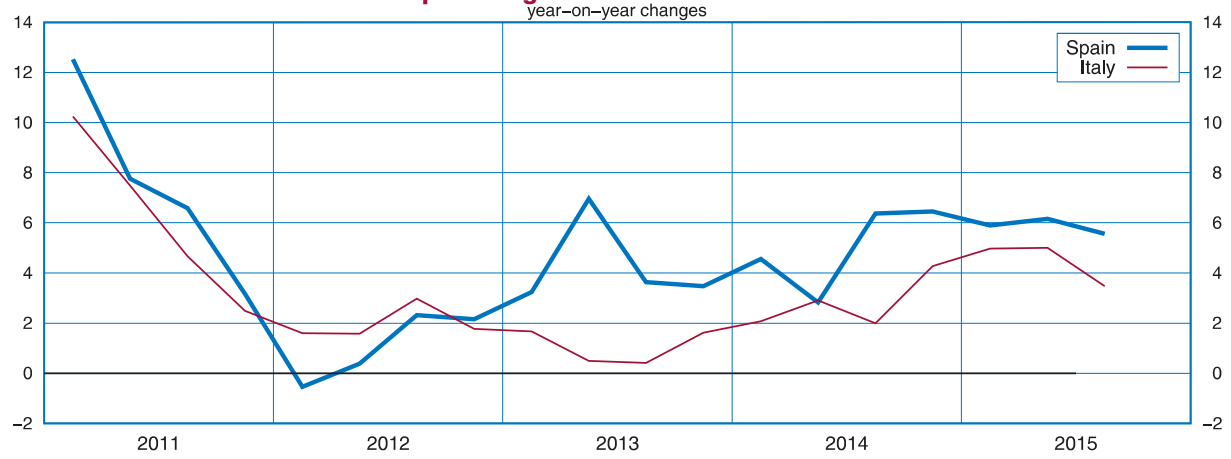
The demand profile accounts to some extent for Spanish investment since 2009, but not for Italian investment

The Italian investment rate declined continuously between 2010 and 2014

The investment rate, which is the ratio of investment to economic activity, is a way of evaluating in simple terms the link between investment and demand. In theory, the investment rate trend is procyclical around a level of long-term equilibrium.

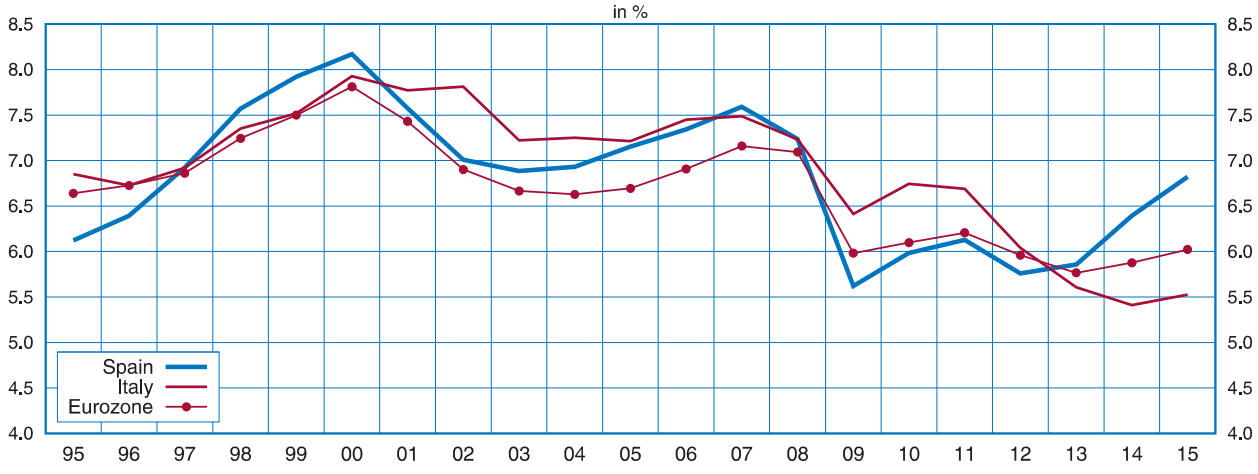
When the 2009 crisis occurred, investment in Spain and Italy plummeted in response to the drop in activity. All else being equal, while the demand profile was sufficient to account for the investment trend, the investment rate should have gradually readjusted. In Spain, it did indeed stabilise during the first few post-crisis years, before beginning an upturn. In Italy on the other hand, it continued to fall, suggesting that even a lacklustre demand profile is not sufficient to account for the low investment levels since 2009 (Graph 5).

4 - Exports of goods and services in volume



Source : INE, ISTAT

5 - Investment rate in equipment in GDP points



Sources : Eurostat, INE, ISTAT

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Box 2 - Foreign direct investments are not a differentiating factor of corporate investment in Italy and Spain

In both Spain and Italy, the crisis period was marked by an effort on the part of the public authorities to improve the attractiveness of their countries for foreign capital. Most notably, the Spanish Parliament adopted a law in December 2013 intended to unify the domestic market and enable a company to distribute its products throughout Spain with a single licence and also to reduce the number of days required to form a company (from 60 days in 2007 to 13 in 2015[1]). This trend was also seen in Italy, although to a lesser extent (the number of days required to form a company was reduced from 13 in 2007 to 5 in 2015).

There was a surge in Spanish productivity, giving rise to increased competitiveness and hence to a greater attractiveness for investors, both foreigners and residents. In Italy, productivity remained stable. Spain therefore attracted much more foreign direct investment than Italy, but the share of FDI in companies' GFCF has not increased since the crisis (*Graph*). The investment rebound therefore does not appear to come from an increase in foreign capital.

The annual flow of foreign direct investment, however, is an indicator of the attractiveness of an economy but one which is difficult to interpret[2].

It groups together business start-ups and capital acquisitions, real estate investments and intra-group loans. It includes some transactions which are not direct investments (tax optimisation). Lastly, these data are frequently and extensively revised.

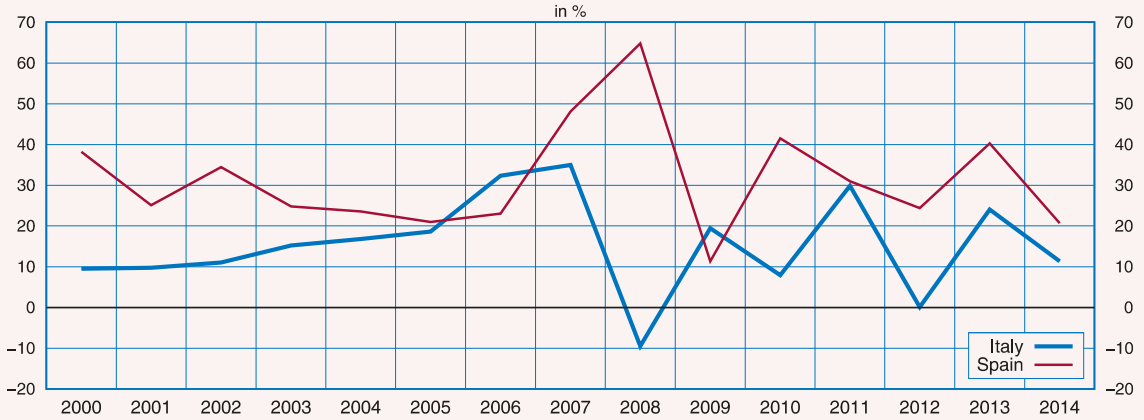
In addition, in Spain in particular a large proportion of inflows (20%) are destined for the financial sector, which contributes little to total investment by all corporations, financial and non-financial. In certain sectors, especially the automobile sector, the arrival of foreign capital was able to stimulate productive investment, but it does not seem possible to generalise this input across the entire economy.

Lastly, the competitiveness of Spanish companies increased and resulted in a rise in investment, but this seems not to have distorted the distribution between resident and foreign companies. ■

[1] According to the report,"*Doing Business*" 2014.

[2] According to the publication by the external trade centre of the Directorate-General of the Treasury,"Les investissements directs étrangers (IDE) en France, état des lieux", July 2014.

Share of direct foreign investment in gross fixed capital formation by non-financial corporations



Source: UNCTAD

A simple model confirms that this weakness is not the result of the demand profile

This hypothesis is confirmed by an econometric analysis using a"simple accelerator" model linking investment to final demand (*Box 4*). The Spanish capital goods investment profile is explained partly by the short-term demand trend, and partly by a catch-up phenomenon after the over-adjustment observed during the crisis. In contrast, investment in Italy in 2009 was very much lower than the level suggested by the demand profile, and this divergence has gradually grown.

Spanish companies increased their savings and deleveraged

Spanish companies have increased their savings considerably since the crisis

There are factors other than demand, financing terms in particular, that have affected the dynamics of corporate investment in Spain and Italy.

In order to invest, companies can draw on their savings[1] (this is called self-financing) or they can turn to external financing. Since 2007, the savings behaviour of Spanish and Italian enterprises has diverged, despite being similar at the start of the 2000s (*Graph 6*). In Spain, the crisis marked a major turning point: the savings ratio recovered rapidly from 2008 and in 2010 reached a level that was much higher than it had been pre-crisis. In contrast, the savings ratio in Italy remained stable overall, at the same level it had been at for a long period.

The weight of distributed income remained constant in Italy despite the crisis...

The main factor of divergence in the savings trend between the two countries was the variation in distributed income since the crisis, defined here as the sum of wage income and dividends (*Box 5*).

In Italy, the crisis modified the trend only slightly: since 2000, distributed income changed in line with value added, and did not affect the savings ratio (*Table 1*). This general trend was the result of two diverging trends: the share of wages in value added increased continuously (from 50% in 1999 to almost 60% in 2015), whereas the share of dividends decreased (from a little under 25% to slightly over 15%); these changes are, on the face of it, mainly attributable to the decline in the share of sole proprietors.

[1]Savings are defined as the the proportion of turnover remaining at the disposal of enterprises once they have paid their charges (intermediate consumptions, staff overheads, financial charges, taxes) and received their subsidies and supplementary revenues (dividends from shareholdings, interest income, etc.).

Box 3 - Review of the literature on recent growth in corporate investment

The issue of low levels of corporate investment since the great recession, particularly in the advanced countries, has been extensively covered in the recent economic literature. There are usually three explanations put forward: a problem of demand, a financial problem, and economic uncertainty. Analysis usually covers a panel of advanced countries. The main conclusions are as follows:

- Demand is the leading factor to account for recent changes in investment. This is certainly the conclusion reached by Lewis *et al.* (2014), whereas Buissière *et al.* (2015) highlight the importance of anticipated demand more than demand itself

- Financing terms are often acknowledged to be important, especially since 2012. This is certainly the opinion of Barkbu *et al.* (2015), who believe that the cost of capital and financial constraints are key features for understanding the low levels of investment in the Eurozone since the crisis. This is also the view advocated by the European Commission (Commission, 2013). However, Hauseux *et al.*, (2015) downplay the importance of the cost of financing, the corporate savings ratio and credit conditions in the light of the contributions of demand, in the case of investment in productive assets by French companies.

- Economic uncertainty is also sometimes highlighted as an important factor of the lack of vigour in investment since the crisis, particularly in a European Commission report of 2013. Baker *et al.* (2015) propose different ways of measuring this uncertainty. During the crisis, the dynamics of short-term investment no longer follow the basic determinants; however, the impact of uncertainty indicators increases. ■

Corporate financing, the key factor of investment divergences in Italy and Spain

Box 4 - Econometrically, investment in equipment in Spain can be explained by fluctuations in demand alone

Economic theory predicts:

- A short-term overreaction of investment to GDP, called the"investment multiplier effect";

- A long-term unitary elasticity of investment to GDP, representing the hypothesis that the investment rate is constant in the long run.

We therefore estimate a two-step error-correction model using these dynamics. The resulting equations are as follows, estimated for the period 1998–2007:

$$\Delta(i_t^{ES}) = \underset{(-2,8)}{-0,39} + \underset{(2,7)}{1,41}.\Delta(d_t^{ES}) + \underset{(2,4)}{2,78}.\Delta(pib_{t-1}^{ES}) - \underset{(-2,8)}{0,14}*\left[\ln(i_{t-1}^{ES}) - \ln(pib_{t-1}^{ES})\right]$$

$$R^2=0,29 \qquad DW=2,2$$

(R2=0.66 calculated over the period 1998–2015)

$$\Delta(i_t^{IT}) = \underset{(-2,2)}{-0,60} + \underset{(1,9)}{1,10}.\Delta(d_t^{IT}) + \underset{(0,7)}{0,54}.\Delta(pib_{t-1}^{IT}) - \underset{(-2,3)}{0,23}*\left[\ln(i_{t-1}^{IT}) - \ln(pib_{t-1}^{IT})\right]$$

$$R^2=0,24 \qquad DW=2,4$$

(R2=0.42 calculated over the period 1998–2015)

Where: i_t^X *is investment in capital goods by country X in quarter t*

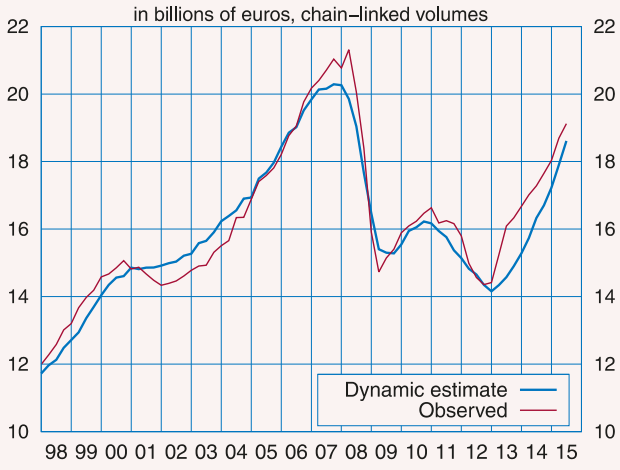
d_t^X *is final demand excluding GFCF equipment for country X in quarter t*

pib_{t-1}^X *is the GDP of country X in quarter t–1*

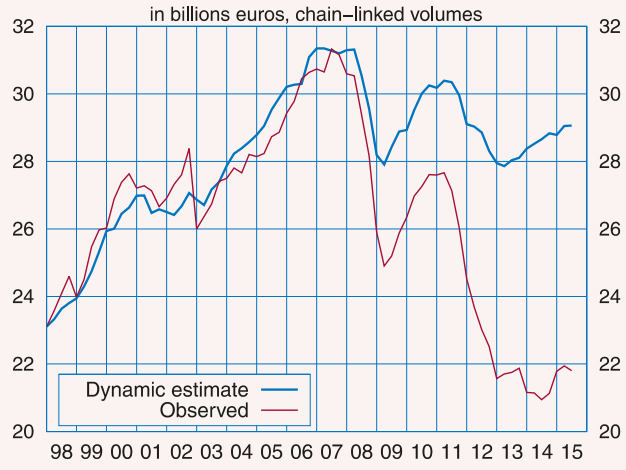
The Student statistics for the coefficients are given in brackets below the coefficients.

Investment in equipment in Spain is well explained using a model such as this (*Graph 1*). On the other hand, Italian investment since the crisis is still mostly unexplained with this type of model (*Graph 2*).

1 - Level of Spanish investment in capital goods (in billions of euros, in volume at chained prices)



2 - Level of Italian investment in capital goods (in billions of euros, in volume at chained prices)



How to read this chart: the dynamic estimate corresponds to the investment in Spanish capital goods forecast according to a"simple accelerator" model.
Sources: Eurostat, calculations by INSEE

... whereas the drop in pay in Spain buoyed up savings

In Spain, however, the crisis reversed the trend. The growth in wages per capita followed that in productivity for the period 2000–2007, so wages (and distributed incomes) did not contribute to the growth in savings. During 2008–2013, however, in a context of substantially higher productivity, the drop in wages provided considerable support for savings: employment declined much more (–17% between 2008 and 2013) than activity (–9%). At the same time the nominal per capita wage had virtually stagnated, resulting in a decline of –1% in real terms. Sectorally speaking, the increase in savings was very largely concentrated in the construction sector: out of a contribution of the variation in wages to savings of 4.9% between the start of 2008 and the end of 2013, the construction sector contributed about 4.0 points, and manufacturing 1.5 points.

These"distributed incomes" are the only factor that clearly differentiates the two countries. Other factors have changed in a similar way, although the values are different.

Due to the composition effect, taxation was more favourable in Spain

The variation in tax contributions has encouraged corporate savings in both countries since the crisis, but more so in Spain than in Italy: it contributed +3.4 points to the variation in the savings ratio in Spain, against +1.2 points in Italy.

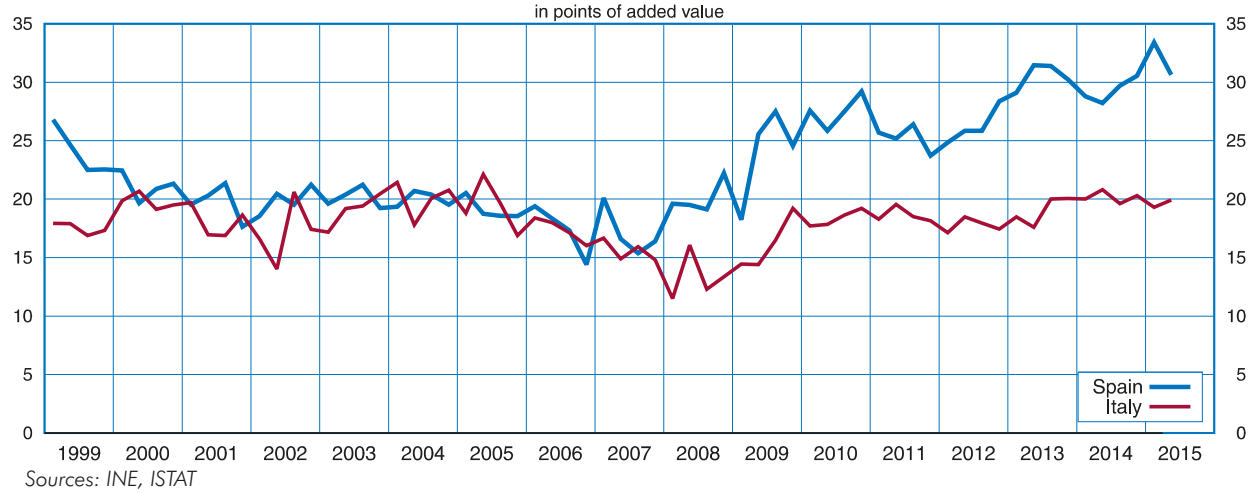
In Spain, this contribution was due mainly to construction. The slump in real estate transactions significantly brought down taxation on construction companies, explaining the sharp decline in the share of taxes in value added at the beginning of the crisis.

Table 1 - Contributions to changes in savings, in added value points

	Spain		Italy	
Period	2000–2007	2008–2013	2000–2007	2008–2013
Distributed income	–0.4	+5.9	+1.0	–0.2
Of wich wages	*–0.3*	*+6.3*	*–2.3*	*–4.1*
Of which dividends	*–0.1*	*–0.4*	*+3.3*	*+3.9*
Taxation	–2.4	+3.4	–3.2	+1.2
Interest	+5.7	+4.9	–1.8	+3.1
Other property income	+1.0	–0.8	+0.8	–0.4
Transfers	+0.3	+0.1	+0.1	+0.1
Residual	-	-	+1.0	+0.1
Total variation in savings	**–7.1**	**+13.6**	**–2.0**	**+3.8**

How to read this chart: out of an increase in savings of 13.6 VA points between 2008 and 2013 in Spain, 5.9 points were due to a decline in distributed income.
Sources: INE, ISTAT, calculations by INSEE

6 - Saving ratio of non-financial corporate sector



Sources: INE, ISTAT

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Deleveraging efforts were greater in Spain than in Italy

Another divergence factor in the change in savings between the two countries was the weight of debt interest. Since 2007, trends in interest payable were favourable in both countries, once again more so in Spain than in Italy, contributing +4.5 points to the variation in the corporate savings ratio in Spain, and +3.2 points in Italy.

Yet both Spain and Italy were similarly affected by the sovereign debt crisis in the Eurozone, as demonstrated by the similar variations in their sovereign yields, and in the rates applied to their enterprises (*Graph 7*).

However, Spanish companies benefitted most from the fall in interest rates. Their debt was greater, the weight of their financial burden was therefore greater and in addition, they deleveraged during the crisis, thus reducing still further the burden of interest on their savings.

Because of falling wages and rising productivity, from 2010 the savings ratio in Spain reached a much higher level than that prior to the crisis.

Box 5 - Accounting differences between Italy and Spain complicate the comparison of profit and savings ratios

The accounts of non-financial corporations are presented in the same way in Italy and Spain. However, there are some differences in choices made by the national accountants, which make it difficult to make comparisons between variables. Looking in particular at the work of Pionnier and Guidetti for the OECD (2015), in this box we describe the pitfalls to be avoided when making comparisons, and analyse the impact of the choices made on Italian and Spanish company accounts.

1. Value added should be considered at factor cost, and not at base price

Above all, as recommended by the OECD, it is important to ensure that the denominator used in the comparisons (value added) is comparable. In European accounts, value added is assessed at base price. Moreover, it includes some taxes net of production subsidies, where rates and weight may differ between economies. To bring measurements closer together, value added is often adjusted for these elements. This is then called"added value at factor cost". This is what was used in this study.

2. When sole proprietors are considered, series comparability can be affected

The accounts of non-financial corporations appear to be less comparable from one country to another than had been usually thought. The main problem is linked with the fact that in some countries freelance workers can be found in company accounts, especially in Germany and Italy, whereas this is not the case for French and Spanish accounts. This difference in methodology has several important consequences.

The share of wages in value added appears to be larger in countries which do not include sole proprietorships in non-financial corporations than in those that do. Indeed, by convention, sole proprietors do not receive a wage, although their activity does generate value added. The share of wages in value added therefore appears greater in Spain than in Italy, partly for these reasons. Furthermore, in Italy, the share of sole proprietorships in total employment has declined steadily, leading to repercussions on the trend variations in this share in value added.

Similarly, the share of dividends in value added can appear higher in those countries that consider sole proprietorships as non-financial corporations. By default, sole proprietors' income corresponds to the profit from their professional activity. However, sole proprietors may find it advantageous to be paid dividends for tax reasons. This is the case in Italy, where only 50% of dividends received by individuals controlling a company are taxed using a progressive income tax. For this reason, dividends appear to be much greater as a share of value added in Italy than in Spain. Their steady decline since the 2000s, as a share of value added, could also perhaps be explained by the constant decline in the share of sole proprietors in total employment.

These differences can lead on the one hand to levels not being considered and on the other to considering only the aggregate of the sum of wages and dividends, which in this report are called"distributed income". In practice, in Italy the share of wages in value added has seen trend growth, and the share of dividends has decreased in similar proportions. In light of the points mentioned above, it was not possible to determine whether these trend changes represented real structural change or simply the growing share of employees in total employment. ■

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After 2009, access to bank loans was restricted

Spanish companies succeeded in self-financing...

Companies' ability to save and to self-finance their investment is a key factor in understanding the divergence in investment behaviour between Spanish and Italian businesses.

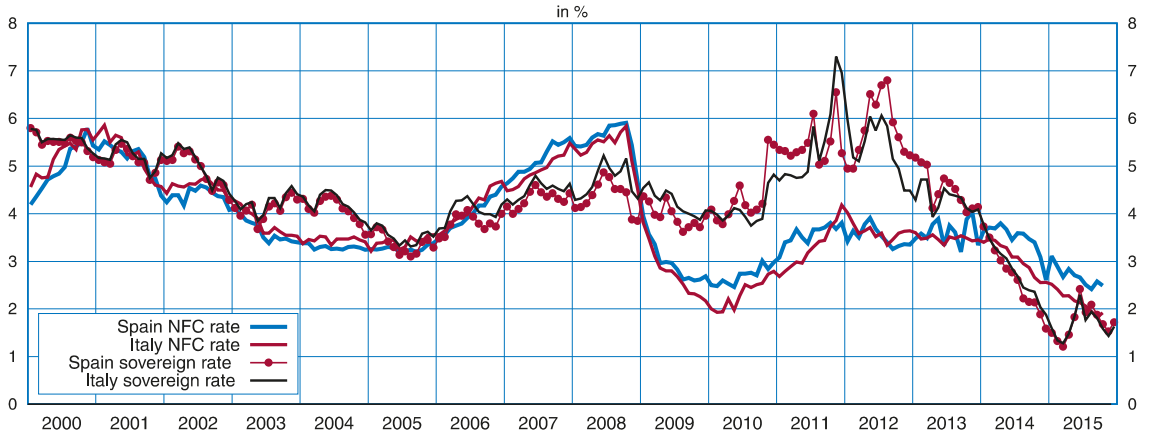
In Spain, self-financing has enabled Spanish companies to need only"optional" access to bank loans. For this reason, the tightening of credit conditions has affected their investments less. In contrast, the weak investment by Italian companies appears to stem from an inability to finance it, whether through savings or by taking out bank loans.

Since 2009, Spanish companies have succeeded in maintaining a self-financing rate for their investment of over 100% (*Graph 8*). It is likely that they would have been able to fully finance the strong recovery in investment since 2013 through internal capital, which in practice does not preclude using external credit, but limits the constraints of external financing on their decision to invest. Unlike their Spanish counterparts, Italian companies have not succeeded in increasing their savings ratio by much since 2009. Self-financing remained below 100%. When they wanted to invest, Italian companies were more reliant on external financing.

... which has in part protected them from restrictions on credit conditions ...

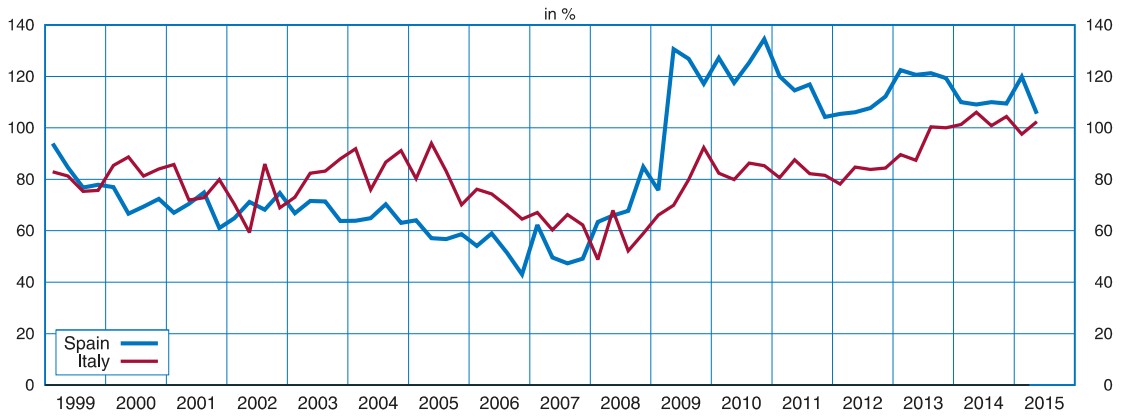
In the past, such a constraint would not have posed such a problem: before the crisis, in Italy and in Spain, self-financing fluctuated between 60 and 80%. Since then, however, the crisis has significantly complicated access to credit for businesses.

7 - Borrowing rate of non-financial corporations and sovereign rates



Source: European Central Bank

8 - Self-financing rate of non-financial corporations



Note: self-financing rate = gross savings / investment
Sources: INE, ISTAT

Corporate financing, the key factor of investment divergences in Italy and Spain

... demonstrated by bank surveys

This restriction on credit conditions was first brought to light by the ECB's quarterly Bank Lending Survey. The national central banks in the Eurozone indicate whether the credit conditions that they apply have tightened, eased or remained the same. A positive indicator suggests that a majority of banks tightened their credit allocation conditions. This survey identifies periods of tightening, but does not measure its scale.

From this source, we see that there was a more or less general tightening of credit conditions in 2009, both in Spain and Italy (*Graph 9*). They were tightened once again in 2012, although in a less generalised way this time, and particularly in Italy.

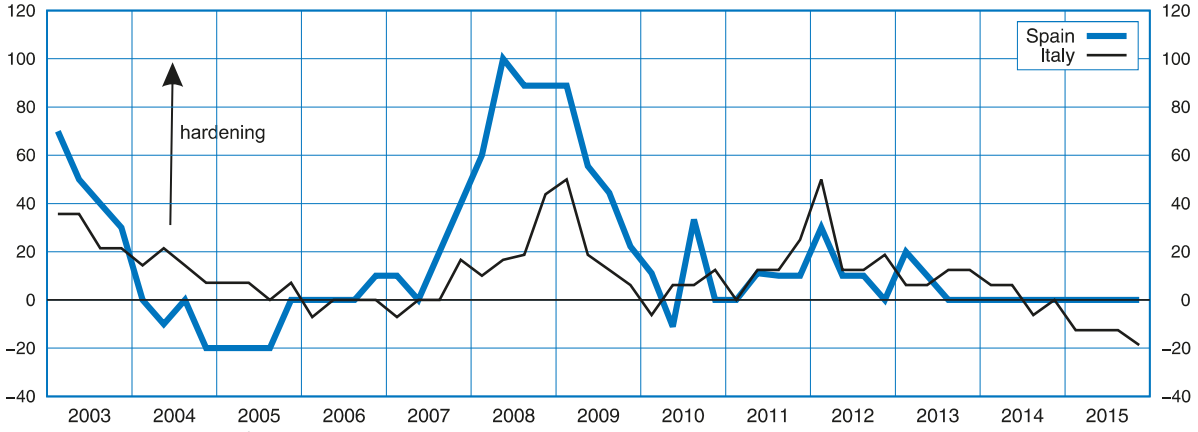
... and business surveys...

In addition, the share of loan rejections increased in 2009 then again in 2012, both in Italy and Spain, according to enterprises interviewed for the ECB's half-yearly SAFE (Survey on the Access to Finance of Enterprises) (*Graph 10*).

... and which seems equivalent in scale in the two countries

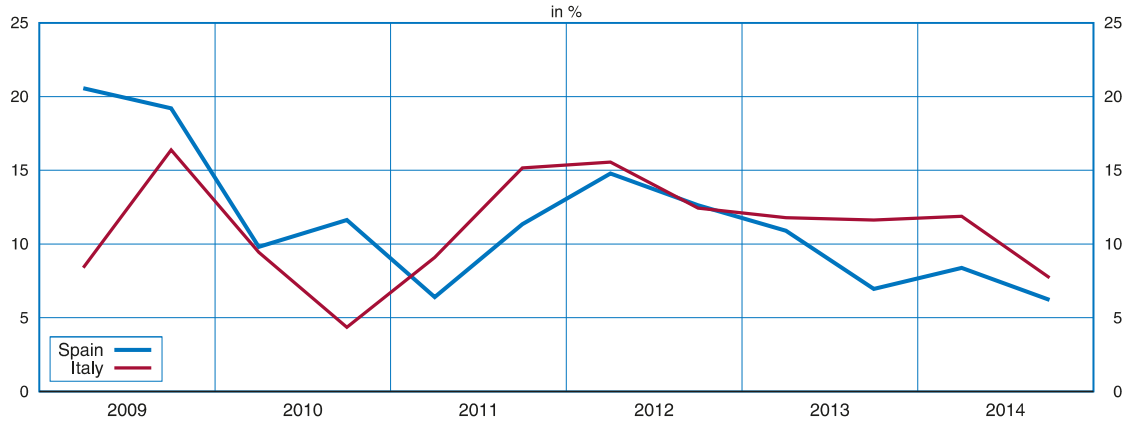
Both countries were therefore affected at the same time – in 2009 then in 2012 – by a tightening of credit conditions. However, it is difficult to summarise these credit conditions in a single variable. Indicators of tension on credit terms as proposed by Alhenc-Gelas *et al.* (2014) are not always available for Spanish and Italian cases. One indicator that is similar to the indicators proposed is the spread in rates applied to loans according to their amount: rates for new contracts on loans of less than 1 million euros are considered for the most part as being awarded to small enterprises, whereas rates granted for new contracts for loans of over 1 million euros are considered as being for the most part for large enterprises; this breakdown by enterprise size remains an approximation

9 - Distribution of credit to enterprises



Source: Banque Lending survey (ECB)

10 - Share of loans refused



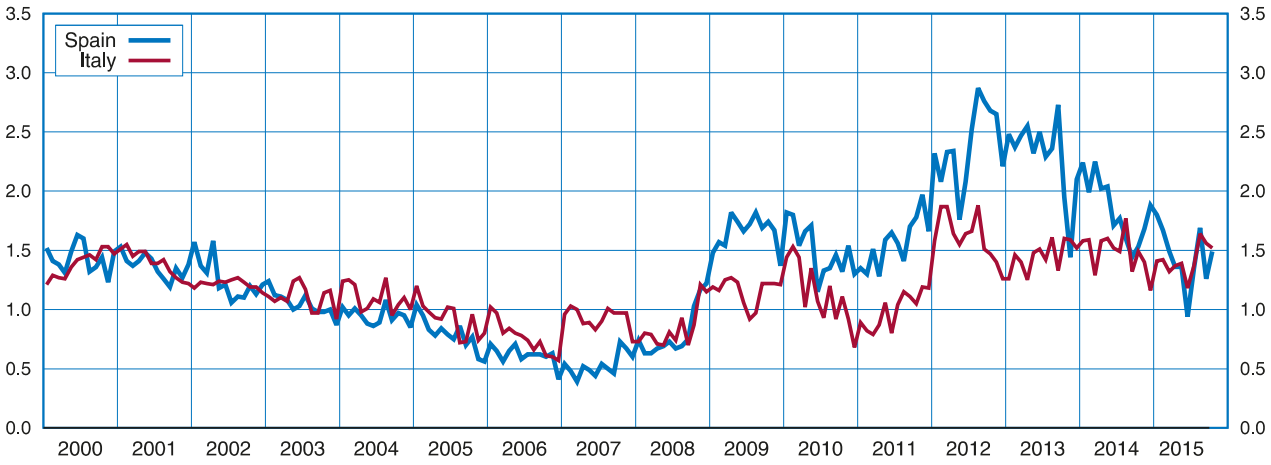
Sources: European Central Bank, SAFE survey

of the split between"low-risk borrowers", or large enterprises, and"high-risk borrowers", or small enterprises. In an environment where credit is tightening, banks are expected to further increase the cost of borrowing for small enterprises in order to guard against the risk of default and to attract investment demand from large enterprises, which are considered more reliable; the spread between the rates will therefore tend to increase in credit crunch periods. This spread has improved markedly in Spain over the last year. However, it is still much greater today than in 2007, when it reached a particularly low level, probably due to the very flexible financing terms that were common before the crisis (*Graph 11*).

An alternative means of trying to assess the extent of the credit crunch is to consider the share of defaulted loans in bank balance sheets (*Graph 12*). Although this variable partly reflects the consequences of earlier credit terms, it can still be interpreted as a measurement of the tension that banks were suffering due to their lending capacity. It affected the risk premium that banks revise according to their solvency and their objectives. It therefore seems representative of the credit terms they applied to their customers.

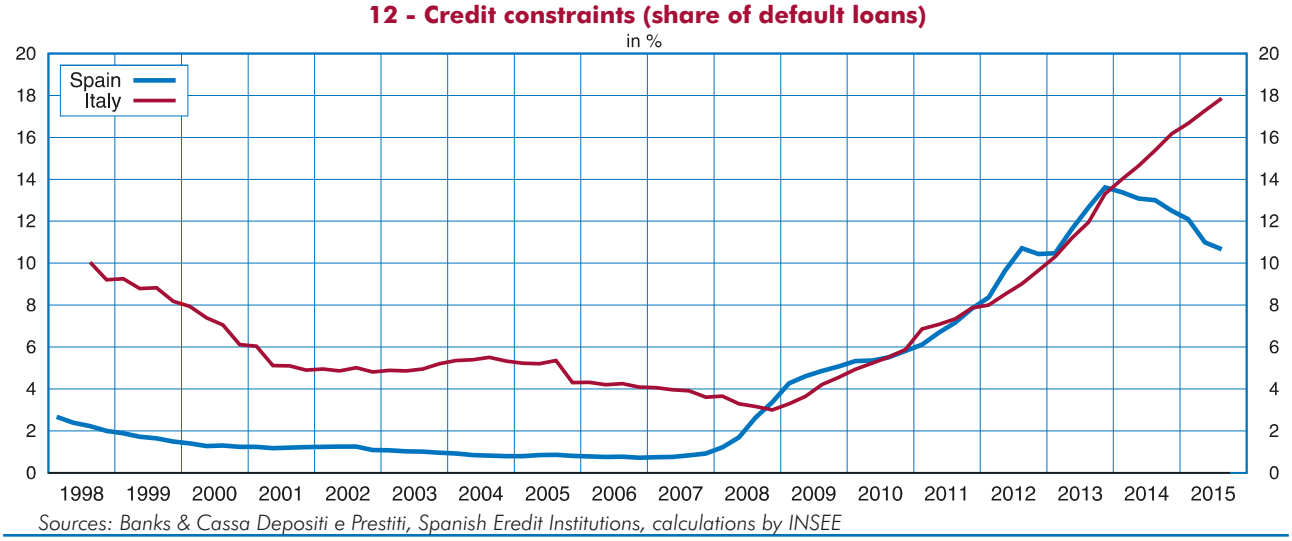
According to this variable, conditions in practice changed in a similar way in both countries between 2009 and 2013. Despite a slight fall in Spain a year ago, this indicator demonstrates that credit conditions in these two countries are still poor compared to the situation before 2007.

11 - Spread between loans of under one million euros and over one million euros



Sources: European Central Bank, calculations by INSEE

12 - Credit constraints (share of default loans)



Sources: Banks & Cassa Depositi e Prestiti, Spanish Eredit Institutions, calculations by INSEE

Corporate financing, the key factor of investment divergences in Italy and Spain

In Italy, companies turned to bond issues

Italian companies had to change their financing source ...

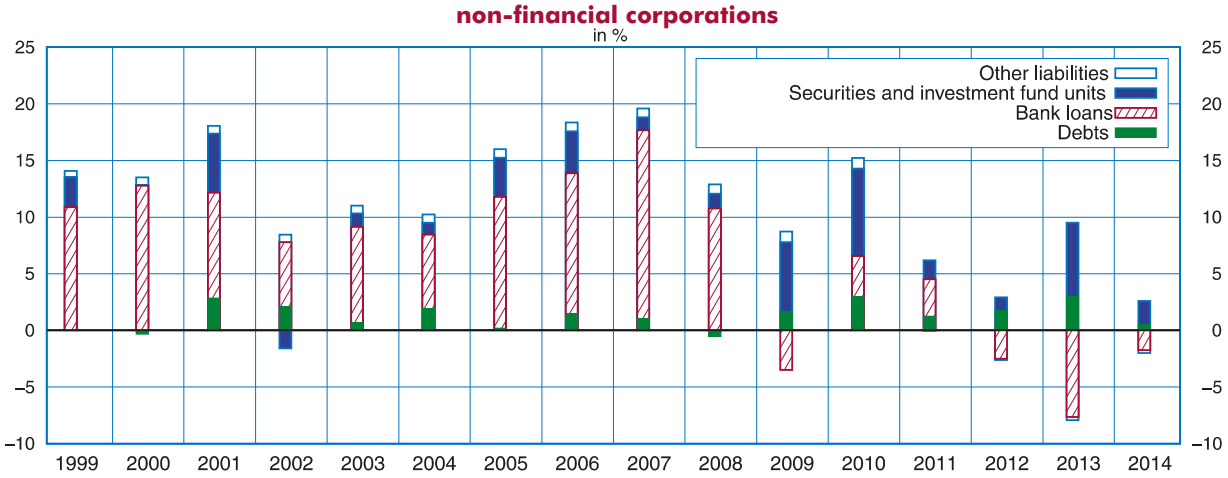
As credit conditions tightened, companies changed their financing source[2]. Before the crisis, financing for Spanish and Italian companies could be broken down in a similar way, with a majority of bank loans. In Italy, total debt flows[3] never exceeded 20% of value added, even during the period before the crisis; in Spain, these same resources were above 20% of VA during this same period, even reaching 44% in 2007. After 2009, the use of external financing decreased substantially. In Italy, net debt flows were roughly halved (for 2009–2014, compared with the previous five years) and they were negative from 2009 in Spain, which confirms that since then, Spanish enterprises have deleveraged.

... especially bank financing...

In Spain, the flow of bank loans has declined since 2009; in Italy, the net flow of bank loans was zero for the period 2009–2014. This change concerns long-term and short-term loans in a fairly similar way.

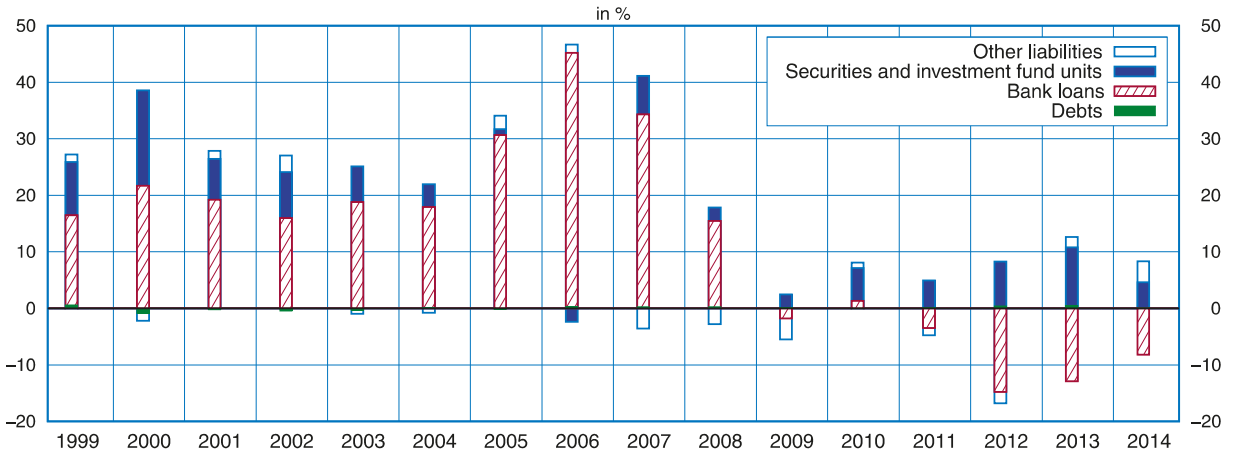
[2] In this report, net flows of debt are used. The effects of revising the value of owned securities are therefore not considered.
[3] Considered in a wider sense, including bond issues; in theory, share issues do indeed

13 - Breakdown of flow of liabilities as a share of VA of Italian non-financial corporations



Sources: Eurostat, calculations by INSEE

14 - Breakdown of flow of liabilities as a share of VA of Spanish non-financial corporations



Sources: Eurostat, calculations by INSEE

... while increasing bond issues

Lastly, bond issues have gained in importance, becoming the only component of growth in corporate liabilities in both countries since 2009 (*Graphs 13 and 14*). In Spain, the share of this type of issue in value added did not increase significantly with the crisis. In Italy on the other hand, this type of issue increased, from 3% of value added on average over the period 2004–2008 to about 6% for 2009–2014. This trend may also be linked to tax reforms, which have made this type of debt more attractive, as it is more interesting in fiscal terms.

However, this change in financing mode proved insufficient in Italy...

Bank debt and bond issues are not easily substitutable, and issues in particular are difficult for the smallest enterprises. For this reason, since the crisis a large number of Italian enterprises seem to find that they are limited in their investment choices, as they have no external financing.

... and companies limited their investment

In such a context, one would expect that as companies were constrained in their financing, they would make drastic investment choices, rejecting expansion projects and concentrating above all on renewing current capital.

The results of the investment survey of industrialists confirmed that this had indeed happened (*Table 2*). In Italy, the share of investment devoted to replacing production capacity has been much greater since the crisis, reaching as much as 59% of investment planned for 2015. In Spain on the other hand, effort is clearly focused on expanding production capacity, and the share of replacement in investment is very low.

Table 2 - Reasons for industrial investment

	Spain		Italy	
	Replacement	Expansion	Replacement	Expansion
2000–2007	18%	42%	37%	31%
2008–2013	20%	28%	44%	22%
2014	10%	74%	35%	17%
2015	12%	72%	59%	18%

Sources: Investment survey, DG-ECFIN

Corporate financing, the key factor of investment divergences in Italy and Spain

Econometric analysis confirms the scale of financing problems in Italy

Between 2009 and late 2012, investment slipped back a little more in Spain...

Between the beginning of 2009 and the end of 2012, investment declined slightly more in Spain (average annual decline of –6.5%) than in Italy (–5.3%). The different factors affected the two countries in similar ways, but to different degrees (*Graphs 15 and 16*).

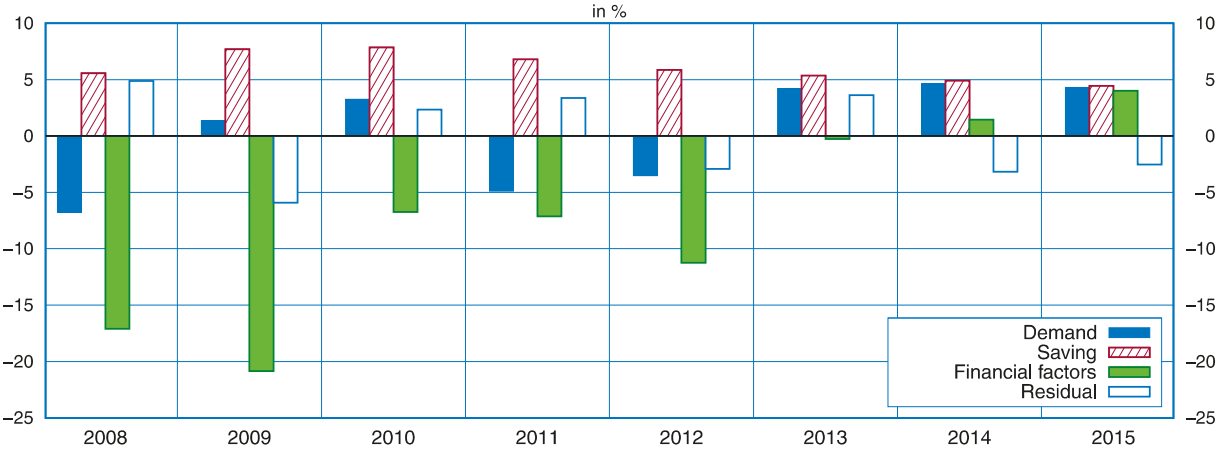
The financial crisis hit Spanish companies more extensively than Italian companies, mainly due to a sharper tightening of credit terms. All in all, financial factors (stock exchange, interest rates, credit constraints) contributed around –11.5 points every year on average to investment trends in Spain, against –4.6 points in Italy.

... however, the increase in savings reduced the impact observed in Spain

For the period 2009–2012, the increase in savings by Spanish companies was able to mitigate the effects of the financial crisis; this was not the case in Italy, however. When the savings contribution is added in (+7.0 points), the contribution of "financial" variables is in fact only –4.4 points per year in Spain, the same as in Italy.

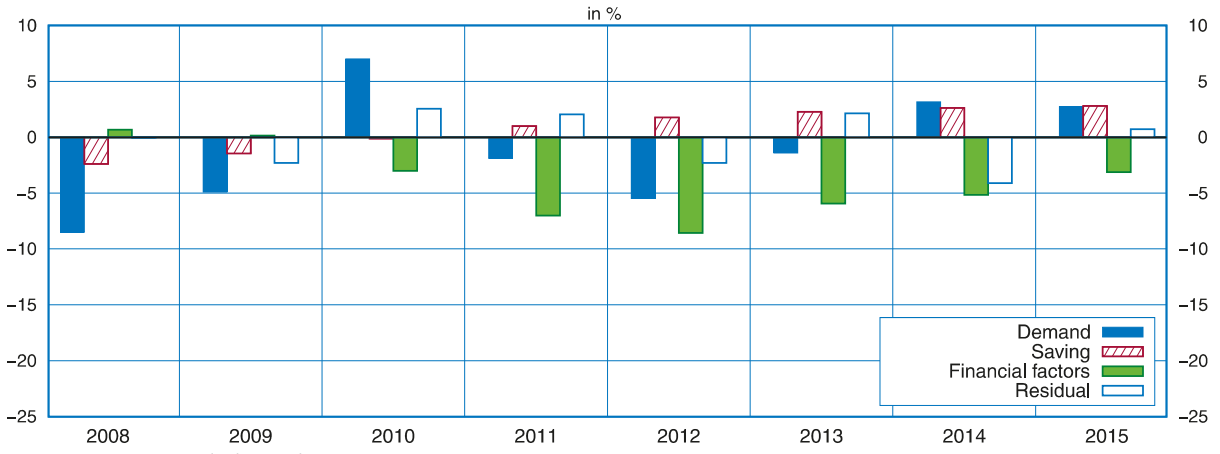
Finally, over the period, variations in demand were also slightly less favourable for Italy (average annual contribution of –1.3 points, against –1.0 points in Spain), in a similar context of declining GDP.

15 - Econometric contributions to annual variations in Spanish investment in capital goods



Sources: INE, calculations by INSEE

16 - Econometric contributions to annual variations in italian investment in capital goods



Sources : ISTAT, calculations by INSEE

Corporate financing, the key factor of investment divergences in Italy and Spain

In 2013 and 2014, all factors were more favourable in Spain...

In 2013 and 2014 investment dynamics diverged: average annual growth of +7.3% in Spain, –5.1% in Italy. According to estimates, the reasons for this divergence (12.4 points) can be found in the more favourable contributing factors in Spain: demand (+4.4 points against +0.9 points in Italy); savings (+5.1 points against +2.4 points) and financial factors (+0.6 points against –5.5 points in Italy). In particular, the stock market and interest rates made a positive contribution to the recovery of Spanish investment, but not in Italy. The contribution of credit terms was negative in both countries, but more marked in Italy (–4.8 points against –3.6 points in Spain).

... however, the vigour observed is above all due to a greater sensitivity to determinants

However, only a third of these more favourable contributions can be explained by an improvement in the variables considered. The scale of the contributions observed is due more to the fact that Spanish companies are more sensitive to variations in the determinants of their investment than Italian companies.

At the start of 2015, apart from a few jolts, investment in capital goods was more dynamic in Italy

Since the end of 2014, investment in capital goods in Italy has gained in vigour (+1.9% per quarter in H1 2015), thanks in part to a reduced deterioration in financial constraints and to improved demand, but also to peak in investment in transport equipment in Q1. In Spain, all factors are still very favourable, which explains why investment in capital goods remained buoyant.

Box 6 - Data used and econometric model selected

The purpose of modelling is to test the relative importance of different factors among demand variables, financial variables and even uncertainty variables.

Data used

· Final demand excluding equipment GFCF is the main demand variable tested, as shown in the estimate given in Box 3.

· The first financial variable tested was the cost of capital, the importance of which is predicted by neoclassical theory. The form used here is simplified from Lewis *et al.* (2014):

$$Ck = \frac{prix\_fbcf}{prix\_pib} * (tx\_souverain - ga(prix\_pib) + tx\_dépréciation\_capital)$$

Where *Ck* is the cost of capital
prix_fbcf is the investment deflator
prix_pib is the GDP deflator
tx_souverain is the country's sovereign yield
ga(prix_pib) is the year-on-year GDP deflator
tx_dépréciation_capital is the rate of capital depreciation

· The sovereign interest rate alone (10-year maturity) was also used.

· To simulate financing constraints in the long term, a variable was used representing the share of defaults among loans issued by the banks (see above). This helped to understand whether bank credit terms were tightening or easing.

· Stock prices were also tested to include a possible"Tobin's Q" effect; this variable indicates that the higher the stock market value, the easier it is for companies to raise funds for investment and hence increase the dividends that they will pay shareholders.

Corporate financing, the key factor of investment divergences in Italy and Spain

Model

An error-correction model was estimated for each of the two countries. To incorporate savings and self-financing, the corporate investment rate can be rewritten as the ratio of the savings rate (ratio of savings to value added) to the self-financing rate (ratio of savings to investment):

$$\frac{Inv}{VA} = \frac{Savings\_rate}{Self-financing\_rate}$$

We assume that the self-financing rate depends on the cost of capital (the lower this is, the more a company is disposed to call upon external financing and allows itself a lower self-financing ratio) and the credit constraints companies experience (the stronger these constraints, the more companies feel they have no option but to self-finance).

This gives the following long-term relation:

$$\ln\left(\frac{Inv}{VA}\right) = \ln(Savings\_rate) + \alpha.(part\_prets\_defaut) + \beta.cout\_capital + \chi.(bourse) + c$$

In the long term, the savings ratio and the investment rate are assumed to evolve in tandem.

The same variables were tested in the short term as in the long term.

Results for both countries are given here, estimated over the period 1999–2014:

$$\Delta(i_t^{ES}) = \underset{(-4,7)}{-1,09} + \underset{(5,3)}{1,68}.\Delta(d_t^{ES}) + \underset{(1,5)}{0,04}.\Delta(bourse_t^{ES}) + \underset{(1,6)}{0,05}.\Delta(bourse_{t-2}^{ES}) - \underset{(-0,9)}{0,61}.d(ck_{t-1}^{ES})$$
$$-\underset{(-5,0)}{0,31}*\left[\ln(i_{t-1}^{ES}) - \ln(pib_{t-1}^{ES}) - \ln(tx\_ep_{t-1}^{ES}) + \underset{(*)}{0,68}.ck_{t-1}^{ES} + \underset{(*)}{0,20}.\ln(défauts\_crédits_{t-1}^{ES}) - \underset{(*)}{0,17}.\ln(bourse_{t-1}^{ES})\right]$$

$R^2 = 80\ \%$ DW = 2,0

$$\Delta(i_t^{IT}) = \underset{(-2,6)}{-0,31} + \underset{(4,8)}{1,53}.\Delta(d_t^{IT}) + \underset{(3,0)}{1,12}.\Delta(d_{t-1}^{IT}) - \underset{(-2,0)}{0,25}.\Delta(i_{t-1}^{IT}) - \underset{(-3,0)}{0,02}.d(tx\_souv_{t-3}^{IT})$$
$$-\underset{(-2,0)}{0,10}*\left[\ln(i_{t-1}^{IT}) - \ln(pib_{t-1}^{IT}) - \ln(tx\_ep_{t-1}^{IT}) + \underset{(*)}{0,25}.\ln(défauts\_crédits_{t-1}^{IT}) - \underset{(*)}{0,25}.\ln(bourse_{t-1}^{IT})\right]$$

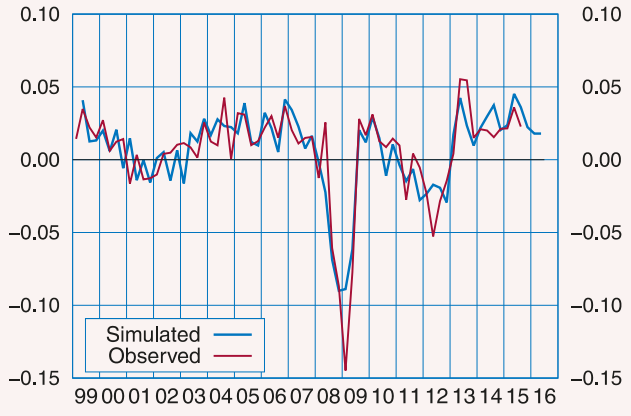
$R^2 = 67\ \%$ DW = 2,2

Where: i_t^X is investment in capital goods by country X in quarter t
d_t^X is final demand excluding equipment GFCF for country X in quarter t
pib_{t-1}^X is the GDP of country X in quarter t–1
$bourse_t^X$ is the deflated stock exchange price in quarter t
ck_{t-1}^X is the cost of capital in quarter t–1
$tx\_ep_{t-1}^X$ is the savings ratio in quarter t–1
$défauts\_crédits_{t-1}^X$ is the share of defaulted loans in quarter t–1
$tx\_souv_{t-3}^X$ is the sovereign rate of country X in quarter t–3

The Student statistics for the coefficients are given in brackets below the coefficients.

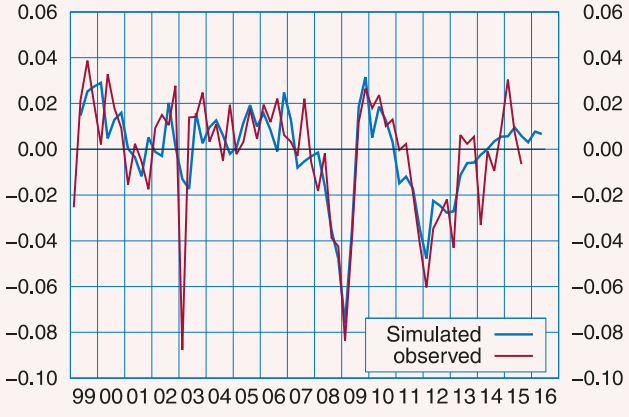
The estimated models provide a good understanding of the change in investment in the two countries, including since the crisis.

1 - Spanish investment in capital goods



Sources: INE, INSEE

2 - Italian investment in capital goods



Sources: ISTAT, INSEE

Corporate financing, the key factor of investment divergences in Italy and Spain

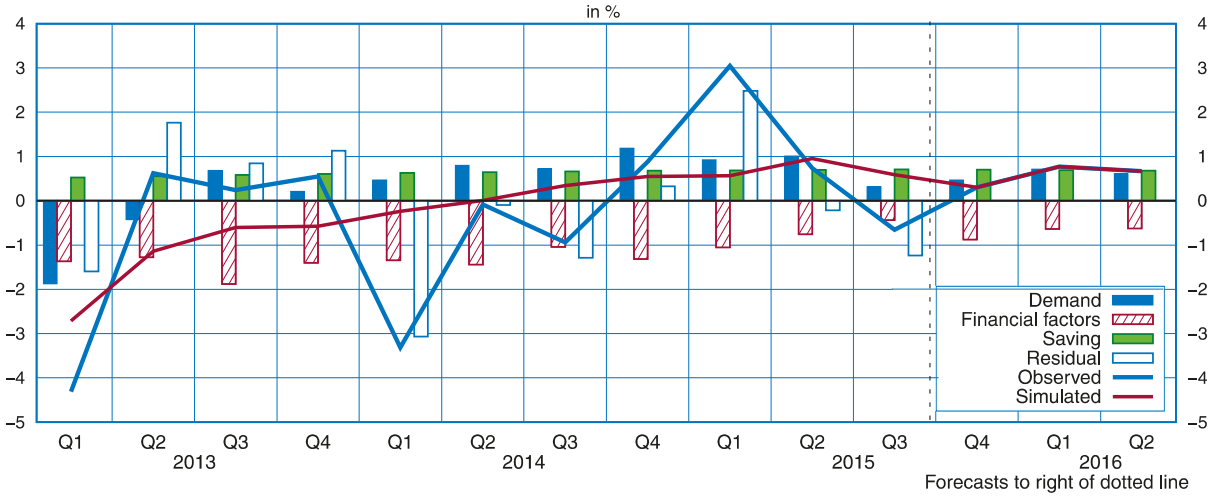
Italian investment is likely to accelerate moderately, whereas in Spain it will probably slow a little

With equivalent financing terms, Italian investment cannot grow as robustly as its Spanish counterpart, because it seems less sensitive to variations in its determinants.

Assuming that credit terms will start to ease and that demand will grow by about 0.3% per quarter, then after a negative jolt in the summer, investment in equipment by Italian companies seems set to return to a growth rate of around +0.7% per quarter until mid-2016 (*Graph 17*). The investment rate should continue to rise slightly, reaching 5.6% by mid-2016, but still remaining closer to its lowest level (5.4%) than to its 2006 level (7.4%).

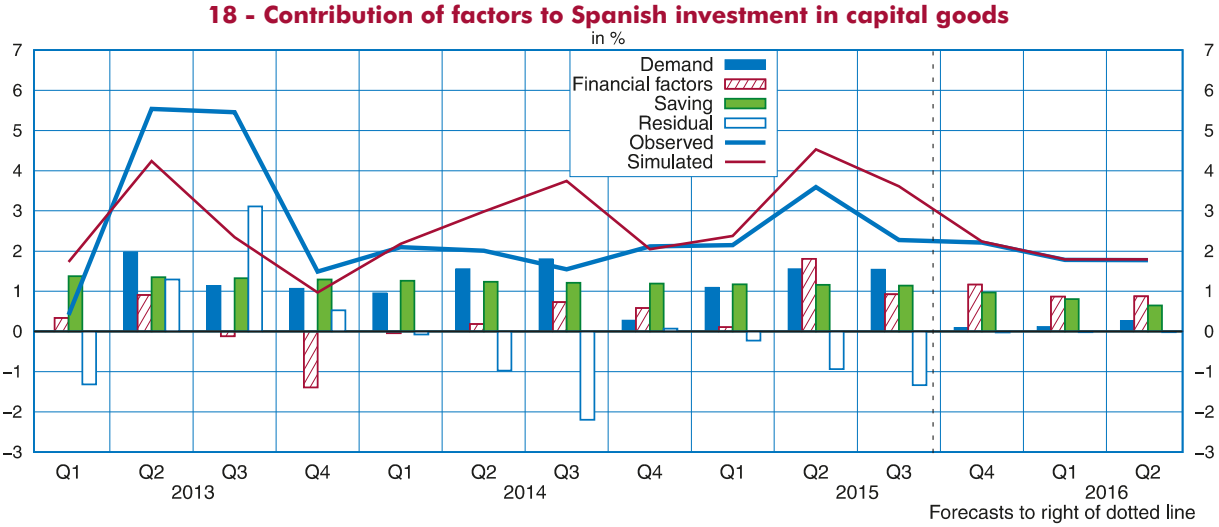
In Spain, the catch-up phase that got underway at the start of 2013 is now running down, mainly because the investment rate already exceeded its long-term average, in Q2 2014; investment should therefore gradually slow (*Graph 18*). However, the easing of credit terms, which started in 2014, provides extra support for investment by increasing the liquidities available to companies. By mid-2016, investment in equipment is likely to maintain strong growth, of around +2% per quarter. ■

17 - Contribution of factors to Italian investment in capital goods



Sources: ISTAT, INSEE

18 - Contribution of factors to Spanish investment in capital goods



Sources: INE, INSEE

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