Growth and Productivity in Spain. From Autarky to Internationalisation

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Abstract

Spain's economic growth from 1960 to 2024 has increased its real GDP tenfold, driven mostly by the use of labour and various forms of capital rather than by gains in total factor productivity (TFP). Labour productivity trends reveal an unusually large trade-off between employment and productivity growth, a pattern that differs from other countries and is primarily explained by the volatility of both employment and investment rates. Capital productivity has experienced a continuous decline, while TFP has remained weak and has continued to fluctuate. These trends suggest overcapitalisation, excess capacity and inefficient resource allocation across assets and sectors. The good news is that productive efficiency has improved since the pandemic. Applying the analytical framework proposed by Van Ark, de Vries, and Pilat (2024) leads to the following conclusions: 1. Intensifying investment in intangible assets is essential; 2. Strengthening human capital requires aligning the education system with labour market demands; 3. Business dynamics must promote a more efficient allocation of productive factors and enhance the potential for innovation and transformation; and 4. Public sector reforms should focus on improving education and R&D outcomes, removing barriers to business creation and growth, and managing public investment through rigorous cost-benefit analyses.

GROWTH AND PRODUCTIVITY IN SPAIN. FROM AUTARKY TO INTERNATIONALISATION

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INTRODUCTION

Spain is the fourth largest economy in the EU27, after Germany, France and Italy. An analysis of the evolution of the Spanish economy over the period 1960–2024, during which the country underwent major political and economic changes, offers valuable insights into the role played by pro-productivity policies and also the opportunities lost due to their absence or misuse. The first significant turning point in this period was the Stabilisation Plan (*Plan de Estabilización*, 1959), which released Spain from the autarky imposed after the Civil War. This allowed companies to import machinery and other capital goods and spurred the technological modernisation of the Spanish economy, with further impetus from the growth of tourism starting in the 1960s.

The second turning point was the death of Franco in 1975 and the ratification of the Constitution in 1978, which enabled Spain to begin its transition from dictatorship to a democracy comparable with other European countries. The fall of the dictatorship marked a difficult period for Spain, coinciding with the energy crises of the 1970s and 1980s. The democratic Constitution allowed Spain to emulate the institutional models of developed countries by implementing a modern tax system and establishing the institutions of a welfare state. It also led to a major decentralisation of the Spanish state into 17 regions (known as Autonomous Communities).

At the institutional level, two other significant milestones have followed since the end of the dictatorship, namely Spain's entry into the European Union in 1986 and the adoption of the euro in 1999. On the economic front, other pivotal moments were the shocks resulting from the 2008 financial crisis and the Covid-19 pandemic in 2020.

Since the start of the democratic transition, the growth model of the Spanish economy has been predominantly extensive rather than intensive, characterised by substantial increases in the use of productive inputs with relatively weak productivity performance. Another persistent characteristic has been inadequate labour market regulation, which is one reason for the generally higher unemployment rate in Spain compared to other Western European countries and the excessive use of temporary contracts. Unemployment rates and per capita income also differ considerably between regions.

This paper is divided into three sections, drawing on the extensive data available in Spain—some of which has been developed by the Ivie. Section 1 provides an overview of the development of Spanish economic institutions and a review of productivity trends in Spain over the period from the 1960s to the present. Section 2 applies the classification of pro-productivity policies developed by van Ark, de Vries & Pilat (2024), namely policies aimed at: 1. the accumulation of factors of production: 2. technological and structural change; 3. markets and resource allocation; and 4. internationalisation. Finally, section 3 provides a summary of the most effective pro-productivity policies. It also identifies the most significant shortcomings related to policies and areas in need of reform.

1. PERFORMANCE OF THE SPANISH ECONOMY 1960–2024. AN OVERVIEW

The performance of the Spanish economy over the period under consideration is presented from two complementary perspectives. Sections 1.1 and 1.2 review the milestones of Spanish economic policy and the most significant changes in the institutional framework for pro-productivity policies. Section 1.3 presents the evolution of labour, capital and total factor productivity from 1960 to the latest year available.

1.1. A short overview

The period under analysis (1960–2024) was preceded by the Civil War of 1936–1939 that led to the dictatorship of Francisco Franco, who remained in power until his death in 1975. Spain's economic take-off began in 1953 with the signing of three agreements with the United States authorising the

establishment of five US military bases on Spanish territory in exchange for economic and military aid and marking Spain's alignment with US interests during the Cold War (Velarde 2008).

The next milestone was the Stabilisation Plan of 1959, which introduced measures aimed at stabilising and modernising the economy after the period of autarky, laying the foundations for development over the following decades. The plan included economic liberalisation and opening to international trade; inflation control through stricter monetary and fiscal policies; the encouragement of domestic and foreign investment to modernise industry; structural reforms in agriculture and industry to increase productivity and competitiveness; and measures to facilitate the take-off of tourism. The Stabilisation Plan paved the way for the 'Spanish economic miracle' of the 1960s and 1970s but at the same time generated inequality and other social problems that became apparent later.

From 1973 onwards, the energy shocks, the death of Franco, the transition from dictatorship to democracy and the adoption of the 1978 Constitution forced a change in strategy. The oil shocks dealt a severe blow to the Spanish economy and triggered unemployment, which until then had been contained, largely thanks to emigration. The Moncloa Pacts—a set of agreements signed in 1977 by the government, the main political parties, trade unions and business organisations—helped stabilise the country and laid the economic and political foundations for growth at a time of great uncertainty. Following the 1978 constitutional referendum, Spain began a process of decentralisation, through which powers were gradually transferred to 17 Autonomous Communities between 1979 and 2001.

Between 1982 and 1996, the most notable development—and a key priority—was Spain's entry into what was then called the European Economic Community (EEC) which happened in 1986. Public spending—both on the welfare state and on public infrastructure—increased, thanks to the access to European Structural Funds. Despite these funds, the public deficit soared, and the country went into recession.

Between 1996 and 2003, the priority was for Spain to join the euro, which occurred in January 1999. Rapid growth over this period—driven by a restrictive monetary policy aimed at controlling inflation and greater labour and services market flexibility—came close to achieving full convergence in per capita income and productivity per hour with other European countries. However, powerful real estate boom during this period skewed capital accumulation towards unproductive assets.

The global financial crisis that began in the United States in 2007—triggered by the subprime mortgage crisis—had devastating consequences for Spain, beginning with the bursting of its real estate bubble. A combination of easy credit, low interest rates and governance failings in the savings banks had created the conditions for a sharp correction. Growing doubts in the markets about Spain's ability to meet its debt commitments drove up the risk premium and forced the country to request an EU bailout for its financial sector in 2012. Compounding the austerity measures implemented before the bailout, the financial crisis exacerbated unemployment and social discontent. Structural reforms in the labour market, the financial system and the public sector eventually improved competitiveness and from 2014 onwards the Spanish economy returned to growth.

Crisis returned with the outbreak of Covid-19 in 2020. The Spanish economy suffered one of the steepest contractions in Europe, with GDP falling by 10.8%, largely because it was heavily reliant on tourism. To cushion the economic impact, the government introduced support measures such as furlough schemes (ERTE). The sectors most affected also received direct government aid. Once again, public debt increased, raising concerns about its long-term sustainability. The European Union responded with the Next Generation EU funds, of which Spain became one of the largest beneficiaries, in both direct transfers and loans. The purpose of these funds was to boost the recovery, foster the ecological transition, digitalise the economy, strengthen territorial cohesion and support structural reforms. Gradually, the economic consequences of Covid-19 were overcome. By 2022, Spanish GDP had recovered its pre-pandemic level and between 2020 and 2024 the unemployment rate fell from

15.5% to 11.3%. According to the Bank of Spain's September 2025 forecasts, Spain's GDP is set to grow at a rate of 2.6% in 2025—faster than that of any other country in the euro area.

1.2. Development of the institutional framework

The institutional framework within which pro-productivity policies were implemented during the period under analysis was shaped by various changes in Spain's system of public administration. This section highlights three of those changes: the modernisation of public intervention in the economy; changes in the size and role of the public sector; and decentralisation of governance.

Modernising public intervention in the economy

In the 1960s and 1970s, Spain maintained an interventionist system based on control of state-owned enterprises, frequent intervention by the state bureaucracy in private sector decision-making and the channelling of resources towards companies and activities classified as priorities. The effects of this policy framework on productivity were largely negative as it limited companies' flexibility to operate in a competitive market, generated excess capacity in industrial sectors in which Spain lacked comparative advantages—notably mining, steel and shipbuilding—and contributed to the socialisation of losses in 'zombie' companies in sectors that endured prolonged crises, such as coal mining. On the positive side, the mandatory financing of a substantial expansion in the housing stock facilitated workforce mobility and contributed to regional convergence.

With the political transition, the government implemented fiscal reform, increased its capacity to finance public spending and redirected it increasingly towards subsidies as a form of intervention, while reducing the role of public enterprises. All this gave the market a bigger role in the allocation of resources and encouraged productivity gains. Other similarly oriented public policies included: a) the liberalisation of the financial system, promoting competition within the sector; b) the 1980 Spanish Workers' Statute (*Estatuto de los Trabajadores*), which established a new framework for labour relations; and c) the industrial restructuring plans introduced from 1982 onwards, which reduced overcapacity in certain industrial sectors and facilitated recovery from the oil crisis, thereby preparing Spain for its entry into the European Union.

Spain's accession to the European Community in 1986 was a significant milestone in that it provided access to financial resources targeted specifically at improving productivity and EU support for reform in Spanish institutions. Between 1985 and 2010, the stock of public capital—in transport and urban infrastructure, as well as in educational, health, cultural and administrative facilities—tripled through steady capital accumulation facilitated by the EU's Structural Funds. This modernisation overcame long-standing bottlenecks and deficiencies in the provision of productive and social infrastructure and improved both public and private services. Two weaknesses of this phase of capital accumulation were the failure to rigorously evaluate projects when prioritising investments and the absence of a long-term strategy to ensure the sustainability of public investment.

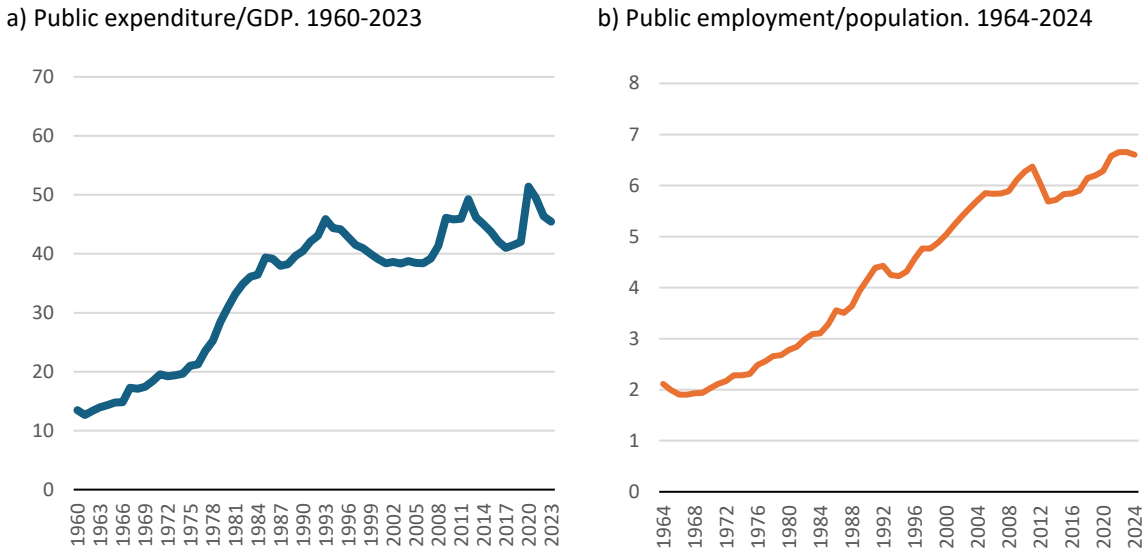
Spain's modernisation efforts within the EU framework extended to other areas. Public agencies were established to regulate network industries and the financial sector and to safeguard competition in the domestic market. From 1995 onwards, sectors such as energy and telecommunications, the stock market and competition policy were overseen by regulatory commissions. During the Great Recession, the EU's financial support was also accompanied by further pressure for reform.[1]

[1] Law 19/2013 on transparency, access to public information and good governance represents a step forward in ensuring access to information for companies and citizens and in promoting the use of digital technologies. The Public Procurement Platform fosters competition in the large government procurement market. The Independent Authority for Fiscal Responsibility (AIReF) was established to analyse the financial sustainability of the public sector and evaluate public spending policies, a key issue for productivity. However, bureaucratic inefficiencies and excessive partisan influence in appointing public managers limit these institutions' contribution to productivity.

Changes in the size and role of the public sector

Throughout the period under analysis, Spain's public administrations expanded significantly in terms of employment, their share of public revenue and expenditure relative to GDP and the scale of the services they produced (Figure 1.1). The economic growth of the 1960s led to increased public spending on health and education, with the latter receiving a significant boost from the General Education Act of 1970. It was not until the democratic transition, however, that the social protection provided by the public administrations was expanded and extended across the economy and the system was given greater economic stability. The Pact of Toledo (1995) established a basic consensus among political and social actors regarding Social Security commitments.

Figure 1.1. Public expenditure/GDP and public employment per capita. Spain (percentage)



Source: Bancaja Foundation-Ivie (2014), IGAE (2025), INE (EPA) and own elaboration.

With the advent of democracy, most of the increase in public spending went to establishing a modern welfare state on the European model. Pensions were the largest item of expenditure, followed by health and education. These benefits contributed to productivity by protecting the health of the working population and enhancing the human capital of the Spanish economy.

A downside of this trajectory is that the increase in social spending—partly driven by the ageing of the Spanish population—has not been fully funded through taxation. Fiscal reforms have been partial and have failed to provide the public administrations with sufficient financial resources. As a result, a structural deficit has become a permanent feature of Spain's public accounts. With the onset of the Great Recession, public investment—essential for expanding the supply of capital services and improving productivity—fell sharply and remained frozen for more than a decade.

Decentralisation

The 1978 Constitution established Spain as a decentralised state with federal characteristics. Whereas in the mid-1970s some 90% of public spending was managed by the central government and the Social Security administration and only 10% by local government, by 2023 regional governments' share had risen to 34%. The regional governments oversee key public services—health, education and social services—as well as regional development policies, all of which are potentially relevant to productivity.

Decentralisation has allowed public policies to be brought more closely into line with the diverse preferences of economic and social actors in each territory. It has also stimulated significant public

capital accumulation and an expansion of services across all regions. Although improvements in living conditions throughout Spain slowed the intense interregional migration flows that characterised the final decades of Francoism, over time the process of convergence in per capita income and productivity has stalled. Once the regional convergence process had ended, significant differences remained: the most developed region had a per capita income 90% higher than that of the least developed. In terms of labour productivity, the gap was smaller (40%). Decentralisation has allowed differentiation in development strategies, in line with the Smart Specialisation Strategies currently guiding the EU's regional development policy.

Three of the wealthiest regions—Madrid, the Basque Country and Navarre—have benefited strongly from institutional features that reinforce their productivity advantages. Madrid's advantages stem from its central role in Spain's transport and communications infrastructure, its dominance in public procurement—accounting for 80% of Spain's contracting authorities—and the presence of two-thirds of the country's highly qualified personnel engaged in R&D and innovation within major state research centres. The Basque Country and Navarre benefit from a distinctive financing arrangement—the *foral* system—that results in their governments having 50% more resources per capita than the average for the other Autonomous Communities.

Productivity is negatively affected by the proliferation of distinct regulatory frameworks across the Autonomous Communities. Regional governments impose varying requirements and obligations on companies and citizens in areas such as environmental protection, product marketing (e.g. distinctive labelling), health and safety, licensing, public procurement and regional taxes and fees. This fragmentation of regulatory regimes disrupts the domestic market, departing from the 'mutual recognition' principle that governs much of the EU's internal trade and generating regulatory costs for companies that undermine their productivity and competitiveness.

Other problems associated with decentralisation include inadequate coordination between central and regional governments and the limited effectiveness of bilateral procedures for resolving conflicts—many of which must be decided by the Constitutional Court. The disparate financing arrangements also generate inequalities in funding between Autonomous Communities. The most disadvantaged regions—where a higher share of residents' income goes towards health and education services—lack the resources to pursue development and innovation policies on the same scale as the wealthier ones, limiting their ability to implement pro-productivity policies.

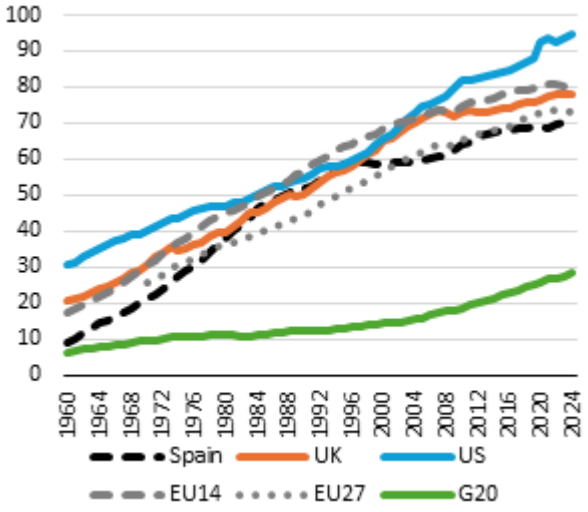
1.3. The facts

This section examines the evolution of labour (hours worked), capital, and total factor productivity

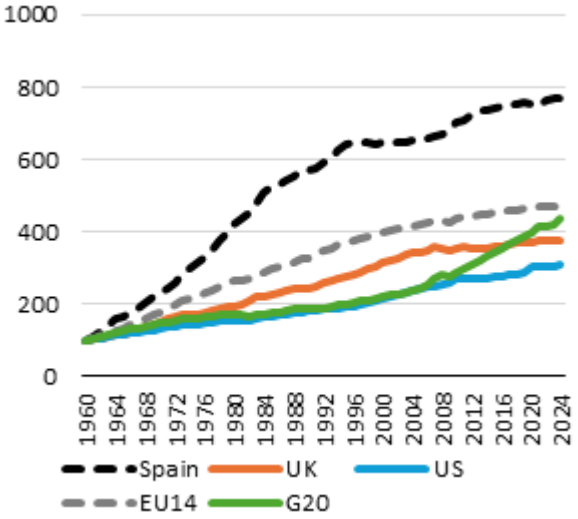
Figure 1.2 shows the evolution over time of labour productivity per hour worked (panels *a* and *b*), GDP and hours worked (panels *c* and *d*) for Spain and some other countries and regions, while Figure 1.3 shows the decomposition of Spanish GDP growth in the contribution of labour input (total hours worked) and labour productivity (GDP per hour) growth. The two most notable features are the continued slowdown in GDP growth and the decline in the contribution of labour productivity, with the exception of the crisis years (around 2010) and the subsequent recovery.

Figure 1.2. Labour productivity, GDP and hours worked, 1960–2024

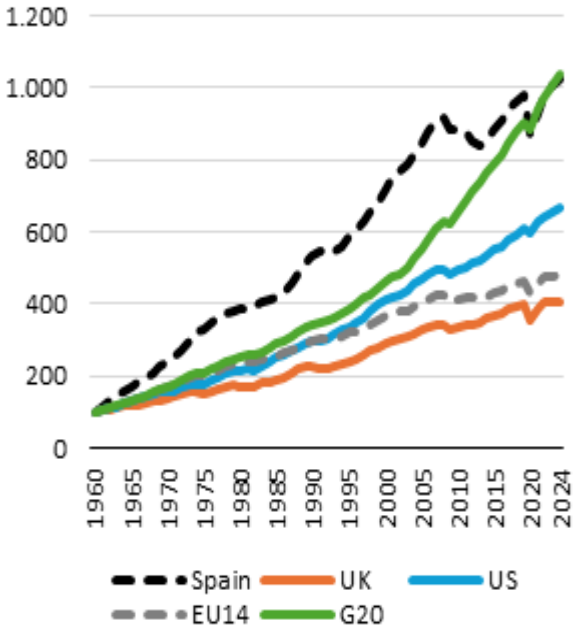
a) Labour productivity (2023 US$ per hour worked, in PPP terms)



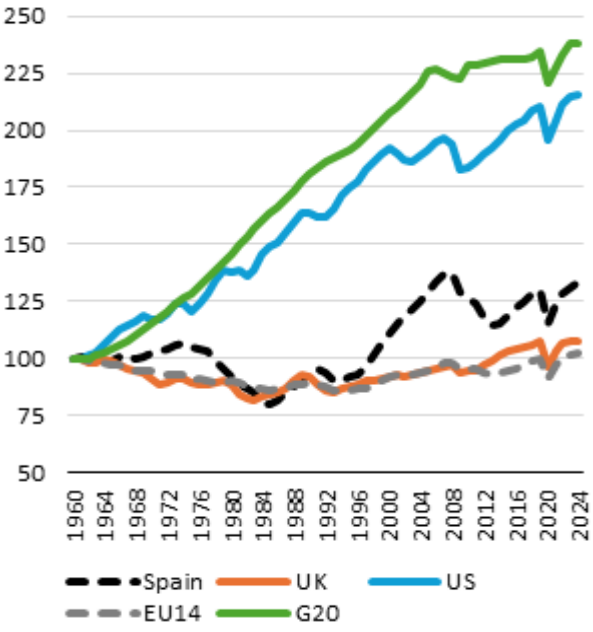
b) Labour productivity (1960 = 100)



c) GDP (1960 = 100)

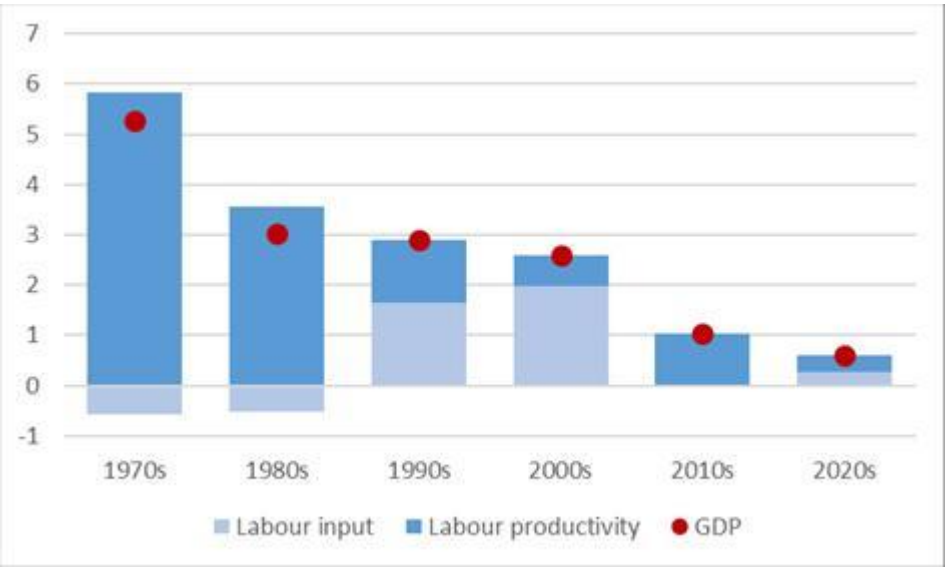


d) Hours worked (1960 =100)



Note: Where data on hours worked are unavailable, trends in persons employed are used.
Source: The Conference Board (Total Economy Database™) and own elaboration.

Figure 1.3. Decomposition of GDP into the contributions of labour input and labour productivity growth, average annual growth rate (%)



Note: Labour input growth refers to working hours. All figures are expressed as log growth rates. 2020s refer to 2020-2023.
Source: The Conference Board Total Economy Database™, May 2024 and own elaboration.

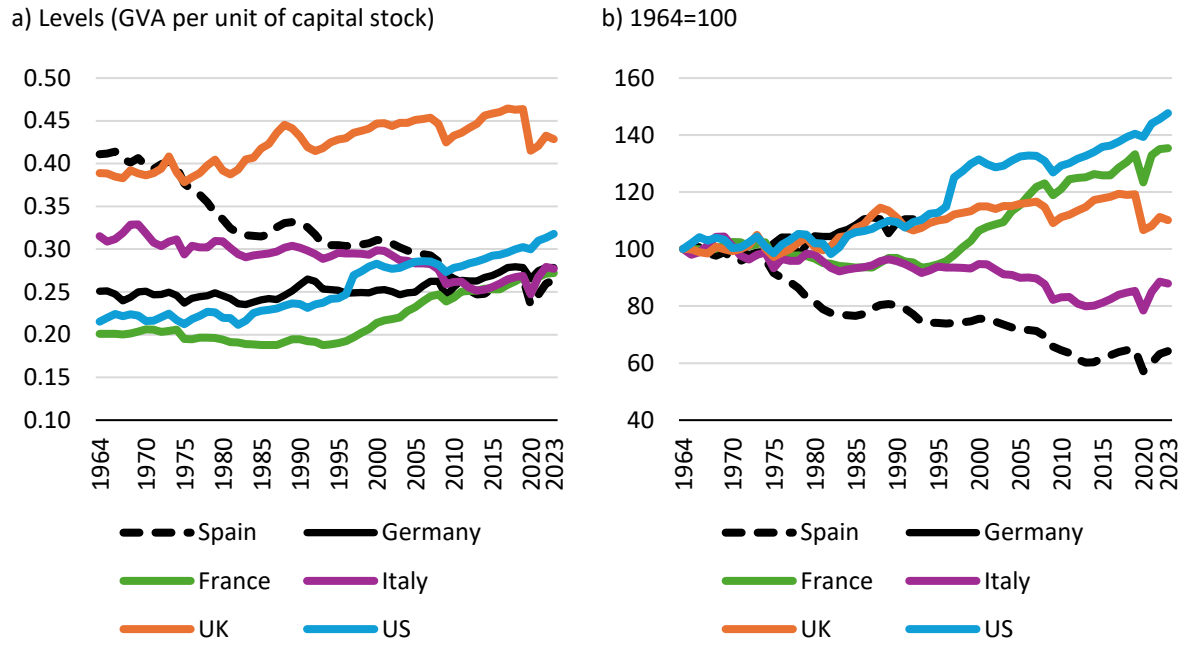
The trajectory of hourly productivity in Spain shows an unusually large trade-off between employment and productivity growth, differing from that of the other countries and areas examined—it is generally countercyclical in Spain and procyclical in the EU14, the UK and the US. This divergence reflects the much higher volatility of the Spanish labour market. Employment tends to grow faster in Spain than in other countries during economic expansions and to fall faster during recessions. The dominant role of construction and tourism and the dependence on immigrant labour together with a high presence of temporary workers are the main factors contributing to this. Table 1.1 supplements the charts with information on the average annual rates of change of the three variables of interest (GDP, employment and productivity) over six selected sub-periods emphasizing the countercyclical profile shown during the periods 1976-1986 and 2008-2012.

Table 1.1. GDP, hours worked and labour productivity. Spain – Annual average growth rates (%)

Period	GDP	Hours worked	GDP per hour worked	Expansion or Recession	Economic context
1960–1976	7.8	0.3	7.0	Expansion	End of autarky
1976–1986	2.3	-2.5	4.8	Recession	Energy crisis
1986–2008	3.4	2.4	1.0	Expansion	Joining EU and EMU
2008–2012	-1.9	-3.9	2.1	Recession	Financial crisis
2012–2019	2.0	1.4	0.6	Expansion	Recovery from the crisis
2020–2024	4.0	3.6	0.4	Expansion	Post-pandemic

Source: The Conference Board (Total Economy Database™) and own elaboration.

Figure 1.4. Productivity of the total capital stock, 1964–2023



Source: BBVA Foundation-Ivie (2025), BEA (NIPA), Luiss Lab of European Economics (2025), Eurostat (National Accounts), European Commission (AMECO), INE (CNE), ONS (National Accounts), The Conference Board (Total Economy Database™) and own elaboration.

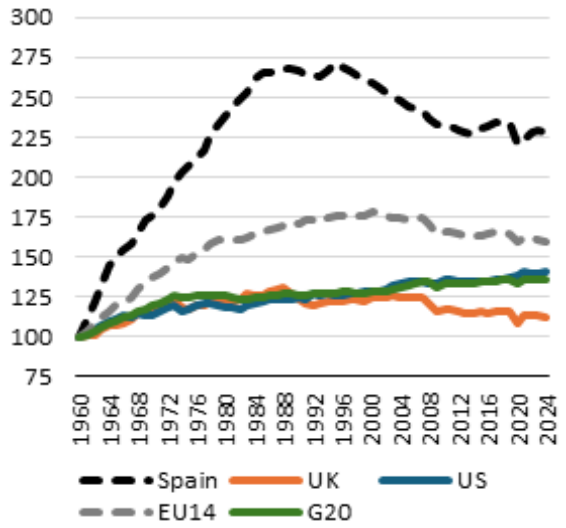
Figure 1.4 shows capital productivity, defined as the ratio of gross value added (GVA) to capital stock. Spain started from a relatively high level in 1964 on account of its low capital stock relative to output (panel *a*). Since then, output has not kept pace with capital accumulation. Of all countries analysed, Spain is the one with the steepest decline in capital productivity (panel *b*).

Turning to the third key variable, total factor productivity (TFP), panel *a* of Figure 1.5 shows that although the first part of the period shows an increase in TFP up to the second half of the 1980s—a significantly larger increase than was seen in other countries and regions—, the trajectory has been disappointing since then. TFP has steadily declined, interrupted only briefly at the end of the financial crisis and again after the pandemic.

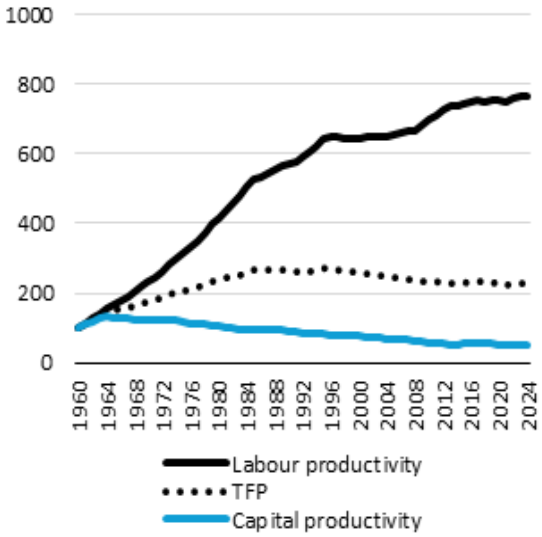
Panel *b* of Figure 1.5 provides an overview of the trends in the three productivity measures in Spain over the period 1960–2024. The two main messages are as follow: 1. High fluctuation in labour productivity growth—mainly due to the volatility of both employment and the rate of investment—despite its long-run upward trend; and 2. Negative capital productivity growth and very weak TFP performance pointing to an overinvested economy with excess capacity, together with a misallocation of resources in assets and sectors.

Figure 1.5. Total factor productivity (TFP), labour productivity (GDP per hour worked) and capital productivity, 1960–2024 (1960=100)

a) Total factor productivity



b) Total Factor Productivity, labour productivity and capital productivity. Spain



Source: The Conference Board (Total Economy Database™) and own elaboration.

2. PRO-PRODUCTIVITY POLICIES. A REVIEW

This section applies the four policy blocks identified by van Ark, de Vries & Pilat (2024) to the Spanish economy during the period 1964–2024 or last year available.

2.1. Policies aimed at the accumulation of factors of production

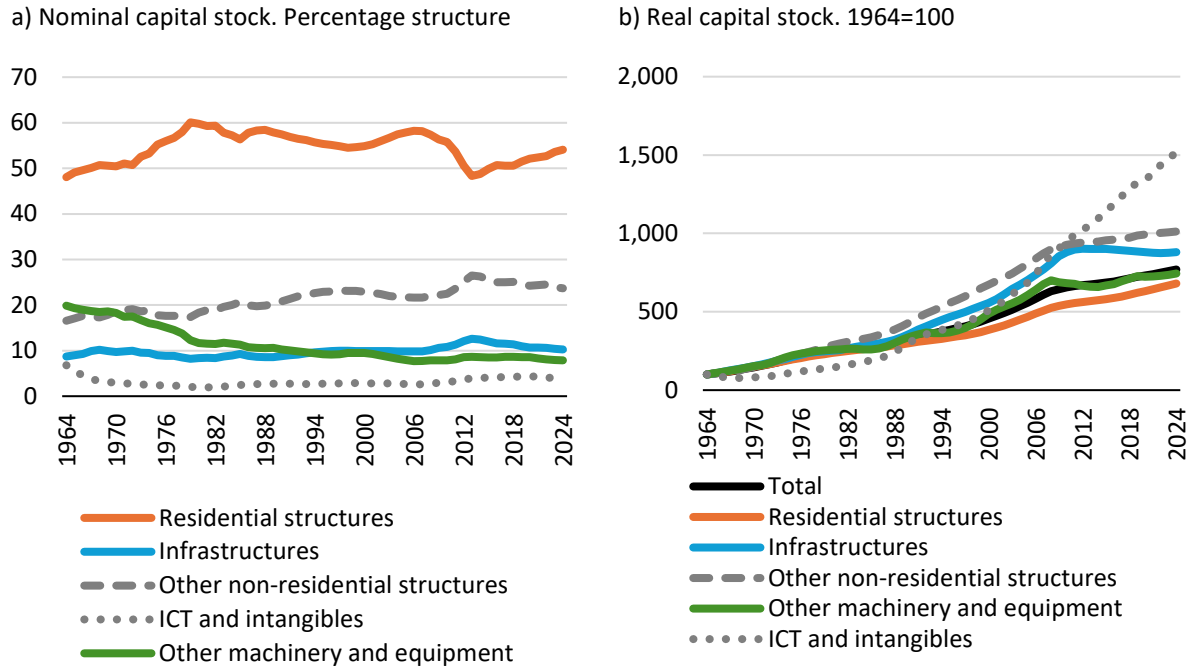
2.1.1. Total capital: tangible and intangible

Figure 2.1*a* shows the composition of total capital. Dwellings account for around 50–60% of total capital, although this share decreased sharply after the housing bubble burst in 2008. Capital in non-residential buildings (factories, commercial premises, offices, etc.) accounts for just over 20% and infrastructure for around 10% of total capital. All remaining assets—the more technology-intensive ones with shorter average lives—have a more modest share in the total. Figure 2.1*b* shows the strongest, most sustained growth in ICT and intangible assets, followed by other non-residential structures and infrastructures, machinery and equipment (excluding ICT) and, in last place, residential structures.

Figure 2.2 provides a more detailed view of the aggregate of ICT and intangible assets. Panel *a* shows that intangibles not included in the National Accounts still make up the largest share, although their relative importance has clearly declined over time, unlike R&D and software, which have increased their weight. The share of capital in communications and hardware has declined—especially in communications—while other intangibles included in the National Accounts—such as mineral exploration; originals of recreational, literary and artistic works; and other intellectual property assets—have seen a slight increase.

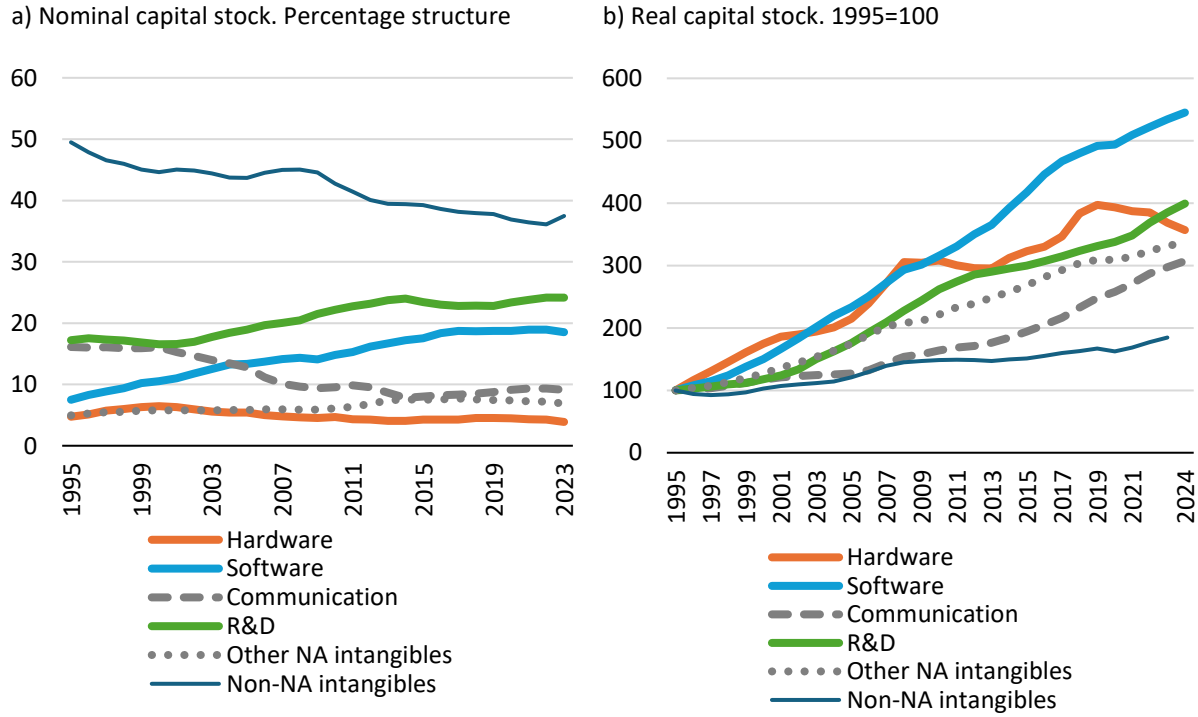
From the perspective of productivity growth, the trajectories of the policies followed by three asset categories in particular—housing, infrastructure and R&D—merit particular attention.

Figure 2.1. Capital stock by asset type, Spain 1964–2024



Source: BBVA Foundation-Ivie (2025) and own elaboration.

Figure 2.2. Capital stock in ICT and intangibles, Spain 1995–2024



Source: BBVA Foundation-Ivie (2025), Cotec Foundation-Ivie (2025) and own elaboration.

Housing

Housing policies in Spain have been focused primarily on promoting access to home ownership through the financing at regulated interest rates of the selling prices of both public and state-subsidised housing. For decades, these instruments contributed to a substantial increase in the supply of housing, with positive indirect effects on productivity. They facilitated a shift of population from areas with limited growth potential to more dynamic regions, thus improving resource allocation. Productivity has also benefited from the availability of well-equipped housing connected to transport networks. Moreover, housing policies have had significant positive effects beyond GDP, particularly for social groups with limited capacity for savings.

However, authorities failed to adequately control the expansionary credit policy of the late 20th and early 21st centuries—driven by low interest rates following Spain's entry into the euro. This led to a bubble in housing and other real estate investments. Since the financial crisis, unused capacity in long-lived assets—such as housing, commercial premises, offices and warehouses—has been a drag on productivity, as these investments may have a negative return. Premises and homes standing empty or underused bear witness to this overcapacity. Among the reasons for this situation are depopulation resulting from emigration and ageing, the large number of second homes and tourist accommodation left vacant for much of the year and legal uncertainty arising from certain regulations. Housing is often excluded from productivity measures because the returns on home ownership (usually based on imputed rents) are difficult to estimate; but the high number of empty or underused properties has clear implications for the productivity of the capital stock created.

Infrastructure

Infrastructure policy in Spain has gone through several stages, reflecting the country's economic and social development. During the Franco regime (1960–1975), the Stabilisation Plan prioritised the construction of basic infrastructure, such as roads, railways, ports and hydraulic works. With the transition to democracy and decentralisation, the Autonomous Communities took over responsibilities for infrastructure development. Major projects implemented over the period 1990–2008 include the high-speed rail network (AVE), the development of urban transport and a substantial expansion of airport infrastructure. With the onset of the crisis (2008–2014), investment in infrastructure fell sharply—by almost 60%. Many projects were delayed or cancelled, and investment priorities were reassessed, placing greater emphasis on maintaining existing infrastructure than on initiating new large-scale projects. For several years, gross investment did not even cover depreciation, leading to a reduction in the overall capital stock. With the subsequent economic recovery, infrastructure investment resumed, but with a more sustainable approach focused on urban mobility. Moreover, infrastructure management has begun to integrate digital technologies to improve efficiency and sustainability.

The European Regional Development Fund (ERDF) and the Cohesion Fund have played a crucial role in the development of Spain's infrastructure and the maintenance of economic and social cohesion since the country's accession to the European Union in 1986. They have financed a significant proportion of transport infrastructure, including roads, railways and airports, enhancing connectivity between regions and supporting economic development. They have also supported investments in water supply, sewerage, waste management and the improvement of public spaces in urban areas. Moreover, by reducing differences in infrastructure provision between regions and promoting rural development, these funds have contributed to territorial cohesion and improved the quality of life in less populated areas. In addition, resources have been allocated to R&D initiatives, boosting innovation, competitiveness and the productive and technological capacity of Spanish companies. Finally, the EU funds have contributed to environmental sustainability by supporting renewable energy, energy efficiency and environmental conservation, including investments in infrastructure designed to be resilient to natural disasters.

Infrastructure contributes to productivity in several ways. It facilitates trade and mobility by reducing logistics and travel costs, allowing companies to access new markets and improve their competitiveness. It enhances connectivity between regions, promoting interregional trade and balanced economic development. Lastly, infrastructure is a key factor in attracting foreign direct investment and plays a decisive role in tourism, which is of particular importance to the Spanish economy.

The availability of statistical information on infrastructure capital in Spain—provided by the BBVA Foundation and the Ivie—has prompted extensive research since the 1990s. Maudos (2020) provides a summary of the relevant literature. The earliest results varied widely and estimated very high impacts of public capital on output, in line with those initially obtained by Aschauer (1989), who found an output/public capital elasticity of 0.39. Potential reasons for discrepancies among different studies include the following: 1. The level of geographical disaggregation, with the elasticity decreasing progressively as the geographical focus narrows; this result is due to the presence of spillover effects generated by the network feature of a large part of the infrastructures considered. This suggests that the effects on the productivity of a region depend not only on the stock of capital located there, but also on the network throughout the territory, and especially the endowments of neighbouring regions 2. The composition of the public capital stock, with the basic infrastructures (transport, energy and water and sewer systems) showing the largest effect on productivity, while social infrastructure (health, education or services of a general nature such as police, justice, administration…) tends to have a weaker impact; 3. The level of development is relevant too, with the impact on productivity greater in the early stages, when the public capital stock is still relatively low; and 4. The estimation procedure has important consequences on the wide range of elasticities found by different authors for the same area and the same time period covered. At present there is a broad consensus that this elasticity is much lower than initially estimated, generally ranging between 0.02 and 0.07, with Spain falling within this interval.

Findings of relevance for Spain (Mas *et al.,* 1996) concluded that a) the impact of infrastructure on output depends, as expected, on the stage of development through which an economy is passing. In Spain, the elasticity declined from 0.14 in the early 1970s to 0.02 today; b) the excessive localism of the Autonomous Communities in demanding more infrastructure investment seems unjustified since, as also expected,-the impact of infrastructure in any given region depends not only on the region's own endowments but also on those of neighbouring regions; and c) public infrastructure contributed to regional convergence until the early 1970s. Since then, the contribution has stagnated. In fact, regional convergence since 1985 has been much lower for infrastructure than for other forms of capital.

The current consensus is that, in developed countries, the relationship between infrastructure and economic growth is weak and quantitatively limited. There is widespread scepticism regarding the use of infrastructure investment as a tool to promote growth. At the same time, there is broad agreement that cost-benefit analysis of individual projects—provided secondary effects and complementarities of other investments are taken into account—is a more appropriate methodology for assessing the economic and social returns of infrastructure investments. Unfortunately, in Spain this approach is still not applied with the rigour and comprehensiveness it requires.

Research and Development (R&D)

Research and technological development (R&D) in Spain has gone through several distinct stages. In the 1960s and 1970s, investment in R&D was low and largely concentrated in the public sector. Most activities were carried out in public universities and research centres. Spain's accession to the EU in 1986 brought an increase in R&D funding. The first decade of the 21st century saw significant growth in private R&D investment, driven by technology companies and start-ups. Governments have also

introduced initiatives to foster collaboration between universities and business. The current policy framework is the State Plan for Scientific, Technical and Innovation Research (2021–2027).

Although R&D policy in Spain has progressed in recent decades, it still has weaknesses that limit its effectiveness (Mas & Quesada [eds.], 2022). The most widely shared diagnosis identifies three main problems. First, Spain's R&D system is small relative to the size of the country. In 2022, R&D investment in Spain amounted to 1.6% of GDP, compared to 2.3% in the EU-27. Second, the private sector plays a relatively limited role both in carrying out and in financing R&D. In 2023, R&D investment by Spanish companies accounted for 56.5% of the total—11 percentage points below the EU-27 average. In contrast, the shares of the public administration (17.8%) and higher education (25.5%) were higher in Spain. The sectoral specialization of the Spanish economy (tourism, construction and more traditional sectors) may explain both characteristics. Third, the key players in the Spanish R&D system—companies, public administrations and R&D and innovation centres (universities, research institutes and technology centres)—are not sufficiently coordinated in their objectives, resulting in duplication of effort and inefficient use of resources.

Another important issue is the gap between academic research and its application in the business sector. In many cases, policies are not sufficiently aligned with market needs or strategic priorities for the country's economic development. As a result, innovation is lacking in key sectors, and many highly qualified researchers have no option but to leave Spain in search of better opportunities abroad. Despite some advances, international collaboration remains limited compared to leading R&D countries, restricting access to global networks and funding for joint projects. Lastly, the adoption of new technologies is delayed by the lack of a culture of innovation and an enduring resistance to change, further constraining productivity growth.

2.1.2. Education and human capital[2]

Spain entered the 1960s with a poorly educated population and an underdeveloped education system. Educational provision was unevenly distributed across the country and, for large sections of the population, access to education was severely limited. Starting from this low level, well below that of more developed countries, Spain underwent a profound transformation over the following decades driven primarily by the public sector which led to substantial improvements in educational attainment.

First, the period of compulsory schooling was increased. The Primary Education Act of 1945 established compulsory, free schooling for children aged 6 to 12 and it was extended to age 14 in 1964, with a dual-track system from the age of 10: children either entered secondary education or remained in primary education until entering the workforce at age 14. Among many other improvements, the General Education Act (LGE) of 1970 created a unified system of compulsory, free schooling up to age 14, with a common core, leading to dual academic and vocational pathways. Finally, the General Education System Act (LOGSE) of 1990 extended compulsory education by a further two years, from ages 6 to 16. In practice, however, early childhood education from age 3 is now free and almost universal and the trend is towards an even earlier start.

Second, public funding for education was increased. The period of free compulsory education financed from the public budget has been steadily extended. Public funding and free provision have also

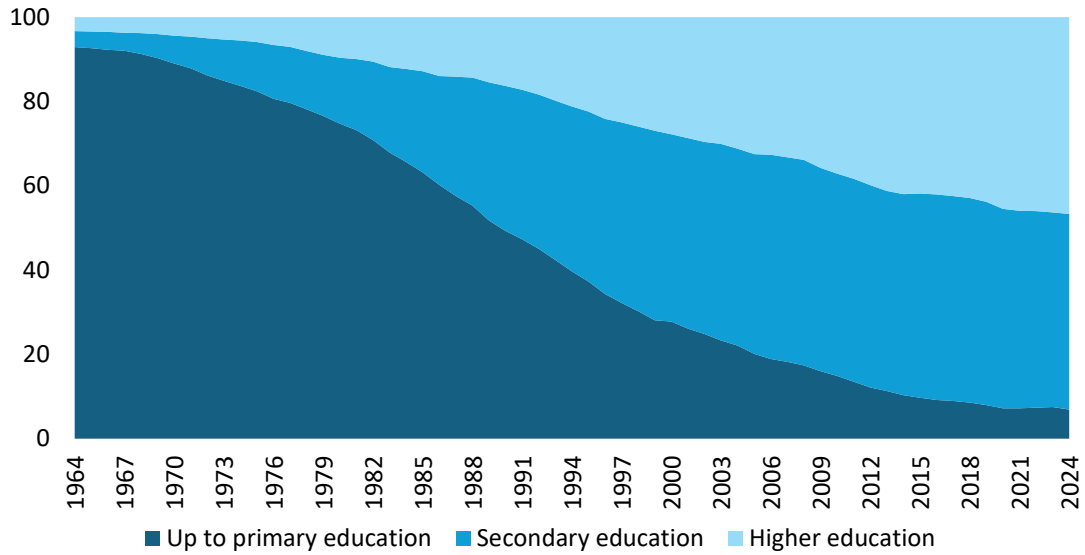
[2] The positive effects of human capital on productivity and growth have been recognised since the time of Adam Smith and have long been analysed both by human capital theory (Schultz, 1960; Becker, 1962, 1964) and growth theory (Mankiw, Romer & Weil, 1992; Lucas Jr, 1988; Romer, 1990). Harmon, Oosterbeek & Walker (2003) and Sianesi & Reenen (2003) offer useful literature reviews of these effects at the microeconomic and macroeconomic levels, respectively. More recent work has emphasised the particular importance of the competences acquired, as opposed to the number of years of schooling (Hanushek, Ruhose & Woessmann, 2017; Hanushek & Woessmann, 2011, 2015, 2020; Égert, de la Maisonneuve & Turner, 2024). For Spain, see Pérez & Serrano (1998) and Pastor *et al.* (2009) on the long-term relationship between human capital and productivity and Kangasniemi *et al.* (2012) on the impact of immigration. On the specific importance of competences, see Serrano (2012, 2014) and Hernández & Serrano (2013).

increased at the post-compulsory secondary level. A similar trend, though without reaching 100% public funding, is evident in public higher education—both in universities, where for the past 40 years public funds have covered more than 80% of the cost, and in higher vocational education and training (VET). In early childhood education, the second stage (ages 3 to 6) has been free, though not compulsory since the LOGSE (1990). The first stage (ages 0 to 3) is now fully funded in most Autonomous Communities, which are responsible for 85% of total public expenditure on education. In addition, the budget allocation for the public scholarship system for post-compulsory education (especially for university studies) has grown steadily. Public spending on education rose from less than 1.8% of GDP in the 1960s to between 4% and 5% from the mid-1990s onwards—a substantial increase but still leaving Spain around one percentage point below the EU-27 average.

Third, the expansion of education has been supported by an increase in the number of public educational institutions at all levels, supplemented in some of the more developed regions by extensive public-private agreements with private schools. Public provision has expanded across the entire country, particularly since the 1980s, when decentralisation granted the Autonomous Communities broad powers over education. The increase is particularly visible in the number of universities,[3] which rose from 17 (13 public) in 1968 to 94 (50 public and 44 private) today, with a presence in all provinces.

The combined effect of these public policies, economic development, rising household incomes and the growing demand for skilled labour—driven by shifts in industry structure and the occupational makeup of employment—has been a remarkable improvement in levels of education among the workforce (Figure 2.3).

Figure 2.3. Evolution of the structure of the employed population by educational attainment, Spain 1964–2024 (percentage)



Source: INE (EPA), Bancaja Foundation-Ivie (2014) and own elaboration.

In 1964, most of the employed population had not completed compulsory education. By 2024, 46.7% of the employed population had higher education qualifications, although 22.1% of the workforce still

[3] Until 1968, Spain had only 17 universities (13 public). Between 1968 and 1979, a further 16 universities were created (all public), followed by another 20 (17 public) between 1980 and 1994, 12 more (5 public) between 1995 and 1998 and a further 29 (all private) from 1999 onwards. Currently, there are 94 universities in Spain (50 public and 44 private), with a presence in all Autonomous Communities and campuses in all provinces.

had no more than compulsory education—which was considered acceptable in the 1960s but inadequate for today's economy.

Despite these clear quantitative advances in educational attainment, progress in the actual skills and competences acquired has been more modest. The landmark reform of 1970 was followed by ten general education reforms—some barely implemented or quickly repealed—and four university reforms between 1980 and 2022. This reflects the chronic lack of political consensus on education, which has undermined the continuity and consistency essential in a field that particularly requires stability. Although all the reforms had the stated goal of improving the quality of education, some of the more recent ones have focused on increasing educational opportunities for all students and reinforcing equity by allowing greater flexibility and relaxing the requirements for progressing through grades and completing educational stages. However, the results of these measures have so far proved unsatisfactory.

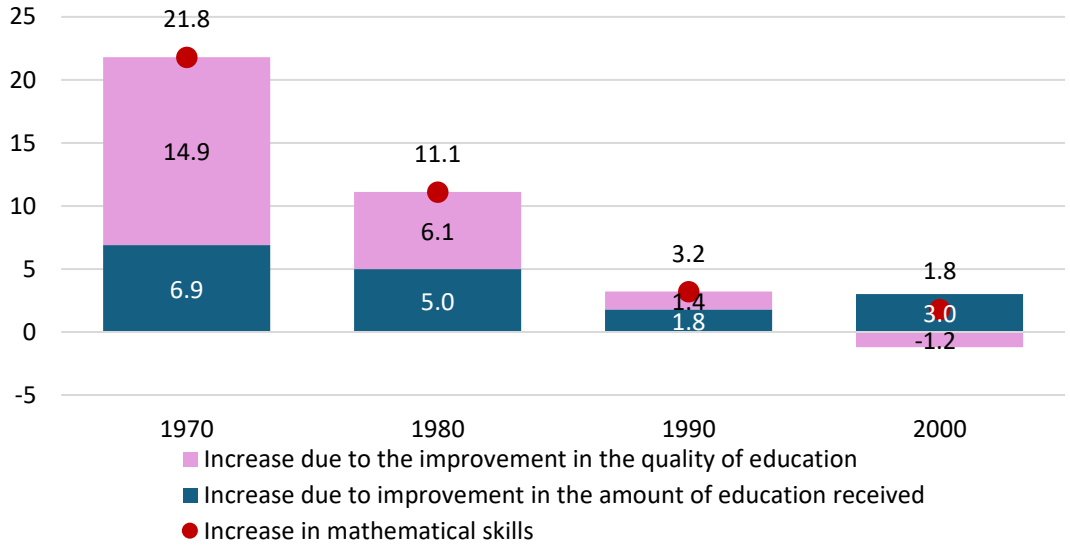
An analysis of the level of basic competences—in reading comprehension and mathematics— by educational attainment and age cohort among the adult population shows notable advances in the early decades, with both the rise in educational attainment and the improvement in competences at each level. In more recent decades, however, the progress has slowed significantly or has even been reversed (Figure 2.4).[4]

The slowdown is particularly evident in qualitative terms—that is, in the skills associated with each level of education. These problems are reflected, first, in Spain's persistently high early school leaving rates, which has resulted in one of the highest proportions of young people without post-compulsory education in the EU. Second, there are high rates of mismatch between workers' educational levels and the requirements of their jobs. This mismatch stems both from the weaknesses of the sectoral and occupational specialization and from shortcomings in the quality of education and the types of qualifications obtained. It has clear implications for labour productivity, with lower utilisation of human capital and a lower return on the investment in education. Third, the more employment-oriented vocational education and training (VET) pathway is relatively underdeveloped in Spain. Until very recently, VET was largely neglected both in public provision and in families' educational preferences. This has contributed to the distinctive hourglass shape of Spain's educational attainment structure: a large proportion of people with either higher education qualifications or only compulsory education and a relatively small proportion with post-compulsory secondary education. This structure contributes to the mismatch between workers' skills and companies' requirements. A noteworthy—if belated—development is the recent focus on dual vocational training, which has expanded rapidly in the 21st century, with student numbers increasing 2.4-fold over the past five years. Another recent positive trend is the improved alignment between university education and labour market needs,

[4] Data from the OECD's PIAAC report show a 21.8-point improvement in mathematical skills among those who entered the labour market in the 1970s compared to those who did so in the 1960s. This improvement can be broken down into 6.9 points due to higher levels of education and 14.9 points attributable to improvements in quality. There was a further substantial improvement for those entering the labour market in the 1980s (an additional 11.1 points, with 6.1 points from quality and 5.0 from quantity). However, progress slowed considerably in the 1990s (an improvement of 3.2 points, with 1.4 from quality and 1.8 from quantity) and even more so in the first decade of the 21st century (an improvement of just 1.8 points, with a decline of -1.2 from quality and 3 points from quantity).
Comparison with the OECD average over time also shows rapid initial progress in Spain, which then slows and eventually gives way to divergence for the cohort entering the labour market in the 1990s. The qualitative gap with the OECD narrows for entrants in the 1970s and 1980s but widens again for those entering after the 1990s, leaving the increase in the number of years of schooling as the only factor of convergence with other developed countries.
This situation is further reflected in Spain's modest results in successive waves of the OECD's PISA report (eight waves between 2000 and 2022), particularly regarding the low percentage of 15-year-olds achieving high levels of skills. In 2022, only 6% of students in Spain reached these levels, compared to 8% in the EU and an OECD average of 9%, far below countries such as Japan (23%), South Korea (23%) and Switzerland (16%).

reflected in a two-percentage-point drop over the past six years in the share of university graduates working in jobs for which they are overqualified.

Figure 2.4. Decade-by-decade comparison of mathematical skill levels on entry into the labour market, Spain, 1970–2000 (PIAAC score points)



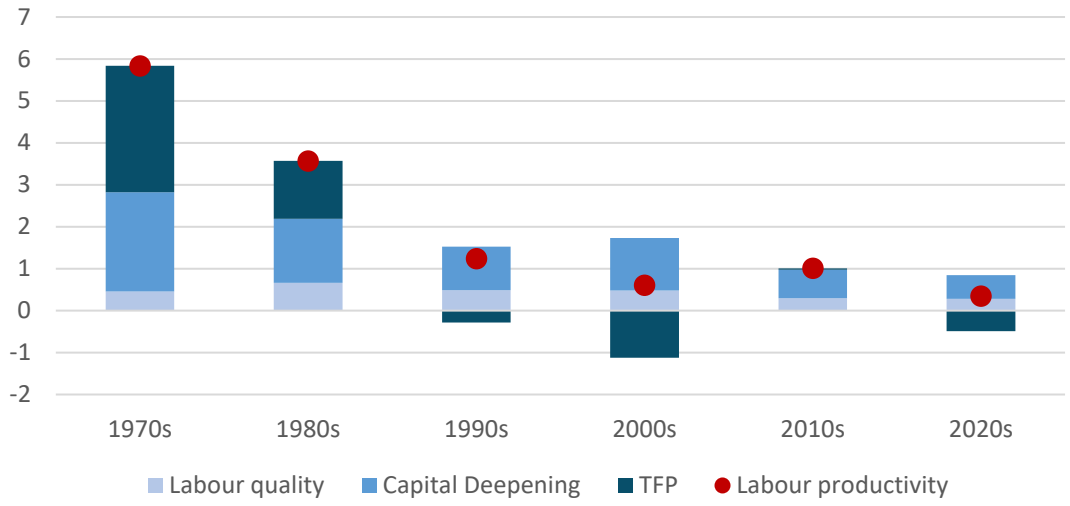
Note: Differences in average numeracy (mathematics) scores (PIAAC scale points) between cohorts. A shift-share analysis is used to decompose total score differences into two components: changes attributable to improvements in the amount of education received and changes in scoring at constant levels of education, reflecting improvements in the quality of education.
Source: OECD (PIAAC) and own elaboration.

In summary, the public policies implemented between 1960 and 2024 to support human capital accumulation present a mixed picture. Since the 1960s, starting from very low levels, these policies led to a substantial improvement in educational attainment. From the 1980s onwards, however, a succession of short-lived and sometimes contradictory education reforms—not all of them focused on improving the quality of education—were enacted, contributing to the modest results in educational quality and skills acquisition. Improvements in educational attainment were accompanied by significant advances in the competences acquired at each educational level by successive generations of workers until the mid-1980s, thus narrowing Spain's skills gap with other developed countries, but qualitative progress has slowed or even stalled since the 1990s—with clear implications for productivity, as the full potential of human capital is not being effectively realised.

2.1.3. Spain´s sources of growth. A summary

Figure 2.5 applies growth accounting to show the contributions to labour productivity growth of the standard three sources: labour quality, capital deepening and total factor productivity (TFP) from 1970s to 2020s. The first notable feature is the high volatility of Spanish labour productivity growth, as previously mentioned. The exceptionally high growth rates observed in the 1970s and 1980s were the result of important contributions from all three sources, especially TFP and capital deepening. In the two following decades, labour productivity growth fell, being based on labour and capital inputs. The financial crisis that began in 2008 had negative consequences that were worsened by the Covid-19 pandemic. However, at present, there are reasons for optimism, as TFP growth has recorded positive growth rates since 2021, even though it has not yet fully compensated for the sharp decline experienced in 2020.

Figure 2.5. Decomposition of labour productivity (GDP per hour worked) growth into contributions of labour quality, capital deepening and total factor productivity



Note: 2020s refer to 2020-2023.
Source: The Conference Board Total Economy Database™, May 2024 and own elaboration.

2.2. Policies aimed at technological and structural change

Over the long-term, all developed economies have undergone two major structural changes relevant to productivity: first, a shift from an agrarian structure to one in which industry initially gains weight but is ultimately overtaken by services; and second, the digital revolution, which continues to shape trends in productivity. Spain has experienced both these transformations during the period under analysis.

2.2.1. Transition from an agrarian to a service economy

Much of Spain's productivity growth following the 1959 Stabilisation Plan came from catching up with more advanced economies, partly through policies of external openness that facilitated imports of capital goods and attracted foreign investment. Both these factors supported the adoption of advanced technologies and modern business management practices, particularly as economic liberalisation progressed. The catching-up involved profound structural changes and a reallocation of capital and labour between sectors.

In 1960, the Spanish economy lagged far behind the more advanced European countries and the United States. Its GDP per capita was about half the average of a representative group of European countries and just 33% of that of the United States. Whereas in these latter countries the economy had already reached a phase of structural transformation in which industry's share of employment was declining in favour of services, agriculture remained the dominant sector in Spain, accounting for 38% of total employment. From that point onwards, the share of agricultural employment in Spain began to decline rapidly in favour of manufacturing. This did not entail any fall in agricultural production, thanks to the mechanisation of the countryside facilitated by imported technology. The transition to a service-based productive structure would come later.

Structural transformation in Spain began later than in other developed countries but was concentrated within a shorter period. Between 1960 and 2007, the share of agricultural employment in Spain fell by 32 percentage points. By 2015, the share of employment in services in Spain had reached 77%, matching the levels observed in other advanced economies, while the share of

manufacturing was 12.1%, and construction and utilities 6.4 %. (González-Díez & Moral-Benito, 2019). This large-scale transfer of resources to higher-productivity sectors is crucial to understanding the strong productivity gains observed in Figure 1.2. Table 2.1 shows the large productivity differences between sectors that existed in Spain at the beginning of the period and how these have gradually narrowed. Through this composition effect, changes in the productive structure have had substantial consequences for aggregate productivity, accounting for around one-fifth of its growth between 1960 and 2023.

Table 2.1. Labour productivity per person employed, Spain 1960–2023 (Total economy = 100)

	1960	1975	1985	2000	2007	2023
Agriculture	18.5	17.9	27.1	55.8	64.4	65.5
Industry	75.1	93.6	100.5	110.1	128.5	131.2
Construction	133.6	132.1	117.2	97.5	83.1	84.6
Services	209.3	138.4	116.0	101.5	99.7	98.4
Total economy	100.0	100.0	100.0	100.0	100.0	100.0

Source: INE (CRE, CNE), De la Fuente & Ruiz (2024), De la Fuente (2025) and own elaboration.

This structural transformation has also involved a profound change in the composition of employment by occupation, with a shift towards more productive roles. In the mid-1960s highly skilled workers (occupational groups 1–3) accounted for just over 4% of total employment. By 2024 the figure had risen to 36.1%, a transformation made possible by the intense accumulation of human capital discussed in the previous section.

The structural transformation of the Spanish economy has had significant regional consequences. In the 1960s, the regions in which agriculture dominated the productive structure—essentially those in the centre of the Peninsula (apart from Madrid) and the south—lost population through strong internal migratory flows. In contrast, the regions with more advanced industrial development—notably Catalonia and the Basque Country and to a lesser extent Valencia—gained population, as did Madrid, which was consolidating its role as a major service centre. Between 1959 and the late 1970s, these internal migratory movements triggered a process of convergence (sigma-convergence) in GDP per capita and productivity, while the productive structures of the regions gradually became less heterogeneous (Martínez *et al.*, 1982). Subsequently, however, internal migration diminished, and regional convergence alternated with phases of divergence (Cuadrado-Roura & Maroto, 2010). Intraregional mobility now exceeds interregional mobility and the current presence of an important contingent of foreign-born population has contributed to an increase of domestic labour mobility (Liu, 2018). Empirical research has also shown that large urban areas enjoy relevant advantages in terms of wage premiums and the location of innovation activities (De la Roca & Puga, 2017; Escolano & Escalona, 2017; Goerlich & Reig [eds.], 2020) while many rural areas now face absolute depopulation.

Tourism in mediterranean coastal regions and in the Balearic and Canary Islands has always been a source of economic dynamism, attracting immigrants to relatively low productivity jobs. In the islands, activities connected to tourism currently represent 40% of all employment, for a Spanish average of 11%. Construction experienced a boom in Spain just before the financial crisis, and its share in total Spanish real value added in 2007 was double the average share in other European countries. Spanish-European differences at the beginning and at the end of the period, with regards to the relative weight of this sector, were much lower. Knowledge (intangible) assets have a very low weight in the tourism and building industries, and both industries also have low educational requirements for their labour force. Therefore, regional specialization in these sectors can be deemed detrimental to foster increases in productivity. Also, regions that were most affected by the real estate bubble—such as Valencia or Andalusia—displayed less resilience in the aftermath of the crisis, while high-income regions performed much better.

Labour productivity growth in OECD countries is increasingly concentrated among the most productive firms, while the diffusion of benefits from frontier firms to less advanced firms has proven problematic (Andrews, Criscuolo & Gal, 2016). Spain is no exception. One of the main causes is the presence of obstacles to labour mobility between firms and regions (OECD, 2024). Current difficulties in the access to housing represent one of those obstacles.

2.2.2. The digital revolution

A second, more recent structural change relates to the penetration of new technologies—particularly digital technologies—across all types of activities. From the early 1990s to 2005, labour productivity grew rapidly in the most developed economies. This strong growth appeared to confirm the potential of new technologies to stimulate productivity. However, the impact of ICT was short-lived. The 2007 crisis was followed by a prolonged period of slowdown, despite the development of artificial intelligence (AI), the Internet of Things (IoT), cloud computing and other equally disruptive technologies.

In principle, digitalisation is expected to have a positive impact on productivity growth, since it introduces new technologies and processes that optimise resource use, reduce costs and improve efficiency. However, the extent of its impact depends crucially on companies' and workers' capacity to adapt and harness its potential. The adoption of ICT (hardware, communications and software) therefore needs to be combined with other intangible assets, such as R&D, brand image, design, employer-funded worker training and improved organisational efficiency.

This implies that better results are obtained when several assets, both intangible and tangible, are combined, especially those linked to ICTs. This feature reinforces the importance of investing in intangibles as digitalisation continues to spread across economies. The underlying reasons are rooted in the way production is linked to the use of ICTs, often requiring substantial organisational changes. These include redesigning the organisational structure, work practices, less hierarchical decision-making, and greater emphasis on teamwork, flexible teams, multiculturalism and multi-disciplinarity. Greater ICT usage also allows for increasing sophistication in the design of new products, the creation of brands that distinguish products from basic *commodities* and building customer loyalty to expand network reach. Finally, ICT requires a skilled and experienced workforce.

Related to intangibles, two relevant stylized facts merit attention. First, an increase in differences between countries (and regions) in their endowments of intangibles, combined with reduced differences in tangibles. Second, investment in intangibles has had a stabilizing influence on total investment as it is less sensitive to the business cycle than other investments.

The available evidence for Spain indicates that the country's weak labour productivity growth since 1995 is the result of relatively low levels of investment in ICT and intangible assets, compared to investment in tangible assets—the opposite of what is observed in other advanced economies. This lack of investment is closely linked to the pattern of production specialisation and weaknesses such as small firm size and limited business dynamism, which are analysed in the following section. The level of digitalisation varies considerably across sectors. It is particularly high in sectors producing ICT goods and services, although these sectors account for a relatively small share of the economy (around 5% of GDP). In the remaining sectors it is important to distinguish between those that use ICT intensively and more traditional sectors, where the degree of digitalisation is low. Spain stands out for the relatively large share of these more traditional sectors -such as construction, trade, transportation and storage or hospitality- and the smaller role of the other two categories, which are largely made up of advanced services such as information and communication, financial services or professional, scientific, technical and other activities (Pérez *et al.*, 2024, chapter 3).

Spain's pattern of sectoral specialisation has important consequences for productivity. The higher the level of digitalisation and investment in intangible assets, the greater the productivity gains—both in digital producing sectors and in the sectors that use ICT intensively. In Spain, productivity improvements in the most digitalised sectors result from a virtuous combination of human capital, tangible and intangible assets and total factor productivity (TFP). By contrast, the negative contribution of TFP to aggregate productivity is largely attributable to more traditional sectors, where tangible assets continue to predominate.

These results suggest two main strategies for improving productivity in Spain. The first is to increase the share of highly digitalised activities (including ICT-producing sectors) within the economy. The second is to strengthen investment in intangible assets across all sectors, enhancing the effectiveness of overall investment efforts.

A specific challenge that deserves attention is the limited adoption of artificial intelligence (AI) across most Spanish firms. Although large companies are beginning to exploit its potential, smaller firms—which make up most of the Spanish business sector—are not. There are also significant differences in AI adoption across sectors, again underscoring the importance of productive specialisation. Low levels of business investment in managerial capabilities and R&D represent another structural weakness of the Spanish economy. In addition, large productivity gaps persist between leading and lagging companies. The adoption of AI could further widen these gaps, as more advanced firms integrate it effectively, while smaller or less innovative firms fall behind. For pro-productivity policies, the key is not to see AI as a silver bullet capable of overcoming structural barriers, but as a powerful tool for increasing efficiency—when combined with other investments and actions—in human capital, management capacity, R&D and organisational improvement (Pérez *et al.*, 2024, chapter 4).

2.3. Policies aimed at markets and resource allocation

2.3.1. Industrial policy and firm dynamics

The Spanish business sector has historically been characterised by three structural features with direct implications for today's productivity as they still shape the economy: 1) the business sector is more heavily skewed towards smaller firms than in other advanced economies; 2) the Spanish economy shows limited dynamism in terms of business creation, exit and growth; and 3) the limited growth of firms is linked to difficulties in scaling up and gaining size, often attributed to barriers in access to finance, regulatory obstacles and the fragmented and local nature of many markets.

These three factors, combined with others such as population movements, labour market dynamics and the type of capital invested, have all contributed to an allocation of production factors to less productive firms within the same industry that have hindered productivity growth. Moreover, the Spanish business sector clearly has a dual structure, with a significant share of laggard firms that weigh down aggregate productivity relative to the performance of frontier firms.[5]

The roots of these traits can be traced back to the 1960s, where indicative planning policies promoted industrial investment and the creation of large firms in strategic sectors (automotive, steel and metallurgy, chemicals and petrochemicals, shipbuilding, energy and agri-food). The tourism and construction sectors also played a key role, both in generating foreign exchange and their spillover effects across the economy. As a result, the business sector came to consist of a small number of large firms—which, in many cases, were not highly productive— and a large number of small and medium-sized enterprises in non-strategic industries. Domestic markets remained heavily regulated with

[5] See, for example, García-Santana *et al.* (2020) for an analysis of the period 1995-2007, Fernández de Guevara & Mínguez (2025) and Pérez *et al.* (2025, forthcoming) for a more recent analysis.

administrative barriers and licensing requirements. Policy priorities were focused on expanding sectors deemed strategic rather than in productivity.

The energy crisis of the mid-1970s forced a restructuring and bailing-out of inefficient public companies, particularly in the textile, mining, steel and shipbuilding industries. From the second half of the 1970s and throughout the 1980s, some industries were liberalised. The financial sector evolved from being heavily regulated and steered by the state to gradually modernising under international regulatory standards. Public debt markets were developed, allowing public sector financing to be separated from bank funding. Policies were also introduced to encourage the internationalisation of firms. In the real estate sector, rents were deregulated. Tariff barriers were lowered, and incentives were introduced to promote business investment, the reinvestment of profits and the technological modernisation of firms to improve efficiency.

During the 1990s and 2000s, privatisation of large companies was implemented, strategic sectors (such as telecommunications, energy, transport and postal services) were liberalised, regulatory bodies were created, and competition in goods and services markets were boosted. However, some policies had unintended negative effects on productivity. In particular, Spain suffered a financial shock derived from the introduction of the euro, which meant a long period of very low nominal interest rates (even negative in real terms). Investment and credit flows became skewed towards real estate assets, at the expense of more productive investments, aggravating the misallocation of production factors.[6]

Since 2010, there has been growing awareness of the need to enhance business dynamism and the relevance of the allocative aspects for productivity. There are significant productivity differences across firms. Frontier firms achieve outstanding performance in some industries, with higher productivity and growth—more pronounced in services than in manufacturing. By contrast, a substantial share of laggard firms drags down aggregate productivity dynamics, as they diverge from the productivity frontier. According to estimates by Pérez et al. (2025), 45% of sales in Spain are concentrated in sectors where the TFP growth of frontier firms is below the average, while the remaining firms within those sectors simultaneously diverge further away from the frontier. In addition, business dynamism has been reduced since the Great Recession, both due to the lack of renewal of the business fabric and the limited growth of firms. For instance, the turnover ratio in Spain has been systematically negative since the Great Recession. The growth rate of both incumbent and newly created firms is lower than in other European economies and has decelerated over time. In other words, Spain exhibits a slower pace of business renewal and firm growth, which hampers both the sectoral reallocation of activity towards more productive firms within industries and the innovation inherent to business dynamics.

Steps have been taken to reduce barriers to entry in productive sectors, facilitate business creation, encourage entrepreneurship and the exit of companies from the market—with instruments such as the Second Chance Law. Efforts have also been made to improve access to finance for start-ups by promoting alternatives to traditional bank credit, which still dominates Spain's financial markets.[7] Support for the internationalisation of firms and the expansion of Spain's export base have been continued as well as further measures aimed at boosting competition. Examples are the Law on Market Unity, intended to reduce regulatory fragmentation between Spain's internal market, tighter control of oligopolies in strategic sectors; and the Law on Free Access to Service Activities, aimed at facilitating competition across a broader range of economic activities.

[6] Basco, López-Rodríguez & Moral-Benito (2025), Pérez y Benages (2017).

[7] Notable initiatives include BME Growth (formerly Mercado Alternativo Bursátil), the Alternative Fixed-Income Market (MARF) and the private equity venture capital markets, among others. Public financing facilities have also been implemented through the ICO, CDTI and ENISA.

2.3.2. Labour market[8]

The Spanish labour market has undergone profound transformations in recent decades, beginning with the transition from Francoism in the 1970s, the introduction of free trade union elections and the approval of the Workers' Statute in 1980. This Statute still provides the basic framework for labour relations in Spain, although it has been modified over time through a total of eight labour reforms between 1994 and 2022—some of which have been contradictory in their objectives and effects.

Four significant deficiencies of the Spanish labour market stand out in relation to productivity. First, the rigidity of the regulatory framework, reinforced by collective bargaining arrangements, limits companies' ability to adapt to changing conditions. Second, the high effective costs and complex regulation of dismissal hinder workforce adjustment within firms and the reallocation of labour between firms and sectors. Third, the widespread use of temporary contracts as the main tool for workforce flexibility has allowed firms to more easily adjust employment levels but has had negative effects on productivity, given the association between temporary employment, lower investment in training and weaker worker attachment to firms. Finally, the limited funding traditionally allocated to active labour market policies, relative to passive measures such as subsidies and unemployment benefits, has further constrained efforts to improve labour market functioning and worker reallocation.

The rigidity of the regulatory framework, reinforced by collective bargaining, has driven companies to adjust mainly by altering employment levels. This has led to large-scale layoffs during crises and prolonged fluctuations in the unemployment rate and has created strong trade-offs between employment and productivity growth. The labour reforms of 1994, 2010 and especially 2012 were intended to address these problems by introducing greater flexibility, although success was limited until the more comprehensive 2012 reform, which was partially repealed in 2022.[9] High effective dismissal costs and complex dismissal regulations have made it difficult to adjust and reallocate labour across firms and sectors. These constraints reinforced the division within the labour market between workers on temporary and permanent contracts, affecting collective bargaining through the so-called insider-outsider effect. Workers with permanent contracts are generally more reluctant to change jobs or sectors, since, in the event of dismissal from the new company, they will have forfeited the severance entitlements accumulated in their previous employment. Successive attempts to correct this situation produced only limited effects until the more far-reaching 2012 reform.[10]

The widespread use of temporary employment has been a distinctive feature of the Spanish labour market for decades. The 1984 labour reform[11] was decisive in this respect, introducing the

[8] On the negative effects of temporary employment in Spain, see Jaumotte (2011), OECD (2014) and Hernández & Serrano (2018). On the negative effects of mismatch between workers' training and employment, see Vandeplas & Thum-Thysen (2019) and, for Spain specifically, Alba-Ramírez (1993), Budría & Moro-Egido (2008) and Murillo, Rahona & Salinas (2012).

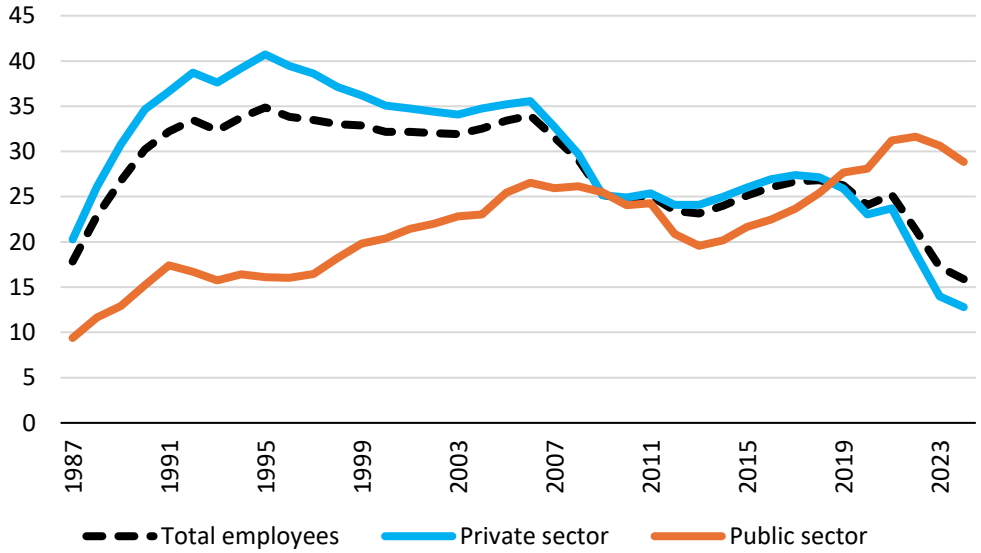
[9] The 1994 labour reform was aimed at liberalising labour relations by introducing functional and geographical mobility, creating professional groups and widening the grounds for dismissal. The 2010 reform introduced measures to promote internal flexibility within companies and encouraged the use of reduced working hours as a tool for temporary employment adjustment. The most far-reaching reform was that of 2012, which introduced measures to increase flexibility and decentralisation in collective bargaining, strengthened companies' internal flexibility, clarified the economic grounds for dismissal and reduced severance pay—for the first time applying this reduction to all workers, including those on permanent contracts. Some of these measures remain in force today, while others—particularly those relating to collective bargaining—were reversed by the 2022 reform.

[10] Various labour reforms have attempted to clarify the grounds for objective dismissal, since in practice the legislation led to a high probability that any dismissal would ultimately be declared unfair by the courts, obliging employers to pay the maximum compensation established by law (until the 2012 reform, 45 days' salary per year of service, up to a maximum of 42 months, for standard open-ended contracts). The effectiveness of all these reforms was rather limited until the 2012 reform, many of whose main provisions in this area remain in force after the 2022 reform.

[11] In a context of high and rising unemployment and significant difficulties for young people entering the labour market, the predominant policy approach was to rely on highly flexible temporary employment, while maintaining the conditions and high protection afforded to permanent workers.

'employment promotion' contract, which allowed for greater use of temporary hiring. The result (Figure 2.6) was a sharp increase in the temporary employment rate, which in 1995 reached 34.9% (40.7% in the private sector). For decades, Spain had the highest temporary employment rate in the EU, making temporary contracts the main—and, in many cases, the only—tool of labour flexibility available to companies.

Figure 2.6. Temporary employment rate by sector, Spain 1987-2024 (percentage)



Source: INE (EPA) and own elaboration.

Subsequent reforms aimed at reducing the use of temporary contracts and encouraging permanent hiring had only limited success—at least until the reforms introduced in the mid-2000s.[12] Excessive use of temporary employment has negatively affected productivity in several ways. By increasing job turnover, temporary contracts prevent workers from accumulating experience and developing job-specific skills. Motivation and effort are reduced when employees expect not to remain in the company for long. In addition, temporary employment undermines both workers' and employers' incentives for training.

Finally, Spain's active employment policies and public employment services are still largely focused on the passive aspects of unemployment protection—that is, benefits and subsidies for the unemployed—at the expense of more proactive measures, such as training, reskilling and counselling for labour market integration. Despite successive reforms over recent decades,[13] the system has

[12] Post-1984 reforms sought to reduce the frequency of temporary employment and promote permanent hiring. This was the case with the reforms of 1994, 1997 (which introduced a new contract to promote permanent hiring, with reduced compensation for objective dismissals declared unfair), 2001, 2006 (with measures to promote permanent hiring and changes to the regulation of temporary contracts) and 2010, though with limited success. The 2012 reform was more ambitious, since, in addition to other conventional flexibility measures, it reduced the difference in dismissal costs between temporary and permanent workers. The 2022 reform went further by drastically restricting, by law, the circumstances in which temporary contracts can be used and by introducing the 'fixed-discontinuous' contract as a means of promoting permanent employment.

[13] In this area, the 1994 reform allowed private-sector access to temporary employment through temporary employment agencies (ETTs), and several subsequent labour reforms modified the unemployment protection system—at times tightening or adjusting its conditions, at others facilitating access and expanding coverage. Between 1991 and 2003, competences in training and active labour market policies were transferred to the Autonomous Communities. The most recent reform of unemployment benefits took place in 2024, introducing measures to speed up access to benefits, expand the groups covered and increase the amount of the benefit—which, however, now decreases over time. The reform also makes benefits compatible with employment for a maximum period of six months. Therefore, this latest reform contains elements that could theoretically have opposing effects on productivity, and its final net impact will need to be evaluated once implemented.

remained only modestly effective in promoting the employability of the unemployed since the onset of mass unemployment in the late 1970s and early 1980s. These shortcomings have resulted in several dysfunctions within the Spanish labour market: a high degree of differential protection for permanent workers, reducing the relevance of the unemployed in collective bargaining; ineffective training programmes, which in general do little to improve the employability, human capital or productivity of unemployed workers; the long prolongation of unemployment spells, leading to demotivation among the unemployed; and poor or delayed matches between workers and jobs. Through all these channels, the weaknesses of Spain's unemployment protection system and active labour market policies have had a negative impact on productivity.

2.4. Internationalisation and productivity

One of the 1959 Stabilisation Plan measures with the greatest positive impact on productivity was the progressive liberalisation of imports, that contributed significantly to the technological modernisation of the Spanish economy and the expansion of industrial equipment, thereby improving productivity. Although import liberalisation led initially to a substantial increase in the trade deficit, this was offset by foreign exchange earnings from tourism, foreign investment and remittances from Spanish emigrants. In this way, current account surpluses were achieved until 1965 and foreign exchange reserves increased (Eguidazu, 1978). Also, the 1959 devaluation, besides tax relief, subsidies, and preferential credit contributed to the take-off and diversification of exports (Donges, 1976).

Capital mobility picked up as restrictions inherited from the autarkic period were progressively lifted and foreign investment helped address the challenges faced by small and medium-sized industrial firms and contributed to the modernisation of technology and business management, with a positive impact on productivity. In 1973, with the signing of a Preferential Trade Agreement, Spain embarked on a path that would culminate—under a democratic regime—in accession to the European Economic Community (EEC) in 1985 and the adoption of the euro in 1999.

The consequence of the gradual removal of tariffs with the rest of the EU was an increase in the efficiency of resource use, driven by substantial trade creation with member countries, with limited trade diversion effects. Spain also benefited from the removal of a range of non-tariff barriers to trade within the EU.

Overall, Spain's integration into the international economy has fostered growth and efficiency improvements (Maudos, Pastor & Serrano, 1999). In 1960, the sum of exports and imports of goods represented 12% of GDP—or 15% when service flows are included (Alonso & Rodríguez, 2023). By 2024, these figures had increased substantially, reaching 50.8% and 70%, respectively. Foreign trade has been predominantly concentrated within the European Union's internal market and notable developments since the end of the economic and financial crisis include the emergence of current account surpluses and the growing importance of non-tourism service exports.

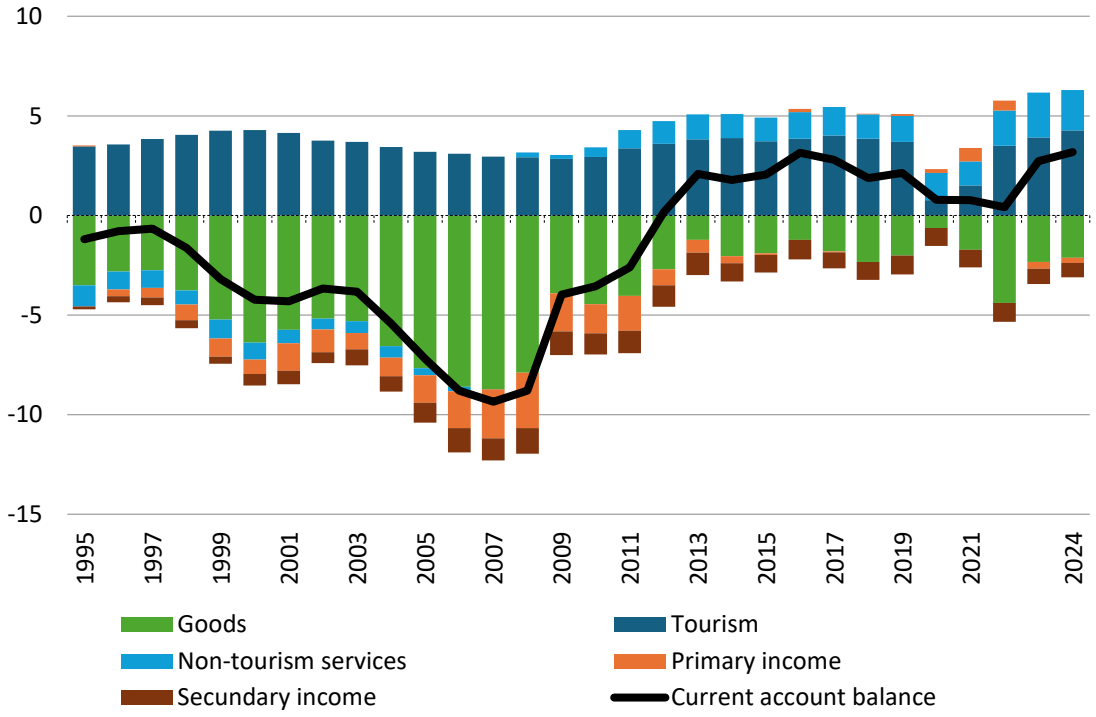
Spain's increasing international openness has also been reflected in the growing presence of foreign direct investment (FDI), both inward and outward flows. On inward FDI, the sectors that have attracted the most foreign investment include services—particularly banking, insurance, commerce and real estate—as well as energy and water. There is also evidence that Spanish companies investing abroad have achieved productivity gains more rapidly than their domestic counterparts (Vega, 2023). Likewise, recipients of foreign direct investment in Spain have improved their management practices and acquired technological innovations, leading to productivity gains.

Spain's adoption of the euro in 1999 facilitated trade with other euro-area countries. However, it also had undesirable side effects, particularly through the convergence of Spanish interest rates with those of more stable European economies. This resulted in a sharp reduction in real interest rates in Spain,

fuelling an investment boom, especially in real estate, and contributing to a large current account deficit (Figure 2.7).

In 2008, the Spanish economy experienced a sudden stop in external financing flows, which triggered a crisis in much of the financial system, particularly the savings banks, and cast doubt on the sustainability of Spain's public finances. The consequences were severe: a significant rise in the unemployment rate, the need to accept a European rescue plan for the financial system and substantial cuts in public spending – infrastructure, public education - with damaging consequences for productivity. In the end, wage moderation contributed to improving Spain's external competitiveness through a process of internal devaluation.

Figure 2.7. Current account balance / GDP, Spain 1995–2024 (percentage)



Source: Banco de España (Statistical Bulletin), INE (CNE, CNTR) and own elaboration.

In the context of globalisation, Spanish manufacturing has been oriented more towards the use of imported inputs than the export of intermediate goods. By contrast, services participate in global value chains to a greater extent through forward linkages and services exports tend to incorporate a higher percentage of domestic value added (Pérez & Arribas [dirs.], 2024). Spanish companies that regularly participate in foreign trade show better levels of productivity and competitiveness and have played a prominent role in improving Spain's current account balance since the Great Recession (Pérez et al 2024, chapter 2).

Spain's internationalisation has also meant that over the past quarter century, Spain has become a country with high levels of immigration. Its economic impact remains a subject of debate. Immigration has induced a shift among native men and women towards less manual, more skilled occupations (Amuedo & de la Rica, 2011), improving the efficiency of the labour market, but has also contributed to dependence on a large stock of low productivity jobs in hospitality, agriculture and other sectors.

Table 2.2 provides a stylised overview of the pro-productivity policies for Spain that have been discussed in the previous sections of this paper.

Table 2.2. Stylised pro-productivity policies for Spain—1960s-1970s, 1980s-1990s and 2010s-2020s

Institutions & Frameworks	1960s-1970s	1980s-early 1990s	2010s-2020s
Institutional setting	Stabilisation Plan (1959), exit from autarky. Franco's death (1975). Approval Democratic Constitution (1978).	Spain joins the EEC in 1985. State decentralisation begins in 1982. Adoption of the euro as currency in 1999.	Shocks from the financial crisis, pandemic and Ukraine war.
Government capabilities	Public firms continue to play an important role in industrial policy.	Development of debt markets in Spain facilitates access to international financial markets. Fiscal reforms increase tax revenues and public spending.	Financial crisis increased the risk premium and forced to request bailout from the EU.
Macroeconomic policy	Economic liberalisation; opening to international trade; inflation control under strict monetary and fiscal policies; the Spanish peseta becomes a convertible currency.	Nominal convergence to the euro. Euro adoption in 1999 and low real interest rates drive high growth rates and significant current account deficits.	Sudden stop in foreign financing forces fiscal austerity policies and end of housing bubble.
Factor accumulation			
Investment	Trade liberalisation allows substantial imports of machinery, contributing to a long expansionary cycle of private sector investment and modernisation of firms.	European Cohesion Funds support the modernisation of public infrastructure (e.g. high-speed rail, motorways, airports). Low interest rates fuel credit growth and investment in real estate, housing and other construction.	Severe cuts in public infrastructure spending, as austerity policies are adopted in the aftermath of the financial crisis. Next Generation EU funds promote digital and ecological transformation of infrastructure.
Education & skills	1964: Introduction of compulsory schooling up to age 14. General Education Law (1970) implements compulsory, universal and free education up to age 14.	LOGSE (1990) extends compulsory schooling to age 16. Rapid expansion of public higher education system.	LOE (2006) and LOMLOE (2020): focus on diversity and values. LOMCE (2013), repealed in 2020: emphasis on quality and regulation of dual vocational training. Rapid expansion of private higher education.
Technology			
Innovation & technology	Low levels of R&D investment, concentrated in the public sector (universities and research centres).	Increase in R&D funding following Spain's accession to the EU.	Increase in private R&D investment, driven by start-ups and technology firms. Public initiatives to promote collaboration between public and private sectors.
Industrial policy	Stabilisation Plan (1959) Encouragement of domestic and foreign companies to modernise industry	Liberalisation of Strategic Sectors Laws (1990s-2000s) enables privatisation of major public companies, including telecoms, electricity and oil industries.	2007-2009: reform of regulated tariffs for large electricity clients. End of monopoly on freight transport; Creation of National Telecommunications Commission.

Institutions & Frameworks	1960s-1970s	1980s-early 1990s	2010s-2020s
Creative destruction	Stabilisation Plan: opens sectors to competition; encourages foreign capital in domestic industries, such as the automobile sector.	Modernization of business regulation. EU accession leads to trade liberalisation, increased competition and alignment with European regulations. Stock Market Reform Law modernises business access to financial markets. Free movement of capital established. Development of debt markets, public deficits no longer funded by bank loans.	Market Unity and insolvency laws. Entrepreneurs Support Law. Securities Market Reform Law strengthens investor protection and access to financing. Start-ups Law facilitates business creation and growth through tax incentives and reduced bureaucracy.
Markets			
Financial markets	Easing of entry for foreign banks and facilitating the creation of new banks.	Deregulation of financial services in several stages: (1) branches; (2) liquidity controls; (3) interest rate liberalisation; (4) investment.	Restructuring of the banking sector. Promotion of alternative financial markets to traditional banks.
Product markets	Major shift in employment from agriculture to services and industry boosts aggregate labour productivity.	Emergence of the digital economy in the late 1990s, supported by expansion of the internet. 2005: *Plan Avanza* launched to promote digitalisation.	Spain becomes a leader in connectivity (5G). Shortage of digital skills among workers and business leaders. Low levels of digitalisation among SMEs. Need to reduce share of traditional sectors and increase investment in intangible assets.
Labour markets	Legalisation of democratic trade unions (which had coexisted informally with Francoist unions in the final years of the regime).	1980: Workers Statute (*Estatuto de los Trabajadores*) establishes minimum employment conditions. 1984: Foster a large increase in temporary employment and labour market segmentation. 1994: Legalise temporary employment agencies (ETTs), youth employment promotion through internship contracts. Liberalisation of labour relations through increased mobility and expanded grounds for dismissal.	2012: Increased flexibility in collective bargaining, clarifies economic grounds for dismissal and reduces severance compensation. 2022: Simplification of Labour reform contract types, limits to the use of temporary contracts and promotion of permanent hiring through the 'fixed-discontinuous' contract. Domestic interregional migration increasingly driven by the high mobility of foreign immigrants.
Competition policy		1986: EEC accession drives trade liberalisation, greater competition and adaptation to European competition policy. Privatisation of large state-owned enterprises, including utilities and transport. Liberalisation of energy, transport (air transport, ports and rail) and media sectors. Establishment of competition authorities.	Privatisation of AENA (airports authority). 2010: End of Renfe's monopoly on freight transport. Liberalisation of the postal sector.
Internationalisation			
Trade	Stabilisation Plan (1959) abandonment of import-substitution industrialisation policies.	Membership of EEC (1985) and euro adoption (1999) foster trade creation with EU member countries.	Growth of exports of non-tourism services.

Institutions & Frameworks	1960s-1970s	1980s-early 1990s	2010s-2020s
	Liberalisation of imports. New compensatory sources of foreign exchange (e.g., tourism services). 1970: Trade Agreement with the EEC.	Large increase in imports and exports as a percentage of GDP.	Positive current account balance in the aftermath of the financial crisis.
Foreign direct investment (FDI)	FDI begins to play an increasingly important role in the Spanish economy.	Strong increase in inward FDI. Development of Spanish outward direct investment. End of capital controls.	Significant increase in Spanish investment abroad contributes to the internationalisation of Spanish firms.
Migration	Outflows of Spanish workers to other European countries.		Natural population growth among native population turns negative at end of period. Large inflows of foreign workers, highly responsive to the economic cycle.

3. SUMMARY AND MAIN CONCLUSIONS

Spain's economic growth from 1960 to 2024 has increased its real GDP tenfold. However, this expansion has relied more heavily on the use of labour and various forms of capital than on gains in total factor productivity. The evolution of labour productivity in Spain reveals an unusually large trade-off between employment and productivity growth, which differs from other countries examined. It is generally countercyclical in Spain and procyclical in the EU14, the United Kingdom, and the United States. This difference is primarily driven by the volatility of both employment and investment rates. Capital productivity has experienced a continuous decline, while total factor productivity (TFP) has remained weak and irregular. These trends suggest an overcapitalised economy with excess capacity and inefficient resource allocation across assets and sectors. The good news is that, over the past decade—and especially since the pandemic—Spain's growth has been sustained not only by job creation and investment, but also by improvements in productive efficiency.

This growth pattern, based more on resource use than on efficiency gains, is common among many late-developing economies and is not unique to Spain. In fact, regular improvements in TFP are a distinctive feature of only a few advanced economies. The reason why substantial advances in output, employment, and capital accumulation have yielded only modest productivity gains in many countries is that, alongside numerous changes conducive to efficiency improvements, the presence of persistent barriers has prevented their full exploitation. Van Ark, de Vries, and Pilat (2024) have proposed an analytical framework for classifying pro-productivity policies. The main lessons derived from applying this framework to the Spanish case are summarised below.

Policies aimed at promoting Spain's **multifaceted international openness** have supported many other policies, with predominantly positive effects. Following the 1959 Stabilisation Plan, import liberalisation provided a strong boost to the acquisition of industrial equipment and modernisation, contributing to both capital deepening and productivity gains. Rising import volumes in the 60s were financed through new mechanisms that stabilised the balance of payments (tourism, Spanish migrant remittances, incoming capital inflows). Exchange rate devaluation and specific export promotion policies also played a supportive role. Foreign investment liberalisation in Spain generated income and also allowed for the acquisition of management skills and new technologies, increasing firm productivity. Spain's accession to the European Union in the 1980s further increased firm competitiveness and productivity, also allowing the funding of important infrastructures. Between 1996 and 2003, Spain prioritised its entry into the eurozone, which was achieved in January 1999. The rapid growth during this period achieved Spain's full convergence on the average of per capita income and hourly productivity levels in other European countries. More recently, large Spanish firms have gone global, increasing their foreign investment, while exports of non-tourism services have gained momentum. The recent inflows of low-cost foreign labour have helped maintain competitiveness but have also led to an excessive share of low-productivity activities. Nevertheless, this has also pushed native workers to more qualified jobs, positively impacting overall productivity.

Among the **policies implemented to promote the accumulation of tangible and intangible capital**, three stand out for their positive outcomes: the accumulation of imported machinery and equipment, particularly between 1960 and 1990, facilitating the introduction of technological progress; housing policies that facilitated rural-to-urban population migration, improving the allocation of labour and other resources; and the development of an ambitious infrastructure network (including high-speed rail network), largely financed through the European Structural Funds. However, the impact of this significant capital accumulation has been limited by several factors: a high concentration of investment in real estate assets and underutilisation of installed productive capacity; a decreasing impact of infrastructure on productivity as Spain's development level increases; relatively low investment in ICT (hardware and software), R&D, and other intangible assets, especially in organisational capital and workforce training; and structural challenges in the R&D ecosystem, including low expenditure, limited

private sector involvement, weak coordination among key stakeholders, and a persistent gap between academic research and its application in the business sector.

Policies aimed at enhancing **human capital** have been highly significant in several areas: substantial improvements in educational attainment throughout the period, driven by public policies that have extended free compulsory education, offered more public spending on education, and a widening of public education across all regions; well-aimed early education reforms, with significant advances in the skills acquired at each educational level by successive generations entering the labour market; and recent developments in more employment-oriented vocational education and training. However, there are significant limitations that condition the results of these policies. Since the 1980s, a succession of educational reforms—some short-lived and occasionally contradictory—has been accompanied by increasingly modest improvements in the basic skills of new workers. Dual vocational training has only recently begun to develop, and despite recent improvements, early school dropout rates remain relatively high. Moreover, there is a persistent mismatch between workers' skills and job requirements.

Another relevant contribution stems from **policies aimed at promoting technological and structural change**. The rapid shift of labour from agriculture to industry and services significantly boosted aggregate productivity. Strong interregional population mobility during the 60s and 70s also increased productivity gains and generated regional income per head convergence. Although mobility subsequently declined and became more intraregional, the recent increase in immigrant population has revitalised labour force mobility at the national level. In recent decades, the share of skilled employment has increased, and large urban areas have displayed competitive advantages in productivity and innovation, concentrating advanced services and attracting young and highly-educated professionals. However, many rural areas have experienced depopulation, an aging workforce, and a declining share of national human capital.

The most recent wave of technological and structural change has been the **digital revolution**. Digital adoption in Spain has been driven by the widespread use of technological infrastructure—such as 5G wireless technology—compared to that of more developed countries, and by the Next Generation EU Funds, designed to support and improve the digital and green transitions. Despite these advances, the effects on productivity remain limited due to the relatively low investment in intangible assets compared to tangible ones—a pattern that contrast with more developed countries. This is partly due to the dominance of traditionally less-digitalised sectors. In addition, there are challenges in exploiting the full potential of ICTs, mainly due to the lack of training in this area among both employers and employees. The adoption of artificial intelligence (AI) in Spanish firms and sectors is similarly limited by these constraints.

Industrial policy aimed at improving market efficiency and resource allocation has yielded more modest results than other policy areas. Since the mid-70s, productivity policies in Spain have also focused on increasing the efficiency of the Spanish productive sector by restructuring and bailing out large inefficient firms. The privatisation of large public companies reached its peak around the turn of the century. Since the year 2000, industrial policy has focused on boosting competition—especially in the services sector, enhancing business dynamism, supporting firms' internationalisation, and facilitating access to finance. However, the Spanish economy can be characterised as a dual one, with a more and a less productive groups of sectors and firms, and misallocation has often favoured less productive entities, thus playing a key role in undermining productivity. While the business landscape includes highly competitive firms that have played a key role in improving external competitiveness, it remains skewed toward smaller firms. Firm dynamism, in terms of business creation and closure, is limited. Legal, administrative, and financial barriers, along with a fragmented single internal market, continue to restrict firm growth and innovation.

The **labour market** is another relevant area with resource allocation issues that affect productivity. The rigidities stemming from labour regulations and collective bargaining are long-lasting and some continue to persist. The widespread use of temporary work contracts since the mid-80s has discouraged investment in training, motivation, and human capital development in companies. Labour reforms since 2012 have increased flexibility, reduced dismissal costs, and increased the use of temporary contracts. Despite improvements, regulations on dismissal and unemployment benefits still hamper workforce reallocation within firms and across sectors. Active employment policies and public employment services still prioritise benefits and subsidies for the unemployed over proactive measures such as training, retraining and job integration counselling.

In recent years, aggregate data suggests a shift in the growth pattern toward more stable employment, skills enhancement, investment in more productive assets, better use of accumulated capital, and significant increases in total factor productivity (TFP). Sustaining these productivity gains in the coming years will depend on whether the most efficient segments of the economy expand whereas less productive sectors contract, supported by policies that address weaknesses and reinforce strengths. A Spanish pro-productivity strategy could be built on four pillars:

1. **Intensifying investment in intangible assets is essential to enhancing overall investment efforts**. The key is to raise awareness among employers of the importance of investing in intangibles, such as employee training, organisational developments, R&D and innovation, and the rapid adoption of digital technologies, particularly within small and medium-sized enterprises (SMEs) through specific advisory services, targeted subsidies, and training programs. These efforts must be complemented by the widespread integration of AI across the digital economy, data and software.

2. **Strengthening human capital** requires aligning the education system with labour market demands. This involves promoting training in STEM disciplines, digital and green skills, and innovation-related competences, while addressing the shortages in high-demand profiles and persistent surpluses in others. Fully leveraging human capital also calls for greater business commitment to creating quality employment, attracting and retaining talent, and improving wages and labour productivity. Leadership in this area should be driven by highly qualified managers and technical professionals within firms.

3. **Business dynamics in Spain** needs to work in favour of a more efficient allocation of productive factors and towards raising the potential for innovation and transformation. Competitiveness requires the creation of more innovative firms with growth potential and the expansion of the base of regular exporters by incorporating a greater number of SMEs. Disseminating best practices within the business fabric would allow for more collaborative networks for SMEs as suppliers to leading firms in production chains. In this sense, foreign direct investment remains a key opportunity for improving the efficiency of domestic firms through partnerships.

4. **Public sector reforms need to focus on three areas**, guided by evidence-based policymaking: improving outcomes in education and R&D; removing barriers to business creation and growth (bureaucratic, administrative, legal, financial, entrepreneurial, or related to scaling); and managing long-term public investment through rigorous cost-benefit analyses of projects that consider their economic, social, and environmental impacts.

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