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The Effects of Public Investment
A. de la Fuente and R. Doménech

5.1 Introduction

The public sector accounts for a significant fraction of fixed capital formation in most countries. Public administrations, together with public organisations and enterprises, are often the main suppliers of transport and other key infrastructures and devote large amounts of resources to investment in educational, health care and administrative facilities. Spain is no exception to this. Over the twenty years between 1985 and 2005, the Spanish public administrations accounted on average for over 16 per cent of total investment.

In this chapter we explore the impact of public investment on aggregate output. The chapter is divided into five sections. Section 5.2 compares Spain’s pattern of public investment with that of other industrial countries. Section 5.3 briefly surveys the existing literature on the contribution of public investment to output growth, with an emphasis on the effects of the infrastructure component of this aggregate. Section 5.4 describes how public investment and the public capital stock enter the REMS model. This model is then used to simulate the aggregate effects of a permanent positive shock to public investment. Section 5.5 concludes.

5.2 Public investment and public capital stocks in the OECD

This section reviews the evolution of public investment and the public capital stock in Spain since 1950. To put Spain’s situation in context, we shall adopt a comparative perspective, taking as our reference the sample comprising the main member states of the Organisation for
Economic Co-operation and Development (OECD), excluding the most recent entrants into this organisation and some small economies for which it is difficult to find the required data. We shall refer to this aggregate as OECD-21.¹

One important complication that should be kept in mind when interpreting an exercise of this nature is that public investment means different things in different countries, for at least two reasons. The first is that, in some countries, the available data refer only to capital expenditure by central governments while others also include investment by regional and municipal administrations, and in some cases, but not in others, capital spending by public enterprises. The second is that the relative weights of the public and private sectors vary considerably across countries, particularly in the education and health care sectors, but also in other areas, such as transport and energy supply networks.

Our data on public investment ratios are taken from the OECD’s Economic Outlook database and from the National Accounts published by the same organisation. Using a perpetual inventory procedure with geometric depreciation, we have constructed stocks of public capital for the countries in our sample. As described in Appendix 1, our depreciation rates are taken from Kamps (2006), and starting stocks at the beginning of the sample period are approximated using the same procedure as de la Fuente and Doménech (2006a).

Figure 5.1 plots the evolution of Spanish public investment measured as a fraction of GDP, along with the maximum, minimum and average values of the same ratio in the OECD-21. Figure 5.2 provides a snapshot of the situation of each individual country during the last years of the period being studied (2000–5). The average public investment rate in our sample of reference has varied between 3 per cent and 4 per cent of GDP during the entire sample period, with a slight upward trend between 1950 and the early 1970s, and a slight downward trend thereafter. Spain was above the sample average only after the mid-1980s. Spain’s public investment rate increased sharply during the 1980s, rising from 1.75 per cent of GDP in 1980 to a peak of 4.86 per cent in 1991 and decreasing thereafter to a level only slightly above the sample mean. During the period 2000–5, Spain ranked seventh in the sample in terms of its public investment ratio, behind Japan, New Zealand, Ireland, Italy, the United States and Finland.

Figure 5.3 is identical to Figure 5.1 except that it focuses on the share of the public sector in total investment. In the average OECD-21 country, public investment accounted for around one sixth of total fixed capital formation, with a slight downward trend during the second half of the