

# THE CONSTRUCTION INDUSTRY IN PORTUGAL: MACROECONOMIC ANALYSIS AND FUTURE TRENDS

Jorge Lopes<sup>1</sup> and Francisco Loforte Ribeiro<sup>2</sup>

<sup>1</sup>*Escola Superior de Tecnologia e Gestão, Departamento de Construções Civas e Planeamento, Instituto Politécnico de Bragança, Apartado 134, 5300 Bragança, Portugal, email: lopes@ipb.pt.*

<sup>2</sup>*Instituto Superior Técnico, Departamento de Engenharia Civil e Arquitectura, Secção de Estruturas e Construção, Av. Rovisco Pais 1, 1049 Lisboa, Portugal, e-mail: loforte@civil.ist.utl.pt*

Portugal is enjoying an era of strong economic growth and a low rate of inflation. Growth has been positive for the past six years. This growth has resulted in a great demand for basic infrastructures like motorways, bridges, railways, and pipelines. However, the construction industry structure in Portugal is different from other countries of the EURO region. To face the demands of the European monetary integration new institutional reforms pertaining to the construction sector are needed.

This paper presents a review of macro-economic and construction industry data from Portugal post 1970. Secondly, it analyses the impact of the Economic and Monetary Union on the construction sector of this country. Finally, it attempts to establish future trends of the construction industry of Portugal.

Keywords: economic trend, gross domestic product, EMU, macro-economic data, Portugal.

## INTRODUCTION

Portugal is enjoying an era of strong economic growth and a low rate of inflation. Growth has been positive for the past six years. In 1998, Portugal was responsive for only 1,3% of the European Union public debt. This growth has resulted in a great demand for basic infrastructures like motorways, bridges, railways, and pipelines. Construction Value Added (CVA) as a share of Gross Domestic Product during the 1990s has been between 5,2 to 6,7.

The construction sector has shown signs of steady growth over the last three years (1996, 1997, and 1998) with a significant share in the GDP and in Gross Fixed Capital Formation (GFCF) above the average for the European Union (EU). However, since 1998 growth has shown signs of flagging as result of the slowdown in Europe and the conclusion of major infrastructure projects like the World EXPO 1998 in Lisbon and the 17Km Vasco da Gama bridge.

This paper presents a review of macro-economic and construction industry data from Portugal post 1970. Secondly, it analyses the impact of the Economic and Monetary Union on the construction sector. Finally, it attempts to establish future trends of the construction industry of Portugal.

## THE CONSTRUCTION INDUSTRY AND MACRO-ECONOMY

This section presents an analysis of construction industry indicators in Portugal and their relation with the country's macro-economic data. The main statistical sources used in this study are: National Account Statistics (Instituto Nacional de Estatística (various years), AECOPS Construction Reports (various years), and Long Series for Portuguese Economy (Maximiano, 1996). More data were drawn from OECD (1999) report on Portugal.

To better understand the evolution of the construction industry in Portugal it was decided to begin the analysis from 1974 to coincide with the implantation of a democratic state in Portugal. Thus, data used in this analysis comprise two economic series: the periods 1974-1985 and 1986-1999. Moreover, these two series cover three significant events with great impact on the economy in general and for construction industry in particular. These events are:

- the integration of Portugal into the EEC in 1986;
- the admittance of the Escudo to the Exchange Rate Mechanism (ERM) in 1992
- the integration of Portugal into the EURO region in 1999

The construction industry indicators used in this analysis are Gross Fixed Capital Formation (GFCF) and Construction Value Added (CVA) as a share of the GDP measured in 1996 constant prices. It also used the indicators of employment.

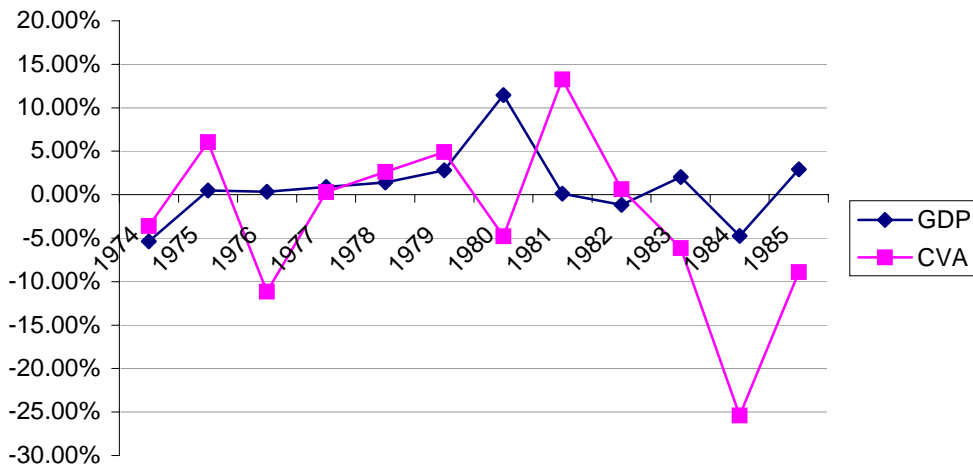
### Period 1974-1985

This period was characterised by economic instability with years of recession and years of recovery. The rate of inflation and unemployment rose during this period. The deficit of the foreign account reached unsustainable levels leading to two stabilisation programmes with the International Monetary Fund (IMF). The dominant problems of this period were of conjunctural order. The end of 1975 and during 1976 the government's priority was to stimulate production and regain the confidence of private investors. To meet these objectives during 1976 and 1997 a number of actions were implemented. They included cheap loans; fast growth of public spending; liberalisation of prices; increase of prices under state control; and protection against foreign competition. The result of these actions was a growth in the GDP and the GFCF. However, the rate of inflation was above 20% and the deficit of the current account balance was above 9% of the GDP in 1977.

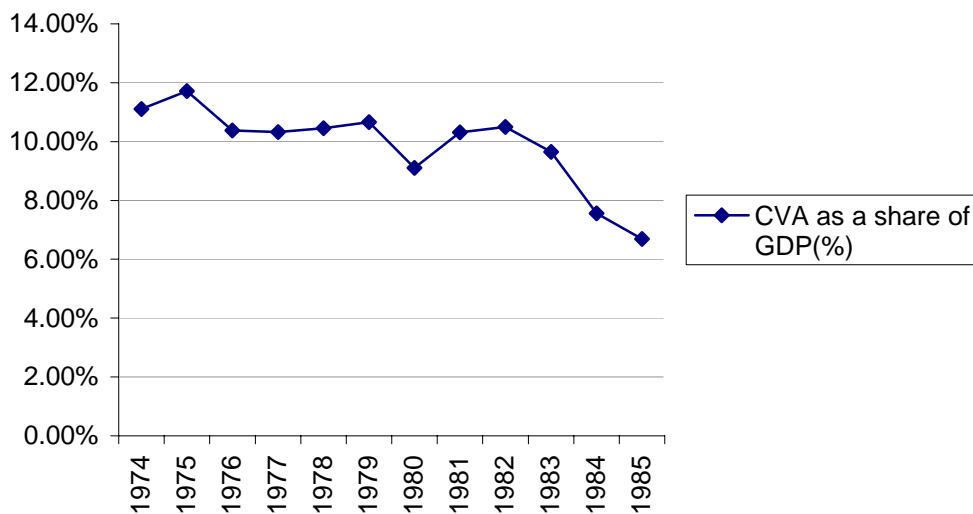
Figure 1 shows evolution of growth rate of GDP (%) and growth rate of the CVA (%) during 1974-1985.

In this period GDP growth rate has varied between -5,38% in 1974 and + 11,47% in 1980 while the CVA has varied between 13,28% in 1981 and -25% in 1984. From figure 1 it can be concluded that the CVA had an irregular pattern of growth. The coefficient of correlation ( $\rho$ ) of GDP growth rate and CVA growth rate is 0,202 which is less than the period before 1974.

Figure 2 presents the CVA as share of GDP (%) during 1974-1975.



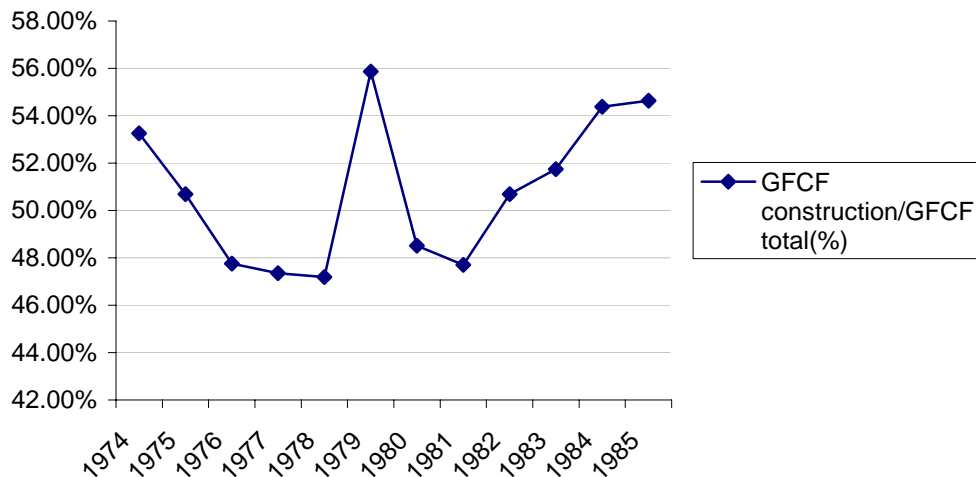
Source: Banco de Portugal (BP)  
**Figure 1:** Evolution of GDP versus CVA



Source: Banco de Portugal (BP)  
**Figure 2:** Evolution of CVA as a share of GDP

During 1983 and 1984, the second structural adjustment program was introduced. The GDP slumped and the rate of inflation reached 28,9% in 1984. Therefore, investment and consumption fell. High inflation associated with rising values of the property sector lead investors to turn to the house building. This movement had a significant impact on the output of the construction sector.

Figure 3 presents the evolution of the GFCF (%) in construction as a share of total GFCF.



Source: Instituto Nacional de Estatística (INE)

Figure 3: GFCF in construction as a share of total GFCF

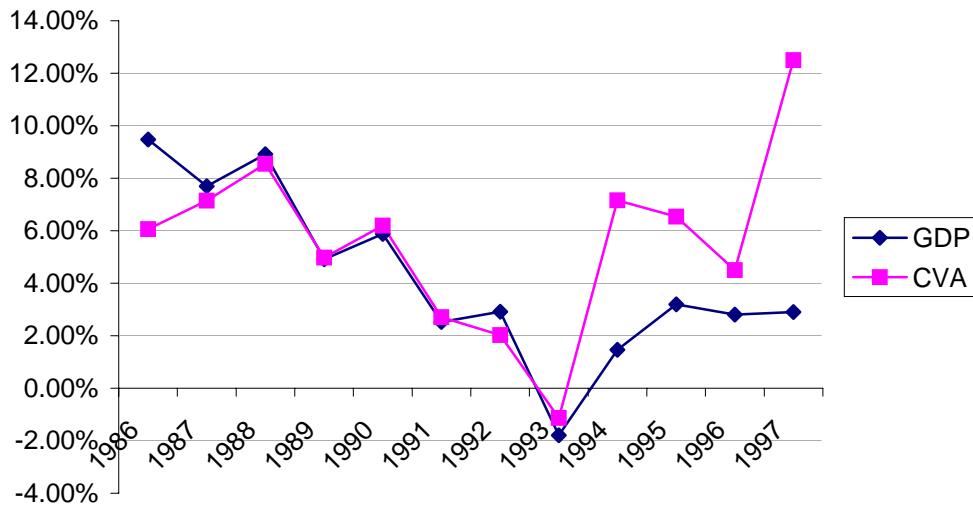
A general observation taken from figures 1 to 3 is that the construction sector accompanies economic growth. However, when economic growth takes place, the construction sector grows at a higher rate than the whole economy.

### Period 1986-1999

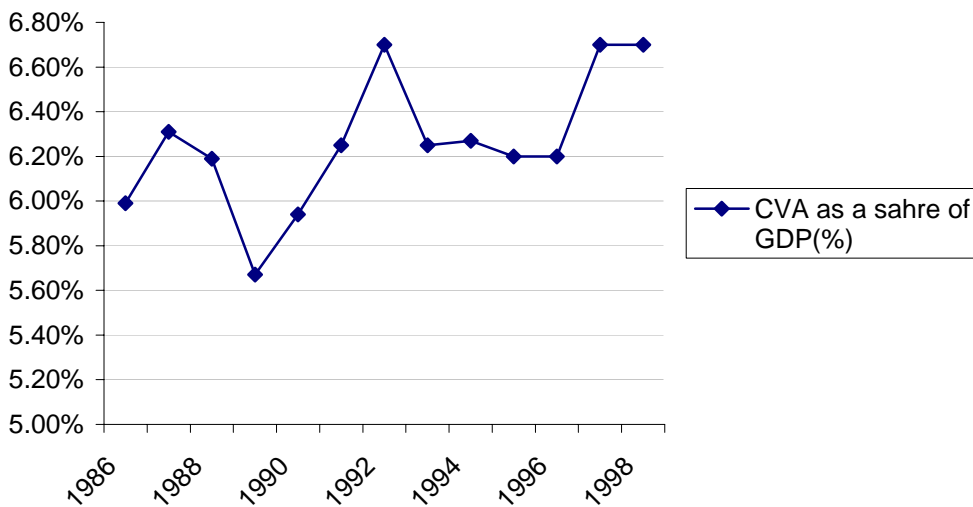
At the end of 1985, the Portuguese economy entered a new phase with characteristics quite different from those prevailing in the previous period. All the indicators for the balance of payment had improved sharply. Portugal joined the European Community (EEC) in 1986, and this gave new perspectives to the economy and introduced new structural modifications. The economy started a new era of stability. From mid-1990-1999, real GDP growth, at first export-led, and then boosted by gross fixed investment, particularly in construction, and private consumption, averaged 3.5% annually. This expansion produced a rise in employment, and the unemployment rate fell to 5% in 1998. The process of convergence of inflation rates brought the rise in the harmonised Consumer Price Index (CPI) down to 1.9% in 1997. At the same time, Portugal met the Maastricht criteria for fiscal deficit of 2.5% of GDP in 1997. Portugal thus qualified for Economic Monetary Union (EMU) from its inception. These results stemmed from a favourable economic environment marked by a widespread fall in interest rates and commodity prices, and formed a steep increase in EU transfers from 1995 (OECD, 1999). These positive aspects boosted the CVA in construction from 1994 after a significant fall in 1992-1993 (figure 4). Major construction projects such as, World EXPO 98 in Lisbon, Vasco da Gama bridge, extensions of the motorway network were, among others, temporary factors that bolstered growth during 1996-1998.

A general observation taken from figure 4 is that the construction industry had an irregular pattern of growth between 1986-93 and a sustained growth from 1993 onwards. During 1986-1998 the coefficient of correlation ( $\rho$ ) of GDP rate and CVA rate was 0,406, double that of the previous period.

Figure 5 shows that the CVA as a share of GDP fell during 1989-1990. As a result of new infrastructure projects and the boom in the property market CVA as a share of the GDP increased between 1991-1993 and 1996-1998.



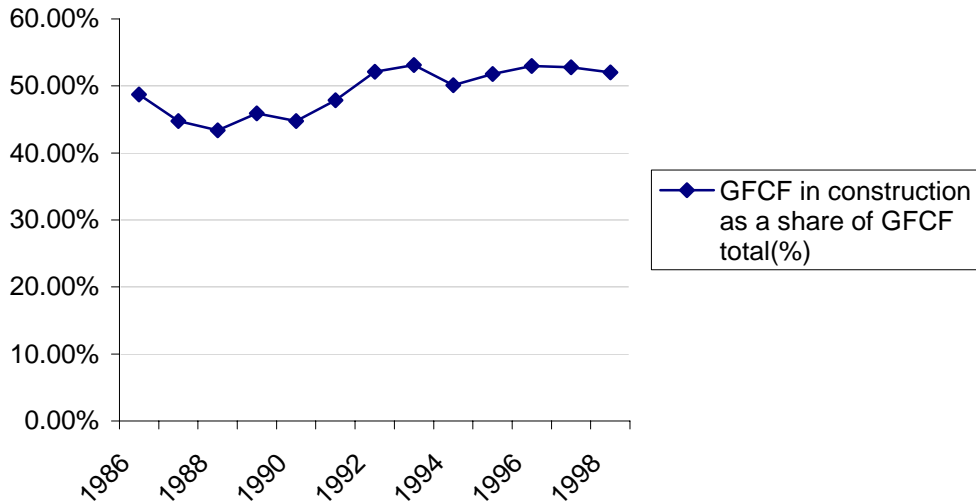
Source: Banco de Portugal (BP)  
**Figure 4:** Evolution of GDP versus CVA



Source: Banco de Portugal (BP) and AECOPS  
**Figure 5:** Evolution of CVA as a share of GDP

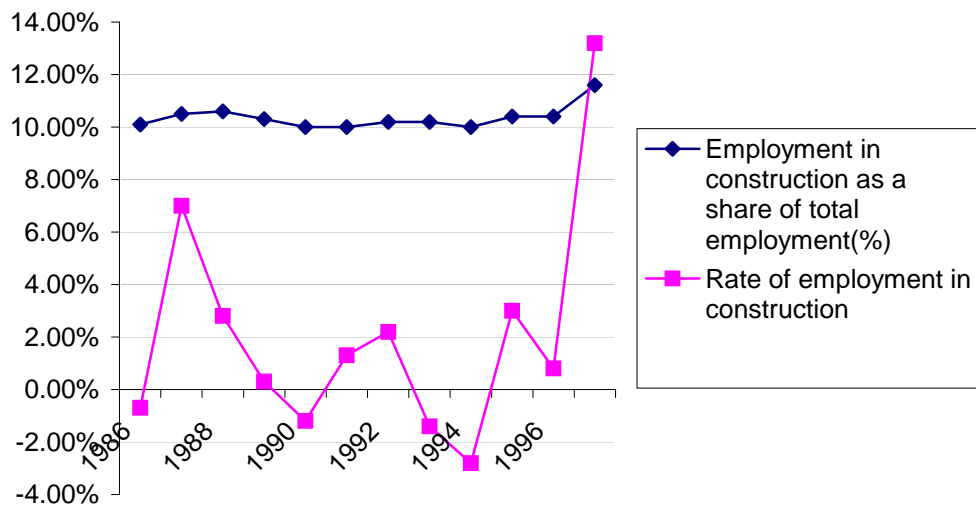
GFCF in construction as share of total GFCF rose from 1994 to above 50% and remained relatively stable during the last years of 1990s (Figure 6).

The evolution of employment followed the same pattern as that of the CVA (figure 7). Employment in construction kept above 10% of total employment during this period.



Source: Banco de Portugal (BP) and AECOPS

**Figure 6:** Evolution of GFCF in construction as a share of total GFCF



Source: Instituto Nacional de Estatística (INE) and AECOPS

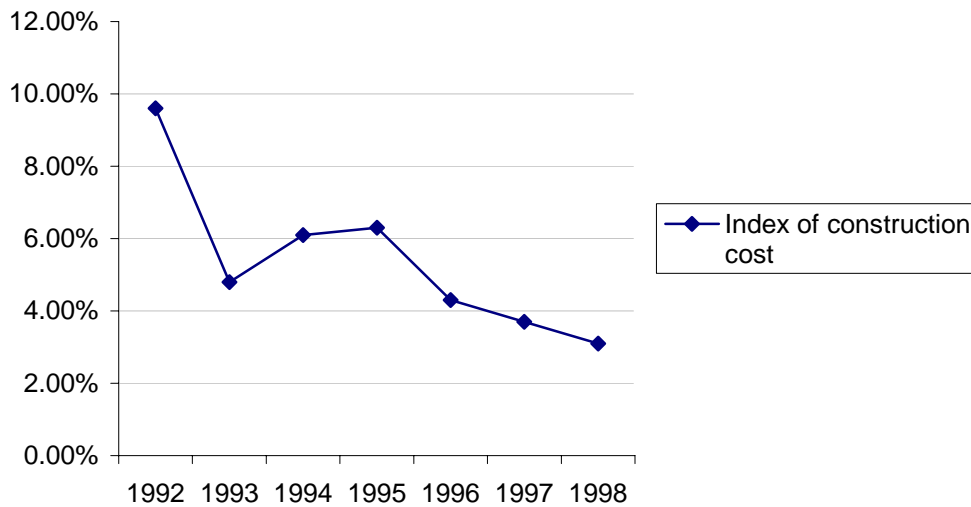
**Figure 7:** Employment in construction as a share of total employment and grow rate of employment in construction

As a result of tight control of inflation the index of construction cost has slowdown during the last years of the period reaching 3% in 1998 (figure 8).

## THE IMPACT OF THE EMU ON THE CONSTRUCTION SECTOR

In 1985, a gradual reform of economic policy began in Portugal, which ultimately led to the participation in the Stage Three of the Economic and Monetary Union in 1999. This development took place in two periods, with different impacts on the construction market: i) the period from 1985, one year before the admission of the country to the then EEC, to 1992 - the participation of the Portuguese Escudo in the

Exchange Rate Mechanism (ERM) of the European Monetary System (EMS); ii) the period between 1992 and 1999.



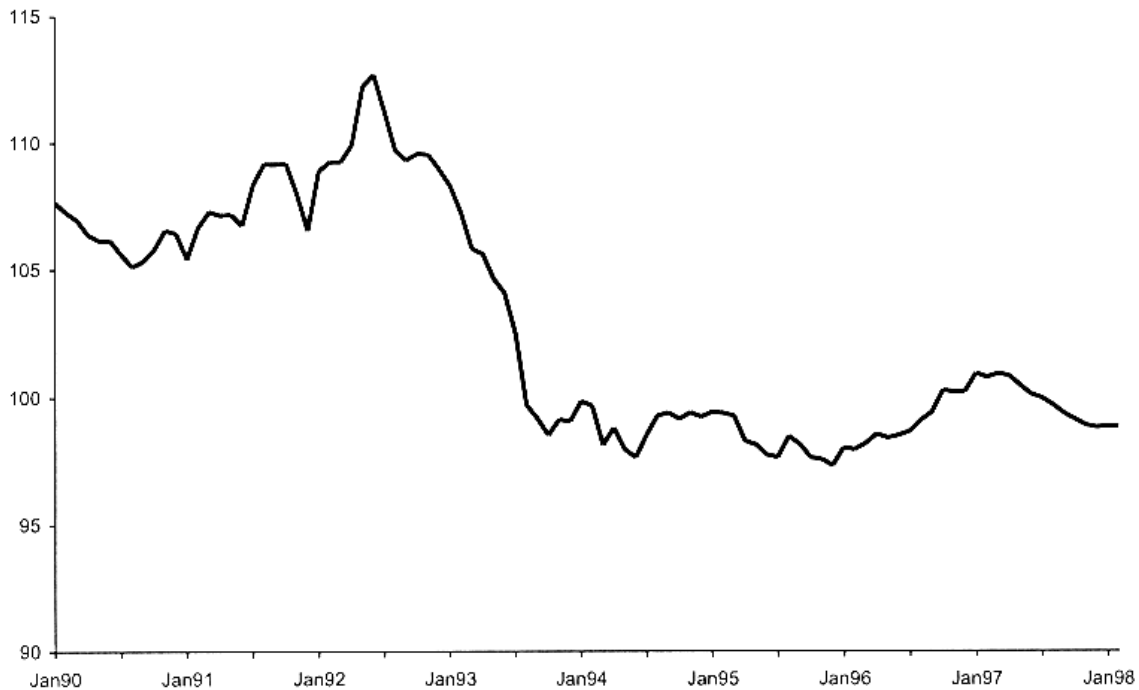
Source: AECOPS

**Figure 8:** Evolution of construction costs

The first period is characterised by a gradual shift in resource allocation from state control to the market mechanism, and the recognition of macroeconomic stability as prerequisite for sound economic growth, reflecting the European and national consensus on these views. According to the requirements stipulated in the European Union Treaty, the fulfilment of the conditions for the adoption of the single currency should be based on two fundamental elements: i) the compatibility of the national legislation of a participating member, including the statute of its central bank, with the treaty; ii) the achievement by each member state of a 'high degree of sustainable convergence' based on four criteria (Bank of Portugal, 1999,): the achievement of a high degree of price stability; the sustainability of the government position regarding public and fiscal deficits; the observance of the normal fluctuation margins provided for by the ERM of the EMS; and the durability of the process of convergence reflected in the nominal interest rate levels.

The Portuguese authorities adopted a monetary policy strategy in which exchange rate stability was a key component in achieving price stability. Thus, the depreciation of the Escudo was progressively reduced and the exchange rate of the Portuguese currency started being defined, since 1990, in relation to a group of currencies participating in the ERM of the EMS. As can be seen in figure 9, the nominal exchange rate of the Escudo appreciated significantly from 1990 onwards despite a turbulence in 1992-1993 which coincided with the EMS crisis and a fall in output for the Portuguese economy in 1993.

On the other front, a progressive programme of privatisation was started at the end of 1980s, in parallel with a reform in the financial sector. The significant changes in the financial system, with a progressive liberalisation in the capital markets, played a major role in the country's economic performance and impacted directly and indirectly on the construction sector.



Source: Banco de Portugal, 1999

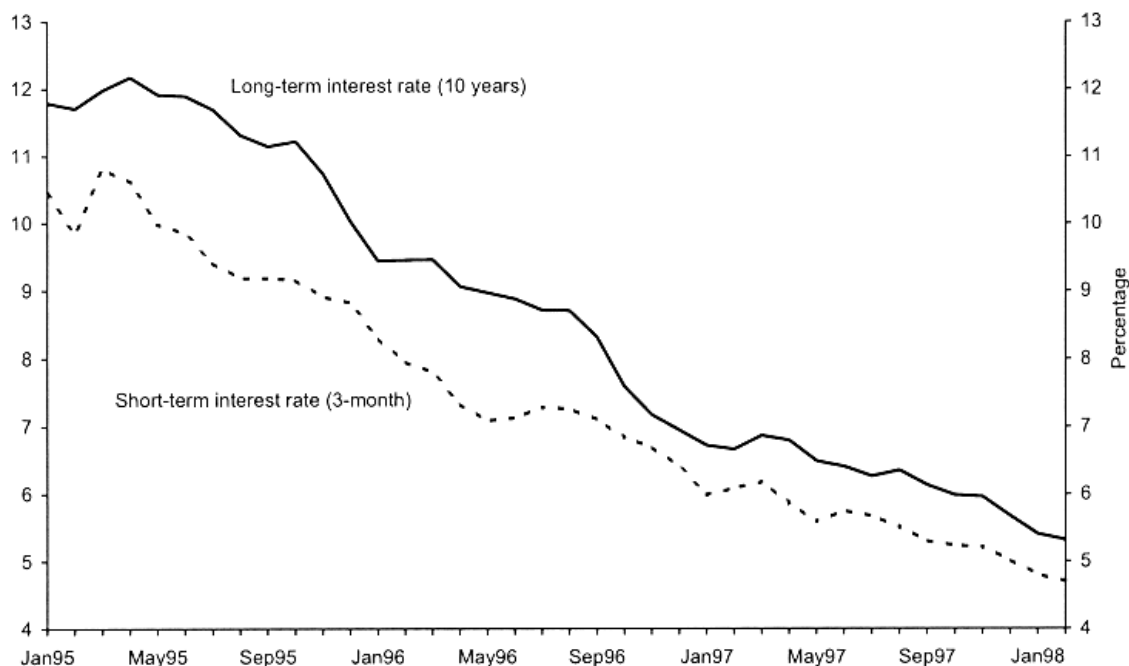
Figure 9: Nominal exchange rate of the Escudo against ERM currency

However, the important effects of the EMU on the construction sector in this period were mainly felt at the supply-side. Indeed, the increased international competition for construction works particularly those that stem from the national public sector and international investors, added to the decrease in the rate of inflation, had an important effect on construction costs and on the organisation of the national construction enterprises. On the other hand, the development of the country's infrastructures financed partly by European Union transfers, within the First Community Support Framework 1989-1994, created the necessary conditions for the establishment of a modern property market in the metropolitan areas of Lisbon and O'Porto.

In the period 1993-1999, the concern of Portuguese authorities as regards economic policies were aimed, mainly, at the achievement of a low level of interest rate with a simultaneous low level of inflation. This was undertaken to ensure a steady movement towards the participation of the country as a full member of the EURO region. As shown in figure 10, the interest rate for the Portuguese currency, both short and long-term, decreased sharply in the period 1995-1998 to the lowest levels prevailing in the EU (Bank of Portugal, 1999).

With regard to the deflation process, according to the figures provided by the National Institute of Statistics (INE, 1998), the rate of inflation measured by the national CPI decreased 11.2 percentage points in the period from December 1990 and December 1992. At the end of this period, these figures translated to the Harmonised Index of Consumer Prices (HCPI) and led to the under 2% limit stipulated by the European Union. Furthermore, the ambitious privatisation programme helped to improve the indicators of the government financial position (privatisation revenues averaged more than 2% of GDP per year, OECD, 1999). This programme also stimulated product market competition and productivity gains, particularly on the booming financial sector services.





Source: Banco de Portugal, 1999

**Figure 10:** Short term and long term interest rate

These positive developments coupled with the fierce competition between banks and other financial institutions as regards mortgage credit had a strong impact on the development of the construction sector in this period. On the supply-side, the development of capital markets influenced the operating environment of the major national construction enterprises through mergers and acquisition of companies. It is worth noting that the establishment of international companies in Portugal either through their operating facilities or investments in the retail and office segments of the property market influenced the quality management policy of the construction companies. The participation of banks and other financial institutions in the capital of, or joint-venture with, major construction companies facilitated the market diversification of the latter. This was mainly in the property sector and utility services, and made it easier for access to the international construction market pertaining to the Portuguese speaking countries and North Africa. At the demand-side the impact of the EMU on the construction sector was also significant, particularly in the later years of the period. As a result of the development and upgrading of infrastructures, also partially financed by European transfers, the civil engineering segment increased markedly. The non-residential segment experienced also a strong increase owing to the booming in the capital market and a sharp fall in interest rates. The residential segment was the one that grew at the fastest rate in the period 1992-1999. The easing of monetary conditions and intense competition between different financial institutions made the mortgage credit very attractive, particularly for low-income households and young people, who were eligible for mortgage subsidies provided for by the government. Mortgage credit in 1998 totalled PTE 2,136.7 billion (1 euro = 200.00 PTE-Portuguese escudo) for 250,000 housing units, an increase of, respectively, 50.6% and 40.2 % over the 1997's values (AECOPS, 1999). The number of licence permits (new residential housing) increased from just over 31,000 in 1994 to 40,000 in 1998 (INE, 1993-1999).

## CONCLUSION AND FUTURE TRENDS

There is a prospect of an increasing pattern of growth for the overall construction market in the near future. The brightest prospect is for the civil engineering segment, as the development and upgrading of major infrastructures will be undertaken in the next few years. For example, the stadia and related infrastructures for the EURO 2004, the O'Porto Underground, the new Lisbon Airport in OTA, the conclusion of the Alqueva dam, the renovation of the railway network and the development of motorways in the concession regime. Some of these infrastructures will be financed partly by the structural funds received from the Third Community Support Framework 2000-2006. This macro-programme envisages a total investment of PTE 8,460 billion, spread over a seven-year period. Construction investment will represent an important share of this amalgam of programmes and projects. At the national level, the urban renewal programme POLIS consists of the urban renewal of 18 major towns. This programme will contribute to the to the growth of the civil engineering segment as well as to the non-residential housing segment. Further development of the latter market segment will depend on the country's overall economic performance and the behaviour of the capital market. As regards new residential housing, there is a prospect for a decreasing growth in this segment due to excess supply and the rising house prices, coupled with the recently (1999) tightened eligibility requirements for mortgage subsidies. As regards repair and maintenance, the prospect is for an increasing growth, as this market segment represents only 7 % of the total construction market compared with the 33% for the average of the European Union.

The European Commission has estimated for Portugal a GDP growth rate of 3.6% in 2000 and 3.5% for 2001. According to the same source inflation is estimated to be 2.2% in 2000 and 2.1% in 2001. This positive economic conditions associated with the construction investment programmes will maintain a high level of CVA and GFCF in construction as a share of, GDP and total GFCF respectively for the period 2000-2006.

## REFERENCES

- AECOPS (various years) *Relatorio AECOPS da Construção*. Lisboa.
- Banco de Portugal (1999) *Convergence Report*. Lisboa.
- INE (various years) *Contas Trimestrais*. Instituto Nacional de Estatística, Lisboa.
- INE (1993-1999) *Estatísticas da construção e habitação*, Instituto Nacional de Estatística, Lisboa.
- OECD (1999) *Report on Portugal*. OECD, Paris.
- Pinheiro M. (1996), *Series Longas para Economia Portuguesa Pos II Guerra Mundial*. 1, Banco de Portugal.