# Reorientation of the building sector strategies

## Executive summary

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# REORIENTATION OF THE BUILDING SECTOR STRATEGIES

# REPORT

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# 1. EXECUTIVE SUMMARY

## 1.1. CONTEXT

In 1997, the construction sector in Catalonia started a growth cycle, both in terms of GVA and employment, which did not stop until 2008. There was a decade of strong growth both in the GVA and in the sector employment. In 1998 employment had already regained the levels before the crisis of 1992. The progressive price reduction in credits, increasingly dependent on European monetary context, had extended this growth cycle during the early years of the XXI century. Since 1999, the sector GVA deflator moved above the benchmark interest rate. The years 2004 and 2005 marked a peak in the differential implied in the growth of the VAB value and in the cost of financial resources.

During this phase of expansion, the sector rose from representing 6.6% of GVA in 1998 to 10.7% in 2008. From there on it entered a clearly contractionary phase which led it to represent 8.1% of GVA in 2011 and 7.7% of the employment in the same year. In 2012 this figure had dropped to 6.5%.

Throughout this contractionary process, the construction sector has been the one that has generated more unemployment and also the one that has taken away more growth to the economy as a whole. However, even though the construction sector in Spain as a whole has continued correcting the GVA and the employment since the crisis began, the weight of the construction sector in terms of GVA in 2011 was still above the average for the EU27 and Eurozone.

The remaining data which are discussed in the Context section are summarized in the following table:

**TAULA 1. Summary of data context in the construction sector. Catalonia, 2004-2012**

| Purchases of new homes[1] | 2012 | Change in the last year | 2007=100 | 2004=100 |
|---|---|---|---|---|
| Catalonia | 11.641 | -9,4 | 28,3 | 31,3 |
| Spain | 114.823 | -10,2 | 27,8 | 38,9 |
| **Home prices up to 2 years old[2]** | **4T 2012** | **Change in the last year** | **1T 2007=100** | **1T 2004=100** |
| Catalonia | 1.956 | -7,6 | 83,5 | 120,0 |
| Spain | 1.588 | -7,8 | 79,6 | 110,9 |
| **Work management visas : number of homes** | **11 2012** | **Change in the last year** | **2007=100** | **2004=100** |
| Catalonia | 10.595 | -32,0 | 12,0 | 10,1 |
| Spain | 73.094 | -35,2 | 10,6 | 9,9 |
| **New construction** | **11 2012** | **Change in the last year** | **2007=100** | **2004=100** |
| Catalonia | 4.192 | -36,8 | 4,9 | 4,3 |
| Spain | 47.020 | -41,8 | 7,2 | 6,8 |
| **Enlargement** | **11 2012** | **Change in the last year** | **2007=100** | **2004=100** |
| Catalonia | 381 | -9,1 | 47,5 | 47,2 |
| Spain | 2.555 | -13,8 | 32,4 | 25,3 |
| **Reform** | **11 2012** | **Change in the last year** | **2007=100** | **2004=100** |
| Catalonia | 6.022 | -29,4 | 219,2 | 82,6 |
| Spain | 23.519 | -18,7 | 79,6 | 55,3 |

(1) Number of homes.
(2) Euros per square meter.
Source: own elaboration from the Ministry of Development, the Watching Centre for Enterprise and Employment of the Government of Catalonia and the INE.

Buying and selling of new homes in 2012 represented 28.3% of the same activity in 2007 and 31.2% of it in 2004. Therefore, the decline in activity between 2007-2012 is almost equivalent to the increase that took place between 2004 and 2007. It is not possible to appraise any improving trend last year since the purchases decreased 9.4% compared to 2011.

As for the prices of homes that have up to 2 years, we can observe that in the fourth quarter of 2012 they are placed in 83.5% of the value they had in 2007, but still above the prices which were in effect in 2004. Last year prices went down by 7.6%.

TAULA 2. Summary of data context of the construction industry. Catalonia, 2004-2012

| Official tender[1] | 06 2012 | Change in the last year | 2007=100 | 2004=100 |
|---|---|---|---|---|
| Catalonia | 878.414 | -61,0 | 12,4 | 28,0 |
| Spain | 8.543.798 | -50,5 | 22,8 | 30,2 |
| **Production[2]** | **2012 (E)** | **Change in the last year** | **2007=100** | **2004=100** |
| Total | 12.338 | -14,0 | 40,1 | 55,2 |
| New homes | 2.221 | -9,1 | 21,1 | 30,4 |
| New non-residential buildings | 2.499 | -7,0 | 39,2 | 50,6 |
| Rehabilitation and maintenance | 6.681 | -4,0 | 87,8 | 109,2 |
| Civil works | 937 | -58,5 | 15,0 | 23,5 |
| **Employment: thousands of people** | **2012** | **Change in the last year** | **2007=100** | **2004=100** |
| Catalonia | 187 | -21,0 | 42,6 | 53,4 |
| Spain | 1.148 | -17,6 | 42,5 | 50,9 |
| **Employment by provinces** | **2012** | **Change in the last year** | **2007=100** | **2004=100** |
| Barcelona | 118.628 | -23,5 | 43,6 | 51,3 |
| Girona | 25.509 | -19,9 | 43,2 | 56,1 |
| Lleida | 13.452 | -30,7 | 39,2 | 61,4 |
| Tarragona | 29.851 | -3,5 | 40,3 | 1.1.1. 53,7 |
| **1.1.2. Unemployment:: number of people** | **1.1.3. 1.1.4. 01 20 13** | **1.1.5. Change in the last year** | **1.1.6. 2007=100** | **1.1.7. 2004=100** |
| 1.1.8. Catalonia | 1.1.9. 99.100 | 1.1.10. -4,0 | 1.1.11. 429,0 | 1.1.12. 391,7 |
| 1.1.13. Spain | 1.1.14. 759.300 | 1.1.15. -4,2 | 1.1.16. 329,7 | 1.1.17. 300,7 |
| **1.1.18. Enterprises: number of enterprises** | **1.1.19. 2012** | **1.1.20. Change in the last year** | **1.1.21. 1.1.22. 200 7=100** | **1.1.23. 1.1.24. 200 4=100** |
| 1.1.25. Catalonia | 1.1.26. 85.047 | 1.1.27. -5,5 | 1.1.28. 94,4 | 1.1.29. 114,3 |
| 1.1.30. Spain | 1.1.31. 462.402 | 1.1.32. -5,1 | 1.1.33. 94,7 | 1.1.34. 118,1 |

(1) Thousands of euros.
(2) Millions of euros.
Source: own elaboration from the Ministry of Development, the Watching Centre for Enterprise and Employment of the Government of Catalonia and the INE.

Through the work management visa it can be confirmed that the new work is the one that has reduced most its activity, followed by the enlargements. However, the renovations are the only ones which increase their activity level when compared to the 2007. In particular, the number of homes with visa for renovations in 2012 is 2.19 times higher than in 2007. Anyway, this growth of housing visas for renovations between 2007 and 2012 is insufficient to recover the activity until 2004 levels. The situation in Spain with regard to this variable gives similar results to those of Catalonia in terms of new work visas and enlargements, but not in terms of reforms since, for the whole state, the renovation works have not recovered the activity that they had in 2007.

The bidding data show an activity drop by the 61% in the last year; they stood at 12.4% of the value of the bid in 2007.

Regarding the production data by type of work, they confirm the sharp drop in activity during the crisis, being rehabilitation and maintenance the ones that have been the least affected. It has even been stated that the current activity of the rehabilitation and maintenance works is 9.2% higher than it was 2004.

The sector employment is estimated at 187,000 people and it is equivalent to 42.6% of the one which was in 2007. In the last year it dropped by 21%. By provinces, all of them show a similar decrease from 2007. Tarragona, in particular, is presenting a softer fall of the employed population in the last year (-3.5%).

Regarding unemployment, it affects 99,100 people. Last year it has dropped by 4%, but it has multiplied by 4.29 with regard to the unemployment level in 2007.

Finally, the number of companies is 85,047, 5.5% fewer than there were in 2011, 94.4% of ther existing ones in 2007, but 14.3% more than there were in 2004.

## 1.2. CONSTRUCTION, A KEY SECTOR OF THE ECONOMY

Construction is a key sector of the economy, taking into account the interindustrial relationships which are calculated from the input output table of the Catalan economy in 2005, the last input output table that is available.

It is proven that construction is one of the sectors of the economy with a greater capacity to impact on production, employment and the added value of the economy from the growth of demand. For every dollar that demand grows, the total output of the economy grows 1.76 euros and the generated added value is 0.77 euros. The employment multiplier is 15.38, which is the number of jobs generated per each million euros of growing demand in the sector.

## 1.3. NEW STOCK WAITING FOR SALE

The summary of the main information in the new stock section is presented in the table on the next page. There are 89,123 new homes pending sale in late 2012. It would take 7.7 years to remove this stock if sales were the same of the year 2012. This stock is equivalent to 11.8 homes per 1,000 inhabitants and 30.9 homes per 1,000 households.

By provinces, Barcelona is the one with the highest number of new homes pending sale, 39.8% of the total, and Tarragona shows the worst indicators with regard to the absorption of stock and the housing stock per inhabitants and households.

By groups of counties, the tourist areas are those with more housing stock pending sale, 39.3% of the total, and the ones with the worst indicators of absorption of stock and housing stock per inhabitants and households.

By functional territories, the Barcelona metropolitan area is the one that has more housing stock pending sale, 26.6% of the total, followed by Camp de Tarragona, with 20.3%. Terres de l'Ebre is the area with the worst indicators of absorption of stock and housing stock per inhabitants and households.

The metropolitan area of Barcelona has a stock representing 7.8% of the total stock. The absorption of stock and housing stock indicators per inhabitants and households which it presents are better than the whole of Catalonia.

Meanwhile, Barcelona city has a housing stock pending sale which represents 0.9% of the total stock and its absorption of stock and housing stock indicators per inhabitants and households are better than the whole of Catalonia.

TAULA 3. Stock of new homes pending sale, absorption of stock indicator and accumulated stock of new constructions for 1.000 inhabitants and 1.000 households. Catalonia, 2012

| | Accumulated stock in 2012 | % | Absorption indicator | Stock x 1.000 inhabitants | Stock x 1.000 households |
|---|---|---|---|---|---|
| Catalonia | 89.123 | 100 | 7,7 | 11,8 | 30,9 |
| Provinces | | | | | |
| Barcelona | 35.505 | 39,8 | 5,6 | 6,4 | 16,9 |
| Girona | 15.823 | 17,8 | 8,1 | 20,8 | 55,3 |
| Lleida | 4.560 | 5,1 | 3,9 | 10,3 | 25,0 |
| Tarragona | 33.235 | 37,3 | 16,5 | 40,8 | 106,8 |
| Groups of counties | | | | | |
| Urban areas | 27.619 | 31,0 | 5,0 | 5,5 | 14,4 |
| Metropolitan area | 12.898 | 14,5 | 8,8 | 20,0 | 52,7 |
| Turistic areas | 34.996 | 39,3 | 12,3 | 36,0 | 94,2 |
| Rest of Catalonia | 13.609 | 15,3 | 8,3 | 15,1 | 38,4 |
| Territorial functional areas | | | | | |
| Alt Pirineu and Val d'Aran | 1.238 | 1,4 | 2,6 | 16,2 | 37,7 |
| Metropolitan area of Barcelona | 23.689 | 26,6 | 4,7 | 4,9 | 13,0 |
| Camp de Tarragona | 18.098 | 20,3 | 14,0 | 34,7 | 91,3 |
| Girona counties | 14.951 | 16,8 | 8,3 | 20,0 | 53,4 |
| Central counties | 6.012 | 6,7 | 8,8 | 15,2 | 39,2 |
| Penedès | 9.804 | 11,0 | 10,0 | 20,7 | 54,7 |
| Ponent | 3.929 | 4,4 | 4,7 | 10,7 | 26,4 |
| Terres de l'Ebre | 11.401 | 12,8 | 23,8 | 59,4 | 156,0 |
| Metropolitan area of Barcelona | | | | | |
| Metropolitan area of Barcelona | 6.959 | 7,8 | 2,4 | 2,1 | 5,6 |
| Barcelona city | | | | | |
| Barcelona city | 795 | 0,9 | 0,7 | 0,5 | 1,2 |

Units: stock in number of homes, percentages, absorption of stock indicator in the number of necessary years to remove the stock if sales were the same of last year and accumulated housing stock per 1,000 inhabitants and 1,000 households.
Source: own elaboration from the Ministry of Development and the Government of Catalonia.

## 1.4. HOUSING STOCK EVOLUTION

In 2001 the housing census placed the number of residential homes in Catalonia in 3,315,936, of which 2,315,774 appear to be used as a main residence; 514,943 as a second home, 32,298 for other uses and the remaining ones, empty. However, between 2001 and 2011 the dynamism of the construction sector has been very marked. The new housing census of 2011 placed the housing stock in Catalonia in 3,863,381.

By 2011, the same census puts the number of households in 2,944,944 families and, obviously, the same number of main residences. This strong increase of pritmary dwellings has contributed to the growth of use of the park for primary residence. The factor that has influenced this change in the pattern of use has been the strong dynamic of the households, which increased 27.2%, well above the growth of the housing stock (16.6%).

This strong growth of the main residences has made that the second homes move back, since they have declined in absolute terms in 44 862 (the -8.7%), in a context in which the empty flats should also not have increased. However though, we should keep in mind that these changes in usage patterns and in the occupancy of the park will be subordinated in the future to the changes in social behaviour and the inversion of demographic flows which could erode with more or less intensity this demand for first residence.

## 1.5. REORIENTATION STRATEGY OF THE RESIDENTIAL CONSTRUCTION SECTOR: PROCESS AND PRODUCT INNOVATION ORIENTED TOWARDS THE FUTURE NEEDS FOR NEW EDIFICATION

Given the present situation in the sector, it is necessary to articulate new strategies to reorient productive sector in order to meet the challenges of this century. One of these lines pass through a structural change in the way how to build, that conducts the sector to more industrialized processes, production quality and added value. A second line of reorientation would also transform the processes and products in the sense of making them increasingly sustainable, also in environmental terms. In this transformation, the Administration has already implemented a clear guidance, as the EU itself marks a roadmap that should lead to energy savings in the medium and long term.

For industrialization process we should not understand industrialization based on the incorporation of increasingly large prefabricated modular building elements, but the concept should go further. To industrialize building processes also means making them more efficient, both in technological and organizational terms, which implies a transformation of both the way of working and teaching, as it affects all sectors which are directly or indirectly linked.

Moreover, the search for sustainability criteria, which should be economic, social and environmental, points to the need to optimize maintenance and energy management as well as to include the concept in their own sector considering all the product cycle, both its construction and its subsequent demolition. As for the improvement of the energy efficiency of buildings, there have been numerous contributions in this field in recent years, spurred by an EU directive that is also walking towards that direction.

## 1.6. REORIENTATION STRATEGY IN THE RESIDENTIAL CONSTRUCTION SECTOR: ENERGY REHABILITATION AND MODERNIZATION (RME)

Rehabilitation is the productive activity within the sector that is resisting better the crisis and the one that presents the best growth prospects as a result of the energy-saving goals that have been set in the medium and long term. In November 2010 the *Guide to the energy renovation of the residential buildings of the Government of the Generalitat* was published, presenting the rehabilitation measures concerning their building thermal envelope and facilities that meet the basic requirements of the Technical building code.

The Housing Agency manages grants for the rehabilitation of residential buildings and protected activities in dwellings (with a budget of 65 million euros in 2009), although some activities aimed at improving accessibility depend, in the case of Barcelona and the metropolitan area, of local entities. In Barcelona, the Housing Consortium has had a budget of 15 million euros in 2012, 10 of which are used to finance the installation of lifts. Regarding the rehabilitation works of buildings, there is a drop in the number of requests for the Building test from 2005 until 2010, whether measured in number of records or number of homes. So far, the type of work to be performed more frequently is that of structural pathology.

A rehabilitation line to be deepened refers to the improvement in the energy efficiency (EE) of buildings. Although the *Guide to the energy renovation of the residential buildings of the Government of the Generalitat* already follows this line, EU directives are driving us in that direction. Therefore it is likely that in the future much of the activity in the sector corresponds to this type of rehabilitation.

An analysis of the Catalan market potential in this area puts us, using a series of steps that lead up to a 40% savings in energy consumption in homes, at a total turnover of 60,250 million euros, 44,000 of which correspond to actions in buildings that presumably have a much improvable energy efficiency, because they were built prior to the publication of the technical Code 1979.

The entire EE rehabilitation measures have been computed covering an average cost per household in Catalonia of about 26,016 euros. The cost of EE rehabilitation bill focuses primarily on isolation measures for the facade, roof insulation and exterior insulation, which account for 10%, 23% and 32% respectively of the entire cost of rehabilitation. The change of boiler, the installation of solar thermal panels to ensure a certain percentage of the consumption of sanitary hot water and the installation of a recuperator that allows ventilation without temperature loss account for 9%, 15% and 7% respectively of the cost of the package to be developed. Finally, a measure of insulation from the sill of the facade has also been included, which only represents 3% of the total cost. When we assume only the main homes built prior to 1980, the average cost per household of this package drops to 24,696 euros.

A second line of rehabilitation, which, in fact, has been long fostered in some urban environments, refers to the improvement in accessibility. These actions become politically desirable both for its implications for social policy and their effects in terms of economic revitalization. In this sense, an estimate of the cost of installation of elevators in all the main housings that could require it leaves us a global bill for the whole of Catalonia of 8,311 million, with an average cost per home about 5,327 euros. The most important part of the overall bill, 3.666 million, concentrates in urban areas. The average cost per home goes down considerably if we consider the flats in relation to the single-family houses.

In a part of this section of the Report we calculate the impact of the value of the budgeted rehabilitation and energy modernization works on production, employment and the added value in all branches of the Catalan economy. The results for the whole economy have an annual impact of 2,786.3 million on production, 24,388 jobs equivalent effect and 1.214 million in value until 2050.