FGV PROJETOS

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THE SPANISH ECONOMIC CRISIS AND BRAZIL'S ELECTRICITY SECTOR

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1.
INTRODUCTION

During a brief period in recent economic history, marked by the deepening of the free trade agreements, by explicit and implicit understandings about the free flow of capital and by an apparently inexorable movement towards economic integration, foreign investments could be contemplated solely in terms of the fundamental aspects of individual projects and their local political risks. After the 2008-2009 financial crisis and its global repercussions, the specific socioeconomic dynamics of each country now demand more consideration due to their significant potential impact on economic variables.

The case of Spain is particularly interesting, in this respect, due to its internal diversity: two contrasting realities coexist. On the one hand, Spain's real economy suffers from strong external vulnerability, which leads to severe crises, and is principally reflected in unemployment. On the other, the country's financial intermediation sector managed to convert the favorable credit conditions, in the period from 1995 to 2005, into lucrative positions and productive foreign assets. The extent to which the former "vulnerable Spain" contaminates or restricts the latter "global leader Spain" is a question that looms with the crisis, and must mediate the follow-up of economic development in Europe in the next few years, when focus is on foreign investment.

The characteristics of foreign direct investment also merit attention. The recent formation of large financial conglomerates has origins in the acquisition and consolidation of former state assets privatized during the 1990s, when the focus was on exploring potential efficiency gains from economies of scale and positive expectations regarding the performance of the privatized companies. Since then, two characteristics have marked the dynamics of Spanish capital: an emphasis on natural monopolies, mainly in Latin America, and ongoing consolidation of Spanish assets, either by Spanish companies taking over their competitors or by selling their assets to entities in other countries. There are, on the other hand, signs of an exit from the Latin American public utilities sector, partly as a reaction to the growing risks of expropriation following the regional political changes of the 2000s, but also because the European crisis has caused a credit squeeze, which itself makes retreat the preferable strategy in a scenario of increasing uncertainties.

The electrical sector demonstrates many of the characteristics of this general trend in Spanish foreign direct investments. Various Spanish companies in the electrical sector currently conduct a significant amount of business in Latin America, and some of these concerns even generate most of their income outside of Spain. The importance of European credit conditions for investment growth is more evident, however, due to the fact that most of the debt in this sector remains denominated in euros, a fact that is demonstrated by the recent withdrawal of certain investments as a result of debt burdens associated with the European crisis. The topic of political risk is also at the forefront of these exit decisions. In a Latin American context already affected by tense contract negotiations in other countries, uncertainty in the Brazilian regulatory environment has been increasing as a result of a series of measures that raise concern about the possibility of and conditions for renewing electricity-sector concessions.

These interrelated inquiries are the focus of the present study of Spanish investments in the Brazilian electricity sector, conducted by dividing the analysis into five sections. Section 2, of a qualitative nature, explores the economic formation of contemporary Spain. The section highlights both recurring themes in Spain's national political conjunctures and the formulation of wider policies that have developed from the introduction of the European Common Market and, later, the Monetary Union.

Section 3 goes deeper into these analyses based on a review of the recent literature and empirical evidence on the more important topics for the current political conjuncture, while conforming to the current diagnosis of Spain's national economy. Section 3 also explores possible consequences of a breakdown in the institutional and political configuration of the European Union.

Complementing these analyses, Section 4 addresses Spain's direct investments in the electricity sector in Brazil, examining their structure as well as their relationship to the Brazilian regulatory environment and the Spanish financial environment.

Section 5 provides a detailed summary of the data on the nature and impacts of the crisis on both the firm and industry levels. Section 6, in turn, provides an overview of Spanish investment abroad, which extends through a variety of sectors (from the financial to the natural resources, such as water and petroleum) and countries.

Each of these modules involved independent collection of data and information, consolidation and analysis of such information, and reviews of the relevant academic and regulatory literature. The final section, Conclusive Observations, stresses the topics shown to be most relevant during the study in terms of their potential impact on preparing prognoses and risk analyses.

2. GENERAL ASPECTS OF THE SPANISH ECONOMY

The economic crisis in contemporary Spain can be analyzed from different viewpoints, each focusing on different aspects of historical development and current conjuncture of the economy. On the other hand, the crisis can also be interpreted as a confluence of various economic processes to be highlighted differently depending on the analytical viewpoint. In order to arrive at a comprehensive understanding of the current and future Spanish condition, the following three topics have been stressed in the research for this chapter.

The first topic arises from the institutional characteristics and historical circumstance of the opening of the Spanish economy following Francisco Franco's regime, culminating in the 1978 Constitution and Moncloa Pact of that same year. After decades under semi-local conditions, with foreign trade relations strictly regulated, the Spanish economy was vulnerable in relation to its terms of trade with other countries, and suffered from a heavy dependence both on exports and on certain imports. This particular characteristic interacted poorly with the process of adopting trade benchmarks under the European Monetary System and, later, with the Euro Zone monetary union. It also led to increased economic significance of the regional differences within the country. Even today, the government calls its ministry for economic policies the Ministry of Economics and Competitiveness, reaffirming a commitment to a topic recurring in time and over a range of current issues.

The second main topic results from an examination of the structural characteristics contributing to macroeconomic and institutional question of Spanish competitiveness. Historically, Spain has seen high rates of unemployment, which themselves are highly elastic with regards to economic crises, and also show a particular degree of interdependence with foreign accounts. There are signs (Nickell, 1997; Coe & Snower, 1997) of inefficiencies in the labor market associated with such phenomena, partly reflected in the high and climbing labor costs, increasing regardless of employment. Inefficiencies in the labor market may also have contributed to the formation of a prolonged real estate bubble (Aspachs-Bracons, 2009). These rigid elements of the labor market not only have direct negative consequences on household indebtedness and on the domestic impacts of the global financial crisis, but also introduce a difficult-to-measure risk to the financial system in allowing firms to issue mortgage debts (Posada, 2013) to prevent the formal process of receivership. These and other factors restrict the system's microeconomic flexibility in the face of structural adjustments, in turn giving rise to a major cause of macroeconomic uncertainty.

The third topic refers to the repercussions of the global financial crisis and its protraction in the Euro Zone context. The issues in this topic are very similar to those faced by the countries in the region that Haider (2011) defines as the "European periphery", which includes Ireland, Italy, Greece, Portugal and Spain. These countries are all on the same side of the basic imbalances faced in constituting the Euro Zone. However, they also face more demanding market expectations, which when combined with increasing interdependence, result in what is called the "flight to safety." In this common process, the risk premium differentials resulting from the system's restructuring may display particular behaviors with direct link to the regional question, since, within Spain, a process of regional financial crises is growing on a smaller scale as well as a rescue operation by the central government.

2.1 HISTORICAL DEVELOPMENT OF REGIONAL ISSUES

The frontiers of modern Spain have their origin in the so-called Reconquista ("Reconquest") of the Iberian Peninsula, which had been mostly occupied by Arab nations from North Africa since the establishment of the Cordoba emirate in the 8th century. The Reconquista process unified the peninsula, previously divided into several kingdoms. This history, which goes back to ancient times, is still reflected in the sociopolitical and territorial configuration of the country.

It is interesting to begin by noting the persistence of the separate identities of these kingdoms, which generally preserved their frontiers and culture against a variety of historic circumstances. One outstanding factor, in addition to cultural and ethnic questions, is the division of the peninsula by mountain chains. In the preindustrial context, communication through geographic barriers was slow and difficult, a factor which created relative geographic isolation and the tendency towards maintainance of different languages and conventions. This differentiation is reflected even today in the decentralized structure of the Spanish government and in the official recognition of the main regional languages and of certain legal practices.
As mentioned, the final drive towards unification of the historic nationalities under a single Spanish state coincided with the efforts to drive back the peninsula's Islamic invaders, as a common adversary, and with the Reconquest, as a peninsular project.

The duality between a single Spanish nationality and the "national realities" comprising it is present throughout the legal framework and institutional practice in contemporary Spain, and has informed the many Spanish separatist movements arising from unification to the present day. The fact that this duality is not translated into a more fragile balance reflects to a large extent the institutional design of Spanish federalism, but also portrays a historic consolidation of political realism and the idea of single states participating in the international scene after the formation of the Spanish colonial empire in the 16th century.

In fact, the consolidation of the idea of a unified Spanish nation accompanies the rise and fall of the colonial empire and the importance of the country on the European stage. At the peak of its colonial empire, Spain was one of the most influential countries in Europe, responsible for a strong flow of precious metals, which at that time virtually defined national currencies. As early as the 18th century, as the country still indirectly influenced the monetary conditions of the continent, Spanish institutions emerged, such as the University of Salamanca, which voiced modern economic and post-mercantile thinking.

The de facto extinction of the Spanish empire in the 19th century brought political crises, accompanied by the revolutions and counter-revolutions seen in most of the rest of Europe, culminating in alternating unstable democratic regimes, dynastic restorations and military dictatorships. In the fast-changing context and political turmoil that marked the turn of the 20th century and its early decades, traces of sub-peninsular nationalist and separatist movements began to emerge, with occasional declarations of regional independence and short-lived sub-peninsular republics.

Within the area of modes of production, major economic distinctions now emerged upon the arrival of the industrial revolution to regions such as Catalonia during the 1840s. These unequal geographic distributions of industrialization, ever since its beginning, was at the same time a factor in widening sub-peninsular differences and a strong incentive to further economic integration, with the rest of the country in search of a larger home market and better national infrastructure, such as railroads, energy and an upgraded financial system.

Despite the unifying effect of modernizing the economy in the 20th century, the last republican government recognized the autonomy of the regions of Catalonia, Galicia and the Basque Country, an early sign that a democratic regime would be compatible with centralizing nationalism. This period was followed by a widespread and complex war, concluding in the establishment of an autocratic government under the command of Francisco Franco, who, as part of a project for the basically autarkic economy, violently repressed regional demonstrations, and even restricting the use of local languages. Only with the political stabilization occurring after the fall of the Franco regime, and the restoration of Spain's long-standing monarchy on a parliamentary basis, was the regional question raised again, once again playing a key role in the political structure of the nation.

The 1978 Constitution that set up the new institutional layout from the beginning foresaw a bottom-up procedure for the formation of autonomous communities, in which the provinces — sub-regional administrative units with no autonomy whatsoever — would organize alliances to submit demands to the central government. The map was then closed to new redistricting, and only in 1995 did the nation finally and fully define itself into 17 Communities and two Autonomous Cities (the Spanish enclaves of Ceuta and Melilla on the African continent), completely covering the Spanish territory. The final subdivisions mostly reflect the traditional configuration of the historic sub-peninsular nationalities and their cultural, ethnic and linguistic clusters, as Table 1 illustrates.

TABLE 1
Map of the Spanish Autonomous Communities

Table 2 shows the 17 Communities listed together with their per capita incomes. Also listed for comparison are figures for the EU and for Spain overall.

TABLE 2
Annual Per Capita income (in Euros) of the Spanish Autonomous Communities and International Comparisons (2012)

AUTONOMOUS COMMUNITY	ANNUAL PER CAPITA INCOME	PER CAPITA INCOME AS MULTIPLE OF NATIONAL (SPAIN=1)
Basque Country[1]	31,288	1.34
Navarra	30,068	1.29
Madrid[2] *(Comunidad de Madrid)*	29,731	1.28
Catalonia	27,430	1.18
La Rioja	26,129	1.12
Aragón	25,920	1.11
European Union	**25,192**	**1.08**
Balearic Islands *(Islas Baleares)*	24,585	1.06
Spain	**23,271**	**1.00**
Castile & León *(Castilla y León)*	23,146	0.99
Cantabria *(Cantabria)*	22,981	0.99
Asturias *(Principado de Asturias)*	21,976	0.94
Galicia	21,112	0.91
Valencia *(Comunitat Valenciana)*	20,583	0.88
Ceuta	20,045	0.86
Canary Islands *(Islas Canarias)*	19,806	0.85
Murcia	19,144	0.82
Castela / La Mancha *(Castilla / La Mancha)*	18,568	0.80
Melilla	18,454	0.79
Andalusia *(Andalucía)*	17,587	0.76
Extremadura	16,149	0.69

Source: Eurostat and National Institute of Statistics - INE.

Since then, major differences are noteworthy between the economic realities of the Autonomous Communities. While Madrid, seat of the Spanish capital, appears predominant, the two Basque-speaking Communities have even higher income levels and these three join with Catalonia, La Rioja and Aragón as communities with above-average living standards relative to both Spain and the European Union. Andalusia, on the other hand, a region once economically dominant and of great cultural and historical importance, in 2012 had the largest population and one of the lowest per capita incomes in the country.

[1] The expression "Basque Country," in the present geopolitical discussion, is used to identify the Autonomous Community that in the Basque language is called Euskadi. A more traditional use of this expression, mainly relevant in Spanish, designates a more culturally and linguistically cohesive aggregate, today known as Euskal Herria, which includes the regions of Basque culture in Spain and France, including, for example, the region of Navarra (Euskaltzaindia, 2012).

[2] The region associated historically with the pre-Spanish kingdom of Castile corresponds to the main locus of power in unified Spain, with its capital in Madrid. On the final map of the Communities, this region, whose borders were extended before the unification, is divided between the Communities of Madrid, Castile/La Mancha and Castile and León. La Mancha was significantly repopulated during the Reconquista, gaining a Castilian character. On the other hand, the Statute of Autonomy of Castile and León states in its preamble that "the old kingdoms of Castile and León have maintained over the centuries the cultural and historic identity clearly defined within Spain's plural unity," denying in fact the autonomist movements before the civil war and indicating a continuity that differentiates this region from La Mancha.

Although these regional differences are found in many countries, the degree of self-government of the Communities causes disputes, with repercussions in the public finances of the Spanish government in times of crisis, as is felt today. On the other hand, the regime of autonomous communities decentralizes an existing dispute between three polarizing views of Spain, symbolized by the cities of Seville, Barcelona and Bilbao[3]. As the different historic regions gain autonomy and self-governance — in the case of the regional communities, even incorporating independent legal and tax systems — the potential realignment of alliances of the other autonomous communities from Madrid to these centers (Andalusian, Catalan and Basque, respectively) becomes an unlikelier scenario.

In fact, the diversity of political regimes found among the Autonomous Communities would help characterize the continuation of the peseta between 1978 and 2000 as the imposition of a common currency. Literature on optimum monetary areas (for example, Alesina & Barro, 2003) often gives the example of the USA as a monetary area distributed among disparate economic realities, each of which however benefit from the national use of the US dollar. Along this rationale, post-1978 Spain has one of the world's most decentralized federative pacts, with different fiscal, legal and tax systems coexisting under general fiscal policies, and until its 1985 entry into the European community's monetary exchange system, it adopted a monetary policy that aimed to accommodate common economic requirements.

With regard to recent regional demands, the Autonomous Community that is most nationalistically expressive in recent years is Catalonia. Mass demonstrations occurred in 2012 in favor of forming a new Catalan State within the European Union and, although the Upper House of the Spanish Senate has vetoed a referendum previously approved in the Lower House, the party composition of the groups in favor and against Catalan independence indicates that the 2014 elections should have the character of a de facto referendum. It should be noted that, unlike the Basque separatism of the 1980s and 1990s, the Catalan process of independence is not characterized by minority extremism but by a slow, historic process of building critical mass.

More generally, it is worth mentioning that such movements toward independence or greater cohesion do not only follow an economic logic but are also closely linked to deep-rooted cultural and historic issues. Thus, a dispute between the economic interests of a region and country (e.g. between beneficiaries of tourism such as Andalusia, and industrial exporters, namely Catalonia) can be a catalyst for other independence movements, but does not determine the existence of separatism when such an ideology makes no sense culturally. On the other hand, latent cultural antagonisms can come to the fore with economic pressure, which has occurred precisely in Catalonia and Andalusia due to the volume of rural unemployment allowance that the latter is receiving.

The degree of self-government already practiced by the regions is another factor of stabilization. On this matter, the question is no longer whether the Communities seek autonomy but whether there is a demand for more autonomy than which the 1978 Constitution admits. A sign of flexibility in the process of self-government and autonomy is the lack of disputes between the Spanish government and regions that had separatist movements in the first half of the 20th century, such as Galicia and Asturias.

Besides Catalonia, other regions have historic demands of autonomy that will deserve more specific attention in the next few years. The Basque Country produced separatist movements marked by violence and radicalism in the 1980s and 1990s. However, it is not clear that the Basque separatism is popular enough to stave off a formal and gradual process of integration, as has happened in Catalonia. Moreover, integration with Spain is economically beneficial for the region, currently a developed financial and industrial center that imports (through the national network) large quantities of electricity.

[3] Ortega & Gasset (1927) discuss these economic and cultural contrasts from an anthropological and historic perspective, in the context of reconfiguring the pre-civil-war republican regime before Franco.

Another region with persistent and historic demands for autonomy is Andalusia. The Community has stated since the early 20th century that its autonomy is a "national reality," having amended its Statue of Autonomy for the last time in 2006. Andalusia, culturally and economically hegemonic by the end of the 19th century is now one of the poorest regions in the country, with no potential for visible gains with a process of independence.

Although the process of self-government instituted during the organization of the Spanish State has proven to be sufficient for tempering the demands of Communities with strong cultural and historic roots relatively parallel to those of the Spanish State, it is hard to guarantee continuity of the relatively stable current scenario. Therefore, the issues raised by these regions must be accompanied on an ongoing basis, as part of a process in which possible separatist movements are not considered an anomaly but rather gradual developments as a result of economic, political and social conditions.

2.2 THE EUROPEAN UNION AND SPAIN

Despite the recent accelerated development of a full-blown Euro financial crisis and its repercussions on the economics of the "Euro Zone periphery," as classified by the international agencies in articles such as that by Haider (2011), the economic bases behind the benefits and weaknesses of the Monetary Union are clearly understood (Alesina & Barro, 2003).

When costs and benefits are catalogued in order for two countries to create a monetary union with common exchange and monetary policies, a clearer question emerges, although it is difficult to respond to this question categorically. What are the conditions for a geographic region to be an **optimum monetary area**? When taken to its outer limits, this question may address the economic coherence of the country's borders. However, in certain cases, such as that of the United States, the stability of cultural and social relations in the face of financial crises of large heterogeneous countries indicates that the sufficient home market, resilience against international crises and social cohesion are present to conclude that the US dollar is an optimum monetary area. Clearly, the crisis of the export-oriented manufacturing industries in the US region of the Great Lakes did not lead to the perception of a conflict of interest with the Mid-South farming belt or with the West Coast high technology industry.

The American example is often mentioned as a paradigm of an optimum monetary area and as the basis for analyzing the question of the survival of the Euro. However, the optimum state of the Euro as a monetary area has yet to gain consensus support, predominantly in the institutions that coordinated the integration progress in the European Union, but without firm confirmations in academic literature. The free flow of capital and labor, unifying standards and coordinating interests in a world marked by large economic blocs, certainly show potential benefits.

On the other hand, the Euro economies have their own dynamics, besides sharp cultural and social differences, that impact their economic development. For example, while post-Weimar Germany has been marked by a deep-rooted aversion to inflation, countries on a lower level of industrial and technological development are more willing to confront the macroeconomic volatility to accelerate their path to growth. Grouping such different trends under a single monetary policy requires particularly strong coordination mechanisms as well as a collective tolerance of policies that diverge from those which they would each practice separately.

Therefore, it is symptomatic that some advanced European economies, as in the case of the United Kingdom, have chosen to keep certain kinds of links with the European Union, such as a customs union, but without relinquishing others, such as a national currency.

2.3
ANALYSIS OF THE MONETARY UNION'S STABILITY

Spain is often grouped with other Mediterranean countries, namely Greece and Italy, which face the contemporary crises in some similar ways. However, the economic reality of each country has different consequences on their importance in the context of the European Union, its potential for destabilizing the region and the negative impacts from their leaving the Euro Zone.

According to the comparative data provided by Eurostat, in 2011, Spain presented a per capita income (in purchasing power parity) comparable with Italy and considerably higher than Greece, while at the same time having a public deficit (as a proportion of the GDP) lower than each of these countries. Moreover, Spain was accompanied only by Austria, Belgium and Finland among the countries that never infringed the goals of the Stability and Growth Pact[4], while Italy was three years and Germany four and a half years outside the convergence goals (Ferry, 2012). On the other hand, Italy has a less vulnerable economy, with terms of trade considerably less detrimental to its balance of payments, making the country less sensitive to the problems expected in Spain with the stabilization of the Euro.

If Spain maintains its past patterns of strong interdependence of income and employment on import and export conditions[5], a second crisis caused by stabilization of the Euro against other currencies could possibly cause a conflict of interests in the monetary policy between central economies benefiting from greater stability and economies dependent upon bettering their export conditions.

The alternative scenario involves development towards a reduction in these external weaknesses through productivity gains that permit exports on terms of trade, which today have proven unfeasible. Examples of measures that could accelerate this process include tax reforms and focused incentives, compatible with a faster reduction in the public deficit and the country's capital costs. The key complicating factor in this alternative scenario is the continuing recession and high unemployment, which make austerity measures politically unattractive due to high social cost.

2.4
THE IMPACTS OF SPANISH ECONOMIC ADAPTATION IN PREPARATION FOR JOINING THE EURO

Nominally, the main regulatory elements for adjusting European economies for adoption of the Euro have been the European Monetary System (EMS), regulating exchange rates, and the Stability and Growth Pact, imposing fiscal discipline in the monetary area of the Euro. However, on the eve of the birth of the common currency, most of the Euro economies had not realized the agreed-upon standards of indebtedness and deficits, including more "central" countries such as France and Germany[6]. This divergence, visible still today in the statistical data and ostensive targets, indicates that the question

[4] The Stability and Growth Pact, initially called only the "Stability Pact," consists of a mutual monitoring system to guarantee convergence of economies for a compatible standard under a single currency. These standards were defined in the 1992 Maastricht Treaty, and consist of goals for inflation, government finance, foreign exchange and interest rates.

[5] Favorable terms of trade.

[6] In fact, the forecasts of the European Union in the European Economic Forecast report, October 2012, indicate that Germany will continue outside the convergence targets in 2013.

of adjusting the economies to the Euro should be understood less in terms of their convergence efforts and more in terms of compatibility of their economic structures (tax, sectoral, regional and foreign accounts) with the shared monetary environment to be faced.

In short, Spain has two chronic problems that reappear in different contexts, which are the high levels of unemployment and persistent foreign account deficits experienced since the first half of the 20th century. The 1936-1939 Civil War left a legacy of net emigration and associated loss of human capital, as well as a lack of currencies and gold reserves, which plunged the country into a long period of local authority and strong state planning. Spain, excluded from the Marshall Plan for the rebuilding Europe after the Second World War, underwent intermittent periods of growth under an economy planned by the Franco government and financial support at the peak of the Cold War in the mid-1950s.

The economic layout of the Spain that was to face adoption of the Euro began to take shape with the so-called 1977 Moncloa Pacts, a comprehensive set of economic reforms that put asunder the past of the Franco regime state controls and accompanied the country's new democratization. Moncloa was marked by a combination of liberalizing and protectionist measures. The former included the devolution to the market of the role of determining production planning. The agreements also provide control over hyperinflation based on a pact between forward-looking businesses and workers ("on the subject of expected inflation, not past inflation"), which would help stabilize the currency, minimizing the squeeze on demand and preventing the wage trigger effect common to "social pacts."

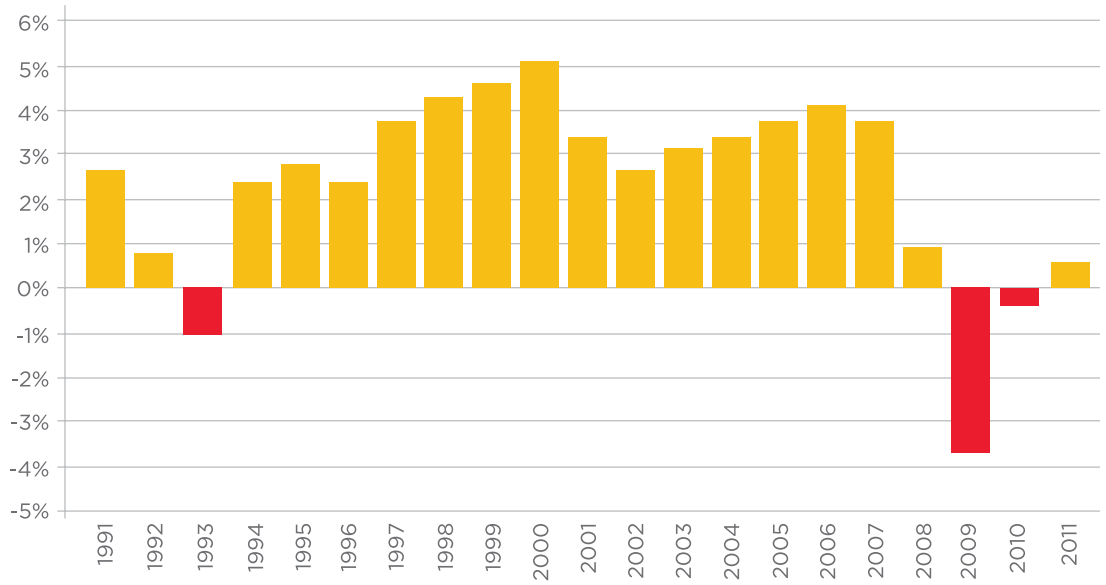
On the other hand, Moncloa provided an adjustment of foreign accounts by combining capital controls and administrated currency devaluations, which Quintana (2005) called **"realistic exchange rates"** in his retrospective analysis of the process. Although major efforts have been made since then in RD&I incentives (research, development and innovation) perception of Spanish competitiveness was consolidated in Moncloa far more as a foreign accounts issue (that is, demand for exports) than as basic production aspects related to productivity and reduction in foreign vulnerability.

The reaction to the Moncloa Pact permeated Spain's first contact with the European Economic Community. Although France had vetoed the country's accession to the bloc in 1978, by mid-1985, after extensive negotiations, the Accession Treaty for Spain was signed. One of the conditions for accession was that the Spanish peseta joined the European Monetary System in 1989, substituting the Moncloa **"realistic exchange rates"** system administrated by the Spanish Central Bank.

Also according to Quintana (op. cit.), the capital flow conditions resulting from joining the EMS brought perverse incentives in relation to the tax adjustment targets provided by the Moncloa pacts, in addition to an overvaluation of the currency in relation to interest rates, with a consequent loss of competitiveness for Spanish industry. The brief economic growth in the period 1989-1992 was soon to be interrupted by German monetary squeeze measures as a result of its own reunification, reducing the relative attractiveness of the Spanish economy and causing deep recession, with unemployment rates soaring to 25.0%.

Table 3 depicts the performance of GDP growth rates in the 1990s, and clearly demonstrates the onset of the 1993 recession.

TABLE 3
GDP Growth Rate (%), Spain



Source: OECD.

Quintana *(op. cit.)*, who was economic minister during the drafting of the Moncloa Pacts, found a direct causal relationship[7] between a premature accession to the EMS and the new external vulnerability of the economy:

> *[E]l ingreso de la peseta en el SME, en las condiciones que se hizo, permitía financiar el déficit público sin la impopularidad de realizar el ajuste fiscal; mantener la continuidad de nuestras importaciones con un déficit comercial clamoroso de la balanza comercial financiado por la deuda exterior [...]; mantener un crecimiento de los salarios reales por encima de la productividad [...] por unas importaciones abaratadas por la supervaloración del tipo de cambio [...].*
>
> *The accession of the peseta in the EMS under such conditions helped finance the public deficit without unpopular tax adjustments; continuing to maintain our imports with a clamorous trade deficit financed by foreign debt [...]; maintaining growth of actual wages above productivity [...] by some imports cheapened by the overvalued foreign exchange rates [...].*

In other words, accession to the EMS would have allowed Spain to sustain growth rates unrelated to their macroeconomic basics for some years by postponing more structural problem-solving, ignoring problems such as the structural deficit, lack of competitiveness and foreign vulnerability. The period from 1989-1993 brought forward characteristics to be found later during the early years of the Euro, such as an increase in purchasing power in foreign currency, with no incentive to increase home productivity,

[7] This type of direct causal postulate must always be understood in the context of a broader view of the problem in question. Evidently Quintana's analyses (op. cit.), similar to many Brazil retrospective studies, seek to place in context the kind of challenges and restraints in formulating policies that were faced at that time, which can lead to an excessively radical understanding of the structural problems of the past as remaining the same. On the other hand, the same restraint applies to a large part of recent literature, which diagnoses a single problem of "European periphery," bearing in mind the structural convergence parameters that are compatible with the Euro, and presupposes gains in productivity and integration in the common market. Since both views are present in one debate that influences the policymakers, it is always useful to make an effort at critical reading, looking for the complements in the scope and outlines of the bigger and more complex problem, which includes both concerns.

and the ongoing financing of major trade deficits, which temporarily masked the structural problems of the economy's competitiveness.

Translating Quintana's comments *(op. cit.)* to a more analytical language, it could be said that joining the EMS disturbed the link between actual long-term supply conditions and the nominal short-term demand conditions. This disturbance eclipsed[8] the need for structural adjustments with regard to the State's indebtedness (which displaces capital from the productive economy and concentrates credit risk) and to the private sector's need to innovate, in the sense of improving its comparative benefits in a wider variety of exchange systems, and reducing foreign vulnerability.

The 1993 crisis provided a fault mode or standard present in some European economies, which have at the same time a different development standard to that of the central economies, but have intermittent access to a pool of resources that lifts restrictions, either in the form of currency, investment or redemption flows. It is understandable, then, for example, that adhesion to the Euro causes rapid expansion, mainly through the public deficit, followed by drastic deleveraging in the economies that failed to have productivity gains in proportion to the apparent benefits of the Euro.

The fast recovery in1994 largely reflected the accommodative measures taken by the exchange rate convergence system of the EMS, which worked to restore compatible exchange conditions with growth through exports to Spain. One of the simplifying, but nonetheless significantly explanatory, interpretations of the slow recovery from the current crisis is the lack of similar measures from policy-makers at the European level to accommodate setbacks felt by some participants in the monetary union.

In Quintana's line of thinking *(op. cit.)*, the public deficit in this case would be a secondary question in Spain, aggravating the Spanish crises before the monetary union, without explaining on its own the quick and robust reactions to changes in exchange conditions. The effect of the public deficit is clearer in past precedents, since situations causing an interest hike, such as hyperinflations or crises of confidence in the debt, overvalue the currency, reducing foreign demand, and also repress internal demand.

Although exchange adjustments agreed in the EMS have given Spain better competitive conditions for integration with positive results in the common monetary area of the Euro, its setbacks during the period of the Spanish economy's adaptation to the Euro reflect structural questions that have already been a source of severe economic crises in the past, and some relevant aspects of which persist until today.

As postulated in the introduction to this section, there are signs that the actual cost of introducing the Euro does not derive from the measures necessary to doing so, but from structural reforms not completed because the EMS acted in an accommodating manner toward the peseta after the 1993 recession, and because the central countries failed to meet their convergence targets. In the case of Spain, this is in addition to the relatively short time that the private sector had to adapt to the end of the strict economic planning, passing rapidly through three exchange systems (Moncloa, EMS and Euro Zone), while adapting to the requirements of a globalized economy. In this context, Spain adopted the Euro at a time when its economy would benefit from a flexible exchange and lower public deficits, the latter of which lose their political urgency with the easy financing permitted by full membership in the EU.

[8] A series of considerations of the theory of public choice provide key insight here. In short, there is a gap between the actual cost-benefit ratio of the macroeconomic policies and the cost-benefit ratio perceived by the policy-maker. In particular, time and management biases value present well-being over future costs, particularly when electoral cycles or intergenerational disputes interfere that are weighted differently on the electoral basis.

2.5
LOOKING BACK ON THE IMPACTS OF ESTABLISHMENT OF THE EURO

Directly, the adoption of the Euro implies analogous impacts, although more extensive, than the Spanish peseta joining the common exchange system of the EMS in the late 1980s. If before the Spanish economy was exposed to imbalances between the agreed exchange and the fundamental aspects of its balance of payments, with the adoption of the Euro, it now had exposure to an exchange dictated by the key aspects of an international zone, which could be, to a greater or lesser degree, close to that which would steady the Spanish balance of payments.

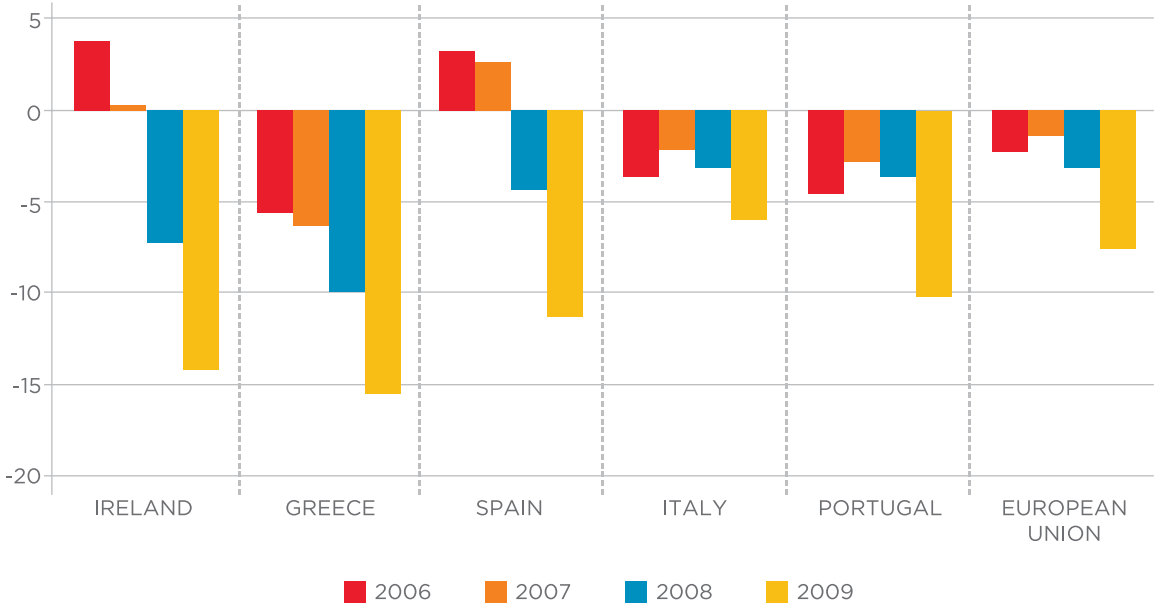
Nevertheless, even without a specifically Spanish crisis, the country became vulnerable to two kinds of monetary imbalances. The first refers to fluctuations in the exchange that would steady the balance of payments in Spain. An overvalued Euro in relation to this "balanced exchange" increases purchasing power in Spain, due to cheaper imports, but worsens the conditions under which exports are made, a recurring Spanish phenomenon.

The second type of imbalance refers to short-term fluctuations in the value of the Euro itself. For example, a crisis of credibility in the dollar, which overvalues the Euro, would have considerably more dramatic impacts on Spain than on other neighboring countries, whose exports are feasible under a wider variety of exchange conditions. This distinction causes divergence of interesst in the Euro Zone's monetary policy, which are mediated by complex interstate mechanisms of governance (ECB, European Council).

In fact, one of the most disturbing aspects of the current Spanish conjuncture is the fact that recovery of the Euro in the current crisis could increase the value of the common currency so as to cause a further deterioration of Spanish competitiveness and foreign trade accounts. Although a more stable Euro Zone could improve the credit conditions and health of the financial system (a foreign effect), the deepening crisis through Spain's exporting capacity (an internal factor) would still have an impact on microprudential risks and government deficits.

In the Euro Zone's current crisis, Spain stands out from the rest of the European periphery by having maintained fiscal surpluses during the pre-crisis period. However, there is a transmission channel for the country's balance of payments to affect its financial system through impacts on exporting sectors and on household indebtedness. Among other factors, this caused macroprudential risks, subsequently priced in by risk-averse global financial markets, that also affected public debt rollover costs and, consequently, worsened the Spanish government's fiscal health. This is evident in the change from a surplus of 1.9% in 2007 to a deficit of 4.55% in 2008. Table 4 shows the uniqueness of this situation.

TABLE 4
Public Deficit on the "European Periphery" (% GDP)



Source: Eurostat.

The real economy was also affected by the lack of tools to manage aggregate demand to face the recession. Not only did it not have its own monetary policy but fiscal policy was significantly limited in a context in which rising public deficits translate into a rising debt rollover and consequently rising domestic credit costs. In turn, factors such as less accessible credit, a shrinking productive economy and high unemployment rates aggravated the microprudential risks associated with credit operations during the period of a stable Euro.

The economic squeeze also caused political pressures that hindered the adoption of basically unpopular structural reforms. Adopting such reforms is made difficult by the existence of two contrasting views on the function and form of Spanish politics. On one hand, Spain's development since the 1970s can

be regarded as a direct product of liberalization of the economy, opening consumer markets abroad, gains in scale and specialization in comparative benefits, as well as modernization of the financial system to accompany this whole process. The causal relation here is clearly established by contrasting with the structural inefficiencies resulting from the Franco regime's local policies.

On the other hand, high unemployment rates and their adverse social consequences are directly linked to periods of exchange deterioration, a key determinant of the competitiveness of Spanish exports. When the Spanish State was being configured, culminating in the tough negotiations of the 1977 Moncloa Pacts and with the 1978 Constitution, it was clearly understood that exports were crucial for Spain's economic growth. Although when seen in hindsight and from outside the mercantilist revival view of Spanish formulation of policies, there are various signs, some of which are illustrated below, that variables of direct interest for the economic wellbeing and stability of the political regimes, such as unemployment rates, have a close link with the trade balance, reinforcing the "Moncloa narrative" discussed in depth by Quintana *(op. cit.)*.

Even today, it is possible to make out a strong argument in favor of the "opening narrative" or the "Moncloa narrative". They are not, however, lines of incompatible interpretation, except in the sense that they prioritize certain factors as factors which continue to be important in policy making in the near future. Nonetheless, one of the main forms of political tension that may emerge from a prolonged continuation of unpopular austerity policies is the polarization of this debate. The dissolution of a general consensus on the intermediate-term objectives of economic policy would give rise to basic uncertainties on the measures taken by governments in the near future.

In addition to political factors commonly resulting from prolonged periods of austerity policies, the regional question in Spain always carries weight. Thus, a major measure being taken by the Spanish government in relation to the crisis is the rescue of the governments of the Autonomous Communities that had fiscal policies and still suffered debt crises.

By the end of 2012 four autonomous governments had requested access to the rescue fund.

Although this process has steadied the relationship between the Communities and the Spanish government, it is yet unclear whether the cost-sharing of the crisis will result in closer relationships between the economic interests of the Communities or whether the relatively healthier Communities will gain a boost in autonomy after the experience of the Euro and regional crises. The adoption of the Euro may have strong impacts on the stability of the Spanish State itself.

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EURO

3. MACROECONOMIC DIAGNOSIS OF SPAIN

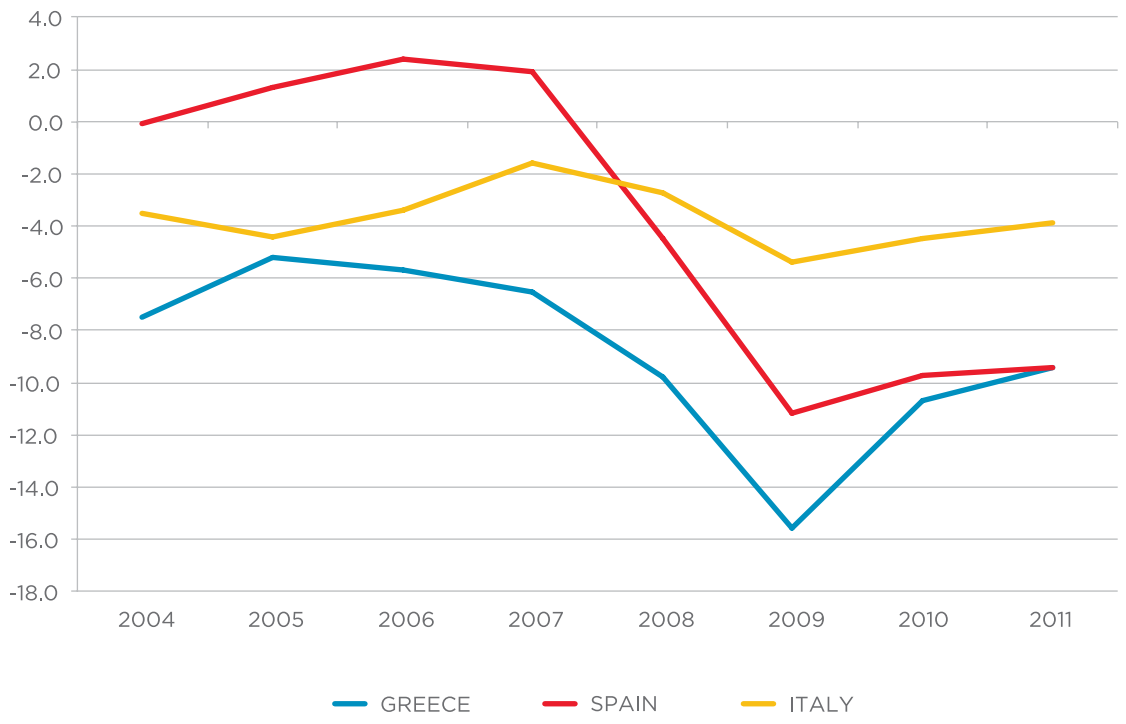
3.1
GENERAL ASPECTS

The crises confronted by a number of European Union member countries are often described as variations in a common tale, according to which peripheral countries of the Euro Zone have enjoyed extraordinary credit conditions incompatible with their expansive tax policies.

Haider (2011) outlines the causal profile of this common narrative, highlighting the risk premiums of the sovereign debts of Portugal, Italy, Ireland, Greece and Spain during the pre-Euro era, using them as evidence of behavior marked by public debt management based on monetary expansion and currency devaluation. The introduction of the Euro improved expectations relating to capital markets and credit conditions, but this was followed by a sudden squeeze in 2008 as the markets' aversion to risk changed. Haider *(op. cit.)* concludes, from the ratio between sovereign risk premiums and tax fundamentals of European countries before and after the outbreak of the crisis, that the increased pricing of risks to public debt is due basically to the risk of default.

Although this narrative of a "unified peripheral crisis" shows real causal relations fully integral to the problem at hand, this single explanation fails to consider both factors triggering the need for realignment and the specificities of settling each case, and thus does not reflect the overall observed conjuncture. Even as the connections of these countries with the European economy can be deemed similar, the economic and institutional development of each country has its peculiarities that influence each stage in the common process faced by the Euro Zone's peripheral countries and raise questions attenuating or complicating management of the crisis. Table 5 shows the public deficit performance as a percentage of the GDP in three selected countries, illustrating the heterogeneity of the European tax problem.

TABLE 5
Deficit/Surplus as a Proportion of the GDP (%)



Source: Eurostat.

The time series investigated reveal two key distinctions. The first is the sensitivity of the deficit to the financial crisis, which is severe in Greece and even more so in Spain, but which is hard to identify in Italy within the fluctuations already observed at earlier times. The second refers to the presence of major deficits before the crisis. In Spain, the worst deficit in the post-Euro period until 2007 was 0.3% in 2003, in the wake of a history of significant surpluses.

Italy, which has had chronic deficits between 2.0% and 4.0%, however, maintained values close to these levels. On one hand, these differences determine different risk profiles and exposure to a capital flight crisis. On the other, there are signs of specific macroeconomic phenomena that cannot be generically understood.

Specific aspects of the recent situation in Spain include, for example, a real estate bubble (Pagés & Maza, 2003) and expansion in the participation of the civil construction sector in the economy, beginning as early as the second half of the 1990s, before the adoption of the Euro.

A more chronic characteristic, repeated on different occasions in recent history, and highlighting the Spanish economy in the context of the "European periphery," is the intense coupling between public and foreign account deficits and the efficient use of factors of production, particularly employment. Due to the adoption of a strong currency, this raises problems of competitiveness that are not only beyond the reach of short-term government policies, but also increase the risk of liquidity problems, i.e. a lack of foreign exchange.

Internal questions still exist with regard to regional demands for independence. In fact, the power of the central government in Madrid is strongly divided with the self-governments of the Autonomous Communities that, in several cases, continue with public deficits or have their own legal systems in accordance with local traditions.

This means that the diagnosis of the recent crisis shows divergences in relation to the aforementioned narrative of a crisis deriving from misalignments between the EU nations. If, on one hand, the Autonomous Communities already formed a common monetary area (under the Spanish peseta), with authorization to operate its public accounts in deficit, on the other, there were relative joint interests regarding the key issue of exchange policy that were now outside central government control.

Stabilizing the Euro and "normal" conditions of credit in Spain may cause a deterioration in relations between the Autonomous Communities and the central government. If, on one hand, the autonomy mechanisms agreed in 1978 create major elasticity to accommodate regional demands, reducing the likelihood of separatisms, on the other, a revaluation of the Euro causes different impacts according to the interest in improving credit conditions of external competitiveness, creating major differences between the regions according to the structure of their economies.

A final consideration is that modernizing the economy has historically had a unifying effect in Spain. A recovery of growth rates can be administrated to link less-developed regions within the Spanish economy, leading to further alignment of interests between the industrial regions that have mostly submitted pleas for autonomy and independence in recent decades and the southern regions, historically influential, but with little industrialization.

3.2
COMPONENTS OF THE CRISIS

I. THE EUROPEAN AND SPANISH CRISES

In order to analyze the contemporary crisis in Spain, it is first important to distinguish two categories of causal factors. The first refers to questions and **chronic weaknesses of the Spanish economy**. These may be worsened or attenuated with Spain's accession to the Euro Zone and the global financial crisis, but at the same time, they also consist of relevant specific aspects of the Spanish economy that mitigate the short and mid-term impacts of the different aspects of the crisis. The second refers to the direct causes of the **European crisis** and its direct and evident consequences on the Spanish economy in recent years.

The outstanding characteristic of the recent economic crises in the world is their systemic nature, with multiple causes determining multiple consequences. In one analysis of the systemic crisis of the Euro Zone, in which the recurring characteristics of the local economies are included, visible phenomena are found that may have been caused by more than one factor. It is hard to say categorically, for example, that inflation or the public debt crisis has the same causes and the same prognosis in Greece and Spain.

In general terms, Spain enjoys particularly favorable conditions under the Euro in a series of aspects: favorable credit conditions, a facility to roll over the public debt, a specialization process in its comparative benefits in relation to heated markets within their monetary area and a "contagion" of expectations about the Euro Zone Together, these aspects seemed to represent a leap in the country's development process.

The origins of the crisis can be traced from a global macroprudential deleveraging, which caused a drop in expectations about different risk assets. This deleveraging seems to have taken two routes (Haider, 2011; Sgherri & Zoli, 2009). On one hand, public deficits have a certain degree of endogeneity in relation to economic growth, automatically deteriorating the current situation of public accounts during a recession even in the absence of actively expansionist policies.[9] This is supplemented by the predetermined and/or discretionary inclusion of expansionist tax policies. Sgherri & Zoli *(op. cit.)* compile data that indicate that Spain, in particular, used such active instruments on a larger scale than more central economies, such as France and Germany. Together these two processes led Spain from a considerable tax surplus to a strong deficit in one year, indicating an extra factor of latent vulnerability of the Spanish development model to major transitory shocks.

On the other hand, there is a more traditional contagion as the default risks perceived on the edge of the Euro Zone reflect their basic misalignments and their modes of reaction to the crisis. This understanding must be filtered, however, by the difference in reaction to two particular trajectories of public deficit, that of Spain (significant surpluses in favorable macroeconomic conditions) and of Italy (chronic deficits that do not seem to have worsened with the recent crisis).

The financial markets' reaction to the "contagion crisis" after the credit squeeze at the end of 2008 is visible in the data[10] on on public debt and private credit premiums[11] compiled by Sgherri & Zoli *(op. cit.)*

[9] In fact, the traditional macroeconomic theory understands this process as an "automatic stabilizer" since the deficits incurred because of the recession acted to inflating the economy. However, the endogeneity of the tax policy does not work in the same way within the Euro Zone, a detailed question on its impact on the sovereign risk by studies such as by Sgherri & Zoli *(op. cit.)*.

[10] Respectively, spreads of Spanish securities on the securities of the German debt taken as a "free risk measure" for operating purposes, and the spreads on private credit default swaps (CDS, equal to approximately an arbitrary private loan because they are used in securitization and transformation of redemption of the banks' asset portfolios). The data is compiled by the paper referenced (IMF Working Paper 09/222), from multiple sources on the European financial market.

[11] Evidently the interpretation of private default risk data in the context of defining the framework of a contagion crisis is more restricted, but useful for permitting some kind of contrast between the development of global appetite and specific perception of the Spanish problem.

for the two-year period from 2008 to 2009, which could be understood as a "global phase of the crisis." During this period, Italy was much more affected by the crisis, which might have been a reflection of the ongoing deterioration of its public debt. Furthermore, private credit shows a trend towards realign with risk premium levels then seen in Spain at the end of 2009, reinforcing the idea that there is a specifically tax-based problem affecting the risk perception for that country.

The "European phase" of the crisis had already begun at this time, with leaps in the sovereign spreads in Greece (October 2008) and Ireland (January 2009), classifying these countries with approximately double the risk of the rest of the European periphery. The endogenous Spanish public deficits brought this process to the country with faster reviews of the risk premiums in May 2010.

As a result of the growing systemic nature of the "contagion crisis" phenomena, studies focusing on identifying their mechanisms and characteristics have advanced in quantifying their more important characteristics and elucidating the different roles that economic agents play in their origin and propagation.
In a recent reference to this matter, Jobst & Gray (2013) identify two basic approaches to the analysis and measurement of systemic risk phenomena. The first is called "contribution approach" or "agitation of risk." This type of analysis focuses on the resistance or susceptibility of the system overall to shocks from individual stakeholders. The second analytical mode is called by the authors "participatory approach" or "risk amplification." The focus in this case is the resistance or susceptibility of individual members of the system regarding a systemic shock deriving from common risk. The objective of the system's administration in this case would be to steady the preservation of its risk-sharing mechanisms and costs with maximizing the "survivors" of the crisis.

These two analytical modes chart the different attitudes seen in the discussion on solving the European crisis in relation to pragmatic questions on the type of interconnection between the stakeholders, which defined the "contagion" and the priorities of the end-policymakers (the European Central Bank, the European Council and, to a lesser degree, the European Parliament). On one hand, there are correlations in exposing sovereign credit between all countries that adopt the Euro for the simple reason that, other conditions remaining constant, any debt securities are perfectly substitutable. The fact that perceptions differ about effective sovereign risk is reflected in the existence of risk spreads, which provide a preliminary quantification of the countries' specific risk. The structure of this specific risk and its systemic effect are key to analyses of "agitation of risk."

The conclusion of the Vasicek & Claeys (2013) study is significant in this sense, based on the fixed effects vector decomposition model (FEVD), projected by a VAR of daily data on debt securities, reaching the conclusion that a crisis of only Spanish origin would still have consequences on the rest of the Euro Zone, confirming the relevance of the "agitation of risk" viewpoint. The understanding of this dimension of the systemic problem is reflected in European policymakers' emphasis on containing moral hazard, leading to emergency policies conditioned by specific directions towards austerity and reforms, and to a costly priority given to the stabilization of the Euro.

However, following the analysis of "risk amplification" by focusing on the system's transmission process for each participant, the perceived correlations between the European peripheral economies would be less important than the indirect effects from the impacts of the "initial crises" (Greece and Ireland) on the Euro and the Euro Zone economy. The extent and timing of these effects reinforce the idea of an indirect process mediated by the 2009 recession and by deteriorating internal macroeconomic conditions in Spain, which precede its inclusion in a "common area in crisis," and in which capital flow correlations might become more important.[12]

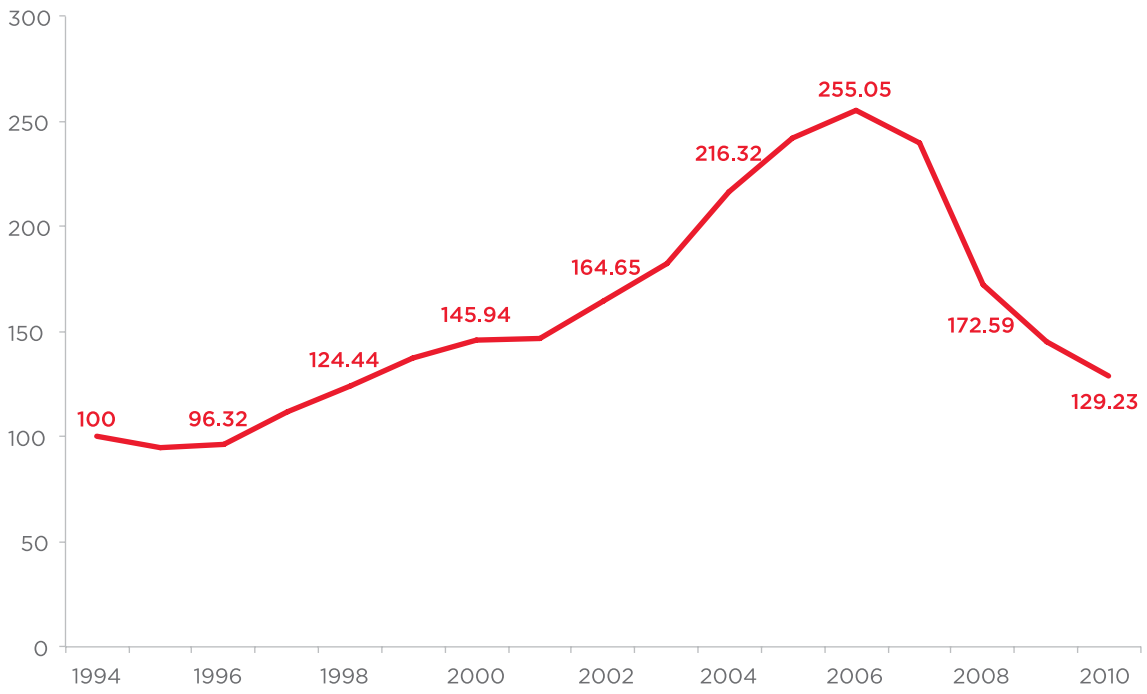
[12] One paper whose basics have a potential impact here but were not applied directly to the systemic crisis problem, is the case of synchronizing economic cycles in the trade context between two countries, conceivably Spain and the EU, visible, for example in the recent study by Zambelli (2012).

Accordingly, the hike in risk premiums after the crisis of 2008-2009 cannot be reduced to a movement of aversion against exogenous risk to Spain. Although this is a key explanatory factor and possibly necessary to unleashing a full crisis process, specifically Spanish factors exist that do not disappear automatically when solving the crisis, and which cannot be reduced to a question of "tax discipline" and moral hazard. It is important, therefore, to examine some relevant macroeconomic processes during the 2000s and their relation with the slower structural changes undergone by the Spanish economy in recent decades, discussed in qualitative terms in the preceding section.

II. THE REAL ESTATE BUBBLE AND HOUSEHOLD INDEBTEDNESS

The accelerating demand for real estate in Spain preceded adoption of the Euro. In fact, as Table 6 shows, admission to the monetary union does not seem to have induced a change in the trend of new procurement of real estate assets. Moreover, new mortgage contracts in 2006 peaked at the time of the Spanish GDP's highest growth. The demand for new mortgages is seen to follow a downward trend, preceding the global crisis of liquidity in the last quarter of 2008 and continuing on its earlier course, seemingly unaffected by the following recession that followed.

TABLE 6
Number of Mortgages in Spain per Year (1994 = 100)



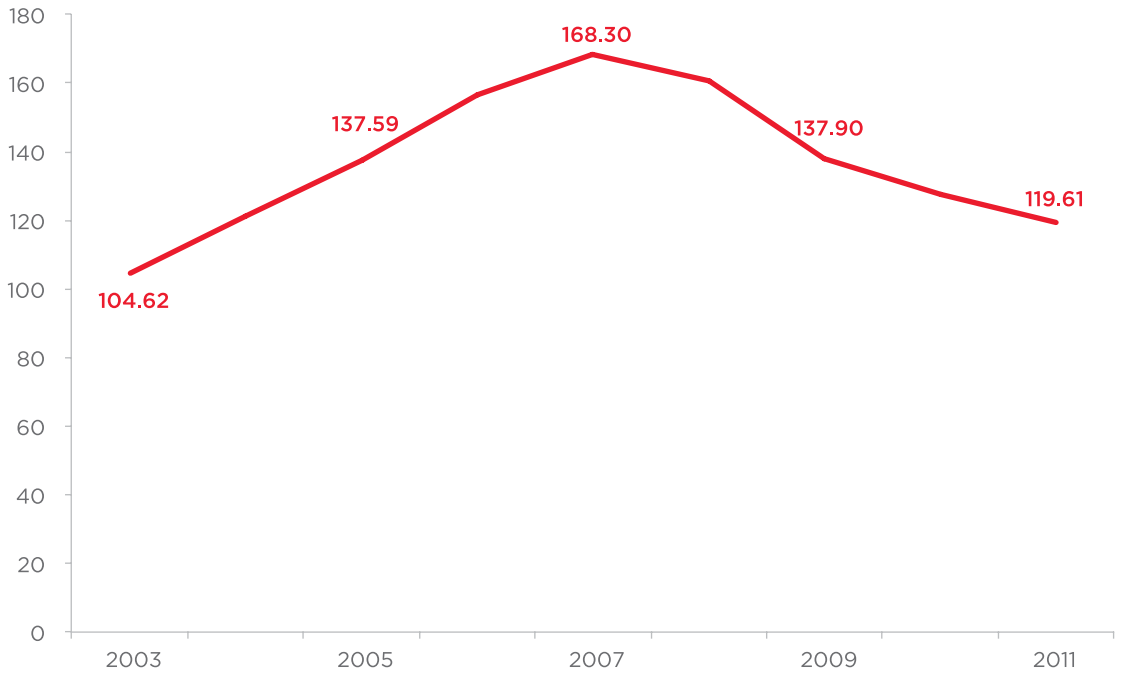
Source: National Institute of Statistics - INE.

Thus, Aspachs-Bracons & Rabanal (2009) examine the econometric evidence regarding the various possible determining factors of a real estate bubble in the Spanish context, including improvements in credit conditions and changes in the labor market brought by the European single market introduced in 1993. Although high population growth and a lack of flexibility in the labor market are two of the

explanations for the real estate market boom in Spain, no significant effect is found for credit conditions after such factors are discounted.

This conclusion differs from the general trend in studies on real estate bubbles in countries such as the USA, where price cycles are associated with investment cycles and leverage in the mortgage market. In fact, the average value of mortgages, a proxy of the prices of new properties, follows the downward trend in time before the financial crisis, as shown in Table 7.

TABLE 7
Average Spanish Mortgage Value (in thousands of Euros)



Source: National Institute of Statistics - INE.

Altogether, the behavior of the Spanish real estate market indicates that the real estate cycle of the last two decades follows its own dynamics, very much dependent on the other crises that occurred in the country, although it did interact with them through credit costs and a drop in economic activity.

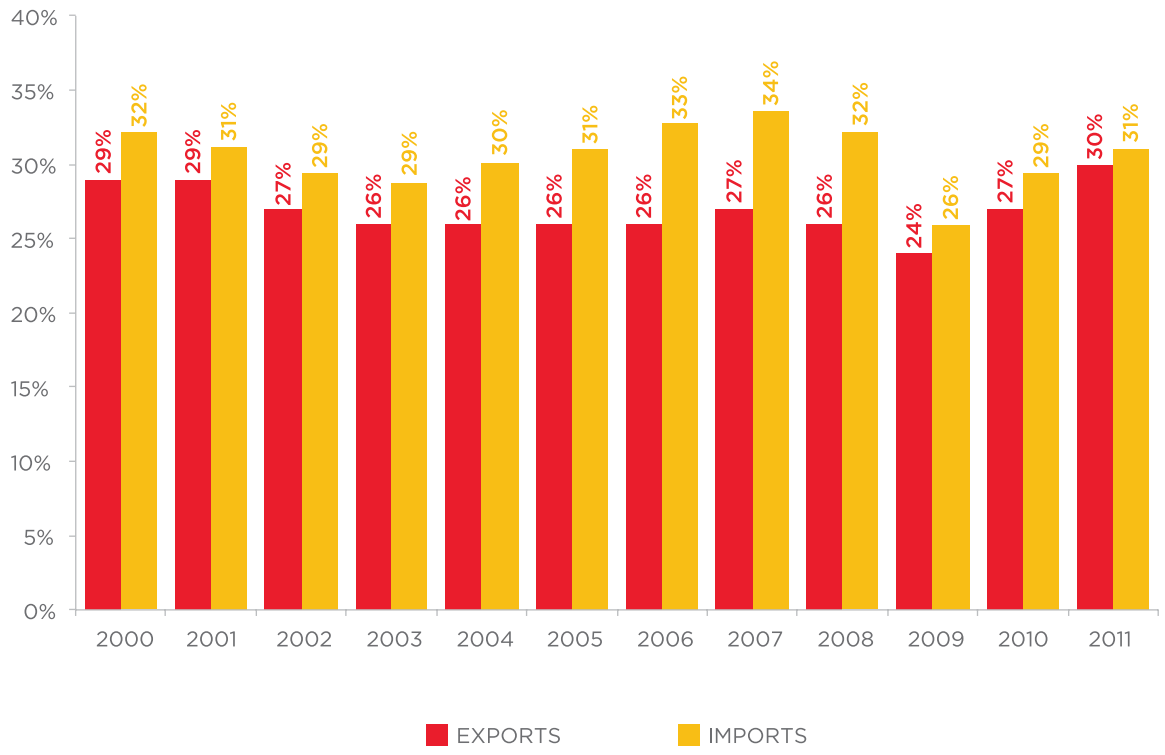
III. FOREIGN ACCOUNTS AND ECONOMIC ACTIVITY

As mentioned in Section 1, Spain's economy activity is closely associated with its foreign conjuncture. After decades of wars and autarchic conditions (lack of access to imports), the opening of the Spanish economy since the 1960s saw the peseta over-devalued on several occasions in order to favor exports, with the side effects of hyperinflation and growing foreign indebtedness. The importance of the "realistic" administration of foreign exchange was emphasized in the process of establishing the contemporary

State, with the 1978 Constitution and the Moncloa Pact. The "realistic foreign exchange" was even so referenced in terms of the balance in foreign accounts and maintained not only through the conventional monetary policy but also through capital controls.

The Spanish economy is chronically heavily dependent on imports to supply its home market, and is highly exposed to foreign demand due to the proportion of its exports in the composition of its GDP. Table 8 shows that in the 2000s both exports and imports stayed at the historic levels of 25% to 30% of the GDP, with a brief drop during 2009, and already show signs of a turnaround.

TABLE 8
Exports and Imports as a Percentage of Spanish GDP



Source: National Institute of Statistics - INE.

The economy's dependence on exports has had major impacts on the country's risk and crisis profiles. Indirect effects of fluctuations in exports, resulting from the subsequent intermediary demand are worsened as Spain's export agenda moves toward advanced industries, with more links in its production chains. This effect is clearer in the increased share of the automobile industry and of other transportation materials in the recent development of the Spanish export agenda, shown in Table 9. There is no apparent progress, however, regarding more sophisticated industrial exports. If, on one hand, mineral commodities weighed less in the years of adapting to the Euro, on the other, the machinery and electrical goods industries stagnated, and primary sector activities, such as agriculture, grew in importance. This partial development is a symptom of the heavy interdependence between foreign exchange and competitiveness, on which point the policymaking tradition of economists such as Quintana insists *(op. cit.).*

TABLE 9
Main Export Sectors of Spain (Classification in 21 Sectors)

EXPORTS	1995	2000	2005
Cars and other transportation materials	11%	26%	26%
Machinery, electrical goods and material	18%	17%	16%
Chemicals and byproducts	12%	7%	9%
Mineral products	20%	3%	4%
Common and manufactured metals	7%	7%	7%
Vegetable products	3%	7%	7%
Textiles	6%	5%	5%
Synthetic plastic and rubber goods	5%	5%	5%
Food, beverages and tobacco	4%	5%	5%
Livestock and animal products	3%	3%	3%
Other (11 sectors)	11%	15%	14%

Source: National Institute of Statistics - INE.

There are some major implications for the productive economy concerning the import agenda. First, workers' real purchasing power increases when imports become more accessible, which causes an income-effect that cannot be minimized in the discussion on trade agendas in favor of impacts on the production sector. However, it is also worth noting factors such as competition between imports and local produce, in addition to lower costs of imported inputs and their effects on national production. The performance of the import agenda in the period from 1995 to 2005 can be seen in Table 10.

TABLE 10
Main Import Sectors of Spain (Classification in 21 Sectors)

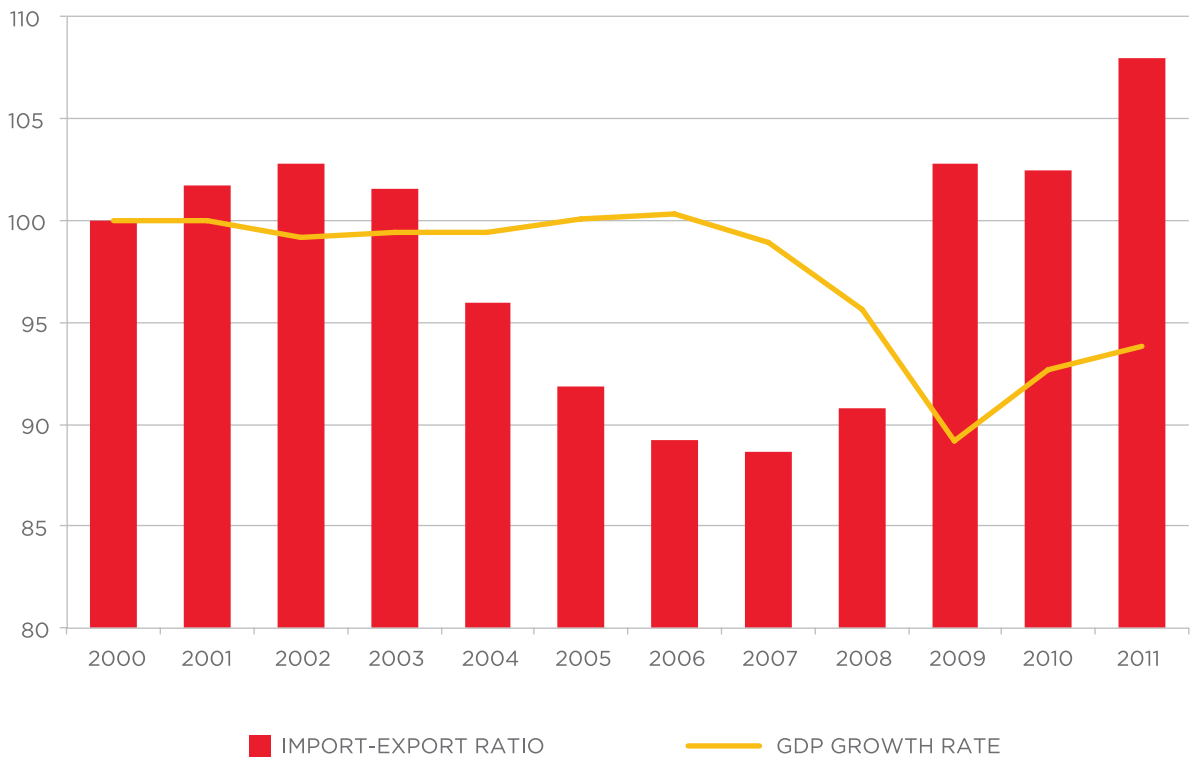
IMPORTS	1995	2000	2005
Electrical goods, equipment and machinery	22%	22%	20%
Cars and other transportation materials	13%	19%	18%
Mineral products	10%	13%	15%
Chemicals and byproducts	10%	9%	9%
Common and manufactured metals	8%	7%	8%
Textiles	5%	5%	5%
Synthetic plastic and rubber goods	5%	4%	4%
Food, beverages and tobacco	4%	3%	4%
Livestock and animal products	4%	3%	3%
Vegetable products	5%	2%	3%
Optics, photography, precision materials and cinema	3%	3%	2%
Paper and raw materials	4%	3%	2%
Other (11 sectors)	10%	9%	9%

Source: National Institute of Statistics - INE.

In the period between 1995 and 2005, a concomitant increase was noted in shares of finished-product markets, such as, for example, in electrical goods and cars, while there was little change in raw material imports. Therefore, there is no evidence that the country's connection with the global economy has made any change in the imports having a larger share of inputs for a production of sophisticated finished products for either the home or foreign market. Thus a scenario is set in which the country's exposure to the global conjuncture creates double vulnerability. If, on one hand, a rising value of imports creates shrinkage in the real purchasing power and a possible significant income effect, on the other, increased cost of exports directly and indirectly reduces aggregate demand in the country.

A simple illustration of the resulting ratio between economic activity and foreign accounts can be obtained by taking the import-export ratio. Table 11 shows that increases in this ratio tend to coincide with periods of less growth, as seen in 2002-2003 and since 2006, almost three years before the onset of the global crisis in 2008.

TABLE 11
Import-Export Ratio and GDP Growth Rate, Spain (2000 = 100)



Source: National Institute of Statistics - INE.

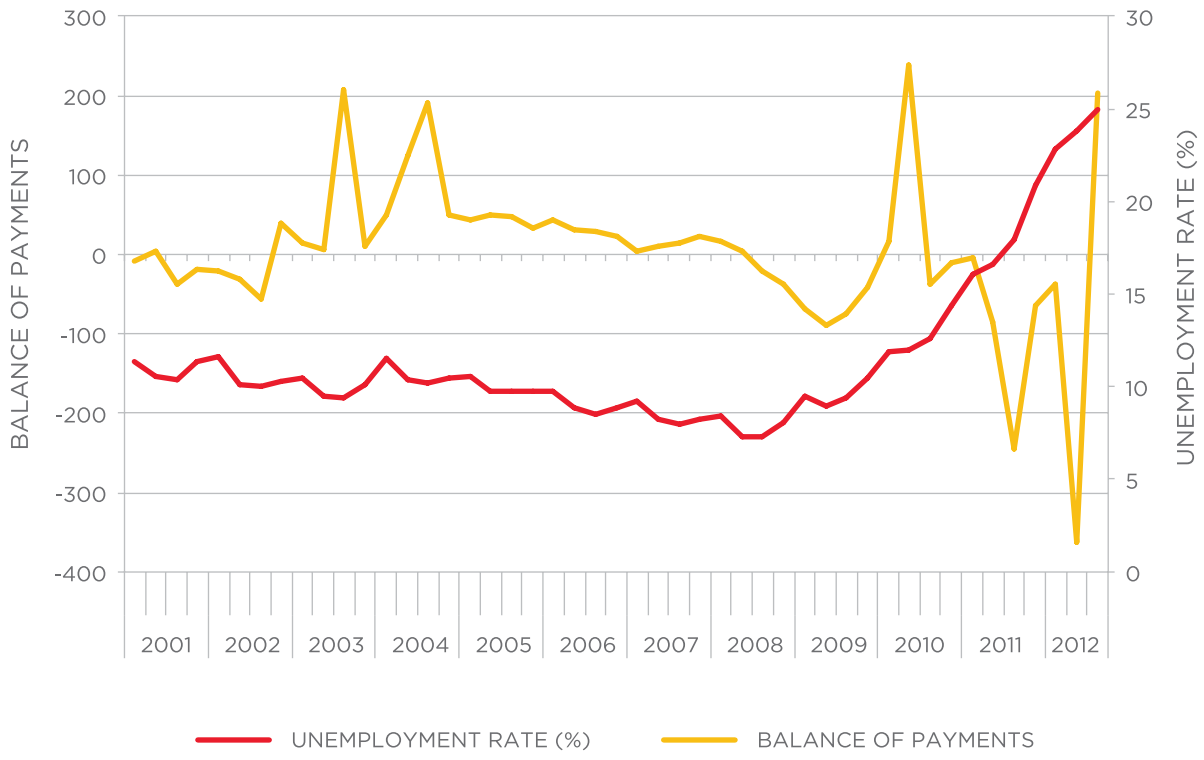
IV. LABOR COSTS AND UNEMPLOYMENT

A classic relationship exists in macroeconomics between unemployment and economic growth, the logic of which is direct; in other words, greater demand requires more production factors. Added to this particular fact of general application is a particular Spanish characteristic, a persistent relationship between employment and the trade balance, as mentioned previously. Also worth mentioning is the

persistence of high unemployment rates relating to the economic cycle, higher than 10.0% during most of its history, and reaching levels of 20%-25.0% whenever the country is faced with recession.

Table 12 shows quarterly data of the balance of payments and unemployment during the Euro period. A well-known fact is that unemployment stays relatively low, even during the period from 2006 to 2008, when the GDP growth rate was already plummeting. On the other hand, the slight recovery of growth since 2010 has had no effect on rising rate of unemployment. Scrutiny of the graph shows an even more substantial connection with the trade balance, with coincidence of seasonal effects and reactions to one to two-year conjunctures. Even the rising unemployment since the end of 2008 demonstrates pauses during quarters with improved foreign accounts.

TABLE 12
Balance of Payments and Unemployment Rate in Spain



Source: National Institute of Statistics - INE.

The data also shows high unemployment rates even in times of economic growth. During the period from 2001 to 2008, when average GDP growth was around 6.9%, the lowest value noted for the unemployment rate is 7.3%, with an average of 9.7%. These figures and patterns suggest a labor market subject to inefficiencies and friction, which may be a determining factor in the external vulnerability of the Spanish economy.

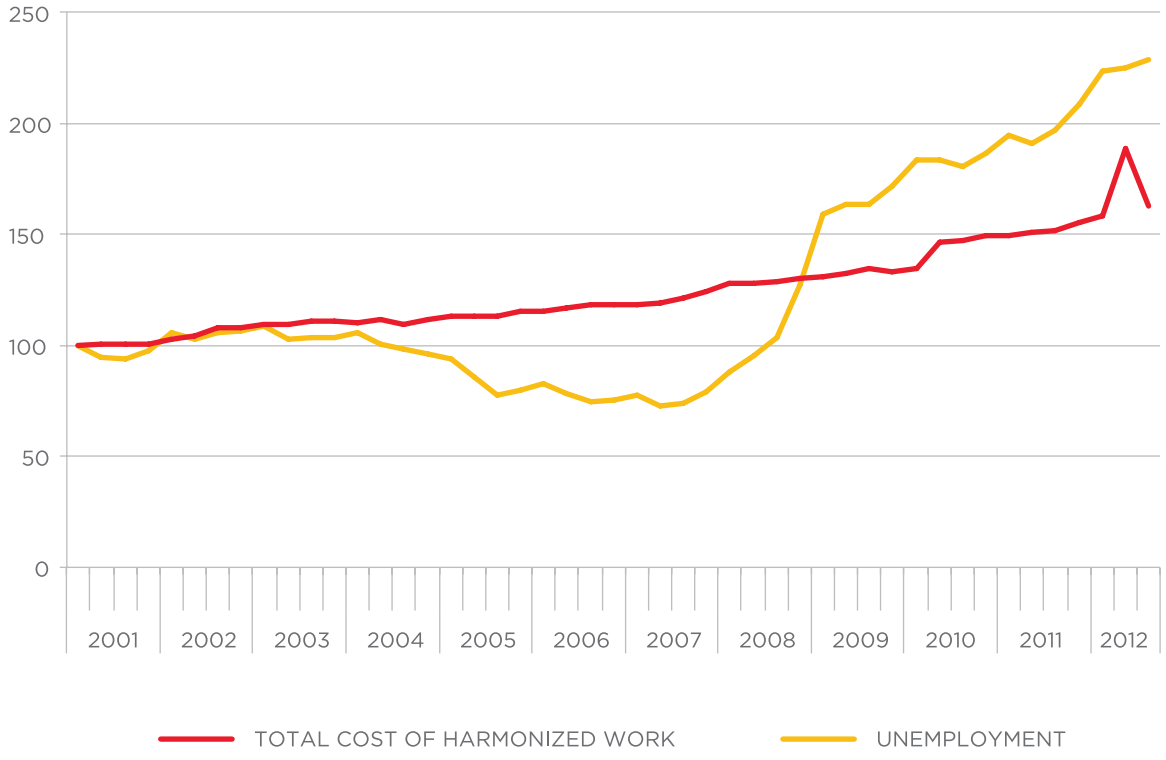
There are different types of empirical evidence connecting frictions in the labor market and adverse economic results. Loayza (2005) concludes from a statistical analysis of 88 countries that flexible labor markets mitigate the impact of an external shock, while Aspachs-Bracons & Rabanal *(op. cit.)*

identify frictions in the labor market as a key factor for real estate bubbles in Spain. As an empirical description, this question may be illustrated using the ratio between the costs of manpower and patterns of unemployment.

Under the premises of microeconomic theory, it was foreseeable that unemployment would increase when labor costs rise and that on the other hand such costs would fall when the labor market cooled. It is recognized at the same time that there is a downward nominal wage rigidity in recession conditions, which hinders economic recoveries using spontaneous adjustments. In Spain until 2008, however, a third phase is seen marked by rising labor costs, while unemployment drops, as shown in Table 13.

TABLE 13

Total Cost of Harmonized Work (per hour worked) and Unemployment Rate in Spain (2001 = 100)



Source: National Institute of Statistics - INE.

The scenario until 2008 has two complementary explanations. First, it is plausible that the labor market has been consistently under demand pressure due to the cycles remaining at lower levels between 2001 and 2006. Therefore, the historic minimum unemployment figures of 7.0% can be determined by structural characteristics of the Spanish labor market, such as job search time and matching between vacancies and workers, and occupational and regional mobility.[13]

[13] On this point, one reference is Castillo et al. (1998), whose focus is the period between 1988 and 1993, particularly fruitful because it covers a variety of expansive and recessive conditions, as well as the introduction of the EMS foreign exchange controls. The study tests a series of econometric hypotheses related to the labor market structure, such as the shape of the Beveridge curve (unemployment-vacancies), job turnover and geographic and occupational mobility of the workers for the 17 Autonomous Communities. The conclusions of the study include the well-known low mobility between regions and the statistical importance of fixed components (per region), which, together, indicate limits to recovery of employment by locating new activities, and the high turnover that causes fast losses in employment when conditions are fast deteriorating. However, it is worth noting that labor costs have continued to rise four quarters after the start of the crisis in unemployment, a particular fact arguing against the conclusion that high turnover marks the Spanish labor market as a whole.

Although the relative weights of the causes of the crisis and obstacles to its solution cannot be arbitrated from the descriptive analysis of a phenomenon that has new developments every week, it can be said that rigidity in labor costs is a factor hindering recovery. While historic experience shows that nominal wages are rigid downward, as a rule, the EU harmonized costs index is restated to be comparable throughout the countries in the Euro Zone, including not only the general price level but also differences in taxation and social security contributions.

Lastly, with regard to non-wage costs, such as social security contributions, Conessa & Krueger (1998) examine a dynamic model and find intergenerational effects, in which an older already-employed portion of the work force acts against the interests of the younger and underemployed, which may result in an aggregate slant to the status quo, even if the mostly unemployed youth propose changes.

Added to the factors known in behavioral economics are multiple associated sociopolitical factors , among other issues, with the specificities of labor relations, different customs and traditions linked to the Autonomous Communities and progressive increase in the risk of job loss, which often cannot be moderated by ex ante wage negotiations. Thus, Spanish labor policy is an additional factor to be noted for the complexity of the problem in balancing implicit agreements with the status quo in terms of labor protection and making reforms that reduce employment volatility.

3.3 MACRO AND MICROPRUDENTIAL RISKS IN THE FINANCIAL SYSTEM

As authors such as Borio (2003) point out, the macro- and microprudential questions differ not only in their focus and objectives, but also in their concept of "risk." Microprudential risks originate from individual institutions, and their objective is to protect end consumers and investors in the financial system. Therefore, the risk lies in the principal-agent problem and in the difficulty aligning the interests of consumers with those of financial institutions. Microprudential risks are not prima facie a source of systemic vulnerability although they can become a major concern in the aggregate; in other words, microprudential risks ripen when a common shock (such as recession) on borrowers affects the financial health of institutions.

In contrast, the macroprudential plan is governed mainly by correlations; that is, by the effect that each institution has over the system as a whole. From the macroprudential viewpoint, the institutions' actions can be regarded as endogenous, with behavior governed by the systemic context in which they are found. The question of the macroprudential risk becomes more prominent in understanding the objectives of governance of the financial system from the "crises of confidence" at the end of the 1990s, in countries then known as the "Asian tigers." One topic of key importance after the mortgage financial crises of 2008, when private risk pricing errors had worldwide systemic consequences,[14] is to identify and mitigate microprudential risks.

Saurina (2009) discusses the use of dynamic liquidity provisions by the Bank of Spain since the 2000s to mitigate the systemic risk of individual institutional weaknesses. The system of dynamic provisions seeks to identify potential losses in the bank's portfolio im oreder to minimize the instability caused by the increase in defaults that generally accompany a recession, reducing the pro-cyclical character of the financial crises.

[14] A well-known moral hazard problem is associated with the macroprudential risk that is hard to identify in the Spanish case but also difficult to ignore. Thus, the agents that price and assume the microprudential risk perceive its macroprudential impact as well as the likelihood of rescue in event of systemic stress. With this mechanism, the perception that the macroprudential risk exists can lead to an increase in institutions' appetite for risk assets. This kind of mechanism can occur with the European economies in relation to the European Central Bank, with the Spanish banks in relation to the Spanish government or even with the government of Autonomous Communities in relation to the central government in Madrid. This is why observers of the European crisis accompany the electoral developments in the peripheral countries and observers of the Spanish crisis pay attention to the riskier regional dynamics and their relationship with the national aggregate.

While this tool is essentially microprudential, Saurina (op. cit.) discusses a series of macroprudential concerns that are partly affected by the system of dynamic provisions, but which are out of their reach. The administration of the dynamic provisions system has a steadying effect on the system, but does not eliminate risks that, while not being very visible at the microprudential level, can trigger a significant systemic reaction. Saurina (op cit.) also discusses the question of the credit cycle, whose side effects are partly mitigated by the dynamic provisions but which cannot be controlled by this kind of policy.

The year 2012 was marked by capital flight, with increasing credit costs in Spain at the start of the year stopped only by the action of the European Stability Mechanism. The cost of the debt turnover of the Spanish government dropped substantially since July, which theoretically should cut credit costs in the overall economy. However, as already mentioned, the international aspect of the macroprudential risk is not yet clearly understood. In particular, deleveraging of the corporate sector continues to be a weak point (IMF, 2012), representing a risk that is partly covered by the dynamic provision mechanism of the Spanish Central Bank, but which is still a relevant macroprudential question.

3.4
ASSESSMENT OF SOVEREIGN RISK

The definition of "sovereign risk" comprises three factors: definition of adverse events, assessment of the impact of such events on the risk-holder and the probability of these impacts occurring. Based on a generally accepted definition of this risk category, the quantitative finance literature proposes various systematic assessment methodologies in order to guide investment decisions in the global sovereign debt market (see, for example, Damodaran (2012)).

One different field of academic studies and policymaking is based on the markets' pricing of sovereign risks, aiming to reach insights or conclusions on the "hidden variables" behind the effective risks in a sovereign debt security. A recent study consolidating various aspects of this field of literature is the article by Comelli (2012).

Basically, the risk premium of sovereign debt consists of a market risk and a fundamental risk. The former derives from a problem of transforming maturity. In this case, if the investor does not want to wait for the maturity date of his portfolio securities, there is the alternative of being exposed to the fluctuation of the secondary market prices. The latter, on the other hand, refers to the default risk, that is, failure to comply with the direct obligations assumed by the government.

Although sovereign risk is quite important for understanding the long-term financing problem of governments' tax policies, time series of risk premiums show considerable fluctuations, even in conjunctures where there is no evident failure in structural factors (Damodaran, 2012), due to the possibility of systemic crises along the lines described by Jobst & Gray (op. cit.) as "agitation of risk."

In the current context, however, one should principally evaluate whether the emergency resources available are enough to control the extraordinary risks in the debt rollover capacity caused by a sharp increase in capital costs at times of risk aversion. It is, therefore, known that the European Union has provided rescue funds for Spain, without the country needing to resort to this type of aid, until the end of 2012. Although the facts are constantly changing and the possibility of a new crisis of confidence cannot be eliminated, it seems unlikely, given the Spanish fiscal conjuncture, that the country might need to resort to a default, which would have considerable economic and political costs for the debt administration.

Nevertheless, this statement cannot be extended to the mid- and long–term horizons. The sustainability of the debt rollovers to a certain level of deficit today does not mean that this will continue indefinitely given the same kind of tax policy. While the deficits are specific values, the sum to be financed may grow exponentially due to the rollover costs, even if the deficits are zeroed. In the absence of structural reforms to create a convergence to deficit levels similar to those practiced in countries whose debt is an alternative allocation of capital, the Spanish debt may experience cyclical crises of confidence for which it is hard to predict results.

Yet other risks are still accumulated over the years. Inasmuch as Spain is itself a monetary union of Autonomous Communities with a considerable degree of fiscal autonomy, a recession affecting particularly weak regions might cause a cascade of requests for rescue, which would put pressure on the Spanish treasury. There is also a separatist movement about to reach critical mass in Catalonia, one of the country's most developed regions. In general, the historic nationalisms that have been most expressive in recent years are those related to regions where the average income is higher than the Spanish national income (the Basque Country and Catalonia), and the movements in regions that are less developed than the country's average have weakened (Galicia, Asturias, Andalusia). A cascade of separatisms of the economically stronger regions could leave Madrid in charge of a substantively poorer country, affecting the sustainability of its finances.

Lastly, there is a possibility of exiting the Euro. Currently, pressures exist in relation toeconomic policy opening with regard to terms of trade with other countries, understood by some as necessary in the short term to improve the competitiveness of the national industry and reduce unemployment rates. A separation in these terms would increase the short-term market risk, due to a fluctuation in the real value of Euro-linked securities. However, there may be a drop in the perceived risk of bankruptcy of the Spanish state, with structural measures promoting a farther-reaching competitiveness than the mere manipulation of terms of trade.

This is not the only scenario of an exit from the Euro. The ongoing deterioration of economic conditions in Spain may aggravate separatist pressures in developed regions of the country. Catalonia was responsible in 2007 for 19% of the Spanish GDP, closely followed by Madrid (17%) and Valencia (10%). A reasonable adverse scenario would be the separation of Catalonia in 2014 and a subsequent accession by Valencia, where some of the population supports "PanCatalanism" (Guía, 1995), namely, the idea that there is a "Catalan country" within Spain involving more than the Autonomous Community of Catalonia.

The consequences of the exit of the two aforementioned Autonomous Communities would imply an approximately 30% shrinkage of the economy. Its impacts would include a change in sovereign risk pricing and further difficulty in debt management, since the drop in revenue would certainly be greater than any drop in the government's social spending.

3.5 ASSESSING THE PROBABILITY AND IMPACTS OF SCENARIOS OF FAILURE

A scenario of failure of the financial, institutional and sociopolitical network helps analyze possible future conjunctures otherwise not considered within the benchmark forecast scenarios generally used. When making any forecast, it is necessary to adopt as a premise the continuity of a series of structuring factors, such as, for example, the permanence of national frontiers, the scope of the monetary zones and the capacity of certain more solid economies to play a stabilizing role. The analysis of such a scenario permits examination of unexpected consequences that may occur in less extreme scenarios, but which do not come to the fore in normal scenarios.

The scenarios of failure have, by definition, a speculative character, and should be analyzed in terms of the macroeconomic theory and known facts. Therefore, each scenario is based on possible determinants of failure, in turn based on existing qualitative knowledge of sustainable conditions in the benchmark scenarios, of an imminent return to the conditions of the period 2001-2008.

SCENARIO 1 – BANKING CRISIS BEYOND THE CURRENT RESTRUCTURING PROGRAM

Which failures could cause this scenario? One possibility is that the recovery strategy being put in place by the European Central Bank meets certain objectives (such as recovery of confidence in the Euro), but is incompatible with the recovery of the real economy in Spain, where exports have become costly and uncompetitive. Another factor that could aggravate the banking crisis is the macroprudential conjuncture (that is, the systemic risk of the banking system), which, due to factors such as monetary squeeze and loan chains to the autonomous regions, could make management impossible.

What are the inevitable or almost inevitable direct impacts of this scenario? Credit costs for the private sector would remain high, and possibly increase to levels incompatible with key economic activities. The Autonomous Communities would pressure the central government with more requests for bailouts and might look to acquire the right to autonomously judge individual cases of default,

increasing the microprudential risk, capital cost and, depending on the vulnerability of the banking system, the systemic risk, and ultimately refueling the crisis.

What are the likely indirect and systemic impacts? A vicious circle could occur between the cost of credit and economic squeeze in the non-banking private sector (essentially, default of household debts and progressive bankruptcy of businesses), causing economic depression for several years after the European recovery. The Communities where the banking system is concentrated, such as the Basque Country, Catalonia and Cantabria, could seek independence within the Euro Zone, both due to the difference of interests with debtor regions, and because they would naturally fall more in line with a Euro movement toward austerity than the rest of the country. Alternatively, the more debt-ridden regions could seek independence to decide the problem of public and private debts as sovereign States.

SCENARIO 2 – MACROECONOMIC AND POLITICAL CONDITIONS FORCE A SPLIT FROM THE EURO, BEGINNING WITH SPAIN

What failures may cause this scenario? Currently, there are basic misalignments between the Spanish macroeconomic conjuncture, strongly marked by high unemployment rates, and the direction of the Euro Zone in relation to a bias towards austerity. These misalignments could become impossible to manage for technical reasons (the recession causes more deficits, which would be an automatic stabilizer if the monetary policy was accommodative) or due to political pressures from the Communities' young electorate.

What are the inevitable or almost inevitable direct impacts of this scenario? Latent political pressures throughout the political spectrum must lead to a policy of devaluing the new peseta to recover

competitiveness of the export sectors and contain recession. The start of a severe crisis of debt flight tends to be managed with capital controls, adopting the historic pattern of the independent peseta.

What are the likely indirect and systemic impacts? A key question is whether Spain could remain in the European Union under the same terms as the countries that did not adopt the Euro. The UK is an important precedent, since it did join the EMS but suffered a dramatic financial crisis that led to abandoning convergence to the Euro. Leaving the European Union as a customs union would have negative impacts on exports, since some of the world's largest markets are now in the European Union. In the medium and long term, a process of substituting imports itself would probably cause setbacks in the aggregate, but could be a transition phase to an economy more connected with American and Asian markets.

SCENARIO 3 – WIDESPREAD CRISIS IN THE MEDITERRANEAN COUNTRIES FORCES A RESTRUCTURING OF THE TERMS OF THE MONETARY UNION

What failures could cause this scenario? Accelerated rebalancing of power in the European Union context, including the rise of Poland and the Baltic countries, which now have room to maneuver, since they are comfortably within the EU tax targets (defaulted today by the same countries that push the current paradigm of austerity). Another possible factor would be prolonged recessions in the central countries, making the export industries in Spain and Italy more important for the economy of the bloc. Lastly, the crisis may spread and deepen in France, reaching comparable levels with that of Spain. On the other hand, countries such as Germany might no longer participate in bailout operations of Euro Zone countries.

What are the likely impacts of this scenario? The "restructuring of terms" may occur in some forms, including institutional changes in the EU decision-making process and the introduction of exchange rate fluctuation margins between the currencies within the Euro Zone, just to mention a few structural measures more directly affecting the economic future of Spain.

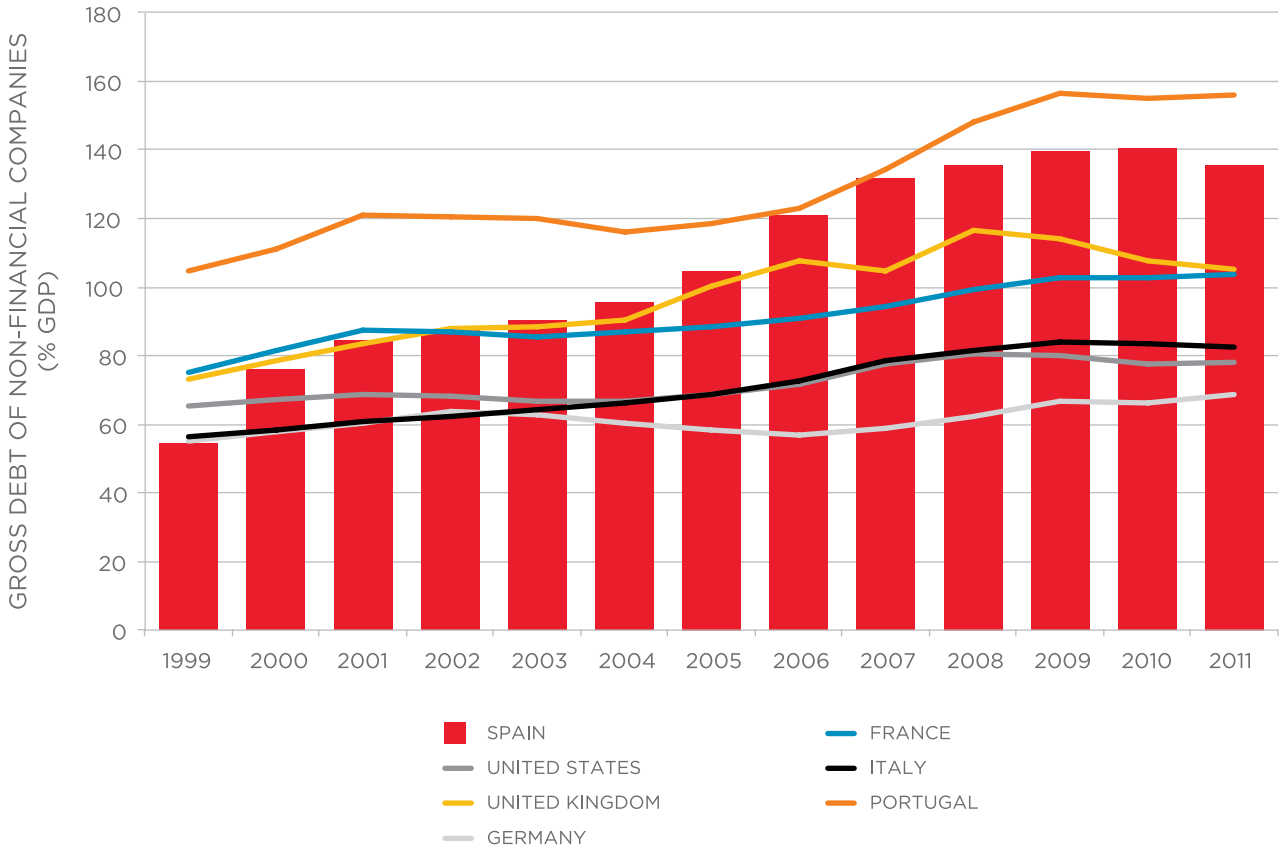
In general, any mechanisms to increase the flexibility of the Euro must tend to weaken the stability of its value against the other world currencies. In fact, from the view of an international investor or central bank allocating reserves, not only the discretion implied by formulating more decentralized monetary policies, but also experiments with new policies attempt to stand between an absolute monetary union and a flexible system. One should consider the lessons learned during the flexible foreign exchange union of the EMS, which gave rise to external vulnerability specific to each country, while at the same time creating exposure to a risk from all Europe.

4. MICROECONOMIC DIAGNOSIS OF THE SPANISH ECONOMY

4.1
WEAKER SECTORS AND SYSTEMIC IMPACTS OF LOCAL BANKRUPTCIES

From a microeconomic viewpoint, Spain's main problem at the moment, similar to many other European countries, is high indebtedness. Spanish debt, however, is mostly held by the private sector and households rather than by the public sector. The cause of this problem in Spain is also quite commonly problematic in other EU countries: in the years following the decision to join the Euro Zone, interest rates on public securities plummeted. For example, the value of the 10-year security dropped from 12.7% in 1995 to 3% in September 2005. This cheap debt was used mainly for consumption and real estate investment, which in turn fed a property price bubble. Thus, the 2004-2008 real estate boom served as the main driver of increased indebtedness in the private sector. Although the initial level of corporate debt was already high in Spain in 1999 (although below average for the Euro Zone), it now greatly exceeds that of all EU countries except for Ireland.

TABLE 14
Gross Debt of Non-Financial Companies (% GDP)



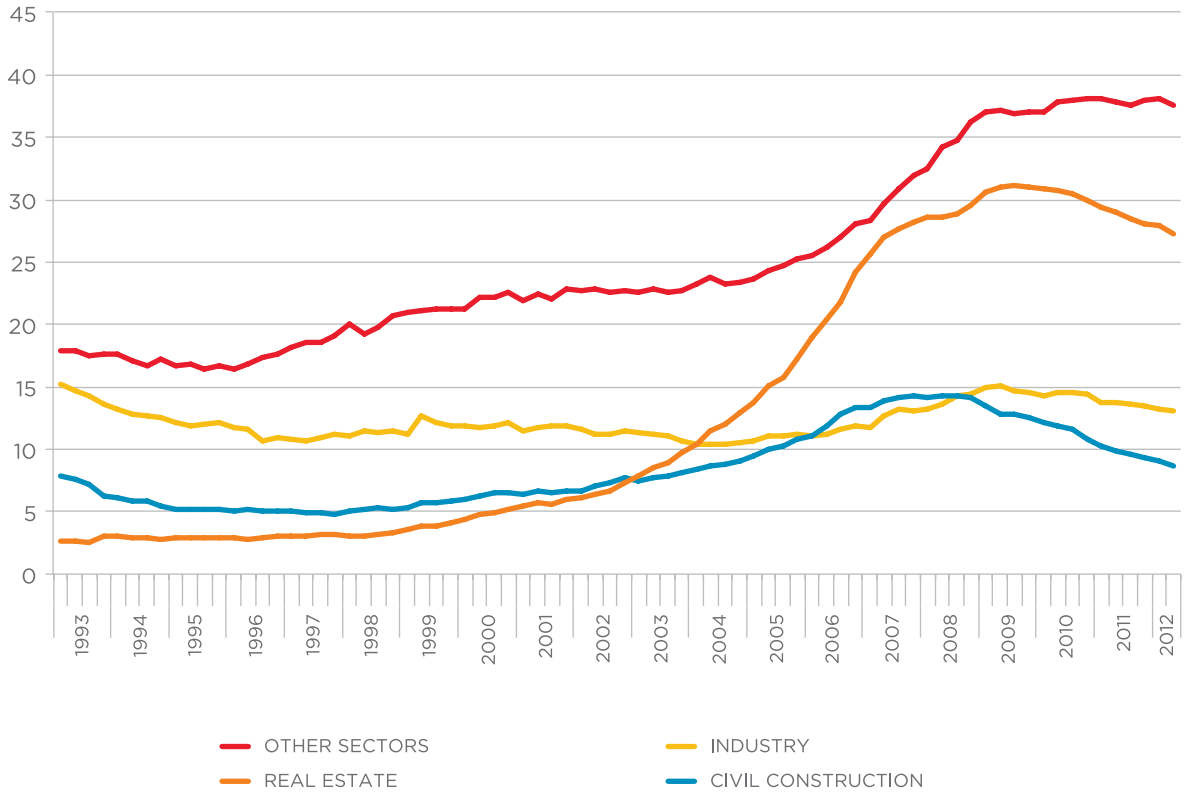
Source: OECD National Accounts database.

MOST INDEBTED SECTORS

With regard to corporate debt, the sectors that best explain this increased indebtedness are civil construction, real estate and mortgage procurement, as shown in Table 15.

As explained in the preceding paragraph, this increased indebtedness was caused by the real estate boom principally financed by the banking sector. The combined debt of the Spanish real estate and civil construction sectors is approximately 40% of national GDP, partly explaining the high exposure of the Spanish financial system to these sectors.

TABLE 15
Bank Loans for Non-Financial Companies by Sector (% GDP)



Source: Bank of Spain.

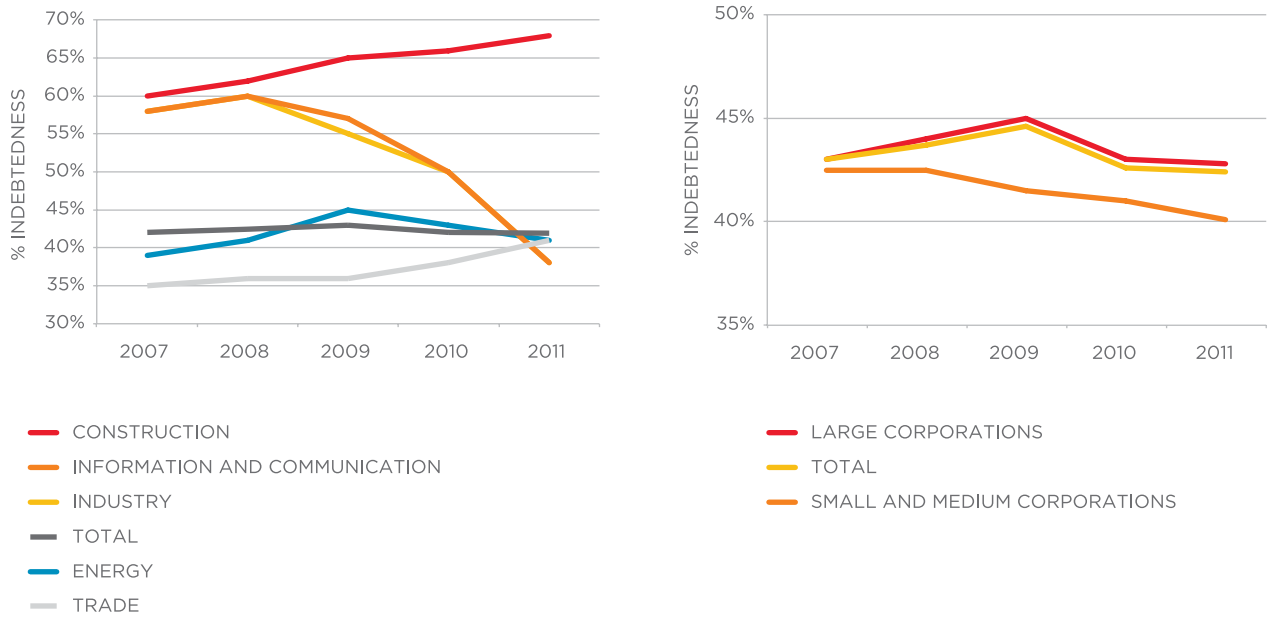
As a result of the deleveraging process adopted by many Spanish companies, evidence also shows that companies in which indebtedness was greatest before the crisis show less positive trends in terms of employees and investment[15]. This suggests that companies with higher levels of indebtedness were comparatively more affected by the crisis : they are more vulnerable to adverse economic shocks, and have to make greater adjustments to meet restructuring requirements.

[15] Banco de España (2013).

Specifically, looking at Table 15, it is evident that the deleveraging process begun in 2009 is concentrated, as expected, in companies holding higher levels of debt. These companies have succeeded during the post-crisis years to lower their indebtedness levels[16] to pre-crisis levels. The most notable exception to this trend is the civil construction sector that, despite being one of the most in debt, failed to improve its financial indicators.

Continuing with the analysis of indebtedness levels of companies by size demonstrated that small and medium size businesses' indebtedness indicators recovered best after the crisis. This finding is consistent with the higher external indebtedness of large companies. Because largercompanies have access to international consumer markets and credit lines, they manage to maintain a more solid financial position, despite higher levels of debt.

TABLE 16
Indebtedness of Spanish Companies by Sector and Size



Source: Bank of Spain.

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[16] Debts over Total Asset.

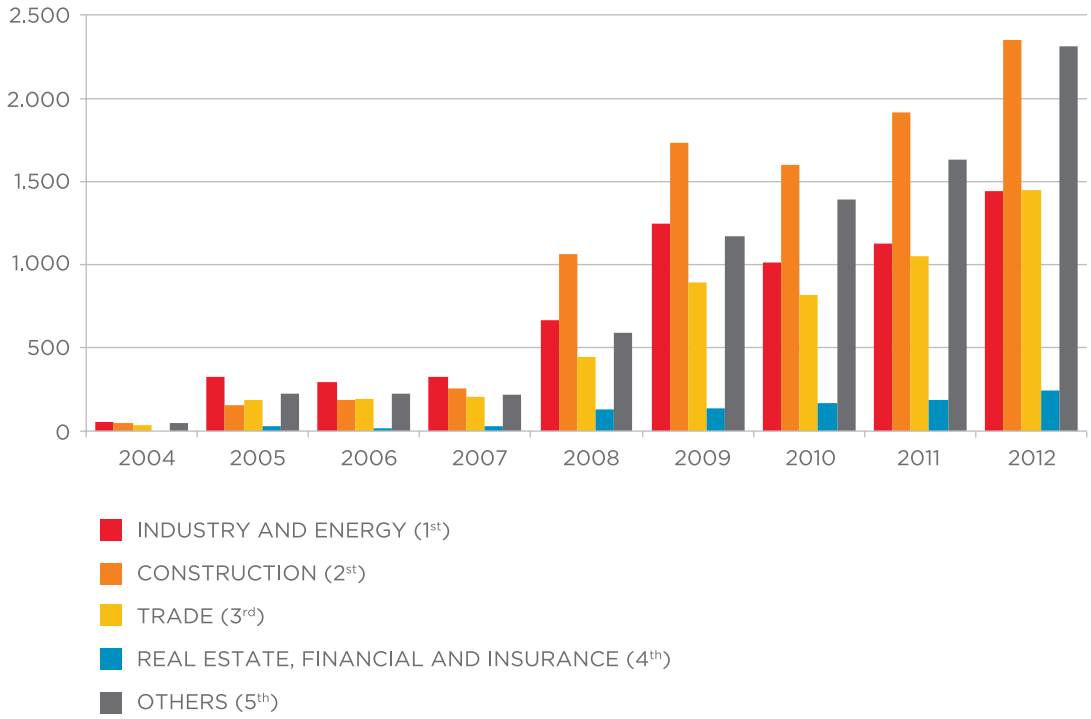
[17] Investment is addressed here as Gross Capital Formation/Net Assets.

TABLE 17
Employment and Investment of Spanish Companies by Level of Indebtedness

Source: Bank of Spain.

Even with the deleveraging process in progress, the combination of high indebtedness and a weak economy has led many Spanish companies to bankruptcy. Moreover, in the last two years, the number of bankruptcies has been steadily increasing. Construction-sector companies stand out in this respect, representing 30% of the bankruptcies in 2012, as shown in Table 18.

TABLE 18
Number of Bankrupt Companies by Sector



Source: National Institute of Statistics - INE.

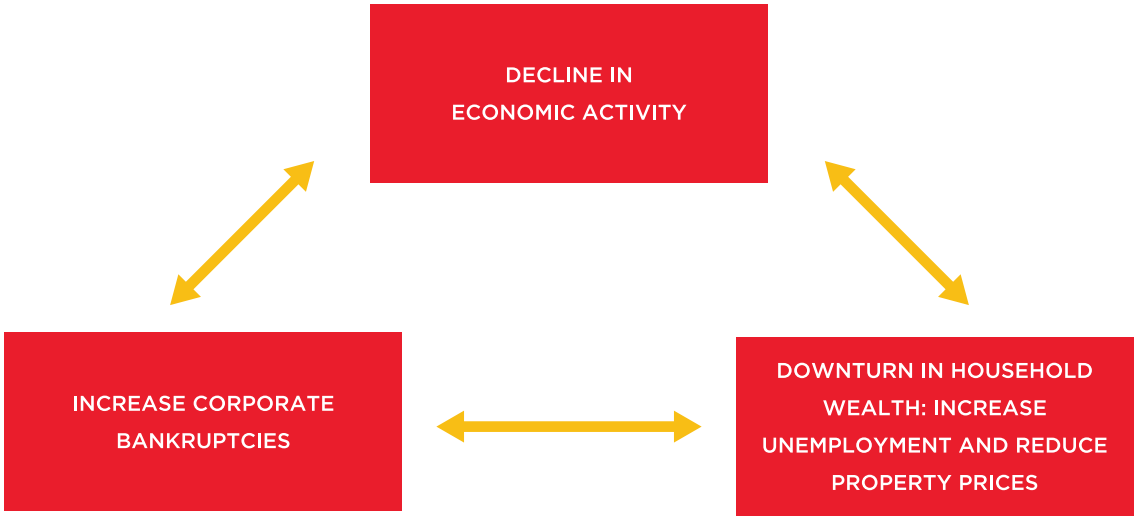
SYSTEMIC IMPACTS OF LOCAL BANKRUPTCIES

This accelerated rhythm of corporate bankruptcies reduces the average indebtedness of the Spanish private sector but also incurs new losses to the already-weakened Spanish financial system, since a considerable part of private-sector debts is composed of bank loans. This process can create a dangerous vicious circle of bankruptcies, decreasing economic activity itself by increasing the uncertainty relating to the recovery capacity of the economy, all of which results in further bankruptcies.

Even with the Spanish population's high rate of unemployment, one factor that attenuates the need for deleveraging the economy is the wealth accumulated by the population, although most of it is concentrated in real estate assets (around 85% of wealth[18] is concentrated in properties).

Therefore, the Spanish economy's capacity to recover will depend heavily on maintaining property prices, which has not been the case in the recent past. Another key factor for maintaining the population's wealth is the recovery of its ability to generate income; in other words, a drop in the high unemployment rate. In this scenario, another dangerous vicious circle may emerge (Table 19). For example, waning economic activity could increase unemployment and further reduce property prices, which in turn could cause a downturn in household wealth and increase individual and corporate bankruptcies.

TABLE 19
Spanish Vicious Cycle



4.2
GLOBAL POSITION OF SPANISH COMPANIES

The landscape faced by Spanish multinationals approximately four years since the start of the global financial crisis is challenging and complex, but also offers opportunities.

[18] International Monetary Fund - IMF (2012).

In the Euro Zone, uncertainties about the continuation of the bloc and the excessive foreign debt of some member countries are preventing growth and, consequently, a resolution to the crisis. In Spain, sluggish domestic demand, high unemployment rates, fiscal consolidation and tightening credit are factors that curb and will continue to limit growth. Under these circumstances,, the strategy adopted by many Spanish companies is to internationalize their business.

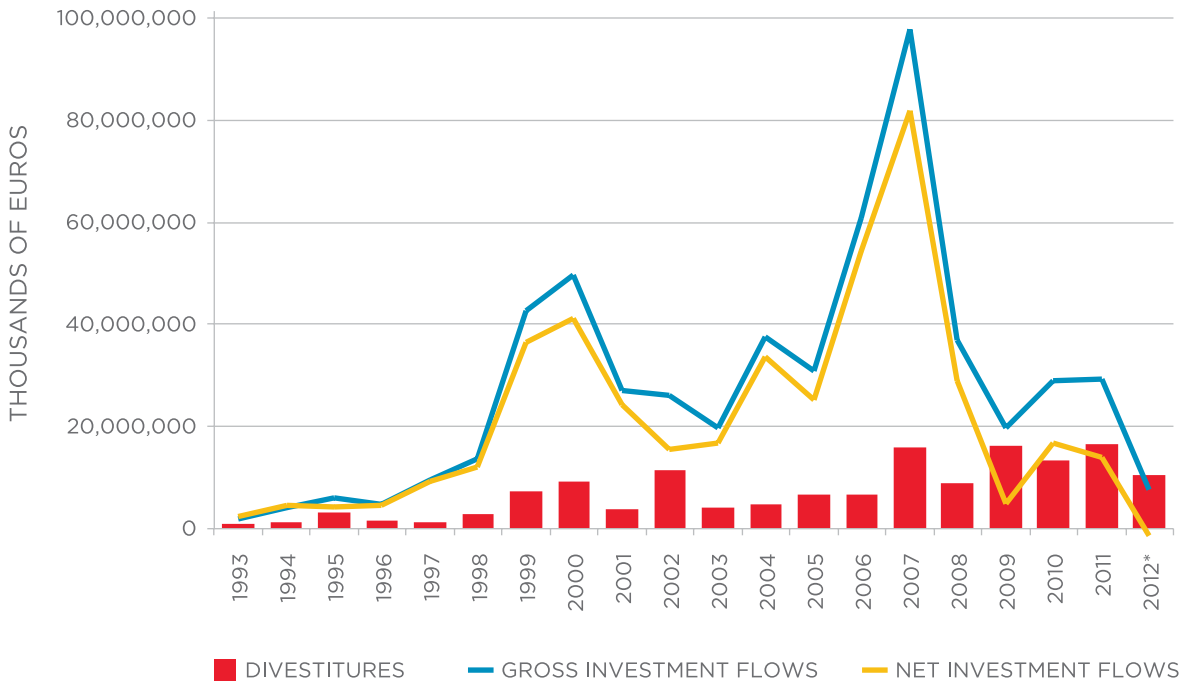
Furthermore, for companies that already have business abroad, subsidiaries have been used for purposes other than just expanding operations. Some Spanish companies with cash problems, for example, have resorted in recent years to holding assets outside of Spain, principally in emerging markets that are more coveted by investors and therefore create more asset liquidity.

THE IMPACT OF THE CRISIS ON SPANISH COMPANIES' INVESTMENT BEHAVIOR ABROAD

What is most striking when looking at investment statistics of Spanish companies is the change in behavior before and after 2008.

As seen in Table 20, in the years preceding the crisis, and especially since 2002, Spanish investment flow abroad showed a strong upward trend, more than quadrupling since the beginning of the decade. After onset of the international crisis, these foreign investment flows dropped to levels similar to those of a decade ago.

TABLE 20
Flow of Spanish Investments Abroad



Source: DataInvex. *2012: January-September

With emphasis only on net investment flows, the recovery looks even more fragile . Net investment levels during the three years following the crisis (2009, 2010 and 2011) was similar to the average seen in the three-year period between 1996 and 1998. Moreover, the cause of this inauspicious development in net foreign investment is largely due to the volume of divestitures overseas in 2009, both in absolute and relative terms. Divestiture values until 2008 were less than 25% in relation to the gross investment each year, while in 2009 this figure exceeded 80% and then stayed around 50% in the following two years.

Overall, the data confirms that after 2008 there was a sharp decrease in Spanish foreign investments. The different performance of the gross and net investment figures abroad since 2008 indicates a dual reality for business: on the one hand, a group of Spanish companies that resumed their plans for international expansion, albeit more selectively (includes divestitures or decreased business volume in countries considered non-strategic); and on the other, a group of companies that simply downsized their international presence or looked for direct investment alternatives.

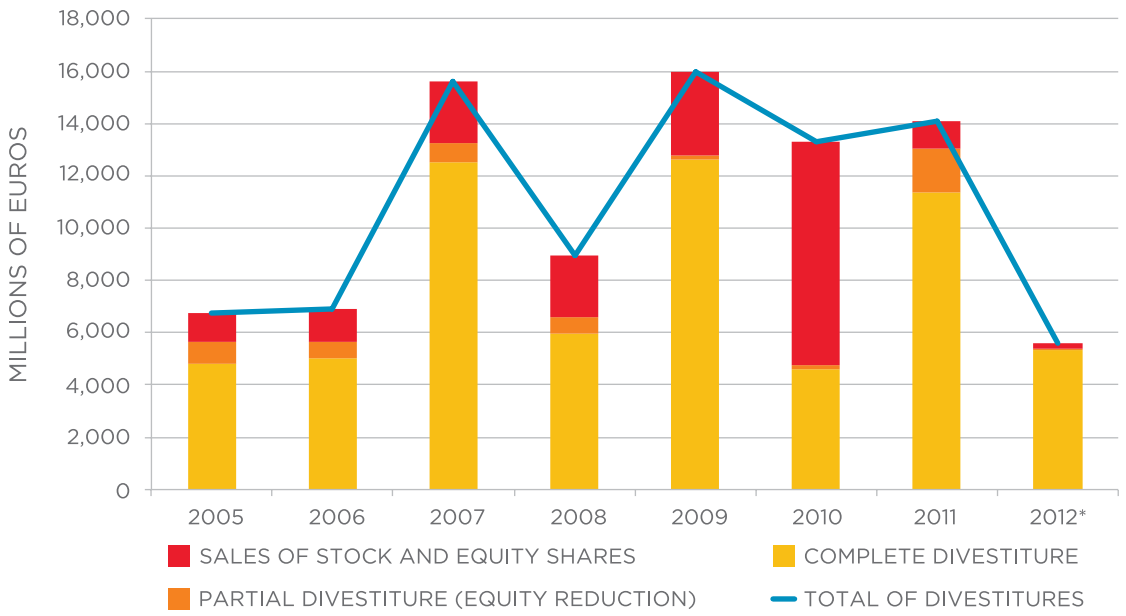
FINANCIAL FLOWS OF SPANISH COMPANIES WITH SUBSIDIARIES AND AFFILIATES ABROAD

Generally, multinational financial flows tend to go from the head office to subsidiaries and related companies overseas, which thus enjoy the benefits of belonging to acorporate group. By 2007, this was the prevailing trend amongst the Spanish companies with direct investments abroad. But since 2008, the trend has largely reversed: funds received by Spanish companies from their subsidiaries and affiliates overseas have become increasingly important given the scarcity of available credit in the country.

The primary source of funds was divestiture operations abroad, as discussed above, which increased considerably both in absolute and in relative terms since 2009.

Table 21 provides information about the performance of different types of divestitures, asset sales (including sales of shares and holdings), company liquidations (dissolutions and settlements) and reduction in capital held in subsidiaries abroad (including reserve provisions). For example, the average divestitures between 2009 and 2011 increased by 51% compared to the period between 2005 and 2008.

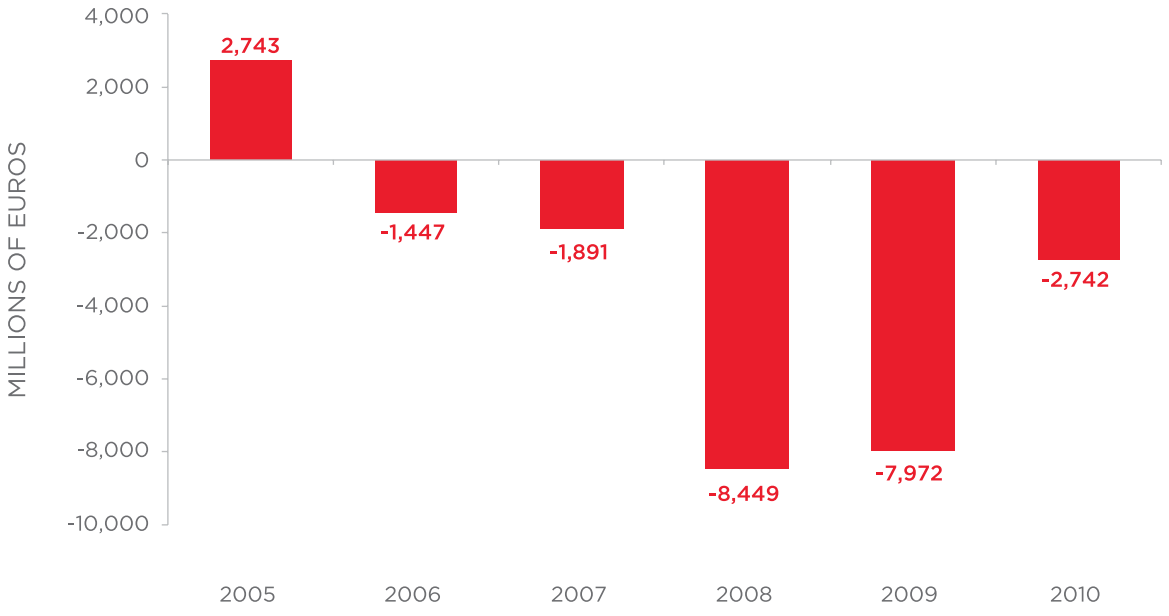
TABLE 21
Flow of Spanish Divestitures Abroad (millions of Euros)



Source: DataInvex. *January 2012 – June 2012.

Another major source of funds for Spanish parent companies since 2008 has been foreign subsidiaries' repayment of loans as well as loans made by the subsidiaries to the parent. As Table 22 shows, the credit flows and net loans received by Spanish parent companies between 2008 and 2010 totaled 19.2 billion Euros, The period 2008-2009 alone totaled 16.4 billion Euros.

TABLE 22
Net Flow of Financing of Subsidiaries and Foreign Holdings (millions of Euros)



Source: DataInvex.

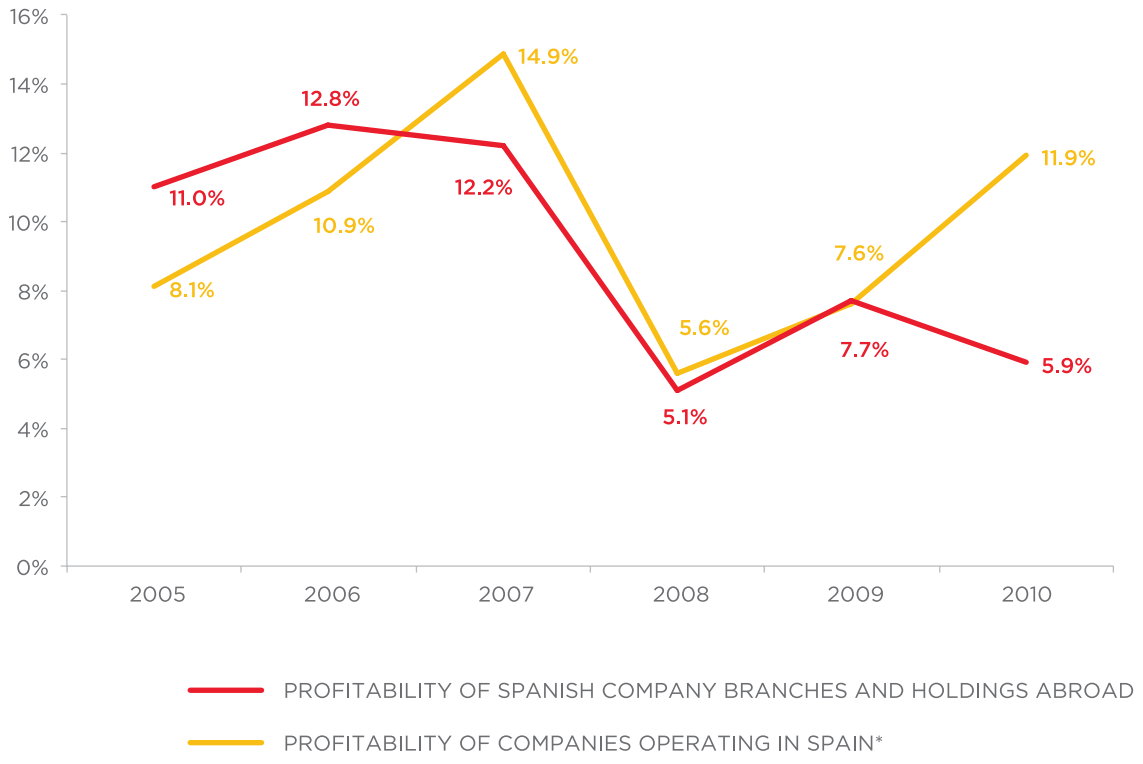
PERFORMANCE OF SPANISH MULTINATIONALS' RELATED COMPANIES ABROAD

Much has been published about Spanish companies with operations abroad having obtained better results than those that remained in the country after the economic crisis. This statement may be true due to financial considerations, as discussed in the preceding section, or it may be due directly to profitable operations abroad, which has also been the case.

As Table 23 shows, between 2005 and 2009 both companies installed in Spain and their foreign branches and holdings enjoyed satisfactory profitability in relation to invested capital, with a slight edge for the latter. However, the main difference occurred since 2010, with the faster recovery in profitability of foreign branches and holdings when compared to the downturn felt by Spanish companies. This result is in line with the weak Spanish macroeconomic and microeconomic recovery process of 2010.

TABLE 23

Profitability of Companies Operating in Spain and Spanish Company Branches and Holdings Abroad



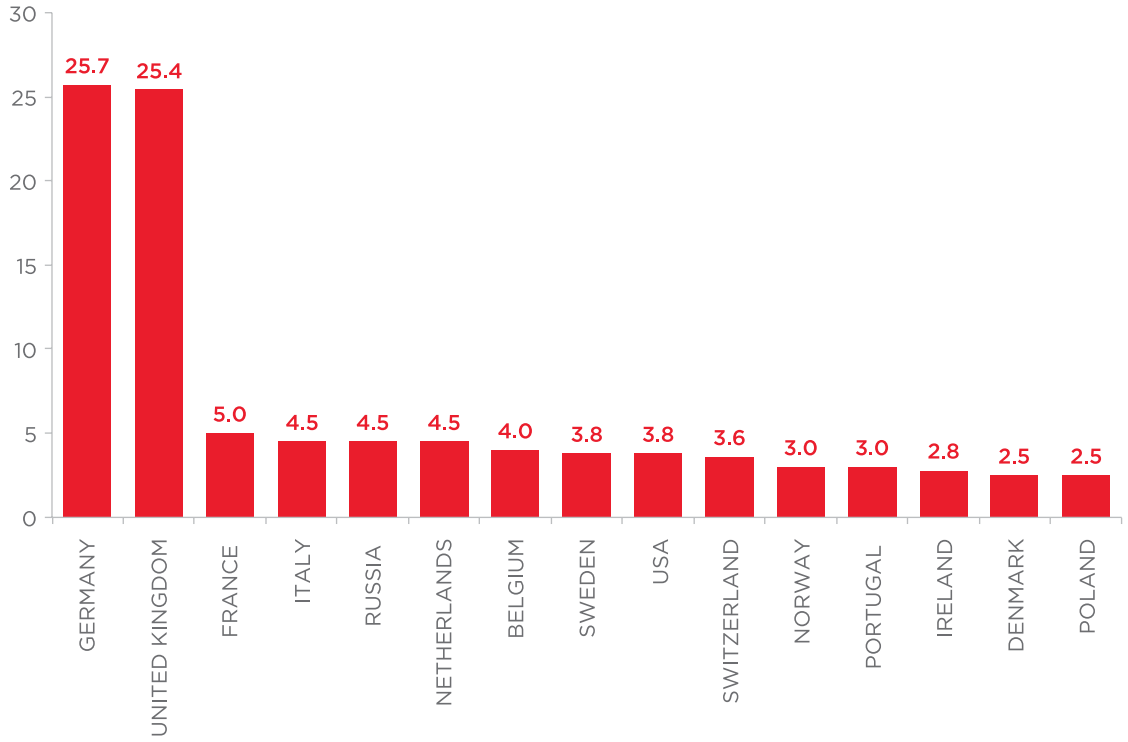
Source: Bank of Spain and DataInvex. *Only companies included in the Bank of Spain's Balance Center.

4.3 TOURISM IN THE CRISIS CONTEXT

Spain is historically one of the world's top tourist destinations, both by number of tourists and by revenues. Since tourism is a service that can be acquired by foreign consumers, it was to be expected that this sector would be a major source of income for the country during the crisis. However, since most

of the tourists in Spain are either Spanish or from other European countries, which are also experiencing economic problems, the tourism sector failed to significantly aid therecovery of the Spanish economy. Table 24 shows the distribution of foreign citizens living in Spain, by country of origin.

TABLE 24
Distribution of Foreigners Resident in Spain, by Country of Origin, in 2012



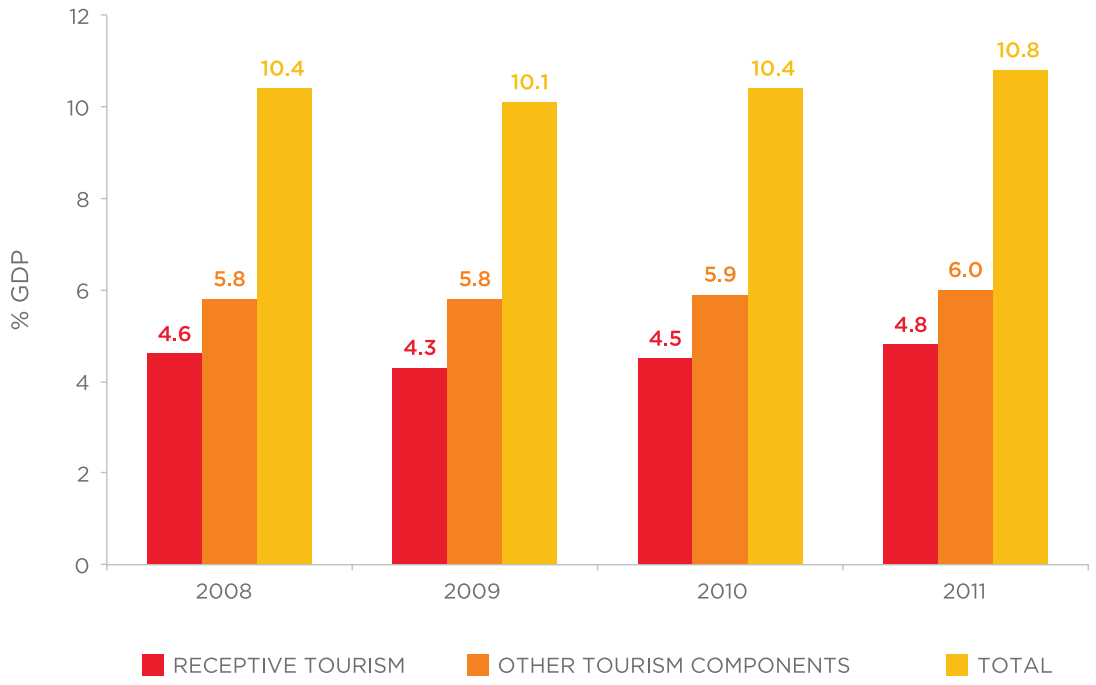
Source: National Institute of Statistics - INE.

Facing the crisis and as a consequence of the above-mentioned factors, tourism dropped as a share of the GDP (Table 25), from 10.45% to 10.1% between 2008 and 2009, followed by a recovery in 2011 to 10.8%. In other words, despite the downturn in 2009, caused mainly by the negative adjustment of accommodation prices and the smaller volume of foreign visitors and residents, principally the latter, the sector recovered and managed to increase its relative share of GDP.

Between 2008 and 2012, the number of Spanish tourists dropped more than 9%, but this was compensated by a 15.3% rise in foreign tourists for that same period, resulting in a total tourist increase of 4.7%.

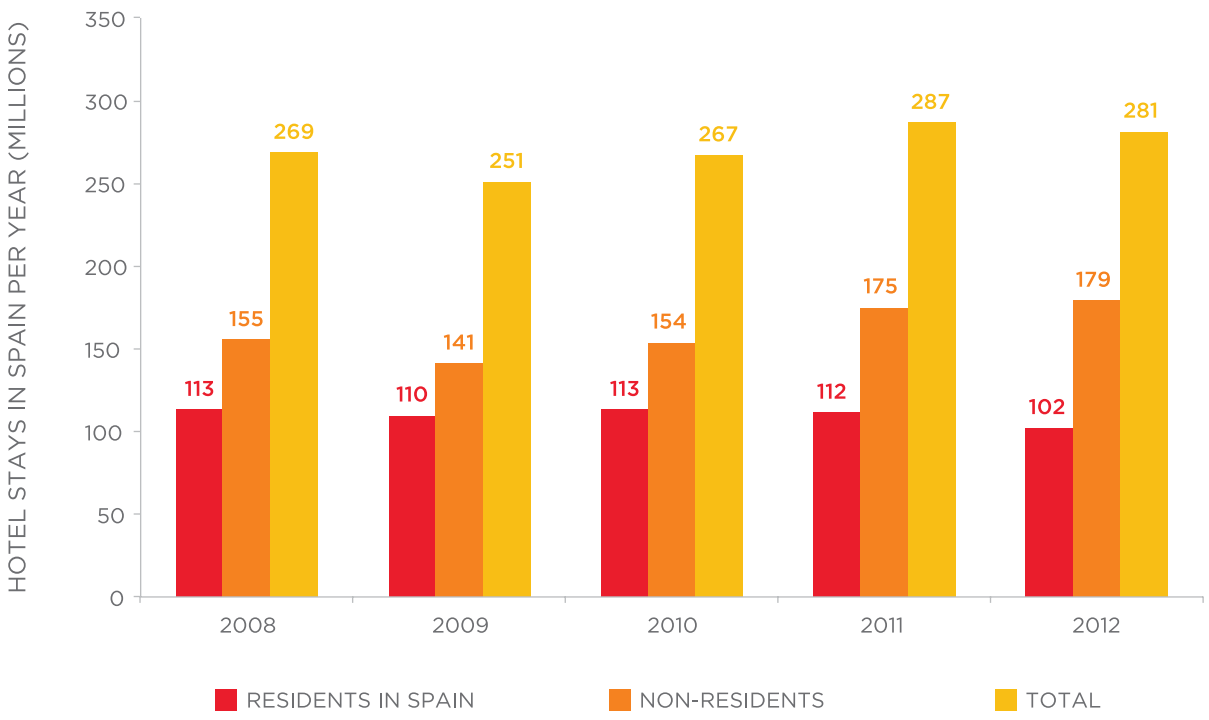
Table 26 shows the number of hotel stays per year in Spain for both Spanish and foreign residents.

TABLE 25
Selected Sectors' Shares of the GDP (% GDP)



Source: National Institute of Statistics - INE.

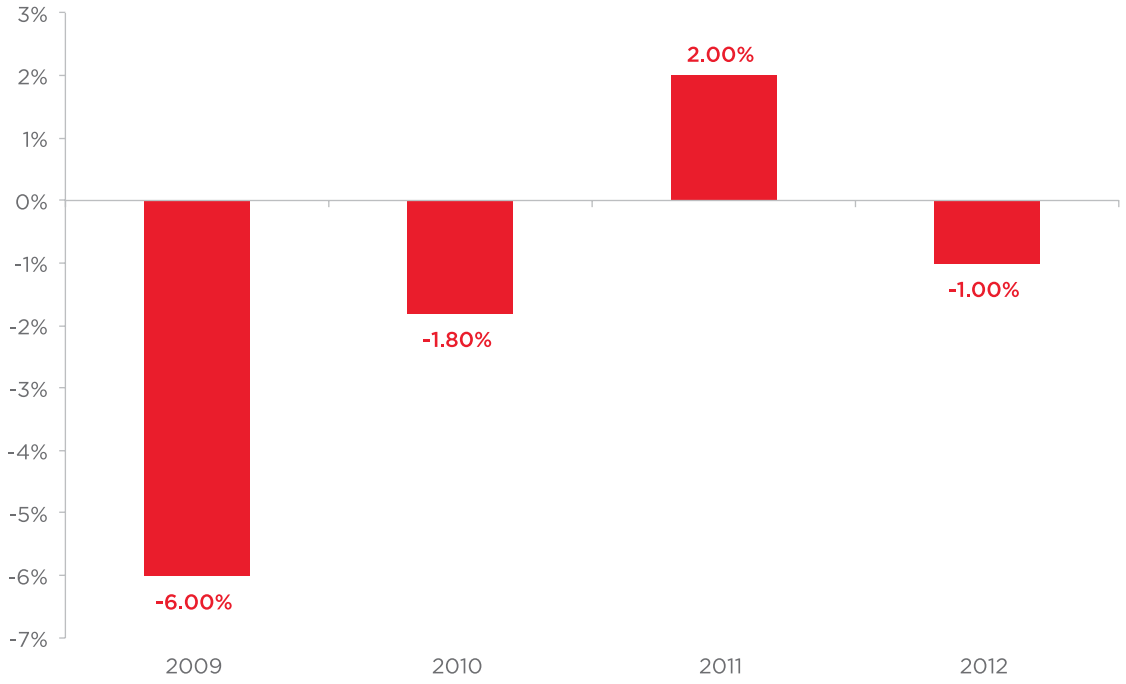
TABLE 26
Hotel Stays in Spain per Year by Origin (millions)



Source: National Institute of Statistics - INE.

Moreover, upon analysis of prices charged (Table 27), one notes a significant drop in hotel prices, which had a negative impact on the accommodation sector, a main source of revenue.

TABLE 27
Hotel Price Index



Source: National Institute of Statistics - INE.

5.
SPANISH COMPANY INVESTMENTS ABROAD

5.1 DEVELOPMENT OF THE FOREIGN DIRECT INVESTMENT SYSTEM IN SPAIN

When Spain joined the European Economic Community (in 1986), the creation of the European Single Market (1993) and the Economic and Monetary Community (1996) and the subsequent introduction of the Euro (1999) were decisive for the country to become a participant of consequence in the international investment flows. In particular, the Spanish market's deregulation process, begun in 1997, followed the directives of the European Single Market. On that same occasion, the large Spanish state-owned companies, operating in oligopolistic sectors such as telecommunications (Telefónica), electricity (Endesa), oil and natural gas (Repsol and Gas Natural) and the large banks (Banco Santander and BBVA), endeavored to better confront the arrival of major international competitors in Spain by establishing themselves in countries whose markets would permit gains in scale, competitiveness and profitability and in this way to.

The government played a leading role in this process by promoting the formation of large companies in the service sector by mergers and takeovers, building barriers to protect the home market and encouraging Spanish companies' international investments. The direction of these flows to Latin America was related to the privatization process of state-owned companies in the region, where Spanish company administrators were appointed by the government and spread to Latin America as part of a wider strategy that included the Spanish government's help in financing the takeover of companies, especially in Brazil and Mexico, by providing loans and equity. The government also made a point in ensuring that Spanish banks Banco Santander and BBVA were to be the largest shareholders in such companies and to have control over the administration of other major companies. Moreover, the bilateral agreements, signed between the Spanish and Latin American governments to provide reciprocal promotion and protection of investments, strengthened the strategy to internationalize Spanish companies, reducing their risk and associating their presence with the growth in Spain's diplomatic interest in the region.

The following are some highlights in the strengthening of Spanish companies in the domestic market:

- In the telecommunications sector, the government postponed deregulation of the entire sector until 1998, when Telefónica had already become a large, competitive company with profitable investments abroad, especially in Latin America;
- In the oil and gas sector, Repsol was also safeguarded against competition in Spain, with restrictions on the entry of competitors; and
- In the electricity sector, when the German company E.ON (electricity and natural gas) endeavored to take over Endesa in 2006, the government thwarted E.ON's action by establishing a consortium between the Spanish company Acciona and the Italian national energy company, Enel, to participate in control of Endesa.

The government also set up a lengthy process, starting in the 1980s, to protect the electricity companies from financial problems. This strategy involved negotiated electricity prices, financing and transfer of the more inefficient facilities to the state-owned Endesa. Another of the government's financial incentives was a special law permitting companies to offset 30% of the goodwill costs of any purchase of a foreign company against tax liabilities.[19] This concealed subsidy helped Spanish companies to overcome their competitors. Foreign trade as a percentage of the Spanish economy had already risen from a small 10.5% of GDP in the 1970s[20] to 30% of GDP in the 1980s. Two relevant characteristics in the 1990s are worth mentioning:

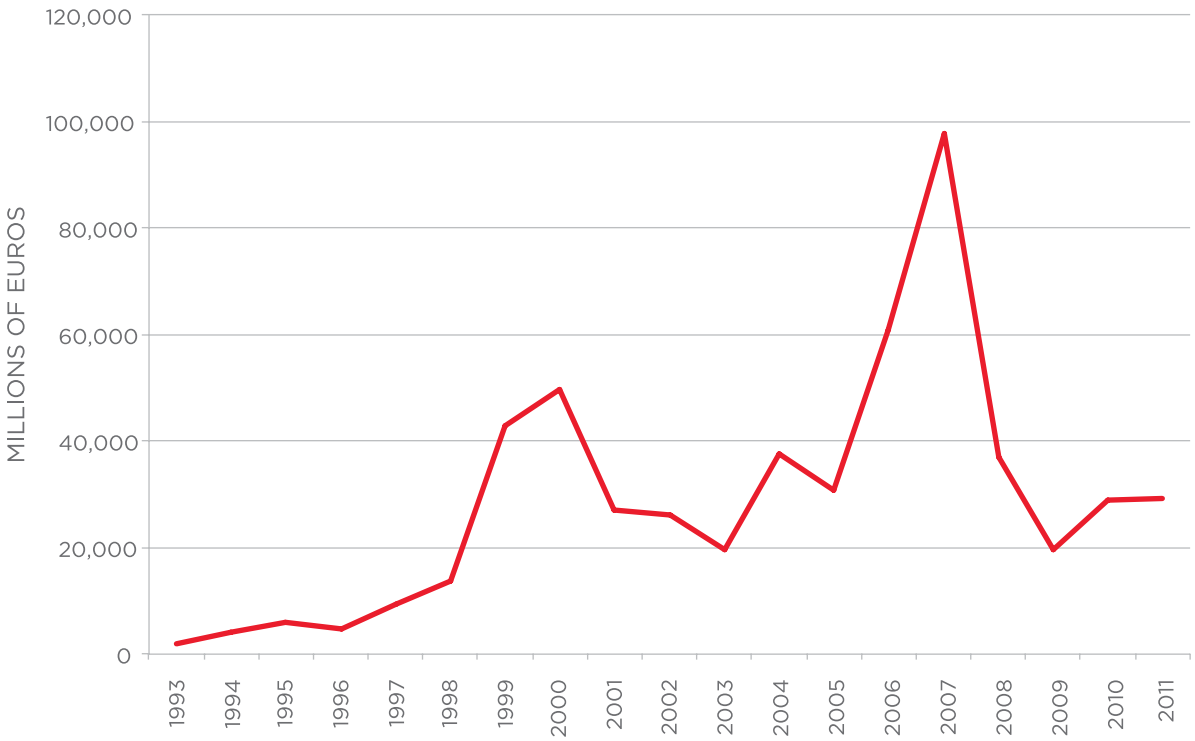
[19] Goodwill is defined as the difference between the asset value and de facto price paid.

[20] Imports plus exports as a percentage of GDP.

- The opening of the Spanish economy to foreign trade (60% of the GDP)[21]; and
- The internationalization of Spanish companies and subsequent appearance of Spanish multinationals, and the increase in the country's foreign direct investments (FDI).[22]

The main reference framework for assessing performance of Spanish companies' investments abroad is the Spanish government's statistics on FDI published periodically by the Department of State and Trade of the Ministry of Economics and Competitiveness. A substantial amount of information and data on Spanish FDI comes from this source.

TABLE 28
Foreign Direct Investments (FDI), Spain (1993-2011)



Source: DataInvex (Ministry of Economics and Competitiveness), Spain.

According to Table 28, the period from 1993 to 2000 was the first stage in direct international investments of Spanish companies (13.1 billion Euros, excluding ETVEs),[23] focusing mainly on Latin America (61%) but followed by investments in the more developed EU countries[24] (22.5%), and in the USA and Canada (9%). FDI increased in 1996, and in 1999 Spain became the largest investor in Latin America, and the sixth-largest investor worldwide, with 42.845 billion Euros. In 2000, FDI flows reached their peak with 49.701 billion Euros (10% of the country's GDP), mostly in Latin America. Investments dropped between 2001 and 2004, but resumed growth after overcoming the crisis affecting the region, especially in

[21] In 2005, the foreign trade portion of the Spanish economy reached 65% of GDP, making it one of the world's ten most open economies.

[22] The International Monetary Fund defined FDI as an investment resulting in at least a 10% equity stakein a foreign company.

[23] ETVEs, or Foreign Equity Holding Companies, are Spanish business entities falling under the tax optimization strategies of a single business group. In many cases, ETVE investments are not considered to have a direct economic effect for purposes of FDI measurements.

[24] Also known as the EU-15.

Argentina. In the second phase (2001-2006), total investments were 26.8 billion Euros (excluding the ETVEs), 16% of which were in Latin America, 67% in the EU-15 and 6.4% in the USA and Canada.

During the 1990s, Spanish companies were fully internationalized, especially after investing in Latin America, becoming leaders in their respective sectors. Since the 2000s, a second stage in the globalization of these companies began, and they looked to Asian and OECD countries. In this process, the Spanish companies were not only globalized, but also in many cases diversified, by investing in state-of-the-art sectors and introducing advanced technology. Some relevant examples are in the area of renewable solar and wind power, where Acciona, Gamesa (wind generation equipment) and Abengoa (solar generation equipment) are worth mentioning. In the export credit and insurance sector, Mapfre developed in Latin American markets and began expansion into new markets. OHL and ACS, in the infrastructure and concessions market, also became global enterprises.

In 2011, Telefónica, Banco Santander and BBVA, three of the five top companies in Spain by market capitalization, earned higher profits in Latin America than they did in Spain, making the region their main source of income.

5.2 IDENTIFYING THE MOST DYNAMIC SECTORS (SIZE AND COMPETITIVENESS)

Spanish company investments abroad were headed by a group of corporations (namely, Telefónica, Endesa, Iberdrola, Repsol and Gas Natural) and two banks (Santander and BBVA). They were pursued within the framework of strategies focusing on the best use and targeting of the competitive advantages resulting from applying and transferring accumulated experience by these companies in the Spanish energy, financial, infrastructure and telecommunication sectors in 1980s. These sectors conducted almost 70% of Spain's direct investments in Latin America.

On the other hand, since deregulation in Latin America in some cases preceded deregulation in Spain (namely, the electricity sector, deregulated in Spain as late as 2007), the Spanish companies were afforded the opportunity to learn to operate in the new environment first. Moreover, the modernization necessary in Spain to adapt the country's services sector to competitive standards by introducing new services, technologies and products, was applied first to Latin America to guarantee that Spanish companies were competitive there. The participation of Santander and BBVA banks in the share structure of Spanish companies facilitated alliances and joint ventures among them. For example, setting up combined-cycle natural gas-fueled power generation plants between Repsol and Iberdrola improved the steady supply of natural gas by Repsol and provided demand stability for Iberdrola's product.

In the decade from 2001 to 2011, Spanish FDI reached USD 57 billion per year, peaking at USD 137 billion in 2007 before suffering the effects of the 2008 economic and financial crisis. The recovery of these investments in 2010-2011 to the annual level of USD 40 billion, evidences two key aspects:

- The improved conditions presented by the economies of some Latin American (which received USD 20 billion a year during this period) and Asian countries; and
- The profitability of Spanish subsidiaries in Latin America, which was higher than that in Spain, increasing their strategic value and making new investments possible.

The innovative nature of the Spanish investments and the transfer of management processes and business models is also worth mentioning. Some of the causes of the successful expansion of the Spanish companies are:

- The capacity of the companies to adapt their technological platforms;
- Commercial development processes;
- Risk management systems;
- Human resources;
- The know-how gained by these companies about middle-income markets (which was the case of Spain for more than 25 years); and
- The capacity to transfer and adapt this know-how to the Latin American context.

5.3 THE IMPORTANCE OF INVESTMENTS IN LATIN AMERICA

The information in this section was obtained from publications by the Economic Commission for Latin American and the Caribbean (ECLAC). During the decade from 2001 to 2011, Spain consolidated its position as the principal European source ofinvestment in Latin America, having accumulated more than USD 110 billion in investments. These were mainly allocated to the energy, financial, infrastructure and telecommunications sectors, 85% of which was focused on Argentina, Brazil, Chile and Mexico. The 2008 global financial crisis had negative impacts upon international investment flows to Latin America, including Spanish company investments. In particular, the 2008 crisis reduced Spanish companies' FDI flows both relating to financing activities in their home markets and to the financing of their international corporate expansion. However, although on a smaller scale, the top Spanish companies continued with the strategy of increasing their presence in the foreign markets (e.g. Telefónica's acquisition of 50% of Vivo from Portugal Telecom).

In 2010, Spain's investments represented 4% of all FDI in Latin America, while the USA provided 17% of the total; Holland provided 13% and China provided 9%. In 2011, despite the Euro Zone crisis and the problems faced by the Spanish economy, the resources provided by Spain were USD 21.7 billion, or 14% of all direct investments received by Latin American and the Caribbean.

The regulatory changes (privatization and liberalization) in Latin American countries since 1989 and the size of the potential market were decisive factors in attracting the majority of Spanish direct investments during the first half of the 1990s. The period from 1990 to 1995 was thus crucial for developing a business base for this core of Spanish companies in Latin America.

The privatization of state-owned companies in the energy, oil and natural gas and telecommunications sectors in several Latin American countries (during the 1980s and 1990s), and the liberalization of these markets, presented an opportunity for Spanish companies. Since the Spanish companies in these sectors still operated in oligopolistic markets largely protected from international competition (particularly from other EU countries), it was possible to use the resources generated in these protected and still not liberalized markets to increase investments in Latin America. Accordingly, the Spanish government played a key role in reinforcing the formation of large Spanish corporations (many of them state-owned), building barriers against foreign competition in Spain, offering financial incentives to direct investments abroad and guaranteeing protection of their investments through agreements with Latin American governments. The asymmetry of the Latin American and Spanish economic cycles since 1985 has been another major factor for furthering Spanish investments in the region.

The largest individual FDI operation of a Spanish company to date has been the purchase by Repsol, in 1999,of 97.4% of the capital of the Argentine national oil company, Yacimientos Petrolíferos Fiscales (YPF), for USD 15.2 billion. The resulting company, Repsol YPF, was the company most affected by the Argentine crisis (2002-2003) and the government policy to control the price of byproducts in the country and taxation on exported petroleum. In 2012 the outcome of the controversy regarding

Repsol's investment policy in Argentina was the decision by the Argentine government to expropriate the company assets.

5.4
INVESTMENT STANDARDS OF SPANISH COMPANIES

Almost half of Spain's FDI is allocated to the EU's more developed countries (the so-called EU-15). In the period from 2003 to 2008, Spanish investments grew more than in the previous period, and they increased in geographic scope as well, maintaining the preference for the EU-15, but also destined to North Africa, China and the Pacific Rim.

In the period from 1993 to 2000, Spanish companies' direct investments in Latin America represented 60% of the total investment in the service sector, while in the decade from 2001 to 2010, this proportion dropped to 10.5%. This phenomenon may be ascribed to renewed investment flows to the EU-15, the USA and Canada, as well as to gradual diversification, with a larger investment volume going to the industrial sector during this period (26.9% of the total).

In the 1990s, the international investment pattern of Spanish companies featured banks, electricity, insurance, oil and natural gas, telecommunication and water companies, each with extensive takeover operations during 1999 and 2000. In the period from 2001 to 2003, although the general situation was marked by a slower rate of international economic activity, the large Spanish corporations continued at the same investment level of the 1990s. In fact, during the period from 2000 to 2010, more Spanish companies globalized their operations, while the share of the large corporations in the international investment volume was also larger.

During the period from 2000 to 2011, the top Spanish corporations developed a strategy of supplementing (not replacing) their presence in Latin America by investing in the US, EU and Asianand Pacific Rim markets. The results from Latin America contributed largely to the Spanish companies' expansion into new areas. Also, the performance of the Latin American economies in relation to the 2008 financial crisis helped keep them attractive for international direct investments.

TABLE 29
Foreign Direct Investment (FDI) in Latin America:
from Spain and Selected Countries (2001-2010, millions of USD)

YEAR	SPAIN	FRANCE	UNITED KINGDOM	GERMANY
2000	21.00	3.56	521.00	2.51
2001	9.12	5.83	2.01	-49.00
2002	4.88	1.22	2.53	-396.00
2003	2.52	-1.27	3.03	-283.00
2004	11.38	421.00	6.25	2.90
2005	6.87	2.14	720.00	1.87
2006	9.17	2.63	4.07	2.62
2007	18.27	2.17	3.23	2.38
2008	19.95	5.26	3.14	13.00
2009	5.78	5.35	1.09	646.00
2010	2.89	5.25	3.81	2.34

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

In the period from 1993 to 2009, the EU-15 countries received 55% of the FDI from Spanish companies, with the remainder going to Latin American countries (25.5%), the US (9.5%), the EU-12 (5%), Asia and the Pacific Rim (2%) and North Africa (1%). As an example, Table 29 shows absolute figures for the FDI in Latin America from Spain and selected European countries.

Mexico appears as the main destination (38%) of Spanish companies' international direct investments during the decade from 2000 to 2011. This outcome, however, does not take into account two important investments by Spanish companies in Brazil, which were accounted for as investments in Europe. The first is the purchase of ABN AMRO by Banco Santander (which had intended the takeover of Banco Real) for 12 billion Euros, and the other was the purchase of 50% of Vivo (belonging to Portugal Telecom) by Telefónica for 7.5 billion Euros. In fact, the inclusion of the volume of these two acquisitions makes Brazil the top destination for Spanish investments during the decade.

The resulting increase in Spanish FDI could be supplemented by the number of subsidiaries or companies with Spanish capital holdings. According to the Observatory of Spanish Multinational Companies (OEME), by the end of 2007 75% of these Spanish foreign holdings were concentrated in 15 countries:

- Portugal (715);
- Mexico (470);
- France (437);
- USA (371);
- Brazil (307);
- Germany (247);
- Italy (243);

- United Kingdom (235);
- Argentina (233);
- Chile (161);
- Morocco (142);
- Holland (122);
- Poland (114);
- China (104); and
- Colombia (90).

It is worth recalling that in Latin American countries, Spanish companies set up a coordinated presence of interrelated subsidiaries. In 2007, 30% of the income of the seven top multinationals in the IBEX 35, the benchmark index of the Spanish stock market, was generated in Latin America. The IBEX 35 is made up of 35 companies with highest liquidity prepared by the Bolsas y Mercados Españoles (BME).

By the end of 2010, Spanish FDI was USD 660.1 billion, more than 20 Spanish companies led the global market and Spanish economy's growth was being driven by its exports.

5.5 BANKING SECTOR

I. ORIGIN, PERFORMANCE AND STATUS IN SPAIN OF MAJOR BANKS

Spain's accession to the European Union, meant that Spanish banks BBVA and Banco Santander were faced with the need to grow quickly in order to compete effectively with the European financial market and withstand the potential threat of a public offering by major banking competitors. The Spanish government recommended the growth of banks under a merger policy in order for them to be competitive in the European Single Market.

Accordingly, the merger between the Bank of Bilbao and the Bank of Vizcaya in 1987 had created the Banco Bilbao Vizcaya (BBV). In 1999, BBV then took over Argentaria Caja Postal (state-owned) and Banco Hipotecário S.A. to form the Banco Bilbao Vizcaya Argentaria (BBVA). Banco Santander followed a similar trajectory, taking over Banesto in 1994 (which at that time was the third largest bank in Spain) and the Banco Central Hispano (BCH) in 1999 to create BSCH.

In addition to the above references, information contained in the topics relating to the banking sector was obtained from the banks' reports and from studies mentioned in the bibliographic references.

II. SPANISH BANKING SECTOR INVESTMENTS IN LATIN AMERICA

Since 1995, BBVA and Banco Santander have given a new dimension to Spanish investments in Latin America. Two aspects of the banking situation in the region determined this choice:

- The level of banking services (i.e. the ratio between the size of a country's credit in relation to the size of its economy) showed relatively low figures and growth potential (e.g.: Mexico's was 25%, Brazil's was 30%, and Colombia's was 40%, compared to the US with 90% and Spain with 98%); and

- The margins of financial mediation were high and above those of more developed countries (5% on average in the period from 1993 to 1996) or even Eastern Europe (3.5%) and Asia (3.2%), defining an opportunity for the admission of Spanish banks to this market.

In addition, the number of accounts per capita was extremely low, indicating growth potential. Chile, the Latin American country with the highest figure, had 0.9 accounts per capita in 1998, compared to 2.6 accounts per capita in the US at the time.

Focusing only on the commercial banks in the region, the two banks adopted different strategies in their penetration and expansion in Latin America. BBVA adopted agreements with local partners, from whom it acquired 30-40% of the shares, and then gradually increased its portion of ownership to gain majority control and guarantee the administration. In contrast, Banco Santander did its shopping seeking majority control right from the start in order to have total control and management discretion. The introduction of the European Single Market, the Economic and Monetary Union and the launch of the Euro were key to the penetration of the Spanish financial sector in the European and North American markets. Moreover, the two banks were able to participate in the international merger process with impact on Latin America.

Decisively, the expansion of Spanish companies in Latin America relied on the financial support of Banco Santander and BBVA, which began in the 1990s when both banks were involved in the privatization of Spain's state enterprises, acquiring the control of Repsol, Telefónica, Gas Natural, Iberdrola, Endesa and Unión Fenosa. It should be noted that the geographic diversification of Santander and BBVA was successful and allowed them to escape relatively untouched from the banking crisis. In 2008, the two major banks, Banco Santander and BBVA, faced two challenges:

- To facilitate recourse to financial services for the strata of society without access to them, thereby contributing to growth of the middle class; and

- To integrate resources that formerly used informal channels into the formal financial system, improving business efficiency.

The main acquisitions by Spanish banks in Latin America during the period from 1990 to 2011 are shown in Table 30.

TABLE 30
Principal Acquisitions by Spanish Banks in Latin America
(1990-2011, millions of USD)

YEAR	PURCHASER	ACQUIRED	COUNTRY	VALUE
2004	BBVA	Bancomer (38.4%)	Mexico	3,888
2000	Banco Santander	Banespa (30%)	Brazil	3,581
2000	Banco Santander	Grupo Financiero Serfin	Mexico	1,543
2000	BBVA	Bancomer (20.5%)	Mexico	1,400
2001	Banco Santander	Banespa (20%)	Brazil	1,162
2000	Banco Santander	Banco Bozano Simonsen	Brazil	1,000
1996	Banco Santander	Banco Osorno Y La Unión	Chile	881
1998	BBVA	Banco Excel Econômico	Brazil	878
2000	Banco Santander	Banco Meridional do Brasil	Brazil	835
1999	Banco Santander	O'Higgins Central Hispano (50%)	Chile	600
1997	Banco Santander	Banco Río de la Plata	Argentina	594
2001	BBVA	Bancomer (9%)	Mexico	555

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

III. SPANISH BANKING SECTOR INVESTMENTS IN OTHER COUNTRIES

In 2005, the Spanish banks headed the integration of the banking sector in Europe when Santander Centro Hispano took over Abbey National Bank (UK) for 15 billion Euros and BBVA attempted to buy BNL (Italy).

IV. THE INTERNATIONALIZATION OF THE TOP SPANISH BANKS

Banco Santander (BSCH)

Banco Santander is present in a number of countries, especially in the UK (where it owns Abbey, Bradford & Bingley and Alliance & Leicester banks), in Germany, Brazil, Mexico and the US. In 2010, Banco Santander increased is position in the UK by acquiring 318 branches of the Royal Bank of Scotland (RBS), consolidating around 1,640 branches total and forming the fourth largest banking network in the country, with a market share of 5%. Also in 2010, it purchased the branch network of Skandinaviska Enskilda Banken (SEB) in Germany, doubling the size of the bank's branch network in that country. In the same drive to expand its operations in the European market, Banco Santander bought Bank Zachodni, the third largest bank in Poland, valued at the time because the country was not in recession.

In 2011, Banco Santander earned more than half of its profits in Latin America, mainly from the Brazilian, Mexican and Chilean markets (where it was the largest bank that year). Its strategy in Brazil included the takeover of Banespa, and in Mexico, of the Serfin group. In 2011, Banco Santander had around 5,900 branches in Latin America and 4,985 in Spain.

Santander's takeover of ABN AMRO, together with its partners Royal Bank of Scotland and Fortis, gave it an important position in the banking system in Brazil. Its subsequent merger with Banespa (2010) made it the third-ranking private bank in the country by volume of deposits, with 1,900 branches and 13 million account holders. The cultural and linguistic proximity to the Latin American countries also facilitated with investment dynamics and the adoption of management criteria.

BBVA

BBVA (Banco Bilbao Vizcaya Argentaria) was first internationalized in 1902, when Banco Bilbao opened the first branch of a European bank in Paris, and in 1918, when it opened the first branch of a Spanish bank in London. In 1968, it installed is first representation office in Panama. During the 1970s, Banco Bilbao, Banco de Vizcaya and Banco Exterior were gaining international scope by setting up offices in the main financial capitals of Europe, America and Asia. Until then, even with branches in other countries, the largest business volume was in Spain.

In 1977, the Spanish financial system underwent a modernization and liberalization process that reinforced the conditions for a new phase of geographic diversification for the large Spanish banks. In 1988, the merger between Banco de Bilbao and Banco de Vizcaya created Banco Bilbao Vizcaya (BBV), and in 1999 BBVA was the outcome of the merger with Argentaria. Their expansion to Latin America offered them the best banking and demographic conditions (a market of 450 million bank customers).

In Latin America, BBVA adopted a strategy of agreements with local partners and strategic alliances involving the acquisition of majority shareholdings, which guaranteed the companies' administration and fast growth from the experience of the local partner. This process resulted in the control of Banco Continental (Peru, 1995), Probursa (Mexico, 1995), Banco Ganadero (Colombia, 1996), Banco Provincial de Venezuela (Venezuela, 1997), Banco BHIF (Chile, 1998), Banco Excel Econômico (Brazil, 1998) (later acquired by Bradesco, in 2003) and the takeover of Bancomer (Mexico, 2000), BBVA's most important operation to date, an investment of 3.5 billion Euros for a 59.4% stake.

With renewed confidence in the markets since 2003, a new investment phase began with the takeover of Mexico's Hipotecária Nacional (2004), Colombia's Granahorrar (2005), Chile's Financiera Fórum (2006), arriving at a total of USD 14,332 billion in 2008.

TABLE 31
Principal BBVA Subsidiaries (2011)

SUBSIDIARY	COUNTRY	ACTIVITY	HOLDING	TOTAL ASSETS (BILLION EUROS)
BBVA Bancomer, S.A. de C.V.	Mexico	Bank	100%	69,158
Compass Bank	USA	Bank	100%	52,565
BBVA Seguros, S.A. de Seguros e Reaseguros	Spain	Insurance	99,9%	13,987
Banco Provincial S.A. - Banco Universal	Venezuela	Bank	55.6%	12,906
Banco Bilbao Vizcaya Argentaria Chile	Chile	Bank	68.2%	12,489
Banco Continental	Peru	Bank	46.1%	12,118
BBVA Colombia	Colombia	Bank	95.4%	10,391
Banco Bilbao Vizcaya Argentaria (Portugal)	Portugal	Bank	100%	7,140
BBVA Banco Frances	Argentina	Bank	76%	6,736
Banco Bilbao Vizcaya Argentaria Puerto Rico	Porto Rico	Bank	100%	3,848
Pensiones Bancomer, S.A. de C.V.	Mexico	Insurance	100%	2,669
Seguros Bancomer, S.A.de C.V.	Mexico	Insurance	100%	2,544
Banco Bilbao Vizcaya Argentaria (Panama)	Panama	Bank	98.9%	1,670
BBVA Suíça, S.A. (BBVA Switzerland)	Switzerland	Bank	100%	1,458
Uno-e Bank	Spain	Bank	100%	1,368
BBVA Paraguay	Paraguay	Bank	100%	1,294

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

In 2008, BBVA managed the pensions of 12.4 million people in seven countries (Mexico, Argentina, Colombia, Peru, Chile, Bolivia and Ecuador) through its pension fund administrators, attending to 18% of the whole market, with administration of an equity of USD 63.489 billion, or 23% of all funds in the pension system in Latin America.

In the banking sector, BBVA's top ranking in Latin America allowed it to participate in commercial and capital flows between Asian countries (China and India) and European countries and the US. BBVA's experience in Latin America facilitated its expansion into the US and Asia, principally China, to become a global bank.

In 2011, in terms of total deposits, BBVA was the largest bank in Mexico. Its profit in Mexico was higher than in Spain. Table 31 shows the main BBVA subsidiaries in 2011.

BBVA's expansion strategy was based on its growth areas (Spain, Mexico and South America) for areas where there were opportunities to create value, especially in the US (the main foreign direct investor in Spain) and China. In 2004, BBVA then began its global push in the US through the Hispanic market, prioritized its operations in Mexico (increasing its share in Bancomer to 97.8% for 3.3 billion Euros) and divested in Brazil, selling Excel Econômico to Bradesco for around USD 816 million. Mexicans and Central Americans are around 60% of all immigrants currently entering the US and are the large minority in terms of purchasing power, in addition to increasing their share in corporate management positions. Focusing on these clients and using its leadership in Mexico (with the control of Bancomer), BBVA invested in the remittance market by creating Bancomer Transfer Services, which attracted 40% of the market between the US and Mexico. Interested in the border trade between these two countries, BBVA acquired Valley Bank (California), and became the first regional bank in Texas through acquisitions

of Laredo Bank, Texas Regional Bank and State National Bank. In the same border area between the US and Mexico (an area with almost 100 million inhabitants), BBVA acquired Compass Bank in 2007. These conditions give BBVA a privileged position, with 35 billion Euros of assets, 667 branches in seven states (from California to Florida) and huge growth potential. In 2012, BBVA Bancomer was the fourth-ranking private bank in Latin America.

BBVA's expansion into Asia was focused mainly on China, but also included Japan, Australia, India, Taiwan, Korea and Singapore. Its entry into China was facilitated by the possibility of triangular operations between Latin America and China. Taking advantage of its penetration in Latin America, BBVA established a strategic agreement with the CITIC Group, the largest investor conglomerate in China, with a distribution network, customer base, experience and prestige. BBVA owns 15% of the China CITIC Bank. The agreement with CITIC was the largest investment by a Spanish bank in China, which made it the only financial institution with total operating capacity in the country.

In just 10 years, BBVA broadened its scope to 31 countries, 14 of them in Latin America, with a 44 million customer base, 8,000 branches and more than 111,000 employees, of which more than 70% are outside Spain, particularly in Latin America. In 2010, in a major move, BBVA acquired 24.9% of Garanti, Turkey's largest bank, leader in credit cards and mortgages. In 2011, the profits from Turkey and Mexico allowed BBVA to compensate for dropping gains in Spain.

5.6 PUBLIC UTILITIES

The information on this matter was obtained from the FDI information systems of the Department of State and Trade of the Ministry of Economics and Competitiveness, and from the Economic Commission for Latin America and the Caribbean (ECLAC), in addition to the annual company reports and papers listed in the bibliographic references.

I. ELECTRICITY

International investments in electricity in Spain were first made by the then-integrated (generation plus distribution) state-owned Endesa and by the integrated private companies Iberdrola and Unión Fenosa, at a time before the country joined the European Economic Community and prior to regulations for opening up to competition from other countries in the EEC. The electricity market in Spain was first liberalized in 1998 (when Endesa was also privatized) and concluded in 2003, in time to be ready for the entry of European competitors. In fact, the European Union timetable for liberalizing the electricity sector set 2007 as the year to open up each country's border to companies from other countries.

In 1989, regional monopolies were eliminated in Spain to allow companies to expand throughout the country. A concentration process followed, which was fundamental for consolidating the economic power of Endesa and Iberdrola (which now were to control 80% of generation and distribution) and Unión Fenosa (with 14% control of generation and distribution). Therefore, the power companies enjoyed modern infrastructure, sufficient installed capacity to meet demand and a diversified base of resources of hydropower, coal, nuclear energy, natural gas and wind and solar renewable energies. In these efficient and liquid conditions, Endesa, Iberdrola and Unión Fenosa were ready for international investments.

Latin America offered the best opportunities for international investment by these companies, which began to operate as consultants in the region in the early 1990s. The experience they brought from Spain

(modernized infrastructure, acquisition of smaller companies and an increase in power supply) adapted to the conditions and requirements of the region's power systems.

Since 1996, during the privatization process in several countries, the Spanish companies shared the region. Iberdrola allocated its investments to Northeast Brazil and Mexico, while Unión Fenosa concentrated on Central America and the Caribbean. Endesa invested in Argentina, Brazil, Colombia and Peru. To increase their revenue, the companies began to increase the supply of energy and improve the efficiency of acquired companies (cutting operating costs, reducing losses and increasing productivity). To do so, they built new plants and extended existing plants, especially combined-cycle gas turbine power plants (using Repsol YPF as a main natural gas supplier), wind energy and hydropower plants. Moreover, they diversified their holdings, investing in telecommunications, gas, water treatment, pollution control and engineering.

In 2005, the Spanish companies had around 23 million consumers in Latin America (almost half of these in Brazil) and a total installed capacity in the region of 23,172 MW. Of this, Endesa had capacity for 14,905 MW, Iberdrola for 5,544 MW and Unión Fenosa for 2,723 MW.

The existing conditions for Spanish companies in Spain made it possible for the dynamics that followed in their international investments. To compensate for the costs of the Spanish nuclear program and help companies upgrade their infrastructure, the Spanish government had given the companies loans and financing (including one of USD 134.5 billion in 1997), which allowed them to reduce their debts. In particular, the government (through the state-owned Endesa) assumed the less profitable activities in the energy sector, specifically the distribution network and central coordination unit.

The Spanish power companies received syndicated loans, especially involving BBVA and Banco Santander. The BBVA interest in Endesa and Iberdrola tightened the relationship between the Spanish companies in the energy sector. Furthermore, they used credit from multilateral institutions, dollarized their transactions and converted debt in Euros. It should be mentioned that the Spanish power companies (Endesa, Iberdrola and Unión Fenosa) developed specific alliances with Telefónica in telecommunications and with Repsol YPF for the natural gas supply to power generation. In 2002, Gas Natural (subsidiary of Repsol) bought Iberdrola's natural gas operations in Brazil for USD 165 million. Table 32 shows the main acquisitions by Spanish companies in the Latin American energy sector during the period from 1990 to 2011.

TABLE 32
Principal Acquisitions by Spanish Companies in the Latin American Power Sector
(1990-2011, billions of USD)

YEAR	BUYER	ACQUIRED	COUNTRY	VALUE
2011	Iberdrola	Elektro	Brazil	2,897
1999	Endesa	Endesa Chile	Chile	2,125
1996	Iberdrola	Light	Brazil	1,700
1997	Iberdrola	Coelba	Brazil	1,597
2007	Gas Natural	Usinas EDF	Mexico	1,451
1999	Endesa	Enersis	Chile	1,412
1997	Endesa	Codensa	Colombia	1,220
2000	Iberdrola	Celpe	Brazil	1,004

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

Endesa

Endesa is the top company in the Spanish power sector, operating in electric power production, transportation, distribution and trading, while also an operator in the natural gas sector. In 2011, Endesa invested a total of 2.8 billion Euros, 47% (1.3 billion Euros) of which went to Latin America and the rest remained in Spain. At the end of fiscal 2011, assets totaled 58.7 billion Euros. Its total income in 2011 was 32.7 billion Euros. The EBITDA was 7.3 billion Euros, of which around 45% (3.3 billion Euros) came from its activities in Latin America (mainly, 14% Brazil, 13% Chile and 11% Colombia). Its strategy since 2008 has been to mitigate the effects of the global crisis by enjoying the growth in Latin America.

In 1999, the growth strategy adopted by Endesa in Latin America was based on the control of Enersis, a Chilean electric power holding. In Argentina, Endesa looked to acquire public and private assets. At the same time, it began to consolidate a group of corporate shareholders in Spain, which included La Caixa, BBV (later BBVA) and Caja Madrid. In 1999-2000, although backed by the National Energy Commission, the merger between Endesa and Iberdrola, which would have formed the largest power company in Spain and increased the resources for Endesa's participation in Latin America, was rejected by the government. Nonetheless, its size (40% generation, 60% distribution) was to hinder competition and it was necessary to sell off part of its assets, leading to the arrival of new companies. It should be stressed that in 2000, CTC (composition transition cost) instituted by the Spanish government to adapt power companies to the free market, was questioned by the European Union's Competition Commission as being, in fact, government aid, which would be against free competition. However, the European Union later decided not to interfere in the CTC question.

Table 33 shows a summary of Endesa holdings abroad in 2011.

TABLE 33
Endesa Holdings Abroad (2011)

COMPANY	ACTIVITY	HOLDING	COUNTRY
Tejo Energia	Coal-fired power generation	38.9%	Portugal
ElecGas	Natural gas-fueled power generation	50.0%	Portugal
Cachoeira Dourada	Hydropower plant	99.6%	Brazil
Termelétrica de Fortaleza	Natural gas-fueled power plant	100%	Brazil
Cien	Power link between Brazil and Argentina	100%	Brazil/ Argentina
Ampla	Power distribution	99.6%	Brazil
Coelce	Power distribution	58.9%	Brazil
Emgesa	Largest power generation in the country	48.6%	Colombia
Condensa	Power distribution	48.5%	Colombia
Endesa Chile	Power generation	60.0%	Chile
GasAtacama	Natural gas transportation (Argentina-Chile)	50.0%	Chile
Chilectra	Power distribution	99.2%	Chile
Central DOCK Sud	Power plant	70.0%	Argentina
Central Térmica Costanera	Power plant	69.8%	Argentina
Central Hidráulica El Chócon	Hydropower plant	67.7%	Argentina
Edesur	Power distribution (south zone of Buenos Aires)	99.4%	Argentina
Yacylec	Power transportation	22.2%	Argentina

(cont).

COMPANY	ACTIVITY	HOLDING	COUNTRY
Edegel	Power generation	83.6%	Peru
Empresa Eléctrica de Piura		96.5%	Peru
Edelnor	Power distribution (north zone of Lima)	75.7%	Peru
Empresa Proprietaria De La Red	Construction of power interconnection in Central America	11.1%	Central America
Energie Eléctrique de Tahaddart	Natural gas-fueled power generation	32%	Morocco

Source: Endesa.

In 1998, Endesa ceased to be controlled by the Spanish government, but its internationalization and investments strategy in Latin America was related to the political leaning of the Spanish government. Privatization, that is, the sale of the majority shareholdingto the private sector, occurred when it gained control of Enersis and Endesa de Chile, two private Chilean companies with a substantial share of the Latin American market. In the same move, Endesa in Spain and its expansion in Latin America were consolidated.

In Argentina, Endesa had a minority share in Edenor (a power distributor in the northern region of Buenos Aires resulting form the privatization and splitting-up of Segba, a predecessor company), acquired in a gradual stock acquisition process. Endesa's holding reached 40% of share capital, exceeding the share of Electricité de France (EdF), which was the operator and held control at the time of privatization. In Chile in 1997, Endesa adopted a similar move, entering the Enersis holding with a minority share to later launch a public stock offering and control Enersis. In 1999, it took over Endesa de Chile (which was not its subsidiary, despite the name) and consequently now controlled Edesur (power distributor in the southern region of Buenos Aires, resulting in the privatization and split-up of Segba), in addition to the Costanera power plant, Buenos Aires thermopower plant and El Chocón hydropower plant. Since it was unable to control the two distributors in Buenos Aires, Endesa sold its holding in Edenor in 2001 to EdF.

In 2011, Endesa was the largest power company in Chile, Argentina, Colombia and Peru, and also held a share in power distribution in Brazil. It served the large markets in the region, as power distributor of the cities of Buenos Aires, Bogotá, Santiago, Lima, Niterói and Fortaleza, as well as owning the interconnecting line (Cien) between Brazil and Argentina, with 15,832 MW installed capacity and 13.7 million customers.

In Chile, Endesa holds 60.6% capital of the Enersis holding company, by which it controls 59.9% of Endesa de Chile (holding 72% of the country's generation and 50% of GasAtacama, a gas pipeline between Bacia Neuquina deposits, the largest gas field in Argentina and Santiago). Also through Enersis, Endesa controls 99.1% of distributor Chilectra, which supplies Santiago. Endesa has small plants in other countries, namely Morocco and Ireland.

In terms of natural gas, Endesa has become the second trader in Spain, with 15% of the market through Endesa Gas. Endesa supplies consumers and power plants, but also invests in LNG and holds 12% in the Medgaz project for building a subsea gas pipeline between Algeria and Spain to carry 8 billion m^2/year (around 22 million m^2/day), which is 22% of the current demand in Spain.

Iberdrola

Like the other large Spanish corporations, the Iberdrola internationalization strategy was hatched to confront the challenges of Spain's accession to the European Economic Community.

In Argentina, the prime strategy of Iberdrola was to install new generation capacity. The company obtained the Güemes thermopower plant concession and diversified its activities to the natural gas sector (with the control of distributor Gas del Litoral). The two holdings were liquidated in 1999 when Iberdrola moved on to Mexico and Brazil, keeping residual positions in the markets that were less profitable in the company's strategy frame, such as Bolivia, Chile, Guatemala and Venezuela.

During the 1990s, Iberdrola developed the basis of its globalization, expanding in more than 20 countries in Europe, America and Asia, and more specifically in Latin America, where it began investing in 1992. During this decade Iberdrola invested around USD 2,440 million in Argentina, Bolivia, Brazil, Chile, Colombia, Guatemala and Mexico. Its initial intention was to become a global operator of electricity, gas, water and telecommunication services. Iberdrola is the principal private power generation company. In Brazil, it owns the distributor Elektro and has 39% of Neoenergia. In the UK, it owns Scottish Power and its subsidiary Energy East, operating in the US (Maine and New York). It has large wind energy generation with 13,000 MW installed capacity in 23 countries. Together with Vattenfall, in 2010 it built in the UK one of the largest wind farms in the world.

The main shareholder of Iberdrola is ACS – Actividades de Construcción y Servicios (10%). BBVA is one of the other shareholders (7.5%).

Unión Fenosa

Initially, Unión Fenosa was solely a power company. During the 1990s, the company became a large business group with activities in the electricity, gas and telecommunications sectors and investment in 15 countries, namely in North and Central America. Unión Fenosa's main shareholder is ACS – Actividades de Construcción y Servicios (40.5% in 2006).

Unión Fenosa's strategy was different from that of Endesa and Iberdrola, in that it went looking for niches that other international companies set aside for reasons of scale and demand characteristics. With this focus, Unión Fenosa invested in smaller markets such as Bolivia, Panama, Guatemala, Dominican Republic and Uruguay. Since 2000, it has endeavored to consolidate and expand its position, investing in Colombia, Costa Rica, Nicaragua, Mexico and the Dominican Republic, achieving a major position in the largest part of the region and now competing with Iberdrolafor the Mexican power generation market. In 2006, the share of its earnings from Latin America was 36.5%.

In 2009, Gas Natural acquired ACS' 45% share in Unión Fenosa by public offering, and Gas Natural is now called Gas Natural Fenosa. This merger gave rise to an energy group able to compete in Spain and abroad, and present in 23 countries, including Italy, Mexico, Colombia, Nicaragua, Brazil and Puerto Rico.

II. OIL AND NATURAL GAS

Spanish FDI in oil and natural gas were conducted by Repsol (exploration, production and transportation of oil and natural gas) and its subsidiary Gas Natural (oil byproduct distribution). In 2009, the merger of Gas Natural with Unión Fenosa resulted in Gas Natural Fenosa, within a new dynamic that utilizes, in Spain and on the international market, the synergies between natural gas and electricity.

Repsol's consolidation as a large oil corporation counted upon the direct participation of the Spanish government. Since nationalization of the oil industry in 1927, private companies were able to engage in only a few activities, especially with regard to exploration in the period from 1960 to 1970, to guarantee a steady supply to the Spanish market. The first oil company was Campsa, with the main Spanish

banks as partners and a 30% government interest. In 1984, the oil monopoly came to an end in Spain and the period from 1984 to 1992 saw a transition to liberalization, with Spain joining the European Economic Community (EEC). Restructuring, and integration of all national oil companies into Repsol, preceded privatization. In 1989, the government began the privatization of Repsol by selling 26% of the company's capital.

The Spanish National Hydrocarbons Institute (INH) was founded in 1981, within the framework of which the Repsol Group was created in 1986. As a result of Spain's joining the European Economic Community, one of the requirements for the country was the end of state monopoly over oil and natural gas. In 1991, Gas Natural was founded and the country opened up in 1992 to oil and oil byproducts imports from the EEC (now the EU) countries.

The leadership of Spanish banks in the process of Spanish corporate expansion and diversification is further evidenced by Repsol's interest in electricity sector growth through Iberdrola. BBVA, the largest shareholder of Repsol, had around a 10% interest, as well as being present in most of the countries where Repsol operated. With this move, La Caixa, one of the main shareholders of Endesa and Gas Natural SDG, signed an agreement with Repsol YPF assigning full control over the administration of Gas Natural and making it a branch of Repsol in order to guarantee its neutrality toward power companies.

Foreign oil investments

As in the case of other oligopolistic markets in Spain (e.g. telecommunications, electricity and banking services) with a strong presence and expertise of state companies, the 1990s saw the transition to privatization and liberalization in the oil and gas industry. Today, Spain produces around 4% of the oil and natural gas that it consumes, such that Repsol (founded by the Spanish government in 1986) depends on other companies to supply crude oil. Since 2010, recent advances in exploration techniques have attracted new interest from some international groups in finding oil in Spain (Leni, CNWL and Heritage).

In the early 1990s, Repsol was in a position of control in the Spanish oil market and held a monopoly over butane supply. Its refineries treated more than 60% crude oil in the country and produced 50% of Spain's petrochemicals. Like other companies operating on an almost monopolistic basis and playing a strategic role for the Spanish government, the privatization of Repsol and gradual liberalization of the market were a result of Spain's joining the European Union and of the conditions set by the European Single Market. However, these privatizations did not threaten the company's leading position in the Spanish market, whch was still reinforced by the transfer of state-owned gas companies to Gas Natural (a Repsol subsidiary) and by the protection against international competition until the end of the 1990s.

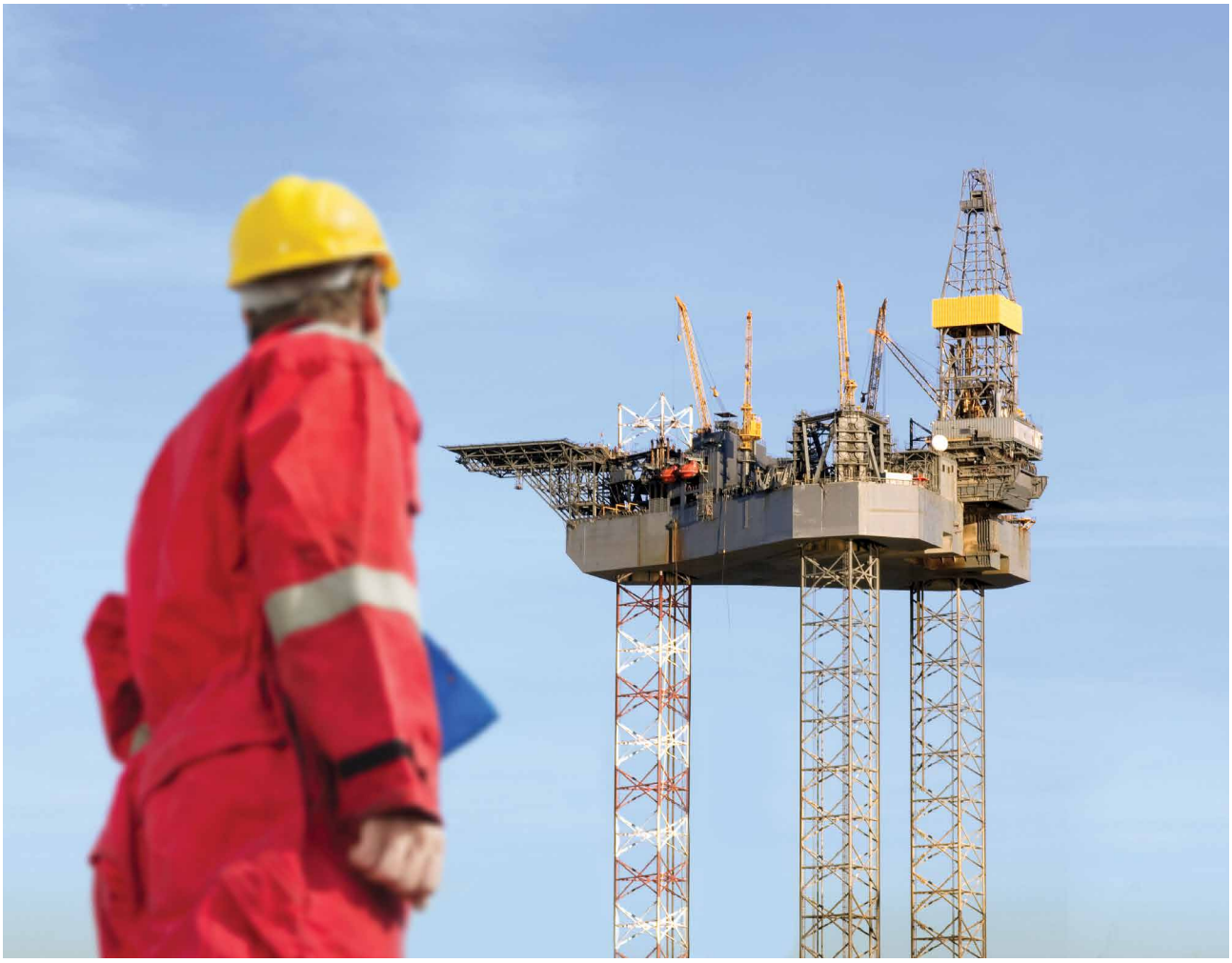
International investments and the search for new markets were some of the objectives for Repsol's expansion and increase in oil and natural gas resources. This move was facilitated by forming alliances with financial institutions (BBV, La Caixa and Argentaria), which strengthened Repsol and the start of its international expansion. By the end of 1995, 79% of Repsol's capital was under private control, with its major shareholders being BBV (5.2%), La Caixa (5%) and Pemex – Compañía de Petróleos Mexicanos (5%).

The development of and participation in the Southern Cone energy markets became common goals in the Repsol strategy in directing Endesa, Iberdrola and Gas Natural. In order to be less dependent in relation to other companies, Repsol looked for growth in exploration and production activities by taking over other companies. A series of stock acquisitions in Argentine companies began in 1996 with the purchase of 37.7% of Astra - Compañía Argentina de Petróleo (which controlled 5% of the local market). In 1997, Repsol bought 45% of Pluspetrol Energy, which gave it admission to the regional natural gas market

coordinating the transfer of reserves from Bolivia and Argentina to the markets in Argentina, Brazil and Chile. The takeover of fuel distributor EG3 (the fourth largest fuel refiner and trader, behind YPF, Shell and Esso) increased Repsol's share in the regional market. Next, Repsol continued to increase its shares in Astra and Pluspetrol in order to have more direct control of their related companies.

In 1999, by the end of negotiations between the Spanish and Argentine governments, Repsol had acquired the Argentine national oil company YPF for USD 15 billion. This made Repsol YPF an integrated and diversified oil corporation, and the largest private energy company by assets in Latin America. With the new company, Repsol now controlled 51% of oil and 44% of natural gas produced in Argentina. This gave Endesa (with 5% of Repsol shares) easy access to the feedstock required for thermal generation in Argentina. Moreover, at that time Repsol had full or partial control of 14 companies in Argentina. Repsol was then able to benefit from internationalizing YPF, which was already present in a number of countries, such as Brazil (in association with Petrobras), Chile, Bolivia, Peru, Ecuador, the US and Russia.

After liberalization of the natural gas distribution and transportation market in Mexico in 1995, the inclusion of Repsol was facilitated through Gas Natural Mexico (a subsidiary of Gas Natural SDG). In the period from 1995 to 1999, Gas Natural Mexico became the top natural gas distributor in the country. In Brazil in 2000, Gas Natural won the bid for a natural gas distribution concession for the southern part of São Paulo state, and set up the company Gas Natural São Paulo Sul.



In Bolivia, Repsol YPF controlled almost 70% of the oil production and 54% of natural gas production. In Peru, Repsol and its subsidiary Gas Natural controlled 48% of the Peruvian, 49% of the Ecuadorian and 71% of the Argentine markets, in addition to the natural gas supply to two thermopower plants in northern Chile.

Next, Repsol extended its exploration and production activities to the Middle East and Africa, and acquired a share in a natural gas liquefaction plant in Trinidad & Tobago. It also bought a share in the Pampa Melchorita liquefaction plant in Peru, which distributes the natural gas production from Camisea and is able to meet the growing demand for electricity in the mining sector in north Chile, and in other markets. However, urged to reduce its debt and strengthen its balance, Repsol was able to sell of its liquefied natural gas activities in the first half of 2013. Today, its drop in share value reflects the YPF expropriation by the Argentine government. The sale of Repsol Butano Chile and rapprochement with Pemex should partly mitigate the loss of YPF.

Considering the growth potential of the liquefied petroleum gas (LPG) market in 2002, Repsol decided to integrate all its LPG branches in a single company to increase growth and international expansion, and to improve its position in the bottled butane gas market in Latin America. The objective is orderly growth in the sector, an increase in its own production and to be on a par with or exceed Shell as the world's second butane gas corporation, only behind HSV Holding. Repsol has already made similar other reorganizations, namely with Repsol Petroleum and Repsol Chemicals.

Since Repsol was very exposed in Argentina and Bolivia, it sold 25.5% of Repsol YPF to the Petersen Group (Argentina) and 40% of Repsol Brazil to the Chinese oil company Sinopec for USD 7.1 billion.

In 2002, the Argentine government imposed a 20% charge on oil exports. The country's crisis impacted the operating revenue of Repsol YPF. In 2012, the Argentine government expropriated 51% of Repsol YPF shares, 26% of which was now controlled by the federal government and 25% by the individual provinces.

In 2009, seeking synergies between natural gas and electricity, Gas Natural Fenosa was incorporated, an outcome of the purchase by public offering of construction company ACS's 45% share in the power company Unión Fenosa. This merger gave rise to an energy group that could compete in Spain and abroad, operating in 2012 in Italy, Mexico, Colombia, Nicaragua, Brazil and Puerto Rico, for example. In Latin America, the expansion of Unión Fenosa followed by some years the earlier arrival of Endesa and Iberdrola.

III. WATER AND SANITATION

Spanish international investments in the water and basic sanitation sectors were mainly conducted by the company Aguas de Barcelona (Agbar) in markets that would offer growth potential. Considered one of the largest international companies in the water administration area, Agbar is owned by La Caixa and the Suez group, and supplies 13 million consumers in Spain. In its search for opportunities from privatization of water supply and sanitation services in several Latin American countries, in 1995 Agbar was the only company that submitted a bid for services in Cartagena, Colombia, a city in which 30% of the population did not have access to water and sewage systems. The water sector still had the Spanish state-owned company Isabel II (Madrid) and Tecyasa, both owners of Canal Extensia, which bought from Agbar old concessions in Barranquila, Santa Marta Soledad and Puerto Colombia. In 1996, Aguas de Barcelona was awarded the concession for water, sewage and garbage collection service in Barranquila, Colombia, in which it and some local partners invested USD 25 million.

In 1999 in Chile, Agbar bought 35% of Aguas Andinas for one million Euros. The concessionaire of the Santiago water supply and of other regions in the country was privatized by the government and at the

time recycled only 3% of its wastewater. From 1999 to 2011, Agbar invested more than one billion Euros and Aguas Andinas began the complete water management (collection, drinking water distribution and wastewater treatment) of the Santiago basin in order to achieve a total 100% wastewater recycling.

This made Chile the first Latin American country to administrate the process from distribution to recycling. As a fruit exporter to the US, water recycling is of the utmost importance for Chile, and the country must meet the criteria established in the bilateral agreements requiring 100% purification. Aguas Andinas is the largest branch of Agbar in Latin America and earns 150 million Euros in profit a year. In January 2003, Agbar increased its holding in Aguas Andinas to 25.6%.

In Mexico, Agbarinvested in Aguas de Saltillo. In 2005, it decided to review its strategy in the region and withdrew from Argentina and Uruguay. In Argentina through Aguas Argentinas, it had the concession for the Buenos Aires water supply.

In Brazil, after an experiment in Campo Grande (Mato Grosso do Sul) from 2002 to 2005, Agbar is now part of the sewage sector, selling technological services under the brand Aqualogy for loss control, sewage treatment and energy efficiency. In Pernambuco the company provides engineering services to Compesa (the Pernambucan Sewage Company) in Recife's metropolitan region.

Aguas de Barcelona, which became a subsidiary of Suez Environment, has investments in the UK (Bristol Water) and Algeria (Société des Eaux Oran). Agbar invested 30 million Euros in China for 49% (increased recently to 72%) of a partner company of the Golden State Water Group Corporation, to operate a set of water supply and sewage projects in Jiangsu province under four 30-year concessions.

IV. TELEPHONY

The Spanish telephony sector

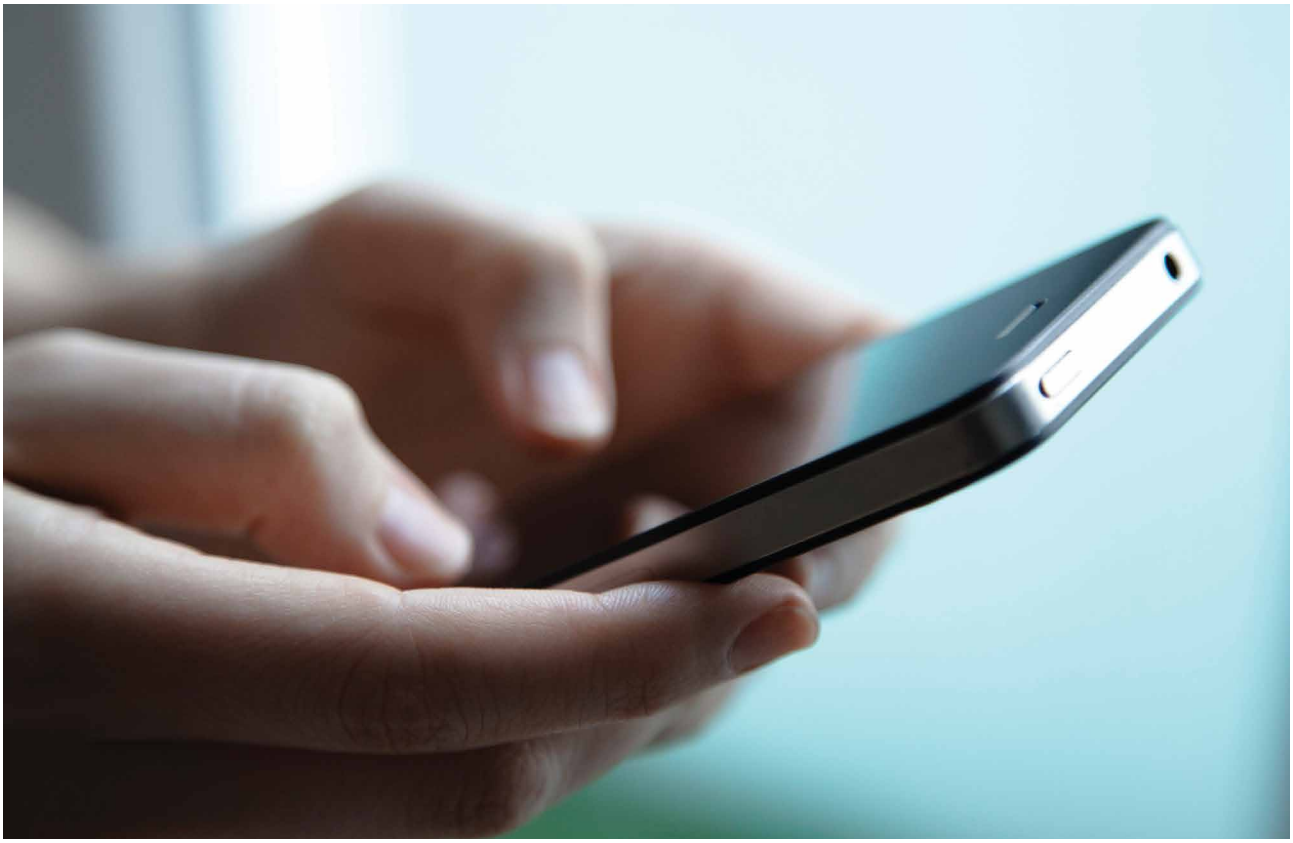
In its origin and growth during the period from 1924 to 1995, the telephony sector in Spain coincided with the development of Telefónica. The company was incorporated in 1924 and nationalized in 1944 as a public utility concessionaire, and it enjoyed the legal monopoly prevailing until the 1995 arrival of Airtel, the first private telephony company in Spain. It should be mentioned that by the mid-1980s, Telefónica had one of the most outdated telephone systems in Europe, incompatible with the technological advances that would shape the telecommunications sector.

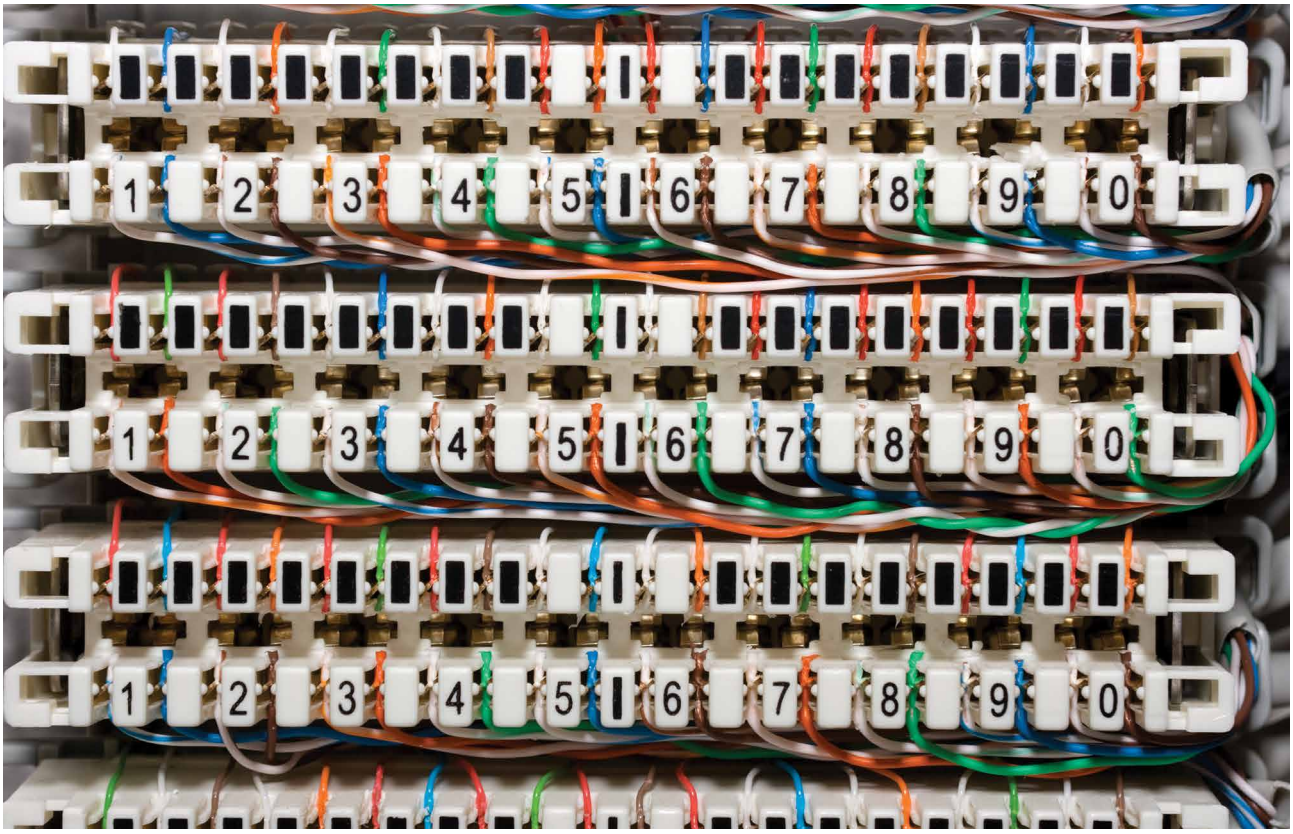
This situation could have facilitated its takeover by a larger carrier and was one of the determining points of the Telefónica internationalization strategy adopted by the government before privatizing the company and liberalizing the telephony sector. The idea was to make Telefónica a competitive company in relation to its European competitors by increasing the value of its shares on the stock exchange, after putting in place the following:

- A regulatory framework beneficial to the company;
- A rate policy that would permit cost recovery; and
- A cheap credit policy.

The Spanish telephony sector was liberalized in December 1997 as part of the requirements for the country's accession to the EU and of the conditions set by the European Single Market.

Telefónica was also privatized in 1997, combining a sale to institutional investors with a sales effort to "minority" shareholders, who were more interested in the distribution of dividends, while at the same

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time guaranteeing control of the company and its policies through a nucleus of Spanish shareholders.

Spanish international investments in telephony

Telefónica formed strategic alliances by participating in global telecommunication consortiums (Eutelsat, Intersat and Immarsat) and in the "clearing" of the carriers' international traffic.

In fact, the technological advances in the telecommunications sector and its gradual liberalization in Spain led to the following changes in the conditions to internationalization of telephony investments:

- By the mid-1980s, telephone carriers operated as monopolies with full control of the market, so that internationalization would be restricted to interconnecting national networks, technology transfer between carriers and undertaking common activities in relation to subsea cables and satellites; and
- From the second half of the 1980s, oligopolistic competition occurred between telecoms, which looked for markets with penetration options and growth potential to address new restraints (new competitors, price cuts due to tougher competition, lower profitability and seeking benefits in operating costs by means of economies of scale and scope).

Telefónica's internationalization process involved two levels of action. In the first, there was a gradual integration of foreign investors (pension funds, insurance companies and so on) that contribute to increasing the company's capital and financing its upgrade and expansion. This stage also includes Telefónica's lsiting of shares in the world's major stock exchanges. Second, Telefónica now entered new markets abroad by setting up subsidiaries and new lines of business.

The attempted merger of Telefónica with the Dutch company KPN (in 2000) was designed to create the fourth largest European telecommunications group, but both the Spanish government and BBVA and La Caixa rejected the idea. This fact caused Telefónica to make a major change in direction in its plan for strategic alliances, which had proceeded with several companies, some of which were Portugal Telecom, Iberdrola and BBVA.

Spanish telephony investments in Latin America

The Latin American telecommunications sector offered growth opportunities, but its expansion required investments and expertise. This was key to Telefónica's ability to participate.

Telefónica began its international strategy at the end of the 1980s, participating in the first privatizations in Latin America in order to gain size by operating in fast-developing markets, thus forming alliances and becoming a global telecommunications carrier. The initial motivation for internationalizing the company was financial. The need for new investments in the country faced off against the limited resources in the Spanish capital market, so that Telefónica would resort to the international financial market, by listingon the New York Stock Exchange, in 1984.

But there were also operational issues, such as technological change, digitalization of the network, the advent of smart networks, and fiber optic transmission, which changed the economic fundamentals of telephony. In regulatory terms, in the period from 1984 to 2001, liberalization (the end of the monopolies) and privatization (the end of state control) of the telecommunications sector in almost all countries, coinciding with its liberalization in Spain in December 1997 and at the end of the privatization process (begun in 1970), encouraged Telefónica to enter new markets and buy out state-owned companies, first in Latin America and Eastern Europe, which acted as a base for the company's international strategy.

It should be emphasized that the financial bases for the company's expansion were the sale on the world's major stock exchanges and the provision of one billion dollars by the Spanish government, at the time of liberalizing the Spanish telecommunications sector in 1997. One key factor for the international investments of Telefónica was its recent experience when setting up its infrastructure in Spain in the late 1980s, which convinced the company that it was fit to bring about similar projects in Latin American and Eastern European countries, still developing markets with high growth potential.

The guideline for internationalizing Telefónica was the undertaking of projects that would offer economic and financial profitability in line with the difference in risk levels of investments in Latin America and Spain.

Spanish telephony was first internationalized with the privatizations in Latin America, within the framework of Telefónica's consolidation. Its purpose was to make it the top telecommunication carrier in the region, integrating telephony, Internet and multimedia throughout Latin America and in the Hispanic market in the US. Accordingly, through its subsidiary Telefónica Internacional, Telefónica acquired control stakes in privatized integrated (landline and mobile) carriers in Chile (44.5% of Compañía de Teléfonos de Chile and 20% of Entel Chile), Argentina (where it gained the southern half of the country in 1990), Venezuela (1991), Central America (1992) and Peru (1994). Telefónica arrived in Brazil at the end of 1996 (as a member of the consortium that acquired control of CRT in Rio Grande do Sul) and in 1998 with the takeover of Telesp. Moreover, Telefónica also bought mobile telecoms (Telesudeste and Teleleste in Brazil, and Motorola subsidiaries in Mexico).

To finance its expansion, Telefónica turned to the world's major stock exchanges with a capital increase. This meant that by 1993 shareholders outside of Spain owned 24% of Telefónica's stock. In 2000, with the so-called "Operation Veronica" by which the minority shareholders of the branches became shareholders in Telefónica España, the company acquired all capital of the majority of its subsidiaries and consolidated its control and protection against any hostile takeover by potential competitors.

Next, Telefónica was able to provide support for the internationalization process in Latin America by integrating the operations of the different countries in a single Telefónica Group, and was able to

supply homogeneous integrated networks and services in every country. The creation of Telefónica Data, with communication services for large corporations with a unified customer management, was yet another component in this process, offering access to this service for companies in a number of countries (Mexico, the US, Germany, Italy and the UK).

The next step was to address the line of business (as opposed to each country) in the context of a global approach, namely by approaching the business segments as mobiles, landlines, data transmission, directories, Internet, communication and content media and call centers. This step included the acquisition of the Dutch company Endemol and obtaining third-generation mobile telephony concessions (UMTS), giving access to the Internet through cellphones in Austria, Germany and Italy. Working on an integrated basis, more as a multinational rather than as a company with operations in other countries, Telefónica was able to capture synergies and economies of scale.

In 2005, Telefónica became one of the largest telecoms internationally, absorbing the O2 group (mobiles) in the UK for 26 billion Euros and now competing with Versión, Vodafone and Deutsche Telekom. That same year, the purchase of 5% of China Netcom (the second largest telecom carrier in China) pushed Telefónica into the nationalized market of telecommunications in that country. In 2006, the assets of the mobile telephony carrier O2 (operating in the UK, Germany and Ireland) were acquired for USD 26 billion in the largest Spanish acquisition of a foreign company.

In 2010, the 50% acquisition of Brasilcel from Portugal Telecom for USD 9.7 billion allowed Telefónica to merge VIVO with the Telefónica landline carrier (formerly Telesp) and to become the market leader in Brazil. Next, it began to complete the full range of Telefónica services by integrating specialized companies (cable TV, data transmission, television, Internet), namely Metrópolis-Intercom (the first cable TV company in Chile), Multicanal (Argentina) and Cable Mágico (Peru). Table 34 shows the main Telefónica subsidiaries abroad.

TABLE 34
Principal Telefónica Subsidiaries Abroad (2011)

COMPANY	ACTIVITY	HOLDING	COUNTRY
Telefónica 02 UK	Mobil telephony	100.0%	UK
Telefónica 02 Germany	Mobile telephony	100.0%	Germany
Telefónica 02 Ireland	Mobile telephony	100.0%	Ireland
BE	Telecommunications	100.0%	UK
HanseNet	Telecommunications	100.0%	Germany
Jajah	Telecommunications	100.0%	USA
Tesco Mobile	Mobil telephony	50.0%	Ireland
Telefónica 02 Czech Republic	Mobil telephony	69.0%	Czech Republic
Telefónica 02 Slovakia	Mobile telephony	100.0%	Slovakia
Telesp	Mobile telephony	88.0%	Brazil
Telefónica del Peru	Telecommunications	98.3%	Peru
Telefónica de Argentina	Telecommunications	100.0%	Argentina
TLD Puerto Rico	Telecommunications	100.0%	Porto Rico
Telefónica Chile	Telecommunications	97.9%	Chile
Telefónica Telecom	Telecommunications	52.0%	Colombia
T. International Wholesale Services (TIWS)	Telecommunications	100.0%	International
Vivo Participações	Telecommunications	59.4%	Brazil
Vivo	Telecommunications	100.0%	Brazil

(cont).

COMPANY	ACTIVITY	HOLDING	COUNTRY
T. Móviles Argentina	Mobil telephony	100.0%	Argentina
T. Móviles Peru	Mobil telephony	100.0%	Peru
T. Móviles Mexico	Mobile telephony	100.0%	Mexico
Telefónica Móviles Chile	Mobile telephony	100.0%	Chile
T. Móviles El Salvador	Mobil telephony	99.1%	El Salvador
T. Móviles Guatemala	Mobil telephony	100.0%	Guatemala
Telcel (Venezuela)	Mobile telephony	100.0%	Venezuela
T. Móviles Colombia	Mobile telephony	100.0%	Colombia
Otocel (Ecuador)	Mobil telephony	100.0%	Ecuador
T. Móviles Panama	Mobil telephony	100.0%	Panama
T. Móviles Uruguay	Mobil telephony	100.0%	Uruguay
Telefonía Celular Nicaragua	Mobile telephony	100.0%	Nicaragua
T. Moviles Soluciones y Aplicaciones (Chile)	Mobile telephony	100.0%	Chile
Atento Group	Telecommunications	100.0%	International
Telco SpA (Italy)	Telecommunications	46.2%	Italy
IPSE 2000 (Italy)	Mobile telephony	39.9%	Italy
Distribuidora de Televisión Digital (DTS)	Pay TV	22.0%	International
Hispasat	Telecommunications	13.2%	International
Portugal TELECOM	Telecommunications	2.0%	Portugal
China Unicom (Hong Kong) Ltd (China)	Telecommunications	8.4%	China
ZON Multimídia	Telecommunications	5.4%	Portugal
Amper	Telecommunications	5.8%	International

Source: Telefónica.

In 2011, more than half the company's income came from Latin America, especially Brazil, Argentina and Chile. In the first half of 2011, the Latin American and European operations were responsible for 71% of consolidated revenue and 64% of operating income before depreciation and amortization (OIBDA). It should be mentioned that revenues rose 5.6% in Latin America and fell 6.1% in Spain.

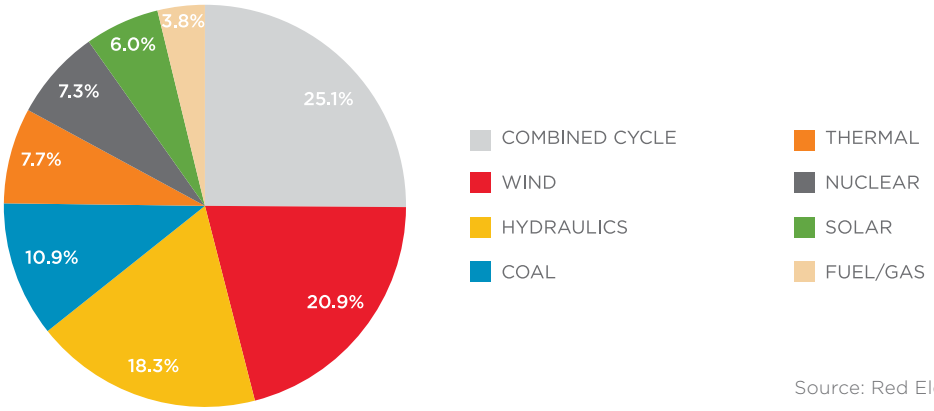
Telefónica, like the other Spanish companies in the group of international investors, reproduced in its branches and subsidiaries the organizational and technological criteria that it developed in Spain during its privatization and during the liberalization of the telecommunications sector.

6. SPANISH CORPORATE PRESENCE IN THE BRAZILIAN ELECTRICITY SECTOR

6.1
TOP SPANISH POWER COMPANIES

The Spanish electricity sector has undergone radical changes since 1998. Until then, the sector was dominated by vertically integrated companies operating as monopolies in various regions of Spain. As a result of Law 54/1997, regulated (transmission and distribution) and competitive (production and trading) electricity sector activities were forced apart. The accounting and legal aspects of power companies' operations had to be separated, as well. It should be noted that, although the unregulated activities take place under freely competitive market conditions, they are subject to administrative approval. With regards to the energy matrix, the power producers' installed capacity is evenly distributed between the different sources[25], including renewables, as can be seen in Table 35.

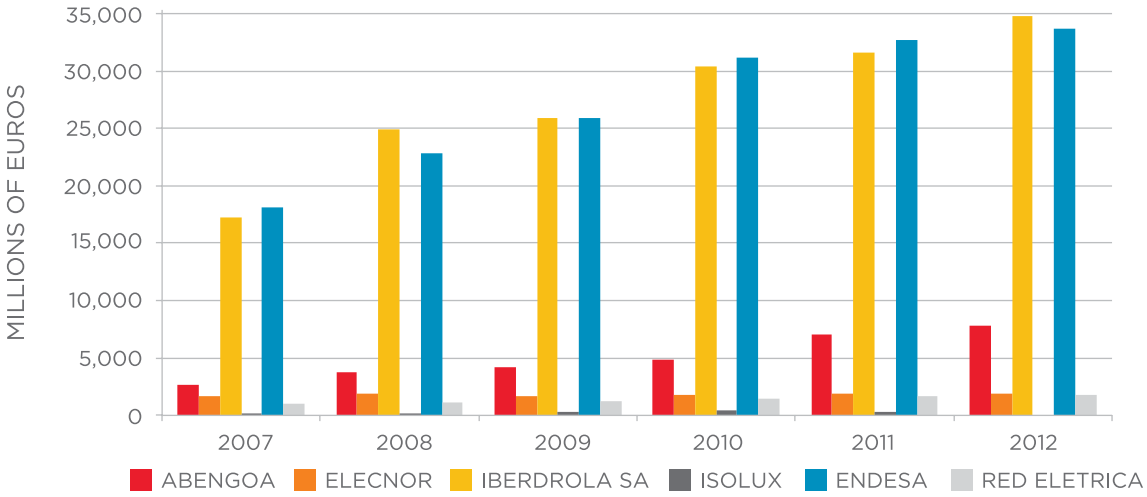
TABLE 35
Share of Energy Sources in the Spanish Energy Matrix



Source: Red Eléctrica de España.

The main Spanish companies in this sector are Iberdrola and Endesa, with Red Eléctrica, Isolux, Elecnor and Abengoa each holding smaller shares of this market.

TABLE 36
Total Revenue of Selected Spanish Electricity Sector Companies



Source: Blooomberg.

[25] Combined cycle is also thermopower, but more efficient than the conventional thermopower plants (in open cycle).

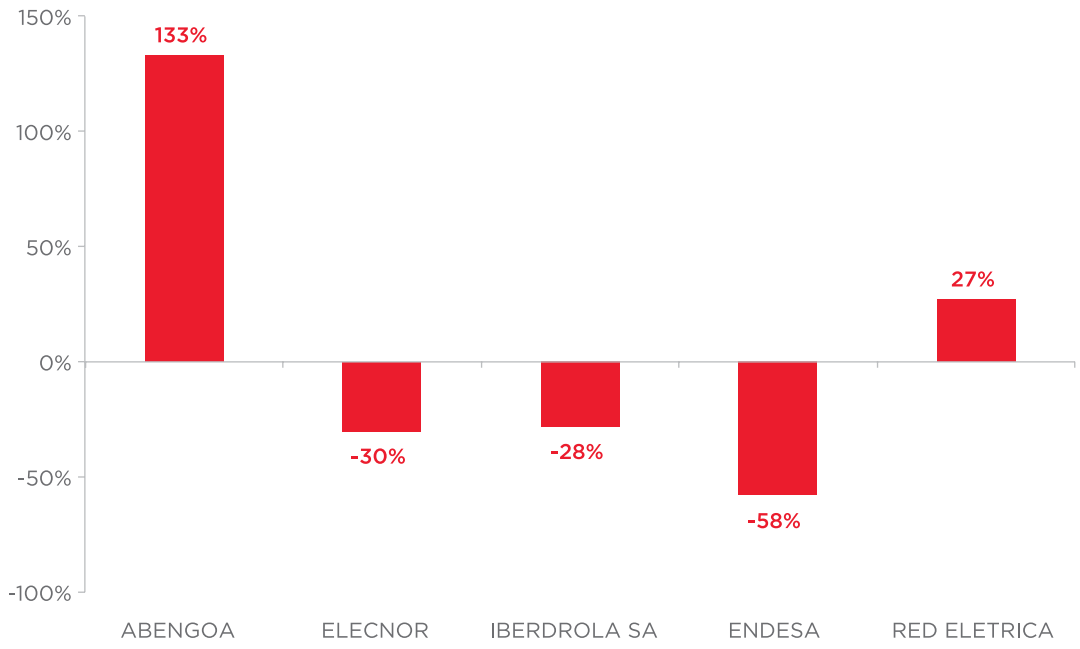
6.2
GLOBAL RANKING OF SPANISH COMPANIES

a. Sovereign risk profile and subsidiaries' local demand;
b. Corporate exposure, both as creditors and debtors, to credit risk in countries where corporate subsidiaries operate;
c. Importance of Spanish integration into the world economy; and
d. Exposure to foreign exchange risk.

As shown in Table 36, Spanish power companies' total income increased in the period from 2007 to 2012, demonstrating that these companies successfully expanded their business despite the crisis.

However, a different conclusion results from analysis of these companies' market value during that period. Of the companies studied, Abengoa and Red Eléctrica's market value increased, while Elecnor[26], Iberdrola and Endesa's market value dropped in the period studied.

TABLE 37
Variation in Market Value of Spanish Power Companies, 2007-2012

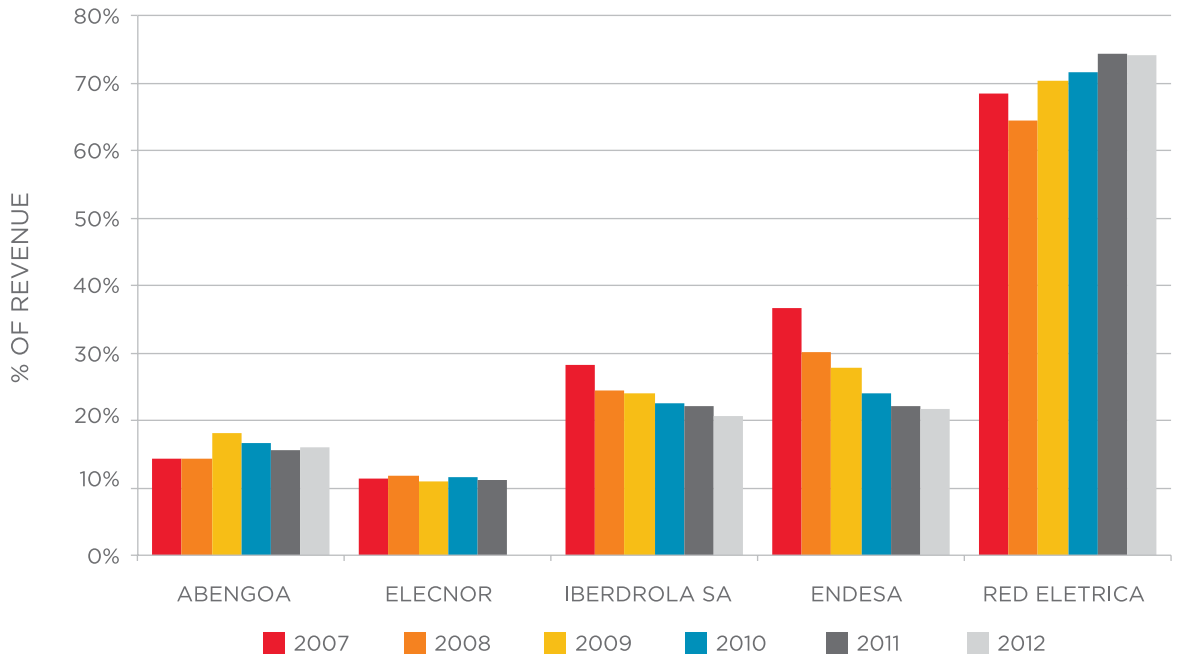


Source: Blooomberg.

Analysis of the companies for this period should thus involve investigating whether there has been a downturn in the companies' capacity to earn operating income (EBITDA) from revenues, which is reported in Table 38. Iberdrola and Endesa's struggle is visible in this indicator, as are Abengoa and Elecnor's low-level stability. Red Eléctrica is the exception here, with an increase even from its already high level. This shows that despite the higher revenues, the capacity to earn operating profits was undermined.

[26] The last data analyzed was 2011.

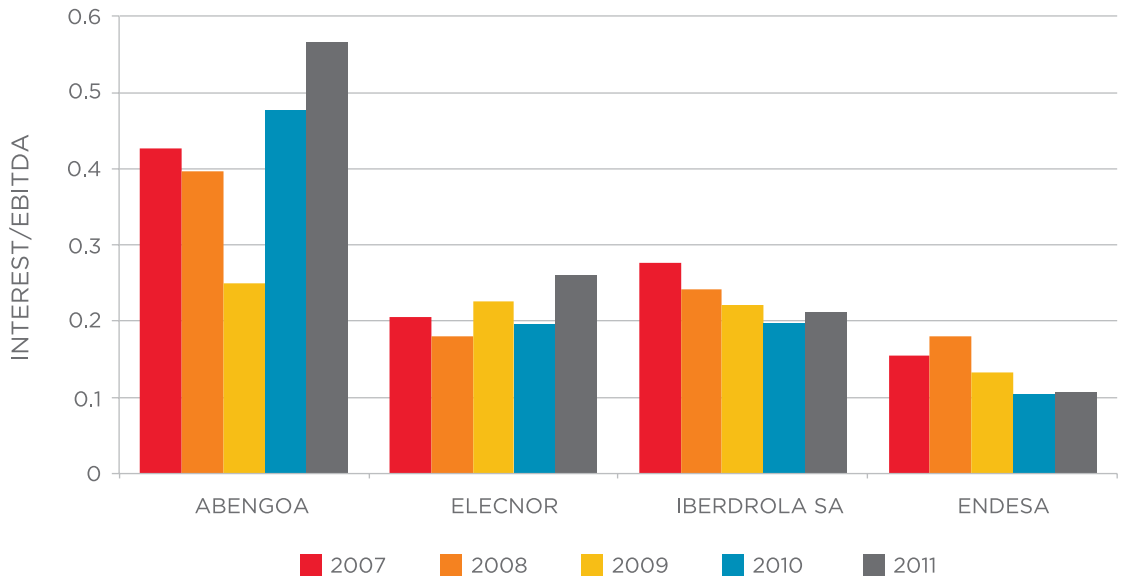
TABLE 38
Spanish Companies' EBITDA Margins, 2007-2012



Source: Blooomberg.

In relation to the indebtedness of these companies, however, the operating income used for interest payments (Table 39) remains steady for all companies except for Abengoa, which experienced a sharp rise.

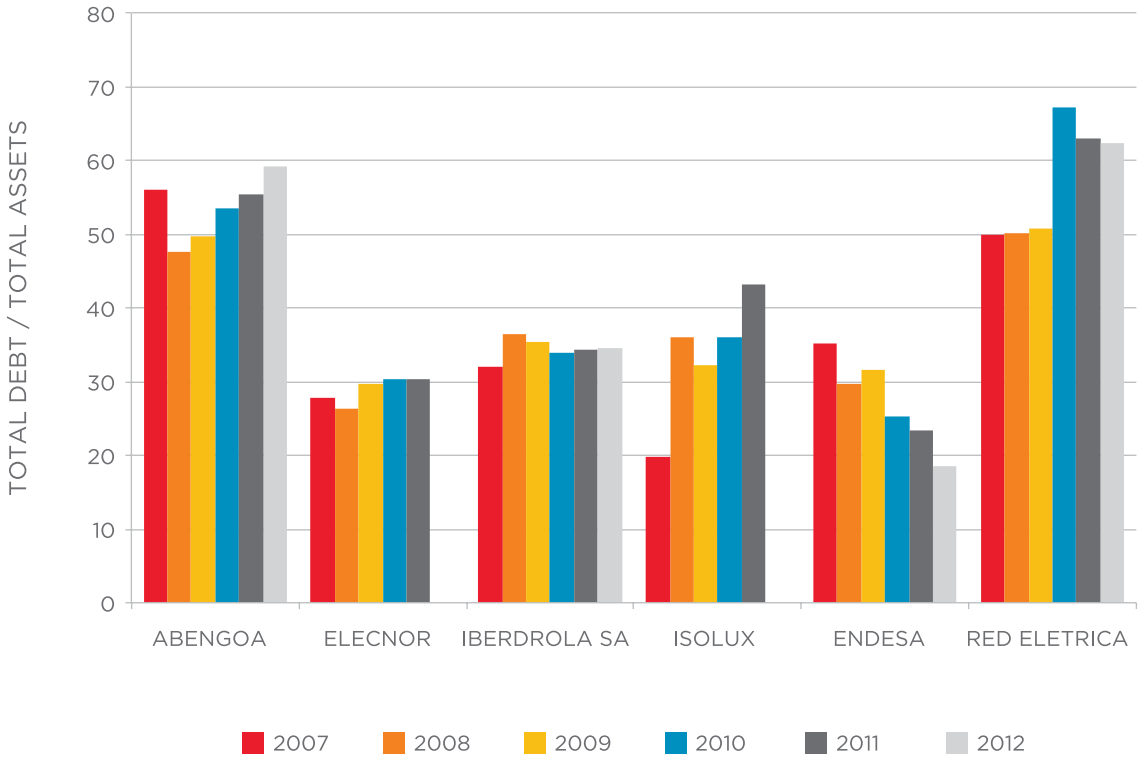
TABLE 39
Interest / EBITDA Ratio



Source: Blooomberg.

Lastly, still concerning the topic of corporate indebtedness, the ratio of total debt over total assets should be examined; in other words, comparison of relative volumes of debts to assets. Here, the companies are found to behave differently: while Abengoa, Isolux and Red Eléctrica showed growth in this indicator, Elecnor and Iberdrola had no significant change. Endesa, however, was the only company with a drop in this indicator, as seen in Table 40.

TABLE 40
Total Debt / Total Assets



Source: Blooomberg.

In short, an analysis of these indicators shows no evidence of major deterioration in the financial or operating health of the top Spanish power companies. Although some companies have shown some poor indicators in general, it is not possible to conclude that these companies need to offload assets to cover their commitments.

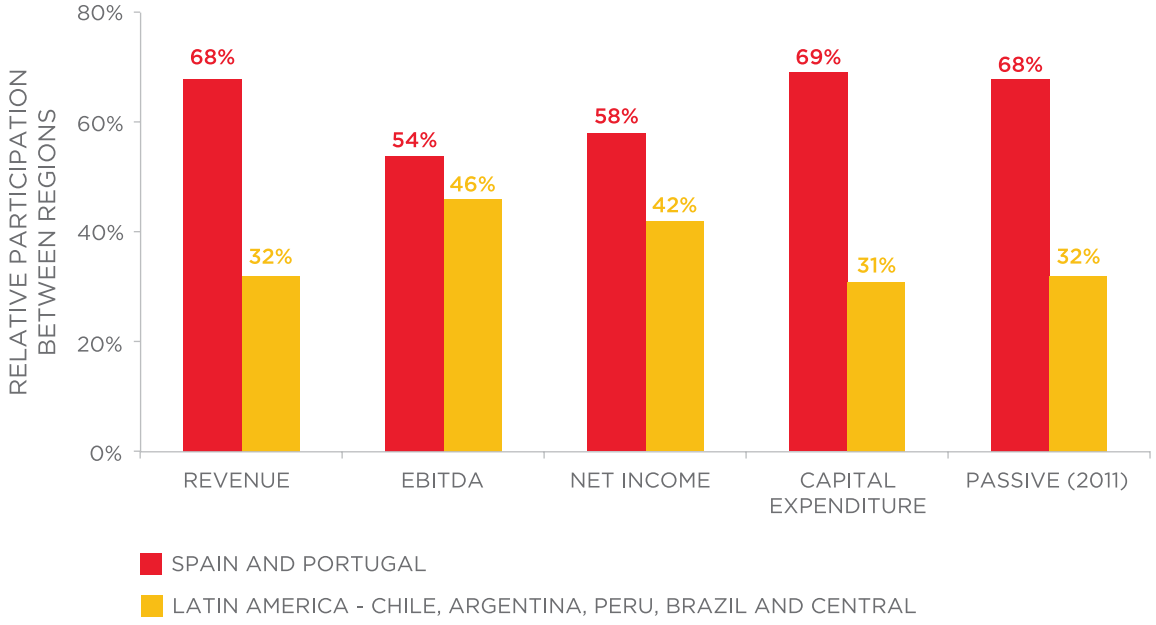
International ranking of the companies

Red Eléctrica is the only company so far addressed that does not have major business operations outside Spain.

According to Table 41, Endesa has dedicated a considerable share of its business to Latin America, with approximately 32% of its income in that region, against 68% in Spain and Portugal. However, comparing indebtedness and income indicators, such as EBITDA and net income, business in the region is found to be much more profitable. That is, while Latin America represents approximately 32% of Endesa's liabilities and capital expenses, it generates around 46% of its EBITDA and 42% of its net income.

TABLE 41

Selected Endesa Indicators, Iberian versus Latin American Markets (%)



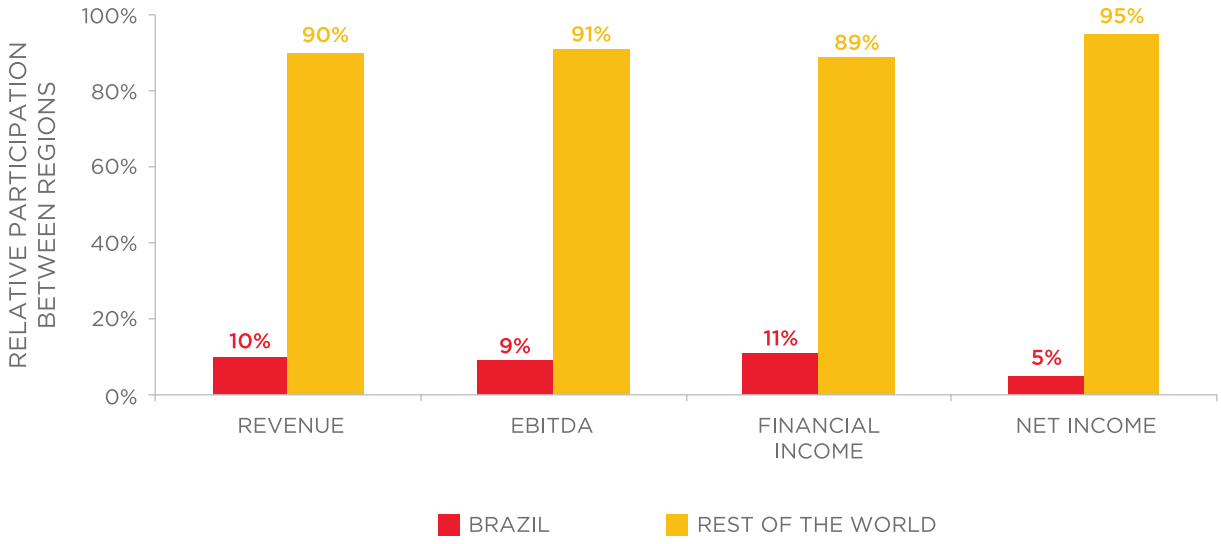
Source: Blooomberg.

These indicators also show that the company's debt is held mainly by the head office, while cash generation in the Latin American branches is sufficient to cover interest expenses, there being no signs of foreign exchange risk or credit risk for the company.

Table 42 shows that Iberdrola's participation in Brazil, even after taking into account the acquisition of Elektro, is still small in terms of revenue (10%), net income (5%) and financial income (11%) (sign inverted for easy graphic interpretation).

TABLE 42

Selected Iberdrola Indicators, Brazil versus Rest of World (%)



Source: Iberdrola's 2012 Income Statement.

The company's debt is denominated in currencies approximately mirroring the origin of its resources and assets, thereby not causing exchange or credit risks, as shown in Table 43.

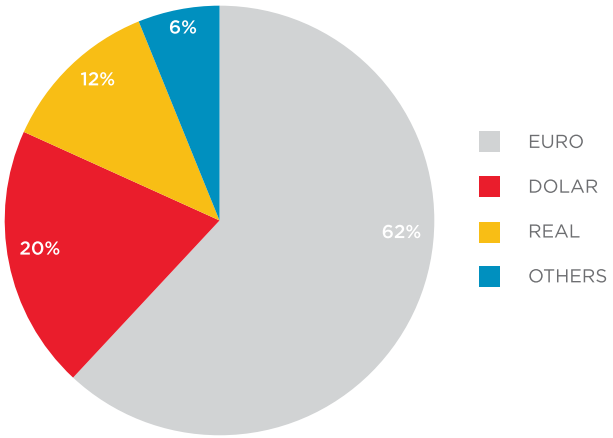
TABLE 43
Iberdrola Debt by Currency

DEBT	2012	2011
Euro	57.0%	60.0%
Dollar	17.0%	18.0%
Pounds	23.0%	20.0%
Real and other currencies	3.0%	3.0%

Source: 2012 Iberdrola Income Report.

Abengoa operations, on the other hand, have quite a pronounced geographic diversification, with Brazil responsible for 13% and Spain only 25% of the company's global revenue. Because the company's debt is denominated predominantly in Euros (62%), and European revenue is 42% of global revenues, it appears that there is room to reduce the company's total debt, principally that linked to the Euro (Table 44).

TABLE 44
Abengoa's Debt by Denomination



Source: Abengoa's 2012 Annual Income Statement[27]

[27]Available at http://www.ABENGOA.com/export/sites/ABENGOA_corp/resources/pdf/en/gobierno_corporativo/informes_anuales/2012/2012_Volume3_AR.pdf.

6.3
PRINCIPAL SPANISH POWER COMPANIES IN THE BRAZILIAN ELECTRICITY SECTOR

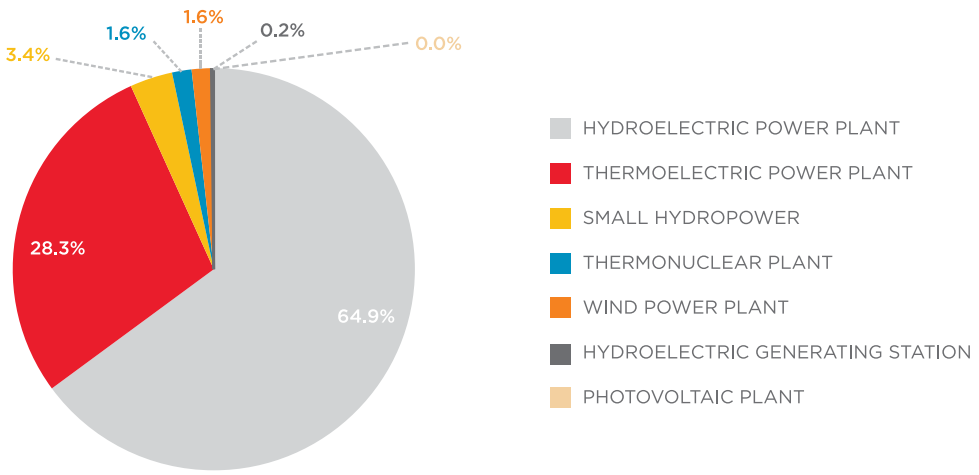
I. TOP BRAZILIAN COMPANIES AND THEIR IMPORTANT INDICATORS

Within the Brazilian market, the power generation, transmission and distribution segments are addressed in the following analysis.

Generation

According to data from Aneel's Generation Database (BIG), total installed capacity of the Brazilian power system at March 7th, 2013 is approximately 127,091 MW. This figure includes not only the generation plants of the National Interconnected System (SIN) but also those installed in isolated systems and classic self-production, not counting the share imported from Itaipu HPP and not consumed by the Paraguayan power system.

TABLE 45
Installed Capacity of Brazilian Power Generation (% of 2013 Total)



Source: Aneel's

With regards to the companies operating in Brazil, SIN has around 2,780 plants or power stations. The 20 largest power companies produced approximately 81,563 MW of monitored power[28], or approximately 67% of the total.

Due to the large corporate groups operating in this segment, market concentration is more pronounced. The companies in the Eletrobrás system are responsible for 41,621 MW of electric power installed capacity in Brazil, which is 35.5% of all national capacity. The generation market currently consists of 37 hydropower, 120 thermopower, three wind-power and two thermonuclear plants.

The second-largest producer, far behind Eletrobrás, is Cesp (the São Paulo Energy Company), the largest in the state of São Paulo and second largest in the country, with around 7,455 MW of electric power

[28] Monitored power is equal to that considered from the commercial operation of the first power plant.

installed capacity, or 6.3% of the national total. Cemig comes third, through its wholly owned, controlled and affiliated generation subsidiaries, with 65 plants in operation, of which 59 are hydropower, three are thermopower and three are wind-power plants, totaling 6,781 MW of installed capacity[29].

Table 46 reports the 10 largest generation companies in terms of installed capacity.

TABLE 46
The 10 Agents with Largest Installed Capacity in Brazil (Operating Plants)

RANKING	GENERATION COMPANIES	INSTALLED CAPACITY (kW)
1st	Companhia Hidro Elétrica Do São Francisco - Chesf	10,615,131
2nd	Furnas Centrais Elétricas S.A. - Furnas	9,703,000
3rd	Centrais Elétricas do Norte do Brasil S.A. - Eletronorte	9,131,454
4th	Companhia Energética de São Paulo - Cesp	7,455,300
5th	Tractebel Energia S.A. - Tractebel	7,144,650
6th	Itaipu Binacional - Itaipu	7,000,000
7th	Cemig Geração e Transmissão S.A. - Cemig-GT	6,781,584
8th	Petróleo Brasileiro S.A. - Petrobras	6,288,421
9th	Copel Geração e Transmissão S.A. - Copel-GT	4,781,990
10th	AES Tietê S.A. - AES Tietê	2,652

Source: Aneel's[30]

Transmission

The basic SIN transmission network was developed using a wide variety of voltage levels because of its wide territorial distribution generally and the large distances involved between generation sources and load centers, and also because of the predominance of hydropower sources. Comprising voltages of 230-750 kV, therefore, the SIN basic transmission network has the following main functions[31]:

- Power transmission from generation plants to large load centers;
- Integration between the different elements in the power system to guarantee a stable and reliable network;
- Interconnection between the river basins and regions with heterogeneous hydrological characteristics in order to optimize hydropower generation; and
- Power integration with neighboring countries.

Brazilian transmission lines are extensive because the major hydropower plants are generally located far from the centers of lectricity consumption. Today, the country is almost fully interconnected from North to South. Only the states of Amazonas, Roraima, Amapá and part of Pará are not yet part of the integrated electrification system. In 2013, only 3.4% of the country's power production capacity is not connected to SIN, comprising only small, remote systems located mainly in the Amazon. In some states in northern Brazil, in the regions without connection, the supply is by means of small thermopower plants or hydropower plants near state capitals.

[29] Available at http://www.cemig.com.br/NossosNegocios/Paginas/Geracao.aspx.

[30] Available at http://www.ANEEL.gov.br/aplicacoes/AgenteGeracao/GraficoDezMaioresPotencia.asp. Accessed December 2012.

[31] Ten-year Energy Expansion Plan 2021 / Ministry of Mines & Energy. Energy Research Company, Brasilia: MME/EPE, 2012.

The interconnected electrified system allows the different regions to redistribute power amongst each other, as is necessary when one region experiences a drop in reservoir levels. Since rainfall varies greatly between the south, southeast, north and northeast regions of Brazil, the major transmission lines (power lines with the highest voltages, usually above 500 kV) help supply points suffering insufficient power production by using more favorably-placed power stations. Table 47 shows the length and quantities of SIN lines per voltage level.

TABLE 47
Extent and Quantity of SIN lines by Voltage

VOLTAGE LEVEL	EXTENT	QUANTITY OF LINES (PL MODULE)
765 kV	2,698	9
600 kV	4,044	5
525 kV	5,226	44
500 kV	29,644	200
440 kV	6,830	54
345 kV	9,360	131
230 kV	44,056	747
TOTAL	101,858	1,190

Source: Santo Antônio Energia.

In transmission, remuneration received by the concessionaires is known as Allowable Annual Revenue (AAR), which is a figure established in the concession bidding process that corresponds to the expenses for providing the facilities and public power transmission utility. The bid is won by whomever can guarantee provision of the service for the lowest AAR. Table 48 shows the main power transmission companies, their AAR and the percentage of the system that they represent.

TABLE 48
Principal Power Transmission Companies

RANKING	TRANSMISSION COMPANY	AAR (BRL)	%
1st	Eletrobras Furnas	1,889,985,023	19.6
2nd	Eletrobras CTEEP	1,671,502,879	17.4
3rd	Eletrobras Chesf	1,075,684,742	11.2
4th	Eletrobras Eletronorte	723,281,577	7.51
5th	Eletrobras Eletrosul	691,997,825	7.19
6th	Cemig	410,778,119	4.27
7th	CEEE	386,260,531	4.01
8th	Novatrans	305,641,787	3.17
9th	TSN	277,942,257	2.89
10th	Eate	248,201,542	2.58
TOTAL		7,681,276,283	79.8

Source: Santo Antônio Energia.

Distribution

Distribution refers to the segment of the power sector dedicated to delivering power to the end user. As a general rule, the distribution system may be considered to be the set of facilities and electrical equipment generally operating at voltages below 230 kV, including low voltage systems.

Today Brazil has a little over 60 power-distribution public utility concessionaires, plus a group of licensees (rural electrification cooperatives that underwent the process of being eligible as power distribution public utility licensees). These distributors carry power to around 63 million consumer units, of which 85.38% are households. Distribution networks supply 99% of Brazilian municipalities (Appendix 2 shows the power distribution concessionaires).

The largest power distributors are privately owned and belong to large corporate groups, many of them with foreign capital or investment fund interests. Appendix 3 shows the shareholding composition of the largest Brazilian power companies. Table 49 lists the largest power distributors by consumption in GWh and by number of consumers, and their respective shares of the market per indicator.

TABLE 49
Largest Power Distributors per Consumption or Number of Consumers

DISTRIBUTOR	CONSUMPTION (IN GWH)	SHARE OF TOTAL	DISTRIBUTOR	NUMBER OF CONSUMERS	SHARE OF TOTAL
AES Eletropaulo	36,756	11.9%	Cemig	7,273,170	10.4%
Cemig	24,401	7.9%	AES Eletropaulo	6,314,797	9.1%
Copel	22,284	7.2%	Coelba	5,079,622	7.3%
CPFL Paulista	20,972	6.8%	Copel	3,915,730	5.6%
Light	19,877	6.5%	CPFL Paulista	3,716,232	5.3%
Coelba	14,925	4.9%	Light	3,698,214	5.3%
Celesc	14,584	4.7%	Celpe	3,054,952	4.4%
Elektro	12,119	3.9%	Coelce	2,967,365	4.3%
Celg	9,824	3.2%	Celesc	2,420,707	3.5%
Celpe	9,786	3.2%	Ampla	2,347,902	3.4%
TOTAL	307,707	100%	TOTAL	69,617,842	100%

Source: Prepared using Abradee's 2011 data.[32]

6.4 RELATIVE SHARE OF NATIONAL AND INTERNATIONAL PLAYERS

The following subsection provides analysis of relative market shares by generation, transmission and distribution. With regards to the international players, the focus will be on Spanish assets.

Generation

Spanish companies are not particularly outstanding in the generation sector. As shown in Table 50, Spanish companies' share of the adds up to a total of 3,569,340 KW, or around 2% of all generation in

[32] Available at http://www.abradee.org.br/imagens/planilhas-de-1996-a-2011/dados-de-2011.pdf.

Brazil. Considering the total achieved by the plants in which Spanish companies have interest, the total is 26,781,956, or 15.9% of the total in Brazil.

TABLE 50
Spanish Companies' Shares in Power Generation

COMPANY	SHARE OF AUTHORIZED CAPACITY (KW)	TOTAL AUTHORIZED CAPACITY OF PLANTS WHERE COMPANY OWNS SHARES (KW)
Abengoa Bioenergia Agroindústria Ltda.	147,400	147,400
Alcoa Inversiones Espana S/A	753,625	2,484,980
Bidenal Holding Espana S.L.	2,101	57,600
Elecnor S.A.	195,549	399,999
Endesa Brasil S.A.	655,962	710,800
Iberdrola Energia S/A	1,560,731	15,901,063
Iberdrola Participações sgps S.A.	60,673	6,742,814
Iberdrola Renovables Energía, S.L.	178,299	307,300
Iberdrola Renováveis do Brasil S.A.	15,000	30,000
TOTAL	3,569,340	26,781,956
HOLDING IN TOTAL GRANTED POWER IN BRAZIL (167,991,886 KW)[33]	2.12%	15.94%

Source: Aneel.

Transmission

With regards to Spanish companies in the transmission sector, Isolux Corsán holds a concession of 3,032 km of high-voltage power line networks and associated substations. The most emblematic and complex project is the building of 1,191 km of high-voltage networks in the States of Pará and Amapá, in the Amazon, which will connect Manaus and Macapá to the national network system[34].

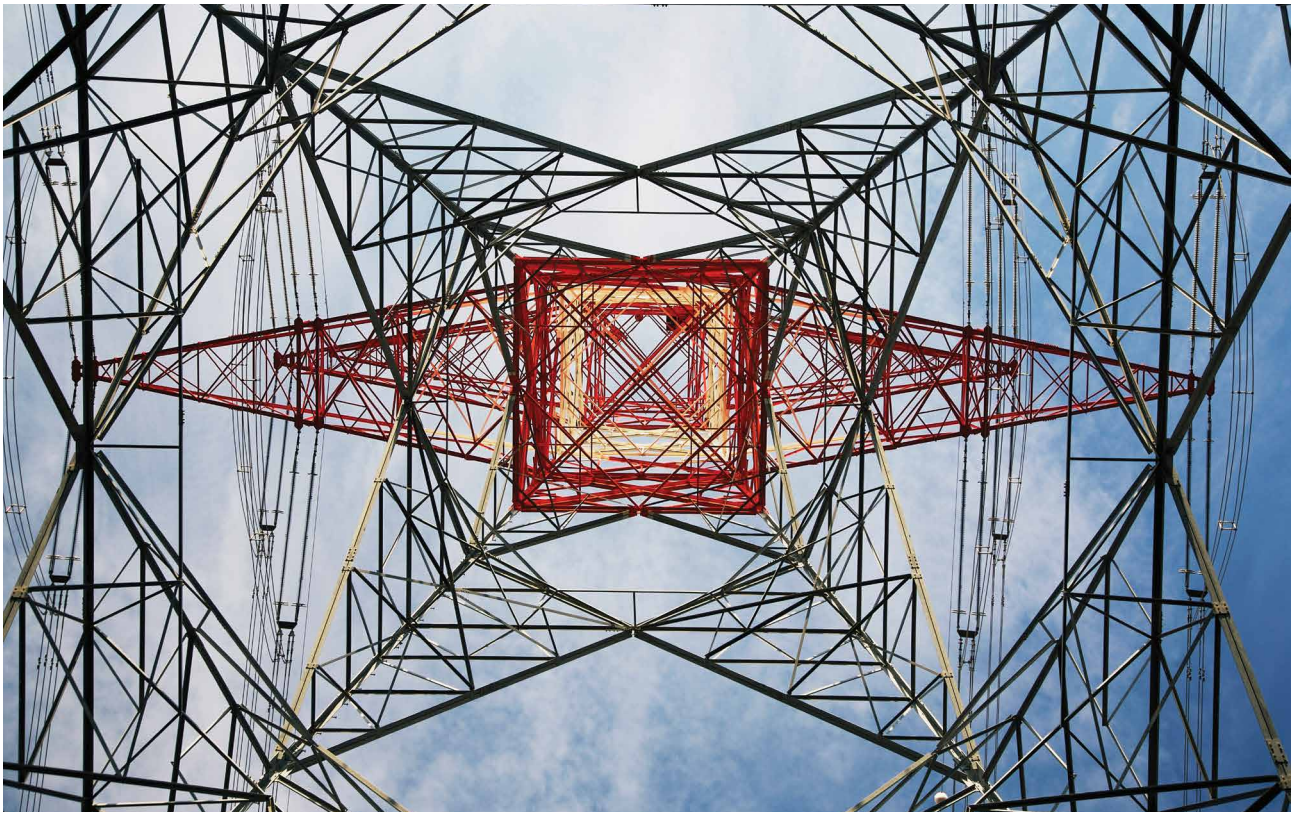
Iberdrola, through Neoenergia, also has transmission assets in Brazil. Its companies are:

- Afluente Transmissão de Energia Elétrica S.A.: consisting of three substations called Tomba, Brumado II and Itagiba, 230 kV transmission lines Funil-Itagibá, Itagibá-Brumado II, Camaçari II-Polo-Ford, Tomba-Governador Mangabeira, and 138 kV transmission line Funil-Poções, all in the State of Bahia. The transmission assets compose the basic network, with installed capacity of 500 MVA, 300 MVA in Tomba substation in Feira de Santana, and 200 MVA in Brumado II substation in the municipality of Brumado. The power lines have a total extension of 445 km; and
- Narandiba: connected to the basic network, Narandiba substation has 200 MVA of installed capacity through two 230kV/69kV transformers.

Endesa's principal assets, on the other hand, are Garabi I and II energy interconnections, occupying an area of 600,000 m2 in Garruchos and with power lines extending over 1,000 km or so. In Argentina,

[33] They are considered operating projects and the addition of 42,875,302 kW in the country's generating capacity from the 159 projects currently under construction and another 545 granted.

[34] Available at http://www.isoluxcorsan.com/pt/areas-de-negocio/concesiones/linhas-de-transmissao.



administration of the lines is conducted by subsidiaries Compañía de Transmisión Del Mercosur S.A. (CTM) and Transportadora de Energia S.A. (Tesa), of which Endesa Cien holds 99.99% of share capital. The systems have a total conversion and transmission capacity of 2,200 MW and are able to transfer energy from Brazil, which operates at 60 hertz, to Argentina and Uruguay, which use 50-hertz frequency.
Abengoa has the following projects:

- ATE IV: 30-year operation and maintenance concession for 85 km transmission line (TL) and four substations;
- ATE V: operates and maintains 132 km of 230 kV TL and substation;
- ATE VI: 30-year operation and maintenance concession of a 230 kV TL and substation for Aneel. The transmission line extends over a total 131 km;
- ATE VII: 30-year operation and maintenance concession of a 230kV TL and substation. The transmission line covers a distance of 115 km;
- Future projects under construction: (1) the 230 kV Jauru-Porto Velho TL, over a total distance of 987 km, (2) the 586 km and 500 kV Oriximiná-Silves-Lechuga TL, and (3) the 108 km and 230 kV ATE VIII Itacíunas- Carajás power line, with the contract covering not only the line's construction but also a 30-year operation and maintenance concession; and
- Abengoa began construction of the 600 kV project of the Bipole2 DC (direct current) Porto Velho-Araraquara 2 Collector, which will measure around 2,414 km, one of the world's largest, and is designed to carry a maximum of 3,150 MW.

In the last quarter of 2012, Abengoa negotiated a concession agreement for new power lines in Brazil. The first concession involved four power lines over 1,816 km and two power substations, while the second agreement required the company to build a 286 km power line and two substations. The third and last contract awarded to Abengoa consists of a 379 km power line between the two Estreito and Itabirito stations in the State of Minas Gerais.

In the first quarter of 2012, Abengoa sold to CEMIG 50% of its joint venturestake in four power transmission concessions relating to the STE, ATE I, ATE II and ATE III lines. The other 50% had already been sold in 2011[35].

Lastly, Elecnor is also present in the Brazilian power transmission market, with 11 concessions totaling 9,340 MVA and 3,734 km of lines. Moreover, the company was recently granted a power transmission concession consisting of a 200 MVA substation in Mato Grosso do Sul. The duration of the concession contract will be 30 years[36].

Distribution

Spanish companies occupy a prominent position in this sector primarily through Iberdrola and Endesa. The former wholly owns Elektro and part of Neoenergia, which, in turn, owns Celpe, Coelba and Cosern. The latter, through Endesa Brasil, owns distributors Ampla and Coelce. Together, the two companies have approximately 18.6% of consumption and 24.2% of the number of consumers in the Brazilian market, as shown in Table 51.

TABLE 51
Spanish Power Distribution Companies by Consumption and Number of Consumers

DISTRIBUTOR	CONSUMPTION IN GWH	SHARE IN TOTAL	DISTRIBUTOR	NUMBER OF CONSUMERS	SHARE IN TOTAL
Iberdrola	40,724	13.2%	Iberdrola	11,547,439	16.6%
Elektro	12,119	3.9%	Elektro	2,253,800	3.2%
Celpe*	9,786	3.2%	Celpe*	3,054,952	4.4%
Coelba*	14,925	4.9%	Coelba*	5,079,622	7.3%
Cosern*	3,894	1.3%	Cosern*	1,159,065	1.7%
Endesa	16,602	5.4%	Endesa	5,315,267	7.6%
Ampla	8,621	2.8%	Ampla	2,347,902	3.4%
Coelce	7,981	2.6%	Coelce	2,967,365	4.3%
TOTAL	57,326	18.6%	TOTAL	16,862,706	24.2%

Source: ABRADEE.

6.5 LARGER COMPANIES' SENSITIVITY TO THE RISKS PRESENTED BY THE SPANISH CRISIS

Despite the Spanish crisis, the Spanish companies with business in Brazil did not stop investing in Brazilian territory. In recent years, on the contrary, some major investments were made in Brazil, as can be seen in Table 52. One of the best examples of the continuing Spanish investment flow in the energy sector is Iberdrola's purchase of Elektro from US-based Ashmore Energy International for 1.78 billion Euros in 2011.

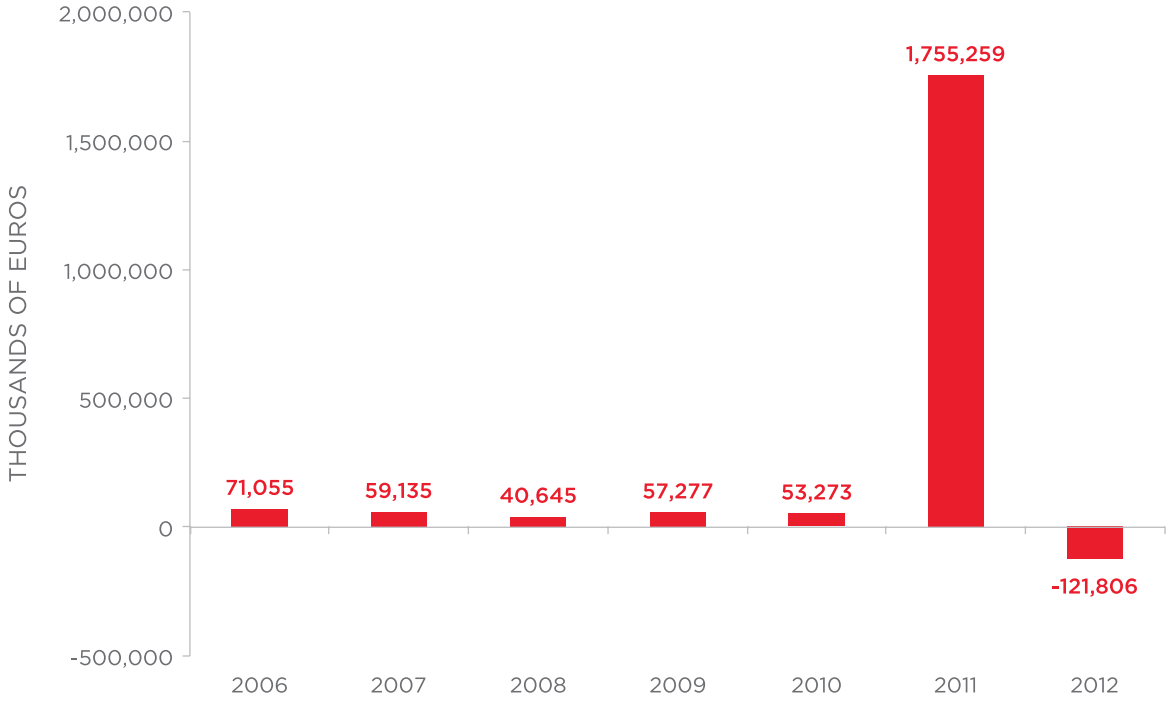
Generation and power transmission have also been receiving investments. In terms of generation, some renewable energy investments deserve attention, namely in the field of wind energy.

[35] Available at http://www.ABENGOA.com/export/sites/ABENGOA_corp/resources/pdf/en/gobierno_corporativo/informes_anuales/2012 /2012_ Volume1_AR.pdf.

[36] Avaliable at http://exame.abril.com.br/negocios/noticias/ELECNOR-investira-12-milhoes-de-euros-no-brasil/.

On the other hand, due to high indebtedness, Abengoa sold 50% of Tesa's remaining assets for 376 million Euros (BRL 884 million) in 2012, including power lines operated in Brazil. This helped reduce corporate net debt, as of December 31, 2011, by 25%.

TABLE 52
Net Flow of Spanish Investment in the Energy Sector[37]



Source: Data Invex (Spanish Foreign Investment Data).

6.6 EFFECTS OF REGULATION AND RECENT ALTERATIONS IN THE LEGAL AND REGULATORY FRAMEWORK FOR CORPORATE STRATEGY

Renewal of wind energy concessions

One of the most remarkable recent changes in the Brazilian power sector's regulatory framework involves renewing generation, transmission and distribution concessions[38]. Provisional Measure 579 (MP 579/12), dated September 11, 2012, provided for the renewal of concession contracts for generation, transmission and distribution that, in principle, would expire between 2015 and 2017[39]. The government justified the urgent nature of the aforementioned measure with the pressing need to cut energy costs as a way

[37] Energy sector consists here of the sectors: 3512 electric power transportation; 3513 power distribution; 3514 electricity trading; 3515 hydropower production; 3516 conventional thermopower production; 3517 nuclear power production; 3518 wind energy production, 3519 other types of power production.

[38] In order to be able to understand the magnitude of the impact of this decision, data announced by the Ministry of Mines and Energy indicated that, based on the provisional measure, "20 generation concession contracts, with expiration dates between 2015 and 2017, totaling 22,000 megawatts, equal to around 20% of the generation complex" could be renewed. In the transmission segment, the measure covered "nine contracts, with expiration dates in 2014, totaling 85,000 kilometers, or 67% of the basic network of the national interconnected system (SIN)". And with regard to distribution, "44 contracts with expiration dates between 2015 and 2016, or 35% of the consumer market" could be renewed.

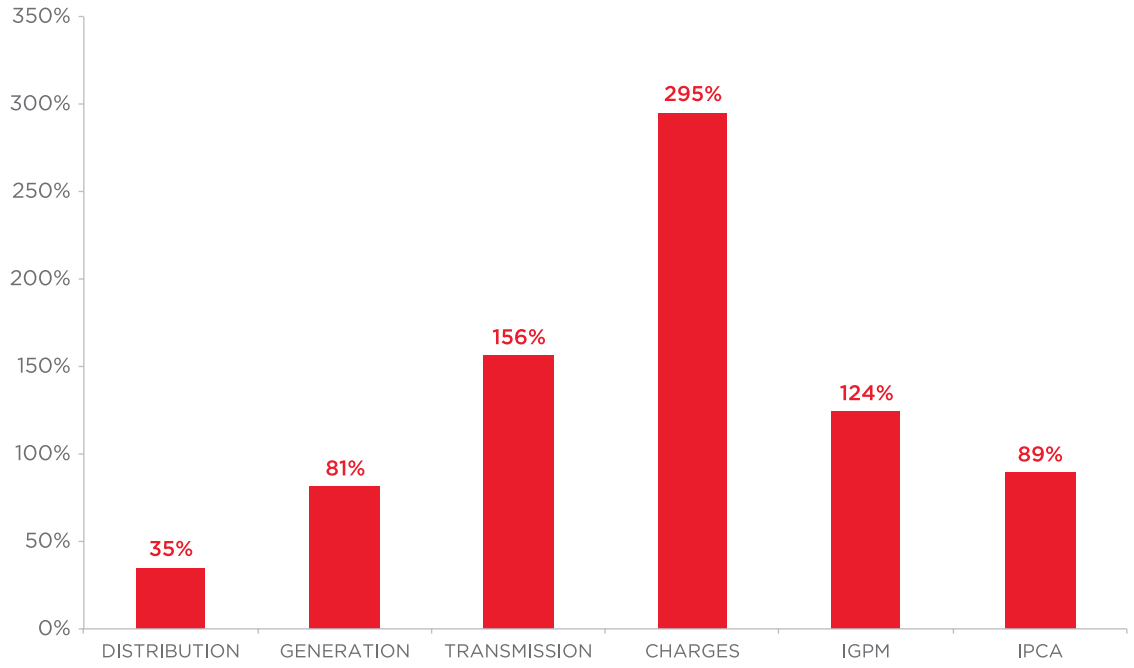
[39] The aforementioned provisional measure was later converted into Law 12,783, dated January 11, 2013.

to reduce the extra cost of doing business in Brazil, and consequently to increase national industrial competitiveness.

As an example, Table 53 gives a variation of the different components of electricity costs between 2001 and 2011, demonstrating that the price of energy procured from energy distributors varied less than prices found in the inflationary indices during that period. This data shows the need look closely for other components that may be responsible for the recent hike in Brazilian electricity prices.

TABLE 53

Performance of Electricity Cost Components, 2001-2011 – Weighted Values per MWh Sum



Source: ANEEL

In order to cut the final cost of this input, therefore, the government chose to reduce part of these charges and to take advantage of the upcoming expiration of certain concession contracts to make major changes in the form of payment for their traded energy. The government's final objective was to achieve a 20% drop in rates, on average[40], of which around 7% result from cutting charges and the remaining 13% from changes in calculation of generation and transmission rates. Not only does the provisional measure directly reduce the rates, but the drop in energy price would also be the result of assigning the remuneration paid for the assets of these old concessions, most of which the government considered already amortized. For those not considered amortized, the government would advance compensation at the time of renewal.

Thus, an initial conclusion is that by introducing the possibility of renewing such concession contracts automatically and avoiding bids for renewal, the government indicated a clear preference for maintaining a high degree of direct participation of the State as an economic agent in the electricity sector.

The government's proposed renewal procedure imposes strict conditions on companies that wish to participate, as detailed below.

[40] The Ministry of Mines and Energy announced its intention to reduce the price of electricity by 20.2% on average. Press release available at http://www.mme.gov.br/mme/menu/concessoes.html. Access: December 2012.

Concession renewal and Provisional Measure 579/2012

In seeking affordable rates, MP 579/12 established that reduced electricity prices would be primarily achieved by:

- Renewal of a set of generation, transmission and distribution concessions, fast-tracked to begin as early as 2013 already with a new method of determining prices of energy;
- Elimination of or a cut in a previously applicable set of fees charged on electricity consumption[41]; and
- Allocation of the energy to be produced by renewed generation assets solely to the regulated environment.

In general, the government's proposal consisted of offering an extension of the contracts expiring between 2015 and 2017 in exchange for which the companies would agree to allocate all energy to be generated to the Regulated Contracting Environment (ACR) through a quota system to be defined by Aneel. In the new system, remuneration for power generation is now regulated by rates that compensate only operating and maintenance costs, plus a 10% (ten percent) fee for the concessionaire's asset administration[42].

The government presumed that the proposed conditions would be attractive enough for companies by compensating the considerable loss of revenue foreseen as a result of this renewed contracting. However, several concessionaires chose to stay with prevailing contracts, albeit temporarily, leaving open the possibility of participating in future bids[43].

It can be argued that, by means of the provisional measure, the federal government proposed a radical change in the relation between concessionaires and the grantor; in other words, a new "business" or renegotiation of concessions. This is not a mere extension of expiration dates of already-existing concessions, nor a simple renewal on the same bases.

The proposal represents a change in focus from an incentive-based regulatory model to a cost-based regulatory model. The regulator, in turn, returns to closer monitoring of the concessionaire, in detriment to a program of incentives to greater efficiency. This is, then, a kind of return to the model before Law 8,631, which in 1993 extinguished the cost-plus system in the Brazilian electricity sector[44].

In relation to transmission concessions, new tariff values also resulted from the setting of new Allowable Annual Revenues (AAR) for concessionaires that accepted the renewal proposal, to be defined by the grantor[45].

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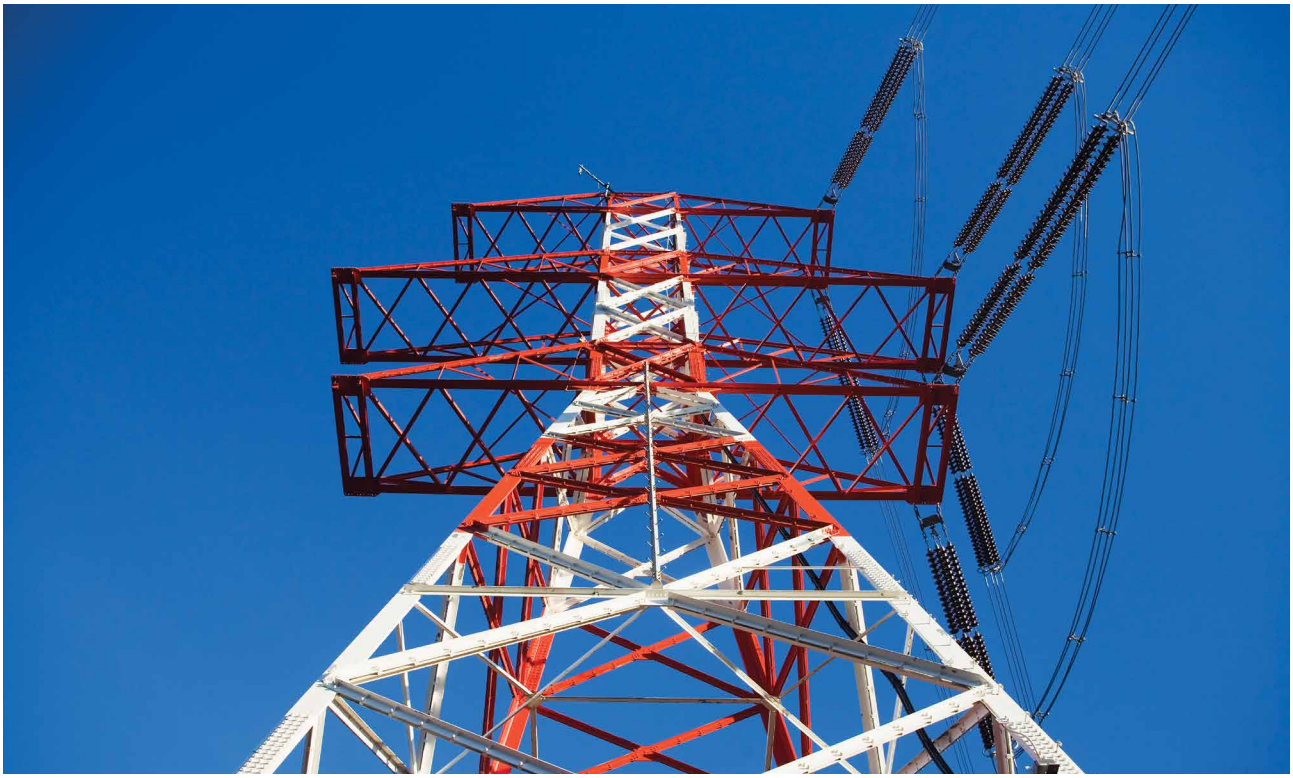
[41] MP 579/12 determined that the distribution concessionaires and, consequently, the users of the service no longer would pay for the Global Reversal Reserve (RGR) and the Fossil Fuel Consumption Account (CCC). RGR consisted of a sectoral charge created by Law 5,655/71, originally to raise funds needed to compensate reversionary property. Over the years, the funds could be allocated to other purposes, such as rural electrification. In turn, CCC consisted of a charge to finance electricity cost equalization in the separate systems, in relation to the National Interconnected System (SIN). There was also a drop in the value to be charged for the Energy Development Account (CDE), which, inter alia, is used to fund the universalization of access to electricity.

[42] The energy rates to be charged for each hydropower plant in a concession renewal were set by the Ministry of Mines and Energy's Administrative Rule 578, dated October 31, 2012.

[43] According to Consultoria Economática, in the four months after the announcement of lower energy rates put in place by MP 579/12 (between September 6, 2012 and January 10, 2013), the 35 listed electricity-sector companies lost BRL 37.23 billion in market value, down from BRL 206.4 billion to BRL 169.17 billion, a drop of 18.03%. Source: Revista Exame, "Setor elétrico perde R$ 37,2 bi em valor de mercado". Available at http://exame.abril.com.br/mercados/analises-de-acoes/noticias/setor- eletrico-perde-r-37-2-bi-em-valor-de-mercado. Access: January 11, 2013.

[44] With the new model, even possible repowering or upgrades of plants now depends on the regulator's prior authorization, which again reflects a return to a cost-based regulation, rather than the incentive-based regulation, scheme. The grantor's interference in concessionaires' decisions is now much more intense and frequent.

[45] MME Administrative Rule 579, dated October 31, 2012, established the AARs for transmission projects under renewal.



Moreover, MP 579/12 provided for the application of funds collected as a Global Reversion Reserve, an account managed by Eletrobrás, towards the indemnification of the as yet unamortized or depreciated assets for companies whose concessions were to be renewed. Thus, at the same time as it eliminated this charge for consumers' electricity bills, it foresaw the advance compensation of non-amortized investments in order not to cause an impact on the tariff.

In addition to the limitation on the spectrum of reversible property for indemnification purposes, the provisional measure determined indemnification values based on the criterion of a New Replacement Value (RNV) and not on the accounting value, which had effectively been discarded by the economic agents in concession investments, as approved by the regulatory agency.

Since in the government's concept this is a proposal, the indemnity offered would not need to reflect the reversion concept. However, this attitude caused regulatory uncertainty. In addition to the government's preference being open to criticism — since the investments were actually made by the concessionaires with Aneel's approval and, therefore, should be indemnified with regard to the non-depreciated or -amortized portion — there was an expectation that the VNR could also be used as a mechanism for calculating compensation in cases of asset reversion for concession contracts whose expirations do not fall under the renewal terms of MP 579/12.

The combination of the aforementioned factors — loss of income, the regulator's intervention in corporate decisions, transformation of the concessionaires into mere service provides with remunerations based on operating costs and regulated margins, in addition to the change in the calculation guidelines for compensation for reversionary property — proved unattractive for a large number of investors, as reflected in the decision of some generation agents not to renew concession contracts for several of their enterprises[46]. Table 54 shows the result of concession renewals in the generation segment under accession to the terms proposed under MP 579/12.

[46] In the case of Eletrobrás, some private shareholders publicly expressed their rejection of the proposal, pointing out weaknesses in the argument in favor of renewal. See, for example, the article entitled "Minoritários da Eletrobrás reagem" [Eletrobrás minority shareholders react], published in the journal Valor Econômico on November 26, 2012.

Lastly, concerning governance of the regulatory process, it should be mentioned that the economic agents were led to take extremely important decisions in a highly uncertain environment. This is evidenced by the fact that the text in the provisional measure at the moment when they were to formalize concession renewals could still be considerably altered by the National Congress. An indication of this possibility was the fact that the Bill of Conversion of the Provisional Measure (PLV) received 431 amendments in the House of Representatives[47]. This factor is of even greater importance when taking into consideration the importance of the topic and that the subject was on the electricity sector's agenda at least since 2007.[48] Moreover, its ramifications went far beyond the sector to various other infrastructure sectors.

TABLE 54
Renewal of Power Generation Concessions (MP 579/2012)

REJECTED		
COMPANIES	NUMBER OF PLANTS	MW
Celesc	7	71
Cemig	18	1,065
Cesp	3	5,803
Copel	4	272

ACCEPTED		
COMPANIES	NUMBER OF PLANTS	MW
CEEE	12	420
Chesf	11	9,292
Eletronorte	1	68
Emae	4	947
Furnas	6	4,617
Outras	16	137

Source: Aneel.

The earlier considerations are designed to reflect the fact that, because of the absence of a wider public debate, the chance for a broader analysis between costs and benefits of the government option for renewing the concessions was lost in detriment to the possibility of resuming them and new bids for them. So far-reaching a political decision and with such a potential effect on so many economic agents and users deserved to have been the subject of an in-depth study on regulatory impact before it was adopted, with its premises, regulatory options and motivation for the decision finally adopted as the subject of public discussion.

[47] Provisional Measure 579 was published on September 11, 2012, and converted only three days later. Thus, on September 14, 2012, Decree 7805/12 stated that the concessionaires whose concessions' expiration dates were less than 50 months to their final term would have only one month to decide in favor or against the government's proposal, and had to submit their decision by October 15, 2012. Art. 3 of the Decree also provided that by November 1, 2012, the grantor would invite the concessionaires who had shown interest in signing the renewal, whose expiration date was set by the Ministry of Mines and Energy on December 4, 2012. However, on December 4, the Conversion Bill of Law (PLV) of MP 579/12 was still being addressed in the National Congress. The PLV was only voted on by the House of Representatives on December 18, 2012, the same date as the Federal Senate approval of the text with further amendments. The law was published only on January 11, 2013.

[48] The topic was also came up before the Federal Audit Court (TCU), which expressed its concern more than two years before the publication of the MP. In May 2010, after a detailed audit process on energy security, the TCU decided that the MME should inform "within 90 days: (...) the actions being taken and their completion timetable, in preparation for the upcoming expiration date (from 2015) of the generation, distribution and transmission concessions, particularly with regard to undertaking relevant studies with a focus on the legal, economic and financial aspects, risk of discontinuity, need for repowering hydropower plants, and so on" (Acórdão 1196/2010 – TCU – Plenary, May 26, 2010).

Transmission

With regard to the transmission segment, Brazil is considered to be a complex system, partly reflecting the predominance of hydro in the nation's generation installed capacity, which causes the need to carry large volumes of energy for long distances in many cases (since it is common for generation plants to be located far from consumer centers). Electric power generators, transmitters, distributors, importers and exporters are interconnected in the same single system operating on a centralized basis. Only 3.4% of the generating capacity of Brazil is outside the SIN, supplying the so-called "independent systems."[49]

Although Law 10,848/04 has not required the structural separation of the generating and transmission segments, the model established in 2004 imposed separate contracts for power production and transportation.

The cost of power transmission is charged by collecting the transmission system's usage rate, paid by all agents connected to SIN; in other words, by the users of the system, such as generators and distributors (which transfer the corresponding costs to consumers) or even large consumers. The transmission companies, in turn, are paid by receiving an annual income called Allowable Annual Revenue (AAR), the payment of which is shared by the system's users.

The privatization process of the transmission segment was especially designed to help expand the network by holding bidding procedures for construction, operation and maintenance of new transmission lines. The projects that had been built and were operated by state-owned companies in the sector were not transferred to private enterprise, which explains why most of this activity continues to be state-owned.[50]

Since 1999, auctions have been held to further the expansion of the transmission facilities within the National Interconnected System through market competition. This means selecting an agent/investor to set up facilities, under the terms of the invitation to bid, as planned in accordance with standards established by the grantor. The judgment criterion for the auctions of new transmission lines is the lowest Allowable Annual Revenue. This is a very successful model, resulting in progressively lower prices, largely a reflection of competition.[51] The expansion of transmission contracted through auctions organized by Aneel helped set up 38,800 kilometers of new transmission lines, with a total of 6,600 MVA of transforming capacity, facilitating entry into the segment.[52] This entry was not restricted to national capital; on the contrary, multinational private capital was welcomed. The Spanish companies that won Aneel auctions made considerable investments, helping reduce implementation costs of new (albeit not necessarily innovative) building techniques. Quality control was also regulated and in many cases investments were delivered in advance of the start of commercial operations.

However, this initial positive movement began to change in recent years. The crisis of the international market made it hard to attract foreign investors, hindering greater competition in the auctions. In addition, the environmental licensing process caused difficulties and delays in the transmission segment as well.

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[49] Available at http://www.ons.org.br/conheca_sistema/o_que_e_sin.aspx. Access: December 2012.

[50] As noted, the Eletrobrás Group operates more than 50% of the Brazilian transmission lines still involving state-owned companies.

[51] For references see: A.P. Carlos & J. Dutra, "Strategic Behavior of Winning Bids in the Brazilian Electricity Transmission Auctions," presented at XXX Brazilian Econometric Society Congress, 2008. In: A. P. Carlos, Essays on Infrastructure in Brazil, Doctorate thesis, EPGE/FGV, 2010.

[52] By the first half of 2010, ANEEL auctioned approximately 38,800 kilometers of new transmission lines and a total of 60,600 MVA transformation capacity, expanding the basic network of the National Interconnected System (SIN). These projects attracted national and international investors, mainly from countries such as Spain, Italy, Colombia, Portugal and Argentina." Source: ANEEL. Data available at http://www.ANEEL.gov.br/area.cfm?idArea=54. Access: December 2012.

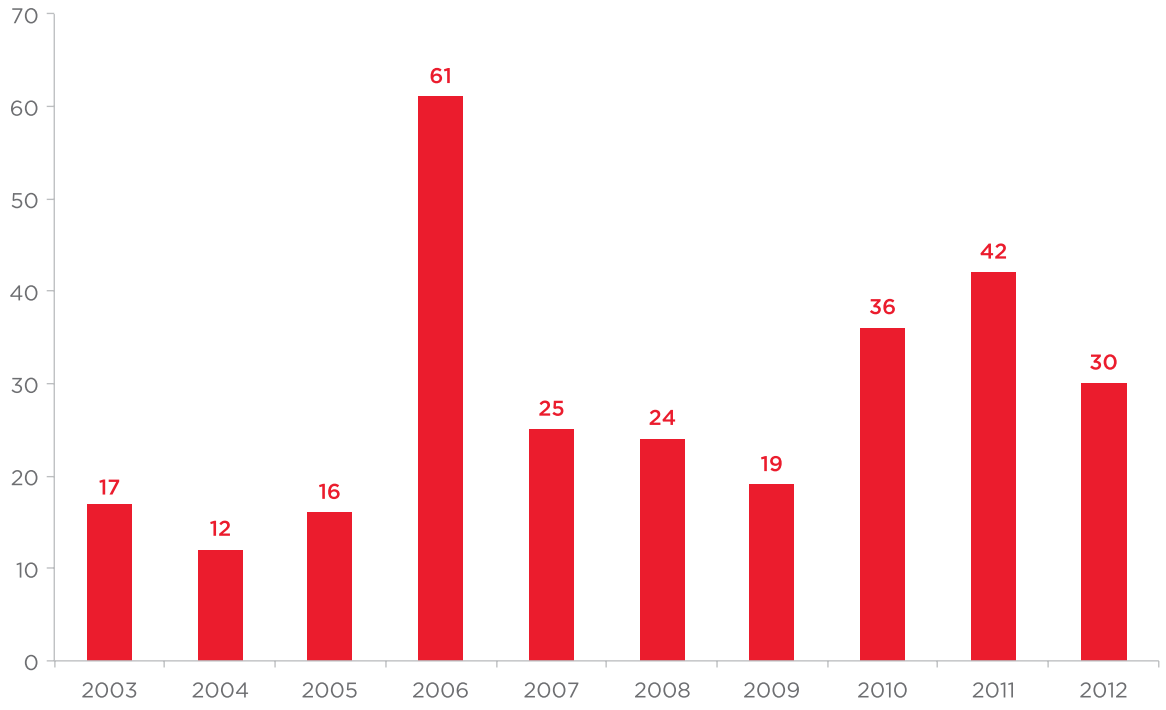
The current situation involves considerable delays in beginningcommercial operations of projects, and overcharging of consumers. The most serious cases are the result of delays in construction of transmission facilities, which prevent carrying energy from new plants.[53]

6.7 POTENTIAL PURCHASERS OF SPANISH COMPANIES' ASSETS

The Brazilian energy sector consists of a large quantity of public companies, some of them trading on the stock exchange. Among the principal shareholders are the capital interests of state, federal, as in the case of Eletrobrás, and even municipal public entities. The private sector also has a considerable share, involving both Brazilian and foreign companies.[54]

This diversity of corporate stakeholders in the energy market is constantly changing. As Table 55 shows, the energy sector in the last ten years has had an average of 28 merger and acquisition transactions a year, which made this sector one of the ten largest by number of transactions.

TABLE 55
Number of Transactions in the Energy Sector



Source: KPMG.[55]

[53] The reason for this originates in the Santo Antonio HPP, which for the first time insulated generators from risks arising from the inability to supply generated energy as a result of delays in transmission projects. This mechanism was later extended to all generation projects. Examples of losses incurred by consumers are: the Acre-Rondonia System interconnection and a group of wind farms whose connection would be the responsibility of CHESF.

[54] Appendix 3 gives further information about the share composition of the main energy companies in Brazil.

[55] Available at http://www.kpmg.com/BR/PT/Estudos_Analises/artigosepublicacoes/Paginas/FA-4-trimestre-2012.aspx.

Not only in Brazil has the energy sector attracted investment interest. According to the Merrill Datasite, the energy sector has led middle-market mergers and acquisitions operations in the Americas, with USD 19 billion announced in more than 217 transactions, most of them occurring in the USA and Canada.

Amongst Brazilian transactions in 2011 and 2012, the vast majority (41 in 72) were domestic transactions; in other words, transactions involving only Brazilian-owned companies. In addition to these, companies with Brazilian majority interest acquired 12 companies from foreigners during that same period, bringing acquisitions by Brazilian companies of Brazilian or foreign-owned companies to a total of 53.

However, predominantly foreign-owned companies also play a leading role in the Brazilian energy sector's mergers and acquisitions market. In that same period from 2011 to 2012, majority foreign-owned companies were responsible for 18 of the 72 transactions, where 11 of the targets were Brazilian and seven were foreign, as shown in Table 56.

TABLE 56
Transactions by Type of Share Composition

TYPE OF TRANSACTION	NO. TRANSACTIONS 2011 & 2012
Domestic transactions	41
Majority Brazilian-owned company acquiring a stake in a Brazilian company from foreigners	12
Majority foreign-owned company acquiring a stake in a Brazilian company from Brazilians	11
Majority foreign-owned company acquiring a stake in a Brazilian company from foreigners	7
Majority Brazilian-owned companyacquiring a stake in a foreign company from foreigners	1
Majority foreign-owned company acquiring a stake in a foreign company from Brazilians	0
TOTAL	72

Source: KPMG.

From a macro viewpoint, according to PWC[56], foreign investors conducted 41% of the transactions announced in 2012. However, should the financial crisis winds down, larger numbers of foreign investments in mergers and acquisitions are expected in Brazil.

Another interesting item is the participation in recent years of private equity in Brazilian transactions. According to PWC data, in the last five years approximately 35% of transactions were made by this kind of company.

A new player that may alter the current configuration of the Brazilian energy market is China. Chinese companies in recent years have been making considerable investments in the oil and gas sector. The energy sector, more precisely the transmission segment has been attracting Chinese investments mostly since 2011. In May 2012, the Chinese company State Grid bought seven power transmission lines in Brazil from the Spanish company Actividades de Construcción y Servicios for USD 531 million plus the

[56] Available at http://www.pwc.com.br/pt/publicacoes/servicos/assets/fusoes-aquisicoes/relatorio-mea-dezembro-2012.pdf.

assumption of USD 411 million in debts. In March of that year, the same State Grid joined with Paraná's Copel to submit the winning bid in the auction for the right to build and operate the transmission system that will connect the plants on the River Teles Pires, which crosses the States of Mato Grosso and Pará, to the national power system.

Therefore, based on the transaction information in the above paragraphs, should there be no major changes in the Brazilian energy market, it is expected that the main candidates to acquire future Spanish assets are majority Brazilian-owned companies. Furthermore, the participation of private equity funds, albeit as minority investors, is also foreseeable in these transactions, as already occurs today for example with Squadra Investimentos (Equatorial Energia) and Blackrock (Cesp). It is also possible that new actors will dispute this market, mainly Chinese energy companies.

7. CONCLUSIVE OBSERVATIONS

The production of new regulations

In economics the idea of "crisis" is normally accompanied by and in contrast to a context of "normality," which is temporarily interrupted. To a great extent, this comes from the high degree of reversibility of crisis associated with economic cycles of low demand, which predominate in theory and economic history since the mid-19th century. Not all economic crises are reversible, however. Defining "crisis" as a severe period of economic setbacks, it is often noted that the severe problems spread into persistent chronic issues, albeit less intense. On the other hand, the crises may cause structural adjustments resulting in a different economy after recovery.

Therefore, it is worth adding a layer of history to the crisis narratives. This study addresses aspects selected from the historical question but, to redefine more subtle concepts of "recovery" and "normality," it is necessary to stress only the recent nature, institutional contingency and political activity of the European Union and of the monetary union. The Euro Zone, far from being something inevitable or even a consequence of governments accommodating market pressures, is part of a project of widespread motivations and scope.

Accordingly, the fact that the Euro was successfully established in 2001 does not imply that the European project, as widely conceived, is feasible. Even if the monetary union is maintained for an indefinite period, the crisis accumulates economic and political pressures in the different countries—pressures that can be managed until they cease to be relevant, or that may reappear in future recessions.

Spain is not at the extremes of the likely post-crisis European reality. The decades-long process of demographic decline in Portugal, for example, was severely aggravated by the flight of young laborers from the country during the crisis; a scenario of hysteresis with bleak prospects for the country. In Poland, on the other hand, the fact that the country did not have public debt, a phenomenon that was partly a result of decades of isolation from the globalized western economy, brought a period of ongoing growth, propelling the country forward in the European context and likely redesigning balances of power policy-making patterns within a few years.

Spain, however, is a peninsular community of nations, whose statutes of autonomy are being continuously reviewed even in the absence of more accelerated separatist processes. In the same way as there is no guarantee of returning to the previous status in economic relations between the European countries, it is not clear that the internal relations forged in 1977-1978 are also guaranteed, with the Moncloa Pacts and the autonomous communities' constitutions, considering the high tensions that arise during the crisis due to cross-subsidies to the autonomous governments' public finances and to different exposures to terms of trade. The economic recovery that interests Andalusia, which attracts tourists and gains from protection[57] for its farm produce, is not the same recovery that interests Catalonia, the industrial center that gains from opening the economy and financial system to globalization.

This is how the "new normal" should begin to be considered. In Section 1 herein, two viewpoints were reviewed from within which the adoption of the Euro is normally analyzed. The first can be abbreviated as a "Moncloa narrative" and derives from the Moncloa Pacts that introduced capital controls to achieve competitive targets. This analytical method understands that exposure of the Spanish economy to its export conditions is structural, and factors altering its effective terms of trade have major economic consequences, even though preceded by some years of boom, such as was the case, for example, in the first years of the European Monetary System from 1989 to 1993. The second, referred to here as the

[57] Often there are solutions to reconcile these interests. The European Common Market , for example, benefits Andalusia, guaranteeing exclusivity for certain products such as tomatoes, which is produced at lower prices than in Morocco.

"opening narrative," emphasizes the benefits of economic opening, investment capacity and specialization in comparative advantages, arriving at the Spanish foreign investments highlighted in Sections 4 and 5.

From the "opening narrative," the exit from the Euro Zone crisis and diminished volatility of the Euro should also stabilize credit conditions and capital flows available for continuing the industrialization process, particularly in the peripheral countries where there are greater opportunities. This means that a recovery of the Euro brings, to a certain extent, renewed growth of Spain as a modern economy, with all the contradictions that this implies. On the other hand, from the "Moncloa narrative" the recovery of the Euro's credibility should increase the value of the currency, in relation to recent rates, aggravated as well by the continuing American tax impasse. This could result in a deterioration of the external conditions of the Spanish economy, which is historically linked to the politically more sensitive economic variable of unemployment.

Along these major themes, a probable configuration of the "new normal" would be a combination of these potential changes, modified by the different degrees of pressure exerted by European economic policy on different countries, by the emergence of Barcelona as an effective alternative center of power opposite Madrid, and by the configuration of the actual global economy after the crisis. For example, on one hand, the country depends on energy resources from abroad, and needs exports to steady its tax and foreign balances, and on the other, the farming economy is becoming a service economy, in addition to a financial and industrial economy, that projects its companies on a global scale.

The outlines of this new configuration are now reflected in the timeframe of the Spanish crisis since 2008. First, the effects of the 2009 global recession and the continuing adverse macroeconomic conditions in consumer markets were more prominent, causing a drop in exports and domestic demand. The sharp drop in tax revenue associated with this economic crisis put an end to the previous years of surpluses and generated rising deficits which were hard to combat. Secondarily, a financial crisis develops that is marked by higher banking risks and elevated pricing of Spanish public debt.

Multinationals and companies operating primarily in Spain are exposed differently to these two moments of crisis. The multinationals geographically diversify their assets, reducing exposure of their income to the Spanish recession. On the other hand, the income of companies operating in Spain depends on the home market, which was depressed by unemployment, and on exports, the feasibility of which varies according to foreign exchange conditions.

This conflict creates a stalemate with regard to the priority that should be given to public policies to overcome the crisis, which mirrors cultural, regional and sectoral divisions. The multinationals are not only less present in the Spanish home market, but also are primarily based in the capital and in some northern regions with smaller populations and sharp cultural and historical divergences from the rest of the country. On the other hand, the regions most affected by the recession and high unemployment include both the southern communities, where most of the population is concentrated, and the eastern Catalan-speaking regions, which are responsible for almost a third of the Spanish GDP.

Therefore, a fundamental conflict of interests arises, which has its structural roots in the configuration of the Spanish economic opening, but worsens with the link to the monetary policies of the Euro Zone. At present, pressures for direct anti-recession policies affect Spain's own relationship with the economic bloc. In an extreme scenario (but not impossibly), the direction of the economic policy imposed by the electoral and sociopolitical dynamics in Spain may cause a split with the Euro. In more likely (albeit less clear) scenarios, Spain may adopt more expansionist tax policies for indeterminate periods of time within the Euro Zone outside the austerity regime. There is still another possibility that the Spanish government's recovery plans for after 2014 do materialize, although the continuous negative revision of these outlooks argues against considering them as a base scenario.

In any case, diverse electoral and political forces are relevant against the current push for austerity policies. First, there have never before been such severe social impacts from an economic crisis, particularly high unemployment, which exceeds 50% among the young. The regional configuration has also changed. In Catalonia, a region with one of the strongest backgrounds of separatism and most divergence in relation to austerity targets, a majority coalition of parties has been emerging that is committed to separatism and has a strong chance of taking power under this banner in 2014. This date is already being considered as a "de facto referendum," since the growing majority of its population claims to be either "more Catalan than Spanish" or "only Catalan."

In this interim period, it is likely that the Spanish government will grant the concessions to necessary prevent the separation of this region — responsible for almost 20% of the Spanish GDP — a process that is already underway and spreading to other regions. Therefore, for example, the Catalan government negotiated the relaxing of its deficit targets, a move that has brought similar demands from other regions. Such chain reactions show how Catalonia is a pivotal issue, forcing a deadline for hard decisions affecting the whole country.

Spanish business expansions and their characteristics

While the present study highlights chronic macroeconomic problems in Spain and the contradictions in its methods of overcoming the resulting crises, the country is seen to have been rapidly developing over the last few decades. If in the 1980s it was possible to say (GALEANO, 1989) that "Spain exports workers and imports tourists," in the 2000s the country has become a key focus of immigration, and its banks and companies have launched significant foreign investments, particularly in Latin America.

The path of this Spain that is being modernized and globally projected is evidently mitigated by the evolution of its domestic circumstances. However, with its presence outside Spain, the economic health of the private sector gains certain resilience to the oscillating domestic demand, affected as it is by peaks of unemployment. For example, the revenue from satellite telecommunication consortia, such as Intersat and Immarsat, depend on very diverse economic activities in a wide range of countries.

In other cases, as in the Latin American investments of Aguas de Barcelona and Telefónica, Spanish business operations have acquired a reputation for intermediation, starting and facilitating business that was later sold to global conglomerates. This characteristic is fully achieved in groups such as BBVA, itself the result of the consolidation of various Spanish national and regional banks and which today operates in the main financial capitals of the Americas, Europe and Asia. Another highlight in the financial sector is the Santander Group, which began as an auxiliary operation to the main activity of exporting cereals from Santander port (in Cantabria) and today is a global conglomerate with a strong presence in England, Scotland, Chile, Mexico and Brazil.

In the history of this "opening-related modernization," some recurring characteristics are to be found. The first is the importance of privatization, which brought to the private sector a series of assets that were repositioned and consolidated, deriving major benefits from the increasing liberalization of the country. When considering a prognosis for new Spanish players entering the global market for direct investments, it should be borne in mind that this process is politically contingent, and finite by nature.

The second major characteristic is the banking and public utility sectors' recent emphasis on internationalization, particularly, and on one-off major acquisitions of minority or control stakes. Spanish investments have avoided situations where production processes begin under uncertainty of markets, competitiveness and profitability. Projects are, therefore, typically undertaken where the acquisition of natural monopolies gives a greater degree of predictability in profitability or where there is an existing, known business environment.

A third characteristic is the importance Spanish companies place on Latin America in their international expansion. It should be mentioned, however, that this importance is mitigated by the exposure of investments such as public and energy utilities to a type of risk that was not initially expected or even known, namely expropriation, as in the case of Repsol in Argentina in 2002. Such an adverse event of this magnitude must of course cause increased perception of the political risks, which may reduce corporations' preference for Latin American operations when conditions allow for such an adjustment. This is reflected, for example, in the withdrawal of Repsol from the Chilean natural gas sector in 2013.

The last characteristic to be mentioned as an input for this prognosis is the horizontal consolidation present throughout all of the stages of the typical expansion process of a large Spanish corporation. Whether by consolidating assets of various national banks during privatization, by aggregating several companies from the same sector before investing abroad or by selling their holdings to even more extensive foreign conglomerates, a large part of the gains that were possible during the recent Spanish international expansion are due to economies of scale, negotiating power and diminished competition.

The undefined continuity of this process is therefore not obvious. Obtaining assets whose efficiency can be improved by privatization peters out, as does the race to price the exploration of public utilities in Latin America, and even markets that were traditional natural monopolies, such as telephony, become increasingly elastic and open to competition. Therefore, Spanish capital can seek new markets with the same characteristics, or alternatively diversify its holdings in a wide variety of activities subject to non-correlated market risks.

The Brazilian electricity sector and Spain

Some of the goals to be constantly pursued by the regulatory benchmark and relevant authorities are reliable and affordable supply, and universal access.

Between 2003 and 2004, the new model for the electricity sector was approved, with the creation of free and regulated contracting environments, and the submission of energy purchases and sales to an auction system that should introduce affordable rates. The companies forming the Eletrobrás group withdrew from the National Privatization Program so that a large portion of generation and transmission remained state-owned. The Brazilian government now played a more active role in shaping the sector, through the National Energy Policy Council, the Electricity Sector Overseeing Committee and the Energy Research Company, as well as through changes in the governance of the National System Operator and creation of the Chamber for Electricity Trading.

This model, together with the thermopower expansion program and bidding for new transmission lines, managed to prevent serious supply problems, although in recent years this reality may also be attributed to the country's slower economic growth relative to other countries, namely the other BRICS members, which lowers the pressure for increased supply.[58]

However, energy security is again a topic of discussion and concern immediately after the recent changes under MP 579/12. A late rainy season, during which the large reservoirs should reach levels that can assure the power system's operation under normal conditions in the years to come, evidenced weaknesses in this same system.

The World Economic Forum publishes the Global Competitiveness Report[59], which annually assesses the competitive conditions of a group of more than 140 countries and results in the publication of a Global Competitiveness Index (GCI). Brazil currently ranks 48th among the 144 countries assessed. This index reflects a set of 12 pillars, infrastructure being one of the first four, consisting of basic requirements for competitiveness. In the infrastructure section, Brazil is ranked 70th. Electricity is assessed by the quality of the power supply, as a proxy for the reliability of supply, a factor considered essential for enabling investments in other sectors.

In December 2012, the National System Operator (ONS) decided to turn on all thermopower plants in Brazil, producing a total of 14,000 MW and including thermopower generation from natural gas, oil, coal and uranium, an unusual decision for such a period. When the media reacted by announcing its concern with national energy security, ONS cited low reservoir storage levels resulting from a severe drought that same year as the reason for the decision. Some analysts contested and scrutinized this argument; but this discussion is not part of the scope herein.

Here, it is worth stating that energy security — a country's pillar of competitive conditions — is currently a matter for concern. The withdrawal of a group of plants from the government's proposed concessions renewal track for the electricity sector required additional Treasury funds transfers to ensure the previously announced 20% cut in electricity rates.

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[58] In November 2012, the Organization for Economic Cooperation and Development (OECD) estimated that Brazil's GDP growth in 2012 would be 1.5%, while China grew 7.5%; India, 4.5%; Russia, 3.4%; and South Africa, 2.6%. Source: OECD. Real Gross Domestic Product forecast. Available at http://www.oecd-ilibrary.org/economics/real-gross-domestic-product-forecasts_gdp-kusd-gr- table-en. Access on 12.28.2012. In December 2012, the Central Bank of Brazil announced the revision of the country's GDP growth in 2012 to only 1%. Source: Banco Central do Brasil. Forecast for GDP in the next four quarters and revision of 2012. Available at http:// www.bcb.gov.br/htms/relinf/port/2012/12/ri201212b1p.pdf. Access on 12.28.2012.

[59] K. Schwab, "The Global Competitiveness Report 2012-2013", World Economic Forum, 2012.

This essentially represents an advance from future resources without the opportunity to make the upgrades necessary in the current framework. An example of such an upgrade would be adoption of measures promoting greater participation of demand in the system, with cooling down of price hike pressures or even incentive measures for energy efficiency.

This framework of instability has been exacerbated by the need to guarantee the essential resources for funding further thermopower generation. Since adjustments the distribution concessionaires occur only once a year, there is a gap in financial flows, causing considerable instability. To prevent further instability, Decree no. 7,945 was published on March 8, 2013, to provide for the use of funds from the Energy Development Account to cover settlement of distributors' involuntary exposure in the short-term market. This exposure would be the result of insufficient contractual coverage from the withdrawal of generator companies from the MP 579/12 concession renewal scheme, together with other factors, such as allocation of hydrological risk and expenses incurred by firing up thermopower plants except within the framework of national energy security.

These factors evidence a change in the national energy sector's framework, which has shifted from the belief that the main drawbacks to Brazil's competitiveness were the effects of high prices and rates, to concern with energy security and sectoral (non)payment.

Added to this is the peculiar way in which these measures have been introduced. Economic literature highlights the positive effects of good regulatory governance practices on the incentives for agents to invest. This aspect becomes more relevant in the case of network industries, characterized by large investment volume in specific assets, with long-term maturity and in incomplete contract environments.

Provisional Measure 579/12 erred in its steering of the economic-financial, legal, political and regulatory aspects of the process. Moreover, it introduced new regulatory risks by demonstrating strong political interference in the decisions of privately and publicly owned companies, imposing heavy losses on minority shareholders of national companies, which may lead to future reluctance of private investors to inject funds in those entities.

From the economic-financial view, the Provisional Measure tends to reduce leveraging and corporate investment capacity, making it practically inevitable that the Brazilian Treasury will be forced to further participate by capitalizing the Eletrobrás system.

This scenario raises concerns about the content and process of changes in the electricity sector, and their reflections on the incentives that the agents have to invest in assets with a high degree of specificity and lengthy redemption periods, similar to the problem that economic literature customarily calls "hold-up."[60]

It may be argued that the signs point to further government participation in the decision-making process with less independence for the regulatory agency and with incentives to consolidate. Moreover, in the actual sectoral regulation, there is a tendency to use more cost control mechanisms than efficiency-promoting instruments in the form of incentives. The market as an allocation mechanism does not regard itself as a subject of major incentives, which is confirmed by the large volume of guarantees and insurance inherent to the sector's operations, such as the guarantee of transfer of electricity acquisition costs to end-consumer rates, recently hiked to 105% of the total sum of contracted electricity in relation to the annual supply load under Decree 7,945/13.

[60] O. Hart, "Firms, Contracts, and Financial Structure, Oxford and New York: Clarendon Press, 1995.

In this context, some questions remain unanswered. The decision to extend concessions instead of putting them out to competitive bidding and the possibility of future operation by other agents when their contracts are close to expiration, can be repeated for other regulated infrastructure sectors. In practice, under the new framework it is more than likely that some concessions will be prolonged indefinitely and never re-bid.[61]

These are very important aspects for possibly predicting the future of the relationship between State and private enterprise in the electricity sector, and even more so for the incentives of private agents representing national or multinational corporations to promote necessary investments in Brazil's infrastructure.

Opportunities to acquire assets in the electricity sector

Even in a context of increasing setbacks, a presence in Latin America through ownership of electricity sector assets could continue to be attractive. Revenue deriving from these assets depends primarily on increases in demand and on the regulatory environment. There is, therefore, attractiveness to the extent that the emerging economies have been much less affected by the crisis and already show signs of growth. So, given a decision by these companies to deleverage and reduce asset portfolios, or even a need to meet liquidity requirements, there should not be a preference for the winding down of Latin American operations.

There do exist some reasonable scenarios, however, that favor asset transfers. First, Spanish multinationals can face adverse circumstances that exceed long-term strategic planning. The systemic risk faced by the Spanish banking system can have substantial repercussions on the capacity to obtain short-term credit for debt turnover and even for liquidity. Although the Spanish government is aware of the systemic question of bank credit, the recent experience of the developed countries recommends attention to this factor.

To the matters relating to financial turmoil are added the consequences of a reduction in the emphasis on multinational expansion by policymaking. The incentive program and risk sharing assumed during the 1990s can become unsustainable in a scenario of ongoing austerity and tax squeeze, and in a situation of rising expenses requiring definition of priorities, probably force a refocusing on the peninsular economy.

Lastly, there are questions relating to the regulatory overview. On one hand, it is possible that, with the prolonged crisis and difficulty in obtaining credit, there are situations of under-investment in certain public utility assets, as in electricity transmission and distribution, at levels that go against the current regulatory benchmark of Brazil and other countries. On the other, changes in the regulatory framework—not necessarily in Brazil—may affect the capacity or interest of companies to adapt their assets to the operation of their concessions. Companies perceive, therefore, a combination of political and regulatory risks that continue regardless of their credit conditions and their relationship to the Spanish government.

Two characteristic types of opportunity for transferring assets emerge from these scenarios. The first, which is less likely, but must be closely observed, consists of emergency settlements. In light of this possibility, it is important to have predefined parameters to acquire various classes of assets in order to be able to react quickly. This is particularly important because an emergency settlement makes the asset vulnerable to acquisition by funds from large economies such as the USA, China or Germany.

[61] Perhaps this last point is not a legal problem in relation to federal concessions, since the art. 175 of the Constitution authorizes direct provision of public services by the national entity that holds it. However, this cannot be said of the others.

The second type of opportunity window results from the likely restructuring process of the large Spanish multinationals. It is probable that the current crisis, whatever its outcome, will reduce in the short term the growth prospects of these companies, suggesting the need for plans to continue with operations at a slower and smaller scale, and taking into consideration the regulatory uncertainty and other political risks in Latin America. This may open a way to strategic asset transfers inasmuch as the Spanish multinationals benefit from a period of less globally scattered operations.

In this context, a strategic restructuring project of the electricity sector coordinated by the Brazilian government significantly leverages the bargaining power that private capital agents would otherwise have. The Brazilian state acts both in access to credit, through mechanisms such as BNDES (the Brazilian National Development Bank) and in the regulatory framework. A challenge here is to keep the focus of the regulatory policy on the performance and sustainability of energy systems, without creating a perception of arbitrariness that creates legal uncertainty.

More generally speaking, it is not recommended that a policy to facilitate the capture of assets express itself as a break from the current business environment shared by all stakeholders in the electricity sector, whether they are public, private or foreign capital. With regard to the capacity of the government's strategic policies to leverage critical moments, the viability of the electricity sector is closely linked to how it attracts private capital in both the short and long term.

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APPENDIX 1
SPANISH NATURAL RESOURCES

This appendix reviews the importance and performance of some natural resources available in Spain. Although by there is, by definition, an arbitrary number of natural resources of economic interest, there is an approximate convergence between the relations of segments of particular interest for observers of the commodities, energy markets and even Spain's own economy, including there international references such as IEA, IAEA and OECD.

Among these international statistical references, the CIA World Factbook stands out for its range of interests, listing the following:

- Coal;
- Uranium;
- Copper;
- Lead-Zinc;
- Tungsten;
- Mercury;
- Iron ore;
- Lignite;
- Magnesite;
- Fluorspar (hexafluorosilicic acid);
- Gypsum;
- Sepiolite;
- Kaolin; and
- Potash (potassium hydroxide).

The list of resources officially tracked by the Spanish Ministry of Economics and Competitiveness is longer, excluding iron ore, mercury and fluorspar, but including the following:

- Clay and special clays;
- Barium;
- Silica;
- Tin;
- Strontium;
- Feldspar;
- Fluor (hydrogen fluoride);
- Natural gas;
- Glauberite (sodium calcium sulfate mineral);
- Lithium;
- Magnesite;
- Mica;
- Nickel;
- Petroleum;
- Silver;
- Talc; and
- Peat (lagoon carbonated biomass).

The resources reviewed were outstanding for their presence in multiple reports of resources of interest, by the relative importance of Spanish production on the world market and of the resource for the Spanish economy, particularly at a time of crisis and recovery.

I. ENERGY RESOURCES

In general, in a comparative analysis of the EU-27 (a group including not only the Euro Zone but also the common market countries and probable candidates to inclusion), Spain shares with the main countries on the "European periphery" (Portugal, Italy, Ireland and small countries such as Cyprus and Malta) the key characteristic of depending on imports to meet more than 80% of its internal energy consumption.

Although this could be an automatic stabilizer for periods when the terms of trade do not favor exports (through a drop in price in terms of energy purchasing power), the intensity of the Spanish economy in relation to exports creates a downturn in demand, which may cancel out this stabilizing effect or even act to expand the crisis.

Coal and lignite

Historically, the start of the industrialization processes in the 19th and 20th centuries was attributed to the proximity of thermopower inputs with easy direct use, with emphasis on coal in the performance of the main European economies. In the current technological matrix of modern European economies, the energy potential of coal is differs from coal-to-liquids plants (CTLs, producing synthetic fuel) to power generation for general use, which undergoes the coke production process, more energy-intensive and used for specific applications in steel industry, cement, bricks and so on. In regions with a colder climate, there is still household demand for fossil fuels to heat homes and offices. Lignite is essentially a more recent form of fossil fuel than bituminous coal, with high water content and less calorific power. Lignite has the same uses as traditional coal although with limited potency or sufficiency for some industrial processes.

The statistics of the World Coal Association show that coal provides around 30% of the primary energy needs in the world and 42% of electricity. This is a scenario that in the long run will tend to change, due to the inevitable exhaustion of the world's coal reserves and to the increasingly organized pressure on reducing global pollutant emissions. Nevertheless, this "long-term tendency" is indefinite in time due to the late and intense arrival of China on the world market, its large reserves and the high intensity of its economy in relation to coal, in addition to its being less malleable toward sustainability development agreements.

In Spain, preliminary data from the Ministry of Industry, Energy and Tourism released to the press indicate that in 2012 the country extracted 9.6 million tons of coal, a small amount compared to the world production of 7,678 million tons in 2011, as quoted by the World Coal Association. In contrast, two countries in the Euro Zone are among the ten largest producers: Germany with 189 million tons and Poland with 139 million tons.

According to the geographic overview of Solsten and Meditz (1988), Spanish coal is concentrated in the Asturias region, with smaller reserves in Southwest Andalusia (near Seville, Cordoba and Bardajoz). Lignite is found primarily in Galicia. The national coal deposits have two major drawbacks, namely their calorific power, which is as a rule less than that obtained with imported coal, and the geological structure of the deposits, which make its extraction more costly than in other countries.

Petroleum and natural gas

Despite extensive exploration efforts during the 1980s, the known oil reserves in Spanish territory are few in number and small in capacity.[62] During the 1980s, the fields of Serrablo (in Aragon) and Gaviota

[62] This does not prevent, incidentally, that the accumulated experience with the small national oil production currently of 0.2% consumption, had started an oil industry that currently imports crude and exports refined byproducts.

(in the Basque Country) were developed and, since the 1990s and parallel to joining the Common Market, integration began with the European gas pipeline network. In 2010, most of the natural gas consumed in Spain was imported, as was its petroleum.

Uranium

Uranium exploration in Spain began in 1951 during the Francisco Franco regime's "local government" period in which all foreign trade relations were closed. At the same time, it was impossible to maintain the normal provision of energy with the fossil resources found so far. Production began in 1959 at the Andujar plant (in Andalusia), followed by the Fe plant (Castile-León) and Don Benito (Extremadura) in 1983, and lastly Quercus (Extremadura) in 1993.

According to data of the IAEA statistical yearbook on uranium, uranium mining activities were stopped in December 2000 and production of uranium concentrate from the unrefined mineral inventory ceased in 2002. Recently (2009) the Spanish government has been working with the private sector on a feasibility study for reactivation of the Quercus plant for processing known reserves in other deposits, but with no conclusive results as of the beginning of 2012. Despite the interruption in accumulating new resources, the INE data for 2010 indicated full supply of energy demand in Spain by nationally produced uranium.

Hydropower

Despite its mountainous topography, Spain's hydropower potential is limited by the scarcity of water. In fact, while the overview by Solsten and Meditz (op. cit.) published in 1988 states that only 27% of energy consumption was supplied by water sources, the INE data for 2010 show a smaller share at 2.5%. Nevertheless, hydropower plays an important role in diversifying the energy matrix and reducing external vulnerability, since consumption is only fully met by the domestic supply in nuclear and hydropower categories.

II. INDUSTRIAL INPUTS OF MINERAL ORIGIN

Copper

Although Spain does not belong to the group of traditional copper producers and exporters, the recent sharp rise in prices of this commodity (approximately USD 1,800/ton to 9,000/ton from 2003 to 2011) led to a move to reopen mines that were no longer feasible in the last decades of the 20th century, as well as exploring some new projects. This expansion in production is reflected in the data of the Copper Overview of the Instituto Geológico y Minero de España (IGME), of the Ministry of Economics and Competitiveness. The statistics compiled by the IGME indicate that in 2010 production was double (50,000 tons) that in early 2000.

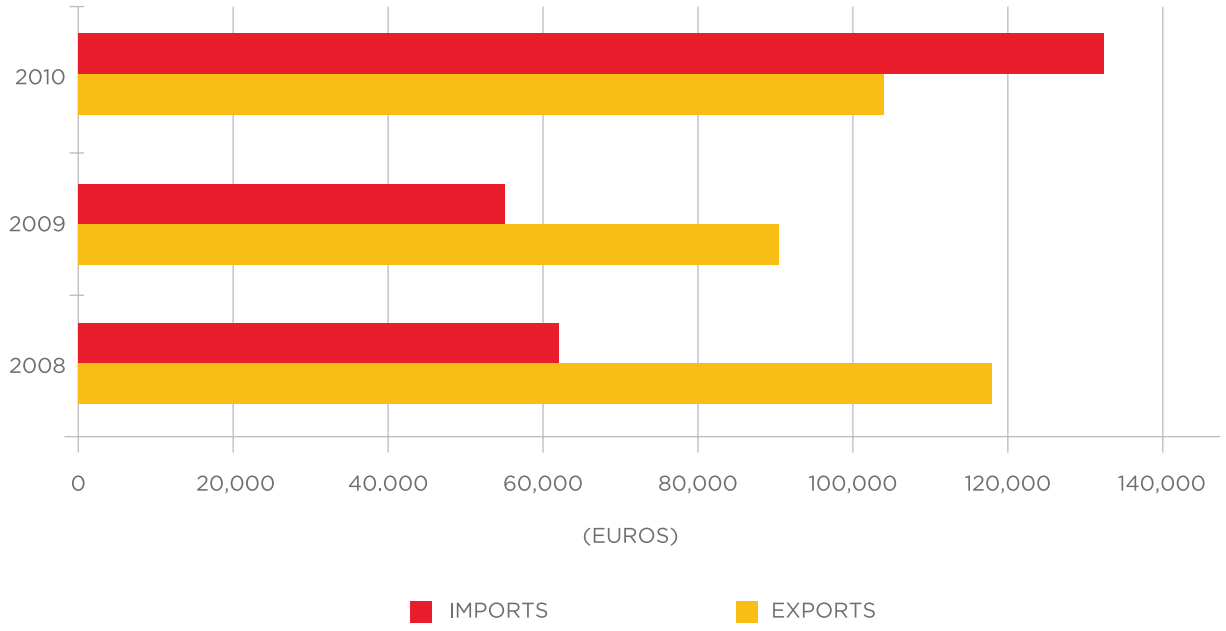
Copper is an important industrial input due to its high electric and heat conductivity, which makes this resource the de facto standard for all applications in electricity and telecommunications, both in the basic infrastructure of transformation and distribution, but also in the composition of basic household and office technologies. There also is demand from large-scale means of transport such as trains and boats. Lastly, the electric car should strongly increase the presence of copper in cars, currently around 20 kilos per vehicle, according to the World Copper Factbook 2012. Among the different presentations and intermediary forms, copper is simultaneously exported and imported, while the imports, as a share of the trade balance (indicator defined by IGME as "economic dependence"), have been steadily dropping.

Silver

Silver has been part of Spanish economic dynamics since the beginning of historic records, first as a producer country and later as an intermediary between the large reserves of the colonial empire and the rest of Europe. More recently, silver production was marked by an interruption during the political unrest of the 20th century and the Franco regime, only to resume in 1971. Spanish silver is traditional mined from complex deposits, and the raw ore must be processed to separate it from copper, lead and zinc. On a time scale of 40 years, silver reached its peak production in the period from 1980 to 1992 (oscillating between 150 and 300 tons per year), and today has comparatively low figures, up to 413 kilos in 2010. In the IGME analysis, this is due mainly to the decline in lead mining, a complementary product in exploration of deposits.

As in the case of copper, the country exports and imports silver, with a tendency to export more raw products (such as raw ore and pure silver) and import semi-finished and finished goods. However, the balance of silver in Euros was positive in 2010, partly explained by the fact that the imports had not recovered their 2008 level, but also due to the ongoing increase in exports, especially of finished goods (rising from 294,000 to 778,000 Euros between 2008 and 2010). Table 57 shows the performance in the aggregate of the balance of payments for silver.

TABLE 57
Trade Balance of Spanish Silver (in Euros)



Source: IGME.

With regard to demand, silver is traditionally seen as a "precious" metal, which defines its own value, but according to consolidated sources in the IGME overview on silver, only 5% of the demand for silver was for investment purposes in 2007, reaching 17% in 2010 (as a result of the global uncertainties since the end of the last decade). The percentage levels of demand from industrial uses and jewelry/silverware were steady during this process. The increase in silver for investment mainly displaces what was used as a basic input for the photographic processes using films and photosensitive paper, currently obsolete and no longer for needed even for special applications.

Tungsten

Known in Spanish as wolframio, tungsten has unique physical properties (high melting temperature, low steam pressure and high tensile strength), which makes it a requirement for various industrial processes from incandescent light bulb filaments to X-ray machines, television and integrated circuits. Recently applications have appeared for tungsten alloyed with other materials in order to reinforce certain characteristics.

In Spain, tungsten mining is concentrated in the Los Santos mine, five kilometers from Salamanca (in Castile-León). The IGME overview on tungsten quotes 1984 estimates of national reserves, with production around 73,000 tons of WO3. In the period from 2008 to 2010, production grew steadily to 303 tons in 2010 and close to the Brazilian level of 400-500 tons. This figure does not include the scheduled reopening of two old mines in Galicia for 2011/2012. The foreign trade of tungsten is, as in other cases, two-way, but the heterogeneity of the products and constant fluctuation in prices make the trends in metal and currency differ from one year to another and in relation to the aggregates. It should be mentioned that Brazilian exports to Spain of iron-tungsten is 46 tons. Spanish iron-tungsten imports were the most affected natural resource trade by the crisis, dropping from 3 million to 900,000 Euros (from 168 to 55 tons) between 2008 and 2010, potentially reducing Brazilian exports to Spain in the near future.

Sepiolite

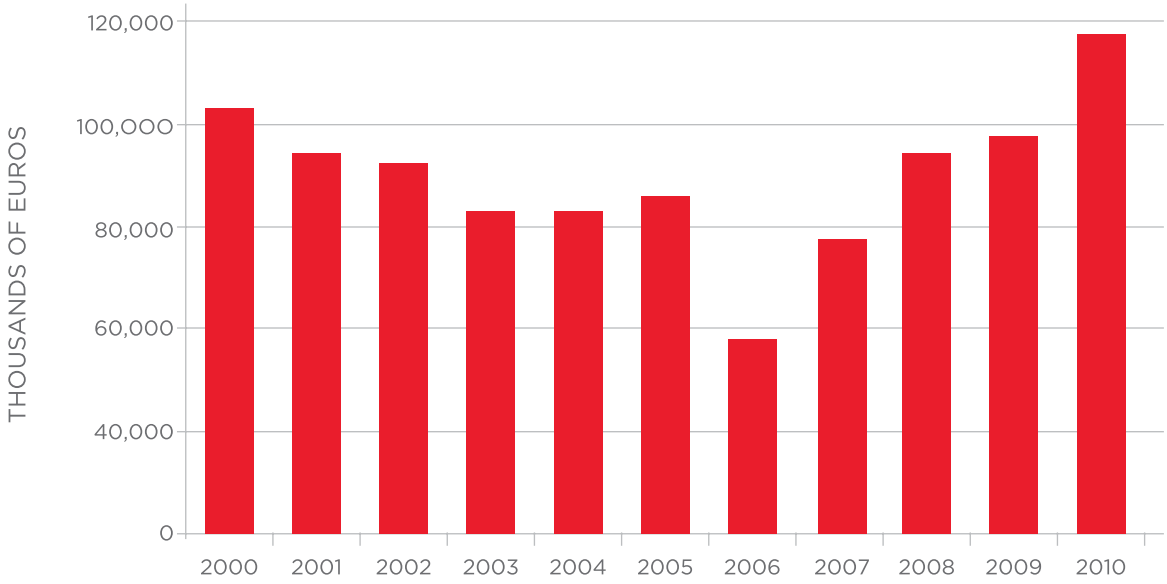
This mineral, traditionally considered a precious stone since it is both scare and hard, is found in a highly porous crystalline mineral lattice formation, comparable to a hard hollow sponge. It is traditionally used as an industrial absorbent material used in the production of cements and alloys. More recently, uses have been found for it in mining, absorbing salt water and deep-sea petroleum. Pecharromán and Cubillo (2009) and Pecharromán et al. (2006) mention a series of advanced applications with future economic potential, particularly in nanoalloys of sepiolite with silver (biocides and fungicide), nickel (magnetic sensors and data storage), iron (laboratory processes in medicine), copper and gold (optoelectronics and non-linear optics) and other metals (pigments, magnetic paints, and so on).

Also according to data from these studies and from the Madrid Institute of Materials Science, Spain has around 80% of the current world production of sepiolite, which, according to Pecharromán and Cubillo (op. cit.), would be “wasted” in low value-added activities such as veterinary hygiene products. However, although the physical-chemical feasibility of the applications listed by these authors is essentially confirmed by the publication of detailed studies in top academic journals, the economic feasibility of these applications is not confirmed prima facie, as these face competition with technologies in the same market niches. In research studies, the apparent interest in sepiolite seems to surpass the availability and quality of data, which is a further sign that it may be one of the rare minerals that gain strategic importance with the emergence of new technologies.

Gypsum

The Spanish government’s gypsum investigation and exploration plan, undertaken by IGME, reached the conclusion that the reserves are “unlimited” to unspecified time spans. The value of the resources extracted in 2010 was 137 million Euros and, as Table 58 indicates, there is an upward trend in the trade balance of this sector, which does not seem to have been affected by the recent crisis, a sign of a more robust and sustainable segment in the context of the Spanish economy.

TABLE 58
Trade Balance of the Spanish Gypsum Sector (in thousands of Euros)



Source: IGME.

Magnesite

Magnesite is a compound mineral of magnesium carbonate and various impurities of iron, calcium, cobalt and nickel. Its applications include civil construction (bricks and alloys), veterinary food products, chemical industry, agricultural soil correction and environmental rehabilitation treatment. The main Spanish deposits are in Navarra and Lugo (Galicia), and in 2010 Spain extracted, according to IGME, 463,000 tons of ore. In contrast, the US Mineral Resources Study estimates that in that year world production was 20 million tons, 15 million of which came from Russia and China.

In the case of magnesite, the trade balance became positive due to a drop in imports. In fact, although imports have fallen from 58.5 million to 42.7 million Euros, exports increased from 35.4 million to 49.1 million Euros, leading to a positive balance. The effect of the trade balance contrasts with the relative consistency of the production level at around 440-460,000 tons of ore, a level broken only in 2009.

APPENDIX 2
ELECTRICITY DISTRIBUTION CONCESSIONAIRES

		COMPANY	ECONOMIC GROUP	
1	AES SUL	AES Sul Distribuidora Gaúcha de Energia S.A.	AES	PRIVATE
2	AES Eletropaulo	Eletropaulo Metropolitana Eletricidade de São Paulo S.A.		
3	Elektro	Elektro Eletricidade e Serviços S.A.	Iberdrola	
4	CPFL Paulista	Companhia Paulista de Força e Luz	CPFL Energia	
5	CPFL Leste	Companhia Paulista de Energia Elétrica		
6	CPFL Piratininga	Companhia Piratininga de Força e Luz		
7	RGE	Rio Grande Energia S.A.		
8	CPFL Jaguari	Companhia Jaguari de Energia		
9	CPFL Mococa	Companhia Luz e Força Mococa		
10	CPFL Santa Cruz	Companhia Luz e Força Santa Cruz		
11	CPFL Sul	Companhia Sul Paulista de Energia		
12	Ampla	Ampla Energia e Serviços S.A.	Endesa	
13	Coelce	Companhia Energética do Ceará		
14	EDP Bandeirante	Bandeirante Energia S.A.	EDP	
15	EDP Escelsa	Espírito Santo Centrais Elétricas S.A		
16	Energisa PB	Energisa Paraíba - Distribuidora de Energia S.A.	Energisa	
17	Energisa SE	Energisa Sergipe - Distribuidora de Energia S.A.		
18	Borborema	Energisa Borborema - Distribuidora de Energia S.A.		
19	Energisa MG	Energisa Minas Gerais - Distribuidora de Energia S.A.		
20	Nova Friburgo	Energisa Nova Friburgo - Distribuidora de Energia S.A.		
21	Cemar	Companhia Energética do Maranhão	Equatorial	
22	Celpa	Centrais Elétricas do Pará S.A.		
23	Celpe	Companhia Energética de Pernambuco	Neoenergia	
24	Coelba	Companhia de Eletricidade do Estado da Bahia		
25	Cosern	Companhia Energética do Rio Grande do Norte		
26	Bragantina	Empresa Elétrica Bragantina	Rede Energia	
27	Celtins	Companhia de Energia Elétrica do Estado do Tocantins		
28	Cemat	Centrais Elétricas Matogrossenses S.A.		
29	CFLO	Companhia Força e Luz do Oeste		
30	Enersul	Empresa Energética do Mato Grosso do Sul S.A.		
31	Paranapanema	Empresa de Eletricidade Vale do Paranapanema S.A.		
32	Caiuá	Caiuá Serviços de Eletricidade S.A.		
33	Nacional	Companhia Nacional de Energia Elétrica		
34	Light	Light Serviços de Eletricidade S.A.	RME	
35	Iguaçu	Iguaçu Distribuidora de Energia Elétrica Ltda.		
36	Santa Maria	Empresa Luz e Força Santa Maria S.A.		
37	Sulgipe	Companhia Sul Sergipana de Eletricidade		
38	CEB	Companhia Energética de Brasília		STATE
39	CEEE	Companhia Estadual de Energia Elétrica		
40	Celesc	Centrais Elétricas de Santa Catarina S.A.		
41	Cemig	Companhia Energética de Minas Gerais		
42	Copel	Companhia Paranaense de Energia		

(cont.)

		COMPANY	ECONOMIC GROUP	
43	CELG	Companhia Energética de Goiás	Eletrobras	FEDERAL
44	Eletrobras AC	Eletrobras Distribuição - Acre S.A.		
45	Eletrobras AL	Eletrobras Distribuição - Alagoas S.A.	Eletrobras	FEDERAL
46	Eletrobras AM	Eletrobras Amazonas Energia S.A.		
47	Eletrobras PI	Eletrobras Distribuição - Piauí S.A.		
48	Eletrobras RO	Eletrobras Distribuição - Rondônia S.A.		
49	Eletrobras RR	Eletrobras Distribuição - Roraima S.A.		
50	DMED P. CALDAS	DMED Distribuidora S.A.		MUNICI-PAL
51	Aliança	Cooperativa Aliança		PRIVATE
52	Chesp	Companhia Hidroelétrica São Patrício		
53	Forcel	Força e Luz Coronel Vivida Ltda.		
54	Jari	Jari Energética S.A. - Jesa		
55	João Cesa	Empresa Força e Luz João Cesa Ltda.		
56	Muxfeldt	Muxfeldt, Marin & Cia Ltda.		
57	Nova Palma	Usina Hidroelétrica Nova Palma (Uenpal)		
58	Panambi	Hidroelétrica Panambi S.A. (Hidropan)		
59	Urussanga	Empresa Força e Luz de Urussanga Ltda. (EFLUL)		
60	Cocel	Companhia Campolarguense de Energia		
61	Demei	Departamento Municipal de Energia de Ijuí		MUNICI-PAL
62	Eletrocar	Centrais Elétricas de Carazinho S.A.		
63	CEA	Companhia de Eletricidade do Amapá		STATE
64	CER	Companhia Energética de Roraima		

Source: ABRADEE.

APPENDIX 3
SHARE COMPOSITION OF THE LARGEST BRAZILIAN ENERGY COMPANIES

COMPANY	SHAREHOLDERS	HOLDING
AES	Cia Brasiliana	100.0%
Cia Brasiliana	AES Holding Brasil	50.0%
	BNDESPAR	50.0%
Celesc	State of Santa Catarina	20.2%
	Caixa Prev. B. Brasil (Previ)	14.5%
	CELOS Plus Fundo de Investimento	3.4%
	GERAÇÃO L. Par Fundo de Investimento	9.2%
	Centrais Elétricas Brasileiras – Eletrobras	10.8%
	Tarpon Investimentos (Fundos Administrados)	12.0%
	MCap Poland FIA	7.2%
	Other	22.7%
Cemig	State of Minas Gerais	23.3%
	AGC Energia S/A	14.4%
	Other brazilian shareholders	24.5%
	Other brazilian shareholders	37.7%
AGC Energia S/A	Andrade Gutierrez	100.0%
Cesp	São Paulo State Finance Dept.	36.0%
	Companhia Paulista de Parcerias	4.2%
	Other	0.4%
	Blackrock, INC	3.2%
	Centrais Elétricas Brasileiras S.A. – Eletrobras	2.1%
	Credit Suisse Securities (Europa)	3.8%
	HSBC Bank Plc London	9.9%
	UBS AG, London Branch	8.0%
	Other	32.4%
COPEL	State of Paraná	31.1%
	BNDESPAR	23.9%
	Eletrobras	0.6%
	BM&FBovespa	29.2%
	NYSE	14.8%
	Other	0.3%
CPFL	Camargo Correa	25.7%
	Previ	31.0%
	Other	12.6%
	Free Float	30.7%
CTEEP	ISA Capital do Brasil	37.8%
	Secretaria da Fazenda	6.1%
	Centrais Elétricas Brasileiras S.A. – Eletrobras	35.2%
	Vinci Equities Gestora de Recursos Ltda	4.2%
	Other	16.7%
ISA Capital do Brasil	Interconexión Eléctrica S.A. E.S.P.	58.6%
	Banco HSBC	20.7%
	Banco Votorantim	20.7%

COMPANY	SHAREHOLDERS	HOLDING
Duke Energy Brasil	Duke Energy International Brasil Ltda.	94.3%
	Duke Energy International Brasil Holdings	0.8%
	Companhia do Metropolitano de São Paulo	1.4%
	Other	3.5%
EDP Energias	EDP Group	51.0%
	Market	49.0%
Elektro	Iberdrola Brasil S.A.	99.7%
	Minority shareholders	0.3%
Endesa Brasil	Endesa	97.3%
	IFC	2.7%
Energisa	Gipar S.A.	63.9%
	Fundo de Invest. Part. da Serra (FIP da Serra)	21.2%
	Eletrobras - Centrais Elétricas Brasileiras	3.0%
	Itacatu S.A.	2.8%
	BNDES Participações S.A. - BNDESPAR	0.6%
	Multisetor Com. Ind. Part. S.A.	0.3%
	Ivan Müller Botelho	0.3%
	Treasury bonds	2.0%
	Other shareholders	5.9%
Equatorial Energia	PCP Latin America Power S.A.	22.9%
	Squadra Investimentos	15.6%
	International Financial Corporation	5.4%
	Credit Suisse Hedging-Griffo	5.1%
	Other minority shareholders	51.0%
Light	RME - Rio Minas Energia Participações S.A.	13.0%
	Cemig	26.1%
	Luce Empreendimentos e Participações S.A.	13.0%
	BNDES Participações S.A. - BNDESPAR	13.5%
	Public	34.4%
Neoenergia	Iberdrola Brasil S.A.	39.0%
	Previ	49.0%
	Banco do Brasil	12.0%
Rede Energia	Denerge - Desenvolvimento Energético S.A.	11.8%
	Empresa de Eletricidade Vale Paranapanema S.A.	68.2%
	BNDESPAR	15.9%
	Other	4.1%
Tractebel Energia	GDF Suez Energy Latin America Part. Ltda.	69.0%
	Banco Clássico S.A.	10.0%
	Other	21.0%

Source: Corporate websites.

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