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**ROBUST AND SUSTAINABLE GROWTH AND CONVERGENCE
WITH THE EURO AREA: CHALLENGES AND OPPORTUNITIES**

1 Introduction

The Spanish economy has not managed to reach the per capita income level of the euro area in recent decades.¹ This chapter explores the main reasons for this failure, which are fundamentally that productivity and the employment rate in Spain are persistently lower than those of other European countries. The many challenges and opportunities that are entailed in remedying these structural weaknesses are discussed as well, along with the role that must be played by public policies in this process and, in particular, by the proper use of funds from the Next Generation EU (NGEU) programme. Further, the Spanish Recovery, Transformation and Resilience Plan (RTRP) must be rigorously and ambitiously designed and implemented.

In any case, a growth path associated with the continuation or build-up of significant macroeconomic, financial or social vulnerabilities is unsustainable. With this in mind, this chapter outlines the main macro-financial imbalances that have been rectified in the Spanish economy in recent decades and looks at some of the most significant sources of future vulnerability. One of the most serious of these is the high stock of government debt and the pockets of vulnerability that have been observed among some households – linked, to a great extent, to high levels of inequality.

Mitigating the adverse effects of these shortcomings on the potential and sustainability of economic growth in Spain in the coming years requires the implementation of ambitious public-sector interventions in a wide range of areas. The success of these policies depends on, among other factors, their objectives (which must be clear and measurable) being carefully defined in advance. It is also contingent on such interventions being rigorously and transparently evaluated following their implementation in order to determine the extent to which each one enables goals to be met efficiently.

2 The lack of convergence with per capita income in the euro area

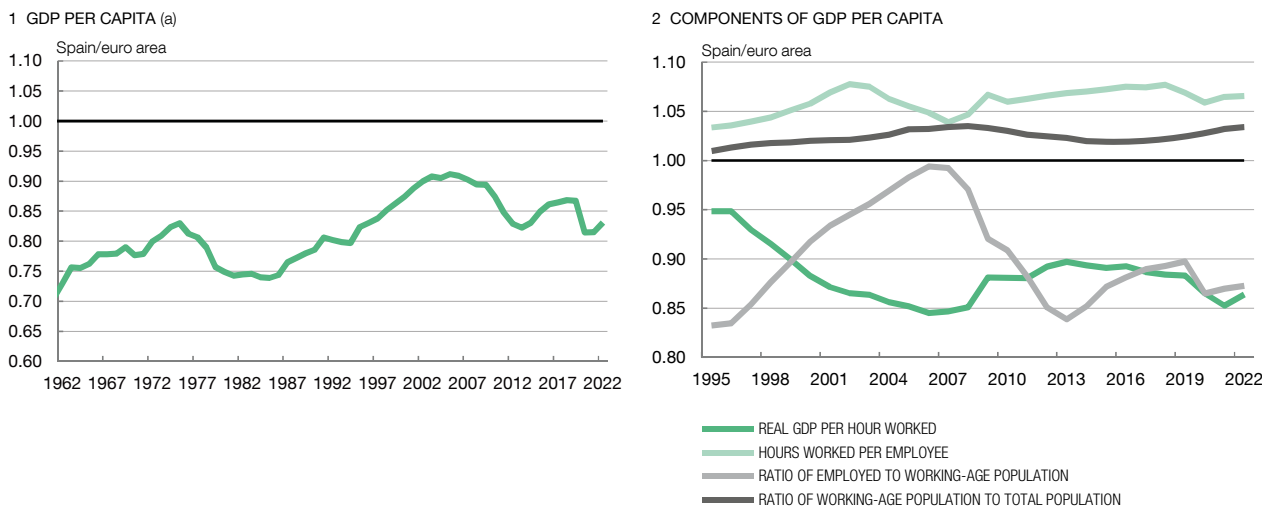
The Spanish economy's growth in recent decades has not been enough to achieve convergence with the per capita income level of the euro area. In 2005 the gap between Spanish GDP and that of the wider euro area shrank to its narrowest in recent history – 8.8% (see Chart 2.1.1). This was the result of a very long period of strong growth in Spain, especially after joining the European monetary union (EMU). However, that growth path, which was

¹ In this report, differences in GDP per capita between Spain and the other 19 euro area countries are calculated in real terms and account for Spain's relatively lower purchasing power.

Chart 2.1

THE CONVERGENCE OF SPANISH GDP PER CAPITA WITH THAT OF THE EURO AREA HAS SLOWED SINCE 2008 OWING TO WEAKER EMPLOYMENT PERFORMANCE AND LOWER PRODUCTIVITY

In 1960 Spanish GDP per capita was 32% lower than the euro area average. By 2008 this difference had dropped to just 10 pp. The global financial crisis of 2008 reversed that convergence, largely as a consequence of the poorer performance of the employment rate in Spain. Likewise, productivity in Spain has lagged that of the euro area by 10% to 15% since 2008.



SOURCE: Eurostat.

a GDP per capita in Spain relative to the 19 euro area countries in real and relative purchasing power parity terms.



largely linked to the build-up of significant macroeconomic and financial imbalances, was later shown to be unsustainable.² Since then, the process of convergence between the Spanish economy and the EMU has stagnated and even reversed.³ In 2019, prior to the onset of the COVID-19 pandemic, Spain’s GDP per capita was 13% below the euro area average. The most recent data point to this figure having reached 17% in 2022.

This lack of convergence is fundamentally driven by the persistence of two well-known shortcomings in the Spanish economy: low productivity and employment. The change in GDP per capita can be explained as the outcome of overall developments in four factors: hourly labour productivity, hours worked per employee, the employment rate (i.e. the ratio of employed people to the working-age population) and the ratio of the working-age population to total population.⁴ When the lack of convergence between the

2 Banco de España (2017a).

3 Such divergence from the euro area is not limited to Spain. It has occurred in other southern European countries, such as Italy, Portugal and Greece, in the wake of the global financial crisis. It stands in contrast to the ongoing convergence seen in eastern European countries. For more details, see Pina and Sicari (2021).

4 These variables could be described with the following expression:

$$\frac{GDP}{P_{total}} = \frac{GDP}{Hours} \cdot \frac{Hours}{L} \cdot \frac{L}{P_{16-64}} \cdot \frac{P_{16-64}}{P_{total}}$$

where $\frac{GDP}{P_{total}}$ represents GDP per capita, $\frac{GDP}{Hours}$ hourly labour productivity, $\frac{Hours}{L}$ hours worked per employee, the employment rate and $\frac{P_{16-64}}{P_{total}}$ the working-age population as a share of total population.

GDP per capita of Spain and the euro area is analysed in this context, it can be seen that it is the result of persistent shortfalls in hourly labour productivity and the employment rate – 12% each on average since 2008 (see Chart 2.1.2). Moreover, these differences have historically correlated negatively (apart from most recently), meaning that as one shrank, the other would often be seen to grow.⁵

Remedying these shortcomings should be one of the central aims of Spanish economic policy and will demand very substantial changes to many of the economy’s structural aspects. The rest of this section delves into the various challenges and opportunities posed by improving productivity (see Section 2.1) and employment (see Section 2.2). It also looks at the roles that public policies and, in particular, the mobilisation of funds from the NGEU programme, have to play in this process.

2.1 The role of innovation in productivity

Spain’s sluggish productivity is linked to the performance of total factor productivity. Productivity is associated with the amount of tangible capital per worker and the other factors that increase per-worker productivity. These other factors are together known as total factor productivity (TFP) and include a range of elements, such as organisation and training, as well as innovation and other intangibles that add value to a firm’s output. According to [EU KLEMS](#), the average annual contribution of TFP to value-added growth between 1995 and 2019 was negative in Spain (-0.23%), far from the positive contributions seen in other major euro area countries, such as Germany (0.71%) and France (0.52%).

One aspect that is useful to explain Spain’s relatively lacklustre productivity is its low share of innovation, which is one of the main drivers of productivity in the long term.⁶ Between 2020 and 2021, the ratio of research and development and innovation (R&D&I) expenditure to GDP stood at an average of 1.2% in Spain – 0.8 percentage points (pp) below that of the euro area as a whole (see Chart 2.2.1).⁷ Long-standing shortcomings in Spain contributed to this shortfall relative to the euro area, which affects R&D&I in the public sector and, in particular, the private sector (see Chart 2.2.2).

In general, innovation and productivity dynamics are the product of several interconnected factors. Two key factors are the levels of physical and human capital. In addition, the regulatory and institutional framework is a primary determinant of: (i) the economy’s sectoral structure, (ii) firm size, (iii) the ease of cross-firm and cross-sectoral

5 For more information on this negative correlation of changes in the gaps in employment and productivity between Spain and the wider euro area, see [García-Santana, Moral-Benito, Pijoan-Mas and Ramos \(2020\)](#).

6 [Romer \(1986\)](#), [Lucas \(1988\)](#) and [Aghion and Howitt \(1992\)](#).

7 If a more recent period is considered, since 2013, for example, the difference is similar (0.9 pp). Conversely, when investment in intangibles (which includes investment in software, databases, design, advertising and organisational set-up, among others things, alongside investment in R&D&I) is used to measure drive for innovation, the results obtained also suggest the existence of a persistent shortfall in Spain relative to the euro area ([Banco de España, 2018](#)). Nevertheless, comprehensive metrics for innovation that also cover items such as on-the-job training are also needed.

allocation (or reallocation) of productive resources, and (iv) the ability to finance investment projects. At the same time, public policies relating to the stimulus, coordination and financing of innovation-related activities must not be overlooked.

Various international innovation indicators, which provide weighted values for this set of factors, place Spain well behind global leaders in this area. For example, according to the European Commission's (EC) [European Innovation Scoreboard \(2022\)](#), Spain is in the "moderate innovators" group in the European Union (EU), far behind "innovation leaders" (Sweden, Finland, Denmark, the Netherlands and Belgium) and "strong innovators" (Ireland, Luxembourg, Austria, Germany, Cyprus and France). For its part, the [Global Innovation Index](#) (World Intellectual Property Organization, 2022) reaches a similar verdict regarding Spanish innovation's place on the world stage, ranking the country 29th globally and 18th in Europe.

There is plenty of room for improvement to boost innovation and, along with it, productivity in Spain. Generally speaking, the various measures that could be put in place could be split into four groups, that aim to: (i) encourage business growth and mechanisms for cross-firm and cross-sectoral allocation of factors of production, (ii) bolster innovative activities, (iii) increase human capital, and (iv) strengthen the central role played by institutions and general government. Although all of the above are closely interconnected, each one is analysed below for explanatory purposes (apart from human capital, which is addressed in Section 2.2.2 in terms of its impact on labour supply).

2.1.1 Fostering business growth and mechanisms for cross-firm and cross-sectoral allocation of factors of production

Any factor that artificially constrains business growth or the ability to reallocate factors of production across firms and sectors ultimately results in less buoyant innovation and productivity in the economy.⁸ This is the case because, generally speaking, one of the main incentives for a firm to engage in innovation is to grow and increase its market share or, if the firm is participating in a highly dynamic and competitive economy, not to be left behind and maintain its market share. It is precisely in this context that innovation emerges as one of the most important tools available to firms looking to lift their productivity and set themselves apart from the competition.

Many hindrances of this nature have been identified in Spain in recent decades, such as those relating to the volume and quality of regulation. The volume and complexity of regulation governing economic activity in Spain has grown substantially in recent years – to the point that, for example, the central and regional governments approved 10,873 new rules

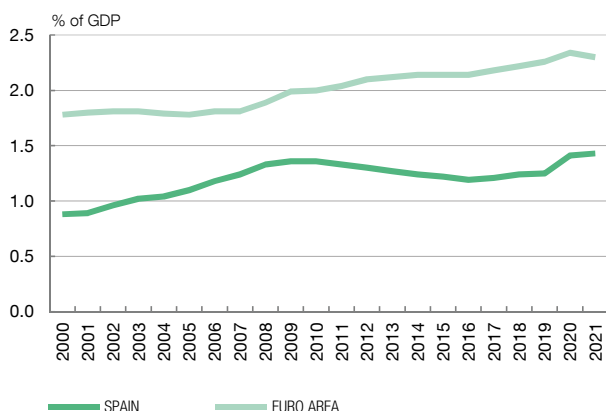
⁸ Firm size is just one aspect when discussing the productive system. Other factors that can also affect varying levels of productivity across firms must be taken into account, such as the degree of internalisation.

Chart 2.2

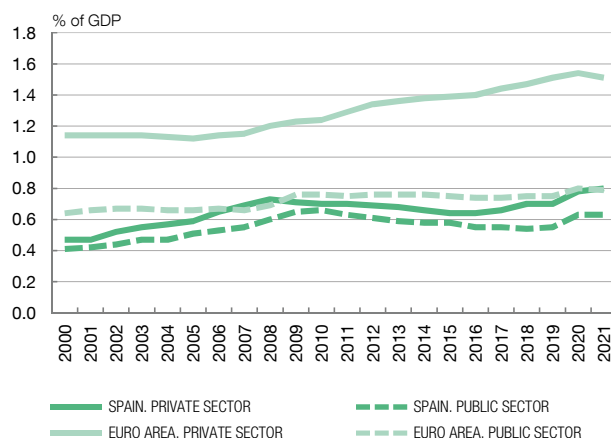
R&D&I INVESTMENT IN SPAIN IS BELOW THE EURO AREA AVERAGE

Over the period 2000-2021, the R&D&I-to-GDP spending ratio stood on average at 1.2% in Spain, 0.8 pp below that of the wider euro area. Weaker public and, especially, private sector R&D&I investment were factors behind this gap in the drive for innovation.

1 R&D&I INVESTMENT IN SPAIN AND THE EURO AREA



2 PUBLIC AND PRIVATE SECTOR R&D&I INVESTMENT IN SPAIN AND THE EURO AREA



SOURCE: Eurostat.



and regulations in 2022 alone.⁹ A high volume of rules and regulations that are increasingly complex and vary across regions and municipalities can have a negative impact on both economic agents' decisions and the general government's ability to guarantee market unity, both domestically and at European level. Altogether, this limits firms' ability to grow and stifles their incentive to innovate and specialise.

Other barriers comprise various mechanisms that affect firms' creation, growth and winding-up. There are, for example, several employment and tax-related regulatory thresholds (linked to arbitrary categories of firm size), which adversely affect business growth.¹⁰ In spite of significant improvements in financing in recent years,¹¹ Spanish firms – in comparison with firms in the euro area – continue to be heavily reliant on bank loans (see Chart 2.3.1) and have relatively limited access to venture capital. This funding structure restricts not only firms' growth possibilities and their leeway to respond to potential shocks, but also negatively affects

9 Bardhan (2002), Mora-Sanguinetti and Pérez-Valls (2020), Lucio and Mora-Sanguinetti (2021), Lucio and Mora-Sanguinetti (2022), Mora-Sanguinetti (2022b) and Mora-Sanguinetti, Quintana, Soler and Spruk (2023).

10 Almunia and López-Rodríguez (2018).

11 In Spain, the alternative fixed-income market has enjoyed continuous growth during its nine years of operation, such that its volume of issuances reached €13.7 billion in 2022. Furthermore, the introduction of the corporate sector purchase programme by the European Central Bank (ECB) in 2016 also appears to have contributed to improved capital market access for smaller listed firms. Alves, Mayordomo and Ruiz-García (2022).

their ability to carry out innovation projects, which, by their very nature, have a relatively high risk profile (see Section 2.1.2 for more details).¹²

These factors have resulted in an economy with a business sector that is skewed towards small firms with a very small percentage of innovative businesses.¹³ 79% of firms in Spain have between one and four employees, the highest percentage in the EU and far higher than the figures seen in, for example, Germany (62%), France (70%), and Italy (74%).¹⁴ Since the ability to take on an innovation project tends to be significantly lower for smaller firms than larger ones, Spain's specific corporate make-up results in a very small proportion of innovative businesses – 31%, compared with 50% in the EU, according to Eurostat's [Community Innovation Survey](#).¹⁵

Relatively persistent shortcomings have also been observed in resource allocation regardless of size. There is evidence that there was a significant accumulation of capital in low-productivity firms between 1995 and 2007 in Spain.¹⁶ In part, this was the result of firms having heterogeneous access to financing, which was more closely linked to their available collateral or their relationship with general government than productivity. If this misallocation of resources had been avoided, this period would have seen total factor productivity grow by 10% instead of fall by 8%. More recently, [Albrizio, González and Khametshin \(2023\)](#) use an indicator that approximates the degree of inefficiency in capital allocation using the dispersion of firms' marginal revenue of capital and find that, even if the most recent period after the outbreak of the pandemic is excluded, barely any progress has been made in the efficiency of this allocation in recent years (see Chart 2.3.2).¹⁷

Various initiatives have been undertaken in recent quarters in an attempt to bolster business growth and facilitate the efficient reallocation of factors. These include the [Law on business start-ups and growth](#), which aims to streamline business start-up, providing increased flexibility in alternative financing mechanisms and encouraging small firms' participation in public procurement tenders. Likewise, [the reform of the Insolvency Law](#) attempts to correct some of the inefficiencies that have characterised insolvency proceedings in Spain (e.g. on average, such proceedings take a long time and the proportion of insolvent

12 For evidence of the positive effects of well-diversified sources of funding on the resilience and investment of non-financial corporations, see [De Fiore and Uhlig \(2015\)](#), [Tengulov \(2020\)](#) and [Bongini, Ferrando, Rossi and Rossolini \(2021\)](#).

13 The sectoral breakdown of the Spanish economy is, in comparison with other European economies, skewed towards services, such as wholesale and retail trade and accommodation and food service activities. These sectors are typically less buoyant in terms of productivity and are less likely to engage in innovation. However, this does not explain why Spain continues to lag behind other countries in aggregate productivity, innovation and firm size. The same picture emerges when these metrics are compared internationally in various industries ([Cuadrado, Moral-Benito and Solera, 2020](#)).

14 The same is true of the percentage of firms with fewer than ten employees, according to Eurostat data.

15 This section refers to the relationship between size and productivity given, among other things, the fact that smaller companies are less likely to invest in innovation. It should be noted that there is also, in any case, an inverse correlation between productivity and size since more productive companies are more likely to grow ([Moral-Benito, 2018](#)).

16 This is suggested by, for example, [Gopinath, Kalemli-Ozcan, Karabarbounis, and Villegas-Sanchez \(2017\)](#) and [García-Santana, Moral-Benito, Pijoan-Mas and Ramos \(2020\)](#).

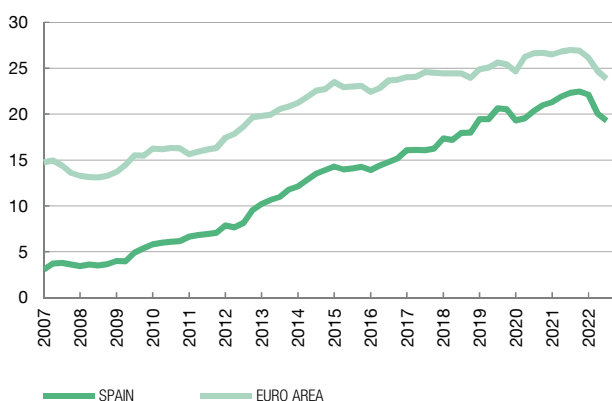
17 With an efficient equilibrium, the marginal products of capital should be balanced and, therefore, differences represent market inefficiencies in products or factors.

Chart 2.3

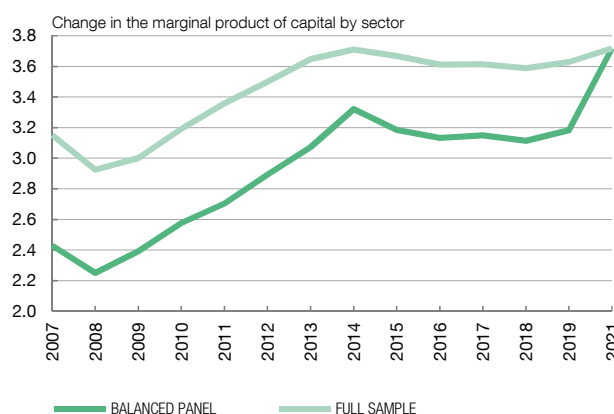
SPAIN HAS SEEN A FALL IN NON-FINANCIAL CORPORATIONS' DEPENDENCE ON BORROWING, ALTHOUGH MORE PROGRESS CAN BE MADE IN PRODUCTIVITY TERMS IF CAPITAL ALLOCATION ACROSS FIRMS IS IMPROVED

Spanish corporate sector indebtedness has been continuously falling from its pre-financial crisis peak to a level similar to that of the euro area. Furthermore, Spanish firms have enjoyed substantially improved access to the funding via debt securities. However, room for improving productivity remains purely by investments flowing to more productive companies.

1 SHARE OF DEBT SECURITIES IN TOTAL DEBT (a)
NFCs



2 INDEX OF MISALLOCATION OF RESOURCES ACROSS FIRMS (b)



SOURCES: ECB and Banco de España, using the methodology of Albrizio, González and Khametshin (2023).

a Debt securities plus bank loans.

b The variance in the marginal product of capital is the indicator for misallocation of resources used in Albrizio, González and Khametshin (2023) and is based on Hsieh and Klenow (2009). The reasoning for this is that, in a frictionless economy, there should be no observable difference in the dispersion of marginal products within each industry because more productive firms should grow, attract more capital and workers, which would then reduce the marginal products.



firms that are eventually wound up is high).¹⁸ The new law establishes a pre-insolvency mechanism known as a “restructuring plan” that allows business debt forbearance at an early stage, known as “probable insolvency”.¹⁹ Furthermore, a new bespoke procedure has been added for microfirms, one that is cheaper and more streamlined than the standard insolvency proceedings. Lastly, improvements have been made to the fresh-start mechanism, adding the possibility of debt waiver without prior liquidation of a debtor’s assets and based on a three-year payment plan and extending the waiver of unpaid claims to include debts to the public authorities, up to a certain threshold.

Similarly, the approval of the **Law on developing the ecosystem of emerging businesses, more widely known as the Start-up Law, was intended to bolster entrepreneurship and R&D&I activities.**²⁰ Of the range of measures adopted, the tax and employment incentives for

18 García-Posada Gómez and Vegas Sánchez (2018).

19 Probable insolvency is used to describe a situation in which it can objectively be predicted that a borrower will be unable to regularly discharge obligations that fall due within two years unless a forbearance plan is put in place.

20 Among other things, it is intended to stimulate investment in innovative activities – to attract, revive and retain talent, as well as create and relocate emerging firms that are committed to innovation. It simultaneously aims to stimulate collaboration of emerging firms with SMEs and large businesses and also to foster cooperation of emerging firms and entrepreneurs with universities and research institutions.

R&D&I activities stand out, as does the attempt to streamline the bureaucracy involved in setting up innovative firms.

Looking to the future, a review will be needed of how far these initiatives are able provide fixes for the weaknesses seen in this area. In the short term, these review exercises will be hampered by the intensity and exceptional nature of many of the shocks that have recently affected the economy, which makes it difficult to distinguish between merely temporary developments and more structural ones. This is especially apparent, for example, in recent figures for business creation and destruction and in insolvency proceedings, which were heavily affected by the shutting-down and subsequent reopening of the economy as a consequence of the pandemic and by the various financing facilities, moratoria and grace periods instituted by the authorities.

In any case, room for improvement remains. Specifically, it would be worthwhile undertaking a review of the regulatory thresholds previously discussed which discourage business growth. It is also important to reduce the delay on general government payments,²¹ which currently hampers business financing, especially for small firms. The above must be done without neglecting further progress towards ensuring market unity, bolstering competition and continuing to broaden sources of funding available to firms (the latter requires initiatives at the European level, for example, in the capital markets union).

2.1.2 Encouraging innovative activities

There are some idiosyncrasies to innovative activities that make it advisable to complement private initiatives with targeted public policy support. Innovative activities tend to generate knowledge spillovers that are not always exploitable by those who are making said investments. This positive externality associated with innovation means that, even in a frictionless economic and institutional environment, private incentives for innovation lead to aggregate effort in this area that falls short of what would be ideal from a social perspective. Conversely, innovation processes are typically subject to considerable uncertainty and tend to have relatively low rates of success. Often, they produce an intangible asset with an economic value that is much higher for the developer than for the funding provider. All of the above, and the fact that there are significant asymmetries in terms of information available to innovators and their potential backers, pose significant hurdles to financing for this type of activity when compared with, for example, investment in conventional tangible assets. This is especially true for innovative companies that do not have collateral on hand or existing credit history, and may lead to an inefficiently low drive for innovation for the economy as a whole.

Public policies can add momentum to business innovation through a range of instruments. Options include direct public investment, as well as public procurement for

²¹ According to the EC's [Single Market Scoreboard](#), in 2021 the general government made payments later than the legal limit of 22 days and longer than the average in other EU countries (15.7 days).

innovation, tax incentives for innovative firms, the allocation of direct transfers for basic research, the design of proper governance of innovative systems and other measures that help newly created innovative firms capture funding.²²

Properly designed public investment can lead to positive spillovers to private investment (both overall and on R&D&I). However, in Spain, and in particular following the global financial crisis, it has been persistently below the average observed for the euro area (see Chart 2.4). Digital infrastructure is the exception, where Spain occupies a relatively strong position in the EU-27, according to the EC's [European Innovation Scoreboard](#).

The NGEU programme, both in its scope and its structural approach, represents a unique opportunity to remedy this situation. Public investment in general – and in R&D&I in particular – must play a central role in the execution of this programme.²³ Of course, the eventual impact of these funds on the Spanish economy's productive capacity will be fundamentally based on the type of investments made and the accompanying structural reforms. In any case, various analytical exercises carried out by the Banco de España show that if, as part of the NGEU programme, projects are selected that have a high degree of complementarity between public and private investment and ambitious structural reforms are put in place (see Figure 2.1), the impact on the potential growth of the Spanish economy in the medium term could be highly significant.²⁴

Moreover, all of the above must take place in a context in which some factors will, predictably, dampen private investment. These factors include significant uncertainty and higher borrowing costs, as a result of considerable tightening of monetary policy in Europe and around the world in recent quarters to combat inflation (see Chapters 1 and 3 of this Annual Report). In particular, higher interest rates will have a particularly marked negative effect on financial soundness and the investment capacity of more indebted firms, which are already less open to undertaking new investment.²⁵

The Science Law sets a target for government funding of R&D&I at 1.25% of GDP in 2030. Among other measures, this law also aims to encourage scientific research by creating a new type of permanent contract for researchers and streamlining administrative barriers, such as those surrounding grant access. Again, it is important to note that however important it is to increase funding, it must be properly directed towards projects that generate positive externalities by making the most of synergies between various public and private initiatives and boosting the role of venture capital firms.

22 See [Bloom, Van Reenen and Williams \(2019\)](#) on the basic design of government measures and [Akcigit, Hanley and Serrano-Velarde \(2021\)](#), on the proper allocation of transfers to basic research when accounting for its complementarity with applied research.

23 Under the RTRP, 7% of all of the resources from the NGEU programme are expected to be allocated to R&D&I activities.

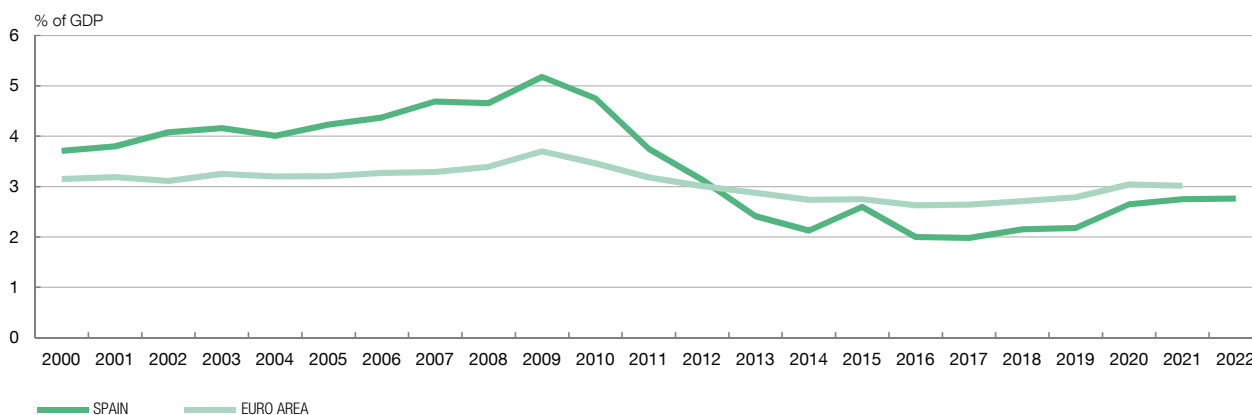
24 [Cuadrado, Izquierdo, Montero, Moral-Benito and Quintana \(2022\)](#) and [Domínguez-Díaz, Hurtado and Menéndez \(2023\)](#).

25 [Argimón and Roibás \(2023\)](#).

Chart 2.4

PUBLIC INVESTMENT IN SPAIN HAS BEEN BELOW THAT OF THE EURO AREA SINCE 2013

Investment in Spain contributed substantially to economic growth between 2000 and 2008, although its momentum was halted by the crisis in 2008. Public investment in Spain has not recovered to its pre-crisis level and is well below the average of the euro area. Both investment in construction as well as in machinery and intangible assets are below euro area levels.



SOURCE: Eurostat



There is also room to evaluate and improve the design of tax incentives and direct subsidies for R&D&I projects. The most significant tax incentives for innovation in Spain currently revolve around corporate income tax deductions. Although implicit subsidies for these incentives are, in theory, among the highest in the OECD, their effective application is noticeably worse as a result of the multiple administrative requirements and way in which corporate taxes are calculated (AIReF, 2020). On this basis, various separate studies call for their reform.²⁶ Evidence from around the globe shows that designing tax incentives with higher subsidies for newly created companies (which face greater constraints on R&D&I investment) leads to particularly effective policies for enhancing the drive for innovation and also deliverables.²⁷ Likewise, measures that would allow innovative firms that do not make enough taxable profits to claim direct reimbursement for investments could be considered.

2.1.3 Reinforcing the central role of institutions and general government

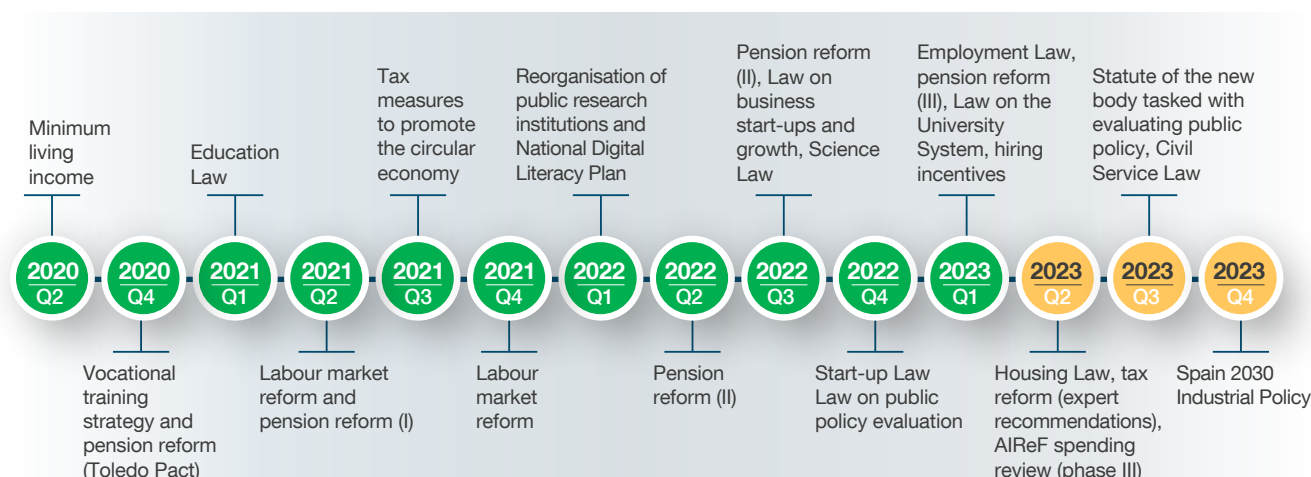
The quality of institutions in general and, in particular, general government, have been shown to be a very important driving factor for economic growth. Beyond the established public policies and regulatory framework in place, trust in institutions and the proper operation of the

26 The *White Paper for the Reform of the Tax System* (only available in Spanish) (Comité de Personas Expertas, 2022) provides a thorough overview of the problems in the design of R&D&I incentives in Spain, along with wide-ranging proposals for the reform and improvement of these incentives in line with global best practices. See also Almunia and López-Rodríguez (2023), forthcoming.

27 See, for example the assessments of the effectiveness of tax incentives for R&D in: the United Kingdom, Gucer and Liu (2019) and Dechezleprêtre, Einiö, Martin, Nguyen and Van Reenen (in press); Canada, Agrawal, Rosell and Simcoe (2020); and the United States, Rao (2016).

Figure 2.1

MAIN ACTIONS CARRIED OUT AND SCHEDULED IN THE SPANISH RTRP (a)



SOURCE: Banco de España, drawing on the Recovery and Resilience Facility operational arrangements between the European Commission and Spain.

a Reforms already completed are in green, while pending reforms are in yellow.

general government (for example, in terms of its efficiency, agility and predictability) are key factors in the decision-making of economic agents. This is especially true for decisions relating to innovation, which are subject to considerable uncertainty.

Loss of trust in institutions can have negative repercussions in several areas and, once lost, tends to take a very long time to regain. Multiple analyses in the economic literature suggest, for example, that low trust in institutions can be linked to lower levels of compliance with regulations and recommendations, greater political fragmentation and a reduced preference for income redistribution policies.²⁸ In particular, [Sanz \(2022\)](#) shows (with data from an online survey carried out in Spain in 2020) that a 10% increase in trust in the political system correlates to a 2.9% increase in citizens' preference for higher taxes. Furthermore, some empirical evidence suggests that lost trust in institutions often takes a relatively long time to be won back, meaning that the economic consequences can also be highly persistent.²⁹

Trust in Spanish institutions and the general government's management capability is low relative to other European countries. This is set against a backdrop of decades of weakening trust in institutions in general – a decline that has been worse in Spain than in other

²⁸ Within this literature, see, among others [Bargain and Aminjonov \(2020\)](#), [Sanz, Solé-Ollé and Sorribas-Navarro \(2022\)](#) and [Helliwell, Huang, Wang and Norton \(2021\)](#).

²⁹ For example, [Becker, Boeckh, Hainz and Woessmann \(2016\)](#), [Daniele, Aassve and Le Moglie \(2023\)](#) and [Solé-Ollé and Sorribas-Navarro \(2018\)](#).

European economies.³⁰ Furthermore, several EC indicators point to there being room for improvement in the management capability of the Spanish general government relative to other European governments. For example, in terms of the transposition of directives by EU Member States, Spain's transposition deficit is double that of the European Council's target.³¹

In particular, the Spanish judicial system is showing signs of stagnation in its efficiency, with some regions falling below the European average, which may also be a cause of the economy's low productivity. Spain has high litigation rates in comparative terms, and there are significant differences at local level. Such deficiencies highlight the need to identify and correct the underlying factors.³²

The design and implementation of the NGEU programme represents a significant challenge for the Spanish general government. Both short-term growth and the medium- and long-term growth potential of the Spanish economy will depend on the general government's ability to effectively and efficiently manage the large volume of incoming NGEU funds. A rigorous selection procedure for projects to be funded is critical to achieving this. However, it will also be important that there be a real-time assessment process in place to allow possible shortcomings to be identified and mitigated as they arise, in both procedural issues and funded projects. The enormous complexity underlying the management of these funds demands a great deal of transparency so that the process ultimately strengthens people's trust in their institutions rather than diminishing it further.

There is also a huge opportunity to modernise and digitalise. One of the priorities of the Spanish RTRP is modernisation of the Government, described in project 11 of this plan and to which more than €4.2 billion has been allocated. This initiative aims to improve the efficiency of general government management by driving their level of digitalisation upwards, enhancing energy use (via building renovations and renewable energy use), strengthening the evaluation framework for public policies, and cutting down on the use of temporary contracts in public sector employment. Building up general government's effectiveness and efficiency should help lift productivity and have positive spillovers on private sector decision-making on spending, investment and innovation.

The process of modernising general government must go hand-in-hand with improving efficiency in public expenditure, which includes, among other things, incorporating incentives to staff management. In this respect, the Independent Authority for Fiscal Responsibility's (AIReF) *Spending Review* (which is discussed in Section 3.1.1) suggests that

30 According to the [Eurobarometer \(2022\)](#), 10% of Spaniards say that they trust political parties. Among EU countries, this figure is higher only than those of France (8%) and Latvia (6%), and is similar to that of Greece (11%). Furthermore, trust in the three branches of the State is also low, although mixed. In 2022 23% of those surveyed trusted the Government, 18% Congress, and 47% the judiciary.

31 For example, in terms of the transposition of directives, Spain is one of the EU Member States with the highest deficits. In public procurement in 2021, 12% of tenders in Spain were uncompetitive (the EU average was 6%), while 45% were awarded to an SME (61% for the EU as a whole) and the average resolution period stood at 152 days (compared with 99 days in the EU) (data from the EC's [indicators of the transposition of directives](#) and [indicators of access to public procurement](#)).

32 [Mora-Sanguinetti \(2022a\)](#).

there is room for improvement in some important areas.³³ Likewise, the Law on public policy evaluation aims to incorporate ex ante and ex post assessments into the legislative processes of central government. This Law should be completed with the creation of the new State evaluation agency. In addition, the draft Civil Service Law includes changes to performance assessments and internal promotion procedures that must be judged by, among other things, their impact on the quality of the provision of public services.

2.2 The employment rate and labour supply: key features

A persistently low level of employment is another crucial factor in understanding the economy's lack of convergence towards the per capita income level of the euro area.

The employment level in Spain only converged noticeably towards that of the euro area average between 2000 and 2007 (see Chart 2.5.1) – a time when the country was, as discussed above, enjoying vigorous but unsustainable growth, since it was largely based on the build-up of significant macroeconomic and financial imbalances. This progress in employment rates came quickly undone during the global financial crisis. Since that time, the gap has been gradually falling but, in spite of buoyant employment in Spain in recent years, there was still a 4.7% shortfall at end-2022. It is illustrative that if all other economic factors remained the same, eliminating this gap would mean 1.3 million new jobs in Spain.

Spain's relatively low rate of employment is a reflection of the higher relative impact of unemployment.

The employment rate is the ratio of people who are employed to the working-age population. Its level and movements can, therefore, be broken down into two elements. First, the participation rate, which measures what percentage of the working-age population is actually willing to participate in the labour market. Second, the unemployment rate, which reflects the proportion of people who are willing to work but are not able to do so.³⁴ This breakdown reveals that nearly all of the gap in the employment rate between Spain and the euro area is down to the higher level of unemployment in Spain (see Chart 2.5.2).

This lower employment rate can be seen in all population groups. It affects all age groups (see Chart 2.5.3), both men and women (see Chart 2.5.4) and different levels of education.³⁵

There are a range of factors that have together contributed to this lower rate of employment. Their relevance is discussed in later sections as follows: the institutional

33 The activities that make up the *Spending Review* are split into two cycles: one between 2018 and 2021 and another between 2022 and 2026. The second will explore, among other things, the efficiency of social benefits, such as the minimum income scheme and benefits for temporary disability.

34 These variables could be described with the following expression:

$$\frac{L}{P_{16-64}} = \frac{P_{\text{active}}}{P_{16-64}} \left(1 - \frac{P_{\text{unemployed}}}{P_{\text{active}}} \right),$$

where L represents people employed in the economy, P_{16-64} the working-age population, P_{active} the active population and $P_{\text{unemployed}}$ the unemployed population.

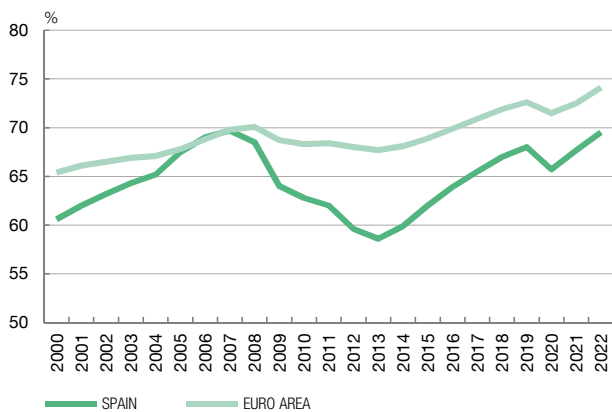
35 Focusing on the latter, for example, the biggest difference is in secondary education (around 9% in 2022), but the disparity holds true for tertiary education as well (around 4%). Only among workers with just primary education does the gap in the employment rate between Spain and the euro area practically disappear.

Chart 2.5

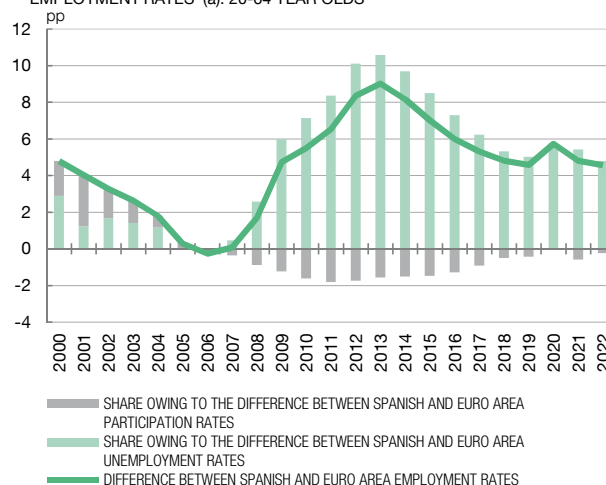
THE SPANISH EMPLOYMENT RATE REMAINS BELOW THE EURO AREA AVERAGE

The Spanish employment rate remains below the euro area average. The difference between Spanish and euro area employment rates rose from 2008 onwards. It has been coming down since 2013 and stood at 4.7 pp in 2022. In 2022 the Spanish employment rate was lower for both men and women. The difference was largest for 20-24 year olds.

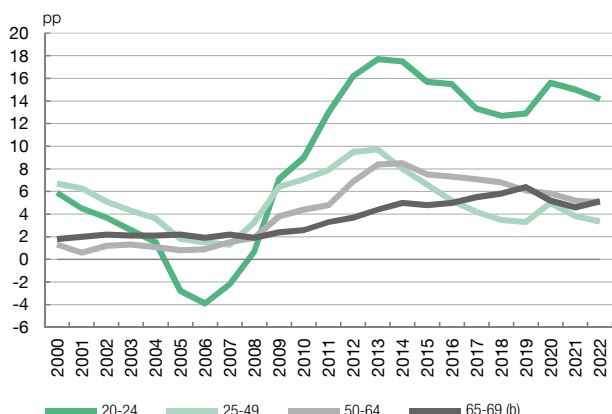
1 EMPLOYMENT RATE IN SPAIN AND THE EURO AREA. 20-64 YEAR OLDS



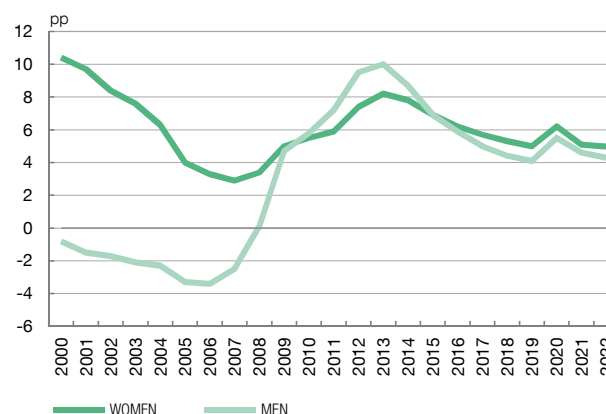
2 DISAGGREGATED DIFFERENCE BETWEEN SPANISH AND EURO AREA EMPLOYMENT RATES (a). 20-64 YEAR OLDS



3 DIFFERENCE BETWEEN SPANISH AND EURO AREA EMPLOYMENT RATES BY AGE GROUP



4 DIFFERENCE BETWEEN SPANISH AND EURO AREA EMPLOYMENT RATES, BY GENDER. 20-64 YEAR OLDS



SOURCE: Eurostat (Labour Force Survey).

a The difference between Spanish and euro area employment rates can be calculated as the sum of two components: the difference between the two unemployment rates multiplied by the euro area participation rate and the difference between the two participation rates, multiplied by (1 - Spanish unemployment rate).



framework (see Section 2.2.1) and the human capital (see Section 2.2.2). Section 2.2.3 then addresses several aspects relating to population ageing and changes in hours worked, which could significantly affect both the employment rate and labour supply, in the future.

2.2.1 The institutional framework

The Spanish labour market's structure has given rise to significantly higher unemployment levels and more widespread use of temporary job contracts than the euro area average

(see Charts 2.6.1 and 2.6.2). Another particularity of the Spanish labour market was its tight relationship with the business cycle and, in particular, the fact that the early stages of recessions would yield swingeing job cuts. This fact was partly a consequence of the more widespread use of temporary contracts, and also reflected various rigidities in the Spanish labour market which focussed the bulk of the response to adverse shocks on levels of employment, instead of provoking changes in other areas of industrial relations.³⁶

The high levels of unemployment and widespread use of temporary contracts have negatively affected the Spanish economy in many ways. Beyond the adverse impact that this high level of precarious employment has on per capita income in Spain, there is an extensive economic literature³⁷ documenting the significant negative effect that job insecurity (which especially affects young people in Spain) has on, among other things, workers' careers and their accumulation of human capital. Unstable employment hampers workers' ability to gain independence and establish new households and families and affects their confidence in future income and emotional well-being, while also being a factor in inequality.

More recently, several regulatory changes have altered the labour market. For example, the conditions under which companies could make use of furlough schemes (ERTEs, by their Spanish acronym) were made more flexible and improved in response to the pandemic in early 2020. The Banco de España's analysis shows that such schemes lessened labour shedding (in comparison with previous recessionary periods) and also subsequently facilitated the return to work of affected employees.³⁸

Among other measures, the 2021 labour market reform cut down on temporary contracts in exchange for making some permanent hiring modalities more flexible, expanded the role of ERTEs as an employment adjustment mechanism and restored the leading role of sectoral agreements in setting wages. One of the more immediate outcomes of this reform has been the sharp decline in the number of temporary contracts, which fell slightly more than 8 pp between 2021 and 2022 to 17.3%. According to Social Security registrations, around half of this fall was the result of temporary contracts being converted to permanent full-time contracts: one quarter came from the conversion of temporary contracts to permanent part-time contracts and the rest from larger-scale use of permanent seasonal contracts.

Any thorough assessment of this labour market reform will require analysis of its impact on a range of areas. On its own, the drop in the ratio of temporary contracts is not enough to properly assess the overall impact of the labour market reform. To do this, it is essential to account for its impact on other variables, such as employment, unemployment, wages, productivity and other key macroeconomic aggregates, including consumption and household

³⁶ Blanchard and Jimeno (1995) and Estrada, Izquierdo and Lacuesta (2009).

³⁷ For example, Bentolila, Dolado and Jimeno (2020) and García-Louzao, Hospido and Ruggieri (2022).

³⁸ Izquierdo, Puente and Auciello (2022) cover this topic in more depth. It has also been observed that, if the different characteristics of each company is controlled for, those that made more use of ERTEs in 2020 enjoyed a stronger recovery in 2021.

savings. To illustrate the importance of analysing the all of these effects together, a recent study by the Banco de España suggested that, insofar as this reform resulted in an increased perception of employment stability, new workers with permanent contracts in 2022 may have reduced their precautionary saving, which could have caused (all else being equal) a short-lived spurt in aggregate consumption in 2022.³⁹

More time is needed. In particular, it will take time for the effects of the new reform to fully manifest on key economic variables. A longer time frame is required to distinguish causal structural impacts. For example, although many aspects of the labour market have been performing well in recent quarters, changes in hours worked have been showing some signs of weakness lately and have even fallen back since H2 2022. This caused the hours worked per employee to fall, which could mean, if the indicator stabilises at its new lower figure, an acceleration in the downward trend that this variable has been seeing in Spain in recent decades (for more details, see Section 2.2.3).

Data analysis must be performed with as much granularity as possible. Any shock will have an extremely uneven impact on different groups, which may not be revealed if the impact analysis is carried out with highly aggregated data. In the case of the new labour market reform, which is expected to have very asymmetric effects on various groups of workers and firms, it is especially important that granular data are available and analysed. A recent study by the Banco de España highlighted the fact that levels of temporary contracts varied greatly across geographical areas and sectors, with idiosyncratic firm factors underlying most of these differences.⁴⁰ So, although more aggregate data suggest that labour turnover in Spain fell in 2022, if a more granular analysis is carried out looking at the type of contract, it can be seen that there was a significant increase in the rates of transitioning to unemployment from permanent contracts in this period (see Table 2.1).

It is important to highlight the fact that the high levels of unemployment seen in Spain in recent decades have a strong structural component. Even during the period of vigorous growth between 2000 and 2007, the unemployment rate did not fall below 8%. More recently, in spite of the robust recovery in activity in 2021 and 2022, and the fact that there are signs of the Spanish labour market overheating (for example, the rise in the number of job vacancies and the scarcity of jobseekers in certain sectors), the unemployment rate still stands at around 13%. The euro area average is currently around 7%.

It is essential to examine the role of active and passive employment policies. For example, [Bertheau, Acabbi, Barceló, Gulyas, Lombardi and Saggio \(2023\)](#) show that unemployed workers in Spain find it more difficult to find another job – both the length of unemployment and the resulting losses of income are higher than in other countries. Some of this can be attributed to the lower investment in active employment policies in Spain.

³⁹ [Anghel, Barceló and Villanueva \(2023\)](#).

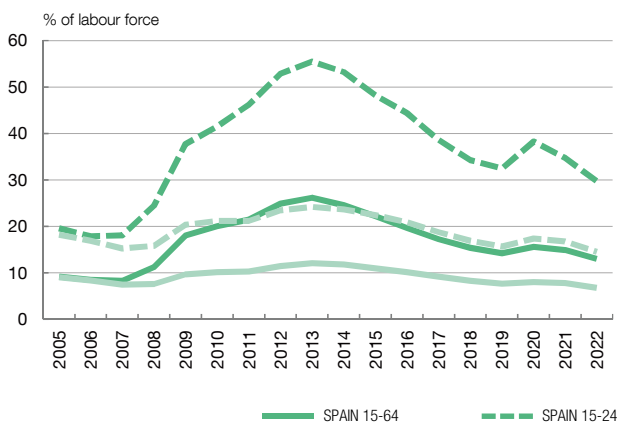
⁴⁰ [Auciello-Estévez, Pijoan-Mas, Roldan-Blanco and Tagliati \(2023\)](#).

Chart 2.6

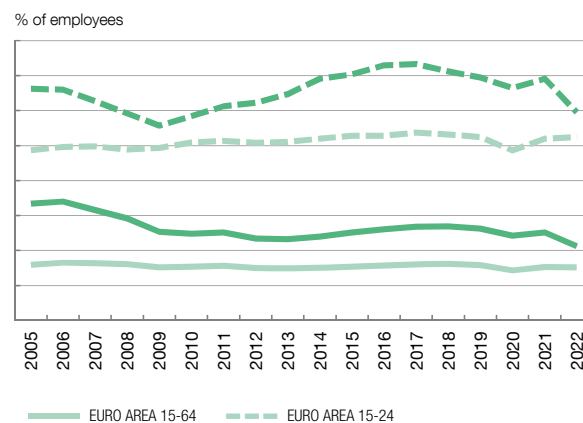
THE UNEMPLOYMENT RATE AND THE SHARE OF TEMPORARY EMPLOYMENT IN SPAIN ARE SIGNIFICANTLY ABOVE THE EURO AREA AVERAGE

Spain has traditionally had an unemployment rate and a share of temporary employment significantly higher than the euro area average. In 2022 the Spanish unemployment rate was 13%, 6.2 pp higher than the euro area average, while the share of temporary employment, despite dropping substantially, stood at 21.3%, 6 pp above that of the euro area. These gaps are larger for young people.

1 UNEMPLOYMENT RATE



2 SHARE OF TEMPORARY EMPLOYMENT



SOURCE: Eurostat (Labour Force Survey).



On the subject of active employment policies, the [Employment Law](#) was recently approved. This new law sets out active employment, employability and job mediation policies, coordinates between active policies and unemployment protection policies, establishes a portfolio of services that must be offered by public employment services, specifies sources of funding for these services and determines how they should be assessed. In its entirety, the new law aims to improve coordination between the various public bodies that give effect to active policies and increase their effectiveness by making ongoing assessments central to their design and implementation.

Looking to the future, increasing the effectiveness of active employment policies will also require the availability of human and financial resources and appropriate incentivisation, in both training supply and demand. If public employment services are to have more influence on job mediation (they currently have very little impact in this area) and if their training and labour market insertion work is to be more effective, better professional profiling of unemployed people, rigorous assessment of training and labour market insertion programmes and the adjustment of resources based on the findings of these assessments are all essential.

Achieving the above without watering down protections for the more vulnerable and while maintaining appropriate incentives on the labour supply-side demands greater coordination between active and passive labour market policies. The social safety net

Table 2.1

RATES OF TRANSITION TO UNEMPLOYMENT, BY CONTRACT TYPE

The labour market reform reduced temporary employment by more than 8 pp, but it may have also affected hiring in other ways. For example, in 2022 there was a substantial rise in the rates of transitioning to unemployment from permanent contracts. A rigorous and overall assessment of the labour market reform is not yet possible.

	Average 2015-201	2022
Permanent	0.14	0.26
Full time	0.08	0.12
Part time	0.16	0.25
Seasonal	1.11	1.76
Temporary	1.82	1.77
Full time	1.88	1.77
Part time	1.92	1.94
Total	0.66	0.56

SOURCE: Ministerio de Inclusión, Seguridad Social y Migraciones.

has widened in recent years through several different interventions. For example, unemployment protection coverage expanded to include more groups and there was an increase in the unemployment benefit replacement rate for the first six months of unemployment. However, as shown in Box 2.1, some elements of these benefits can discourage rapid re-entry to the labour market. Something similar may occur with the design of the minimum living income (see Section 3.2). It is vital to analyse the potential consequences of such initiatives on the labour supply and tailor their design to mitigate any unwanted repercussions.

2.2.2 Human capital

Human capital endowment is a key determinant of productivity, capacity to innovate and the employment rate. The level of human capital and, in particular, the population's technological training and digital skills are closely linked to the knowledge absorption and innovative capacity of an economy (see Chart 2.7.1). Likewise, countries with greater human capital endowment also tend to have higher employment rates (see Chart 2.7.2). For example, R&D&I investment in European countries with a higher level of human capital, based on the numeracy scores under the Programme for the International Assessment of Adult Competencies (PIAAC), is on average 1 pp higher than in Spain, while their employment rate is on average 10 pp higher (equivalent to over 2 million jobs).

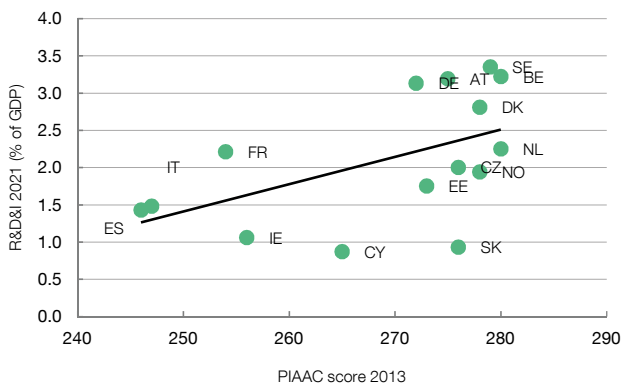
Despite a notable improvement in recent decades, the educational attainment level of employers, the self-employed and employees in Spain is lower than the euro area

Chart 2.7

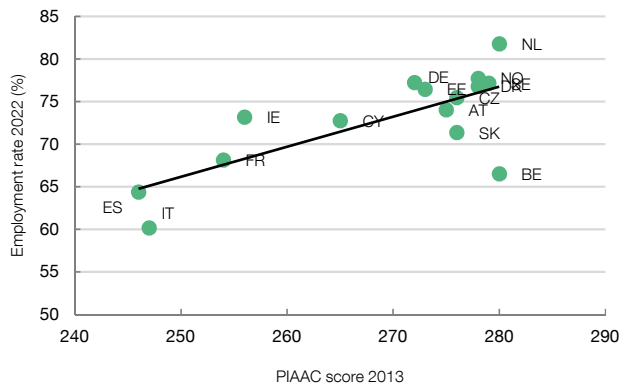
A COUNTRY'S HUMAN CAPITAL IS A DETERMINANT OF ITS CAPACITY TO INNOVATE AND EMPLOYMENT RATE

The level of human capital of the EU countries, measured as the scores in the PIAAC numeracy assessment, is positively correlated with R&D&I investment as a percentage of GDP. Similarly, countries with greater human capital endowment also tend to have higher employment rates. However, the proportion of STEM graduates in Spain is relatively low, added to which is the difficulty in attracting university students from abroad.

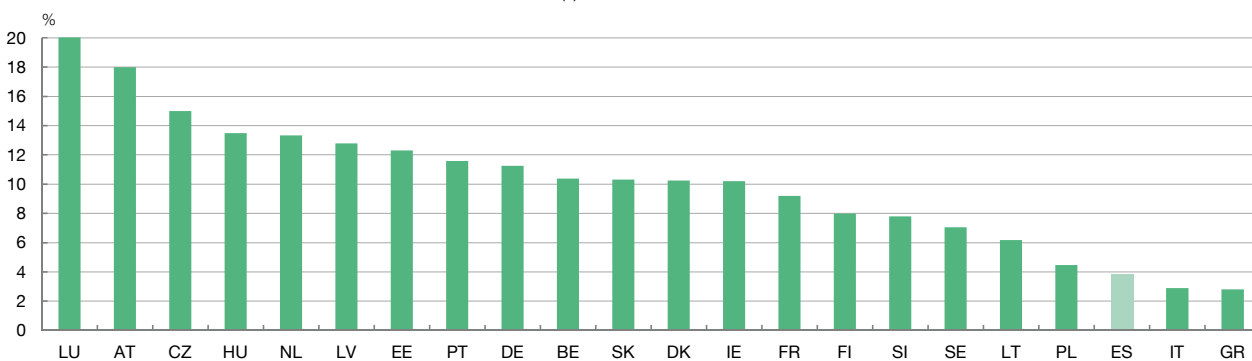
1 CORRELATION BETWEEN PIAAC SCORE AND R&D&I INVESTMENT (a)



2 CORRELATION BETWEEN PIAAC SCORE AND EMPLOYMENT RATE (a) (b)



3 INTERNATIONAL STUDENTS IN EUROPEAN UNION COUNTRIES IN 2020 (c)



SOURCES: Eurostat and OECD.

- a Including data for the EU countries that have participated in the OECD's PIAAC assessment.
- b The employment rate is that of the group aged 15-64.
- c Data available for the 22 countries of the EU-27 that are OECD members.



average. Thus, on Eurostat data, 35.2% of the self-employed, 32.9% of employers and 28.5% of employees had a low educational attainment level in Spain in 2022. These figures are well above those observed in the euro area as a whole (20.7%, 18.9% and 18.2%, respectively).⁴¹ Moreover, the early school leavers' rate, i.e. the percentage of the population aged 18-24 that did not complete upper secondary education and are no longer in education or training, was 13.9% in Spain in 2022 (up 0.6 pp on a year earlier), compared with 9.7% in the euro area (in 2021, the latest available year).

⁴¹ In addition to the educational level attained, there are other indicators quantifying entrepreneurial quality, such as the [World Management Survey](#).

This educational attainment gap has important implications for productivity and employment. For instance, according to [Anghel, Cuadrado and Tagliati \(2020\)](#), Spain's lower educational attainment level is responsible for around a third of the numeracy skills gap between the country's adult population and the euro area average, based on PIAAC scores. Moreover, [Martínez-Matute and Villanueva \(2021\)](#) state that work experience does not appear to be an effective substitute for education when developing skills for more qualified jobs.

The differences in educational attainment level are also relatively persistent. A recent Banco de España study suggests that the average level of educational attainment in 2001 of residents born in a locality in 1974 predicts, with a correlation of over 0.90, that of residents of the same age in that locality, born 10 years later.⁴² This persistence is also seen across generations, with the correlation between the attainment levels of parents and their offspring standing close to 0.35, similar to that observed in other countries,⁴³ which undermines equality of opportunity.

It is essential that structural measures be developed to promote the accumulation of human capital, especially at the current juncture. Against a backdrop of profound demographic and technological change, in which the world economies are in the midst of the green and digital transition, the coming years will likely see a major sectoral and occupational reallocation of employment.⁴⁴ A high level of uncertainty still surrounds how many workers will be reallocated, what their characteristics will be and, consequently, the scale and direction of this reallocation. But carrying it out will come at a greater cost if employability is limited by deficiencies in the education and training of the working-age population.

In this context, education and training policies take on an even more important role than usual. The education and vocational training system needs to be adapted to the new technological and demographic environment, to minimise the impact on employment of the profound structural changes under way. Any needed reallocation of Spanish workers would not be without difficulty, especially in sectors such as agriculture, small retail trade, hotels and restaurants, and domestic help, where, compared with the euro area, Spain has more older workers with a lower level of education.⁴⁵ This is because there is evidence that, irrespective of the level of educational attainment, the older population have lower numeracy and literacy skills than the younger population.⁴⁶

Policies should be geared towards increasing human capital and fostering versatility. Adapting human capital to new technologies calls not only for increasing the population's level of educational attainment, but also for reorienting academic studies towards those disciplines that better complement the skills associated with new technologies. In addition, longer working

42 Grébol, Machelett, Stuhler and Villanueva (2023).

43 This statistical relationship is known as "The Great Gatsby Curve". See [Corak \(2013\)](#).

44 [Autor, Mindell and Reynolds \(2022\)](#).

45 [Anghel and Lacuesta \(2020\)](#).

46 This pattern is observed in both the standardised international assessments of the overall adult population and the National Statistics Institute's (INE) survey on information and communication technology equipment and use.

lives - which will be unavoidable given current demographic trends - make it more necessary for workers to have sufficient and versatile skills to enable them to change job and occupation over their working life, especially in a context of rapid obsolescence of certain professional skills and greater loss of cognitive skills among the older population.

Increased interest among the young in vocational training should reduce early school leaving and ease the scarcity of specialist technical workers. Recent years have seen growing interest in vocational training among students in compulsory secondary education and even higher secondary education. In particular, the number of students aged 17 in intermediate vocational training as a percentage of the total (i.e. individuals enrolled in such programmes or in higher secondary education) has risen from 10% to over 15% in the last five years. Similarly, the number of those aged 19 in higher vocational training as a percentage of the total (i.e. those either enrolled in these programmes or at university) increased from 20% to 25% over the same period. The new Organic Vocational Training Law ([Organic Law 3/2022](#) of 31 March 2022) specifically seeks to adapt training to this higher demand and facilitate the transition to the labour market, by increasing on-the-job training (to the detriment of academic education) and promoting lifelong learning. It is crucial to assess the lifetime employment return associated with different percentages of practical and academic studies in vocational training, as there is evidence that practical studies are useful for fostering an immediate transition to the labour market, but not necessarily for developing a professional career, where academic studies would have the advantage.⁴⁷ Moreover, fostering worker participation in lifelong training courses⁴⁸ will require lowering the institutional barriers to business growth and combating job instability.

While a high percentage of the Spanish population accesses higher university education, there seems to be some room for improvement in students' exit skills. According to the OECD's PIAAC database, Spanish adults with a university degree have low literacy and numeracy scores by international standards. The problems in attracting university students from abroad (see Chart 2.7.3) could be another example of the low education quality of the system. The recent Organic Law on the university system (LOSU, by its Spanish abbreviation) fosters a series of measures to improve the quality of education and adapt the system to the structural challenges facing the Spanish economy. Among other aspects, the Law adopts changes to university autonomy, staff selection systems and contract types for teaching and research staff. It would also be useful to make progress in linking the system's funding to excellence targets.

Also worthy of mention is the relatively low proportion of graduates in STEM subjects (Science, Technology, Engineering and Mathematics). On Eurostat data for 2020, 24% of Spanish students in tertiary education are enrolled in a field related to the natural sciences, mathematics, statistics, information and communication technologies, engineering, manufacturing and construction, compared with 28% in the euro area, with Spain only ahead

47 Hanushek, Schwerdt, Woessmann and Zhang (2017) and Brunello and Rocco (2017).

48 Anghel and Lacuesta (2020).

of Cyprus, the Netherlands, Belgium, Malta and Slovakia.⁴⁹ If improvements are to be made on this front, raising academic achievement in mathematics both at secondary and higher secondary level will be essential, as will increasing teacher training and professionalism.

A detailed efficiency analysis should also be carried out of public spending on education.

In 2010-2021 Spain spent an average of 4.2% of GDP on education, less than the 4.7% spent on average in other euro area countries. But, in addition to spending levels, it is important to identify and resolve any inefficiencies in the use of public funds earmarked for education, as is already being carried out by the AIReF in various autonomous regions.

2.2.3 Other key factors in labour supply

Looking ahead, population ageing and hours worked per employee could play a key role in the course of labour supply and per capita income in Spain and thus in the country's convergence with the euro area. As Chart 2.1.2 shows, no significant differences between Spain and the euro area have been observed over recent decades in terms of the course of hours worked per employee or the employment rate. Indeed, the gap between Spain and the euro area in these two aspects was slightly positive between 1995 and 2022. However, the rest of this section sets out some reasons why Spain may see a particularly poor performance by these two determinants of per capita income in the years ahead that could restrain labour supply and hamper the convergence to euro area income levels.

Population ageing will gather pace in Spain over the coming decades, more so than in the EU and the euro area as a whole. According to the INE's latest population projections, Spain's dependency ratio - calculated as the ratio of the population aged 65 and over to those aged 16-64 - will rise from 31% in 2021 to nearly 54% in 2050. Moreover, if recent demographic trends continue, this population ageing, far from being temporary, will become permanent. Specifically, the INE projects that the dependency ratio will still exceed 50% in 2070 (see Chart 2.8.1). Drawing on the latest Eurostat projections, an international comparison shows that the Spanish economy can expect to see a significantly stronger demographic transformation than that envisaged for the majority of European economies (see Chart 2.8.2).

Not only will this demographic shift affect the proportion of the working-age population, but it will also have an adverse impact on Spanish per capita income by reducing the employment rate. As Chart 2.5.3 shows, there is significant disparity in the employment rate by age group. For example, in 2022 it stood at 77.8% for the population aged 25-49, but below 64% for those aged 50-64. Should such disparity persist over time, population ageing would lead to a drop in the employment rate. Specifically, all else being constant, Spain's employment rate could decline by 1.2 pp between 2022 and 2030.

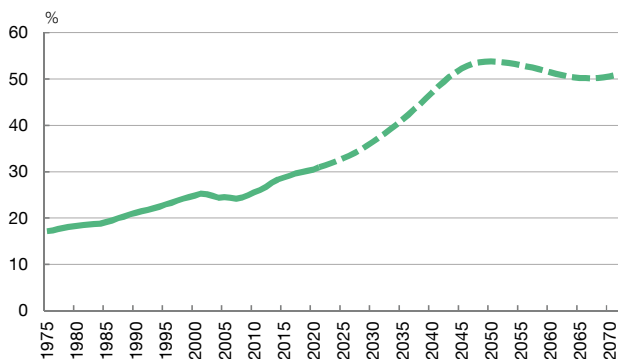
⁴⁹ The Eurostat series used for this quantification is EDUC_UOE_ENRT03. Moreover, in the [Global Innovation Index](#) (World Intellectual Property Organization, 2022), Spain is ranked 61 out of 109 countries by number of graduates in science and engineering.

Chart 2.8

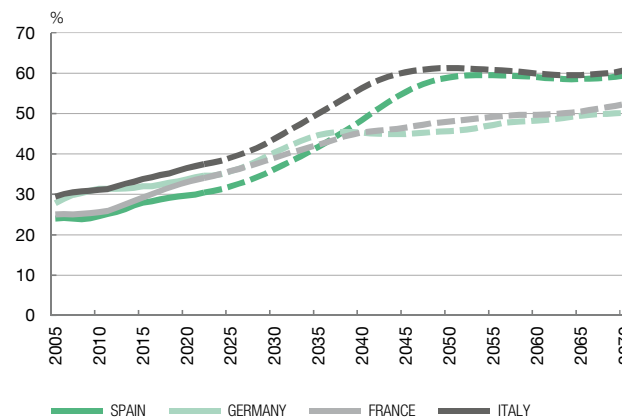
POPULATION AGEING WILL GATHER PACE IN SPAIN OVER THE COMING DECADES

The INE's latest projections anticipate a marked increase in the dependency ratio. Specifically, according to these projections, the ratio will increase from 31.0% in 2021 to 53.8% in 2050, falling back to 50.6% in 2070. This demographic shift will be significantly stronger than that envisaged for the other major European economies.

1 DEPENDENCY RATIO
(POPULATION AGED OVER 65 / POPULATION AGED 16-64)



2 COMPARISON OF DEPENDENCY RATIO IN OTHER EURO AREA COUNTRIES (a)
(POPULATION AGED OVER 65 / POPULATION AGED 16-64)



SOURCES: INE and Eurostat.

a EUROPOP2023 projections.



Population ageing would be even more pronounced were it not for the positive and relatively high net migration expected in Spain in the years ahead. On the latest INE population projections, Spain is expected to see annual net migration in the period 2030-2070 of 200,000-300,000 people who will, broadly speaking, be younger than the domestic population. For comparison purposes, net inflows to Spain fell from 310,000 individuals in 2008 (the first year for which migration statistics are available), to below 150,000 in 2021.

The capacity of new migration policies to effectively smooth any mismatches arising in the labour market should be continuously monitored.⁵⁰ In order to tackle the labour supply shortages observed in some productive sectors, the Spanish authorities enacted legislation in 2022 to relax the catalogue of difficult-to-cover occupations, facilitate the entry of foreign entrepreneurs, incorporate training in the concept of “rootedness” and allows foreign students to access the labour market.⁵¹ Looking ahead, it would be desirable to assess the extent to which these legislative changes effectively help mitigate supply-demand mismatches. Moreover, as the majority of European economies face a considerable demographic challenge (albeit, as already mentioned, over different horizons and of varying intensities), some degree of coordination with their migration policies should be attained.

50 In any event, addressing the numerous challenges posed by population ageing goes beyond migration policy, and calls for resolute action on multiple fronts. Among other measures, it would be desirable, for example, to analyse the reasons for Spain’s low birth rate and to strengthen support for families and labour market opportunities for young mothers.

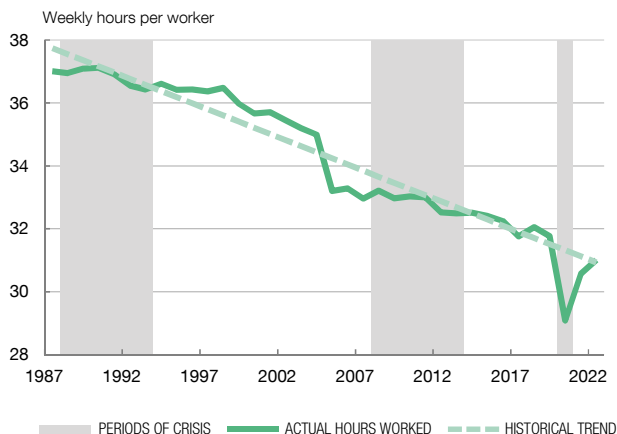
51 [Royal Decree 629/2022](#) of 26 July 2022.

Chart 2.9

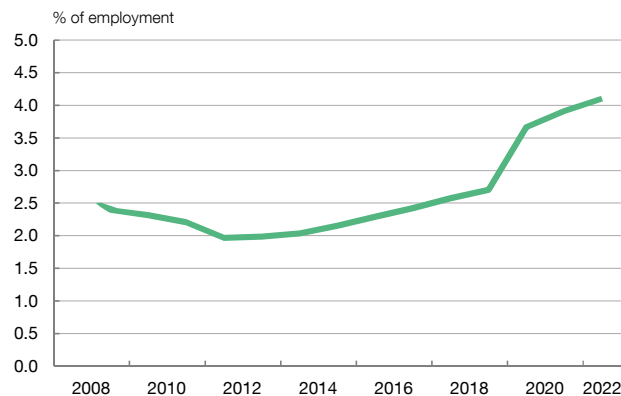
LABOUR SUPPLY IS ALSO DETERMINED BY WORKING HOURS AND GENERAL HEALTH

In Spain, average weekly working hours have decreased from around 37 in the mid-1980s to 31 in 2022. There has also been an ongoing pronounced increase in sick leave since the outbreak of COVID-19, such that, in 2022, an average of 4.1% of workers reported that they had not worked in the prior week because of illness, temporary disability or injury.

1 AVERAGE WEEKLY WORKING HOURS PER WORKER



2 LOSS OF WORK DAYS DUE TO ILLNESS, INJURY OR DISABILITY



SOURCES: INE and Banco de España.



The number of hours worked per employee is also a key determinant of labour supply and per capita income. For example, if employment (i.e. the extensive margin) increases but each person works fewer hours (i.e. the intensive margin decreases), with all else being constant, the pace of growth in hours worked in the overall economy and, therefore, in total labour supply and aggregate output, will be lower than that of employment.

In Spain, average weekly working hours have decreased in recent decades, from 37 in 1987 to 31.8 in 2019 (see Chart 2.9.1). A recent Banco de España study⁵² reveals that, broadly speaking, this decline in hours worked per employee reflects structural factors common to other European countries. These factors notably include technological progress (which has yielded productivity gains, leading to an increase in the time devoted to leisure at the expense of time spent working), changes in the sectoral structure of the economy (with a gradual increase in the weight of the services sector) and the trend towards more part-time work. The COVID-19 pandemic accelerated this decline in average working hours, although the most recent data point to a slight recovery of the previous secular trend.

Various factors suggest that the downward trend in hours worked per employee could persist. For example, the projected demographic changes would suggest that, by 2033, the average working week could be nearly three hours shorter than the current figure, assuming that the employment rates by age group remain constant. Along the same lines, if the Spanish economy were to converge towards a sectoral structure akin to the EU average, the annual number of hours worked per individual would be around two and a half hours lower than the current figure.

52 Cuadrado (2023).

An additional aspect that may have a bearing on these dynamics is the Spanish population's health and its evolution over time. The latest Centro de Investigaciones Sociológicas healthcare barometers show an increase in demand for healthcare services in Spain. The number of workers losing work days as a result of illness, temporary disability or injury has also risen (see Chart 2.9.2). According to a recent Banco de España study,⁵³ some of these developments appear to be in line with the predictions made in the literature studying COVID-19 sequelae among a widely vaccinated population. If these developments prove to be long-lasting and associated with a prolonged deterioration in the population's general health, they may require a structural increase in health expenditure and have an adverse, but highly uncertain, impact on labour supply and, therefore, the economy's potential output.

Health is a key determinant of labour supply, especially among those approaching retirement. Health problems that prevent people from working increase with age and hamper the longer working life that should accompany the expected and observed increase in longevity. It is worth noting here that workers approaching retirement tend to overestimate how quickly their health will deteriorate and often decide to retire sooner on the basis of incorrect subjective perceptions.⁵⁴

Labour supply is also affected by mental illness, which may have been exacerbated as a result of the pandemic. In addition to shaping physical health and employment status, mental health is a key determinant of educational and employment success and has an even greater bearing than these on subjective happiness indicators.⁵⁵ In developed countries, mental health problems are the main cause of illness in the working-age population, accounting for around one-third of cases of incapacitation and absenteeism. The fact that the prevalence of such illnesses may have been exacerbated by the pandemic is another reason to pay greater focus on preventing and treating mental illness within the population.

Given its importance, priority should be given to assessing the efficiency of public spending on health in Spain. Aside from the fact that this expenditure item as a percentage of GDP is lower in Spain (6.4% on average in 2010-2021) than in the euro area (7.4%), various AIReF reports point to there being some room for improving the efficiency of hospital pharmacy spending and investment in high-tech capital goods.

3 Main imbalances in the Spanish economy

A growth path that is associated with persistent or accumulating macroeconomic, financial or social vulnerabilities is not sustainable. As discussed in the previous section, if the Spanish economy is to make headway in the process of convergence with average euro area per capita income levels, resolute public policy measures will be needed in a variety of

⁵³ Hurtado and Izquierdo (2023).

⁵⁴ Denis (2021).

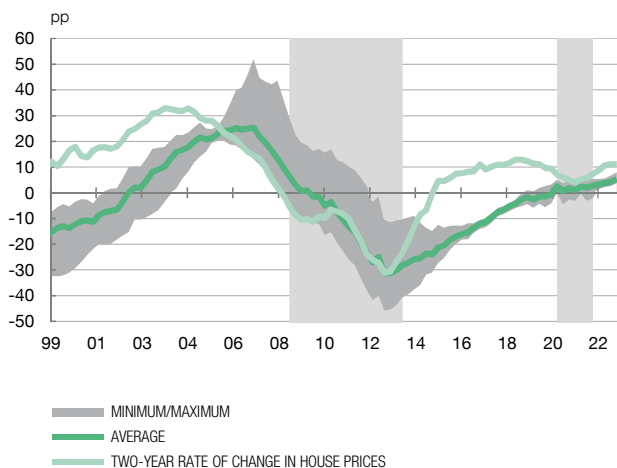
⁵⁵ Layard (2013).

Chart 2.10

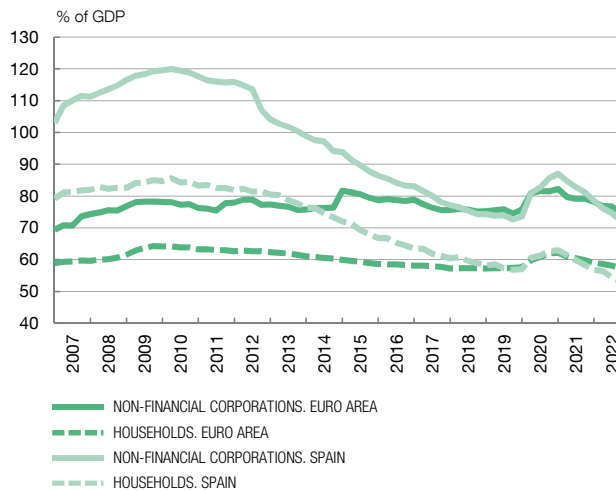
GROWTH IN HOUSE PRICES HAS EASED, AND SPANISH HOUSEHOLDS AND FIRMS HAVE CONTINUED TO DELEVERAGE

House prices grew once more between 2019 and 2022, but the signs of overvaluation are contained. Moreover, Spanish households and firms have continued the deleveraging that began in 2010, reaching levels similar to, or even below, the euro area average.

1 INDICATORS OF HOUSE PRICE IMBALANCES (a) (b)



2 CONSOLIDATED DEBT OF NON-FINANCIAL CORPORATIONS AND HOUSEHOLDS



SOURCES: INE, Banco de España and ECB.

- a The grey shaded areas show two financial crisis periods identified in Spain since 2009: the last systemic banking crisis (2009 Q1-2013 Q4) and the crisis triggered by COVID-19 (2020 Q1-2021 Q4). Data updated at December 2022.
- b The shaded area represents the minimum and maximum values of the four indicators of imbalances in house prices. Both the four indicators and the two-year rate of change in house prices have an equilibrium value of zero.



areas, primarily to increase productivity and employment momentum and, thus, boost the growth rate. However, it is important to ensure that the growth path is not only robust but also sustainable. High growth cannot be maintained over a prolonged period of time if it is associated with the persistence or build-up of macroeconomic, financial or social vulnerabilities or imbalances.

The Spanish economy has shown a more balanced growth pattern since the outbreak of the global financial crisis, and has corrected some of the macro-financial imbalances that built up in the prior expansionary phase. For instance, in the composition of aggregate economic activity, construction investment has seen its share of Spanish activity drop in recent years, with its average weight in GDP falling from 18.4% in 2000-2007 to 9.5% in 2013-2022, slightly below the 10.3% observed in the euro area. Turning to house prices, after a very abrupt correction of 37% in cumulative nominal terms between 2007-2013, they grew at an average annual rate of 4.6% in 2019-2022, below the rate of 6.1% observed in the euro area. Although the indicators of house price imbalances in Spain have shown signs of a slight overvaluation since mid-2021, these signs remain contained (see Chart 2.10.1 and the Banco de España’s *Financial Stability Report, Spring 2023*).

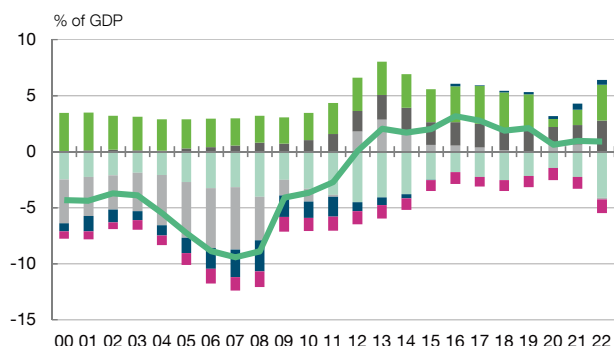
The intense deleveraging carried out by households and firms is noteworthy. In 2010 Q2, the private non-financial sector’s debt in Spain amounted to 205.5% of GDP, 61 pp higher than

Chart 2.11

THE SPANISH ECONOMY HAS MANAGED TO MAINTAIN A CURRENT ACCOUNT SURPLUS AND REDUCE ITS EXTERNAL DEBT

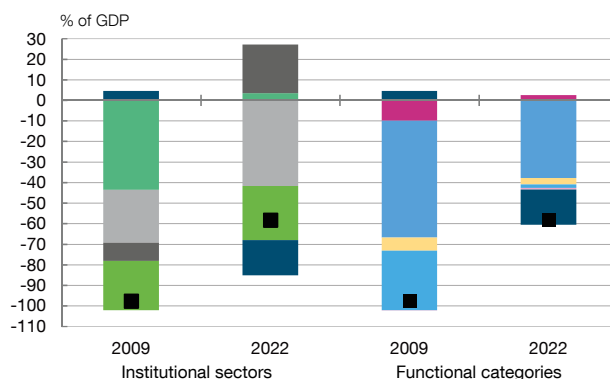
Despite higher energy prices, Spain once again posted a current account surplus in 2022, thanks to the momentum of services exports, while the country continued to gradually correct its high debt to the rest of the world.

1 CURRENT ACCOUNT BALANCE



- ENERGY BALANCE
- SERVICES BALANCE EXCL. TOURISM
- PRIMARY INCOME BALANCE
- CURRENT ACCOUNT
- NON-ENERGY GOODS BALANCE
- TOURISM BALANCE
- SECONDARY INCOME BALANCE

2 IIP: CHANGES AND COMPOSITION BY SECTOR AND FUNCTIONAL CATEGORY
Rate of change vs 2019



- BANCO DE ESPAÑA
- FINANCIAL DERIVATIVES
- OTHER INVESTMENT
- SHORT-TERM DEBT (PORTFOLIO INVESTMENT)
- LONG-TERM DEBT (DIRECT INVESTMENT AND PORTFOLIO INVESTMENT)
- EQUITY (DIRECT INVESTMENT AND PORTFOLIO INVESTMENT)
- BANCO DE ESPAÑA
- NON-FINANCIAL CORPORATIONS, HOUSEHOLDS AND NPISHs
- FINANCIAL CORPORATIONS OTHER THAN MFIs
- GENERAL GOVERNMENT
- OTHER MFIs
- TOTAL

SOURCES: INE, Departamento de Aduanas and Banco de España.



the euro area average (see Chart 2.10.2). Since then, except for during the health crisis, Spanish households and firms have undertaken a process of deleveraging, which has led to a substantial improvement in their financial situation and reduced their debt ratios to levels similar to, or even below, those recorded in the euro area as a whole. These developments have also taken place against a backdrop of rationalisation, recapitalisation and restructuring of the financial sector, which has helped appreciably shore up the sector’s solvency and liquidity ratios and the quality of its balance sheets.⁵⁶ It should be emphasised, however, that this substantial improvement in the aggregate financial position of Spanish households, firms and banks does not mean that their future economic outlook is free of risk. In this respect, various Banco de España studies in the last few quarters have highlighted that the recent rise in prices and borrowing costs could significantly increase the financial vulnerability of certain groups of households and firms.⁵⁷ Moreover, the Banco de España’s latest *Financial Stability Report* provides an exhaustive review of the main risks that the Spanish financial sector must face at the current juncture and in the near future.

⁵⁶ Banco de España (2017a) provides a detailed description of the transformation process undertaken by the Spanish financial sector since the start of the global financial crisis.

⁵⁷ Menéndez and Mulino (2022); Mulino (2022); *Financial Stability Report, Autumn 2022* and *Spring 2023*; or Section 4.3.2 of Chapter 3 of this *Annual Report*.

Also worthy of mention is the notable correction of the external imbalances of the Spanish economy in recent years. Between 2012 and 2022 Spain posted a positive current account balance equal to 1.6% of GDP in annual average terms (see Chart 2.11.1). This stands in contrast to the large and persistent deficits of 6.2% of GDP in annual average terms observed between 2000 and 2008. In recent years, for the first time in Spain's modern economic history, current account surpluses have coexisted with a phase of prolonged activity growth, which underscores the largely structural nature of the correction of Spain's external imbalances.⁵⁸

The structural improvement in the external imbalances has been particularly visible with the outbreak of the pandemic (which drastically reduced tourism flows) and the energy crisis (which significantly increased energy import prices). Indeed, despite these two very sharp shocks having had such an adverse impact on two of its main items, Spain's current account balance has remained in positive territory for the last three years, averaging a surplus of 0.7% of GDP between 2020 and 2022.⁵⁹ This has been largely possible thanks to the momentum of exports and stable export companies.⁶⁰ Since 2019, growth in nominal goods exports of goods and services has comfortably outpaced that of the main euro area economies, standing at 26.8% in Spain compared with 20.1% in Germany, 16.7% in France and 24.9% in Italy. Consequently, Spanish exports have continued to gain weight, accounting for 40.4% of GDP in 2022 (by way of illustration, they accounted for less than 26% of GDP in 2008).

Spain's negative net international investment position (IIP) vis-à-vis the rest of the world has fallen appreciably, and the vulnerabilities associated with the composition of this balance are also somewhat smaller now. In 2022 the Spanish economy's negative net IIP was equivalent to 60.5% of GDP (see Chart 2.11.2). While this is still comparatively high within the euro area (exceeded only by those of Greece, Ireland, Cyprus and Portugal), it has decreased by over 37 pp since peaking at 97.6% of GDP in 2009. Although the associated vulnerabilities are subject to considerable uncertainty, they appear to be somewhat smaller now than in 2009. This seems to be attributable to the changes in the composition of the negative net IIP in recent years, which have led to an increase in the relative weight of general government and Banco de España liabilities (which tend to have lower refinancing risks than private sector liabilities) and of long-term debt instruments (which, again, usually have lower refinancing risks than other financial instruments).

Nevertheless, the sustainability of the Spanish economy's growth path faces enormous structural challenges. Cases in point include the challenges associated with climate change and the green transition that the Spanish economy, along with the other main world economies, needs to address in the coming years (see [Chapter 4](#) of the Banco de España's Annual Report

58 For more details on the main factors lying behind this correction, see [Banco de España \(2017b\)](#).

59 Since the pandemic, imports of medical products and of IT and telecommunications products have also increased. See [García Esteban, Gómez Loscos and Martín Machuca \(2023\)](#) (English version forthcoming).

60 Between 2019 and 2022 the number of stable export companies (defined as those with exports of over €5,000 for at least four consecutive years) rose by 8.3%.

2021). Closely related to these challenges are the considerable vulnerabilities that the particular energy framework in Spain and the EU entails for their economic outlook, especially in an international geopolitical context marked by increasing fragmentation in which the EU must strengthen its strategic autonomy (see [Chapter 4](#) of this report).

These structural challenges notably include those deriving from the high level of public debt and the social vulnerability that may derive from high inequality (see [Chapter 4](#) of the Banco de España's *Annual Report 2020*). Each of these challenges is analysed in depth in the rest of this section.

3.1 Public indebtedness

3.1.1 Recent developments and short-term outlook

Despite declining as a percentage of GDP, the general government deficit and debt remained at very high levels in 2022, both on a historical and an international comparison.

In 2021-2022 the budget deficit in Spain continued the decline observed in 2020-2021 and fell by 2.1 pp, to stand at 4.8% of GDP (see [Chart 2.12.1](#)). Nevertheless, it was still 1.7 pp above 2019 levels and 1.2 pp higher than the euro area average. The public debt-to-GDP ratio declined by 5 pp in 2022, to stand at 113.2%, 15 pp above 2019 levels and almost 22 pp higher than in the euro area.

Recent developments in public finances have mainly been determined by four factors.

These are: (i) the strong recovery in real economic activity, with GDP growth exceeding 5% in both 2021 and 2022; (ii) the roll-out, extension and gradual adjustment of numerous public measures geared to mitigating the negative impact on Spanish households and firms of the different adverse shocks that have affected Spain's economy in the last few years; (iii) the high inflation rates, which have had a very mixed influence on the behaviour of various budgetary items; and (iv) the higher buoyancy of tax revenue than would be consistent with the developments in the macroeconomic bases and the fiscal measures approved.

On balance, these factors helped reduce the fiscal imbalance in 2022. First, in a setting in which the health crisis had practically passed, the budgetary cost of the measures deployed in 2020 to address the pandemic continued to decrease during 2022. This tax saving was greater than the additional cost incurred in 2022 as a result of the measures approved to mitigate the impact of higher prices and the energy crisis on households and firms.⁶¹ Second, the strong recovery in real activity and high inflation rates had a very positive impact on tax revenue, which grew 9.3% in 2022 and proved even more buoyant than indicated by its

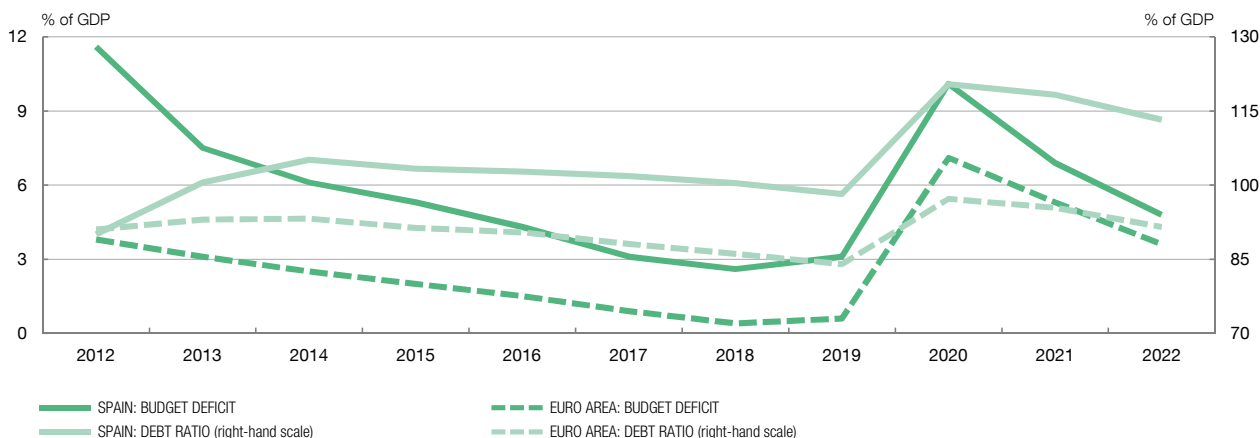
⁶¹ According to Banco de España estimates, these revenue and spending measures will have a budgetary cost of approximately 1.4 pp of GDP in 2022 and 0.9 pp of GDP in 2023. For more details on these measures and on their macroeconomic impact, see [Box 1.1](#) of [Chapter 1](#) of this report.

Chart 2.12

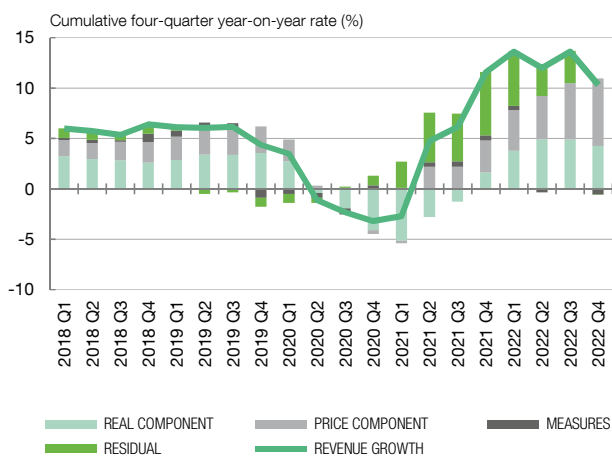
BOTH THE BUDGET DEFICIT AND PUBLIC DEBT REMAIN AT HIGH LEVELS, CREATING A SITUATION OF VULNERABILITY IN THE MEDIUM TERM

In the last two years, the general government deficit has declined by over 5 pp, but it remains 1.7 pp above the pre-pandemic level, while public debt has risen from 98.2% of GDP to 113.2%. At the same time, just over one-quarter of the growth in tax revenue in 2021 and 2022 cannot be explained by its usual determinants, with the attendant risk of these resources reversing in the future. For its part, primary public spending, adjusted for the cycle and for temporary measures, has increased significantly in recent years. This all points to a vulnerable public finances position in the medium term.

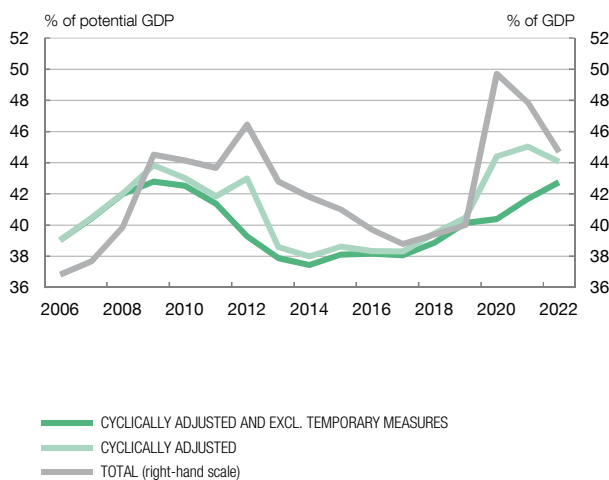
1 GENERAL GOVERNMENT FINANCIAL POSITION



2 CHANGES IN REVENUE FROM VAT, CORPORATE INCOME TAX, PERSONAL INCOME TAX AND SOCIAL SECURITY CONTRIBUTIONS (a)



3 CHANGES IN PRIMARY SPENDING (b)



SOURCE: Banco de España, drawing on data from IGAE, Agencia Tributaria and INE.

- a Update of the calculations presented in García-Miralles and Martínez Pagés (2023).
- b Excluding NGEU.



macroeconomic bases and the fiscal measures implemented. This is highlighted in a recent study by the Banco de España (García-Miralles and Martínez Pagés, 2023), which breaks down public revenue growth in recent years into the main explanatory factors. Specifically, this study underscores that price growth was responsible for nearly 47% of the increase observed in tax revenue in 2021-2022, owing mainly to the direct impact of inflation on

consumption taxes and to the lack of indexation of certain tax system parameters (see Chart 2.12.2).⁶² Meanwhile, 27% of the revenue increase in that period could not be explained by the models or the usual determinants of tax revenue, i.e. it would be a positive *residual*.

However, the impact of these factors on public finances will foreseeably become less favourable or even turn negative in the years ahead. For example, on the revenue side, both the Banco de España and the analysts' consensus forecast suggest that economic activity and prices will grow at appreciably lower rates in 2023-2025 than in 2022, which will bear adversely on the buoyancy of tax revenue in the years ahead. Indeed, public revenue already began to see a sharp slowdown in 2022 H2, and indirect taxes posted negative year-on-year rates by the end of the year. Moreover, although there is considerable uncertainty as to the nature and degree of persistence of the positive tax residuals detected for a large part of 2021 and 2022, the historical evidence suggests that part of these residuals may reverse over time, dampening tax revenue.⁶³ The Banco de España's estimates show that there were already certain negative tax residuals in 2022 Q4.

The upward impact of inflation on public spending occurs with some lag.⁶⁴ The specific features of some of these public expenditure items mean that the impact of the high rates of inflation was not fully reflected in 2022, and will become more visible over the coming years. For instance, Spanish pensions are indexed to the consumer price index (CPI) with a one-year lag. As regards the public debt interest burden, in 2022 these financing costs increased sharply as a result of the monetary policy tightening. However, this hike will only filter through gradually as new debt is issued. If the dynamics currently anticipated by the financial markets and the macroeconomic scenario envisaged by the Banco de España hold unchanged, debt interest expenditure as a percentage of GDP could increase from 2.4% in 2022 to 2.7% in 2025.

The estimates available show that Spain's budget deficit has a high structural component. According to the estimates in Spain's Stability Programme Update 2023-2026, the structural budget deficit was 3.6% of GDP in 2022, while the latest IMF estimates put it above 4% of GDP, which is significantly higher than the 3% of GDP estimated for 2019, before the outbreak of the pandemic.⁶⁵ In this respect, it should be noted that the deterioration forecast in the structural deficit between 2019 and 2023 is expected to be largely determined by the increase in structural primary expenditure observed in recent years, rather than by

62 Similar to the contribution observed in the period 2018-2019, before the outbreak of the pandemic.

63 In the Stability Programme Update 2023-2026 recently published by the Spanish authorities, reference is made to the structural nature of the sound performance of tax revenue. In this respect, if the projections of this report are fulfilled, most of the positive tax residuals observed in recent years would not reverse in the future.

64 For more details about the lags in the response of public spending and revenue to the increase in inflation, see [Hernández de Cos \(2022\)](#). As regards the ultimate impact of inflation on the general government budget balance, using the Quarterly Macroeconometric Model of the Banco de España (MTBE, by its Spanish abbreviation), an imported energy price shock (in line with that observed for a large part of 2021 and 2022) that pushes inflation up by 1% would lead to an estimated deterioration in the general government balance of 0.2 pp of GDP three years later. In other words, the effect of such a shock on the budget deficit over a medium-term horizon would be negative.

65 In the Banco de España's latest estimates, the structural deficit amounted to 3.9% in 2022.

temporary measures or by the economic cycle effect (see Chart 2.12.3). A significant portion of this increase appears to be related in particular to pension expenditure.

3.1.2 Public debt dynamics in the medium and long term

This section describes the possible paths of Spanish public debt over the coming decades under different scenarios. These paths are determined by drawing on various analytical tools developed by the Banco de España – within the framework of the broad economic literature dealing with public debt sustainability analysis – and a set of assumptions on the future macro-financial performance and fiscal policy of the Spanish economy. The debt dynamics obtained from these quantitative exercises are presented in the second part of this section. First, the implications that population ageing and the public pension system will have for the future course of the general government accounts are set out, as these implications are a central element to any sustainability analysis of public finances.

3.1.2.1 The role of the pension system

The far-reaching demographic changes under way in Spain will, in the coming decades, lead to a significant increase not only in spending on pensions, but also on health and long-term care. Since 2012, pension expenditure has risen by 26%, factoring in inflation and owing, almost in equal measure, to the increase in the number of pensions and in the real average pension. As a result, in 2022, pension expenditure represented 13.1% of GDP, up 1.6 pp on 2012. The coming decades will see the population ageing process accelerating strongly (for more details, see Section 2.2.3), further driving up the weight of this expenditure item. Different estimates of the size of this future increase in pension spending, which take into account the latest regulatory changes, are presented below. In any event, this will not be the only consequence of the demographic shift on public finances. AIREF's latest projections suggest that spending on health and long-term care will also trend upwards, by 2.3 pp and 1 pp, respectively, between 2019 and 2050.⁶⁶

In recent years Spain's public pension system has undergone a number of reforms. Thus, at the end of 2021, automatic indexation of pensions to the CPI was established and the sustainability factor introduced in 2013, which had sought to link initial pensions to life expectancy, was removed.⁶⁷ In parallel, new incentives to raise the retirement age were approved, transfers from the central government to the Social Security were increased, and a temporary and specific-purpose rise in social security contributions was introduced as part of a new intergenerational equity mechanism. In addition, a new contribution system under the

⁶⁶ The 2021 Ageing Report projects an increase in expenditure on health and long-term care of 1.4 pp and 0.5 pp of GDP, respectively, between 2019 and 2050.

⁶⁷ Law 21/2021 of 28 December 2021, guaranteeing the purchasing power of pensions and establishing other measures to strengthen the financial and social sustainability of the public pension system (only available in Spanish).

Special Regime for the Self-Employed was approved at end-July 2022, with a view to aligning the contribution bases for the self-employed with their net income.⁶⁸

In 2023, new measures have been adopted, mainly aimed at shoring up revenues from social security contributions.⁶⁹ Specifically, these measures include an increase in the maximum contribution base that exceeds that of growth in prices and in the maximum pension, along with a surcharge for wages exceeding the maximum contribution base. The contribution rate associated with the intergenerational equity mechanism, which has been extended until 2050, has also been raised. These revenue-raising measures have been complemented by additional changes aimed at bolstering the sufficiency and equity of pension benefits (by increasing minimum pensions and modifying the regulatory base calculation period) and bridging the gender gap in pensions.

Moreover, an automatic adjustment mechanism has been set up which envisages the adoption of fresh measures or, failing that, an additional increase in social security contributions should pension expenditure depart from the baseline path. This mechanism will be activated starting in March 2025 if pension expenditure exceeds 13.3% of GDP on average in the period 2022-2050, once the increase in revenues arising from the regulatory changes approved since 2020 has been factored in.⁷⁰ This new instrument once again provides an automatic adjustment tool –after the removal of that introduced in the 2013 reform– to bolster its financial sustainability.

Table 2.2 summarises the main regulatory changes approved for the Spanish pension system from 2021 to 2023, and provides various estimates of their potential impact, either on the revenue or on the expenditure side. The table presents the estimates made by the Banco de España, along with those recently published or used as benchmarks by other institutions (specifically, AIReF, the Ministry of Inclusion, Social Security and Migrations (MISSyM) and Fedea).⁷¹ The estimates refer to the impact of introducing each of the measures analysed, with all else being constant, on the pension system's expenditure or revenue in 2050, as a percentage of GDP. These estimates are subject to considerable uncertainty and

68 Royal Decree-Law 13/2022 of 26 July 2022, establishing a new contribution system for the self-employed and improving activity suspension benefits (only available in Spanish).

69 Royal Decree-Law 2/2023 of 16 March 2023, on urgent measures to enhance pension entitlements, bridge the gender gap and establish a new sustainability framework for the public pension system (only available in Spanish).

70 In particular, from March 2025 and every three years, AIReF must assess the average annual impact in the period 2022-2050 of the revenue-raising measures approved in 2020. If this assessment shows that the measures represent 1.7% of GDP, no fresh actions will be needed, provided that pension expenditure on average in 2022-2050 does not exceed the benchmark level (15% of GDP). This benchmark level will increase or decrease by the same percentage points as those by which the impact of the revenue-raising measures deviates from 1.7%. The pension expenditure path against which the benchmark will be compared will be that projected in the most recent Ageing Report. Should the level of pension spending exceed the benchmark, the Government must submit to the Toledo Pact Committee a proposal to correct the deviation, which may include revenue or expenditure measures, or both. If Parliament does not reach an agreement to approve corrective action, the social security contribution linked to the intergenerational equity mechanism will automatically increase, on 1 January of the following year, by the amount required to offset 20% of the deviation. It will continue to increase every year as required for a 20% annual correction, until new measures are adopted or the deviation is removed.

71 AIReF (2023), Escrivá (2023), Fuente (2023a) and Fuente (2023b).

Table 2.2

QUANTIFICATION OF THE MAIN MEASURES ADOPTED IN THE PENSION REFORM

Description of the measure	Percentage of GDP in 2050				Notes
	AIReF	MISSyM	Fedea	BdE	
A MEASURES – REVENUE PERSPECTIVE					
New contributions system for the selfemployed	0.5	0.4	0.8	0.5	Set transition period: 2023-2031.
Intergenerational equity mechanism	0.4	0.5	0.4	0.5	Duration: 2023-2050. Consists of an increase of 0.6 pp in the contributions for common contingencies in 2023. The rate rises by 0.1 pp each year until it reaches 1.2% in 2029, at which point it holds stable. The contributions will go to the Social Security Reserve Fund, from which payments can be made from 2033. The additional contributions broadly reflect the same firm-worker split established for the contributions for common contingencies.
Higher maximum contribution base	0.4	0.5	0.4	0.3	The maximum base will rise in line with the CPI plus 1.2 pp between 2024 and 2050. From 2051 it will only rise with the CPI.
Surcharge on wages above the maximum base	0.1	0.1	0.1	0.1	As of 2025. The surcharge follows a progressive scale with three steps. Rates vary between 0.92% and 1.17% in 2025 and will rise annually until they reach a minimum rate of 5.5% and a maximum of 7% in 2045. The minimum rate applies to wages between the maximum base plus 10%, while the maximum rate applies to compensation in excess of 50% above the maximum base. The firm-worker split for the surcharge is in line with the rate for contributions for common contingencies (83% for firms, 17% for the worker).
Automatic adjustment mechanism	—	—	—	—	In effect from 2026. The mechanism is activated if average pension expenditure between 2022 and 2050 minus income metrics measured from 2020 onwards (also calculated as an average over the period 2020-2050) exceed 13.3% of GDP. These figures shall be calculated every three years, beginning in March 2025. If the aforementioned condition is met, the Government must bring a proposal to the Toledo Pact Committee and Parliament to correct the deviation. If there is no agreement, the intergenerational equity mechanism will increase as much as is needed the next year to offset 20% of the deviation and will continue to rise each year to H19or until additional measures are put in place.
B MEASURES – EXPENDITURE PERSPECTIVE					
Indexing pensions to CPI	2.7	2.7 (a)	2.7 (a)	2.7 (a)	
Elimination of the sustainability factor	0.8	0.8 (a)	0.8 (a)	0.8 (a)	
Incentives for later retirement	-0.8	-1.5	-0.1	—	
New early retirement penalty scheme	0.0	0.0	0.0	0.0	The new scheme only has a relevant impact on workers who retire with the maximum pension possible, but clauses are in place to lessen the impact. First, new coefficients for these pensions come into force in 2024 and there is a ten-year transition period. During this decade, the penalty only rises gradually. Second, the increase in coefficients is only applied if the increase in the maximum pension is enough to absorb the rising reduction factors, "such that the pension does not fall below what would have been due under the regulations in force in 2021". Although this clause is somewhat open to interpretation, it seems to envisage that the new coefficients shall not be implemented if, when applied to the maximum pension each year, they result in a lower pension than would be due given the application of the coefficients currently in place on the maximum pension in 2021

SOURCES: AIReF (2023), Ministerio de Inclusión, Seguridad Social y Migraciones, Fuente (2023, 2023b) and Banco de España.

a 2021 Ageing Report.

Table 2.2

QUANTIFICATION OF THE MAIN MEASURES ADOPTED IN THE PENSION REFORM (cont'd)

Description of the measure	Percentage of GDP in 2050				Notes
	AIReF	MISSyM	Fedea	BdE	
B MEASURES – EXPENDITURE PERSPECTIVE					
Increase in pensions for the self-employed	–	–	0.7	–	Fedea is the only institution to have calculated the increased expenditure resulting from the rise in contributions from the self-employed. Note that, given the fact that the pension system provides more than one euro in pension payouts for each euro paid in, an increase in the contribution base entails an actuarial shortfall in the system. However, since this actuarial deficit comes into play in the long term, the measure will have a positive impact on net revenues for the first few decades of implementation.
Increase in the maximum pension	-0.4	0.1	0.1	0.0	The maximum pension will rise in line with the CPI plus 0.115 pp from 2024 to 2050. From 2050 to 2065 the amount in addition to the CPI will be higher in order to recover some of the gap resulting from changes to the maximum contribution base. According to AIReF, the measures cut pension spending because in their model's base scenario, maximum pensions scale with wages and, therefore, grow more quickly than if they rise with the CPI plus 0.115 pp.
Modification of the calculation period for the regulatory base	0.0	0.2	0.2	–	Transition period established for 2026-2043. From 2044 the calculation period for the regulatory base will be based on the last 29 years of contributions, excluding the worst 24 months. Between 2026 and 2040, the calculation period will be the best for the worker of the following options: the last 25 years of contributions and the combination of a span of more than 25 of the most recent years with the possibility of excluding a certain number of the worst months of contributions. Between 2041 and 2043 both options will be available, although the reference of the last 25 years of contributions will increase by 6 months each year and be compared with the result of taking the last 29 years and excluding the worst two years. Between 2023 and 2025 the current formula will remain in place, which looks at the 25 years of contributions prior to retirement.
Increase in minimum pensions	0.0	0.1	0,3 (b)	0.2	Transition period established for 2024-2026. From 2027 the minimum amount of benefits for pensioners over the age of 65 with dependants cannot be below the poverty threshold calculated for a household of two adults. For other contributory pensions, an increase has been established equivalent to half of that stipulated for the pensions previously discussed. For non-contributory pensions, the reference has been set at 75% of the poverty threshold of a single-person household.
Measures to reduce the gender gap	–	–	–	–	10% increase in the gender gap reduction supplement in pensions between 2024 and 2025, mainly aimed at women with children and improving integration of gaps in women's contributions

SOURCES: AIReF (2023), Ministerio de Inclusión, Seguridad Social y Migraciones, De la Fuente (2023a and 2023b) and Banco de España.

b Includes the increase in the gender gap reduction supplement.

should be reviewed on an ongoing basis as more information becomes available. Further details of the measures analysed and their potential impact are provided below:

- **CPI-indexed pensions and removal of the sustainability factor.** According to AIReF and the European Commission's *Ageing Report*⁷² estimates, indexing pensions to prices will increase pension expenditure by around 2.7 pp of GDP in 2050. Removing the sustainability factor will raise this expenditure item by some 0.8 pp of GDP.

⁷² AIReF (2023) and Ministry of Economic Affairs and Digital Transformation (2021).

- **Incentives to delay the age of retirement.** Estimating the impact of this measure is subject to an extraordinary degree of uncertainty, since it depends on the extent to which it effectively influences workers' decision to retire. No conclusive empirical evidence is as yet available in this regard. Reflecting this considerable uncertainty, AIReF presents scenarios in which the savings associated with this measure in 2050 oscillate within a very broad range, from 0.2 pp to slightly over 1.5 pp of GDP, under a baseline scenario of a reduction in spending of around 0.8 pp. The same is true for the scenarios envisaged by the MISSyM, which estimate savings in 2050 ranging from 0.6 pp to 1.6 pp of GDP, under a baseline scenario of a reduction in spending of 1.5 pp.⁷³

- **New contribution system for the self-employed.** According to Banco de España, AIReF and MISSyM estimates, the new system could raise revenues from social security contributions by some 0.4 pp or 0.5 pp of GDP in 2050, insofar as the contribution bases for this group of workers are aligned with their net income.⁷⁴ However, none of these institutions quantifies the impact that the new system could have in terms of expenditure, as a result of higher benefits on retirement. In this respect, Fedea's estimates suggest that the increase in expenditure in 2050 could be very similar to that of revenue.

- **An increase in the maximum contribution base that exceeds price growth, and a surcharge for wages exceeding the maximum contribution base.** Assuming inflation of 2%, the real increase in the maximum contribution base would be 22% in 2040 and 37.1% in 2050, while the additional charge for higher wages would range from a minimum of 0.92% in 2025 to a maximum of 7% in 2045. According to the Banco de España's estimates, overall, these measures would raise revenues from social security contributions by around 0.5 pp of GDP in 2050 (as much as 0.6 pp according to MISSyM calculations). In any case, it is important to underline that, although these measures shore up the pension system's resources, they also undermine the contributory principle for workers affected by the cap on the contribution base. A recent study by the Banco de España drawing on Continuous Sample of Working Histories (MCVL, by its Spanish abbreviation) data shows that the groups most frequently affected by capped contributions are men, middle-aged workers and employees in large corporations.⁷⁵

- **Intergenerational equity mechanism.** The contribution rate associated with this mechanism has been set at 0.6% in 2023 and will rise by 0.1 pp a year to reach 1.2 pp in 2029, holding at that level until 2050. The revenues raised by this measure are estimated at around 0.4 pp of GDP (according to AIReF) and some 0.5 pp of GDP (according to Banco de España estimates), once the contribution rate has reached 1.2%. These revenues

73 The key assumptions on which the scenarios of both institutions rest are the percentage of workers who decide to delay retirement to take advantage of the new incentives and the number of years by which retirement is delayed.

74 During the first three years of the transitional period established for the new system, the effect on revenues from social security contributions will be negligible, since the increase in the contribution rate of higher earners will be offset by the decrease in that of lower earners.

75 Anghel, Puente and Ramos (2023). Forthcoming.

will bolster the Social Security Reserve Fund, for which progressive limits on disbursements have been set from 2033.⁷⁶

- **Thresholds for minimum pensions, the recipients of which have dependants, and for non-contributory pension benefits.** From 2027, minimum pensions may not be less than 60% of the median income of a two-adult household, while non-contributory pension benefits must be 75% of the poverty threshold of a single-person household.⁷⁷ This measure is aimed at bolstering the sufficiency of the lowest benefits. According to the Banco de España's estimates, based on the current value of these thresholds, the projected increase would be around 12% for the minimum retirement pension, the recipient of which is aged over 65 and has a dependent spouse, 20% in the case of pensions for widow(er)s with dependants and 12% for non-contributory pensions. These measures could mean growth in pension expenditure of around 0.2 pp of GDP.⁷⁸
- **Change in the regulatory base calculation period.** This measure adds to the current formula (which takes into consideration the last 25 contribution years) the option of lengthening the calculation period, disregarding a specific number of lowest-contribution months. From 2044, the calculation period will take the last 29 contribution years, excluding the 24 worst contribution months, which will benefit the least stable contribution histories. Taking the 2019 MCVL data as reference, the Banco de España's estimates suggest that the formula ultimately adopted for the regulatory base calculation period could entail an increase in the average initial pension of 0.3%, compared with the current formula.⁷⁹

While subject to much uncertainty, an overall analysis of the main legislative changes to the Spanish pension system since 2021 suggests that it will foreseeably be necessary to adopt new measures from 2025 to shore up the system's financial sustainability. As mentioned earlier, estimating the impact that the various measures deployed in recent years may have on the Spanish pension system's revenue and expenditure over the coming decades is subject to an extraordinary degree of uncertainty. In any event, the wide range of estimates – by the Banco de España and other institutions – currently available suggest that, as a result of the legislative changes approved since 2021, the Spanish pension system will, in the long term, probably have to assume greater expenditure obligations, that are not fully offset by the revenues raised. In this setting, and in the framework of the recently established automatic adjustment mechanism, it may be necessary to adopt new measures from 2025 to strengthen the financial sustainability of

76 In 2033, disbursements from this Fund cannot exceed 0.1% of GDP. This limit will increase over time, to reach 0.91% of GDP in 2047, after which it will be reduced to 0.5% of GDP by 2053.

77 For other minimum contributory pensions, the increase is equal to half of that stipulated for minimum pensions whose recipients have dependants.

78 This estimate is based on 2021 MCVL microdata and on the amount of non-contributory pensions observed in 2023. Note that AIReF estimates a limited cost for this measure, as the projected growth of the minimum amounts and of non-contributory pensions would be consistent with that estimated by its projection model.

79 This calculation is based on the sample and methodology used in [Muñoz-Julve and Ramos \(2022\)](#).

the pension system.⁸⁰ However, it is important to underscore that the decision to activate this mechanism will depend, among other factors that are difficult to determine at present, on AIReF's formal assessment of the revenue-raising measures in March 2025 and the path of pension expenditure projected in the Ageing Report to be published in the spring of 2024.

A further source of uncertainty is the potential impact of the revenue-raising measures adopted in 2023 on employment, wages and the competitiveness of the Spanish economy. The estimates shown in Table 2.2 do not include the potential effect on employment, wages and the competitiveness of the Spanish economy of the higher labour costs stemming from some of the recently approved legislative changes. Quantifying these effects is complex and subject to great uncertainty. In this respect, the economic literature fails to provide conclusive evidence, for example, of the precise degree of elasticity with which aggregate employment could respond to an increase in social security contributions in the present circumstances.⁸¹ A simulation exercise conducted using the MTBE suggests that a 1 pp increase in the average effective rate of social security contributions⁸² could lead to a decrease of close to 0.25%⁸³ in employment after four years, which would represent a not insignificant downside risk to the (ex ante) revenue estimates shown in Table 2.2. However, other analyses point to appreciably different (including both upward and downward) elasticities.⁸⁴

The above considerations, especially bearing in mind the significance of the changes implemented, make an ongoing, transparent and thorough assessment of the magnitude of their effects advisable, including their impact on intergenerational equity. In particular, ex post analyses revealing the scope of the incentives to delay the retirement age would be desirable, given that these incentives are key to containing pension expenditure in the future. The possible effects of the increase in social security contributions on the labour market and Spanish firms' competitiveness should also be examined, since, as mentioned earlier, they may lower the impact on revenues estimated ex ante. Similarly, insofar as these increases will not give rise to enhanced pension entitlements, they will be implemented gradually (with an uneven impact across different cohorts and, in some cases, varying across the wage distribution), it might be desirable to analyse their effects in terms of redistribution and intergenerational equity, so as to make the system more transparent. Lastly, it is essential that changes in the level of benefits are monitored over time, particularly those in minimum and non-contributory pensions, in order to guarantee a sufficient economic level for all citizens in their old age.

80 From the perspective of the automatic adjustment mechanism, AIReF's most recent calculations regarding the revenue-raising measures estimate growth in Social Security resources of 1% of GDP on average between 2022 and 2050, while spending on pensions in AIReF's baseline scenario would rise to 15.1% of GDP on average during the same period. Under these circumstances, the automatic adjustment mechanism would be activated in order to correct a deviation of 0.8 pp of GDP.

81 For a meta-analysis of the impact of social security contributions on wages and employment, see [Melguizo and González-Páramo \(2013\)](#).

82 According to AIReF, the effective rate will rise to around 2.7 pp once the approved changes in social security contributions have been fully implemented (not including the automatic adjustment mechanism).

83 Similar estimates by AIReF produce similar results. See Box 2 in [AIReF \(2023\)](#).

84 For example, [Saez, Matsaganis and Tsakloglou \(2012\)](#), [Bennmarker, Mellander and Öckert \(2009\)](#), [Korkeamäki and Uusitalo \(2009\)](#), [Benito and Hernando \(2008\)](#) and [Boscá, Doménech and Ferri \(2009\)](#).

Finally, it is important to note that, in parallel with the reform of the public pension system, a number of measures have been adopted in recent years to boost occupational pension schemes, to the detriment of the incentives associated with individual pension schemes.⁸⁵ These measures notably include the creation of public occupational pension funds, the setting up of mechanisms - through collective bargaining - to increase the share of the population covered by occupational schemes, the introduction of tax incentives to encourage this type of collective instrument, and the simultaneous reduction of incentives associated with individual pension schemes.⁸⁶ According to a recent report,⁸⁷ this relative cutback on tax incentives for individual schemes and, in particular, the lowering of the limit on contributions which reduces the personal income tax base, places Spain among the EU countries with the least favourable fiscal framework regarding these schemes. This might explain, at least in part, the significant decline in contributions to individual schemes observed since 2020. Specifically, in 2022, contributions to the individual system are estimated to have fallen by 60.4% compared with 2020, whereas contributions to occupational schemes decreased by 6.4%. Thus, overall contributions to private pension systems are estimated to have declined by 48.5% in that period. Looking ahead, it is essential to assess the extent to which these developments are temporary or permanent, and to analyse whether the regulation of the different pensions schemes needs to be adapted. All this, to protect the important role that private savings can play as a supplement to the benefits offered by the pay-as-you-go public pension system, in addressing the future challenges posed by population ageing.

3.1.2.2 The future path of public debt under different scenarios

The Banco de España has developed several analytical tools that help determine the future path of the public debt ratio under different fiscal policy and macro-financial assumptions. In these models, public debt dynamics in the medium and long term, in general terms, stem from the future behaviour assumed for a series of key variables (including the real GDP growth rate, inflation and public debt financing costs) and the numerous interconnections between them.⁸⁸ For a fuller characterisation of these dynamics, the models described in a recent Banco de España study explicitly include the uncertainty regarding future macro-financial developments over the simulation horizon. To this end, recent empirical evidence is

85 [Law 12/2022 of 30 June 2022, regulating incentives for occupational pension schemes, amending the consolidated text of the Law regulating pension schemes and pension funds, enacted by Royal Legislative Decree 1/2002 of 29 November 2002](#) (only available in Spanish).

86 The personal income tax reductions for contributions and payments made to pension schemes, non-profit insurance institutions, assured pensions schemes, occupational pension schemes and private insurance plans exclusively covering the risks of severe or extreme dependency have a ceiling that is calculated as the lower of: 30% of the sum of net salary income and net income from economic activities or a fixed amount. This amount was set at €8,000 until 2020. In 2021, it was reduced to €2,000 with the option of a €8,000 increase provided it came from employer contributions. In 2022, the amount was reduced to €1,500 with the option of a €8,500 increase in the form of employer or employee contributions to the same pension scheme for an amount equal to or lower than an amount determined on the basis of the respective employer contribution.

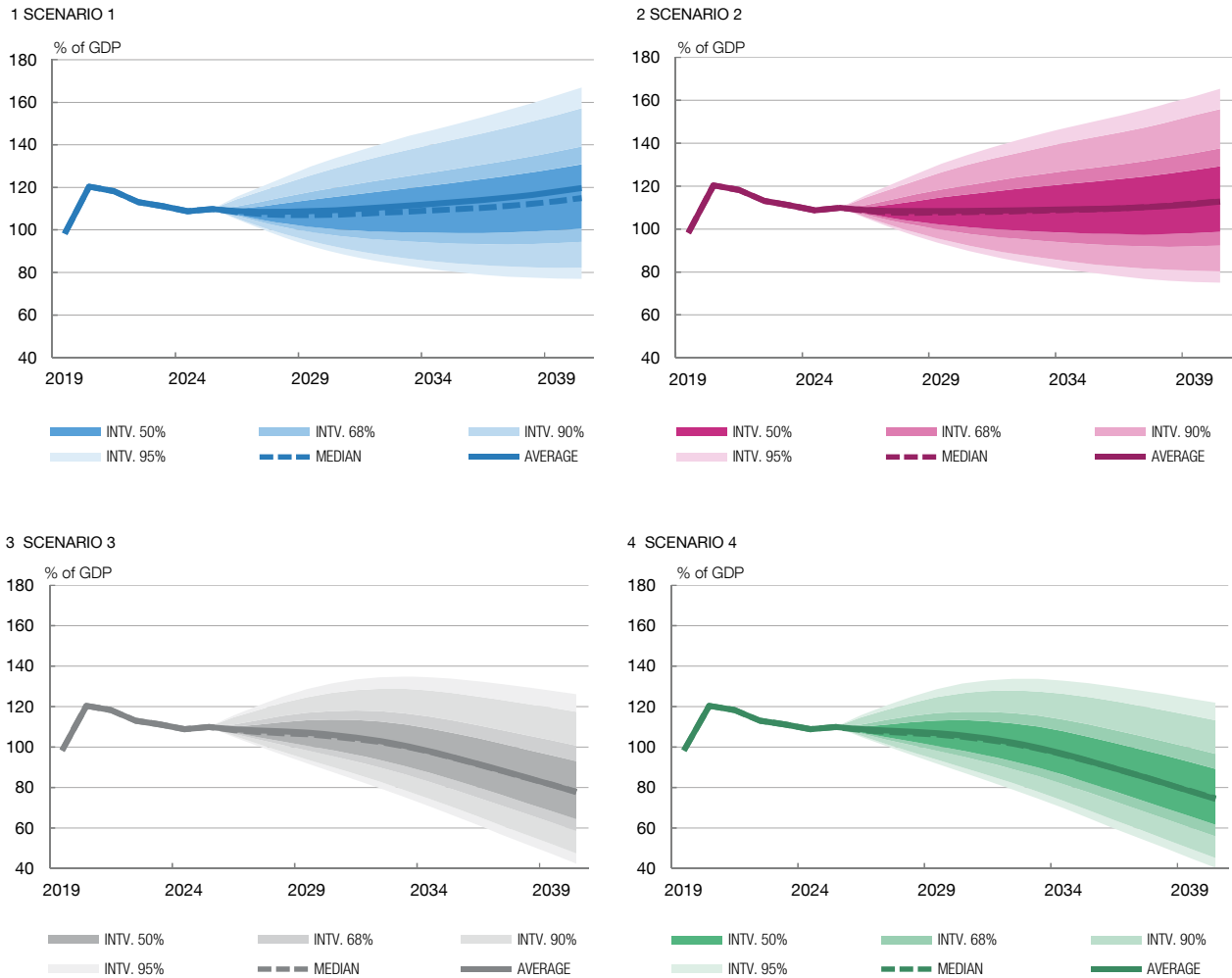
87 [Instituto de Estudios Económicos \(2022\)](#).

88 For example, [Hernández de Cos, López Rodríguez and Pérez \(2018\)](#).

Chart 2.13

PUBLIC DEBT WILL MOVE ON AN UPWARD PATH UNLESS A FISCAL CONSOLIDATION PLAN IS IMPLEMENTED (a)

Given the uncertainty surrounding the macro-financial environment, the current vulnerability of public finances and the projected future costs arising from population ageing would place the public debt ratio on an upward path at the end of the simulation horizon. An ambitious consolidation plan could bring it back to more sustainable levels.



SOURCES: INE, AIReF and Banco de España.

a All the scenarios include a deterioration in the structural primary balance up to 2040 owing to ageing costs (pensions, health and long-term care). Scenario 1 assumes a fiscal policy that makes a consolidation effort consistent with the new measures contained in the 2023 reform of the pension system, but without considering activation of the automatic mechanism for raising revenue from social security contributions aimed at correcting deviations in pension spending. Scenario 2 is based on the former, but does envisage activation of the automatic mechanism. Alternatively, scenario 3 assumes a fiscal policy that makes a further adjustment to the structural primary balance of 0.5 pp of potential GDP each year, until structural balance equilibrium is reached. Scenario 4 modifies scenario 3 with long-term potential GDP growth of 1.9% (instead of 1.4% as assumed in all the other scenarios).



used to gauge the scale and recurrence of possible shocks which may, in the future, affect the main variables that have a bearing on public debt paths.⁸⁹

In the coming years, public debt will remain very close to or even exceed current levels, unless an ambitious budgetary consolidation plan is implemented. According to the

89 Alloza, Martínez-Pagés and Varotto (2023).

simulations conducted by the Banco de España, a failure to make fiscal adjustments in Spain or to activate the pension system's recently approved automatic adjustment mechanism (which provides for the adoption of new measures or an increase in social security contributions when pension expenditure departs from the baseline path) in the coming years, would lead to a continued rise in the public debt-to-GDP ratio, to around 120% by 2040 (scenario 1; see Chart 2.13.1). Indeed, under such a scenario, at the end of the simulation horizon, Spanish public debt would exceed 98% of GDP (the level posted in 2019, before the outbreak of the pandemic), with 80% probability. In an alternative scenario, in which no fiscal adjustments are made, but in which the automatic adjustment mechanism introduced in the latest reform of the pension system is activated, public debt would hold relatively stable in the coming years, albeit at comparatively very high levels, but would resume an upward path at the end of the simulation horizon (scenario 2; see Chart 2.13.2).⁹⁰

The sustainability of Spain's public finances would be significantly bolstered in the coming years if a fiscal consolidation plan and an ambitious package of structural reforms are implemented. Indeed, if, for example, the Spanish economy were to reduce its structural primary deficit by 0.5 pp of GDP in annual average terms,⁹¹ the public debt ratio would move on a downward path in the medium term and could fall to 78% of GDP by 2040 (scenario 3; see Chart 2.13.3). Moreover, should this fiscal consolidation effort be accompanied by a structural reform plan resulting in greater potential output growth, the public debt ratio would decline further, to close to 74% of GDP by 2040 (scenario 4; see Chart 2.13.4). In this scenario, even factoring in the uncertain macro-financial environment, the Spanish public debt ratio would stand below 98% of GDP in 2040, with a probability of more than 85%.

3.1.3 The much-needed fiscal consolidation plan

The Spanish economy must embark in 2023 on a fiscal consolidation process that gradually reduces the structural deficit in its public finances. The short, medium and long-term outlook of Spain's public finances (described in earlier subsections) is characterised by persistently very high levels of public debt. This leaves less fiscal space in the event of possible future adverse macro-financial shocks and represents a considerable source of vulnerability for the Spanish economy. This vulnerability could prove particularly troubling in the current situation, given the intense process of monetary policy tightening, the emerging tensions in the financial markets and the enormous and persistent degree of uncertainty surrounding both the global economic scenario and the geopolitical environment. The Stability Programme Update projects a reduction in the structural budget deficit of 0.2 pp of GDP in 2023.

90 In these scenarios, as mentioned earlier, there is considerable uncertainty as to the possible impact of the revenue-raising measures adopted in 2023 on employment, wages and the competitiveness of the Spanish economy.

91 This scenario considers fiscal consolidation of 0.5 pp up to 2034, when the structural primary balance would reach an equilibrium. By way of comparison, the Stability Programme Update 2023-2026 recently published by the Spanish authorities considers a reduction in the Spanish economy's primary structural balance of 1.6 pp of GDP in cumulative terms between 2022 and 2026, to reach a positive primary structural balance in 2026.

In the short term, the roll-out of the NGEU European funds could soften the impact of the economic slowdown that might be triggered by the start of the fiscal consolidation process. The way in which the European authorities have designed the NGEU programme means that Member States' use of the funds it provides does not entail an increase in their current budget deficits. However, depending on how the funds are allocated, the programme could stimulate activity in the short term, in addition to its capacity to boost the economy's growth potential in the medium and long term. In particular, according to the Banco de España's latest projections, the roll-out of the NGEU programme in Spain could make a contribution of 0.6 pp to GDP growth in 2023. This fiscal impulse would more than offset the negative impact on activity in 2023 of beginning to gradually reduce the structural budget deficit.

Embarking on a gradual process of bolstering public finances could be compatible with maintaining some of the tax support measures in place for the more vulnerable groups. In recent quarters, the Banco de España, the ECB and other international institutions have argued that in order to address rising inflation and the energy crisis, it was important to avoid an across-the-board fiscal impulse which might amplify the already high inflationary pressures. They also argued that it was desirable for the measures deployed by the authorities to be temporary, targeted at the most vulnerable groups and to avoid significant skewing of price signals or of economic agents' incentives, for example, with a view to consuming less energy. More recently, as energy prices have dropped significantly and economic activity has proved remarkably resilient, it would be advisable to start rolling back the various measures deployed, promptly and in a concerted manner. Given that the bulk of these measures were, in fact, relatively widespread, they could be withdrawn and substantial tax savings obtained, even if certain initiatives targeted at the most vulnerable households and firms were introduced or maintained. A recent study by the Banco de España ([García-Miralles, 2023](#)) shows how this two-fold objective could be achieved in the case of the Spanish economy.

Aside from the fiscal policy stance adopted in 2023, on a broader time scale, a multi-year fiscal consolidation plan will have to be designed and implemented. It would be desirable for such a plan, in which all tiers of government should participate, to be underpinned by a prudent macroeconomic forecast and to detail the revenue and expenditure measures that will enable the gradual restructuring of public finances. This would not only strengthen the sustainability of public finances, but would also boost confidence and certainty about economic policies. The Stability Programme Update projects a reduction in the total structural balance of 1.1 pp of GDP in cumulative terms between 2022 and 2026, which rises to 1.6 pp in terms of the structural primary balance. This, together with the cyclical improvement expected by the Government, would place the budget deficit at 2.5% of GDP in 2026 (3% in 2024) and public debt at 108% of GDP in 2025.

The following considerations on public expenditure and revenue could serve as a guide for designing this consolidation strategy. The challenge of the strategy of gradually reducing the structural budget deficit lies in combining the comprehensive review of the efficiency of public spending with that of the tax system. For more details about these aspects,

in addition to those mentioned in the previous section on the pension system's revenue and expenditure, see [Chapter 2 of the Banco de España Annual Report 2021](#) and [Hernández de Cos \(2022\)](#).

On the expenditure side:

- **It is essential to identify the budget items where expenditure efficiency can be enhanced.** In this respect, it would be desirable to continue pressing forward with the explicit inclusion of some of the recommendations made by AIReF in recent years regarding the possibility of improving the efficiency of key expenditure items, such as active labour market policies, subsidies, tax relief, hospital expenditure and hiring incentives.⁹²
- **The distribution of public expenditure between items must be optimised in order to promote more robust and equitable economic growth.** It should be noted that spending on education, health and government investment - budget items that are essential to drive economic growth and reduce inequality - has consistently accounted for a lower share in Spain than in the EU overall in recent years.⁹³

On the revenue side:

- **A comprehensive review of the Spanish tax system is needed to assess whether, overall, the different taxes meet their goals in the most efficient and effective manner possible.** A useful starting point for this analysis is the [White Paper for the Reform of the Tax System](#), published in March 2022, which presents an in-depth diagnosis of the Spanish tax system and proposes a raft of measures for a future tax reform.
- **It might be appropriate, for reasons of efficiency and equity,⁹⁴ to shift the burden of taxation under the Spanish tax system from income to consumption, which is relatively low in Spain compared with other European economies.⁹⁵** The distributive effects of this strategy could be neutralised by means of various compensatory measures for the most vulnerable groups, for example, through adjustments in personal income tax or different transfer schemes.
- **The significant cost associated with the consumption tax relief measures - some €53 billion in 2022 - should be reviewed to determine whether they effectively and efficiently meet their initial goals.** The distributive effects of a potential reduction in

92 For these recommendations, see AIReF's [Spending Review](#). For the Government's follow-up of these recommendations, see [Informe de seguimiento de las recomendaciones de los Spending Reviews](#).

93 Public spending on education in Spain has accounted for 4.2% of GDP on average in the last decade, 0.6 pp below the EU average (0.8 pp, not taking into account the period affected by the pandemic). Government investment expenditure in Spain stood at around 2.4% of GDP during the same period, 0.7 pp below the European average.

94 For example, [Correia \(2010\)](#) and [Nguyen, Onnis and Rossi \(2021\)](#).

95 In the last ten years, on average, revenue from taxes such as VAT and other similar taxes has been 0.8 pp lower in Spain than that of the weighted average of the EU, and up to 1.5 pp lower when compared with the arithmetic mean of this group of countries.

these tax benefits could also be offset through different fiscal strategies targeted at the most vulnerable population groups.⁹⁶

- **The ambitious climate goals Spain has assumed point to the need to strengthen and raise green taxes in Spain, which consistently raise a lower share of revenue than other European economies.**⁹⁷ Green taxation, coordinated at the international level, is an efficient mechanism for reducing the negative effects associated with climate change and incentivising the green transition. As above, increasing green taxes should be accompanied by compensatory measures – some predominantly temporary – to mitigate the effects of this policy on certain groups of households and firms that are particularly exposed to the effects of the green transition.⁹⁸
- **The growing digitalisation and globalisation of economic activity require furthering the international coordination and harmonisation of taxation.** This is the surest means of preventing any erosion of tax bases and Spain’s economic competitiveness.

In any event, aside from these budgetary considerations, it is important to underscore that economic growth is key to any consolidation process. Any fiscal adjustment plan that seeks to bolster the sustainability of public finances in the coming years would need to be complemented by the implementation of an ambitious package of structural reforms - to reduce some of the shortcomings consistently shown by the Spanish economy in recent decades (see Section 2) - and the careful selection of investment projects to be funded by the NGEU programme (see Chart 2.13.4 and [Cuadrado, Izquierdo, Montero, Moral-Benito and Quintana, 2022](#)).

3.1.4 Reform of the European fiscal rules and governance framework

There is broad consensus on the need to reform the EU’s fiscal governance framework, a key element of the European institutional architecture. A fiscal rule framework that strengthens the sustainability of public finances is essential to ensure macroeconomic stability and the smooth functioning of the euro area. However, Europe’s current institutional infrastructure has many shortcomings in this area, and the repeated attempts to address them in recent decades have resulted in a complex and procyclical set of rules that has failed to prevent the build-up of fiscal and macroeconomic imbalances and does not provide many incentives for compliance.⁹⁹

⁹⁶ Both the AIReF’s *Spending Review* and the *White Paper for the Reform of the Tax System* (only available in Spanish) point to the inefficiency and high cost of a redistributive policy based on the widespread use of reduced and super-reduced rates of VAT. In this respect, a flat rate of VAT, combined with transfers or negative personal income taxes for lower-income households, would enable the same distributive goals to be achieved more efficiently.

⁹⁷ Over the past two decades, when compared with the arithmetic mean of the EU-27, Spain’s environmental revenue gap has remained stable at around 1 pp ([Banco de España, 2022a](#)).

⁹⁸ [Basso, Dimakou and Pidkuyko \(2023b\)](#).

⁹⁹ [Alloza, Andrés, Burriel, Kataryniuk, Pérez and Vega \(2021\)](#).

On 26 April 2023, the European Commission (EC) published a legislative proposal for the reform of this fiscal governance framework.¹⁰⁰ The cornerstone of the EC's proposal – prior to its final adoption by the Council of the EU – is to forge consensus with Member States around multi-year budgetary plans that are mainly targeted at ensuring that public debt ratios are placed on a downward path or stay at prudent levels.¹⁰¹ Within this framework, centred on medium-term fiscal sustainability, the EC proposes that the fiscal commitments undertaken through the introduction of an expenditure rule are implemented. The main purpose of this rule would be to set limits on expenditure in boom periods, to build up fiscal buffers for use in crisis periods. This rule would be complemented by safeguards¹⁰² vis-à-vis public debt trajectories and public expenditure growth as a percentage of potential GDP. The EC also proposes that the four-year period for which the fiscal adjustment plans would be agreed with Member States to ensure that their public debt stays on a downward path could be extended by up to an additional three years if they undertake structural reforms and public investment that have a positive impact on potential growth and improve debt sustainability.

The EC's proposal is an essential step towards completing the review of the current European fiscal rule framework. Certain aspects of the EC proposal should be viewed favourably, such as the fact that it centres the debate on debt sustainability, proposes an expenditure rule as a key adjustment instrument given that expenditure is the main variable controlled by the fiscal authorities, considers – through longer adjustment periods – the need to undertake sizeable investments in the coming years to move ahead, for example, with the economy's green and digital transition, and provides for greater cross-country heterogeneity both in terms of countries' goals and the design of their fiscal consolidation paths. Another welcome aspect of the proposal is that it includes the need for national independent fiscal institutions to assess the suitability of the measures adopted and envisaged vis-à-vis the objectives set in the agreed fiscal adjustment programmes.

However, the EC's proposal also raises some questions. Although it addresses positive aspects such as the strengthening of countries' accountability for complying with the fiscal rules and a review of financial sanctions,¹⁰³ the new framework also needs to include a better defined system of incentives to mitigate the procyclical behaviour of public finances and boost the pace of consolidation during boom periods. Also, the EC's proposal may be largely ineffective in significantly reducing the extreme complexity of the current fiscal rules. Indeed, the practical application of debt sustainability analyses, for the purpose of informing fiscal policy decisions, is a remarkably complex task.¹⁰⁴ Moreover, there are aspects of the EC

100 [European Commission \(2022b\)](#).

101 In this setting, the EC maintains a public debt-to-GDP reference value of 60% and continues to consider it necessary for the budget deficit to remain below the 3% reference value in the medium term.

102 These safeguards include: (1) ensuring that the adjustment effort is not postponed until the end of the trajectory; (2) that the public debt-to-GDP ratio at the end of the period covered by the adjustment path is lower than that of the year prior to the start of the adjustment path; and (3) that Member States' net expenditure growth is maintained below potential GDP growth over the medium term for the period covered by the path, in line with the current expenditure rule.

103 The legislative proposal discards the reputational sanctions included in the EC's initial proposal, announced in the November 2022 press release, and redefines the fines to increase the incentives for compliance, removing the minimum amount and proposing that they accumulate every six months until effective action is taken, up to a maximum of 0.5% of GDP.

104 See, for example, [Heimberger \(2023\)](#).

proposal that are not sufficiently detailed, such as the technical criteria that Member States must meet to obtain the three-year extension of their adjustment period.

In any event, beyond this review of the fiscal rules (which should result in the adoption of a new framework in the coming months), there is considerable scope for improvement to continue strengthening Europe's institutional infrastructure and economic governance. For instance, among other measures, it would be desirable to create a common European financing instrument that includes the investments required to meet common goals, for example, in the green and digital transitions.¹⁰⁵ It would also be desirable to establish a permanent European unemployment insurance system and central fiscal capacity. Along these lines, some of the initiatives adopted during the pandemic, such as the temporary Support to mitigate Unemployment Risks in an Emergency (SURE) programme, could be expanded.¹⁰⁶ The time frame for the NGEU programme could also be reviewed, to reduce the risk that some of the investment necessary for digitalisation, the fight against climate change and for the EU's Open Strategic Autonomy¹⁰⁷ may not be completed. And this without forgetting the important progress still needed to complete the banking union and the capital markets union.

3.2 Household vulnerabilities

Focusing on the differential impact of economic developments on different population groups is crucial. The main macroeconomic aggregates often conceal considerable heterogeneity in how their dynamics affect different types of households and firms. There is ample evidence in the academic literature indicating that, depending on their scale and persistence, these differences may ultimately have significant overall implications. For example, insofar as they involve the build-up of vulnerabilities in certain population groups and a high level of inequality, some macro-financial developments could undermine social cohesion and foment social conflict, with adverse repercussions for investment security,¹⁰⁸ the incentive to work and opportunities for future generations.¹⁰⁹

In recent years, the Banco de España has very actively contributed to identifying these differential impacts in the Spanish economy. Drawing on analysis of highly granular datasets, the Bank has published papers and articles on, among others, the following matters:

105 See, for example, [Bianchi, Melosi and Rogantini Picco \(2022\)](#).

106 See [Alonso \(2023\)](#) and [Burriel, Kataryniuk and Pérez \(2022\)](#) for an analysis of the benefits of this programme, both in terms of macroeconomic stability and interest savings for public finances.

107 For more details about the various initiatives undertaken by the EU in recent years to strengthen its Open Strategic Autonomy in response to the increasing risks of trade and financial fragmentation globally, see [Ioannou and Pérez \(2023\)](#).

108 See, for example, [Grossman \(1991\)](#) and [Dijkstra, Poelman and Rodríguez-Pose \(2020\)](#).

109 See, among others, [Persson and Tabellini \(1994\)](#), [Alesina and Rodrik \(1994\)](#) and [Corak \(2013\)](#).

From a more conjunctural perspective¹¹⁰

- In the current inflationary setting, the particularly heterogeneous exposure of different types of households to soaring energy and food prices.
- The potential increase in certain households' financial vulnerability as a result of the sharp rises in interest rates in recent quarters.
- The role that some of these measures could play in mitigating these vulnerabilities, e.g. in the case of the new Code of Good Practice for mortgages under [Royal Decree-Law 19/2022](#) and the €200 grant adopted under [Royal Decree-Law 20/2022](#).

From a more structural perspective¹¹¹

- The quantification – using different metrics – of economic inequality and poverty in Spain, and changes therein.
- Depopulation in certain geographical areas of Spain and its causes.
- The risks of financial exclusion faced by certain groups amid the increasing digitalisation of financial services.
- Heterogeneous credit risk developments across households, depending on their debt ratios and type of debt.
- The highly asymmetric exposure of different types of households to global warming and the green transition.

The aforementioned papers and articles have documented, inter alia, certain pockets of social, economic and financial vulnerability in Spanish households, which appear to be especially concentrated on those with lower incomes. In this regard, some of the most commonly used measures of inequality – such as wage inequality, income inequality and relative poverty – have followed a similar pattern in recent years. These indicators rose very significantly after the global financial crisis and then started to fall gradually from 2014. Although the decline reversed sharply with the outbreak of the pandemic, the indicators resumed a downward path in 2021 and 2022, mainly as a result of the recent buoyancy of activity and employment and the various initiatives deployed by the authorities (see Charts 2.14.1 and 2.14.2). Broadly speaking, these indicators currently remain close to their pre-pandemic levels, which, in turn, were higher than before the global financial crisis.

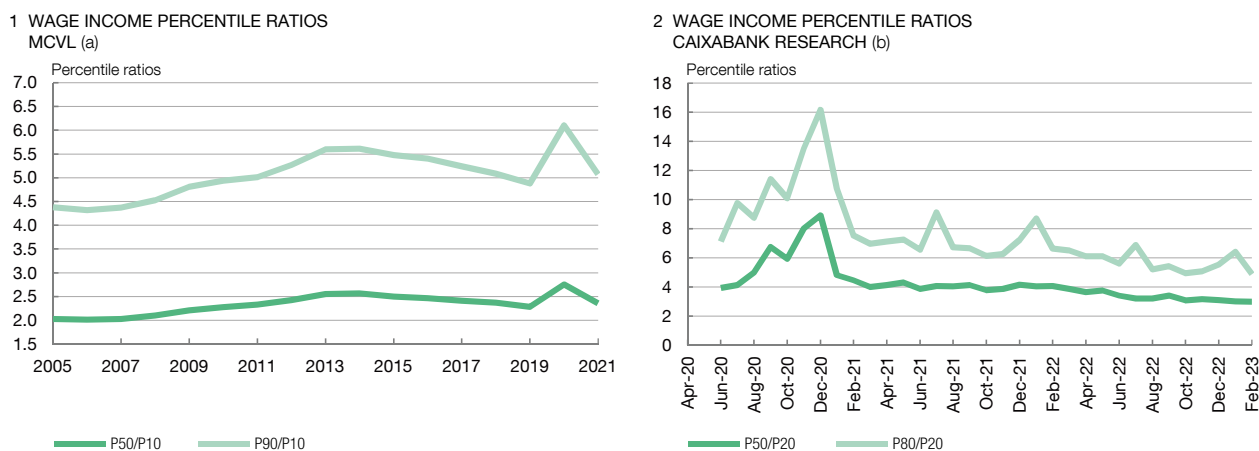
110 For further details, see Chapters 3 and 4 of this *Annual Report*. See also [Barceló, Villanueva and Vozmediano \(2021\)](#), [Basso, Dimakou and Pidkuyko \(2023a\)](#), [García-Miralles \(2023\)](#) and the special feature in the [Banco de España's *Financial Stability Report \(2023b\)*](#).

111 See, for example, [Alonso, Gutiérrez, Moral-Benito, Posada, Tello-Casas and Trucharte \(2022\)](#), [Anghel et al. \(2018\)](#), [Crespo, El Amrani, Gento and Villanueva \(2023\)](#) and [Basso, Dimakou and Pidkuyko \(2023b\)](#).

Chart 2.14

WAGE INEQUALITY INDICATORS

The COVID-19 pandemic changed the pattern of wage inequality in Spain, which had followed a downward path since 2014. The positive performance of employment in 2021 and 2022 brought it down quickly, although it remains higher than before the global financial crisis.



SOURCE: Banco de España calculations, drawing on Ministerio de Inclusión, Seguridad Social y Migraciones (MCVL) microdata and CaixaBank Research internal data.

- a Ratios between two percentiles of the daily wage income distribution, including ERTes.
- b Ratios between two percentiles of the income distribution, after public-sector transfer payments.



The root cause of these vulnerabilities varies significantly and mitigating their effects requires that government measures be put in place in very different areas. These areas include regulation (of the labour and housing markets, among others), taxation, public services (e.g. education and health care) and income policies and transfers. All these tools are capable of impacting income inequality levels in the economy and the vulnerabilities to which certain households are exposed, even though they act at different stages of economic activity, and may have very different implications in terms of equity and efficiency.¹¹²

It also requires an ongoing and thorough assessment of the capacity of these measures to attain the proposed goals and their implications in terms of equity and efficiency. For instance, according to AIReF (2022), the minimum living income (MLI) has so far only achieved a fraction of its potential. Specifically, AIReF considers that 700,000 households (excluding the Basque Country and Navarre) could benefit from the MLI. However, on the latest available information (for end-2021), only 40% of potential beneficiaries had received the MLI and only 56% of its budget had been executed. This non-take-up¹¹³ is precisely one of the factors being assessed as part of the social inclusion pathway projects envisaged under the agreements

¹¹² For an analysis of these policies and the stage of the economic process at which they act, see [Rodrik and Stantcheva \(2021\)](#).

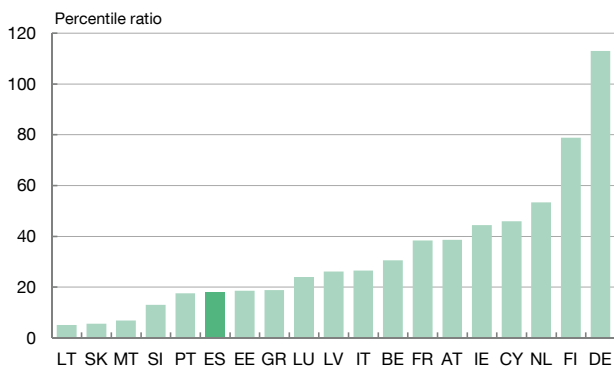
¹¹³ Non-take-up is defined as the ratio of the number of potential benefit recipients that do not receive it to the total number of potential beneficiaries. Analysis of non-take-up should be conducted from two complementary perspectives: a policy perspective, which seeks to improve the mechanisms and understand the reasons why people who should be beneficiaries are not; and a technical perspective, which seeks to enhance the information sources used to estimate the potential beneficiaries and to quantify the final beneficiaries. The report of the United Nations Special Rapporteur on extreme poverty and human rights, presented at the end of June 2022 in Geneva, indicates that, globally, the most common causes of non-take-up in the context of minimum incomes are a lack of awareness of benefits and of information about how to apply (the most common cause in Europe) and stigmatisation.

Chart 2.15

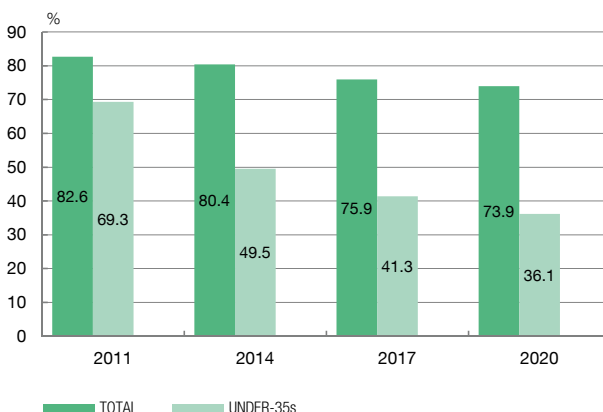
WEALTH INEQUALITY AND HOUSING AFFORDABILITY

By international standards, Spain has a moderate level of wealth inequality, which is associated with more widespread ownership of real assets. The fall in the owner-occupancy rate since 2014 has contributed to increasing inequality. In 2021, 48.9% of Spanish households living in rented housing were at risk of poverty or of social exclusion and 40.9% spent more than 40% of their disposable income on housing.

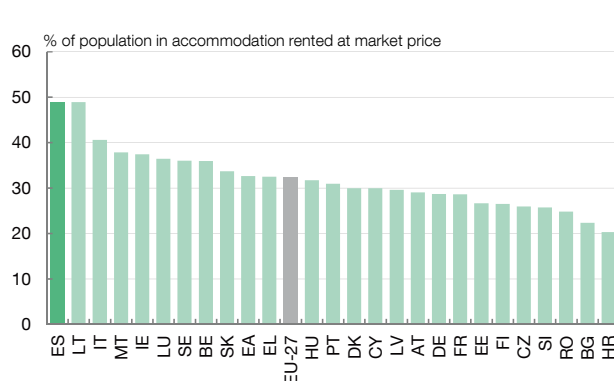
1 P80/P20 NET WEALTH RATIO. EURO AREA COUNTRIES



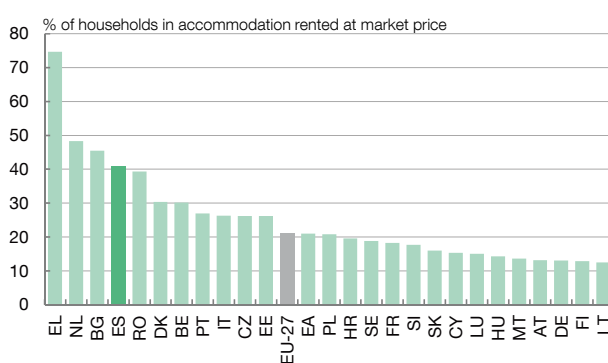
2 OWNER-OCCUPANCY RATE



3 POPULATION AT RISK OF POVERTY OR SOCIAL EXCLUSION



4 HOUSEHOLDS SPENDING OVER 40% OF THEIR DISPOSABLE INCOME ON HOUSING



SOURCES: ECB (HFCS), Banco de España (EFF 2020) and Eurostat (EU-SILC 2021).

a AT: Austria; BE: Belgium; BG: Bulgaria; CY: Cyprus; CZ: Czech Republic; DE: Germany; DK: Denmark; EE: Estonia; EL: Greece; ES: Spain; FI: Finland; FR: France; HR: Croatia; HU: Hungary; IE: Ireland; LT: Lithuania; LU: Luxembourg; LV: Latvia; MT: Malta; NL: Netherlands; PL: Poland; PT: Portugal; RO: Romania; SE: Sweden; SI: Slovenia; SK: Slovakia; EU-27: European Union.



between the Ministry of Inclusion, Social Security and Migration and the Fundación Centro de Estudios Monetarios y Financieros.¹¹⁴ Among other assessments, a thorough analysis of the effectiveness of the incentives to work included in the MLI would also be desirable.¹¹⁵

114 Non-take-up is not exclusive to the MLI, but is rather prevalent in this type of policy. For instance, in 2015 and 2016, 64% of eligible households submitted applications for the viable forbearance of principal residence mortgages under the Code of Good Practice proposed in [Royal Decree-Law 6/2012](#), with 35% actually benefiting from it. In the same vein, according to data from Fundación Foessa's [Survey on Social Needs and Integration](#), conducted between mid-March and end-May 2021, less than 9% of Spanish households were aware of the different extraordinary housing-related measures adopted in response to the outbreak of the health crisis and around 2% had applied for one or more of the measures.

115 [Rica and Gorjón \(2019\)](#) assess a minimum income scheme (similar to the MLI) implemented in the Basque Country and find that on average it did not delay the beneficiaries' entry into the labour market, although the impact varied across demographic groups. They document a delayed entry into the labour market for low-skilled and younger beneficiaries, but a swifter entry among medium and high-skilled individuals and the over-45s.

Specifically, to avoid potentially discouraging labour supply, the regulations implementing the MLI establish a mechanism whereby a portion of any increase in the beneficiaries' income resulting from finding work would not lower the amount of the supplement during two years.¹¹⁶ However, the time component of this exemption and the very complexity of the proposed mechanism could mean that these exceptions prevent the pursued degree of labour market insertion from being achieved.

Housing affordability, which has tightened in recent years, for both home ownership and rentals, is one domain in which particular vulnerability is observed. Housing market developments have a highly pronounced impact on vulnerability and inequality levels. For instance, there is evidence that a high owner-occupancy rate tends to reduce wealth inequality. The latest available data from the [European Household Finance and Consumption Survey](#) show that, by international standards, Spain had a moderate level of wealth inequality in 2017. This was mainly because ownership of real assets – particularly the principal residence – was more widespread in Spain than in other European economies (see Chart 2.15.1). However, the sharp fall in the owner-occupancy rate in Spain since 2014, especially among young adults (see Chart 2.15.2), has contributed to driving up wealth inequality in the country in recent years.¹¹⁷

Steep rents (when compared with labour income) increase the proportion of the population at risk of social exclusion and of households whose ability to spend on other goods and services is constrained. In 2021, 48.9% of Spanish households living in rented housing were at risk of poverty or of social exclusion, the highest percentage in the EU (see Chart 2.15.3). Meanwhile, 40.9% spent more than 40% of their disposable income on housing, compared with 21.2% on average in the EU (see Chart 2.15.4), a circumstance that particularly affected lower-income households.

In light of this, the following section gives an overview of rental market developments in Spain in recent years and some of the measures deployed by the authorities in this arena.

3.2.1 The residential rental housing market in recent years

The residential rental housing market in Spain has grown very considerably over the last decade. This growth is reflected in the estimated net increase of 800,000 households and a further 2 million people living in rental housing in 2021, compared with 2011 levels.¹¹⁸ The percentage of Spanish households whose principal residence is not owner-occupied thus

¹¹⁶ Three tranches are established: the portion of the increased income up to 60% of the minimum income will not reduce the supplement received; the portion ranging from 60% to 100% will reduce the supplement by 60%-80% of the increase, depending on the beneficiary's personal situation and employment status; and the portion of the increase that exceeds 100% of the minimum income shall reduce the supplement by a ratio of 1:1.

¹¹⁷ [Banco de España \(2022b\)](#).

¹¹⁸ [Auciello-Estévez and López-Rodríguez \(2023\)](#).

rose by 4.2 pp, to 24.2% in 2021.¹¹⁹ This ratio remained lower than the average observed in the EU-27 economies (30.1%) and the euro area (34.2%).

The growth in the rental market is largely explained by the strength of demand from young adults in urban areas. The increase in demand for rental housing has been higher among new households with a young reference person who is employed but whose income is relatively lower. In particular, the percentage of households with a reference person aged 30-44 not living in owner-occupied housing rose from 27.2% in 2011 to 42% in 2021. This trend appears to have been stronger in the main urban areas, where economic activity and population growth are concentrated.¹²⁰

Among lower-income groups, the higher demand for rental housing is associated with the labour market situation and mortgage lending standards. The percentage of those living in rental housing is relatively higher among workers that do not have full-time contracts and the unemployed. The same is also true of young adults, a larger proportion of whom are at the lower tail of the income distribution. Meanwhile, the greater prudence in mortgage lending standards as regards the collateral value in recent years – reflected in the lower average loan-to-price (LTP) ratio in new mortgage loans to households – also appears to have pushed a larger proportion of young households to the rental market.¹²¹ This shift seems to have been more pronounced in those geographical areas where growth in house prices has outpaced that of new resident households' income, resulting in these agents being unable to save the amount needed to purchase their own house.

The insufficient growth of supply to absorb the strong increase in demand appears to lie behind the considerable momentum of rental prices since 2014. According to the official statistics available providing different metrics of rental prices for the rental housing stock, median rents per square metre grew markedly, by 20% in cumulative terms, in 2015-2021 (12% in real terms).¹²² This increase primarily reflects the higher marginal prices of new dwellings entering the market and contract renewals, in contrast to the more moderate rates applied in updates of existing contracts in line with the CPI for rents up to 2021.

119 Under the classification in the [European Union Statistics on Income and Living Conditions](#) (Eurostat), rented accommodation includes accommodation provided either at a reduced rate (below market price) or rent-free. In the case of Spain, in 2021, 15.1% of households lived in accommodation rented at market price, 6.2% in rent-free accommodation and 2.8% in accommodation rented at below market price. See [INE \(2022\)](#).

120 For example, the rental housing stock in Barcelona accounted for 38.5% of principal residences in 2021 ([Observatori Metropolità de l'Habitatge de Barcelona, 2022](#)). Worthy of mention at regional level is the proportion of households not living in owner-occupied housing in Catalonia and the region of Madrid (28.2% in 2021 in both cases) and in regions with significant tourism activity, such as the Balearic Islands (36.2%) and the Canary Islands (35.4%).

121 The LTP ratio is calculated as the ratio of the mortgage loan's principal to the recorded price of the property. The average ratio for new mortgage loans, weighted by the capital of each new mortgage, has been around 80% since 2014, compared with the ratios exceeding 100% during the period 2004-2007. See [Financial Stability Report, Autumn 2022, Banco de España](#).

122 [State reference system of housing rental prices](#) (Ministry of Transport, Mobility and Urban Agenda, 2023) (available only in Spanish). The statistics show high geographical disparity, with cumulative growth of over 30% in median rents per square metre in cities such as Valencia, Palma and Malaga between 2015 and 2021. In the areas suffering relative greater supply shortages, cumulative growth in median rents in the main urban areas exceeded 40% in this period.

After the pandemic, 2022 saw a stronger recovery in rental demand than in supply, with a new upward dynamic in nominal prices. The statistics on rental asking prices published by the main real estate portals indicate a change in trend in these prices after mid-2020 and year-on-year declines of between 3.5% and 4% in 2021. These declines reversed over 2022, when the market saw a notable recovery, with nominal rental asking prices growing by between 7% and 7.5%. However, taking into account cumulative inflation in the period 2021-2022 (11.7%), rental asking prices in real terms at end-2022 were around 7.5% lower than real prices in 2020.

The recent buoyancy of rental prices has arisen in a setting of constrained supply on account of the limited increase in the public provision of social rental housing and the emergence of alternative housing uses. The small public stock of social rental housing in Spain is attributable to the commitment to owner-occupied government-sponsored housing in previous decades and the scant budgetary resources assigned to social housing at both State and regional level. On the estimates in Ministry of Transport, Mobility and Urban Agenda (2023), the stock of publicly owned social rental housing comprises around 290,000 dwellings, home to an estimated 1.6% of households. These figures stand in contrast to the stock of social rental housing in other European economies, where it represents on average 7.5% of total housing stock in the EU, and accounts for a significant share in, for example, France (14%), the United Kingdom (16.7%) and the Netherlands (34.1%). In this setting, initiatives have recently been proposed to boost investment in public sector housing, in order to progressively increase the public stock of social rental housing over the medium and long term.¹²³ Recent years have also seen an increase in the number of tourist rental accommodations (estimated to account for 1.2% of total housing stock, or 1.6% of total principal residences)¹²⁴ and the emergence of new forms of short-term leases in markets in which housing demand is high.

The future Law on the right to housing¹²⁵ places greater emphasis on the need to increase the supply of rental housing. Thus, the new Law provides for more social rental housing through greater public-private collaboration, a progressive increase in the public stock of rental housing and greater tax incentives for individual landlords who lease residential properties at reduced prices in areas under housing pressure.

However, some of the measures included, such as rent control, could have unwanted effects in the medium term. The new Law envisages measures to limit rental updating¹²⁶ and authorises competent territorial governments to cap rental prices, if deemed appropriate, in areas under housing pressure, in accordance with the State regulatory framework. According to the economic literature, while price controls can reduce rents in regulated areas in the short

123 See, for example, [Project 2 of the Recovery, Transformation and Resilience Plan](#) and the [State Housing Affordability Plan 2022-2025](#) (both available only in Spanish), setting the objectives and projected resources needed to work towards gradually increasing the public stock of rental housing in the medium term.

124 [Experimental Statistic. Measurement of the Number of Tourist Dwellings in Spain and their Capacity](#) (INE).

125 At the time of this report going to press, the Law on the right to housing is in the final phase of its passage through Parliament.

126 The measures announced include setting a 3% cap on rental updates in 2024 and creating a new price index for these updates from 2025 onwards.

term, they can also bear adversely on rental supply and create real estate market segmentation. Specifically, documented supply responses include a decline in the number and quality of dwellings available on the market, shifts in supply and price increases in unregulated segments. Further, these effects and their size prove more significant when the controls are in place for prolonged periods of time.¹²⁷ In the case of Spain, the analysis available on the recent experience in Catalonia points to lower average rental prices in the near term and certain shifts in supply, although the fact that this policy was applied during the pandemic hampers its assessment.¹²⁸

Aside from the need to boost the public stock of rental housing, the scale of the current supply-demand mismatch may also require resolute support from the private rental housing sector. Boosting public and private supply would dampen the upward rental price dynamics in the areas under housing pressure. To this end, measures that asymmetrically distort price signals should be avoided, greater effective legal certainty should be provided to landlords, and regulatory uncertainty in this market ought to be reduced. Tax and regulatory measures could be considered with a view to increasing the supply of rental housing from the professional private sector. Specifically, these could include introducing tax incentives for legal persons subject to their maintaining a certain amount of dwellings for rent at reduced prices, or easing local urban planning that limits and governs the use of land and property for residential purposes in areas under housing pressure (see [López-Rodríguez and Matea, 2020](#), for a discussion of the design of such policies).

Once the new Law has been approved, it will be essential to diligently assess its capacity to effectively meet its objectives. In particular, attention must be paid to signs of the aforementioned adverse effects emerging, so that the legislation can be adapted to prevent the materialisation of such risks.

127 See, for example, [Sims \(2007\)](#), [Autor, Palmer and Pathak \(2014\)](#) and [Diamond, McQuade and Qian \(2019\)](#). The available studies on the recent experience in Germany indicate that rental price controls have increased prices in unregulated areas ([Mense, Michelsen and Kholodilin, 2023](#)) and that the price reductions have had a smaller impact in lower-income areas ([Breidenbach, Eilers and Fries, 2022](#)).

128 For example, [Jofre-Monseny, Martínez-Mazza and Segú \(2022\)](#) estimate that the policy applied in Catalonia has reduced average rents by between 4% and 6%, but do not identify any changes in rental supply in the short term. By contrast, [Monràs and García-Montalvo \(2023\)](#) estimate similar reductions in average prices, but document price increases in “low-price” properties, shifts in the composition of units on the market and a significant reduction in supply, concentrated on properties with prices above the reference prices established by the regulation.

REFERENCES

- Aghion, Philippe, and Peter Howitt. (1992). "A model of growth through creative destruction". *Econometrica*, 60(2), pp. 323-351. <https://doi.org/10.2307/2951599>
- Agrawal, Ajay, Carlos Rosell and Timothy Simcoe. (2020). "Tax Credits and Small Firm R&D Spending". *American Economic Journal: Economic Policy*, 12(2), pp. 1-21. <https://doi.org/10.1257/pol.20140467>
- AIReF. (2020). "Beneficio fiscal: deducción por I+D+I en el impuesto sobre sociedades". *Spending Review*, Fase II, Estudio de Beneficios Fiscales. https://www.airef.es/wp-content/uploads/2020/10/I+D/BF_IDi.pdf
- AIReF. (2022). "1.a Opinión Ingreso Mínimo Vital". Opinión 1/22. <https://www.airef.es/wp-content/uploads/2022/08/IMV/OPINION-AIREF-IMV.pdf>
- AIReF. (2023). "Opinión sobre la sostenibilidad de las Administraciones Públicas a largo plazo: La incidencia de la demografía". Opinión 1/23. https://www.airef.es/wp-content/uploads/2023/03/OPINI%C3%93N-SOSTENIBILIDAD/AIREF-2023_Opinion-sostenibilidad-de-las-AAPP-largo-plazo.pdf
- Akcigit, Ufuk, Douglas Hanley and Nicolas Serrano-Velarde. (2021). "Back to Basics: Basic Research Spillovers, Innovation Policy, and Growth". *The Review of Economic Studies*, 88(1), pp. 1-43. <https://doi.org/10.1093/restud/rdaa061>
- Albrizio, Silvia, Beatriz González and Dmitry Khametshin. (2023). "A tale of two margins: monetary policy and capital misallocation". Working Papers, 2302, Banco de España. <https://doi.org/10.53479/25027>
- Alesina, Alberto, and Dani Rodrik. (1994). "Distributive Politics and Economic Growth". *The Quarterly Journal of Economics*, 109(2), pp. 465-490. <https://www.jstor.org/stable/2118470>
- Alloza, Mario, Javier Andrés, Pablo Burriel, Iván Kataryniuk, Javier J. Pérez and Juan Luis Vega. (2021). "The reform of the European Union's fiscal governance framework in a new macroeconomic environment". Occasional Papers, 2121, Banco de España. <https://repositorio.bde.es/handle/123456789/17542>
- Alloza, Mario, Jorge Martínez-Pagés and Iacopo Varotto. (2023). "El análisis de la sostenibilidad de la deuda en España desde una dimensión estocástica". Documentos Ocasionales - Banco de España. Forthcoming.
- Almunia, Miguel, and David López-Rodríguez. (2018). "Under the Radar: The Effects of Monitoring Firms on Tax Compliance". *American Economic Journal: Economic Policy*, 10(1), pp. 1-38. <https://www.aeaweb.org/articles?id=10.1257/pol.20160229>
- Almunia, Miguel, and David López-Rodríguez. (2023). "The effectiveness of fiscal incentives for business R&D in Spain". Working Papers - Banco de España. Forthcoming.
- Alonso, Daniel. (2023). "Stabilisation properties of a SURE-like European unemployment insurance". Working Papers - Banco de España. Forthcoming.
- Alonso, María, Eduardo Gutiérrez, Enrique Moral-Benito, Diana Posada, Patrocinio Tello-Casas and Carlos Trucharte. (2022). "In-person access to banking services in Spain: a comparison with other countries and other types of services". Occasional Papers, 2215, Banco de España. <https://repositorio.bde.es/handle/123456789/25148>
- Alves, Pana, Sergio Mayordomo and Manuel Ruiz-García. (2022). "Corporate financing in fixed-income markets: the contribution of monetary policy to lowering the size barrier". Occasional Papers, 2209, Banco de España. <https://repositorio.bde.es/handle/123456789/23391>
- Anghel, Brindusa, Cristina Barceló and Ernesto Villanueva. (2023). "The growth in permanent contracts and its potential impact on spending". *Economic Bulletin - Banco de España*, 2023/Q1, 19. <https://repositorio.bde.es/handle/123456789/29793>
- Anghel, Brindusa, Henrique Basso, Olympia Bover, José María Casado, Laura Hospido, Mario Izquierdo, Iván Kataryniuk, Aitor Lacuesta, José Manuel Montero and Elena Vozmediano. (2018). "La desigualdad de la renta, el consumo y la riqueza en España". Documentos Ocasionales, 1806, Banco de España. <https://repositorio.bde.es/handle/123456789/8774>
- Anghel, Brindusa, Pilar Cuadrado and Federico Tagliati. (2020). "Why cognitive test scores of Spanish adults are so low? The role of schooling and socioeconomic background". Working Papers, 2038, Banco de España. <https://repositorio.bde.es/handle/123456789/14491>
- Anghel, Brindusa, and Aitor Lacuesta. (2020). "Ageing, productivity and employment status". *Economic Bulletin - Banco de España*, 1/2020, Analytical Articles. <https://repositorio.bde.es/handle/123456789/11808>

- Anghel, Brindusa, Sergio Puente and Roberto Ramos. (2023). “Un análisis de la incidencia del incremento de las cotizaciones sociales aprobado en 2023”. *Boletín Económico - Banco de España*. Forthcoming.
- Argimón, Isabel, and Irene Roibás. (2023). “Debt overhang, credit demand and financial conditions”. Working Papers, 2308, Banco de España. <https://doi.org/10.53479/29530>
- Auciello-Estévez, Iván, and David López-Rodríguez. (2023). “La evolución del mercado de la vivienda de alquiler en España”. Documentos Ocasionales - Banco de España. Forthcoming.
- Auciello-Estévez, Iván, Josep Pijoan-Mas, Pau Roldan-Blanco and Federico Tagliati. (2023). “Dual labor markets in Spain: a firm-side perspective”. Occasional papers, 2310, Banco de España. <https://doi.org/10.53479/29869>
- Autor, David, David A. Mindell and Elisabeth B. Reynolds. (2022). *The work of the future, building better jobs in an age of intelligent machines*. MIT Press. <https://mitpress.mit.edu/9780262046367/>
- Autor, David, Christopher J. Palmer and Parag A. Pathak. (2014). “Housing market spillovers: evidence from the end of rent controls in Cambridge, Massachusetts”. *Journal of Political Economy*, 122(3), pp. 661-717. <https://doi.org/10.1086/675536>
- Banco de España. (2017a). “Chapter 1. The years of economic expansion: analysis of the period 2000-2007”. In Banco de España, *Report on the financial and banking crisis in Spain, 2008-2014*. <https://repositorio.bde.es/handle/123456789/15112>
- Banco de España. (2017b). “Chapter 3. Current Account Adjustment”. In Banco de España, *Annual Report 2016*, pp. 80-107. <https://repositorio.bde.es/handle/123456789/6261>
- Banco de España. (2018). “Box 3.1. Intangibles investment”. In “Chapter 3. The buoyancy of investment in the recovery: determinants and challenges”. In Banco de España, *Annual Report 2017*, pp.140-142. <https://repositorio.bde.es/handle/123456789/6271>
- Banco de España. (2021). “Chapter 4. The spatial distribution of population in Spain and its economic consequences”. In Banco de España, *Annual Report 2020*, pp. 249-293 <https://repositorio.bde.es/handle/123456789/16610>
- Banco de España. (2022a). “Chapter 4. The Spanish economy and the climate challenge”. In Banco de España, *Annual Report 2021*, pp. 221-272. <https://repositorio.bde.es/handle/123456789/21115>
- Banco de España. (2022b). “Survey of household finances (EFF) 2020: methods, results and changes since 2017”. *Economic Bulletin - Banco de España*, 3/2022, Analytical Articles. <https://repositorio.bde.es/handle/123456789/22782>
- Banco de España. (2022c). *Financial Stability Report. Autumn 2022*. <https://repositorio.bde.es/handle/123456789/23609>
- Banco de España. (2023a). “Quarterly report and macroeconomic projections for the Spanish economy. March 2023”. *Economic Bulletin - Banco de España*, 2023/Q1. <https://repositorio.bde.es/handle/123456789/29811>
- Banco de España. (2023b). *Financial Stability Report. Spring 2023*. <https://repositorio.bde.es/handle/123456789/29872>
- Barceló, Cristina, Ernesto Villanueva and Elena Vozmediano. (2021). “Personal loan rates and household characteristics: Spain compared with other euro area countries”. *Economic Bulletin - Banco de España*, 1/2021, Analytical Articles. <https://repositorio.bde.es/handle/123456789/15712>
- Bardhan, Pranab. (2002). “Decentralization of Governance and Development”. *Journal of Economic Perspectives*, 16(4), pp. 185-205. <https://www.aeaweb.org/articles?id=10.1257/089533002320951037>
- Bargain, Olivier, and Ulugbek Aminjonov. (2020). “Trust and compliance to public health policies in times of COVID-19”. *Journal of Public Economics*, 192, 104316. <https://doi.org/10.1016/j.jpubeco.2020.104316>
- Basso, Henrique S., Ourania Dimakou and Myroslav Pidkuyko. (2023a). “How inflation varies across Spanish households”. Occasional Papers, 2307, Banco de España. <https://doi.org/10.53479/29792>
- Basso, Henrique S., Ourania Dimakou and Myroslav Pidkuyko. (2023b). “How consumption carbon emission intensity varies across Spanish households”. Occasional Papers, 2309, Banco de España. <https://doi.org/10.53479/29855>
- Becker, Sascha O., Katrin Boeckh, Christa Hainz and Ludger Woessmann. (2016). “The empire is dead, long live the empire! Long-run persistence of trust and corruption in the bureaucracy”. *The Economic Journal*, 126(590), pp. 40-74. <https://doi.org/10.1111/ecoj.12220>
- Benito, Andrew, and Ignacio Hernando. (2008). “Labour Demand, Flexible Contracts and Financial Factors: Firm-Level Evidence from Spain”. *Oxford Bulletin of Economics and Statistics*, 70(3), pp. 283-301. <https://doi.org/10.1111/j.1468-0084.2007.00494.x>

- Benmarker, Helge, Erik Mellander and Björn Öckert. (2009). "Do Regional Payroll Tax Reductions Boost Employment?". *Labour Economics*, 16(5), pp. 480-489. <https://doi.org/10.1016/j.labeco.2009.04.003>
- Bentolila, Samuel, Juan J. Dolado and Juan F. Jimeno. (2021). "Dual Labor Markets Revisited". *Economics and Finance*, Oxford University Press. <https://doi.org/10.1093/acrefore/9780190625979.013.502>
- Bertheau, Antoine, Edoardo Maria Acabbi, Cristina Barceló, Andreas Gulyas, Stefano Lombardi and Raffaele Saggio. (2023). "The unequal consequences of job loss across countries". *American Economic Review: Insights*. In press. <https://www.aeaweb.org/articles?id=10.1257/aeri.20220006>
- Bianchi, Francesco, Leonardo Melosi and Anna Rogantini Picco. (2022). "Who is Afraid of Eurobonds?". *Working Paper Series*, WP 2022-43, Federal Reserve Bank of Chicago. <https://ideas.repec.org/p/fip/fedhwp/94918.html>
- Blanchard, Olivier, and Juan Francisco Jimeno. (1995). "Structural Unemployment: Spain versus Portugal". *The American Economic Review*, 85(2), pp. 212-218. <https://www.jstor.org/stable/2117921>
- Bloom, Nicholas, John Van Reenen and Heidi Williams. (2019). "A Toolkit of Policies to Promote Innovation". *Journal of Economic Perspectives*, 33(3), pp. 163-84. <https://www.aeaweb.org/articles?id=10.1257/jep.33.3.163>
- Bongini, Paola, Annalisa Ferrando, Emanuele Rossi and Monica Rossolini. (2021). "SME access to market-based finance across Eurozone countries". *Small Business Economics*, 56(4), pp. 1667-1697. <https://doi.org/10.1007/s11187-019-00285-z>
- Boscá, José E., Rafael Doménech and Javier Ferri. (2009). "Tax reforms and labour-market performance: An evaluation for Spain using REMS". *Moneda y Crédito*, 228, pp. 145-196.
- Breidenbach, Philipp, Lea Eilers and Jan Fries. (2022). "Temporal dynamics of rent regulations - The case of German rent control". *Regional Science and Urban Economics*, 92, 103737. <https://doi.org/10.1016/j.regsciurbeco.2021.103737>
- Brunello, Giorgio, and Lorenzo Rocco. (2017). "The Labor Market Effects of Academic and Vocational Education over the Life Cycle: Evidence Based on a British Cohort". *Journal of Human Capital*, 11(1), pp. 106-66. <https://www.jstor.org/stable/26456497>
- Burriel, Pablo, Iván Kataryniuk and Javier J. Pérez. (2022). "Computing the EU's SURE interest savings using an extended debt sustainability assessment tool". Occasional Papers, 2210, Banco de España. <https://repositorio.bde.es/handle/123456789/21159>
- Comité de Personas Expertas. (2022). *Libro Blanco sobre la Reforma Tributaria*. Instituto de Estudios Fiscales, Ministerio de Hacienda y Función Pública. https://www.ief.es/docs/investigacion/comiteexpertos/LibroBlancoReformaTributaria_2022.pdf
- Corak, Miles. (2013). "Income Inequality, Equality of Opportunity, and Intergenerational Mobility". *Journal of Economic Perspectives*, 27(3), pp. 79-102. <https://www.aeaweb.org/articles?id=10.1257/jep.27.3.79>
- Correia, Isabel. (2010). "Consumption Taxes and Redistribution". *American Economic Review*, 100(4), pp. 1673-94. <https://www.aeaweb.org/articles?id=10.1257/aer.100.4.1673>
- Crespo, Laura, Najiba El Amrani, Carlos Gento and Ernesto Villanueva. (2023). "Heterogeneidad en el uso de los medios de pago y la banca online: un análisis a partir de la Encuesta Financiera de las Familias (2002-2020)". Documentos Ocasionales, 2308, Banco de España. <https://doi.org/10.53479/29816>
- Cuadrado, Pilar. (2023). "An analysis of hours worked per worker in Spain: trends and recent developments". *Economic Bulletin - Banco de España*, 2023/Q1, 14. <https://repositorio.bde.es/handle/123456789/29733>
- Cuadrado, Pilar, Mario Izquierdo, José Manuel Montero, Enrique Moral-Benito and Javier Quintana. (2022). "The potential growth of the Spanish economy after the pandemic". Occasional Papers, 2208, Banco de España. <https://repositorio.bde.es/handle/123456789/23359>
- Cuadrado, Pilar, Enrique Moral-Benito and Irune Solera. (2020). "A sectoral anatomy of the Spanish productivity puzzle". Occasional Papers, 2006, Banco de España. <https://repositorio.bde.es/handle/123456789/10454>
- Daniele, Gianmarco, Arnstein Aassve and Marco Le Moglie. (2023). "Never forget the first time: The persistent effects of corruption and the rise of populism in Italy". *The Journal of Politics*. In press. <https://www.journals.uchicago.edu/doi/10.1086/723019>
- De Fiore, Fiorella, and Harald Uhlig. (2015). "Corporate Debt Structure and the Financial Crisis". *Journal of Money, Credit and Banking*, 47(8), pp. 1571-1598. <https://doi.org/10.1111/jmcb.12284>
- Dechezleprêtre, Antoine, Elias Einiö, Ralf Martin, Kieu-Trang Nguyen and John Van Reenen. (2023). "Do Tax Incentives Increase Firm Innovation? An RD Design for R&D, Patents, and Spillovers". *American Economic Journal: Economic Policy*. In press. <https://www.aeaweb.org/articles?id=10.1257/pol.20200739>

- Denis, Angela. (2021). *Heterogeneous and Uncertain Health Dynamics and Working Decisions of Older Adults*. Banco de España. Forthcoming. https://adenisp.github.io/JMP_AD/Denis_JMP.pdf
- Diamond, Rebecca, Tim McQuade and Franklin Qian. (2019). “The effect of rent control expansion on tenants, landlords and inequality: evidence from San Francisco”. *American Economic Review*, 109(9), pp. 3365-3394. <https://doi.org/10.1257/aer.20181289>
- Dijkstra, Lewis, Hugo Poelman and Andrés Rodríguez-Pose. (2020). “The geography of EU discontent”. *Regional Studies*, 54(6), pp. 737-753, <https://doi.org/10.1080/00343404.2019.1654603>
- Domínguez-Díaz, Rubén, Samuel Hurtado and Carolina Menéndez. (2023). “The effect of NGEU investment on potential output in Spain: simulations with the POTE model”. Working Papers – Banco de España. Forthcoming.
- Escrivá, José Luis. (2023). *Reforma de pensiones. Presentación a la Comisión de Seguimiento y Evaluación de los Acuerdos del Pacto de Toledo*. March 2023. <https://www.lamoncloa.gob.es/serviciosdeprensa/notasprensa/inclusion/Documents/2023/150323-pacto-toledo-presentacion.pdf>
- Estrada, Ángel, Mario Izquierdo and Aitor Lacuesta. (2009). “The functioning of the labour market and unemployment growth in Spain”. *Economic Bulletin - Banco de España*, July-August, pp. 103-121. <https://repositorio.bde.es/handle/123456789/7814>
- European Commission. *Single Market Scoreboard. Country data: Spain*. https://single-market-scoreboard.ec.europa.eu/countries/spain_en
- European Commission. (2022a). *European Innovation Scoreboard*. https://research-and-innovation.ec.europa.eu/statistics/performance-indicators/european-innovation-scoreboard_en#eis-interactive-tool
- European Commission. (2022b). *Building an economic governance framework fit for the challenges ahead: press release*, 9 November 2022. https://ec.europa.eu/commission/presscorner/detail/en/ip_22_6562
- Eurostat. (2018). *Community innovation survey*. <https://ec.europa.eu/eurostat/web/microdata/community-innovation-survey>
- Eurostat. (2022). *EU statistics on income and living conditions*. <https://ec.europa.eu/eurostat/web/microdata/european-union-statistics-on-income-and-living-conditions>
- Fuente, Ángel de la. (2023a). “Sobre el nuevo decreto de las pensiones: algunos cálculos de urgencia”. *Apuntes*, 2023/08, Fedea. https://documentos.fedea.net/pubs/ap/2023/ap2023-08.pdf?utm_source=wordpress&utm_medium=documentos-areas&utm_campaign=estudio
- Fuente, Ángel de la. (2023b). “Los efectos presupuestarios de la reforma de pensiones de 2021-23: i) Las medidas del Real Decreto-ley 2/2023”. *Estudios sobre la Economía Española*, 2023/09, Fedea. https://documentos.fedea.net/pubs/eee/2023/eee2023-09.pdf?utm_source=wordpress&utm_medium=documentos-areas&utm_campaign=estudio
- García Esteban, Coral, Ana Gómez Loscos and César Martín Machuca. (2023). “La evolución reciente de las importaciones de bienes a la luz de algunos condicionantes”. *Boletín Económico – Banco de España*, 2023/T2. English version forthcoming. <https://doi.org/10.53479/29853>
- García-Louzao, Jose, Laura Hospido and Alessandro Ruggieri. (2022). “Dual returns to experience”. Working Papers, 2211, Banco de España. <https://repositorio.bde.es/handle/123456789/20549>
- García-Miralles, Esteban. (2023). “Support measures in the face of the energy crisis and the rise in inflation: an analysis of the cost and distributional effects of some of the measures rolled out based on their degree of targeting”. *Economic Bulletin - Banco de España*, 2023/Q1, Article 15. <https://repositorio.bde.es/handle/123456789/29769>
- García-Miralles, Esteban, and Jorge Martínez Pagés. (2023). “Government revenue in the wake of the pandemic: tax residuals and inflation”. *Economic Bulletin – Banco de España*, 2023/Q1, Article 16. <https://repositorio.bde.es/handle/123456789/29791>
- García-Posada Gómez, Miguel, and Raquel Vegas Sánchez. (2018). “Bankruptcy reforms in the midst of the Great Recession: The Spanish Experience”. *International Review of Law and Economics*, 55, pp. 71-95. <https://doi.org/10.1016/j.irl.2018.04.001>
- García-Santana, Manuel, Enrique Moral-Benito, Josep Pijoan-Mas and Roberto Ramos. (2020). “Growing Like Spain: 1995-2007”. *International Economic Review*, 61(1), pp. 383-416. <https://doi.org/10.1111/iere.12427>
- Gobierno de España. (2021). *Plan de Recuperación, Transformación y Resiliencia*. “Componente 2: Implementación de la Agenda Urbana española: Plan de rehabilitación y regeneración urbana”. <https://www.lamoncloa.gob.es/temas/fondos-recuperacion/Documents/16062021-Componente2.pdf>

- Gopinath, Gita, Sebnem Kalemli-Ozcan, Loukas Karabarbounis, and Carolina Villegas-Sanchez. (2017). "Capital Allocation and Productivity in South Europe". *Quarterly Journal of Economics*, 132(4), pp. 1915-1967. <https://scholar.harvard.edu/gopinath/publications/capital-allocation-and-productivity-south-europe>
- Grébol, Ricard, Margarita Machelett, Jan Stuhler and Ernesto Villanueva. (2023). *Intergenerational Mobility in Education: the case of Spain*. Banco de España. Forthcoming.
- Grossman, Herschell I. (1991). "A General Equilibrium Model of Insurrections". *The American Economic Review*, 81(4), pp. 912-921. <http://www.jstor.org/stable/2006650>
- Guceri, Irem, and Li Liu. (2019). "Effectiveness of Fiscal Incentives for R&D: Quasi-experimental Evidence". *American Economic Journal: Economic Policy*, 11(1), pp. 266-91. <https://www.aeaweb.org/articles?id=10.1257/pol.20170403>
- Hanushek, Eric A., Guido Schwerdt, Ludger Woessmann and Lei Zhang. (2017). "General Education, Vocational Education, and Labor-Market Outcomes over the Lifecycle". *Journal of Human Resources*, 52(1), pp- 48-87. <https://doi.org/10.3368/jhr.52.1.0415-7074R>
- Heimberger, Philipp. (2023). "Debt sustainability analysis as an anchor in EU fiscal rules. An assessment of the European Commission's reform orientations". Economic Governance and EMU Scrutiny Unit (EGOV), PE 741.504. [https://www.europarl.europa.eu/RegData/etudes/IDAN/2023/741504/IPOL_IDA\(2023\)741504_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/IDAN/2023/741504/IPOL_IDA(2023)741504_EN.pdf)
- Helliwell, John F., Haifang Huang, Shun Wang and Max Norton. (2021). "World Happiness, Trust and Deaths under COVID-19". *World Happiness Report 2021*, pp. 13-57. https://www.researchgate.net/publication/350511691_World_Happiness_Trust_and_Deaths_under_COVID-19
- Hernández de Cos, Pablo. (2022). Testimony before the Parliamentary Budget Committee in relation to the Draft State Budget for 2023. Banco de España. https://www.bde.es/f/webbde/GAP/Secciones/SalaPrensa/IntervencionesPublicas/Gobernador/Arc/Fic/IIPP-2022-10-17-hdc_en.pdf
- Hernández de Cos, Pablo, David López Rodríguez and Javier J. Pérez García. (2018). "The challenges of public deleveraging". Occasional Papers, 1803, Banco de España. <https://repositorio.bde.es/handle/123456789/6405>
- Hsieh, Chang-Tai, and Peter J. Klenow (2009). "Misallocation and Manufacturing TFP in China and India". *Quarterly Journal of Economics*, 124, pp. 1403-1448. <https://www.jstor.org/stable/40506263>
- Hurtado Samuel, and Mario Izquierdo. (2023). "Economic effects of a possible prolonged deterioration in the general health of the Spanish population". *Economic Bulletin – Banco de España*, 2023/Q1, Article 20. <https://repositorio.bde.es/handle/123456789/29818>
- Instituto de Estudios Económicos. (2022). *Por una mejora de los incentivos fiscales a los planes de pensiones. Análisis comparado de la tributación actual del segundo y tercer pilar en Europa*. <https://www.ieemadrid.es/wp-content/uploads/OPINION-del-IEE.-Por-una-mejora-de-los-incentivos-fiscales-a-los-planes-de-pensiones.pdf>
- INE. (2022). *Life Conditions Survey (ECV)*. https://www.ine.es/dyngs/INEbase/en/operacion.htm?c=Estadistica_C&cid=1254736176807&menu=ultiDatos&idp=1254735976608
- INE. (2023). *Experimental Statistic. Measurement of the Number of Tourist Dwellings in Spain and their Capacity*. https://www.ine.es/en/experimental/viv_turistica/experimental_viv_turistica.htm?L=1
- Ioannou, Demosthenes, and Javier J. Pérez (co-leads). (2023). *The EU's Open Strategic Autonomy from a central banking perspective. Challenges to the monetary policy landscape from a changing geopolitical environment*. European Central Bank, 2023, 311. <https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op311~5065ff588c.en.pdf>
- Izquierdo, Mario, Sergio Puente and Iván Auciello. (2022). "How did the duration of Spain's furlough schemes affect their efficacy?". *Economic Bulletin – Banco de España*, 4/2022, Analytical Articles. <https://repositorio.bde.es/handle/123456789/23687>
- Jofre-Monseny, Jordi, Rodrigo Martínez-Mazza and Mariona Segú. (2022). "Effectiveness and supply effect of high-coverage rent control policies". Working Paper, 2022/02, Institut d'Economia de Barcelona. <https://ieb.ub.edu/publication/2022-02-effectiveness-and-supply-effects-of-high-coverage-rent-control-policies/>
- Korkeamäki, Ossi, and Roope Uusitalo. (2009). "Employment and Wage Effects of a Payroll Tax Cut: Evidence from a Regional Experiment", *International Tax and Public Finance*, 16, pp. 753-772. <https://doi.org/10.1007/s10797-008-9088-6>
- Lacuesta, Aitor, and Brindusa Anghel. (2020). "Population at risk of poverty or social exclusion in Spain, according to the European Council definition". *Economic Bulletin – Banco de España*, 1/2020, Analytical Articles. <https://repositorio.bde.es/handle/123456789/11803>

- Layard, Richard. (2013). "Mental health: the new frontier for labour economics". *IZA Journal of Labor Policy*, 2(2), pp. 1-16. <https://izajlp.springeropen.com/articles/10.1186/2193-9004-2-2>
- López-Rodríguez, David, and M^a de los Llanos Matea. (2020). "Public intervention in the rental housing market: a review of international experience". Occasional Papers, 2002, Banco de España. <https://repositorio.bde.es/handle/123456789/13302>
- Lucas, Robert E. (1988). "On the mechanics of economic development". *Journal of Monetary Economics*, 22, pp. 3-42. <https://www.parisschoolofeconomics.eu/docs/darcillon-thibault/lucasmechanicseconomicgrowth.pdf>
- Lucio, Juan de, and Juan S. Mora-Sanguinetti. (2021). "New dimensions of regulatory complexity and their economic cost. An analysis using text mining". Working Papers, 2107, Banco de España. <https://repositorio.bde.es/handle/123456789/14834>
- Lucio, Juan de, and Juan S. Mora-Sanguinetti. (2022). "Drafting 'better regulation': the economic cost of regulatory complexity". *Journal of Policy Modeling*, 44(1), pp. 163-183. <https://doi.org/10.1016/j.jpolmod.2021.10.003>
- Martínez-Matute, Marta, and Ernesto Villanueva. (2021). "Task specialization and cognitive skills: evidence from PIAAC and IALS". *Review of Economics of the Household*, 21, pp. 59-93. <https://doi.org/10.1007/s11150-021-09587-2>
- Melguizo, Ángel, and José Manuel González-Páramo. (2013). "Who bears labour taxes and social contributions? A meta-analysis approach". *SERIEs* 4, pp. 247-271. <https://doi.org/10.1007/s13209-012-0091-x>
- Menéndez, Álvaro, and Maristela Mulino. (2022). "Box 1. Recent developments in firms' financial vulnerability according to the CBQ". In "Results of non-financial corporations to 2022 Q2". In *Economic Bulletin – Banco de España*, 3/2022. <https://repositorio.bde.es/handle/123456789/23226>
- Mense, Andreas, Claus Michelsen and Konstantin A. Kholodilin. (2023). "Rent Control, Market Segmentation, and Misallocation: Causal Evidence from a Large-Scale Policy Intervention". *Journal of Urban Economics*, 134, 103513. <https://doi.org/10.1016/j.jue.2022.103513>
- Ministerio de Asuntos Económicos y Transformación Digital. (2021). Ageing Report 2021. Country fiche Spain. https://economy-finance.ec.europa.eu/system/files/2021-05/es_-_ar_2021_final_pension_fiche.pdf
- Ministerio de Inclusión, Seguridad Social y Migraciones. (2022). *Acuerdo para la reforma del Régimen Especial de Trabajadores Autónomos*. Presentation to the Toledo Pact Committee, 21 July 2022. https://www.inclusion.gob.es/documents/2012/1/0/20220721_pactodetoledo_diapos+%281%29.pdf/df7f1997-e2c8-c4f6-cb67-67aec2ff765b?t=1658402357648
- Ministerio de Transportes, Movilidad y Agenda Urbana. (2022). *Plan Estatal para el Acceso a la Vivienda 2022-2025*. <https://www.mitma.gob.es/vivienda/plan-estatal-de-vivienda/plan-2022-2025/objetivos>
- Ministerio de Transportes, Movilidad y Agenda Urbana. (2023). *Sistema estatal de referencia del precio del alquiler de vivienda*. <https://www.mitma.gob.es/vivienda/alquiler/indice-alquiler>
- Monrás, Joan, and José García-Montalvo. (2023). "The Effect of Second-Generation Rent Controls: Evidence from Catalonia". Working Papers, 1345, Barcelona School of Economics. <https://bse.eu/research/working-papers/effect-second-generation-rent-controls-new-evidence-catalonia>
- Mora-Sanguinetti, Juan. S., and Ricardo Pérez-Valls. (2020). "¿Cómo afecta la complejidad de la regulación a la demografía empresarial? Evidencia para España". Documentos de Trabajo, 2002, Banco de España. <https://repositorio.bde.es/handle/123456789/10489>
- Mora-Sanguinetti, Juan S. (2022a). "La evaluación de las políticas públicas: La Administración de Justicia". *Papeles de Economía Española* 172, Funcas, 100-109. <https://www.funcas.es/articulos/la-evaluacion-de-las-politicas-publicas-la-administracion-de-justicia/>
- Mora-Sanguinetti, Juan S. (2022b). "Las cuatrocientas mil normas de la democracia española. Cuantificación e impacto de la complejidad normativa de España". *Revista de las Cortes Generales*, 114, pp. 231-253. <https://doi.org/10.33426/rcg/2022/114/1722>
- Mora-Sanguinetti, Juan S., Javier Quintana, Isabel Soler and Rok Spruk. (2023). "Sector-level economic effects of regulatory complexity: evidence from Spain". Working Papers, 2312, Banco de España. <https://doi.org/10.53479/29854>
- Moral-Benito, Enrique. (2018). "Growing by learning: firm-level evidence on the size-productivity nexus". *SERIEs*, 9, pp. 65-90. <https://link.springer.com/article/10.1007/s13209-018-0176-2>

- Mulino, Maristela. (2022). “Box 3. An approach to the possible impact of the rise in interest rates on firms’ financial position”. In “Quarterly Report on the Spanish Economy”. In Economic Bulletin – Banco de España, 3/2022. <https://repositorio.bde.es/handle/123456789/23351>
- Muñoz-Julve, Alejandro, and Roberto Ramos. (2022). “Estimation of the impact of changes in the period used to calculate the regulatory base on new retirement pension amounts”. Occasional Papers, 2219, Banco de España. <https://repositorio.bde.es/handle/123456789/29649>
- Nguyen, Anh D. M., Luisanna Onnis and Raffaele Rossi. (2021). “The Macroeconomic Effects of Income and Consumption Tax Changes”. *American Economic Journal: Economic Policy*, 13(2), pp. 439-66. <https://www.aeaweb.org/articles?id=10.1257/pol.20170241>
- Observatori Metropolità de l’Habitatge de Barcelona. (2022). *Estructura i concentració de la propietat d’habitatges a Barcelona. Conjunt del parc i segment de lloguer 2021*. <https://www.ohb.cat/wp-content/uploads/2022/11/O-HB-Presentacio-Laboratori-Propietat-2022.pdf>
- OECD. (2022a). “OECD R&D tax incentives database, 2021 edition”. *Mapping Business Innovation Support (MABIS), MABIS Project 101004099*. <https://www.oecd.org/sti/rd-tax-stats-database.pdf>
- OECD. (2022b). *OECD Affordable Housing Database*. <https://www.oecd.org/housing/data/affordable-housing-database/>
- Persson, Torsten, and Guido Tabellini. (1994). “Is Inequality Harmful for Growth?”. *The American Economic Review*, 84(3), pp. 600-621. <https://www.jstor.org/stable/2118070>
- Pina, Álvaro, and Patrizio Sicari. (2021). “Enhancing regional convergence in the European Union”. OECD Economics Department Working Papers, 1696, OECD Publishing. <https://doi.org/10.1787/253dd6ee-en>
- Rao, Nirupama. (2016). “Do tax credits stimulate R&D spending? The effect of the R&D tax credit in its first decade”. *Journal of Public Economics*, 140, pp. 1-12. <https://doi.org/10.1016/j.jpubeco.2016.05.003>
- Rica, Sara de la, and Lucía Gorjón. (2019). “Assessing the impact of a minimum income scheme: The Basque Country case”. *SERIEs* 10, pp. 251–280. <https://doi.org/10.1007/s13209-019-00203-2>
- Rodrik, Dani, and Stefanie Stantcheva. (2021). “Economic Inequality and Insecurity: Policies for an Inclusive Economy”. Prepared for International Commission chaired by Olivier Blanchard and Jean Tirole on *Major Future Economic Challenges*, République Française. https://drodrik.scholar.harvard.edu/files/dani-rodrik/files/rodrik_and_stantcheva_report_for_macron_commission.pdf
- Romer, Paul M. (1986). “Increasing Returns and Long-Run Growth”. *Journal of Political Economy*. 94(5), pp. 1002-1037. <https://www.jstor.org/stable/1833190>
- Saez, Emmanuel, Manos Matsaganis and Panos Tsakloglou. (2012). “Earnings Determination and Taxes: Evidence from a Cohort-Based Payroll Tax Reform in Greece”. *The Quarterly Journal of Economics*, 127(1), pp. 493-533. <https://doi.org/10.1093/qje/qjr052>
- Sanz, Carlos. (2022). “¿Más o menos impuestos? Renta, confianza en las instituciones y preferencias impositivas”. *Papeles de Economía Española*, 172, pp. 58-172, Funcas. <https://www.funcas.es/articulos/mas-o-menos-impuestos-renta-confianza-en-las-instituciones-y-preferencias-impositivas/>
- Sanz, Carlos, Albert Solé-Ollé and Pilar Sorribas-Navarro. (2022). “Betrayed by the Elites: How Corruption Amplifies the Political Effects of Recessions”. *Comparative Political Studies*, 55(7), pp. 1095-1129. <https://doi.org/10.1177/00104140211047415>
- Sims, David P. (2007). “Out of control: What can we learn from the end of Massachusetts rent control?”. *Journal of Urban Economics*, 61(1), pp. 129-151. <https://doi.org/10.1016/j.jue.2006.06.004>
- Solé-Ollé, Albert, and Pilar Sorribas-Navarro. (2018). “Trust no more? On the lasting effects of corruption scandals”. *European Journal of Political Economy*, 55, pp. 185-203. <https://doi.org/10.1016/j.ejpoleco.2017.12.003>
- Tengulov, Angel. (2020). “The Value of Borrowing Diversity: Evidence from the Financial Crisis of 2007-2009”, Working Paper. <https://ssrn.com/abstract=2361401>
- World Intellectual Property Organization (2022). *Global Innovation Index 2022*. <https://www.globalinnovationindex.org/home>

CONTRIBUTORY UNEMPLOYMENT BENEFITS: A GRANULAR ANALYSIS DRAWING ON SOCIAL SECURITY ADMINISTRATIVE LABOUR RECORDS

In recent decades, unemployment rates in Spain have been – and remain – persistently higher than in other European countries. In this setting, among other actions, a comprehensive review of Spain's active and passive labour market policies is essential. The main purpose of this box is to make a first, tentative and partial contribution to this necessary review process (partial because the analysis presented here focuses exclusively on passive labour market policies and, specifically, on contributory unemployment benefits).

For this purpose, the first step is to perform a diagnostic exercise of how contributory unemployment benefits have functioned in Spain in recent decades. This is an indispensable first step in any economic policy review.

Second, the box explores whether it would be possible to adjust the present design of the Spanish benefit system to encourage benefit recipients to return to employment. In all cases, without affecting *ex ante* the overall level of protection afforded to workers and the unemployed by the current system, which is an essential safety net in the Spanish economy.

In general, passive labour market policies are any measures that seek to provide an income for the unemployed while they are out of work. In Spain, contributory unemployment benefits are the main such measures;¹ in 2022 they accounted for 69.5% of the total expenditure on passive labour market policies (which amounted to €19,623 million).

Contributory unemployment benefits are available to all workers who involuntarily lose their jobs and have contributed for at least one year since they last received unemployment benefit. Their maximum duration ranges from four months (after one year's contributions) to two years (after six years' contributions or more). The initial benefit amount is 70% of the average salary on which contributions were paid in the last six months worked. This percentage – the replacement rate – falls to 60% as from the seventh month. Maximum and minimum limits apply to these amounts, depending on the recipients' family situation: they currently range between a minimum of €560 to €749 per month and a maximum of €1,225 to €1,575 per month.

This box first aims to describe the contributory unemployment benefits in place in Spain between 1987 and 2019, i.e. before the onset of the COVID-19 pandemic, which considerably distorted Spanish labour market dynamics in 2020-2021. In particular, three issues are analysed: (i) the maximum benefit duration at the start of spells of unemployment; (ii) the proportion of these benefits that ended before their recipients found new employment; and (iii) how the monthly benefit amount evolved over time.

The granular information provided by the social security administrative labour records (*Muestra Continua de Vidas Laborales*, hereafter MCVL) is used to analyse these issues. The MCVL comprises hundreds of thousands of individual social security records that include episodes of non-employment and distinguish whether or not individuals have received contributory unemployment benefits. Drawing on that information, it is possible to estimate the maximum potential benefit duration and amount.²

Chart 1 depicts the potential duration of these benefits at the start of spells of unemployment and shows that most benefits had either a very short or a very long duration. Indeed, approximately half of all benefits granted between 1987 and 2019 had a maximum potential duration of four or six months. At the opposite end of the scale, 18% of all new benefits had a potential duration of 22 or 24 months.

Among the recipients of benefits with longer potential duration, the following accounted for a larger share of the total: older persons (average age of 43, compared with an average of 35 for recipients of benefits with a duration of six months or less); more highly-educated workers (11.3% in social security contribution groups 1 and 2,³ compared with 8.5% in shorter duration benefits); and men (63% of the total in this group).

Table 1 shows the percentage of unemployment benefits that ended before the recipients found new employment. Naturally, this percentage varies significantly according to the potential maximum benefit duration. In the full sample, approximately half of all benefits lasting four months ended before their recipients returned to employment. This percentage declines as the potential benefit duration increases, as the recipients have more time to find new employment. Yet even in the longest durations, in 18% of

1 Other passive labour market policies include non-contributory unemployment benefits and pre-retirement payments. Income support policies not directly related to involuntary job loss – such as the minimum income scheme – cannot strictly speaking be considered passive labour market policies.

2 For more details on how these variables can be estimated, see Cristina Guillamón, Mario Izquierdo and Sergio Puente (2023), "Duration vs. replacement: A microsimulation analysis of unemployment benefits", Occasional Papers – Banco de España, forthcoming.

3 University-educated.

Box 2.1

CONTRIBUTORY UNEMPLOYMENT BENEFITS: A GRANULAR ANALYSIS DRAWING ON SOCIAL SECURITY ADMINISTRATIVE LABOUR RECORDS (cont'd)

Chart 1
INITIAL DURATION OF CONTRIBUTORY BENEFITS STARTING BETWEEN 1987 AND 2019

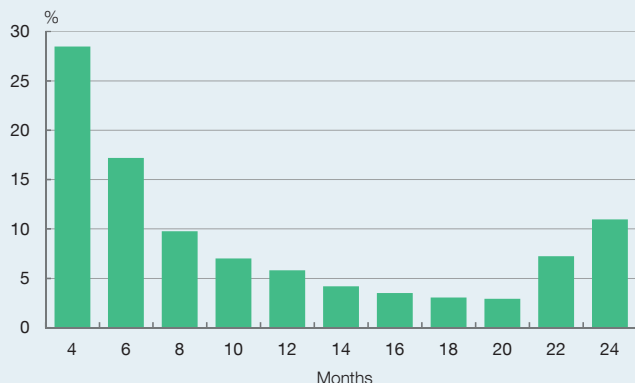


Chart 2
DISTRIBUTION OF CONTRIBUTORY BENEFITS STARTING BETWEEN JULY 2012 AND 2019, BY THEIR CONSTANT / DECLINING PROFILE

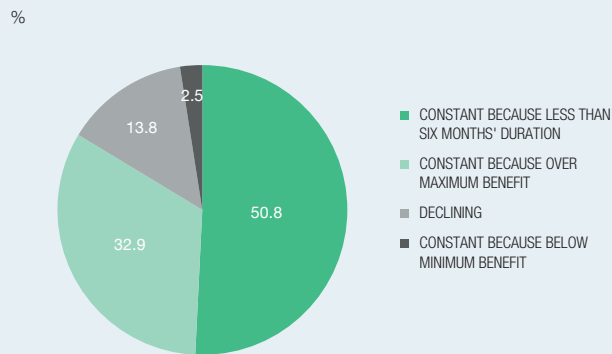
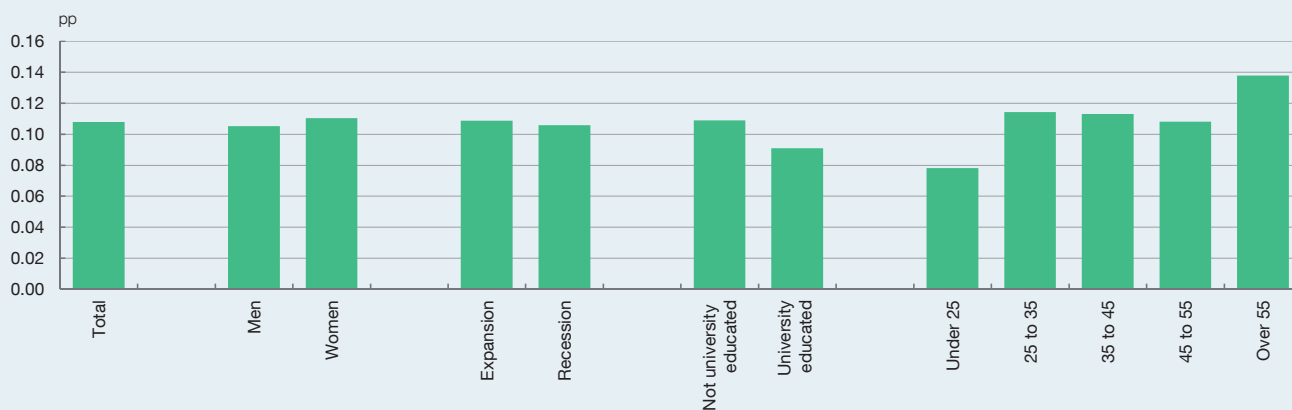


Chart 3
SIMULATED INCREASE IN THE MONTHLY PROBABILITY OF A RETURN TO EMPLOYMENT (a)



SOURCE: Banco de España, drawing on MCVL data.

a The columns denote the change in the probability of employment being found when the initial duration of all benefits is reduced by 5% and the monthly benefit amount is increased by 2 pp with no change to the minimum and maximum benefits. The model used is a linear probability model of employment being found applied to the benefit parameters. A set of control variables is also used to ensure that the effect of the benefits is isolated from their possible correlation with other observable variables. The control variables include age, length of unemployment spell, family size, level of education, controls for month and year, and fixed individual effects. Most variables are included semi-parametrically, to avoid the imposition a priori of concrete functional forms.

Table 1
PERCENTAGE OF BENEFITS THAT END BEFORE NEW EMPLOYMENT IS FOUND, BY INITIAL DURATION AND TIME OF RETURN TO EMPLOYMENT

%	4 months	6 to 10 months	12 to 16 months	18 to 22 months	24 months
1987-2019	50	31	22	18	18
2000-2007	47	26	17	14	14
2008-2012	52	32	21	15	13
2013-2019	44	25	21	21	20

SOURCE: Banco de España, drawing on MCVL data.

CONTRIBUTORY UNEMPLOYMENT BENEFITS: A GRANULAR ANALYSIS DRAWING ON SOCIAL SECURITY ADMINISTRATIVE LABOUR RECORDS (cont'd)

cases the benefits ended before their recipients found new employment. Table 1 also shows that this percentage depends not only on potential benefit duration but also on the stage of the economic cycle, although the differences observed in this respect are not very significant.

Regarding the benefit amount per month, the MCVL provides each individual's contribution base. Accordingly, to calculate the amount received each month, it is sufficient to estimate their respective family situation and apply the corresponding percentage⁴ and the minimum and maximum limits to that base. These limits, and the large proportion of short duration benefits, ultimately meant that in over 86% of cases the monthly benefit amount was constant over the period analysed.

Indeed, Chart 2 shows that the monthly amount of more than half of all benefits granted between July 2012 and 2019 was constant over time as the benefit duration was less than six months. In addition, although in principle the longer duration benefits had a declining profile, falling from 70% to 50% of former salary as from the seventh month, many (32.9% of the total) did not decline because both of the above percentages gave benefit amounts over the maximum limit. Among the smaller benefits, there were also a few (2.5% of the total) that remained constant over time because the percentages of former salary were below the minimum benefit amount.

Having described the present contributory unemployment benefit system, the second aim of this box is to explore whether it would be possible to adjust any parameter of this system to make it more conducive to encouraging the unemployed back into work, while preserving at all times the overall level of protection that this passive labour market policy affords to workers and the unemployed in Spain.

For this purpose a microsimulator⁵ developed by the Banco de España is used, which enables assessment of the extent

to which certain changes in the parameters of the benefit system could affect the probability of benefit recipients returning to employment. The microsimulator includes controls for the main characteristics of the individuals considered, as these can have a significant impact on the probability of their returning to employment, irrespective of the specific design of the benefit system. For example, in the sample considered, the monthly probability of a person aged 16 to 25 returning to employment was 8.4%, whereas for the over-55s it was substantially lower (5%). Similar differences are found between expansions (7.6%) and recessions (5.6%), between contribution groups 1 and 2 (8.6%) and all the other groups (6.9%), and between men (8.1%) and women (6%).

Once these important differences at the individual level have been taken into account, the microsimulator enables quantification of the impact that certain changes in potential benefit duration and amount could have on the probability of benefit recipients returning to employment.⁶ In this respect, the effects of a hypothetical design of the benefit system are explored, where the current level of overall protection is maintained *ex ante*, but the monthly benefit amount is increased and the potential benefit duration is reduced. Specifically, for purposes of illustration, a scheme is considered in which the potential duration of all benefits is reduced by 5% and the monthly benefit amount is simultaneously increased, by raising the replacement rates by 2 percentage points (pp), that is, from 70% to 72% and from 60% to 62%, with no change to the minimum and maximum limits.⁷

Chart 3 shows that, as a consequence of this change in the design of the benefit system, the probabilities of returning to employment increase for all the groups considered, with an average monthly increase in this probability of approximately 0.11 pp. This positive impact is larger for older benefit recipients and those with a lower level of education. Also, in

4 In the case of benefits lasting more than six months, the replacement rate was 50% between July 2012 and 2021, compared with 60% earlier. For that reason, only the data from July 2012 to 2019 are analysed here. The findings obtained with earlier data are similar, with a very similar percentage of declining benefits, a slightly higher percentage of benefits that remain constant because they exceed the maximum benefit and a slightly smaller percentage that remain constant because they have a duration of less than six months.

5 Microsimulation is a modelling technique that operates at the individual level and enables estimation of the effects that a change in a specific policy could have on each of the individuals considered. For more details on how the microsimulator used in this box is constructed, see Cristina Guillamón, Mario Izquierdo and Sergio Puente, (2023). "Duration vs. replacement: A microsimulation analysis of unemployment benefits", Occasional Papers – Banco de España, forthcoming.

6 This estimate is made using a linear probability model, where the dependent variable takes the value of 1 if the individual starts work the following month. It is based on a sample that includes all the non-employed. To capture the possible heterogeneity in the effects, the benefit parameters are estimated using 600 different coefficients, covering the matches between the different benefit periods remaining and all other observable variables.

7 Other schemes in which the minimum and maximum benefits are also raised give qualitatively similar results to those presented here.

CONTRIBUTORY UNEMPLOYMENT BENEFITS: A GRANULAR ANALYSIS DRAWING ON SOCIAL SECURITY ADMINISTRATIVE LABOUR RECORDS (cont'd)

line with the results presented in Table 1, the cyclical position of the economy makes no appreciable difference to the overall positive impact of this alternative scheme.

The results of this analytical exercise, which are in line with others documented in the academic literature,⁸ suggest there could be some room for improvement in the design of unemployment benefits. The granularity of the exercise also enables identification of the groups that would be potentially most affected by the simulated changes, so that different compensatory measures could be designed to neutralise any possible adverse effects.

In any event, the results presented here should be interpreted with caution, for a number of reasons. First, the absence of any large-scale changes in the unemployment benefit system in recent decades, which makes it more difficult to accurately quantify the effects that potential changes could have on workers' behaviour or overall economic performance.

Second, the analysis ends in 2019, so as to avoid the notable labour market distortions caused by the COVID-19 pandemic. However, since then, among other significant

legislative changes, a labour market reform was approved in late 2021. In this respect, it is still too early to accurately assess the impact of that reform on Spanish labour market dynamics and, therefore, on some of the main developments analysed here.

Third, this box focuses exclusively on passive labour market policies. Yet the probability of returning to employment is also highly influenced by the design and effectiveness of active labour market policies, which suggests that a joint analysis of both instruments would be advisable.

Lastly, the exercises performed in this box only assess the possible impact of changes to the benefit system on the speed of returning to employment. It would also be interesting to analyse whether the design of the system can also affect the quality of the new employment created. For instance, the extent to which longer potential benefit periods could encourage benefit recipients to find a better match, on their return to employment, between their skills and their new job.⁹ All these questions will be subject to more in-depth future analysis.

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- 8 Several studies have underlined the importance of benefit duration in the return to employment, both for Spain and other European countries. For Europe see, for example: Jennifer Hunt (1995), "The effect of unemployment compensation on unemployment duration in Germany", *Journal of Labor Economics*, Vol. 13(1), pp. 88-120; Marco Caliendo, Konstantinos Tatsiramos and Arne Uhlendorff, (2013). "Benefit duration, unemployment duration and job match quality: a regression-discontinuity approach", *Journal of Applied Econometrics*, Vol. 28(4), pp. 604-627; Kenneth Carling, Bertil Holmlund and Altin Vejsiu (2001), "Do benefit cuts boost job finding? Swedish evidence from the 1990s", *The Economic Journal*, Vol. 111, pp. 766-790; Knut Røed and Tao Zhang (2003), "Does unemployment compensation affect unemployment duration?", *The Economic Journal*, Vol. 113, pp. 190-206; and Jan C. van Ours and Milan Vodopivec (2006), "How shortening the potential duration of unemployment benefits entitlement affects the duration of unemployment: evidence from a natural experiment", *Journal of Labor Economics*, Vol. 24(2), pp. 351-378). For Spain, see: Olympia Bover, Manuel Arellano and Samuel Bentolilla (2002), "Unemployment duration, benefit duration and the business cycle", *The Economic Journal*, Vol. 112, pp. 223-265; José María Arranz and Juan Muro (2004), "An extra time duration model with application to unemployment duration under benefits in Spain", *Hacienda Pública Española / Revista de Economía Pública*, Vol. 171 (4/2004), pp. 133-156; and Yolanda Rebollo-Sanz (2012), "Unemployment insurance and job turnover in Spain", *Labour Economics*, Vol. 19(3), pp. 403-426.
- 8 In this respect, Arash Nekoei and Andrea Weber (2017), "Does extending unemployment benefits improve job quality?", *American Economic Review*, Vol. 107(2), pp. 527-61, using data for Austria, find that for workers with higher job tenure, extending benefit duration from 30 to 39 weeks reduces the probability of their experiencing a wage loss over 40% on their return to employment. These results cannot be directly extrapolated to the Spanish economy, as these benefit periods are considerably shorter than their Spanish equivalents.

CONTRIBUTORY UNEMPLOYMENT BENEFITS: A GRANULAR ANALYSIS DRAWING ON SOCIAL SECURITY ADMINISTRATIVE LABOUR RECORDS (cont'd)

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8 Varios estudios han subrayado la importancia de la duración de la prestación en la salida del desempleo, tanto para España como para otros países europeos. Para Europa, véanse, por ejemplo, Hunt, Jennifer. (1995). "The effect of unemployment compensation on unemployment duration in Germany", *Journal of Labor Economics* 13(1), pp. 88-120; Caliendo Marco, Konstantinos Tatsiramos y Arne Uhlenhoff, (2013). "Benefit duration, unemployment duration and job match quality: A regression discontinuity approach", *Journal of Applied Econometrics*, 28(4), pp. 604-627; Carling, Kenneth, Bertil Holmlund y Altin Vejsiu. (2001). "Do benefit cuts boost job findings? Swedish evidence from the 1990s", *Economic Journal* 111: pp. 766-790; Røed, Knut, y Tao Zhang. (2003). "Does unemployment compensation affect unemployment duration?", *The Economic Journal*, 113, pp. 190-206 y Ours, Jan C. van, y Milan Vodopivec. (2006). "How shortening the potential duration of unemployment benefits entitlement affects the duration of unemployment: Evidence from a natural experiment", *Journal of Labor Economics* 24(2), pp. 351-37. Para España Bover, Olympia, Manuel Arellano y Samuel Bentolila. (2002). "Unemployment duration, benefit duration, and the business cycle", *The Economic Journal*, 112, pp. 223-265; Arranz, José María, y Juan Muro. (2004) "An extra time duration model with application to unemployment duration under benefits in Spain", *Hacienda Pública Española / Revista de Economía Pública*, 171 (4/2004), pp. 133-156 y Rebollo-Sanz, Yolanda. (2012) "Unemployment insurance and job turnover in Spain", *Labour Economics* 19(3), pp. 403-426.