

THE SPANISH CONSTRUCTION.
OPPORTUNITIES AND CHALLENGES BEYOND 1992

by

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ABSTRACT

Spain has radically changed over the decade of the 1980's. After reaching stability in its social and political spheres the country has experienced a remarkable economic growth and prosperity. The pace has been very fast with rates of growth even higher than the most developed countries in a trend to catch up them. This process has also been favored by the entry of Spain in the European Community.

Construction, as a part of the economy, has got out from the deep crisis this activity was suffering and has grown even much faster than the economy as a whole. The sector has been fueled by ambitious public infrastructure programs looking at 1992 as well as the huge private investment process that has taken place. But now, this positive trend seems to be threatened. Spanish construction firms are facing 1992 with three important problems. The unbalances appeared in the economy, the cut in investment and 1992 represents the end of many projects that seems to have no continuity. And all this while they have to adjust to the EC-wide competition.

This thesis is addressed to analyze the reasons that have conduced to the current situation, its ways out and its effects on construction activity as well as the impact the EC will have on this sector. In that way it's possible to get close to what is going to happen to the Spanish construction in the short and in the long run and what is needed to do from Spanish firms' point of view.

Thesis Supervisor: Fred Moavenzadeh.

Title: George Macomber Professor of Construction Management.

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Introduction

Spain has experienced a remarkable economic growth over the decade of the 80's. Construction has accompanied this development process through major infrastructure projects. Its evolution over the decade has been particularly important taking into account that was a sector very damaged after the oil crisis in 1973 and 1981.

In 1985 the recovery of the Spanish construction started. Spanish construction firms initiated this recovery meeting the demand completely, in volume and type. The construction effort undertaken has been huge giving to Spain a modern look quite far from those years of economic and political isolation.

Year 1992 has represented a symbolic date for Spain. Not only because of the main events, World Fair Expo'92 and Olympics, but also the final date for the beginning of the Interior Market within the European Community and the participation in the construction of the Europe of the next century.

Having in mind this date, Spain has been preparing in a very short period of time its infrastructure. It can be considered that this effort has taken about 7 years and the construction volume has been huge if we also add the spectacular private investment flow. The sector has grow very fast and also construction firms. The quickness of the process may have been too fast for companies to think beyond 1992, symbolic year and the final date for the most of the projects.

These good times for Spanish construction offers signs of turning down. Most of the projects will finish in 1992 and seems not to have continuity in new ones. The economy is also going through difficulties. There have been many happy-go-spending year that now are passing the bill to the economy. Economy that has at the same time to adjust to the new European scenario.

The purpose of this thesis is just to look beyond 1992. The opportunities and challenges that are behind 1992 for Spanish construction firms. It's therefore a good time to stop and think after some hurry years.

This thesis offers a double character. On the one hand, I analyze the short term just after 1992 focusing on the evolution the economy has taken and its influence on construction. On the other hand, the long run is analyzed being always construction my main point of attention.

Chapter 1 deals with the general economy's situation offering an analysis of its evolution over the decade of the 80's. After it, the current economy's situation is addressed as well as the short-run prospects for it.

Chapter 2 offers a deep analysis of the Spanish construction sector, demand and supply. The points addressed are : the evolution of the sector, its structure, current problems and finally, the evolution and current situation of 3 sectors particularly related to construction, cement industry, concrete preparing and construction equipment.

Chapter 3 analyzes the main Spanish general contractors. Their performance, their strenghts and weaknesses and patterns of diversification.

Chapter 4 enters in the European Community to compare the different national construction markets trying to highlight their differences and similarities as well as the relationships that are taking place among them.

Chapter 5 is addressed to assess a short and long-run forecast for the Spanish construction focusing on the opportunities and challenges derived from that. This chapter also analyzes the effect that the new European scenario will introduce in the construction market as well as a conceptual framework to evaluate some possible strategies the Spanish firms can take.

Finally, the conclusion collects a general overview of the some main ideas that, in my opinion, are the key issues of this thesis.

Chapter 1. The General Economy

Many important facts and changes have taken place in Spain during the last two decades. Spain has become an open economy very different from those years when it was isolated from the rest of the world.

The death of General Franco, the last dictatorship of West Europe, marked a period of transition to a new political order, the democracy. This gave as a consequence the opening to the rest of the world mainly to Europe from which Spain has been isolated maybe to many years.

With a very difficult period of transition the democracy has consolidated in the Spanish society during the 80's offering a country social and politically stable and with ambitious projects and objectives for the future. Among these projects and objectives are growth, competitiveness and reaching the welfare and wealth standards of the most developed European countries.

In that way Spain joined to the European Community in 1986 as well as Portugal. The main objectives of the EC, as the territorial balance, could help to Spain to reach the necessary infrastructures network that would give the potential of growth and competitiveness to face the full integration along the decade of the 90's with dignity.

Table 1.1. MAIN SOCIO-POLITICAL FACTS IN RECENT YEARS

1.970. Spain signs a Preferential Trade Agreement with the EC.

1.975. Franco dies. Juan Carlos I becomes king.

1.976. 10% devaluation of peseta.

1.977. Unions are legalized. First democratic elections. 20% devaluation of peseta.

1.978. New Spanish Constitution.

1.982. Socialist Party wins elections. 8% devaluation of peseta.

1.986. Spain joins the EC.

1.989. Spain joins to the EMS.

1.991. Maastrich Agreements

Social Agreement of progress. The new economic policy for the next years.

1.992 Cancellation of 170 items in international trade tariffs.

Free capital movements.

Olympic Games in Barcelona.

World Fair " Expo 92 " in Sevilla.

The purpose of this chapter is to analyze the achievements carried out by Spain in these recent years passing from it to see the current situation of the economy. The distinction of the 80's from the 90's is justified by the important changes in the economy scenario as well as in the Government policy. Basically the 80's have been characterized by a slow economical growth in the first half and a boom in the second half that made believe in a very good future for Spain during the 90's, growing more than the average of the EC.

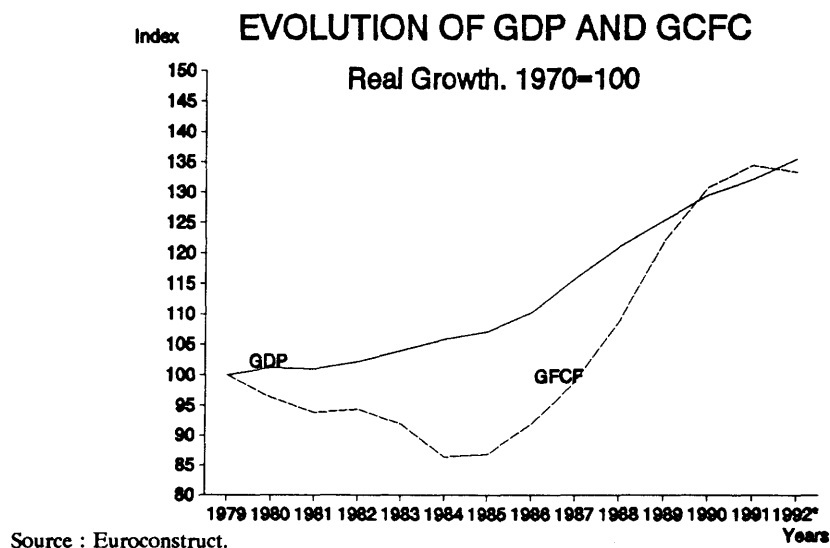
Nevertheless, these good prospects have turned down. A continuous growth had required some sacrifices and efforts by all the individuals of the economy. Something that has not occurred. This situation can also be encouraged by a questionable Government policy and the main events of 1.992. From my point of view these main events, although in a circumstantial or indirect way, have been the worst thing that could happen to Spain as I will analyze in the following sections.

Recent developments. The 80's.

Two main periods in the Spanish economy can be differentiated in the decade of the 80's. The first period from 1.980 through 1.985 and a second one from 1.985 through 1.990.

The first half of the 80's was characterized by a very low growth, fall in investment, and therefore an increase in the unemployment rate and a decrease in the inflation that was around 19 % in 1.981. Table 1.2 and figure 1.1 illustrate these main facts. The second energy crisis 1.980/1.982 hit very hard to all the world economy but Spain also faced a transition in its political and social spherw.

Figure 1.1.



**Table 1.2. ECONOMIC GROWTH AND EVOLUTION IN SPAIN,
EC AND OECD. 1981-1991**

	SPAIN				EC				OECD
	GDP	GFCF	Unemploy.	Inflation	GDP	GFCF	Unemploy.	Inflation	GDP
	%	%	rate. %	rate. %	%	%	rate. %	rate. %	%
1981	-0.2	-3.3	14.4	18.6	0.2	n.a	7.7	10.9	n.a
1982	1.2	0.5	16.3	17.1	0.7	-1.9	9.0	10.6	n.a
1983	1.8	-2.5	17.7	14.9	1.5	0.0	9.9	8.5	2.7
1984	1.8	-5.8	20.6	10.9	2.5	1.3	10.7	6.8	4.8
1985	2.3	4.1	21.8	8.5	2.4	2.4	10.8	6.1	3.4
1986	3.2	10.0	21.1	11.1	2.5	3.7	10.7	5.6	2.7
1987	5.6	14.6	20.4	5.9	2.8	5.4	10.3	4.1	3.5
1988	5.2	14.2	19.3	5.6	3.9	8.4	9.7	4.6	4.4
1989	4.3	13.2	17.1	6.9	3.5	6.7	8.9	5.1	3.6
1990	4.2	9.0	16.1	7.3	2.9	4.6	8.4	5.7	n.a
1991	2.6	3.4	15.8	6.6	0.9	4.1	8.6	5.5	n.a

Source : Financial Times 11/91 and European Commission

The GFCF fell very sharply in this period as consequence of two reasons primarily : The oil crisis of 1980/1982 and the socio political uncertainty brought by this new period¹. The negative increase in GFCF during the period 81-84 of -11% is quite far from the one

¹ Research Associates

corresponding to the EC, 0%, although the GDP's in this period are quite similar.

The result of this first half of the 80's was:

- Sharp increase in unemployment rates from 14,4% in 1981 to 21,8% in 1985 while the EC, although with a similar trend, only dis from 7,7% in 1981 to 10,8% in 1985.

- Inflation fell 11.6% in Spain for the same period while the fall was 4,8% in the EC, being the inflation in Spain close to the EC rate in 1985 (8.5 % in Spain vs 6.1% in the EC).

The deeper analysis of these facts reveals that Spain, with a lack of infrastructure and equipment, even before 1980, continued putting more distance in its deficiencies in comparison with its more developed neighbors of the EC. A country that wants to grow also has to save and to invest. Investment is an strategic factor to achieve growth and competitiveness in the long run. In the period 1974/1985 the GDP of Spain increased a 17% while GFCF fell -23%¹.

¹ Euroconstruct.

Other lesson could be learned from this process. This is the 8% devaluation of the peseta in 1982 as a result of the unsustainable balances in the current account that Spain had.

The second period starts from 1985 and is quite different from the one describe before. Spain grew faster than any other country in the EC and also faster than the OCDE on average. Reasons to such growth can be summarized as follows:

- The international economy expansion after 1983 pushed by countries like US and Japan¹.
- Stabilization of social tensions through agreements Unions-Government-Companies.
- The situation from which Spain began this phase. Particularly high unemployment. 21,8% in 1985.
- Entry in the EC increasing the private companies' confidence in the future of Spain booming the investment. There was a lot of distance to gain if Spain was going to accommodate its low standards as rent per capita to the EC standards.

¹ Seopan.

- The Government began an investment program in infrastructures with its multiplying effect.
- Entry of many foreign investors aimed not only by the high interest rates in Spain but also by the potential of the Spanish market in the future.

In this period some figures are relevant. Spanish GDP grew 24,8% between 1985 and 1990 while the EC, on average, only did 18%. Investment as GFCF grew 65,1% by the same period. Almost double in comparison with the growth of investment in the EC, 31,2%. The unemployment rate fell to 16,0% but it's still very far from the EC rate, 8,5%.

Now, this good situation of the Spanish economy seems to be threatened by two very important balances : (1) Inflation and (2) Current account unbalance. Actually the prospects on the future of the Spanish economy have modified radically over the last months of 1991¹.

¹ Seopan. Master in Construction.

In the next section this two sources of unbalance will be exposed trying to asses an immediate, short-medium term, forecast for the incoming years. This forecast could be a very important foundation to know how the construction sector will be affected.

The decade of the 90's. The current situation

Spain represents de 11,50% of the EC population being the fifth after West Germany, Italy, UK and France. In contrast its GDP only represents the 7,80% of the whole EC GDP being also the fifth. This means that is rent per capita is just two thirds of the EC average. Table 1.3 illustrates some of these data.

Table 1.3. POPULATION AND RENT PER CAPITA IN THE EC.

1991

Country	Population Millions.1991	% EC population	GDP. \$ Billions 1991	% EC GDP	\$.GDP/Capita. 1991
SPAIN	39.7	11.51	510,0	7.80	12.850
FRANCE	56.8	16.47	1.300,0	19.90	22.900
WEST GERMANY	78.5	22.70	1.600,0	24.50	25.500
BELGIUM	9.9	2.87	211,0	3.20	21.280
HOLLAND	15.0	4.35	291,0	4.50	19.400
UK	57.4	16.64	1.100,0	16.80	19.163
IRELAND	3.5	1.02	44,7	0.7	12.800
DENMARK	5.1	1.47	135,0	2.10	26.150
PORTUGAL	10.5	3.04	75,8	1.20	7.240
GREECE	10.2	2.95	75,0	1.10	7.300
ITALY	57.9	16.78	1.180,0	18.10	20.300
LUXEMBURG	0.4	0.12	10,0	0.20	26.200
TOTAL EC	344.9	100	6.532,0	100	18.940

Source: Actualidad Economica and European Commission.

Considering these differences and also the ones that will be described in the following chapter with regard to infrastructures, equipment, housing, etc. Spain seems to be a very good potential market for the industry with special consideration for the construction sector. Other different thing is the speed in that this developments will be achieved. The long run seems to have good prospects but the short-medium run offers some signs of doubt.

The trend of growth experienced in Spain in the last half of the 80's seems to have been cut in the last years, 1990 and 1991, although it continues higher than the EC on average as was shown in table 1.2. This makes to arise an obvious question. Why has it happened ?.

There can be many reasons but it's better to group these reasons in two wide groups : (1) Potential possibilities and (2) Reasons derived from the economy's equilibrium . Among the ones included in the first group are those related with an encompassed growth of human capital, lack of infrastructure, social tensions or lack of strategic resources. These ones act as real constraints.

The second group are those related with the equilibrium in the economy. All countries desire to achieve two main goals : first, internal balance through full employment and prices stability and second, external balance through a balance of payments close to 0¹.

A country that wants to follow an steady growth without suffering hard recessions has to control successfully all the sources that work impeding such trend. Here is where is crucial not only the role of the society as a sum of all the individuals of a country but also and not less important the role of the Government because of its weight in the economy and capacity to drive the behavior of the country's economy more or less successfully.

Looking at tables 1.4, 1.5 and 1.6 we can see some data that reveal some clues of what is going on :

¹ Dornbusch and Fisher. MACROECONOMICS.

Table 1.4. INFLATION AND INTEREST RATES. SPAIN AND THE EC.

Year	SPAIN	(*)		EC	(*)	
	Inflation	Nominal interest	Real Interest	Inflation	Nominal Interest	Real Interest
1985	8.5	13.4	4.9	6.1	10.9	4.8
1986	11.1	11.4	0.3	5.6	9.2	3.6
1987	5.9	12.8	6.9	4.1	9.4	5.3
1988	5.6	11.8	6.2	4.6	9.4	4.8
1989	6.9	13.8	6.9	5.1	9.9	4.8
1990	7.3	14.7	7.4	5.7	11.1	5.4
1991	6.6	12.4	5.8	5.5	10.4	4.9

(*) Long term Government Bonds

Source: Financial Times. 11/91. European Commission.

In first place can be noted that the inflation rate in Spain is worsening above EC average during these last years. The 6,6% in Spain vs the 5,5% in the EC makes Spanish goods less competitive damaging the export industry as well as other sectors depending on it such as the possibility of Spanish construction firms bidding in European countries or tourism, sector that has been very damaged in this last period.

Secondly Spain continues with the highest unemployment rate

Table 1.5. SAVINGS AND INVESTMENT IN SPAIN. 1986-1990.

Year	SPAIN		In % of GDP		Total Investment	Public Savings
	Current Account	Private Savings	Public Investment	Private Investment		
1986	1.7	22.0	3.7	16.1	19.8	-0.5
1987	0.1	20.3	3.5	18.3	21.8	-1.6
1988	-1.1	20.5	3.9	19.7	23.6	1.9
1989	-2.9	19.4	4.4	21.0	25.4	3.1
1990	-3.6	n.a	n.a	na.	26.4	n.a
1991	-2.9	n.a	n.a	n.a	n.a	n.a

Source : Bank of Spain.

15,8% in Spain vs the 8,6% in the EC on average. How can a country as Spain have this rate of inflation being so far from the full employment rate ?. Two set of reasons could be argued:

- First is that the 16% of unemployment can not be true. That is, maybe the records are not well kept or there are a good deal of hidden economies out of the control of the government. In this way it can be explained how an expansionary policy finishes generating a high inflation.

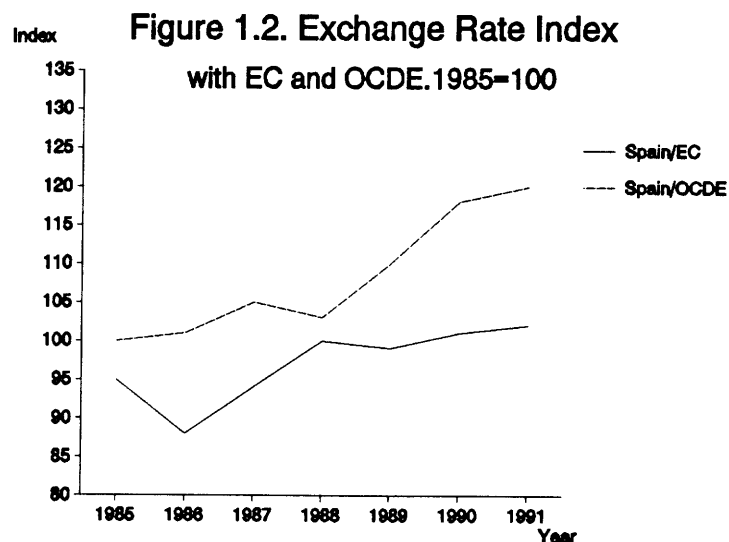
- Second are those reasons related with structural deficiencies. Such as mobility of labor in two dimensions, intersectorial and geographically. The main two sectors generating higher inflation rates have been services and construction. The high demand addressed to these two sector has been the direct cause of their price rising. In the case of construction this has been particularly important. The pressure to finish the main 92 works and their concentration in 3 geographical areas as Madrid, Barcelona and Sevilla along with other major jobs in the rest of the country have given as result the highest real wages through years.

**Table 1.6. EVOLUTION OF GDP AT COST OF FACTORS.
YEARS 1982 TO 1990**

SECTOR	RELATIVE CHANGE %			STRUCTURE (%)		ANNUAL GROWTH		
	Nominal	Prices	Real	1982	1990	Nominal	Prices	Real
Agriculture and fishing	78.75	47.58	21.12	6.76	4.85	7.53	4.99	2.42
Industry	122.63	74.38	27.67	28.23	25.27	10.52	7.20	3.10
Construction	205.66	99.30	53.37	7.63	9.38	14.99	9.00	5.49
Services	162.29	97.33	32.92	57.38	60.50	12.81	8.87	3.62
GDP	148.76	88.17	32.20	100.00	100.00	12.06	8.22	3.55

Source: Revista de Economia.11.1991

In third place has to be considered the interaction with foreign countries, that is, the international trade and capital flows among Spain and the rest of the world. Table 1.7 shows that Spain has as percentage of its GDP a large current account deficit of -2.9% in 1991. But more important has been its path. With a negative balance during four consecutive years from 1988 and also expected -3.0% in 1992. The main reason for this situation can be described as a positive differential in inflation rate in comparison with the rest of developed countries and the appreciation of the peseta. Figure 1.2 shows the path followed by the exchange rate in comparison with EC and OCDE countries.



Source : Seopan.

Table 1.7.CURRENT ACCOUNT IN SEVERAL COUNTRIES.

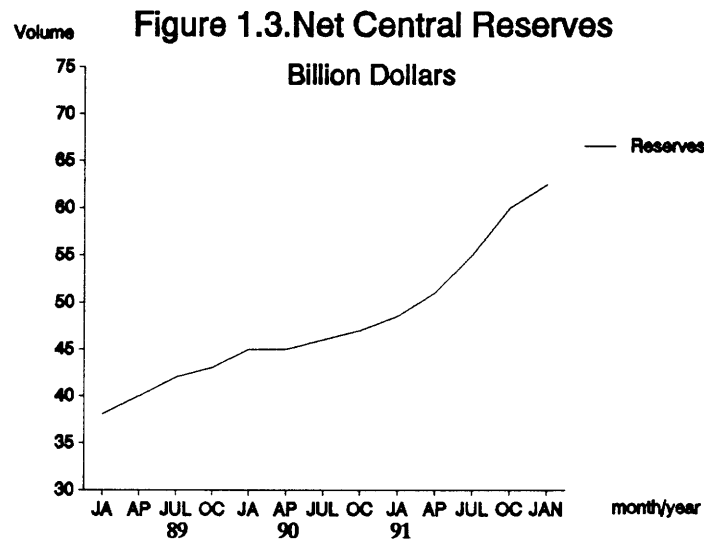
(% OF GDP)

COUNTRY	1986	1987	1988	1989	1990	1991	1992
UK	-0.8	-1.9	-4.1	-4.1	-3.0	-2.8	-
BELGIUM	2.0	1.2	1.0	1.0	1.0	0.7	-
DENMARK	-5.5	-3.0	-1.8	-1.8	-1.3	-0.8	-
WEST GERMANY	4.4	4.1	4.1	4.5	4.3	5.1	-
GREECE	-5.3	-3.1	-1.7	-4.9	-4.6	-4.6	-
SPAIN	1.7	0.1	-1.1	-2.9	-3.6	-2.9	-3.0
FRANCE	0.5	-0.3	-0.4	-0.4	-0.3	-0.2	-
IRELAND	-2.9	1.3	1.8	1.6	1.2	0.7	-
ITALY	0.5	-0.2	-0.6	-1.3	-1.1	-1.5	-
LUXEMBUR	39.4	31.6	34.3	32.1	30.0	28.0	-
HOLLAND	2.7	1.4	2.4	3.2	3.0	3.1	-
PORTUGAL	2.4	-0.4	-4.4	-1.2	-1.2	-1.8	-
EUROPE	1.4	0.7	0.2	0.0	0.2	0.3	-
JAPAN	4.3	3.7	2.8	2.2	2.1	2.0	-
US	-3.2	-3.4	-2.4	-1.8	-1.8	-1.8	-

Source: Bank of Spain and CE.

Looking at the other side of the international flows we can find that the central reserves, Government reserves of foreign assets,

have increased spectacularly during the last years. Figures 1.3 shows the path followed by the central reserves.



Source : MERCADO. number 529. 3/23/1992.

With the current volume of reserves Spain is at the beginning of 1992 the third country in volume of reserves. The two first countries are Japan and US¹.

How can this be squared with a large current account deficit ?

The answer brings about the question of the private capital inflows.

¹ Mercado n.529.3/23/1992

This has been a key fact to keep the balance of payments within a huge surplus but its effects on the Spanish economy and national investment and industry have other different character.

To begin with the analysis of these international facts the first point to address is the evolution of the foreign investment in Spain during the last six years.

Table 1.8. FOREIGN DIRECT INVESTMENT IN SPAIN.

FOREIGN DIRECT INVESTMENT IN SPAIN. (.000.000.000 Pesetas)							
YEAR	DIRECT		PORTFOLIO		IN REAL STATE		NET INVESTMENT
	INVESTMENT	DISINVESTMENT	BUYS	SALES	BUYS	SALES	
1986	321.2	37.1	501.0	226.0	194.9	4.4	749.6
1987	443.6	122.1	1482.9	1048.1	227.9	6.5	976.9
1988	691.3	170.2	1221.2	965.0	274.7	7.4	1044.6
1989	866.1	138.7	1774.0	1041.3	311.3	8.1	1763.3
1990	1061.0	165.3	1508.2	1090.2	243.7	13.5	1543.9
1991	1044.5	263.8	2348.3	1801.1	143.6	7.3	1464.2

Source: Bank of Spain.

From 1985 the capital inflow in Spain has been spectacular in all the three main items exposed in table 1.8. But the trend can be divided in two periods. One from 1986 to 1989 and other from 1990

to 1991. The former is characterized by an increase in all the three items direct investment, portfolio and real state. The second has a systematic fall in the net investment and also a shift of the character of the investment. This second period has been coincident with the beginning of a restrictive monetary policy of the Government has given as result a fall in direct investment (foreign and national) but the foreign portfolio investment has continued increasing spectacularly while the real state investment has also fallen.

What can be the reason for such shift ?. The main reason that can be argued is that has been an speculative attack from foreigners. The high interest rates offered in Spain have driven to an appreciation of the peseta due to the pressure of foreign investors. Even more, the threat of a possible devaluation keeps pushing the interest rates to be high anticipating the effect of a devaluation. Direct investment, although still important, has fallen as result of a very high peseta from the foreigners point of view. Their position in Spain has been worsened by the high inflation and high peseta from the point of view of a platform to export from. The domestic investment by national firms also has declined as a result of high interest rates. But looking at table 1.9 other conclusion can be set.

The capital flow in foreign direct investment in Spain has been much higher than the Spanish capital outflow in direct investment abroad. Even more, the 0,4% in 1989 (as % of GDP) is really less if we consider that almost a 25% of this investment has been carried out by filials of foreign firms set in Spain¹.

Table 1.9. DIRECT INVESTMENT ABROAD OF SOME EUROPEAN COUNTRIES.

DIRECT INVESTMENT ABROAD (in billion dollars)								
	Annual Average		1985	1986	1987	1988	1989	% GDP 1989
	1975-79	1980-84						
OUTFLOW								
France	1.6	2.9	2.2	5.4	9.2	14.5	19.0	2.0
Germany	3.0	3.6	5.0	10.1	9.2	11.2	13.6	1.1
Italy	0.4	1.4	1.9	2.7	2.3	5.5	2.0	0.2
UK	6.2	9.3	11.1	16.5	31.1	37.1	32.0	3.8
Belg-Lux	0.6	0.2	0.3	1.7	2.8	3.8	6.8	4.4
Holland	3.4	4.6	3.2	4.4	8.7	3.6	10.0	4.5
Spain	0.1	0.3	0.3	0.4	0.7	1.2	1.5	0.4
INFLOW								
France	1.9	2.3	2.6	3.3	5.1	8.5	10.3	1.1
Germany	1.3	0.7	0.5	1.1	1.9	1.3	6.6	0.6
Italy	0.6	1.0	1.0	-0.1	4.1	6.7	2.5	0.3
UK	4.2	5.3	4.6	7.1	14.1	16.5	32.2	3.8
Belg-Lux	1.1	1.2	1.0	0.7	2.4	5.2	7.1	4.6
Holland	1.1	1.7	1.5	4.1	3.1	3.9	6.2	2.8
Spain	0.9	1.7	2.0	3.5	4.6	7.0	8.4	2.2

Source: Revista de Economía.1991

¹ EXPANSION. 3/18/1992.

Final Comments

As a last view for the current Spanish economy's situation we don't have to forget the Maastrich Agreements that set the conditions for the EC countries to enter in the third phase of the EMS in 1999.

These conditions are :

- Exchange rate : Situated in the narrow band (+/- 2.5%) in the EMS; without devaluating in two years.
- Inflation less than 1.5% higher than the 3 countries with lower inflation.
- Public debt less than 60% of the GDP.
- Public deficit less than 3% of the GDP.
- Long term interest rate less than 2% higher than the 3 countries with the lower long term interest rate.

At this moment, the end of 1991, the convergence position of the EC countries is as follows in Table 1.10.

As it can be seen Spain only meets at this moment one of the Maastrich conditions while the most powerful countries in the EC meet almost an average of 3 conditions.

Table 1.10. CONVERGENCE SITUATION

POSITION OF CONVERGENCE.1991					
Country	Inflation	Public Deficit	Long Term Interest	Public Debt	# Indicators met
Belgium	3.2*	-6.3	9.2*	125.4	2
Denmark	2.4*	-1.7*	9.0*	67.2	3
Germany	3.5*	-3.6	8.4*	46.2*	3
Greece	18.3	-17.3	16.3	96.4*	1
Spain	5.9	-4.4	12.1	45.6*	1
France	3.0*	-1.5*	9.3*	37.2*	4
Italy	6.4*	-9.9	11.2	101.2	0
Luxemburg	3.4	1.9*	8.9*	4.7*	4
Holland	3.2	-4.4	8.7*	78.8	2
Portugal	11.7	-5.4	12.8	64.7	0
UK	6.5	-1.9*	9.7*	43.8	3
Ireland	3.0*	-4.1	9.1*	102.8	

* Indicators met.

Source: Seopan and EUROSTAT

The most important problems of Spain are its high unemployment rate, high inflation rate, and its current account deficit. Not less important is its public deficit of 4.4% of GDP that would be higher if we considered the almost 2 Trillion pesetas (\$ 20 Billion) that the Government owes to private Spanish firms. From this figure 0,75

Trillion pesetas belongs to Construction firms¹. At this moment the public debt could be around 8% with these considerations being very far from the Maastrich conditions.

Therefore with the situation exposed before and if the Maastrich Agreement conditions are not changed before 1997 the economic policy to follow by Spain would be addressed to fight against the indicators that would impede the entry in the EMS. The public deficit calls for a recession and cut in government spending. This decision could be dramatic for the Spanish needs of infrastructure that would mean a higher distance in productivity and wealth. Other possibility is a higher control of the Government spending trying to make it as efficient as possible like Germany does, and finally developing a solution for the public companies that have systematically huge loses in their results. This last possibility could well suggest a change of administration because of the habits acquired over the years that can't change overnight.

On the other hand it would be needed a discretionary policy to cut consumption. This could fix the current account deficit and allocate

¹ MERCADO n. 529.3/23/1992

a higher portion on savings, figure that has been declining in the last years. The investment in the country has been carried out from foreign lending rather than national savings. As result, the financial capability of the country has been decreasing in the same amount than the current account deficit.

But this is not the end of the story. The peseta has been anomaly appreciated by an speculative attack from foreign investors and now, when a devaluation could take place, the interest rates have to keep high to attract foreign funds. As a consequence of a high peseta and higher inflation rates the export industry has been killed as it's the case of tourism, the Spanish traditional source of divisas and current account surpluses. Also, it has been affected the way out of Spanish firms to establish in the rest of the EC market away of the Spanish borders while the reverse has been facilitated. Even more, the high interest rates have also damaged to the investment. The country as a whole has spend in present consumption rather than in future, that is investment.

With the situation exposed it seems that Spain will depend more from the structural funds from the EC to develop its infrastructure

networks because it has to control its public deficit. But the pressures of Germany and UK to delay the EC Budget could have negative effects on the Spanish urgent needs of infrastructure¹.

A delay in such funds will obligate to look for other alternative financing schemes that will be described with more detail in following chapters. Therefore the needs are obvious but the time to develop them could take longer time that was expected in 1986. Other EC priorities, as East countries could influence the process.

As a final thought for this chapter I would like to include an interesting article regarding to the competitiveness of the Spanish national firms in the new economic order after 1992².

" The role of a Government is not only to seek for a macroeconomic equilibrium. There exists a wide field to act and influence the global competitiveness of a country : improvements in infrastructure but also in human and capital resources, ..., diffusion of necessary information for decision making, support to

¹ MERCADO.529.3/23/1992

² Revista de Economia. Josep Pique

internationalization, microeconomic sensibility to implement fiscal policies, etc.... But, besides all this, the government can contribute in a good way to take strategic positions supporting the creation of powerful and competitive industrial groups, not via protectionism in a market economy context, but via favorable fiscal schemes to processes of concentration and internationalization. It's not coherent to follow a liberalization policy in the industrial markets keeping no market schemes in other sectors as the energy...

Our neighbors offer to us clear examples of this type of strategic behavior by their respective governments that consider individuals of high interest to the large national firms and, above all, to the ones with international projection, with independence of their equity composition.

Unfortunately, the only active industrial policy practiced in the last years has been the structural change of large sector with dominant or significance presence of public capital in general. Once this process finished there hasn't been a continuity in such industrial policy.

The balance of this politic attitude is still to do, with a certain methodological and temporary distance. However, as a consequence of all the exposed before, it's estimated that around the 30% of the Spanish firms capital is in foreign hands and almost a half of our industrial product is controlled by foreign capital. This would not be preoccupying if a significant process in the reverse direction existed. As all people know, it isn't so. And it gives the impression -sad impression- we are losing our last opportunities".

I can be said that the Government has designed a new policy in the last months oriented in the way described before but it seems that these are timid measures which effect depends of the success of their implementation and the power and way their implementation is carried out. Maybe the Government is too much worried about the Maastrich conditions rather than the internal conditions.

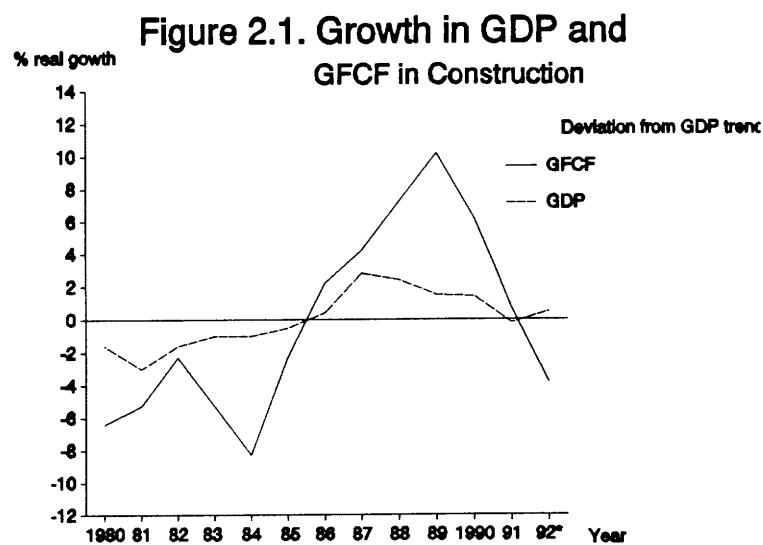
As a conclusion for this chapter, and from my personal view it seem that the euphoria looking at 1992 will pass and bring a new, more realistic, order that will require more efforts and sacrifices by all the individuals of the economy.

Chapter 2. The Spanish Construction Sector

It's well known that the Construction activity is very affected by the ups and downs of the general economy. It follows that when the economy experiences an expansion, consumption grows less than proportionately to the GDP growth, therefore investment, as a part of the savings, increases more than proportionately and the growth in investment is higher than the GDP growth. In this context and considering that construction represents the need for infrastructure and fixed capital for other sector it's easy to asses that is a part of the investment.

At this point is fair to recognize three basic characteristics of the Construction Sector. First is that the Construction Sector is highly sensible to the economy waves, more than other industrial sectors. This means that in a boom its growth is higher than the rest of the industry but in recessions it's lower. Second is that there is a time gap between the peaks and the valleys of the economy waves and the peaks and valleys of the Construction sector as a consequence of that is activity is related with the needs from other sectors. The third

characteristic is a direct consequence of the first two. The construction sector is the last one in reaching the expansionary waves of the economy and the first in leaving them. In that way firms should plan in a long term prospective anticipating such ups and downs. Figure 2.1 clarifies the facts described above.



Source : EUROCONSTRUCT. 1991

But behind these behavior characteristics of the sector in the context of the general economy there are other group of characteristics that give to the Construction activity its own personality that can be described as follows :

- The work is done outdoors in general. Although there is a growing trend towards prefabrication.

- Its product isn't repetitive. Each work differs from the previous and the future ones. The differences are based on : different owners, types, soil conditions, geographical locations, requirements, schedules, etc.. This makes the sector to be not susceptible of standardization and it has to adapt its structure to the specific demands in each project.

- The internal organization of construction firms is far from bureaucracy schemes and requires flat and flexible organizations with a good deal of decentralization in the authority and decision making. The larger the size of the company the higher degree of decentralization.

- Heavy dependent on local labor and suppliers to make less expensive the product. This requires good knowledge of the area where a certain project is undertaken.

The evolution of the sector in the last two decades has had a different periods to distinguish. The first one between 1974 and 1985 hit very hard to the construction sector as was exposed in the first chapter. During this period companies suffered a hard decrease in

its volume and many of them went into bankruptcy. To set some figure in this period GDP grew 17% while the construction did - 23% (both in real terms). The unemployment in the sector was huge. The second period 1985 through 1990 has been quite different. GDP grew 24% while construction did 52% (both in real terms). The construction sector as well as the economy as a whole have experienced a boom.

The balance of the whole period 1974-90 is that GDP grew 47% while Construction did a net 27% growth. This result gives to think that the whole period hasn't been able to encompass the economic activity with the stock of infrastructures that the nation would require. This issue will continue limiting the productive capacity of the nation to reach higher levels of competitiveness and wealth. But the gap opened in this phase might increase in the next coming years to judge by the recent expectations about the economy and the path that the activity is taking.

The purpose of this chapter is to analyze how the construction sector is structured in Spain. The clients, the firms, the cost of the output, etc.

The demand side

The production in the Construction Sector in Spain was about 6.5 Trillion pesetas in 1991 that represents approximately the 9,4% of the total domestic output as it was set in table 1.6 in the previous chapter. Its current volume situates itself in the third place in economic importance just after the services and the rest of the industry. The population employed in the sector was about 1,22 Million in 1990 representing the 9,7% of the total national employees. In the same year the active population in the sector was about 1,43 Million that means that the unemployment rate of the sector was 14,9%¹.

After introducing these relevant data about the sector it is important to describe how the construction output is allocated among the different clients of construction companies. In first place the clients can be divided in two generic groups, the private and the public sector, then several subsectors can be added. Table 2.1 can serve to show the distribution of construction clients.

¹ Seopan

Table 2.1. PRODUCTION BY TYPE OF CLIENTS

	PUBLIC SECTOR		PRIVATE SECTOR		TOTAL	
	1990	1991	1990	1991	1990	1991
BUILDING	7.4	6.3	45.9	45.3	53.3	51.6
1.1 Housing	1.5	1.7	22.1	19.6	23.6	21.3
1.2 Others	5.6	4.6	23.8	25.7	29.7	30.3
CIVIL	20.0	22.6	6.2	6.0	26.2	28.6
RENOVATION	3.6	3.6	16.9	16.2	20.5	19.8
TOTAL	31.0	32.5	69.0	67.5	100.0	100.0

Source : Seopan. Master in Construction 1991.

It's important to note the weight of the public sector on the overall production that represented a 32,5% of the total output in 1991.

The public sector :

The general administration in Spain can be divided for the purposes of the thesis in 4 generic groups :

- 1- The Central Administration. Its main responsible for public works in the MOPT (Ministry of Public Works and Transportation).
- 2- The rest of the Central Administration that is formed by other ministries whose weight in the volume of public works is much less than the one before. These are : Education Ministry, The Public Health Ministry and others.
- 3- The Regional Administrations.
- 4- The Local Administration. They are formed by the City Councils and the Province Councils.

The share of the public investment in construction by each one of the public organisms can be allocated as it's shown in table 2.2. At it can be seen there is an important reduction, -31,9% in real terms, in public bids from 1990 to 1991 but also the degree of decentralization in those bids has increased. This is a part of the normal evolution that is taking place in the country. Regional and local administrations take every year a higher responsibility to develop each own infrastructures. This fact can be analyzed in more detail taking a longer temporary serie. Figure 2.2 shows the evolution of the share in the public bids by type of public

administration.

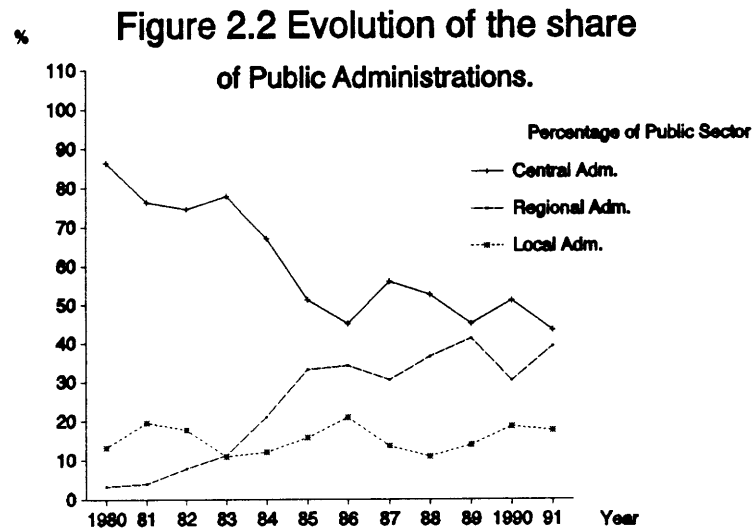
**Table 2.2. SHARE OF EACH TYPE OF PUBLIC
ADMINISTRATION IN THE WHOLE PUBLIC BIDS**

ADMINISTRATION	1990 (%)	*1991 (%)	CHANGE (90-91)
G.D. Roads	28.14	13.8	-66.5
G.D. Hydraulic	6.38	6.4	-31.9
G.D. Harbors	3.40	5.6	12.4
G.D. Infrastr.	1.53	2.9	30.1
Rest MOPT	4.33	4.5	-29.3
TOTAL MOPT	43.78	33.3	-48.3
Minis. Educat	3.25	5.0	3.7
Public Health	1.48	1.3	-41.0
Others	2.60	3.8	0.5
Rest CENTRAL AD	7.34	10.1	-6.5
TOTAL CENTRAL	51.12	43.3	-42.3
REGION ADMINIS	30.26	39.2	-11.9
City Councils	13.65	14.0	-30.4
Provin Councils	4.95	3.5	-51.6
LOCAL ADMINIS	18.61	17.5	-36.2
TOTAL	100.00	100.00	-31.9

* 1990 Total Volume : 2.079.027 Million Pesetas.

* 1991 Total Volume : 1.415.486 Million Pesetas of 1990.

Source : Seopan.



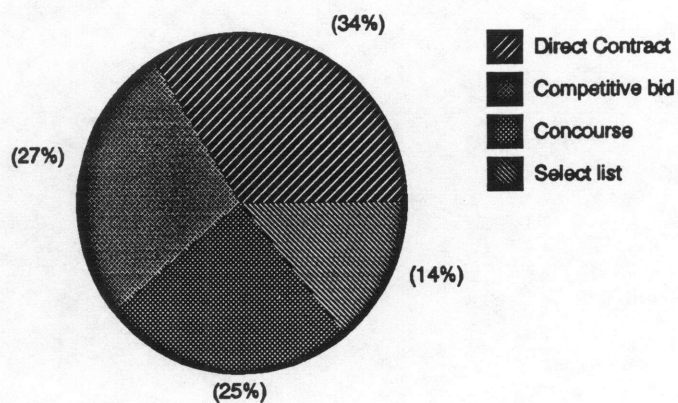
Source: Seopan and own computations.

As it can be seen the decentralization in the political sphere in the country has introduced the decentralization of investment in infrastructures too. This has an important implication for construction firms, the public customers tend to decentralize, therefore, their organizations (in the case of those companies of national scope) have to take that into account. Also, it must be noted that the large program in infrastructures carried out in the last years has produced a large share for the Central Administration that in the future won't be so, increasing the importance of the Regional and Local Administrations.

The other side of the public contracts is the way that these contracts are awarded, that is, the public bidding. There are four major systems : (1) Competitive bid, where the contracts are awarded to the lowest bid, (2) Select list with competitive bidding, basically the same that the first but with previous admission requirement, (3) Concourse where the criteria are based on reputation, previous experience, bid, schedule, etc, and (4) The direct award to a particular firm that is limited by law to small projects or urgent ones.

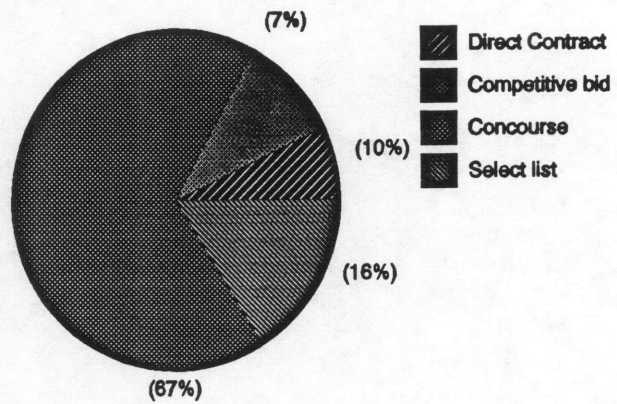
Figures 2.3 through 2.5 represent the share of each system and the average project size in each.

Figure 2.3. Share of each award system in the total number of public awards.(1989)



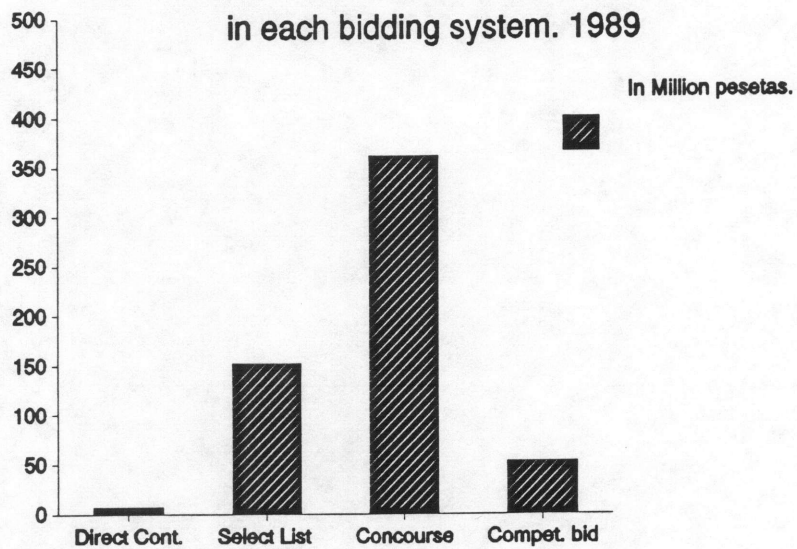
Source: Seopan. Master in Construction 1991.

Figure 2.4. Share of each award system in the total amount of public contracting.(1989)



Source : Seopan. Master in Construction 1991.

Figure 2.5. Average Project Size in each bidding system. 1989



Source : Seopan. Master in Construction 1991.

It can be noted the absence of other systems like the negotiated contract or lump sum bids. The common system followed in Spain is based in the unit-price, therefore, a big deal of risks about quantities, maybe all, is shifted to the Public Administration. This is natural in a context where projects are not designed by the construction-engineering firms that later will be in charge of construction. This also makes the firms unable to quantify risks and therefore they don't take it. Change Orders, modifications, etc. are then very usual and the initial budget can suffer an strong increase during the execution phase. Many times the projects haven't a detailed design because projects are done urgently, etc.

The official bidding system in Spain is quite far from the common systems in the EC where concourses are the main figures of the public bidding. The regulation in the EC is to give access in the public bidding to foreign firms. The contracts are published in domestic currency as well as in ECU but the reality is that only 1% of the contracts are awarded to foreign companies.

The Public Administration in Spain is now reviewing the Law of Public Contracts that will try to fix some of the common mistakes

that have been presenting over the years such as :

- Avoiding the continuous modifications and Change Orders.
- New criteria to select contractors. Attending to other criteria besides the minimum bid one.
- Opening to foreign construction firms. The process of this opening will be gradual but the process to an unique market is unavoidable¹.

The private sector :

The demand for construction in the private sector in Spain represented the 67,5% of the total construction output in 1991, that is around 4,40 Trillion pesetas (\$ 44 Billion)

It's remarkable the share of the Commercial (non housing) building subsector. This subsector has been growing during the 80's as a response for the growing demand in : (1) Commercial Centers, (2) Offices, (3) Industrial and Business Centers and (4) Leisure

¹ Seopan. Master in Construction.

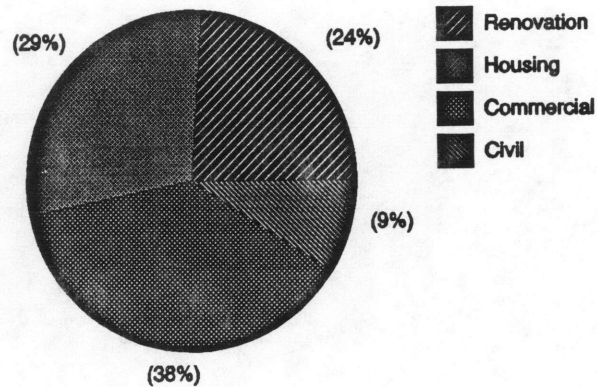
Spaces. Its current share is 38 %, the largest in the private sector. Its boom can be related also to the boom in investment during the period 1986-90. But now its evolution is something uncertain. This segment of the market is highly related to Real State¹.

The following sectors in importance are: (1) Housing, (2) renovation and (3) Civil Engineering. The last one and least important in volume is in current recession due to the fall in investment. Housing represents also an important share of the market but as will be described in later chapters its evolution is somehow uncertain too. Renovation seems to be more stable, even growing in the future.

Figure 2.6 shows the share of the different types of construction in the private sector. The main differences from the public sector are based in the larger size of the market as well as more specific requirements and a more sophisticated sector. Quality and schedule are the main selection criteria. The price, though important, plays a second role in importance.

¹ Expansion 3/18/92

**Figure 2.6. Demand for Construction
in the Private Sector. 1991**



Source : Seopan

The contracting system uses to be the direct contract as well as lump sum and negotiated contracts but without the concurrence of a large number of firms to the same contract, maybe no more than one or two. Repeated clients based on reputation and past experiences is the usual way.

The segments of demand in the private sector are a larger number than in the public sector and its scope is broader. The access to this type of contracts and the knowledge of the particular needs of the client as well as the client itself makes this part of the market subject to an extra marketing effort by the construction firms. This sector will have a very important role in the future, a process where

the public sector will have to decrease its share in the aggregate construction demand giving entry to an stronger private sector that will be the main protagonist.

The Supply Side

The analysis of the supply side of the Spanish Construction is a different subject due to the lack of information and the difficulty to get data from a sector that is very fragmented and many times the owners, particularly in building construction, act as construction managers for themselves working closely with subcontractors specialized in the different required areas.

Nevertheless, the effort carried out in the last years by the MOPT trying to make surveys about the structure of the supply side of the sector, could help us to give a better knowledge of it.

A first classification we could make would be based on the size of the companies as table 2.3 reveals. It can be seen how small companies play a very important role in the whole output. This can give a very good idea of the fragmented the market is as it's supposed to be according to the particular characteristics of the construction activity. Table 2.3 doesn't include the huge number of independent workers that many times work on subcontracted basis and other times in tasks of maintenance and repairing. They can't

be classified as firms due to the lack of a proper structure as them¹.

Table 2.3. STRUCTURE OF THE SUPPLY BY SIZE OF FIRMS.

(1988)

# EMPLOYEES	# FIRMS (1)	TOTAL # EMPLOYEE S (2)	PRODUCTION (Million Pts) (3)	(2)/(1)	(3)/(2) (Million Pts)
< 10	58.145	244.062	1.389.539	4.19	5.693
10 to 20	4.565	65.682	465.288	14.4	7.065
TOTAL SMALL	62.710	309.744	1.854.827	4.94	5.988
20 To 50	1.915	62.675	455.607	32.7	7.269
50 To 200	703	61.097	461.018	86.9	7.546
TOTAL MEDIUM	2.618	123.772	916.625	47.3	7.406
> 200. LARGE	115	101.073	1.165.162	878.9	11.528
T O T A L	65.443	534.589	3.936.614	8.168	7.363

(It hasn't been included the production and number of independent workers)

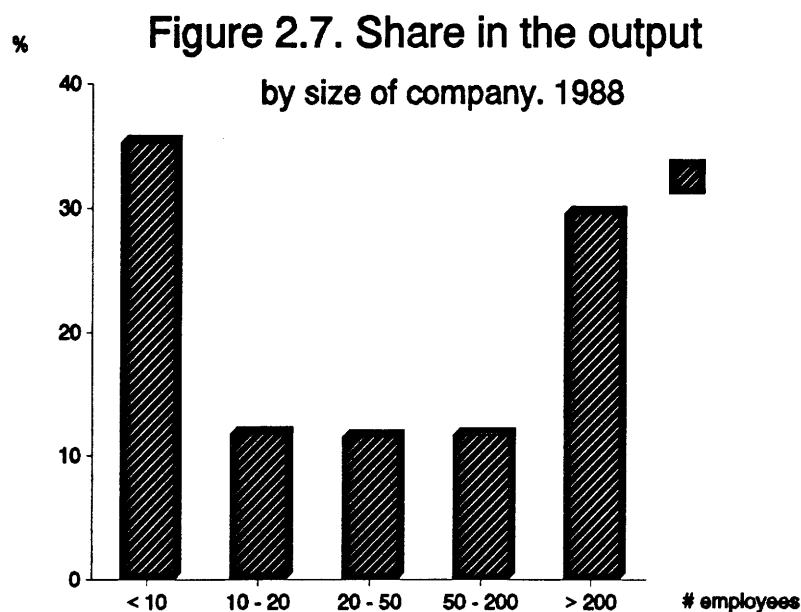
Source : MOPU. Construction Structure. 1988.

¹ In 1988 there were 184.602 independent workers with an average of 2.2 employees. Their production was 1.033.617 Million pesetas.

The average production by employees was 7,363 Million pesetas in 1988 being higher the larger the size of the company. An average size of company produced 7,36 Million pesetas per employee in 1988 while the larger companies (> 200 employees) produced 11,5 Million pesetas per employee in the same year. Large companies (> 200 employees) have a remarkable productivity in comparison with the smaller ones. Some reasons that could be argued can be the following :

- Better production and organization schemes as a consequence of higher management quality and specialization of job positions.
- The size of projects and its duration is larger in general allowing to achieve better learning curves.
- Higher use of equipment in the case of larger companies increasing the labor productivity.
- A factor of correction. The companies use to have other activities different from construction whose productivity could be higher and the statistic might not show it.
- More bargaining power with suppliers because of its volume, therefore, the company retains a higher value added for itself given the same output.

Also it's remarkable the number of small companies (1 to 20 employees) in the total number in this industry. The number of small companies reached 62.710 in 1988 representing the 95,82% of the total national number. On the other hand, as it shown in Figure 2.7 the value added by them represented 47,11% of the whole output. But this same figure reveals other important clue. The medium size companies have a share in the output of 23,28% while the large companies have 29,59 %. Hence, the output of the sector is polarized in the small and large companies while the medium companies retain an smaller share due to its number that is relatively low in comparison with the other two groups.



Source : MOPU. Construction Structure 1988.

But, what about specialization ?. From the total number of construction companies, 65.443 in 1988, it can be made a breakdown by specialties.

**Table 2.4. BREAKDOWN BY COMPANY'S MAIN ACTIVITY
(1980-1988)**

Specialty	#.1980	% of total # 1980	# . 1988	% of total # 1988
Building	15.703	44.11	34.338	52.47
Civil Engineering	851	2.39	1.536	2.34
Build. Subcontrac.	18.566	52.15	28.395	43.38
Not differentiated	480	1.35	1.174	1.79
T O T A L	35.600	100.00	65.443	100.00

Source : MOPU. INE. 1988

The period 1980-1988 has produced significant changes on the specialization of companies or at least in their main activities. There are much more companies whose main activity is related to building construction while the proportion of building subcontractors have decreased. Civil engineering still remains in the same percentage of

the total number in 1988 but the not differentiated companies have growth, maybe as a consequence of a product diversification.

The following step in analyzing the supply would be the geographical scope of the firms. Unfortunately, there aren't complete data published in such matter. It can be said that there are 16 Spanish Companies working abroad and all are included in the large size (> 200 employees). The foreign construction markets have been decreasing during the period 1985-1990, almost to the half and represented about 45.000 Million pesetas in 1990, a 0,8% of the internal production. This reduction might be explained due to the high internal demand and other factors such as the appreciation of peseta and the financing problems of the countries where these exports were carried out, North African countries and South American countries. 20 Large size companies also operate in national scope while the rest of large size and medium size companies are regionally distributed in one or several regions. On the other hand, small companies have a local scope¹.

It's important to mention the construction abroad. Some Spanish

¹ Seopan. Master in Construction 1991.

companies are making a tremendous effort going abroad to compete but also, as will be analyzed in the fourth chapter, the reverse is also taking place in a larger flow. Nowadays there are more than 28 European established permanently in Spain through different ways (acquisition, shares, joint ventures, etc) in about sixty Spanish companies. Also, it starting to appear Japanese contractors.

Finally, it could be worth to take a look to the personnel structure in the construction companies. Table 2.6 shows the distribution of personnel according to the distinction between operating workers and the rest of employees in construction. On the other hand, table 2.7 shows the education and skill degree having to do with the quality of human resources in the construction sector.

The main conclusion about Table 2.6 is that the less size of the company the less overhead and the large portion of qualified operating workers in comparison with those unskilled and auxiliary workers. This can be a common characteristic in all countries. The smaller the companies the higher specialization.

Table 2.6. PERSONNEL DISTRIBUTION BY COMPANY SIZE.

% OF TOTAL EMPLOYEES.1986

# Employ.	Total % Employ.	NOT REMUNERATED	REMUNERATED PERSONNEL				
			TOTAL Remuner	Employee.	Operating workers		
					Skilled	Unskill.	Auxil
< 10	100	21.5	78.5	4.9	69.2	3.9	-
10-20	100	4.7	95.3	10.1	74.3	9.9	0.2
20-49	100	2.0	98.0	9.3	61.4	23.5	1.7
50-99	100	0.8	99.2	11.2	56.0	29.7	0.4
100-199	100	2.4	97.6	11.2	55.8	26.5	2.0
200-499	100	0.0	100.0	18.1	47.9	30.0	0.5
> 500	100.0	0.0	100.0	26.6	36.2	34.5	0.7
TOTAL	100.0	6.7	93.3	14.1	56.0	4.0	0.7

Source : MOPU. Construction Statistics. 1986

Table 2.7. STUDIES LEVEL IN THE CONSTRUCTION SECTOR

IV.90

STUDIES LEVEL	% OF TOTAL SECTOR EMPLOYEES	
	CONSTRUCTION	INDUSTRY
Illiterates	1.5	0.5
w/o studies	13.3	7.5
Partial Sum	14.8	8.0
Primary Studies	50.1	42.2
a) Secondary Studies	24.6	32.8
a) Professional Formation	7.0	10.8
a) Medium Degrees	2.4	3.1
Partial Sum	34.0	46.7
a) Superior Degrees	1.1	3.1
T O T A L	100.0	100.0
Sum a)	35.1	49.8

Source: EPA.INE.IV 90.

In comparison with the industry on average, the construction sector has a lack of professionals particularly in secondary studies as well

as medium and superior degrees. This in addition to the amount of illiterates and lack of elemental studies could be a direct cause of the low productivity in the sector. It could be very worthy to have similar statistics for the EC to compare how the personnel structure in foreign countries. The attention to this component of competitiveness seems to be very recent in Spain, an arena of traditional low cost intensive labor.

The cost of the output

The cost structure in the Construction sector can be broken down as it shown in table 2.8.

Table 2.8. Cost Breakdown in Construction

Cost Component	All firms		Large firms (>500 employees)	
	% of total cost	% in price	% of total cost	% in Price
Purchases	36.2	30.4	30.0	26.7
Services	10.2	8.7	12.6	11.2
Subcontracts	27.6	23.2	33.1	29.4
SUB TOTAL	74.0	62.3	75.7	67.3
(1) Labor	26.0	21.8	24.3	21.6
(2) Gross Margin	18.9	15.9	12.5	11.1
TOTAL	118.9	100.0	112.5	100.0
Gross Value Added (1)+(2)	44.9	37.7	36.8	32.7

Source: MOPU. Construction Structure. 1983-1988

The cost structure is characterized by a high percentage of exterior purchasing, services and subcontracting in comparison with the gross

value added. Purchases, services and subcontracting represent a 74% of the costs and 62,3% of the price of the construction company product while the gross value added is 44,9% and 37,7% respectively.

Large companies, due to the lack of specialization in relation with the smaller firms as was seen before, depend more on subcontracting and their margins are lower.

Other interesting view is the evolution of the cost structure as it shown in table 2.9.

Table 2.9. EVOLUTION OF THE COST STRUCTURE

Cost Component	Decade of the 70's. (%)	1988. (%)
Purchases	52.0	36.0
Services	4.0	10.0
Subcontracts	11.0	28.0
Labor	33.0	26.0
Total Cost	100.0	100.0

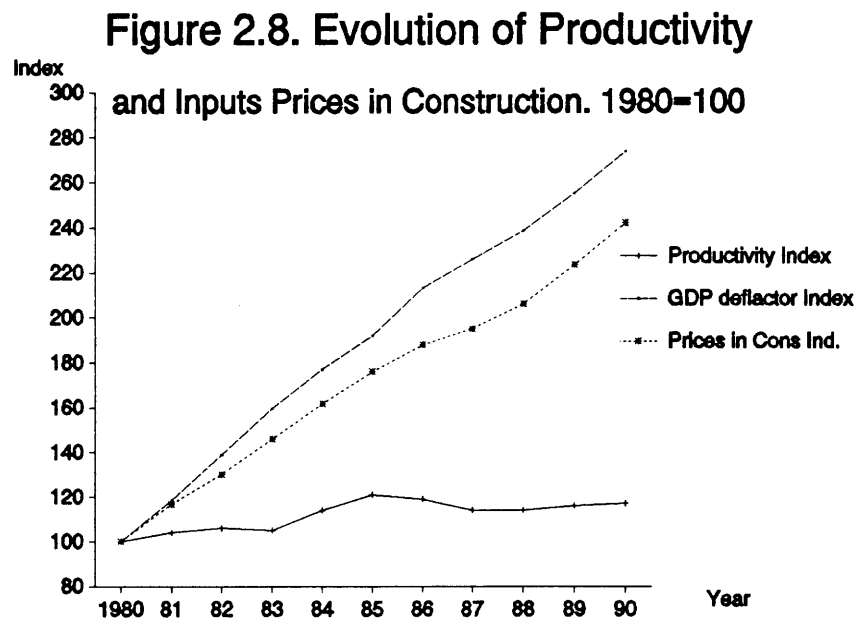
Source : Seopan. Master in Construction 1991

It can be noted that the subcontracting share of the total cost has increased as a result of reduction in labor and purchases. The long crisis suffered by the sector until 1985 gave the change in the structure of firm tending to a higher level of subcontracting reducing the amount of own labor and gaining flexibility for the ups and downs in the market.

Also the weight of the total external overall costs have increased from 67% in the 70's to 74% in the late 80's. Increasing the management and coordination needs of the companies. In that way it can be said that the activity of the construction firms is tending to get closer to a service industry.

But in all this evolution, what can be said about productivity ?. It's difficult to get comparable data of production and employment from a same source. But assuming that there weren't bias in two different sources, one about output (Seopan) and other about employment (INE), the evolution of the productivity in the sector can be developed as it shown in Figure 2.8.

It seems that the moderate improvements in productivity during the first half of the 80's hasn't had continuity during the second half of the decade.



Source: Seopan, INE and own computations

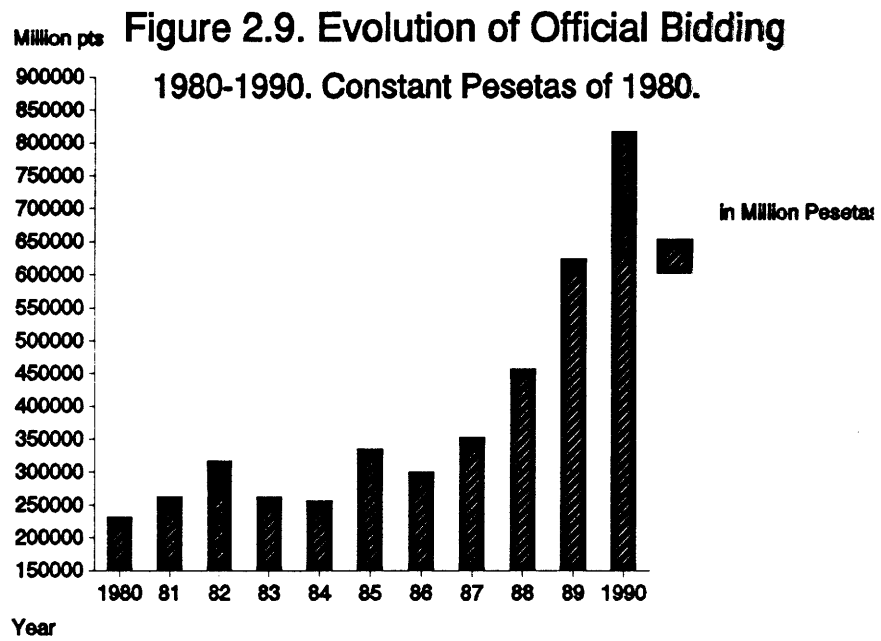
On the other hand prices have experienced a huge increase over the decade. It can be said the final cost of the construction output has increased with a factor of 2,1 over the decade. Having the second half of the decade a factor higher than the first half due to that in spite of lower increase in prices the productivity has kept constant if not reducing.

With these data and data presented in tables 1.2 and 1.6 of the previous chapter it can be said that while the productivity of the country as a whole has improved, prices grew faster and more important, the construction industry represents the lowest growth in productivity and one of the highest growths in the cost of its inputs.

This reveals two important clues. First, construction products get more expensive in the time relatively to other sectors' products. Second, promoting public spending in construction during a boom increases the final cost of them because its prices grow as fast as the rest of the economy prices or even faster. Nothing to say if the works are contracted in a hurry, in bad and when the supply is overloaded of work. Then, the prices paid are huge¹.

The role of a Government would not have to be cyclical. That is, promoting spending during recessions to equilibrate the economy and leave the main role to private investment during booms. Just the opposite as it has been in Spain. All we have to do is to see to all '92 works. Figure 2.10 illustrates these facts.

¹ Seopan.Master in Construction.



Source : Seopan.

The current problems of the sector

The current problems of the sector can be summarized as follows:

- Delay in payments from Public Administrations. At the beginning of 1992 it was about 0,75 Trillion pesetas. The causes are : (1) Excessive bureaucracy in legal dealings, modifications,etc., and (2) Actions from the Treasury to reduce its cash deficit and (3) Mis-match of Budgets with works in progress.

- Strong increase in costs of labor and materials having had an average increase close to 8,5% in 1991.

- High interest rates that worsen the results of companies and its capacity to give sufficient attention to other aspects of their activity such as internationalization or R+D.

- Shortage of specialist. Estimated about 75.000 positions. This fact affects to work quality but furthermore, it also affects to productivity and competitiveness.

- The official bidding system as was explained earlier in this chapter.

- Cooling down of the private investment along the last two years as a result of the high interest rates.

- The cut of government spending in public works and building construction in the 1992 Budget. With the major '92 works accomplished and the lack of continuity of those, many companies could have problems, particularly those more dependent on public bids.

The consequence has been an increase in the average of number of firms bidding for the same project (from 5,6 in May 1990 to 12,4 in September 1991 on average), and a decrease in the average of maximum negative markups of the projects (from -11,7% in May 1990 to -29,5% in September 1991 on average). Its fair enough to conclude that now in 1992 the supply side of the sector has a surplus capacity.

Construction Subsectors

There are two subsectors related with construction that act as suppliers for the construction activities that are : The Cement Industry, The Concrete Preparing Industry and the Equipment Vendors.

The booms experienced in construction in the last years has help to the growth of these subsectors where many changes have taken place as is described as follows.

The Cement Industry :

The cement production of cement is characterized by high capital requirements to build plants and to maintain them. Therefore this industry tends to be concentrated due to the high barriers to entry.

Nevertheless in Spain this characteristic of concentration hasn't been very usual several years ago. It was normal to see in Spain cement plants owned by families or small firms where the technological improvement and updating of them weren't one of

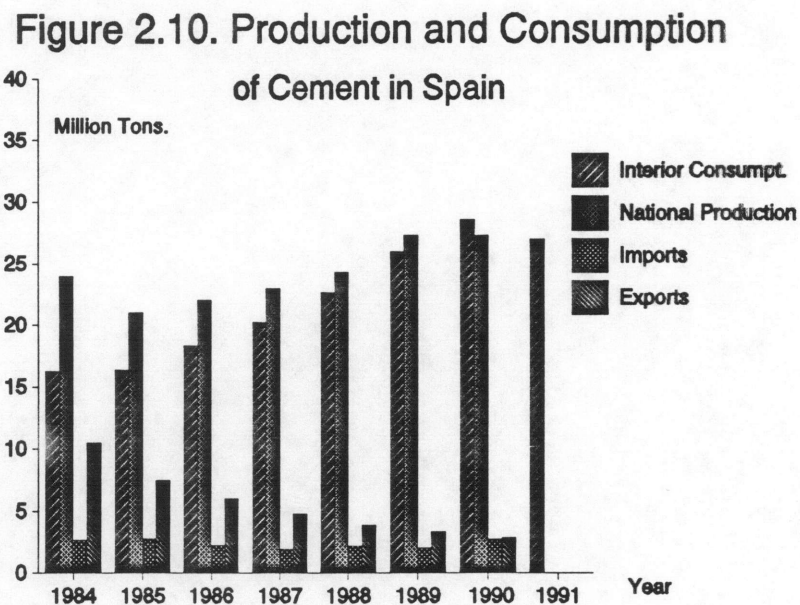
their main strengths. The long recession that the construction sector suffered until 1985 didn't encourage to the modernization of these factories.

But now, when the sector has experienced a very important growth in demand changes have happened. The main structural changes have been brought by the entry of important foreign group through acquisitions of several cement plants in Spain. The movement can be explained by five major reasons :

- The financial difficulty of some firms.
- The lack of modernization in many plants that had required large investments in new technologies.
- The good prospects of Construction in Spain that could boost the cement demand.
- The view of Spain as a platform to export cement to African and American countries.
- An strategy to concentrate the sector eliminating competitors and gaining bargaining power against the clients.

In that way Swedish, French and English firms have entered in the market. Also, they have conducted new technologies, new organizational schemes as well as large investments in modernization of plants.

The data about the consumption and production of cement are shown in Figure 2.10.



Source : Asland, Oficement and own computations

The evolution of the sector has been an steady growth from 1984. The demand has growth from the level of 16,24 Million Tons in 1984 to 27 Million Tons in 1991. At the same time the national

production hasn't increased in the same proportion due to a very important fall in the export market. The reasons can be explained by : (1) Appreciation of peseta, (2) Higher interior inflation rates and (3) The boom in interior consumption that had to be met. But it's important to consider that 10% of the national consumption is imported and has kept steady in the last years if not increasing. The cement brought to Spain comes mainly from Turkey, Cyprus, Greece, Romania and Tunisia.

The Concrete Preparing Industry :

Several comments as in the case before can be said. But in this case the degree of fragmentation is larger. The cost of transportation reduce the geographical scope of the firms serving to clients and significant economies of scale can't be reached by size advantage. Therefore, this subsector is very fragmented.

The situation of this particular industry several years ago was characterized, again, by being very fragmented and resting on small family firms with few plants under control where technical improvements weren't an usual practice.

But few years ago its structural change started tending to concentrate. Above all foreign firms have been the pushers of this concentration coming mainly from England, Sweden and France. The pattern of entry has been through the acquisition of several quarries and concrete plants in the most populated areas of the Spanish geography tending to get a dominant position in those eliminating competitors. The success of this strategy is still to see. Large amounts have been invested in a moment when the demand for prepared concrete was boosting. Now some problems are starting to appear :

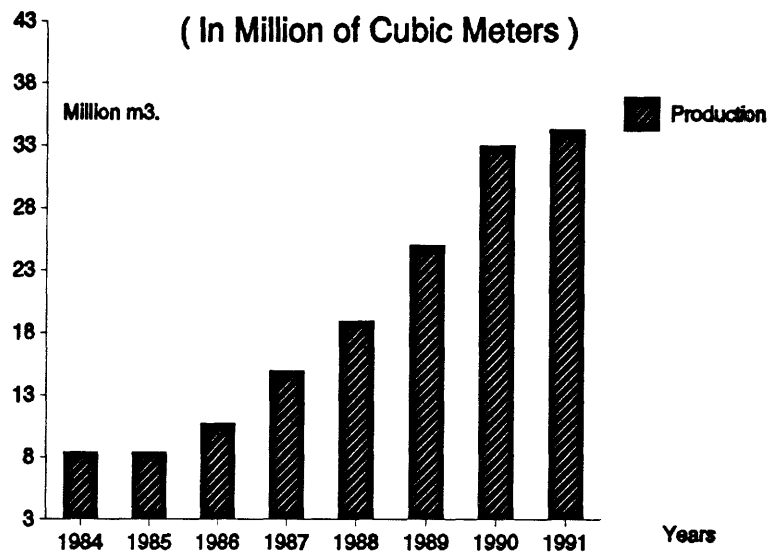
- The development of portable plants assembled in site by construction companies.
- The environmental regulations taking place in Spain. These tend to avoid the location of plants close to rivers or close to population centers. Many extra costs are starting to appear such as extra transportation and land restoration.
- Delays in payments due to the Public Administration has delays in its payments to Construction Companies that at the end these are shifted to suppliers.
- Reduction of public works and construction activity in

general that is translated in a higher degree of competition and lower margins.

In opinion of some experts in the sector, the concrete preparing industry will suffer a selection process where only the most competitive and professional ones will survive¹.

Figure 2.11 shows the volume of this sector and its important evolution in the last years.

**Figure 2.11. Production of Prepared Concrete
(In Million of Cubic Meters)**



Source : Anefhop.1991

¹ Actualidad Economica. 1/19/92

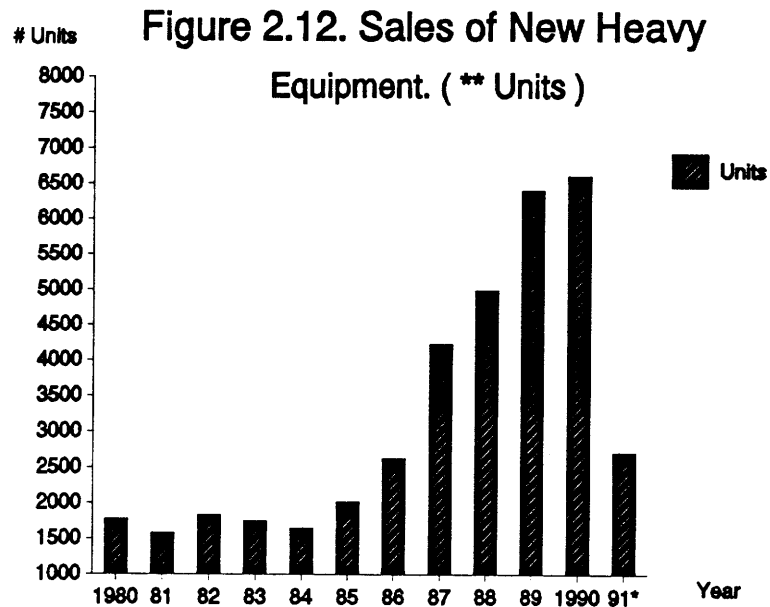
The growth of the production has been huge. In five years the production has multiplied four times. The next coming years might be critical for this industry.

The equipment subsector:

This has been other of the successful sectors in these past years. But again the continuity of such success seems to be threatened by the path that is taking the economy.

This subsector can be divided in two groups : Heavy equipment and light equipment. The first group is characterized by being supplier not only of construction but also of mining activities. It can be assumed that sales of new equipment for mining remain constant through the years in comparison with the sales to contractors and subcontractors that fluctuate more with the business cycle. The second group can be assumed entirely as construction supplies.

We can take a look to what has been going on to the sale of new units in the first group described as it shown in Figure 2.11.



* Only first half of 1991.

** It only includes 7 main product lines : Bulldozers, Loaders, Excavators and Graders.

Source : Atemcomp (1988), Finanzauto (1987-1991) and own computations

Years 1987 through 1989 were particularly successful for equipment vendors. In those years sales boosted but 1990 and 1991 offer a different look. In 1990 sales remain growing but the first half of 1991 presents a negative growth of -23,2% in comparison with the first half of the preceding year¹. The reasons for such spectacular growth could be explained through the following reasons : (1) The boom experienced in highway construction and other

¹ Finanzauto. 12/91

infrastructures, and (2) The status of the stock of equipment in Spain before 1986, old and unproductive, that has needed new investments.

The new prospects of the construction market have modified the past trend. From my personal point of view, the growth of sales in the decade has been too high. In spite of having taken place a period of very high demand, the number of competitors have increased spectacularly aimed by such demand. It must be noted that this is a sector where the barriers to entry are very low. In that way can be argued that sales have responded to a development of an overcapacity in the sector that hasn't been very well planned by the firms. The incoming reduction of the construction output could be critical for this sector, particularly the heavy equipment.

This last view could be reinforced taking the fact that a large amount of used units have been acquired and imported from UK, Holland, Belgium and Germany. Unfortunately, there aren't data elaborated in such way that could be shown. The analysis of such flow would leverage the data of figure 2.12 making the growth of the sector even larger.

Chapter 3.

Analysis of the main construction firms.

As it was described in the previous chapter, the construction output in Spain is located in 3 large groups : The small size firms, the medium size and the large firms. But the share of the output by company size is relatively concentrated primarily between the small and the largest firms giving to the medium size ones a minor share of the total output. In a certain way, it can be said that there is a relative lack of medium size construction companies in Spain.

The analysis of the small companies is a difficult task to carry out due to the lack of published data and their number that almost might require individual surveying. Something similar occurs with the medium companies. The largest ones offer a very different character and there are much more published information (Annual Reports, Articles, etc) to carry out an analysis.

In this chapter I will analyze 3 main issues with regard to the largest companies. These will be : Their production structure, their

financial structure and finally their particular characteristic regarding to diversification and product lines.

I have chosen a group of nine of the most representative large construction companies (>500 employees) whose list is the following :

- Dragados y Construcciones.
- Fomento de Obras y Construcciones. (FOCSA).
- Cubiertas y MZOV.
- Agroman.
- Ferrovial.
- Huarte.
- Ocisa.
- Obrascon.
- Laing.

The production structure

The production structure covers the items related with annual volume, production by employee, sectors supplied and their share in the total sales volume, and also the construction abroad.

Table 3.1 shows a first set of characteristics in that direction.

Table 3.1. Annual Sales Volume in Construction and Production by Employee.1990.

COMPANY	SALES (Million pts)	Sales/Employee (Million pts)	Sales/Permanent Employ.(Mill pts)
DRAGADOS	259.281	16	30
FOCSA	173.946	9	61
CUBIERTAS	163.000	19	66
AGROMAN	143.711	15	35
FERROVIAL	122.020*	-	74*
HUARTE	97.803	20	32
OCISA	69.136	21	70
OBRASCON	17.198	20	65
LAING	13.515*	22*	44*
TOTAL	1.059.599	17.75	48

* Data corresponding to 1989.

Source : Annual Reports and Research Associates.

The purpose of this table is to set a first group of distinction criteria among the different companies. In first place it can be noted the huge difference in annual volume of sales. Dragados is the sales leader with 260.000 Million pesetas while Laing with 13.515 Million pesetas was ranked in 22nd place in 1989. The following distinction is about sales per employee. As it can be seen there is a wide range from 9 Million pts/Employee to 21. This can give a good idea of the level of subcontracting in each company. The higher the sales/employee ratio, the higher the level of subcontracting assuming same productivity in the whole sector. Companies with higher ratio are consequently more flexible to any downturn in the market.

Finally, the ratio sales/permanent employee informs about the company fixed costs and overhead. Dragados, the lider, has the lowest ratio, meaning that is the company with the highest overheads in relation with sales.

The second set of characteristics are based on the distribution of the production among the different clients. Tables 3.2 and 3.3 show it.

Table 3.2. Distribution of Sales in Construction.1990

COMPANY	DOMESTIC SALES			SALES ABROAD	TOTAL
	CIVIL	BUILDING	OTHERS		
DRAGADOS	45.41	31.67	16.31	6.91	100.00
FOCSA	65.4	34.6	-	-	100.00
CUBIERTAS	56.2	39.1	4.7	1.6	100.00
AGROMAN	50.9	49.1	-	-	100.00
FERROVIAL	62.3*	30.7*	-	7.0	100.00
HUARTE	37.9	56.9	-	5.2	100.00
OCISA	49.9	50.1	-	-	100.00
OBRASCON	N.A	N.A	N.A	-	100.00
LAING	53,8	46,2	-	-	100.00

* Data corresponding to 1989.

Source : Annual Report and Research Associates.

Table 3.3. Distribution of Sales in Construction by type of Client.1990. Domestic Sales.(%)

COMPANY	PRIVATE SECTOR	PUBLIC SECTOR
DRAGADOS	24	76
FOCSA	21,6	78,4
CUBIERTAS	20,0	80,0
AGROMAN	-	-
FERROVIAL	33	67
HUARTE	35	65
OCISA	35	65
OBRASCON	-	-
LAING	34	66

Source: Annual Reports.

Looking at tables 3.2 and 3.3, it can be noted the following characteristic in the large Spanish construction firms :

- Heavy dependence on the public sector. Their size allows them to bid in large projects, particularly the large infrastructure projects.

- Strong specialization in Civil Works by the same reason pointed out above.

- Minimum international construction that at the end is translated into a lack of experience in international construction market. Only the largest companies have a significant portion of their sales abroad; but none of them higher than 7%. The high interior demand existing in Spain during the last years might have been a good reason to not paying much attention to projects abroad. This lack of internationalization could be a key determinant in the EC context. Some companies, the largest ones, are starting to move across the Spanish borders towards the rest of Europe. It seems that this movement will be an important success factor in the future.

The main international markets where these companies operate are : South American countries, North African countries and the Middle East. Construction activities in the EC are almost non existent.

- Lack of penetration in the private sector. Taking into account that two thirds of the Construction in Spain belong to the private sector, the sales in the construction companies should be better allocated. The largest companies are focused primarily in the public sector. One thing is true, they are particularly specialized in civil works while there is a large number of other large and medium companies focused in the private sector and in building construction. A good allocation between public and private contracts could be desirable from the fact that public contracts fluctuate more in the business cycle. The private sector could offer a more stable pattern.

The financial structure

The following section is organized in two main subsections. The first dealing with profitability and the second dealing with financial situation.

The profitability is analyzed through 3 major ratios ROA (Return of assets), ROE (Return of equity) and Gross Margin. Table 3.4 give the value of these ratios for the companies chosen as well as an average for the whole sector.

Table 3.4. PROFITABILITY ANALYSIS. 1990

COMPANY	ROA. %	ROE. %	GROSS MARG
DRAGADOS	4.1	8.7	4.0
FOCSA	3.5	17.9	2.7
CUBIERTAS	3.4	14.61	3.4
AGROMAN	3.0	11.26	3.0
FERROVIAL	0.9	4.3	0.9
HUARTE	3.7	11.4	2.8
OCISA	3.1	11.5	3.6
OBRASCON	6.5	34.1	6.8
LAING	4.1	29.0	3.7
SECTOR AVERAGE	4.2	11.6	4.0

Source : Annual Reports, Research Associates and own calculations.

It can be observed from table 4.3 that the size of a firm is **negative** correlated, on average, with its profitability. Smaller companies present the highest ROA and ROE as well as very good figures for Gross Margins. In general, among the largest companies the ones with less sales volume perform better.

On the other hand there are other three important ratios about the financial situation. These are : The Current Ratio (Current Assets to Current Liabilities), the Financial Leverage and interest payments as percentage of sales. Table 3.5 shows these figures.

The first idea that can be perceived is that the Current Ratio is close to one for all the sector on average. On the Current Assets side of the Balance Sheet this means that companies with higher Current Ratio have more relative liquidity. Also it gives a **good** idea of the problems that companies would have as well as the sector as a whole, heavy dependent on the Public Sector, if there were a **delay** in Accounts Receivable from the Public Administrations. The situation, if not translated to the account payables side, could be very dramatic for many companies. The liquidity in the sector is not its major strength.

Table 3.5. FINANCIAL SITUATION. 1990

COMPANY	CURR. RATIO %	LEVERAGE %	INTER/SALES %
DRAGADOS	135.8	152.4	2.5
FOCSA	101.8	363.7	0.1
FERROVIAL	109.0	144.5	-
CUBIERTAS	-	324,6	0.4
AGROMAN	-	277,4	4.0
HUARTE	135.5	202.15	1.6
OCISA	94.3	253.0	3.3
LAING	111.7	659.2	1.1
OBRASCON	112.4	558.8	2.63
SECT.AVERAG	115.1	241.7	-

Source : Annual Reports and Research Associates.

The Financial Leverage is spread over a wide range with an average of 2,4. The smaller companies have a higher leverage ratio due to a higher level of subcontracting, in proportion with their equity, than the largest firms.

The third component is the weight of interest payments on sales. Table 3.5 showed the gross margin. As can be compared the interest payments represent for almost all the companies a high portion of

their margins. This makes to Spanish firms particularly weak. Their net margin is very weakened, on average, by the interest payments. How is the sector, on average, going to invest in R + D or human resources formation with such financial charge ?. Undoubtely, these last years have been particularly successful for the most of the companies with regard to net profits. This fact has help to a better financial performance but again, on averge, the weight if financial charges is still very high. In a more competitive marketplace, where the margins where very tight, the Spanish firms would have competitive disadvantages¹.

Product lines and patterns of diversification

At this point, four basic models to group the largest Spanish Constructin Companies can be made : (1) The Pure Construction Companies, (2) The Vertical Integrated Company, (3) The Horizontal Integrated Company, and (4) The Vertical and Horizontal Integrated Company.

¹ CONSTRUMAT.*The Spanish Construction facing the challenge of 1992.

The first model is composed by those companies whose unique product is the Construction itself. That is, they offer construction but being focused or not on specific sector of the demand (Civil Works, Housing, Commercial, Leisure, Industrial or Renovation and Maintenance).

The second model would be that composed by the construction companies vertically integrated back or forwards. Backwards, they include Engineering and Design as well as the production and supply of construction materials. Forwards, they include Real State operations, Urban Services and Facilities Management.

The third model can be described by those areas where a company can be positioned not having any direct relationship with the construction industry.

Finally the fourth model is composed by those firms that meet the second and the third model at the same time.

The pure construction mode is somehow theoretic in Spain for the large companies. If well some years ago it could be found some example among the largest companies (e.g. HUARTE and OBRASCON), nowadays, this is not the case. All large companies have started a movement towards diversification vertical or construction related, horizontal or both.

The other three models can offer many examples and the patterns followed by the individual firms. Table 3.6 illustrates the second model in relation with the Spanish firms following this path.

It can be deduced that the vertical integration of construction firms is being developed forwards. Undoubtedly, they are tending to push the construction industry to a "service like" industry. Not only the construction of facilities and infrastructures but also its operation, management and maintenance.

Table 3.6. PATTERNS OF VERTICAL INTEGRATION

Company	Construction Materials	Design & Engineer.	Construct	Real State	Urban Sevices	Facilities Managemt
Dragados	***	***	***	***	***	***
FOCSA		***	***	***	***	***
Entrecanale		***	***	***	***	
Ferrovial		***	***	***	***	***
Agroman		***	***			
OCISA			***	***		
Obrascon			***	***	***	***
Cubiertas			***	***		
Huarte			***	***		
Laing			***	***	***	

Source : Annual Reports and Own Analysis.

New particular segments of business are starting to be added to the parent companies : Real State development, Urban Services (Waste Disposal, Sewage and Treatment, Traffic Regulation, etc.) and Facilities Management. This last segment is fair to highlight. The increasing privatization or concession of toll highways, urban parkings, water treatment and many others, is not other thing that a direct consequence of the process of shifting the operation of the facilities from the public sector to the private sector. Particularly,

those facilities and infrastructures traditionally operated by the Public Companies.

Each time the requirements, technical sophistication, managerial capabilities as well as the volumes of investment are increasing more and more. Therefore, in a context of market economy where the public companies offer doubtful effectiveness and competitiveness in comparison with private ones, more dynamic and competitive, the only way out is to leave the operation and management of public services and facilities to those more capable.

The process towards privatization of many traditional public services and public operations as well as their management seems to be timidly started in Spain. Many of the largest companies have developed a parallel process to this privatizations and concessions as a way to integrate its value chain in the whole construction industry value chain. Each passing year the construction companies tend to develop more and more activities with the chain but always looking forward rather than backwards. The main reason that can be argued in doing so are related with a higher attractiveness in this segments characterized by :

- Reduced number of competitors.
- Good Knowledge and Relations with the decision maker, the Public Administration.
- High future growth of the market in these segments.
- More stable segments than the backward segments.

But the main problem in this approach from my point of view is that tending the main construction firms to become more "service like" firms, don't they have to give an special attention to human resources and R+D ?. One thing is true, each activity requires its own expertise.

The third model, the diversification in industries and products out of the construction industry value chain is exposed in table 3.7.

The pattern of horizontal diversification seems to be less followed by the Spanish Construction Firms. The largest ones have a very diversified activities as Dragados, Ferrovial and CONYCON. The main reason that could explain this lack is that the vertical integration can be achieved relatively easier due to the higher degree of links among the firms' value chain. On the other hand the

horizontal integration requires complete different company's orientation and the possibility of exploiting linkages is almost non-existent.

Table 3.7. PATTERNS OF HORIZONTAL DIVERSIFICATION.

Company	Constructi on	Agricultu re	Minin g	Tourism & Leisure	Manufacturi ng	Distributi on	Bankin g
Dragados	***			***	***		
Ferrovial	***	***		***	***	***	
Conycon	***		***	***		***	

Source : Annual Reports and own analysis.

The pattern of horizontal divesification seems to be erratic. The three companies exposed in table 3.7 have only in common the sector of leisure and tourism due to its relationship with construction. With regard to the other sectors there aren't similarities.

Chapter 4.

The Construction in the European Community

In 1957 the Treaty of Rome was signed by the six founders of the European Community. It was then when the main objective of the founders was set : The creation of the Common Market. The Treaty of Rome was articulated in four big supports regarding to the free movement of goods, persons, services and capitals as a way to integrate the six individual markets in a single one where the items mentioned before could move as they move in their respective national territories.

That was the main objective pursued in 1957. Thirty years after it, the Single European Act was signed in 1988. Now, instead of six member countries the number has increased to twelve and the term Common Market has been substituted by Interior Market. But, in spite of these changes the four main objectives to pursue remain the same as before.

The second half of the 80's has been characterized by a new impulse of the original idea based primarily on the objectives that

haven't been achieved. European institutions have found the double support of citizens and companies attracted by the higher degree of dynamism, competitiveness and transparency in the market from which all of them can get benefits. The substitution of the adjective Common by Interior obeys aid the formulation of other additional objectives : Territorial and wealthy equilibrium among the members, gains of international competitiveness versus US and Japan, increase the quality of living, and others.

Later than the Treaty of Rome, but parallel, the EMS (European Monetary System) was developed. Its first precedent was the system called " The Snake " introduced in 1971 as a way to stabilize the exchange rates among the members that at the end this is translated into a more stable pattern of trade in the Common Market. Under this system the exchange rates were set bilaterally. Currencies in the Snake were allowed to deviate only 2,5% between the weakest and the strongest creating a controlled band of fluctuation. Several monetary crises caused primarily by the oil crisis of 1973 led to continuous readjustments and devaluations; The Snake lost its stability.

The following step was to create a more stable and powerful system, the EMS. In 1978 West German Chancellor, Helmut Schmidt proposed the creation of a new, broader EMS. Schmidt had become deeply concerned by what he perceived to be an unwillingness on the part of US to take actions to halt the fall in the dollar and ensure a more stable pattern of international economic environment. Only a broader European cooperation, Schmidt believed, could fill this monetary vacuum. Such cooperation might also protect the mark - which had been risen from DM 2,5/dollar in 1976 to 1.73/dollar in 1978 - from further appreciation.

Given West Germany's heavy dependence on exports, Schmidt feared that West Germany goods would eventually become too expensive for foreign customers. In the way of a broader European cooperation a critical issue emerged : What incentives were required to encourage the participation of countries with weaker currencies. Among these incentives were the redistribution of funds within the Community to favor the development of the less prosperous countries (ie. Spain). Weaker countries feared being overwhelmed by the West Germany's export economy and strong currency¹.

¹ Harvard Business School. HBS 9390185. 9/18/91

I can be said that this system has performed much better although there are tensions regarding to loss of soberinity by the respective national governments as well as the EC budget allocations.

With regard to the Construction sector the main objectives as Interior Market in 1992, the main objectives : Interior Market in 1992, territorial and wealth balance, international competitiveness and increasing quality of living have and will have a tremendous impact in the sector, not only in Spain but also in the rest of the EC.

The interior market in 1992 established the progressive clearing until the end of 1992 of all physical, technical and fiscal barriers that impede the free movement of persons, goods, services and capitals among the member countries. In that way and in direct relationship with the construction are : The common public bidding procedures and the common standards and norms for construction materials. This affects directly to the national character of the construction sector in each country supporting the movements across the borders of the construction firms.

The redistribution and aid in the way of structural funds has to do with the territorial and wealth balance among the different areas in the EC, the more and the less developed. In that way, Spain has been receiving a part of such funds during the last years. The opening of Eastern Countries particularly East Germany could brake the arrival of new substantial funds, at least in the short term that could be deviated to help to such countries¹.

A higher degree of international competitiveness could be achieved working in common R+D projects. In the case of the construction sector the development of cooperative projects like BRITE or EUREKA programs among others.

Finally, the increase in the quality of living will be undoubtedly accompanied by environmental protection opening new opportunities for construction. It can be cited for example the recent Directive from the EC that establishes that will be obligated for all the cities over 25.000 residents a water treatment plant. Other actions in such way are the creation of norms about environmental concern in the design of lineal works such as highways or railways.

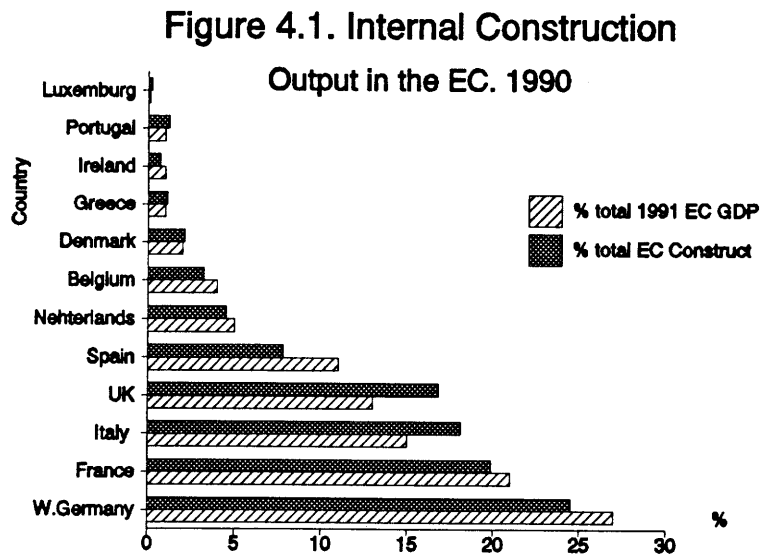
¹ MERCADO. n. 529. 3/23/92.

In this chapter will address two main items. Firstly, how the construction demand is allocated in the EC as well as its evolution and secondly, the supply side. Also I include an analysis of the movements across the borders by construction companies at the end of the chapter

The EC Construction Market

The construction within the EC represented a production volume about 53.000 Billion pesetas in 1988 occupying the first place in the industrial sector. Also, it was the first employer with 8,6 Million employees in 1988¹.

In 1990 its production reached 65.000 Billion pesetas allocated as Figure 4.1 shows.



Source: EUROCONSTRUCT and own calculations.

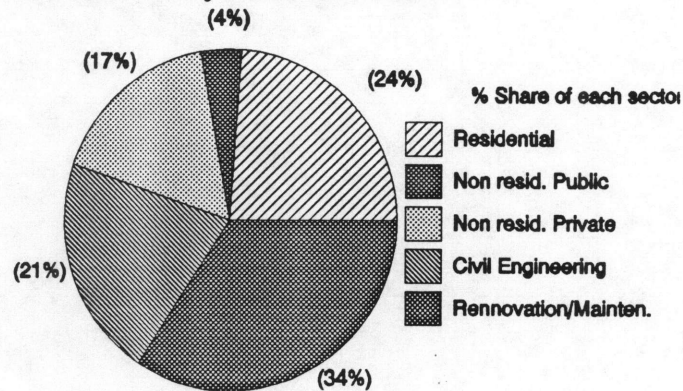
¹ ECIF. European Construction Industry Federation.

The largest markets are formed by W.Germany, France, Italy, UK and Spain accumulating in them an 87% of the total construction output. Also it's shown in figure 4.1 the contribution of each country to the EC total GDP for 1991. The comparison between share in the whole output and the share in the construction output can give a good idea of the relative construction intensity in each country. Taking fir Spain and index of 100, W. Germany would have 78, France 75, UK 55 and Italy 59. It's not difficult to see that this relatively large differences are due to the infrastructures program in Spain, the main works carried out for the '92 main events, Olympics and World Fair , and the recent boom in commercial construction.

Taking the classification of ECIF the construction output is divided in two large groups : (1) Building Construction , including residential and non residential, and (2) Civil Engineering. Figure 4.2 describes the distribution of the European construction output among the different sectors.

The largest share is for renovation and maintenance works followed by residential, civil engineering and non residential - commercial and industrial - building.

Figure 4.2. EC Construction Output distributed by sectors. 1990*



Source : Euroconstruct. Dec 1990.

* It doesn't include : Luxembourg, Greece and Portugal.

An interesting view can be given by the share of these specialties in each EC member as figure 4.3a and b show. The main points to highlight from these figures are the high share of renovation and maintenance in all the countries with the exception of Spain and Belgium whose share is just the half of the EC average. Also, the big share of civil engineering works in the case of Spain - 33% of the total construction output in Spain - while the EC average was 21% in 1990. One of the main reasons for this lack of renovation attention in Spain could be explained through its relative lack of infrastructures and social equipment in comparison with the EC average. This comparison would even be more dramatic taking only

the 5 most developed countries of the EC as will be shown in the next chapter.

Figure 4.3 a. Construction Output

Distribution by sectors in each country. 1990*

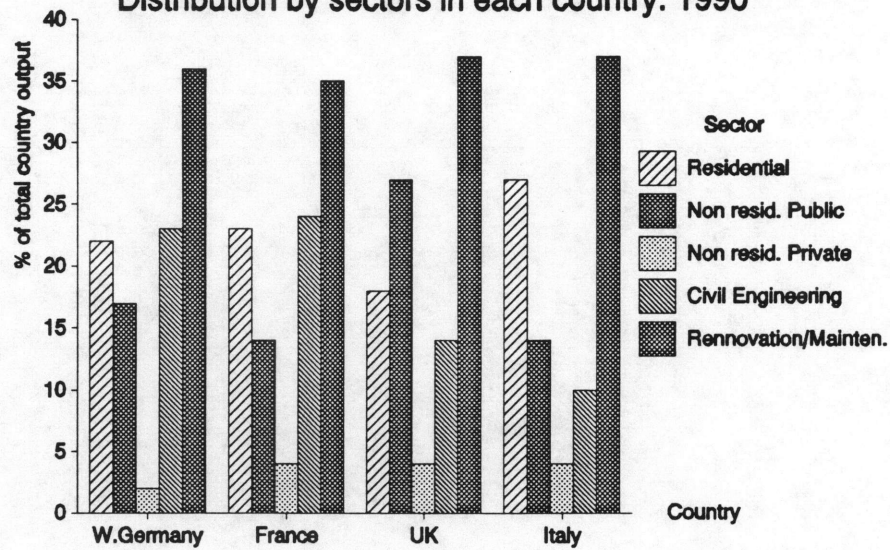
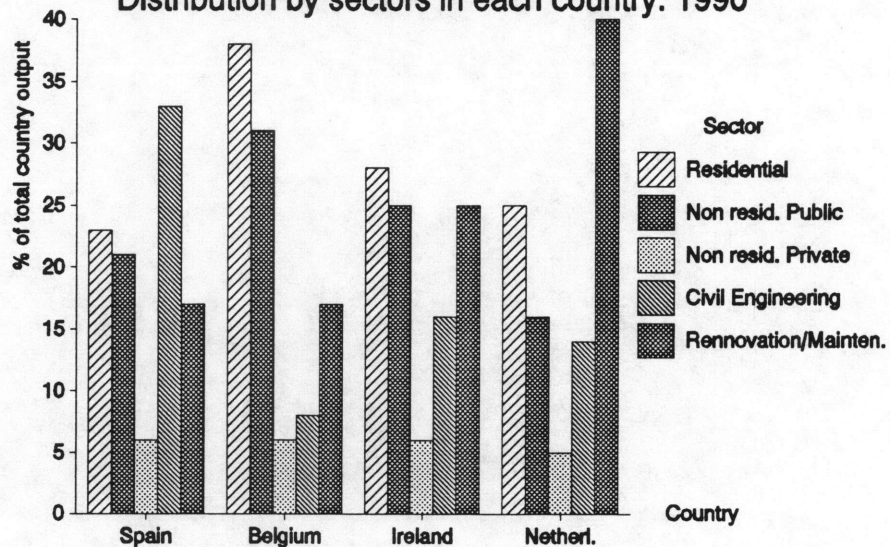


Figure 4.3 b. Construction Output

Distribution by sectors in each country. 1990*



Source : Euroconstruct and Seopan. (It doesn't include Portugal, Greece and Luxembourg).

France and Germany also have a very important activity in Civil Engineering - just after renovation - coincident with developments in infrastructure networks.

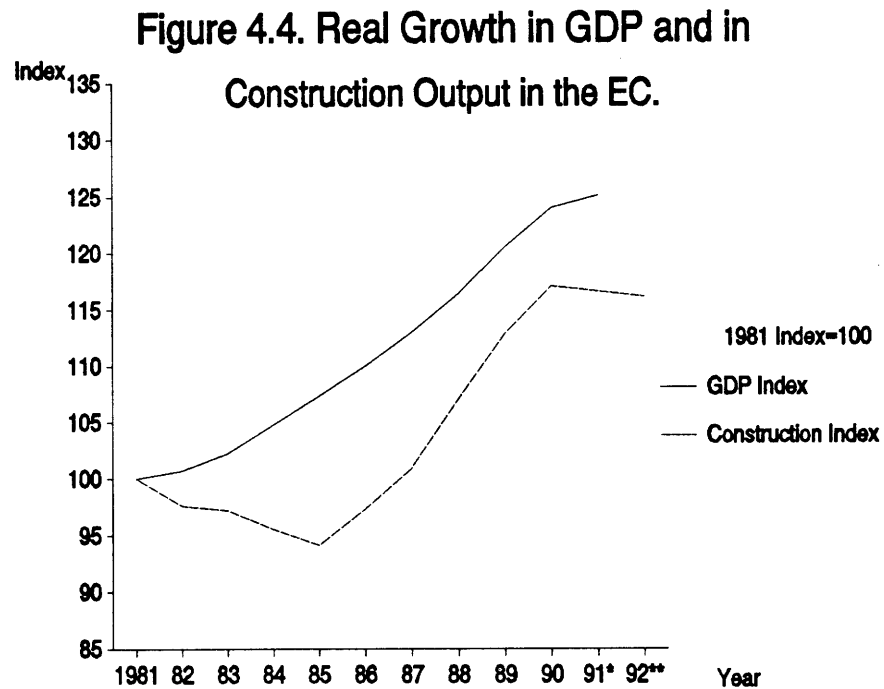
Residential construction is particularly important in Belgium, Italy and Ireland being the most important construction sectors in these countries with the exception of Italy where renovation accounts for the largest share.

Non residential construction seems to be very important in all the countries, particularly the private one in UK, Belgium, Ireland and Spain.

Following this description of the EC construction market, it could be interesting to take a look to the evolution of the sector over the last decade as well as its recent developments.

The first half of the 80's was characterized by a low GDP growth and a progressive declining in the construction activity until 1985. From 1986 to 1990 this trend changed giving pass to other business cycle with higher rates of growth in GDP and positive growth rates

in Construction output. The evolution of Spain matches perfectly in this context but with a particular characteristic. The construction real growth and declining are amplified in some way in the case of Spain if we compare it to the average.



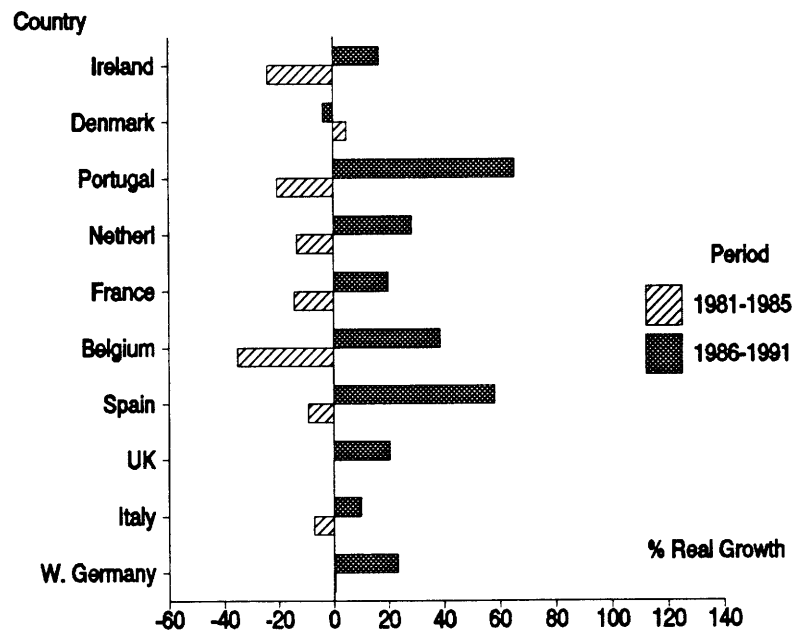
Source : Financial Times 11/18/91 : European Commission and EICF.

1991* Estimate; 1992* Forecast.

The beginning of the new decade has brought with it the end of the expansive wave of the business cycle. 1991 represents the first year with negative growth for construction in the EC while Spain has still had positive growth in construction - around 4% -. It seems that the boom is over.

In spite of the positive balance of growth over the decade of the 80's the real growth in construction achieved in the different countries is spread over a wide range as figure 4.5 illustrates.

Figure 4.5. Real Growth in Construction in the different countries. 1981-1991



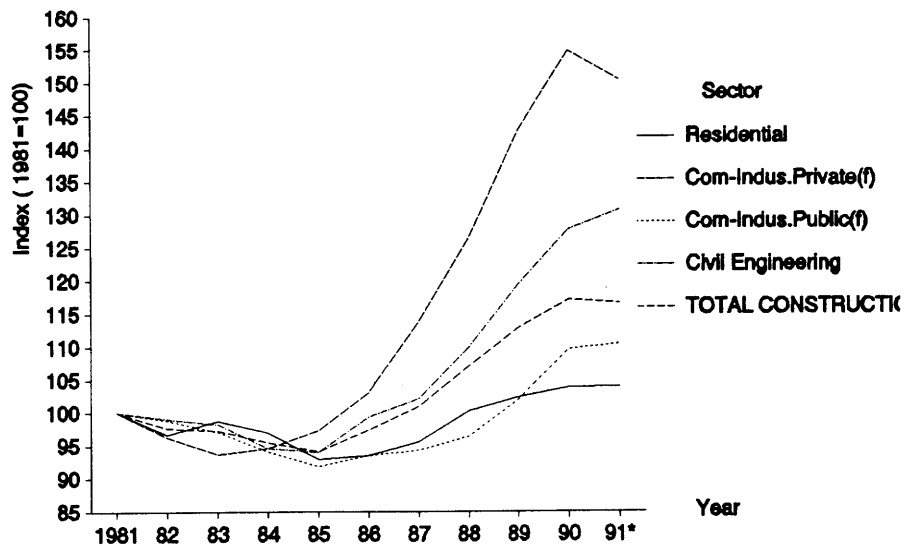
Source : ECIF and own calculations.

But the most important is that during the first half of the 80's the contraction was general but in the case of Denmark, W.Germany and UK - 4,8%, 0% and 0% growth respectively -. Also, the reverse is true. In the second half of the 80's with Denmark again, the exception. Therefore, with the EFIC forecast for 1992, a contraction

in the construction output of -0,4%, not very bright years can be expected in the next future for the sector in the whole EC.

On the other hand, it could be interesting to take a look to the evolution of the different construction demand sectors during the 80's to what activities have acted pulling the construction recovery. Figure 4.6 shows this evolution.

Figure 4.6. Evolution of the Main Construction Demand Sectors. (Real growth)



Source : ECIF and own calculations.

* 1991 Estimate; (f) Doesn't include Denmark and Italy.

The pulls of the construction in the EC have been civil engineering and the private commercial-industrial construction. Residential has been declining over the years in comparison with the general trend and public commercial-industrial construction also has kept below the general trend.

Within the residential segment the most important clue is that new housing construction has declined during the last years while renovation and maintenance has kept growing. The total balance in the segment, though declining versus the total construction in general, is still successful for renovation works according to ECIF. The annual average growth in the residential sector has been 2,2% over the second half of the 80's, the lowest of all sectors.

Commercial-Industrial construction has been one of the most dynamic segments. Particularly in its private part where has been growing at an annual average of 5,7 during the second half of the 80's. This growth can be explained by a a bright private investment process that is cooling down at the end of the 80's as a response to the tight monetary policies applied in the EC countries such as Spain.

Civil engineering has been other of the star sectors in construction during the last half of the 80's. This segment has been pushed by the activity in some countries as Spain, Portugal, France, UK and W.Germany developing programs in transportation infrastructures. The average growth in the second half of the 80's has been around 6,7% per year. Now this rate of growth seems to be declining as a result of cuts in infrastructures investment as the case of Spain.

The balance for the total construction output in the second half of the 80's in a annual average growth of 4,8% in real terms that presents a declining in 1991 in the sector as a whole.

The Supply Structure

As it was done in the previous chapter with the single case of Spain I will address in this point the same issue about the structure of the supply in construction, that is, the construction firms. But now I will take a broader scope. This analysis will be based on the internal construction in the five largest construction markets in the EC. These are W. Germany, France, Italy, UK and Spain accounting among them for an 87% of the total internal construction in the EC (1991).

Undoubtedly, the size of this area justifies that it will be in it where the highest number of companies can be allocated giving a secondary importance to the companies of the rest of the EC members.

Earlier in this thesis the particular characteristics of the construction activity were described. Its fragmentation can be explained through those characteristics but also adding other additional ones¹:

¹ Porter.1980. Chapter 9.

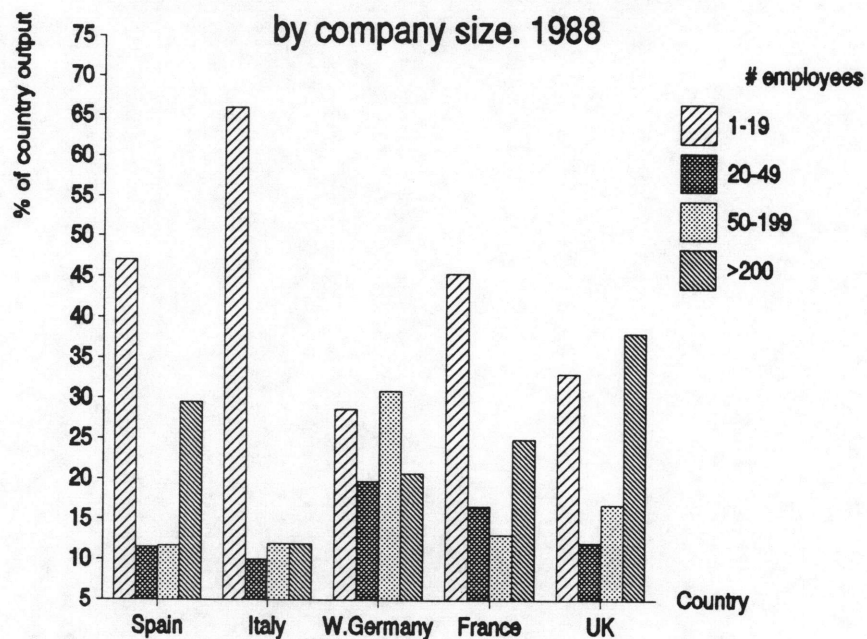
- Low entry barriers. No huge requirements of capital investment is needed to become a contractor.
- Absence of significant economies of scale or learning curves. The best example is in figure 2.8. The improvements in productivity aren't very high.
- Close local control and supervision of the activity as well as the need for local image and local contacts with suppliers, clients. That is a good knowledge of the local construction value adding chain.
- Different requirements, regulations and standards in the product by geographic areas.
- Exit barriers. Difficult possibility to access to other markets during a downturn in the construction market. In other words, a professional constraint difficult to avoid to enter in other industries.

This makes the construction industry very fragmented as well as very competitive. Therefore, a similar pattern of fragmentation can be expected across the countries. Nevertheless we will see some substantial differences.

Following this path of thinking I will analyze the structure of the supply for the five largest construction markets in the EC. The comparison will highlight the main differences among these countries and their particular characteristics.

Firstly it could be worthwhile to see the distribution of the construction output by company size, that is, the number of employees as figure 4.7 shows.

Figure 4.7. Share in each country output by company size. 1988



Source : Annual Bulletin of Housing and Building Statistics for Europe. ONU.1990.

* Data for Spain. MOPU (1988); Data for Italy. Ecosfera (1990).

From figure 4.7 can be noted that Italy is the country where the small companies (1-20 employees) are the more predominant in comparison with the rest of the firms. Italian small firms have a 66% of share in the output. Following a similar pattern like Italy, France and Spain have a 45,33% and 47% respectively of the construction output by small companies. The other extremes are UK and W.Germany where the small firms have only a 33% and 28,6 % respectively.

The medium size companies (20-200 employees) seem to be the most important sector in W,Germany with a share of 52% in the total German output. France and UK have similar patterns being the share in the construction output for these companies around 30% in both. Spain and Italy represent the other extreme with a 23% and 22% respectively.

The large size firm is the most important sector in the UK with a 38% percent share in the total UK construction output. Spain follows a similar pattern with 30%. W.Germany and France have an intermediate position with 21% and 25% respectively. Italy is the extreme with a 12% of the output by large firms.

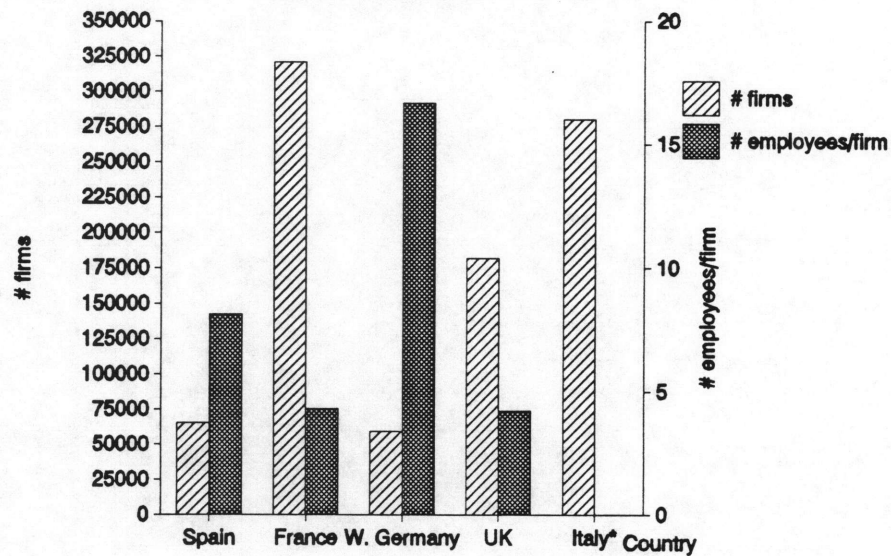
The previous description gives a good idea of the power of the different sizes of firms in the output of each country and also a firms overview of the fragmentation in each country. In this way can be said that there are different patterns of fragmentation in these five countries if we compare each other.

The Spanish market is polarized to small and large size companies, having the medium size ones a relative lower importance. The Italian market is polarized to the small and medium size companies with an stronger presence of the former. The German market is primarily characterized by the power of the medium size companies, the sector that has the highest presence giving less importance to the rest. France seems to be the country with a smoother distribution relative of its neighbors although as will be seen later presents its particular characteristics. Finally UK output is polarized to large size firms being it degree of fragmentation lower that in the rest of the countries.

The number of companies in each country also can give a good idea of the competition in each market as well as the fragmentation. Data in figure 4.8 show the number of construction firms in each

country as well as the average size of the companies in terms of number of employees. The range of differences seems to be huge. From 16.6% employees/firms on average in the case of W.Germany to 4,24 employees/firm in the case of UK.

Figure 4.8. Number of Construction Firms and Average size. 1988



Source : Annual Bulletin of Housing and Building Statistics for Europe. ONU 1990. (

Unavailable data from Italy)

What can explain these differences . Several reasons can be argued. A high number of employees per firm can obey to : (1) Low amount of subcontracted works (and the lack of firms' specialization derived form it), and (2) High percentage of small companies in the total number of firms. But a more interesting view

can be extracted from table 4.1. First it can be seen the huge number of small companies in France and UK, similar situation happens in Italy in spite of not being shown in the table. This implies for these countries a higher amount of subcontracted work than in the other two, W.Germany and Spain, as a result of a higher specialization of the small firm.

Table 4.1. NUMBER OF COMPANIES BY SIZE AND # EMPLOYEES/FIRM. 1988.

Country	% of EC Construction	0-19 employees		20-199 employees		> 200 employees	
		# firms	#empl/firm	# firms	#empl/firm	# firms	#empl/firm
Spain	11	62710	4.94	2618	47.3	115	878.9
W.Germ	27	49238	6.62	10000	49.1	439	405.5
France	23	309479	2.1	10755	42.1	413	675.5
UK	13	176028	1.42	5570	46.8	420	619.0

Source : Annual Bulletin of Housing and Building Statistics(ONU .1990), EUROCONSTRUCT, MOPU and own calculations.

But what about the medium and large companies ?. On one hand German and French markets have similar size - 27% and 21 % of the EC construction market respectively - but the number of medium size companies is higher in France being a more

competitive market for medium size companies. On the other hand particular attention must be addressed to Spain that having a market approximately the half of the French one, has only a fourth of the number of medium size companies that France has although the size of the companies is larger (# employees) in the case of Spain. K presents a more adjusted pattern to France and Germany according to its market size.

Larger companies are not very usual in Spain and their size is larger, on average, than in the rest of the countries. This gives to large Spanish firms a lack of flexibility in comparison with their close competitors. The gain in flexibility is justified through a higher percent of subcontracted work. UK presents a powerful number of large companies in comparison with the volume of its market. France and Germany present similar figures for large companies although, on average, the French company is larger than the German.

If we compare the Spanish firms with the rest of the countries' firms, taking into account that the Spanish market is mainly focused on small and large size firms and the size of the Spanish

construction market, there is no doubt about the following characteristics :

- Spain lacks of medium and large size companies.
- Less competitive marketplace for medium and large companies.
- Less amount of subcontracted work due to a larger size of the companies on average if we compare them to their counterparts in the EC. Therefore, Spanish firms lack of flexibility to cope with downturns in the market.
- Also a lower rate of innovation and technological development can be expected in Spanish construction firms because of the relative lack of competition in the market.

To set a more accurate comparison and to highlight the ideas exposed before, we can compare two indexes among the different countries. First the market size and second, the number of medium a large companies to finish giving an idea of the level of competition in each market.

Small companies are not taken into account because they have a very local scope and it is not likely that one small firm could compete with other in its same geographical area. This is not the case of the medium and large companies whose geographical scope can be local, regional, national, or even international.

The results from Table 4.2 highlight one of the most important

Table 4.2. COMPETITION INDEX FOR LARGE AND MEDIUM COMPANIES IN THE DIFFERENT COUNTRIES

COUNTRY	Market Size Index	# of medium and large firms index	Competition (fragmentation) Index
W. Germany	100.0	100.0	100.0
France	77.7	107.0	137.7
UK	48.1	57.3	119.1
Spain	40.7	26.2	64.1

Source : Own analysis from Data on table 4.1.

conclusions mentioned before: the lack of competitiveness in the Spanish marketplace. The index obtained for Spain is less than half than in France, approximately half of the United Kingdom's and one third less than the West Germany's. What is the least fragmented marketplace from the medium and large companies point of view?

Undoubtedly, the Spanish market. The Italian market has not been analyzed due to a lack of data but its pattern of competitiveness could be assimilated to France with a high importance of small and medium size companies. Going towards an integration , The Spanish firms are those who are going to suffer from a higher competition by foreign firms as will be in more depth analyzed in the fifth chapter. On the other hand, UK and French markets are more difficult to invade. The German market offers an intermediate position but much stronger than the Spanish one.

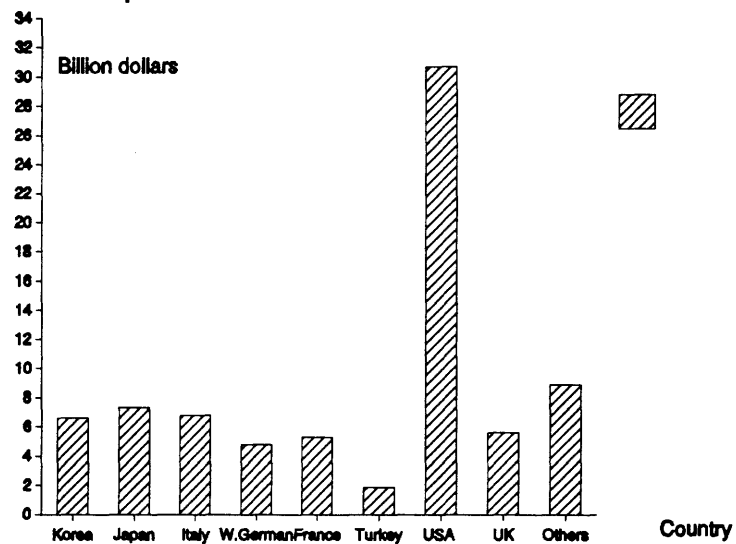
Also we should not forget that these countries have a more developed technological status with a larger spillover on the other sectors of the economy, therefore reaching also to the construction industry.

Hence, it is not strange that with the ideas exposed before we can find in countries like Italy, France, West Germany, and UK, higher values of productivity per worker, a more intensive use of equipment, and a higher degree of internationalization¹.

¹ Fco. Javier Fernandez. Strategies Available to Spanish Construction and Engineering Firms in order to Compete in the New Emerging European Market*. MIT Master Thesis 1991.

The lack of internationalization can be one of the most expensive bills that the European Market can pass to the Spanish Construction firms given the limited experience they have abroad. Figure 4.9 illustrates this fact.

Figure 4.9. Overseas Earnings of top 250 International Contractors. 1984



Source: ENR, July 1985.

Assuming that the construction abroad made by Spanish firms in 1990 was \$ 0,45 Billion and this figure is around the 50% of the value achieved in 1984, the construction by Spanish firms abroad represented \$ 0,9 US Billion in 1984, very far away from the amounts included in Figure 4.9, where only the top 250 international contractors are included.

As it can be seen, French firms are the most active international constructors in the EC followed by UK, Germany and Italy. The reasons for such internationalization will be argued in Chapter 5. Unfortunately, Spanish firms do not have the same international projection.

Finally, Table 4.3 collects the ideas exposed before trying to summarize the relative comparison among the countries analyzed.

Table 4.3. SUMMARIZED COMPARISON AMONG THE DIFFERENT COUNTRIES.

Country	Relative Market Fragmentation.	International Involvement	Subcontracting Level	Company size relatively more frequent
Spain	Low	Poor	Moderate	Small
W.Germany	Moderate	Moder-High	Moderate	Medium
France	High	High	High	Medium
Italy	High	High	High	Medium
UK	High	High	High	Large

Source : Own analysis.

Movements across the borders

The incoming opening of the European Interior Market seems to be encourage agreements and operations across the borders among firms of different nationalities. These firms are not only from EC countries but also from abroad as US and Japan.

The process undertook by some firms trying to expand their geographical operations seems to be very related with a general trend of globalization highly developed in many sectors of the industry. The construction industry is one of these cases. But if this trend is true without considering the future changes in the EC beyond 1992, a higher degree of movements across the borders can be expected if we count on that. The following chapter will deal with these circumstances with more depth. But now, I will focus in the facts rather than in the causes or objectives of these movements across the borders.

It can be interesting to start with it two steps. First, to see the trend and second, to see the participants involved.

Table 4.4 shows the mergers and acquisitions trends in the EC from 1984 through 1988 including international operations between Community and Non- Community enterprises.

**Table 4.4. MERGERS TRENDS IN THE COMMUNITY.
1984 - 1988**

SECTOR	Total mergers and acquisitions of majority holdings involving at least one of the 1000 largest firms in the EC			Mergers and acquisitions of majority holdings where the combined turnover of the firms involved exceeded ECU 1000 Million		
	1985-86	1986-87	1987-88	1985-86	1986-87	1987-88
Food	34	52	51	17	35	40
Chemical	57	71	85	33	51	57
Metal	17	19	40	4	11	32
Construct.	14	19	33	8	11	29

Source : Data gathered by European Commission in the specialist press.

As it is revealed in table 4.4 construction has been a very active sector in these transnational movements with a growing rate of mergers through the second half of the eighties. Particularly important is also that the most of the mergers are done between the large companies if we compare the two main columns of table 4.4.

Therefore construction seems to be moving through the globalization of its operations in a lower degree than other sectors. There are more firms in construction than in other sectors because is a more fragmented industry, but on the other hand the degree of mobility is lower. This fact could explain the differences among sectors in the figures exposed.

Within the construction sector a second step can be given going to see the main participants in the cross-border mergers and acquisitions in Europe. Table 4.4 is organized by company and its nationality showing the holdings in construction related firms or agreements undertook.

Table 4.4. CROSS BORDER HOLDINGS

Company and Nationality	Stake in	Country	Stake/Agreement
France			
Bouygues	Losinger	Czechoslovakia	85%
	Fercaber	Spain	70%
	Dragados	Spain	5%
CGE	In negotiation	Spain	In negotiation
	Norwest Holst	UK	100%

Table 4.4 Continued.

Company and Nationality	Stake in	Country	Stake/Agreement
France			
Dumez	CFE	Belgium	34%
	McAlpine	UK	12%
	Hans Brochier	W. Germany	25%
	Dumez-Copisa	Spain	100%
GMT Entrepose	In Negotiation	Spain	In negotiation
Fougerolle	Maurice Delens	Netherlands	40%
Jean Lefebre	P. Bituminosos S.A.	Spain	> 50%
United Kingdom			
Balfour Beatty	In Negotiation	Spain	In Negotiation
J. Mowlen	Const. Desmontables	Spain	>50%
AMEC	Kittleberger	W. Germany	50%
	Serete	France	20%
	Holzmann and Jotsa	W-Germany-Spain	Joint venture Agreement in Spain
Germany			
Bilfinger	Birse	UK	15%
Phillip Holzmann	Ed Ast	Austria	-
	Hillen & Roosen	Netherlands	100%

Table 4.4 Continued.

Company and Nationality	Stake in	Country	Stake/Agreement
Germany			
Phillip Holzmann	Jotsa	Spain	50%
	Nord France	France	100%
	Tilbury Douglas	UK	20%
Hochtief	Guaranti-Insaat	Italy	42%
	Hugo Durst	Austria	100%
	Ferrovial	Spain	Joint Venture
Italy			
Lodighiani	O. Hidraulicas y V.	Spain	>50%
Italstrade	Const. Solins	Spain	>50%
Spain			
Cubiertas + Entrecanales	Lilley	UK	21,5%
Dragados	Van Oort	Netherlands	Joint Venture. Dravo.
	Polar	Finland	Joint Venture. Spain
HASA	HAKA	Finland	Venture Agreement
*OCISA	SAE	France	15,5%
OSHA	SAE	France	J. Venture. OSHAE

* Operation canceled lately.

Source: Data gathered from Salomon Brothers (Financial Times, several articles, 1991),

CONSTRUMAT (March 1990) and Actualidad Economica.

Data in table 4.4 are quite relevant. From de 33 cases listed (Ocisa's case is not accounted), thirteen cases have made spot in Spain while the rest are spread over other countries.

**Table 4.5. Number of Cross Border Holding Operations
by country reached**

COUNTRY	#
Spain	13
W. Germany	2
France	3
Czechoslovakia	1
UK	4
Belgium	1
Netherlands	3
Austria	2
Italy	1
Finland	2
TOTAL	33

Source : Own elaboration from data in Table 4.4

On the other hand the most active firms come from France and Germany with 12 and 9 operations respectively. French companies seem to have special attention to the Spanish firms (50% of their

transactions) while W. German firms address their transactions in a more disperse way.

Table 4.6. Number of countries reached by nationality of firms

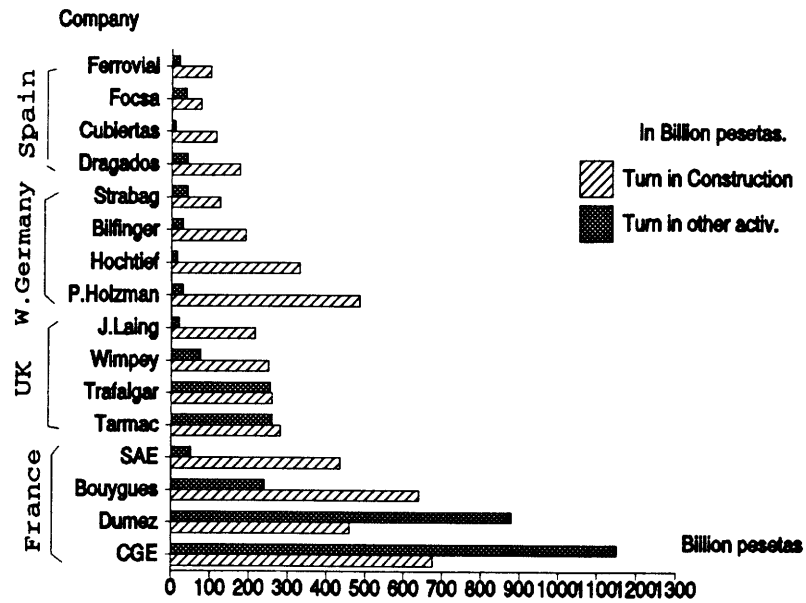
COUNTRY	#
France	6
UK	3
W. Germany	6
Spain	4
Italy	2

Source : Own elaboration from data in table 4.4.

The number of countries reached for each country's firms is higher for W. Germany and France while lower for UK, Spain and Italy. Therefore, acquiring positions in other countries is more aggressively undertaken for French and German Firms than for the rest. In spite of reaching 4 countries, Spanish firms have undertaken joint venture agreements in the most of the cases rather than acquisitions or major stock. On the other hand their counterparts have pursued a more aggressive approach through stake positioning. It seems that the size, financial capabilities or management attention to these trends are very weak in the Spanish firms.

Finally and given that the most of the transactions are undertaken by the large construction european groups, it can be worthwhile to look at the size of the major construction companies in each country to get some ideas of their major differences.

Figure 4.10. Turnover of the Main European Construction Firms. 1989



Source ; Data gathered from several sources.

The comparison among the large companies as figure 4.10 shows the following differences :

- French companies have a larger volume of sales and some of them are true giants as CGE, Dumez and Bouygues.

- French and UK companies are more diversified to other activities while German and Spanish firms are not very diversified.

- The largest Spanish firms are smaller than the rest of their competitors and have a lack of diversification. German and UK firms present a position in the middle of this context.

Chapter 5.

PROSPECTS FOR THE SPANISH CONSTRUCTION

It's certainly difficult to assess a forecast about the economic activity of a country. This is particularly true when the character of the economic evolution presents some signs of change. Forecasting the continuity of a given trend can be an easy task from the available data. In a different way, the start of a recession or the recovery from it have a good deal of difficulty and it's very likely to make wrong conclusions.

Nevertheless, there are some ideas, situations and facts that can't escape from our consideration and give us certain clues of great importance for the task of assessing a forecast with limited chance for error.

If all the exposed above is certainly true for the economy as a whole, then, the construction sector, whose cycles are delayed and amplified in comparison with the general economy ones, presents an even higher degree of difficulty and uncertainty to evaluate its evolution in the future. But again, there are some points that can let

us clues about its evolution as will be described in this chapter.

This Chapter is divided in two major sections. The first one deals with the short run. The second does with the medium-long run. The reason for such distinction is justified by their different character. The short run is influenced by the current situation of the Spanish economy, that is, the unbalances described in Chapter 1 such as inflation, exterior deficit and other structural problems. On the other hand, the long run is affected by other set of factors that deal with growth and development of the country. In my own opinion these factors require special attention due to its importance with regard to the membership of Spain in the Interior European Market.

The objective is to set some clues that can clarify the evolution of the Spanish construction as well as the needs for it to contribute to the country's growth and welfare to which undoubtedly is joined.

The short run

In this section I will describe the current economic situation addressing the main points and the solutions exposed and recommended from several institutions that in one way or other agree in the same points¹.

In a second step the construction sector will be addressed from two perspectives : (1) Investment and (2) construction firms.

The economy's situation :

As was described in Chapter 1, the Spanish economy is suffering from two major unbalances. On the one hand, the exterior deficit in its current account. On the other hand, a high rate of inflation and a questionable high unemployment rate.

With regard to the first point, the current account deficit, there are some ideas to remark. The article about Spain published in *The*

¹ I will highlight the main ideas from a survey of Spain published in *The Economist* (15/4/92) titled " After the Fiesta " and other articles included in *ECONOMISTAS*. 1991

Economist doesn't talk very much about it. It highlights the large deficit that ended in 1991 being very close to 3% of the GDP. But more important is its trend with five consecutive years growing. The financing of this deficit only has been possible through the large capital inflow from foreign countries in these last years.

Is the Spanish economy losing competitiveness ?. The answer is not clear. According to J.L. Feito¹ exports have been increasing in the last years. But this is not good enough when imports have also increased faster than exports resulting in a growing current account deficit. This author considers that the foreign capital inflow has been the direct responsible of this deficit through the acquisition of real assets. But he recognizes some step back in competitiveness that is very small if we consider the capital inflow as the main responsible.

Also Mr. Feito argues that the capital inflow, attracted by higher rates of return, has pushed the peseta to the top of the band of the EMU. This situation and also the higher inflation in Spain relatively

¹ ECONOMISTAS. Number 50. Sept 1991. J.L. Feito. " Reflexions about the international competitiveness of the Spanish economy and the peseta exchange rate ".

to its trade partners have damaged the competitiveness. But again, he considers it a minimal effect in comparison with the huge capital inflow .

The Economist offers a different explanation that deals with the loss of competitiveness. It points out four ideas ; (1) The low country's spending on R+D - still under 1% of GDP - that is lower than the richer EC countries, (2) The increasing labor costs faster than EC competitors, (3) Efficiency has to be improved and (4) The bargaining power of Unions that makes the labor market very rigid - still with an official 15% unemployment rate that seems incredible.

The facts have been exposed along this thesis. Now it's a good time to see some of the solutions proposed. *The Economist* argues about the continuing current account deficit and its amount. All this, along with the loss of competitiveness, could make foreigners to lose confidence. Same point is argued by Mr. Feito.

Mr. Feito comments two possible ways out. The first is that if foreigners lose confidence then it would be necessary to increase interest rates with a restrictive monetary policy to offset the

expected foreign exchange risk of a devaluation. The second solution could be a devaluation of the peseta within the band allowed by the EMU or renegotiation of the central exchange rates. This last solution, in his opinion, would generate a new inflation spiral although it would work in a very short term. This is true for two reasons : (1) The real unemployment rate in Spain is much lower than the official figure and (2) Import prices would increase. Therefore, this second solution would lead to a similar situation but delayed and it would be necessary a more drastic measure in the future to cure that situation.

On the other hand, the first solution seems better than the second. But rising the interest rate can conduce to investment crowding out. The cure is painful but maybe the most popular. From my personal view, there are other means to achieve it but these other ways are less popular.

The Economist highlights some issues in that direction connecting directly with my second point, inflation and unemployment.

Chapter 1 showed that inflation was not caused by a cost rising but

a demand higher than the supply. That is a demand inflation. This shows some sort of contradiction with the high official unemployment rate close to 15%. This inflationary process can be explained through some of the issues argued in The Economist : The Unions power, the unemployment fraud and the black economy. But other two things are also pointed out in this article ; The excessive and unefficient bureaucracy in the administration and the daily corruption scandals that appear in the press. All these problems are suggesting the need for drastic reforms in the Public Administrations, relations with Unions and spending control in subsidies to public-owned companies and unemployment benefits, and others.

These measures are also in direct relationship with the Maastrich rules that Spain needs to meet. But the need for such reforms are not only the result of meeting the EMU requirements but also the realistic reforms that an economy that wants to grow and achieve higher levels of health and welfare has to pursue. That is, no matter the conditions imposed by the Maastrich Agreements because if these were non existent, the problems to solve and the reforms to undertake would be identical.

In the own words of the Spain's Finance Minister, Mr. Carlos Solchaga, : " The lesson of 1991 - furthermore, of all our economy in the past - is that prosperity demands sacrificies. But it's necessary to eliminate the link that is tried to set between the European Monetary Union and the induced recession in the economy. It would be necessary to make remember to those interested in that association that not converging to Europe wouldn't get us free of the effort and sacrificies that now they anticipate and fear, though, it wouldn't allow us our historic objective of being a part of the construction of the Europe of the next century..."¹.

Investment :

It has been quite remarkable the investment process in Spain during the last half of the 80's. Nowadays this process presents a different look because of the major economy's unbalances that have imposed its cooling down.

¹ ECONOMISTAS. Number 52. 1991. " Spain 1991. A balance ". Carlos Solchaga's article. " 1991 ; The lessons of a supposed mediocrity ".

The parameter that measures the amount of investment through a period is GFCF that includes : (1) Private Investment, (2) Residential Investment and (3) Non Residential Public Investment. Undoubtely, the most important component of GFCF is the first one, private investment, with a share between 60 and 70% of the whole GFCF in the case of Spain¹.

The rates of growth of GFCF presented extraordinary figures being 14,2% in 1988 or 13,2% in 1989 - both in real terms - and pushing the economy's growth. This investment has been promoted from both sides, private and public sector. The Spanish government initiated an expansionary fiscal policy primarily through the infrastructure investment program.

This process has been also encouraged from the private side due to the political and social stability of the country after the establishment of the democracy. Now there isn't any reason to doubt about this stability. The economic growth over the last decade has brought better time for companies that have been able in the most

¹ Revista de Economía. Number 9. 1991. Carmen Lopez
investment in Spain and its continuity ".

Pueyo. " The recovery of

of the case to generate profits enough to offset a large portion of their financial charges as well as to increase its reserves to reinvest in new business opportunities. This has also been the case of construction firms.

Public spending on infrastructures has been also remarkable with the most brilliant achievements looking at 1992. There is no question about its role in promoting growth. But other different questions that can be made are : whether this program has been correctly administered and whether it has been too much for the supply side of the economy. Private and public sectors have been pushing the demand at the same time.

Inflation has appeared in this scenario as the major factor responsible of the investment slowdown. The GFCF growth was only 3,4% in 1991 - very far from those years when it reached up to 14,6% (1987) -. Wages and financing charges have grown very fast.

In the same article mentioned before, "After the Fiesta", these two facts are mentioned. It also collects the CEOE¹ feeling about the

¹ CEOE. Spanish Employers's Confederation.

infrastructure needs of Spain - still far from the EC average as will be analyzed later on this chapter -. The trouble is that the happy-go-spendig days are over. Growth is slower, the bills for the recent binge are comming in, the Maastrich rules require a new prudence. And all this while Spanish businesses are struggling to adjust to the blast of the EC-wide competition.

What does all this mean for the construction sector ?. Construction has a large share in GFCF, therefore, the slowdown in investment has to affect to this sector as in fact is happening.

The construction sector in the short-run :

Construction is facing two major cuts from the demand side:

- The cut in official bidding. The amounts of works in public bidding have reduce over 54% - in constant pesetas - during the first quarter of 1992 in comparison with the same period in 1991.
- The cooling down in private investment. This sector primarily covers residential, commercial and industrial works.

Real State market is seeing how the happy days are over. Now interest rates are higher, demand for real State has decreased considerably and prices are coming down. Margins are squeezing. Furthermore, according to some experts, the worst in Real State sector is still to come¹.

If we add to this situation the real situation in which the major projects for 1992 are about or even over and don't have continuity, the result for the supply side or the sector can be predictable.

The private sector is cooling down. The public sector has financing problems to meet its payments. And competition in construction is increasing. Also we have to consider that inflation in this sector is about 10% in comparison with the whole economy's inflation of 6,6%.

The short-term prospects for the sector guess difficult times. The surplus capacity built by construction firms in the second half of the 80's could be more than big enough to satisfy the current demand. Statistics for bankruptcies and payment defaults are now increasing

¹ Expansion. 3/18/1992.

in comparison with those good years - not only in construction, but also in other sectors of industry and services -¹.

The selection process has already started and only those firms better prepared could ride the downturn. The companies that can successfully get out of a recession are those who have strong points in :

- Low fixed cost base. Company with flexible structures and higher levels of subcontracting are better equipped to face a downturn than those with high overheads and large laborforce.
- High exposure of the bottom line to diversification.
- Net debt/cash position. In the context of delayed payments from public authorities disrupting cashflow, financial strength becomes an issue of increasing importance.

I would also add other important issue. Those firms less dependent on the public sector are better positioned than those whose main clients portfolio is focused on public institutions. Situation that is very common is many Spanish construction firms. In this same line

¹ INE. " Statistics of payment defaults and bankruptcies ". September 1991.

of thinking, international markets can be a very good way out for those companies that already have positions abroad.

But two more questions are remaining. How big and how long may the recession be ?. There are many opinions about it. Several experts argue that 1992 will be the first year that construction will present a negative growth about -2% or even more. Mr. Antonio Duran, President of Dragados y Construcciones,S.A, thinks so although he believes that 1993 will be a year of a timid recovery and the start point of a new growth cycle. This cycle will be aimed by the new programs in transportation infrastructures and residential construction¹. Nevertheless, this growth is not expected to be as high as it has been in the period 1985-1990. An annual average growth rate about 5% is expected.

Following the same arguments, Seopan and Ancop, the Spanish contractor's association, believe that the current situation of the Spanish construction won't improve until 1995 - being also 1993 the first year showing some signs of recovery -. Both have confidence in the Spain's infrastructure deficit in comparison with the EC average.

¹ ABC. Economy Journal. 6/1/1992.

The two opinions collected in this section rely on the role of the Public Administration as the main responsible to help to the sector through new infrastructure and housing programs. Also, they both argue that these investments will be the main factors to promote growth in Spain. In my opinion, there are also other factors that help to promote growth. Creation of jobs and capital accumulation are basic growth factors. But there is a third factor responsible for growth. This factor is the technological progress - called Total Factor Productivity Growth in Solow's model - that, for example, accounts for the main growth factor in USA - as much as capital and labor together. Therefore, saying that the infrastructure deficit in Spain will act as something impeding growth is not a dogmatic true. There is a wide field to act and to promote growth whose effect is certainly more powerful. That is, technological and human capital development.

This third factor can be considered essential to become competitive in the international markets and is a critical issue to rise the living standards in the country.

The medium and the long run

The future growth of Spain depends in whole or in a large part on the factors that are limiting it. These factors can be summarized as follows :

- There are some reforms urgently needed from the Public Administration as was described in previous sections. These reforms, if not undertaken, will act delaying the Spanish growth. The development of higher healthy levels only can be achieved with a proper administration of the economy's resources. These reforms are spread over a wide range. From the Public Administration itself to public-owned companies but always looking for eliminating the 'structural rigidities'. Spending control is the main measure recommended by OECD and IMF to Spain.

- In the most of the cases public owned companies operating in the industrial and services sectors present negative results systematically. Subsidies from the Public Administration are an usual practice and their efficiency and competitiveness are quite low. Many of them are claiming privatization for a better allocation of resources.

- Technological improvement and competitiveness are necessary in the economy as a whole. The complete opening to the EC competition is demanding a set of elements that go beyond the price and are key success factors for firms.

Among them are : (1) Organization and strategy, (2) Effort on R + D, (3) Adequate human capital formation, (4) Quality achievement and complete understanding about the client's needs and (5) Internationalization. From my personal view, the government can play a very important role supporting points (2), (3) and (5).

- Infrastructure development. The current stock of infrastructure is far lower than in the richer countries of the EC. The level of infrastructures in a country helps to achieve efficiency lowering costs and promoting developing regions. In that way, it contributes to the country's wealth and welfare. The only problem is that the development of an adequate stock of infrastructure takes its time and resources that many times the public financing can't afford.

It's important to see that these factors are interrelated, The

achievement of any of them depends in a high degree on the achievements in the first one.

The purpose of this section is to deal with two main issues with regard to the strategy of Spanish construction firms for the incoming years. The first one is addressed to those market segments that offer better growth prospects in the future. The second one will offer a conceptual analysis about strategy in construction within the EC as a whole. I will focus my attention on the Spanish construction.

The construction needs in Spain :

In spite of the effort undertaken in the last years Spain continues having a large infrastructure deficit. Table 5.1 illustrates the main differences and some of the areas where the gap is considerably important.

Also, it's not only important this deficit, but also the pace is taking. Table 5.2 shows the construction output in the EC and Spain. Year 1990, one of the years of the Spanish construction boom, gives an idea of the construction volume of Spain relatively to the EC

average. As can be seen, the distance between Spain and the richer countries of the EC is large and increasing year after year because of the relative lower annual output.

Table 5.1. THE SPANISH INFRASTRUCTURE DEFICIT

	EUR-12 (a)	EUR-7 (b)	SPAIN (c)	(c)/(a)	(c)/(b)
Km of network/km ² /Million inhab.					
Highways	11,5	14,5	5,1	44	35
Roads in general	1028,7	1161,1	726,6	71	63
Railways	46,0	53,1	28,6	64	54
Subway	0,6	0,7	0,4	67	57
Total Network	1095,6	1241,2	760,7	69	61
Units/1000 inhab.					
Housing	397	415	398	100	96
Hopital beds	8,1	8,9	4,4	54	49
Telephones	396	425	283	71	67
Energy consumption kwh/inh/year	5099	5402	3326	65	62

Source : Seopan. Annual Report. 1990

EUR-7 : UK, France, W. Germany, Italy, Denmark, Netherlands and Belgium.

EUR-12 : Includes EUR-12 and Spain, Ireland, Protugal, Greece and Luxemburg.

Spain has an infrastructure stock close to 60% of the European Community average. In that way, Spanish Construction offers very

positive prospects for the medium-long run. But for that, two factors are necessary. The first one in the Public Administration commitment and the second is the rising of the necessary funds.

Table 5.2. DIFFERENCES IN CONSTRUCTION OUTPUT. 1990.

	Output (Billion pts)	Thousand pts/			Index Spain = 100
		Km ²	Inhab.	Inhab/km ²	
EUR-12	65.300	28.885	199	2.400	154
EUR-7	56.864	38.985	215	2.896	186
SPAIN	6.936	13.740	176	1.557	100

Source : ECIF. Euroconstruct.

Among the construction sectors with more promising future in Spain are :

- Housing. Nowadays there is a growing demand for house building. Particularly for medium rent families that can't afford very expensive housing. The demographic trend in Europe also assures that the South of Europe has the best prospects for new housing construction demand (See Table 5.3).

- Tourism and Leisure also offer growing prospects if Spain is going to follow the 'California Development Model'. We don't have to forget that Spain presents one of the best climates and the longest shoreline of Europe. A lot is to do improve quality and capacity to satisfy this demand in the future.

Table 5.3. DEMOGRAPHICS : EUROPE AND SPAIN.

	Population (Million)		Active Population (Million)		
	1985	2025	1985	2000	2025
North	82,7	83,5	40,6	42,2	39,4
South	142,6	159,4	56,4	62,8	62,4
West	154,2	150,1	70,8	71,3	61,7
EUROPE	379,5	393,0	167,8	176,3	163,5
SPAIN	39,2	43,3	-	-	-

Source : CONSTRUMAT -3. March 1990.

- Renovation and Maintenance. There are two important reasons to assume that this sector will grow very fast in Spain. Firstly the lack of infrastructure to be maintained or renovated in the past - as is shown in the share of renovation in total construction output - and secondly, as population is

getting older it will demand not only higher quality but also and stronger interest in renovation and maintenance.

- Development of new transportation infrastructure network.

In spite of the recent improvements in the transportation infrastructure, the demand is growing very fast. In a few years this network will need to increase its capacity and new highways will have to be built.

- The water sector. It includes storage, distribution and waste water management. The water consumption in Spain has increased considerably in the last decade while there hasn't been any important hydrologic program. Each day the needs are higher and water is a more scarce resource, both, in quantity and quality. Therefore, water is an asset to manage properly before and after using it. In that way the EC has issued a Directive obligate to install a waste water treatment plant in those population center over 25.000 inhabitants.

These are basically those sectors that offer a good future in Spain and some of them can be considered common to other EC countries. The needs are huge. Maybe too much for a Public

Administration alone. Therefore, it can be expected the involvement of the private sector in two ways : (1) financing and (2) operation and facilities management.

The privatization phenomenon has been a growing process in the last two decades in many developed countries. Its justification usually lies on the gains of efficiency and competitiveness that, at the end, give a better allocation of the economy's resources.

Nonetheless, there have been traditionally 4 basic reasons argued for the government intervention through the correction of market failures. These are : (1) The existence of externalities not measured through any price mechanism, (2) The existence of public assets where the market is not able to offer enough supply due to the marginal cost is 0 and/or there isn't any possibility to avoid the enjoying of the asset, (3) The existence of increasing returns to scale determining natural monopolies and (4) The lack of competition in the market appearing monopolies and oligopolies¹.

¹ ECONOMISTAS. Number 49. April-May 1991. Gonzalez, A. and Lorenzo, M.J. " An analysis of privatization policies. Objectives and controversies ".

The first two reasons are nowadays in question. R. H. Coase, 1991 Nobel Prize, has criticized that these two theories haven't been correctly analyzed in the past and affirms in his work " The problem of the social cost ' (1960) that : " if the parts involved in a transaction can negotiate and agree without incurring in any cost, the final solution will be the optimum and independent of the property rights scheme " .

If Coase is certainly right, the privatization of many public services - currently operated by public companies or institutions - would find a very important theoretical support able to mitigate those arguments argued against their transfer to the private sector by their monopolistic character.

Current experiences are oriented in this way. The privatization process is just starting in many countries and Spain can't escape from this process. Furthermore, the public financing resources are each day more limited in comparison with the volume of infrastructures and public services necessary to supply.

In this scenario is fair to suppose an increasing demand in public services supplied by private firms where the role of the public authorities will be the control and supervision of a certain number of previous conditions regarding to price, quality, service guarantee, etc.

There are many fields related to construction where the private sector has an strong inertia to participate :

TRANSPORTATION :	HYDROLOGY:	ENVIRONMENT :	URBAN FACILITIES :
- Highways	- Water	- Waste disposal	- Public Garages
- Tunnels	distribution	management	- Hospitals
- Airports	- Water		- Urban planning
- Raiways treatment			

In all these cases the private sector can offer the complete package - from financing to planning and desing through construction and management -. In that way, the facility management and operation will serve as a way to collect the funds invested and a rate of return through the life of the project.

Many schemes can be found to carry out those projects although it's always required to analyze case by case. The financial engineering techniques offer many financing instruments in a process of innovation to avoid all the obstacles that impede the optimum matching between each project and its particular financing needs.

Therefore, there are a wide spectrum of opportunities for construction companies in the Spanish arena. The current deficit of infrastructures and equipment is a reality that anybody can elude. In that way, the Spanish Government has recently announced and investment program that will focus on the following items¹ :

- Interior transportation within the major cities.
- A highways plan about 8.000 Km.
- A housing plan trying to accomodate family income to the housing price.
- Allocation of funds for environmental protection.
- Others : Water storage and distribution, improvements in the railways network, etc.

¹ ABC. Article. 5/21/1992.

At this moment the program is expected to have a duration about 15 years though year 2007 and its approximate budget is roughly 45 Trillion pesetas. This program already counts with a 15 Trillion-peseta financing where 6 Trillion pesetas will be funded by the private sector. Nonetheless, it's not clear the management scheme that will be adopted.

Now the big doubt is whether the program is going to start soon and the pace is going to take. As I commented before, there is an urgent need for some other reforms that should have priority. The confidence in such program (regarding to volume and timing) is questionable.

Competition environment and strategy within the EC :

The first question that anybody can ask about is EC is if the Interior market is going to imply a true integrated or global-like market for construction firms within the EC frontiers. In that way we could explain the current movements undertaken by some European firms as well as anticipate new future movements if these are possible and respond to a coherent strategy.

I've chosen a model of globalization that I find very useful to this purpose. The model is the work of C.A. Solberg (1991) and presents a very helpful scheme to explain the globalization process being also a powerful tool for decision making¹.

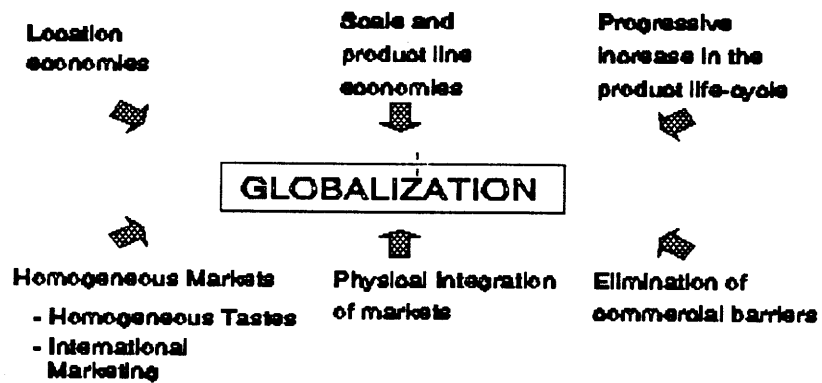
Globalization can be understood as the process in which production, distribution and marketing of goods and services by an industrial group are done in an integrated way beyond the national borders. Traditionally the different national markets have been separated and only a few firms could operate in foreign countries. Now, the process is general.

There are many industries that already present a global character as the automobile industry, banking, computers, etc. Two seems to be the requirements for a global behavior. First, the international projection and second, this projection is carried out in an integrated way, that is, under a common strategy.

¹ Revista de Economía. Number 11. 1991. Alonso, J." The Spanish company and the international markets ".

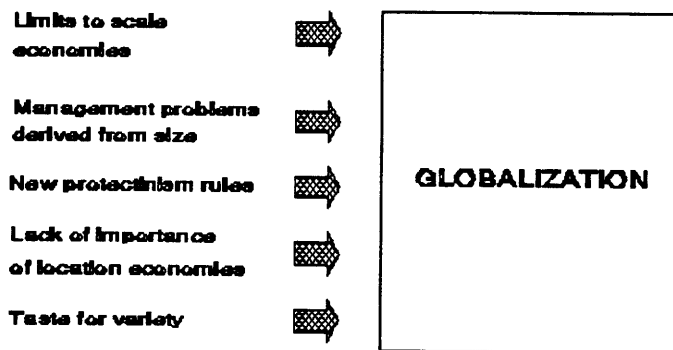
Solberg indicates what forces push an industry towards globalization and what forces work against it. Figures 5.1 and 5.2 illustrate respectively these forces.

Figure 5.1. Globalization Forces



Source : Solberg (1991)

Figure 5.2. Resistances to Globalization



Source : Solberg (1991)

How does Construction in the EC match in these figures ?.

Looking at the construction industry itself, it's certainly clear that construction presents location economies due to its own characteristics as was described in previous chapters. Furthermore, it also presents a progressive increase in its products life cycle as a result of the improvements in quality. An own characteristic of construction is the durability of its products only subject in many cases to maintenance works. The only weaker factor is the scale economies, difficult to get in this industry. But there are construction areas where they can be achieved such as financing, general overhead, marketing or purchasing. Specialization also can lead to dynamic scale economies through the learning process. There are also some fields as prefabricated components where the increasing returns to scale are clear.

The rest of factors pushing an industry towards globalization are rather external to the particular industry. In the case of the Interior Market it can be said that the objectives pursued by the Single Act match perfectly in this context. From the elimination on physical and fiscal barriers allowing free movement of capital, persons, goods and services to the definition of same construction standards, norms

and rules. The improvement in information technologies and communication networks will also help to the process.

All this factors are pushing construction to get global-like in the EC context. From my personal view, this process is also encouraged by the globalization of other parallel industries such as banking or the internationalization of many construction clients - Real State Developers, for example -. There are clear examples of this process. Many Japanese contractors entered in the US construction market through the entry of Japanese developers and other firms - building automobile plants, etc. - getting in that way their first projects¹.

But if it's true that the forces mentioned before work facilitating an industry to globalize, there are other set of forces impeding such trend as is described in Figure 5.2. But construction seems to be not very affected by such forces. Taste for variety is not an important factor in this case. Construction firms are flexible enough to produce custom-made facilities.

¹ " Foreign involvement in US Construction-related Industries ". A workshop. MIT. 10/23-25/1987.

The only force that really threatens this process is the development of new protectionism rules avoiding an open competition. The Single Act in its Articles 85,86,92 and 93 prohibits anti-competitive practices¹. We don't have to forget that public administrations and institutions represent in the most of the countries the main construction client. If these institutions gave an special 'aid' to their national contractors in purchasing construction contracts, the competition would be distorted closing the possibility of many companies to entry in other EC member countries. At this moment the Public Purchasing Laws of some countries reserve the right to invite to foreign construction firms to bid or this is done in a very small number of cases.

1996 represents the year when the construction for the public sector will be opened for transparent competition in the whole EC. In Spain this will be translated in a higher level of competition. As we know from previous sections the Spanish market is characterized by a lower competition level than other European markets.

¹ European Commission. " EEC. Competition policy in the Single Market ".

The imposition of the competition rules will lead to a more transparent environment. Nevertheless, there will be a period of transition. Year 1996 or 1997 could mean the final of this transitional stage.

Taking positions in this new global-like environment, construction companies have to define their strategy. Solberg proposes an acheme of 9 possible strategies as is shown in Table 5.4.

It's important to recognize that this trend to globalization is different depending on the market segment, sectors, and part of the construction value chain. Therefore, it's not possible to talk about a single strategy for a company but several options according to the level where it operates, market and the ways it adopts its international projection.

Table 5.4. STRATEGIC OPTIONS

Company's preparation to internationalization			
High	Entry in new markets	Be prepared for globalization	Strengthen the global position
Moderate	Reinforce the export markets	Expansion to international markets	Look for alliances at global niches
Low	Stay at home	Development of international niches	Be prepared to be bought
	Local	Potentially global	Global
	Global Degree of the industry		

Source : Solberg (1991)

In general, the construction industry within the EC is tending to become global-like. Hence, construction in the EC can be classified between a potentially global and a global industry. Nonetheless, there are some parts of the construction value chain that will remain in its local, regional or national character due to its very fragmented character where the possibility of achieving scale economies or become competitive are rather difficult not offering an attractive look for global strategies. This is the case of many subcontracted works and small scale projects that although specialized don't

require an advanced technology or aren't opened entirely to a large number of competitors as is the case of many private demand segments.

Assuming the line of thinking exposed above, it can be explained the movements across the borders undertaken by some European construction firms (See chapter 4). How do Spanish firms fit in that process ?. The preparation to internationalization of Spanish construction firms is in the most of the cases low. A minor number offers a moderate preparation. The acquisition, in full or in part, of many Spanish firms by foreign groups responds clearly to Solberg's scheme. From my point of view, the better preparation for internationalization can be described as follows :

- Higher degree of organizational flexibility.
- Higher degree of technological development.
- Better management systems.
- Financial strength and turnover.
- More projection and experience abroad.

From this point, what are the strategies and challenges to achieve by Spanish construction firms in the next years ?. In first place it's

important to notice that the international projection - whatever the way and level this is - is a basic mechanism of every offensive strategy looking for a competitive position abroad but also for the defense of the positions acquired in the domestic market. A firm confining itself in the protection of its domestic market gives as result a source of competitive disadvantages for the firm and a vulnerability factor in favor of the foreign competition.

I would like to expose that doesn't exist a general strategy for all the Spanish construction firms. Rather it's a matter of analysis on case basis. Nevertheless, there is a set of strategies where each firm can look for its particular position. The following sections define 3 general strategies that offer a conceptual framework of analysis as well as the challenges to develop them.

A. INTERNATIONALIZATION

This strategy seems to be one of the most needed to undertake for the many Spanish general contractors as well as those specialized firms that can offer advanced technology in construction.

The international involvement in construction of the Spanish firms has been traditionally very low. This has implied a very low improvement in technology and management systems. As a consequence, improvements in productivity have been very small under the protection of the domestic market. Lately this trend has changed although the inflow of foreign companies to the Spanish market has been much larger than the outflow of Spanish companies to foreign markets.

There are three major disadvantages of competing abroad :

- Local firms have knowledge of consumer tastes, local business customs, legal framework, suppliers, clients, culture, language, etc.
- The firm operating abroad has to take some risks that local firms don't. Among these additional risks are : Financial risks (Changes in interest rates, inflation, foreign exchange rates) and political risks. Governments play a very important role in these risks. The existence of export credits, insurances and other means as financial or fiscal aids help to internationalization. Financial agreements reached with countries by the domestic government may be a good way to

reduce those risks and a way to entry in the market. This is the case of some recent agreements between Spain and Mexico, Venezuela, Argentina, China or Morocco.

- There exist additional costs incurred by the firm working abroad such as travelling or controlling the operations from a much larger distance.

These factors offer a good framework analysis for the Transaction Costs Theory. There are some basic options for a company trying to entry in a foreign market :

- Acquisition of a local contractor (in full or in part).
- Establishment of a filial company or a branch office.
- Joint Ventures with local partners.

At first sight all of them offer a good look but there are some differences. The entry in a foreign market can be seen in a certain way as a transaction to acquire a market share - projects - abroad. This entry can be achieved via market, via internal organization or via an intermediate position. According to Williamson (1975) there are three fundamentals that raise costs in the market with respect to internal organization :

- Bounded rationality which reflects the inability of potential

transactors to obtain an unlimited knowledge to make decisions concerning transactions due to sociological and language limitations.

- Information impacteness in the market, where information necessary to transactions is known by one or more parties but can't be obtained or displayed to other without cost.
- Opportunistic behavior as a consequence of the other previous factors.

The three options described before can classified in the following way. The acquisition of a local contractor implies a market approach. The establishment of a filial company or branch office implies a hierarchical or internal organization approach. Finally, joint venturing reflects an intermediate position.

Now it could be worthwhile to analyze the advantages and disadvantages of each of these approaches. Table 5.4 summarizes them.

The market approach, acquisition, presents the following advantages : (1) Direct access to a certain market share, (2)

Acquisition of the local knowledge through the foreign firm's current capabilities and (3) Direct control on operations. On the other hand it presents the following disadvantages : (1) The price payed in the acquisition may be too high, (2) It assumes to chose the right firm for the strategy the buyer wants to pursue, (3) There are always problems based on cultural differences such as language or organizational culture when the buyer wants to impose his criteria, (4) It requires a good deal of financial power and (5) It reduces flexibility.

The other extreme, the establishment of a branch office or filial has the following advantages : (1) Direct control and supervision on operations, (2) Avoids opportunistic behavior. The disadvantages of this approach are : (1) It still lacks of a deep market knowledge, (2) It assumes a major portion of risks and uncertainty, (3) It doesn't count on an initial market share, (4) It requires financial strength and (5) It reduces firm's flexibility.

The intermediate approach, joint venturing, offers also its own character and collects the advantages from the other two approaches although not their disadvantages that are rather based on

organizational issues. The advantages are ; (1) Eliminates uncertainty if the Joint Venture is undertaken with a local partner, (2) It requires less financial resources than other solutions, (3) Easy way to access to a market share, (4) Risks are shared and (5) It doesn't reduce firms' flexibility. The disadvantages are : (1) It requires a common set of goals and objectives, (2) It also requires complementarity between the firms, (3) There are always cultural problems based on their business cultural differences and (4) There is always the threat of the partner to become a competitor.

From my point of view, I see the third approach as the best can fit the purposes of the Spanish companies given its relative lack of financial resources - in the most of the cases - and international experience. The increasing number of joint ventures in all the economic fields shows the strengths of this approach.

Nevertheless, no matter the approach taken there are some requirements that Spanish companies have to meet. Not only to compete internationally but also to defend its position in the domestic market. Porter's (1985) generic strategies to compete in any market segment and to achieve competitive advantage are : (1)

Price competition, (2) Differentiation, achieving higher quality and/or higher value added in the product and (3) Innovation, as a way to achieve both price competition and differentiation¹.

Table 5.4. WAYS TO ENTRY IN FOREIGN CONSTRUCTION MARKETS.

	Acquisition	Joint Venture	Filial establishment
Advantages	<ul style="list-style-type: none"> - Initial market share. - Local knowledge. - Direct control 	<ul style="list-style-type: none"> - Eliminates uncertainty. - Lower financial requirements. - Market share. - Risks are shared. - Flexibility isn't reduced 	<ul style="list-style-type: none"> - Direct control. - Avoids opportunistic behavior.
Disadvantages	<ul style="list-style-type: none"> - Too much price. - Choosing the right firm. - Cultural differences. - Financial power. - Reduces flexibility 	<ul style="list-style-type: none"> - Mutual trust. - Complementarity. - Organizational and cultural differences. - Threat of partner to become a competitor. 	<ul style="list-style-type: none"> - Lack of local knowledge. - Assumption of major uncertainty. - Initial market share. - Reduces flexibility.

Source : Own analysis.

Applying these concepts to the Spanish construction, these competitiveness can be achieved with a higher degree of attention to the following issues that seem to have been usually forgotten in the past and in one way or other lead to quality (differentiation) and productivity (price competition) :

- Continual upgrading of structures and management systems.

¹ Michael Porter. " Competitive Advantage ". 1985.

Looking for more flexible and decentralized structures with better qualified managers.

- Improvement of control and information systems.

- Investment in R+D in two ways :

 - + Physical equipment, capital, construction procedures, etc.

 - + Human capital. Personnel formation, in-house programs, etc.

- Better strategic planning with special attention to those market segments which offer good prospects anticipating in some way the demand and developing the necessary internal firms' infrastructure for it. This is the case of the construction packages and/or facilities management.

- Special concern about quality. This issue will be an important factor within the EC because of the new requirements about guarantees and responsibilities during and after the construction process. This also includes attention to safety.

- A look to most competitive markets as Japan or US can provide a good source to acquire the needed management techniques and knowledge.

- Closer positioning to the private sector. Spanish construction firms are highly dependent on public sector. New products and services can be develop trying to meet better the client's particular needs. In Spain, for example, construction management contracts are starting to be introduced by foreign firms.

B. VERTICAL INTEGRATION

Vertical integration can be defined as the decision by the firm to utilize internal transactions rather than market transactions to accomplish its economic purposes.

As was seen in previous chapters the main Spanish contractors had integrated forwards through Real State and other sectors. In the same way, many small contractors have become Real State developers. Undoubtely, this movement forwards can be justified by the demand boom after the entry of Spain in the EC in 1986.

On the other hand, other Spanish contractors have integrated backwards but in a minor number. The main fields in this direction

have been design-engineering and construction material such as prefabricated components.

The decision of internalization of some activities included in the construction value chain is not an easy task and uses to have many pitfalls. From a general view it can be said that vertical integration is successful only when the activities added to the firm's main activity lead to reinforce its strategy - price competition, differentiation or both - through gaining competitive advantage among the different activities performed.

There exist benefits when the following issues are present¹:

- Economies of integration. These economies can be reached when the output volume is enough to achieve : (1) Economies of combined operations eliminating or reducing intermediate activities such as handling, transportation, etc., (2) Economies of information that can be shared among all the activities, (3) Economies of internal control and coordination, (4) Economies of avoiding the market and

¹ Michael Porter (1980). Competitive Strategy. " The strategic analysis of vertical integration ".

therefore the transaction cost derived from it and (5)

Economies of stable relationships with buyers-suppliers.

- Access to knowledge of the technology. In some way is a form of economy of information. Prefabricated materials, for example, can be produced according to the construction methods and equipment the firm has or viceversa.

- Assure supply and/or demand. Construction firms that are integrated towards the Real State sector can have assured a certain volume of work in economic slumps.

- Elevate entry and mobility barriers. If the firm achieves competitive advantage through integration automatically reduces the possibility of the entry of new competitors.

- Enter in a higher-return business. Assuming no economies of integration, the movement of many Spanish contractors to Real State can be seen by the substantial returns this market has offered.

The benefits have been exposed but there are some strategic costs derived from vertical integration. These are¹:

- Costs of overcoming mobility barriers. That is, the costs of entry in an adjacent business. Particularly important when there are large capital requirements or proprietary technology. This is not the case of the construction related activities. Becoming a Real State developer or a producer of construction materials doesn't require large amounts of capital or a very sophisticated technology.

- Increased operating leverage. Integration reduces the firm flexibility because it increases the fixed costs base and at the end all the activities depend on the final product sold.

Slumps in the market - characteristic in the construction business - can seriously affect to the firm as a whole.

- Higher overall exit barriers. Integration implies specialization of assets, strategic relationships or emotional ties to a business. This is true in the construction business

¹ Michael Porter (1980). Competitive Strategy. " The strategic analysis of vertical integration "

where the change to other activities, professions or jobs and hence, businesses, can hardly be undertaken.

- Foreclosure of access to know-how. Being a produce/buyer of your own products/services implies in some way to forget about competition and clients needs and therefore, getting out the competition and technological improvements. Selling and/or buying in the open market can avoid the risk of becoming not competitive or not updated.

- Maintaining balance. When the capacity to sell or buy some products exceeds the own internal needs, the firm has to find some way out for its products or sacrifice its market position. This is certainly very difficult when competitors may be reluctant to deal with the firm for fear of getting second priority or to avoid strengthening their competitor's position.

- Differing managerial requirements. This is an extremely important issue usually forgotten. Each activity requires its own techniques and its own managerial skills. Real State, for example, can offer similar skills to construction business

during the production process but is certainly different from other activities as marketing or financing that requires different expertise.

It's very important to consider that between market and internal hierarchy there is a variety of quasi-integrated or orgational forms that become true competitors of the integrated and non integrated firms. These forms are :

- Minority equity investment.
- Prepurchase credits.
- Exclusive dealing agreements.
- Cooperative R + D.
- Joint venturing.

The main benefit of these alternatives is that doesn't affect to the firm flexibility, critial point in the construction business.

From my personal view and also collecting some opinions¹, the EC will strengthen the relation between size and competitiveness. This assesment is not enough to justify the vertical integration of a

¹ Revista de Economia. Number 11. 1991. Salas, V.

" The large diversified firm ".

firm, that being so, doesn't compete in the market but internally or quasy-internally.

It could be even argued that the EC will favor the specialization and disintegration as a consequence of a higher demand volume.

C. HORIZONTAL DIVERSIFICATION

Horizontal diversification in construction firms can be defined in two wide fields. Firstly, those activities or sector related to the construction business and secondly, those sectors and activities that are unrelated.

During the 60's and early 70's an extensive diversification process took place in US given the idea that combining different but related business could create value through synergy. But now this phylosophy is changing. Unrelated or marginally related businesses adding during the earlier phases of diversification have been sold off. Therefore, horizontal diversification is tending to related businesses and the concept of synergy is changing towards pursuing

interrelationships among the different business units to reduce costs or enhance differentiation in virtually any activity in the value chain¹.

According to Porter, horizontal strategy is a concept of group, sector and corporate strategy based on competitive advantage, not on financial considerations or market perceptions. Without and horizontal strategy there is not convincing rationale for the existence of a diversified firm because it's little more than a mutual fund. Horizontal strategy - not portfolio management - is thus the essence of any corporate strategy.

In Europe many construction firms have initiated in the mid 80's horizontal strategies pushed by new growing demands looking for more stable businesses and related to the traditional activity. In Spain this process has timidly started with a certain delay.

Williamson also explains the horizontal diversification through the high costs and unefficiencies given by the transactions between the firms that obligate to the firms to explore them internally. Firms

¹ M. Porter (1985). " Competitive advantage ".

diversify if there are important synergies¹. These synergies can be better understood if we consider that the internal and external information the firm has, may be used or shared in other activities through its technological capital, human capital and commercial capital - knowledge about the market, clients, etc -.

The successful diversified firm can be that able to achieve those interrelationships among units not always easy to find and understand requiring a deep analysis that goes beyond financial considerations. Diversification alone leads to reduce risks of economic slumps but it doesn't lead to any comparative advantage and therefore, it's not sustainable. Many times diversification without any horizontal strategy only acts draining resources from those activities where a corporation or firm has truly comparative advantage.

The same said about vertical integration can be applied for horizontal-related diversification. On the one hand, the EC can bring a new environment favouring specialization and disintegration as a result of a larger market. On the other hand, there are other

¹ Williamson, O. (1985). " The Economic Institutions of Capitalism ".

organizational forms that can become true competitors of the diversified firm as joint venturing, for example. The choice among the different organizational forms is something that can't be analyzed on general basis but on case basis depending on the firm.

The Spanish market will offer many opportunities in the future for those construction companies choosing well defined horizontal strategies. Privatization of many public services is a clear example. Now, there are still some priority challenges that construction firms have to pursue.

CONCLUSION

The economic evolution of Spain during the decade of the 80's has presented two clear periods with very different character. On the one hand, the first half of this decade was characterized by slow growth derived from the last oil crisis and the social and political tensions. Investment in this period was fair low and inflation and unemployment presented very high rates.

On the other hand, the second half of the 80's has had a very different character. Social and political stability was achieved and the country was opened to international markets. The main event of this period has been the entry of Spain in the European Community. Investment has shown and incredible growth aimed by the public sector through an expansionary fiscal policy with its main achievements in the infrastructures program and also, by the huge foreign capital inflow that has also fueled investment. The result has been a growth higher than the rest of the EC and OECD countries.

Now, in the first stages of the 90's, Spain shows a modern look through two symbols, The World Fair EXPO'92 in Sevilla and The

Olympics in Barcelona. But this prosperity is being threatened by the economy's unbalances. A continuous growth had required some sacrifices and efforts from all the individuals in the economy, from citizens to Public Administrations and Institutions.

Therefore, the prospects about the Spanish economy have radically changed in the beginning of the 90's. Two major unbalances, the high current account deficit and inflation over the EC average, are leading the economy to a recession. A recession that is also taking place in other developed countries.

But all this is taking place while Spain is following the integration in the EC. Year 1993 implies the elimination of the most of the trade barriers, fiscal and physical, in the EC. It also implies the free movements of goods, services, persons and capitals and therefore, a new competition environment, broader and larger, with a set of rules included in the Single Act that eliminate the possibility of distorting competition.

In this context - that means more than free trade - Spain is one step backwards. The improvements carried out in infrastructure and

the strong investment process haven't been enough to improve productivity. On the contrary, our productivity hasn't grown as much as it should - our start point has also been behind the EC average - and salaries have done faster than the EC average. Labor market is very rigid and Unions have too much bargaining power.

Furthermore, savings rate has fallen while consumption has boosted. The Public Deficit is also large. As result Spain has become more dependent on the foreign capital. Now, foreign capital is starting to lose confidence.

There aren't many solutions to fix the situation and the solutions are painful in a moment that next elections are close - may be closer than it's expected -. These solutions, recommended from several institutions as IMF or OECD, are undoubtedly addressed to the public sector of the economy. There are many urgent reforms that should be undertaken as soon as possible. Unemployment fraud, black economy, public spending control, inefficient bureaucracy in the Public Administrations, subsidies to public companies, etc. are some of the main fields to act. The Spanish growth and development in the long run depends primarily on it.

These reforms and solutions are not something that depends on the Maastrich rules but something that any country open to international competition needs and can be summarized as a gain in efficiency and competitiveness. Unfortunately, the only strong specialized industry in the country is tourism and there hasn't been any significant active industrial policy or strong support to internationalization as has been the case of other countries. The last opportunities are almost over.

Construction hasn't escaped from all the issues described before. It has also shown two clear evolution periods during the 80's. The first half meant the continuation of a crisis in the sector that started in 1973. This crisis hit very hard to the Spanish construction firms. The second half has been along with the economy, a very prosperous period in which many construction firms have improved its balance sheet because of the boom experienced in Civil Engineering, and Building - Commercial and Residential - construction.

Nowadays, the sector is far from those happy days. The cut in official bidding derived from the lack of funds and spending control is being accompanied by the slowdown in private investment. The

surplus capacity built from the supply side is starting to suffer the consequences. In fact, the selection process has already started in construction as a whole. From construction firms to other firms operating in construction subsectors. All the activities are showing a considerably slowdown. The short term doesn't offer very good prospects for the Spanish construction. Something that is also happening in Europe. The construction boom is over. Growth is slower. Spanish construction is expected to have a negative growth in 1992 continuing the recession even until 1995.

The entry of Spain in the EC has affected and will affect even more to the Spanish construction. Not only because of the structural funds received from Bruselas but also because of the global-like character that this industry will present in the next future. Many foreign companies have already seen this issue. That explains the entry of many of them in the Spanish construction market aimed also by the large potential that offers - a large infrastructure deficit - as well as the low degree of competition in comparison with their domestic markets. The Spanish construction market in general and the Public sector in particular, could be less transparent than it's supposed to be.

Assuming that the needed reforms in the economy are successfully undertaken, Spain could enjoy a prosperous future in the economy as a whole and construction in particular. The infrastructure needs are clear but its price very expensive.

There are many construction sectors that offer good opportunities in the long run. Many of them are relatively new for Spanish companies. Renovation and Maintenance, Civil Engineering through transportation infrastructures, and Housing will be pushed by the demand. But there are other construction-related sectors such as Environment, Facilities Management, or Public Services that could find a very important growth through privatization.

Spanish construction firms should prepare for this new environment. The entry of foreign competitors in the Spanish could damage its current position while Spanish firms haven't entered in international markets or this has been done in a very small number of cases. This lack of international experience along with the protectinism in the domestic market has meant a poor concern about competitiveness and the ways to achieve it. The Interior Market will mean the elimination of such protectinism.

Internationalization is the first challenge for the main Spanish General Constructors and other specialized firms. This strategy reveals itself as the best way to defend the domestic position and a source of competitive advantage. Nonetheless there are many construction activities and market segments that offer a local, regional or national character that will be exposed in the a minor degree to the EC competition.

The best way can fit the internationalization purposes of the Spanish firms is Joint Venturing. A growing practice nowadays where the firms' environment are more complex and requires flexible organizational forms.

There are also two more possible strategies for Spanish construction firms. Their competitors started vertical integration and diversification processes before the Spanish Companies. Spanish firms are poorly diversified or integrated. These processes only can be understood when they lead to strengthen the competitive position of a firm - price competition, differentiation or both -. There are many pitfalls in them.

Horizontal Integration is often mismatched with financial risk diversification. Porter indicates that this view isn't sustainable for long. The only reason that really justifies any diversification process - or vertical integration - is exploiting interrelationships and linkages among the activities the firm or business units perform as a source of competitive advantage leading to reinforce the strategic position. Therefore, unrelated or marginal-related horizontal diversification should be out of any consideration by Spanish Construction Firms.

There is also a doubt. The Interior Market could favor size and competitiveness. This may imply favouring specialization and disintegration as a consequence of a larger market and therefore, integration and diversification strategies only have to be observed when there are very strong linkages and interrelationships to achieve.

But whatever the strategy the Spanish firms take there is a set of areas that require special attention and improvements. These are :

- Continual upgrading of structures and management systems.
- Looking for more flexible and decentralized structures with

better qualified managers.

- Improvement of control and information systems.

- Investment in R+D. In two ways :

+ Physical equipment, capital, construction procedures, etc.

+ Human capital, Personnel formation, in-house programs, etc.

- Better strategic planning with special attention to those market segments which offer good prospects anticipating in some way the demand and developing the internal firm's infrastructure necessary for it. This is the case of construction packages and/or facilities management.

- Special concern about quality. This issue will be an important factor within the EC because of the new requirements about guarantees and responsibilities during and after the construction process. This also includes attention to safety.

- A look to most competitive markets as Japan or US can provide a good source to acquire the needed management techniques and knowledge.

- Closer positioning to the private sector. Spanish

construction firms are highly dependent on public sector. New products and services can be develop trying to meet better the client's particular needs. In Spain, for example, construction management contracts are starting to be introduced by foreign firms.

These are the main challenges. The Interior Market can be a source of threats for those pretending to ignore its consequences but, and this is the main point, it will be the accomplishment of important opportunities for those who go to their conquest. 1993 is tomorrow.

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