

2021 BASQUE COUNTRY COMPETITIVENESS REPORT

CONSTRUCTING COMPETITIVENESS FOR WELLBEING



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2021 Basque Country Competitiveness Report

Constructing competitiveness for wellbeing

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2021 Basque Country Competitiveness Report

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Foreword

Over several decades, the Basque Country has proactively and steadily constructed an effective territorial strategy centred around a highly industrialised economy, laying the foundation for considerable economic development and enabling it to tackle the crisis resulting from the pandemic. Our *Basque Country Competitiveness Report 2020* recognised that the crisis would have an asymmetrical impact and would affect different sectors of activity and groups of people to varying degrees. Almost two years into the pandemic, there is still a great deal of uncertainty, such as the pace of recovery in certain industries and the evolution of value chains, which have been severely compromised, causing prices to rise.

In dealing with this uncertain situation, our greatest challenge looking ahead is to further strengthen our competitiveness strategy, aligning it with major societal challenges (most noteworthy the challenge of climate change), turning them into a development opportunity for the territory.

This landscape reinforces the need to further build up the Basque Country's ability to adapt and react to the changes taking place, that is, to be a resilient territory. This capacity for resilience will make it possible to create new workflows to solve short-term social and economic challenges, while focusing on moving forward through the transitions that have been accelerated by the current crisis.

Adapting to this reality, Orkestra presents a new framework of analysis to determine the territory's position in terms of wellbeing and competitiveness. This innovative framework is intended to support public and private stakeholders in making decisions with the best possible information in this context of uncertainty and transformation. The *2021 Basque Country Competitiveness Report* applies this new territorial competitiveness framework for the first time, reinforcing elements related to personal wellbeing, economic performance, sustainability, digitalisation, and demographic and social challenges.

We at Orkestra are confident that this framework, which will continue to evolve, will help to accurately analyse Basque competitiveness and identify its challenges; detect trends, opportunities and threats; and have a bearing on debates and decision-making processes. The aim of this is to make the Basque Country more competitive for inclusive and sustainable wellbeing.

Lastly, I would like to highlight the excellent work, engagement and commitment of all of those who form part of and work with Orkestra, as well as the sponsor institutions that support us, without which Orkestra would not exist or be an international leader in regional competitiveness.

Iván Martín Uliarte

Chairman, Orkestra-Basque Institute of Competitiveness
Deusto Foundation

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The report has been prepared by a group of people coordinated by Susana Franco and James Wilson. The entire Orkestra team was also involved in a variety of ways, and we thank them for their collaboration throughout the entire process. We would also like to extend our appreciation for the contributions of the members of the Board of Directors and the Advisory Board, as well as Orkestra's sponsor institutions.

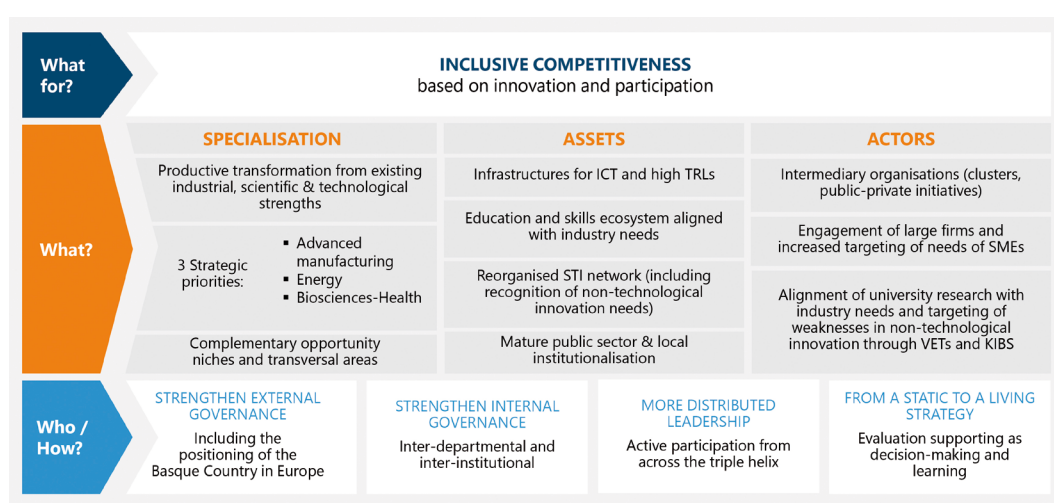
The calculation of the indicators on which this report is based, as well as the preparation of other analyses, was possible thanks to data provided by Eustat by means of purposeful and impartial utilisation of its databases at Orkestra's request. Our sincere thanks to Eustat for all the assistance provided. We also thank Sabi-Informa for its collaboration in providing data for other analyses in the report and the Basque Finance Institute for its support in the use of financial analysis methodologies.

In addition, we would like to extend our appreciation to all the stakeholders who have participated and contributed to generating knowledge as part of the various projects carried out by Orkestra in recent years.

Orkestra assumes full responsibility for any errors or omissions in the content of this report.

Executive summary

Over several decades, the Basque Country has proactively and steadily built an effective territorial strategy centred on industry. Its transformation into an internationally competitive, innovation-oriented territory with the capacity to generate inclusive wealth laid the foundations which enabled it to navigate the Great Recession arising from the 2008 financial crisis with relative ease. Since 2008, the strategy has continued to evolve successfully. In this last decade, several distinguishing features stand out. These can be summarised by considering the ‘what for?’, ‘what?’ and ‘who? and how?’ of this strategy:



The economic crisis caused by COVID-19 has marked another turning point in the strategy. In the *Basque Country Competitiveness Report 2020*, we identified different phases of resilience in the face of this crisis. We noted that the transition from the resistance phase—in which we found ourselves in 2020—to the recovery and renewal phase—which was expected to begin in 2021—entailed taking advantage of the windows of opportunity that arise from all crises, which can alter previous growth trajectories. These opportunities are determined by a number of profound transitions. In addition to the green, digital and demographic transitions, it has become apparent that there is a need to strengthen and emphasise the health care, education and food systems to embark on the path to green, digital and just growth set out in the Next Generation EU initiative.

Thus, the greatest challenge currently facing the Basque Country is to incorporate major societal challenges (most notably the challenge of climate change) into its competitiveness strategy, turning them into an opportunity for regional development. This challenge, both in the Basque Country and in other territories, leads us to question certain elements of our own competitiveness model. It must be given clearer directionality, in line with these transitions and with the aim of moving towards inclusive and sustainable wellbeing.

A new framework for competitiveness for wellbeing

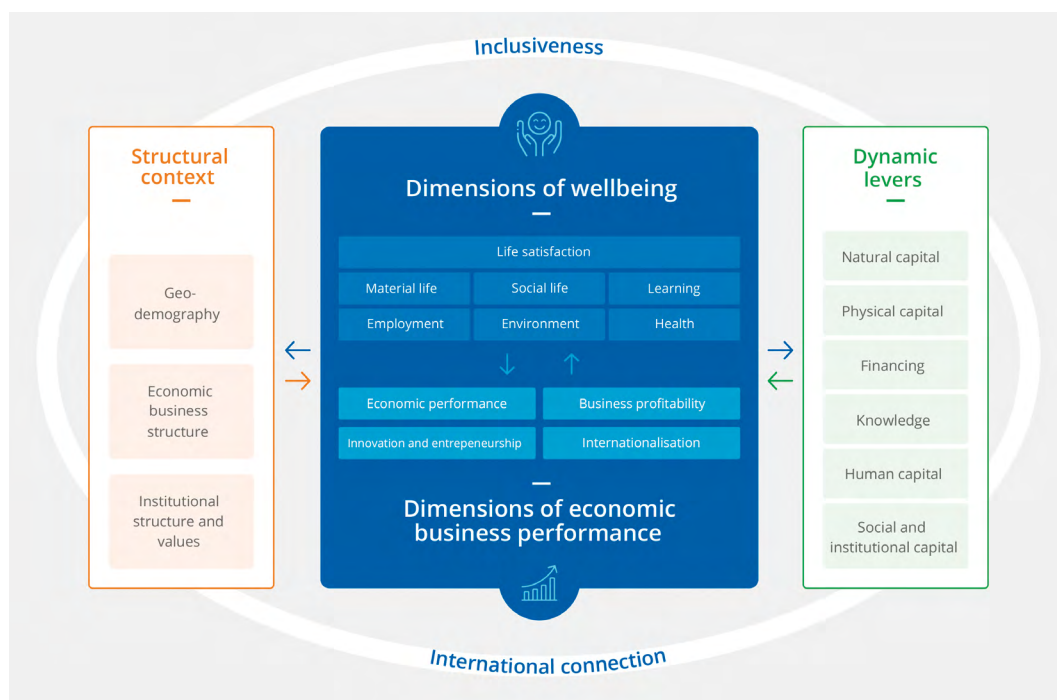
A framework for territorial competitiveness has three main functions. Firstly, it should help us to organise the different indicators available to evaluate the situation in a territory, both their evolution over time and their position compared to other territories. Secondly, it should help us to reflect on how policies and strategies that seek to guide development in specific directions—for example, towards a greener, more digital or more just competitiveness—are developed. And lastly, it should help us to identify and respond to key questions about specific issues and cause-and-effect relationships, which can structure action research agendas and knowledge generation that may assist decision-makers in constructing competitiveness for wellbeing.

Over the past 10 years, at Orkestra we have used a framework to analyse territorial competitiveness which organises indicators into different levels. This framework has been used to not only perform the analyses and assessments we have included in seven *Basque Country Competitiveness Reports* but also to guide numerous projects involving various key stakeholders for Basque competitiveness. However, looking to the future, it has become increasingly evident that the framework has limitations for guiding policies, strategies and action plans in specific directions to respond to the challenges associated with the transitions, and for facilitating analysis of the increasingly more complex relationships among economic dimensions of competitiveness and the wellbeing they should serve. In this regard, the stimulus of the *2030 Agenda* and the development of new strategic frameworks such as the *European Green Deal* require us to evolve in how we conceive the competitiveness of a territory, especially in terms of the relationship between economic/business competitiveness and the different dimensions of wellbeing.

For this reason, this report presents a new competitiveness framework which proposes a number of essential elements for identifying the keys to 'competitiveness for wellbeing' in the Basque Country or other territories.

In the centre of the framework (in blue), we clearly distinguish between: (i) the dimensions of economic/business performance which typically form part of the analysis of territorial competitiveness, and (ii) the dimensions of wellbeing which should represent the ultimate goal of territorial competitiveness. Acknowledging the structural context in which the territory is situated (in orange), the framework highlights six dynamic levers (in green) which capture the factors affecting the performance of the territory. These are the levers on which the territory's policies and strategies (government, institutions, firms) can have an impact in order to set the direction in which to move forward, as well as to drive medium- to long-term changes in certain

elements of the structural context. Completing the framework are two cross-cutting dimensions: inclusiveness and international connection.



The framework we have developed can be adapted to analyse different territorial units, from countries to regions, cities or municipalities, or to analyse different time horizons. It can also be used to perform a systemic analysis that encompasses all the dimensions, or to delve deeper into one of them. Finally, it should be noted that the framework will evolve depending on how it is utilised in different contexts and the learning generated in the process.

How does the Basque Country perform in final outcomes of wellbeing?

Applying the framework to analyse the performance of the Basque Country in the seven dimensions of wellbeing yields the following results:

1. **Life satisfaction:** *Perceived life satisfaction* —an indicator that reflects how people in a territory holistically evaluate their lives— is comparably high and has risen substantially in recent years (even slightly in 2020, despite the pandemic).
2. **Material life:** *Equivalent median income* is high compared to the EU-27 average and very close to that of Germany. It is also growing (even in 2020). However, there are signs of concern regarding increasing *income inequality* in recent years in the context of the pandemic.
3. **Employment:** *Job satisfaction* is stable and similar to the EU-27 average, while the *unemployment rate* continues its downward trajectory, and was under 10% in both 2019 and 2020. However, the gap with the EU-27 and other benchmark territories

is large, meaning that the challenge of creating jobs, especially for young people, and good-quality employment remains critical.

4. **Social life:** *Satisfaction with time available to spend as desired* remains stable and very similar to the benchmark territories. More remarkable, and very important due to its critical role in the dynamics of cooperation —so important to competitiveness— is the fact that *confidence in people* has improved significantly in recent years and is on a par with the benchmark regions.
5. **Learning:** The analysis highlights, first, that the gap with other territories in the *percentage of the population with higher education (senior secondary or tertiary)* has narrowed considerably since 2013 (with an appreciable surge between 2019 and 2020), and second, that the Basque Country continues to stand out in *lifelong learning*. However, in general, all territories must continue to pay careful attention to quality in the basics, reflected in *average grades in mathematics, literacy and science*.
6. **Health:** The results are very positive, revealing very high *life expectancy* and *self-perceived state of health* compared to other territories. However, the latest figures suggest that the pandemic has cut life expectancy by almost one year.
7. **Environment:** Although there were improvements in terms of *air quality*, in contrast to other territories, we see no great progress in terms of *greenhouse gas emissions*. What is more, the *recycling rate* —itself a reflection of the population's attitudes towards the environment— lags behind the European average. Given the need to accelerate the green transition, improving performance in this dimension is a critical challenge.

Considering these results, analysis of the cross-cutting dimension of **inclusiveness** points to particularly significant challenges. These include sizable gender gaps that disadvantage women in terms of sense of security (22%) and pay (9.5%).

How does the Basque Country rank in economic/business performance?

The analysis of the performance of the Basque Country in the four dimensions of economic performance shows that, although it has a strong foundation in these dimensions associated with competitiveness, the most recent data point to several aspects to be taken into account for post-pandemic recovery and renewal:

- **Economic performance:** The Basque Country ranks well in *GDP per capita*, at 115.8% of the EU-27 average. However, the impact of the pandemic has been more pronounced than in other territories. Moreover, although *productivity (per hour worked)* is higher than in Spain and the EU-27, the gap with Germany and the benchmark regions is still significant.
- **Business profitability:** *Unit labour costs (ULC)* have increased in all territories due to the pandemic, and although ULC in the Basque Country are below those of the other benchmark territories, in the manufacturing industry they have climbed higher than Spain and the EU-27 for the first time since 2017. The pandemic has also had a significant negative impact on *profitability* and, to a lesser extent, on

firms' solvency. The analysis points to the need to maintain business competitiveness by increasing *productivity*, above all through *innovation*.

- **Innovation:** We have seen improvements in recent years in terms of innovation in SMEs, but there is still some way to go compared to Germany and the EU-27. It will be important to further expand the innovative capacity of firms in the specific context of the transitions, which demand new combinations of product and process innovation.
- **Internationalisation:** Performance in internationalisation has been greatly affected by the pandemic in all territories, and the Basque Country has held onto its position in the various indicators analysed. In an international context still feeling the impact of the uncertainties of the pandemic, combined with other geopolitical aspects and rigidity in certain supply chains, continued support for SMEs in navigating this situation will be important to maintain strong international performance.

Analysis of the dynamic levers of competitiveness

Evaluating results indicates where strategies and policies should be focused in order to bring about improvements in both economic/business competitiveness (especially in productivity through innovation) and how it manifests as wellbeing (especially in employment, environment and inclusion). These policies and strategies must operate in a specific structural context, within which different dynamic levers of competitiveness can be addressed. We have conducted a partial and exploratory analysis of the six dynamic levers identified in the framework, identifying a number of challenges to be explored in greater depth, and creating the basis for more detailed analysis within specific papers and future reports. The following table describes the main challenge for each of the six levers.

Dynamic Lever	Definition	Main challenge identified
Natural capital	Natural factors which have a direct or indirect impact on creating economic value and wellbeing.	As a result of our economic specialisation, which is heavy on energy-intensive industry, energy consumption is high. Although it is gradually decreasing, as economic efficiency rises, we will need to move forward with replacing conventional fuels with fuels with low or zero net emissions.
Physical capital	Tangible assets produced by humans which make it possible to create economic value and wellbeing.	Investment levels have fallen significantly, making it necessary to get back to higher pre-2008 crisis levels. Priority should be given to investment in machinery and equipment, which can be linked to the territory's economic activity, as the Basque Country is notable for its capacity in this sector, which accounts for a high percentage of employment.
Financing	Factors which make it possible to finance creating economic value and wellbeing.	As regards foreign capital, given the high level of internationalisation of Basque firms, the stock of outward foreign direct investment (FDI) is high. However, there does appear to be some difficulty in attracting foreign investment. The process of economic recovery will require both the use of domestic financial resources and attracting more funds from outside the country.
Expertise	ICT and intangible knowledge-based assets which make it possible to create economic value and wellbeing.	It is once again clear that R&D expenditure as a percentage of GDP is lower than in other territories. The economic recovery will require strengthening this area in order to continue making progress on innovation outcomes. Moreover, steering R&D towards the challenges and opportunities of the three transitions — and particularly the green transition— will be critical to achieving both business competitiveness and future wellbeing.
Human Capital	Training and education, health and labour market participation which have an impact on creating economic value and wellbeing.	Continuing to create jobs to boost low employment rates is proving to be very important. As labour force participation rates are also low, it is important to provide stimulus in this area. This challenge particularly affects women and young people, so these groups will require particular attention. Achieving higher employment will require a continued focus on individual education.
Social and institutional capital	Systems of rules and organisation which structure social interactions, affecting the creation of economic value and wellbeing.	It is important to build on existing strengths in business trust to tackle ambitious projects around the challenges and opportunities of the transitions. For example, it will be necessary to promote innovation projects that foster cooperation between new combinations of stakeholders with different capabilities, which can create novel solutions to major social and economic challenges.

Competitiveness in the context of the transitions: An agenda for research and action

Applying parts of this new framework for territorial competitiveness for wellbeing to the Basque Country has yielded conclusions regarding different dimensions of performance. These should guide Orkestra's future research agenda, in dialogue with its stakeholders in a process of continuous experimentation, adaptation and strengthening the framework over time.

The priority should be to better understand the levers which have an impact on the dimensions in which the Basque Country faces the greatest challenges: (quality) employment, the environment, and (innovation-driven) productivity. In turn, this has implications for the path to be followed by the Basque Country's competitiveness strategy. It must build on the distinctive features it has developed over the previous decades—which include the current S3, the Basque Science, Technology and Innovation Network, the education, training and skills system, and the mechanisms of governance and territorial leadership—to drive actions aimed at strengthening the weaknesses detected and anticipating the impacts of the transitions on future competitiveness and wellbeing.

Introduction

The discussion regarding how to boost the recovery from the socioeconomic crisis caused by the COVID-19 pandemic has highlighted three transitions currently taking place in the Basque economy and society: technological/digital, energy/climate and demographic/social. The *Basque Country Competitiveness Report 2020* concluded that recovery would entail reorienting the Basque economy so that it responds to the challenges posed by these three transitions, taking advantage of the opportunities they present. Building a territory's long-term socioeconomic and environmental resilience is an ongoing process of change which requires adapting and implementing a range of measures at different times, in line with context and capabilities, as well as the learning that has taken place.

The same can be said of the theoretical frameworks we use to analyse a territory's competitiveness or development: they must also evolve and adapt to new contexts, challenges and learning. In fact, the new post-COVID context in which the three aforementioned transitions play a key role is an opportunity to reflect on how we analyse the competitiveness of the Basque Country autonomous community (hereinafter referred to as the Basque Country).

Over the past 10 years, at Orkestra we have used a framework to analyse territorial competitiveness which organises indicators into four levels: (i) final outcomes; (ii) intermediate performance; (iii) determinants of competitiveness; and (iv) endowments. This framework was initially developed within the context of a European project targeted at strengthening the analytical capacity of the European Cluster Observatory. It has been used to not only perform the analyses and assessments we have included in seven Basque Country Competitiveness Reports but also to guide numerous projects with various key competitiveness stakeholders in the Basque Country. Nonetheless, there are two fundamental reasons to now consider an evolution in this framework:

1. The need to give clearer direction to ensure that a territory's competitiveness serves the sustainable wellbeing of the people who inhabit it.
2. The need to not limit ourselves to measuring short-term competitiveness, but rather to incorporate a long-term vision and sustainability, tackling the challenges and opportunities presented by the aforementioned transitions.

These two reasons are in line with the thrust of the 2030 Agenda at the global level and the development of new strategic frameworks at the European level, such as the

The Basque economy must be reoriented to meet the challenges and opportunities posed by the three transitions

Orkestra's new competitiveness framework provides clearer direction for competitiveness and incorporates a long-term vision and sustainability

European Green Deal, the New Industrial Strategy, and the monitoring of socio-economic, green, digital and geopolitical dimensions of resilience as part of the EU's strategic foresight.¹ In this context, the launch of the European Union recovery plan (the Next Generation EU initiative) entails a major injection of funds to stimulate the post-COVID recovery, and it is essential to make certain that these investments are targeted at strengthening factors of competitiveness which make it possible to improve long-term wellbeing in a sustainable manner.

This report thus marks the start of a new stage in analysing the competitiveness of the Basque Country. In Chapter 1, we analyse the history of competitiveness in our territory, focusing on the characteristics over the past decade of a strategy begun more than 40 years ago. We also identify the challenges continuing that strategy currently presents. With the aim of guiding the next stage of the strategy, based on these challenges, in Chapter 2 we propose a new framework to drive territorial competitiveness. This is the result of a process of reflection, consultation and experimentation at the local and international level. In Chapter 3, we present a preliminary assessment of competitiveness and wellbeing in the Basque Country based on the core of the new framework. In Chapter 4, we conduct an exploratory analysis of some dimensions of the levers of competitiveness for wellbeing identified in the framework. Lastly, in the final chapter, we present the main conclusions of the assessment and reflect on the steps needed for this new framework to evolve as a beacon to guide the continuous improvement of competitiveness for the wellbeing of the Basque Country.

¹ See European Commission (2019, 2020a, 2021) and https://ec.europa.eu/info/strategy/strategic-plan-ning/strategic-foresight/2020-strategic-foresight-report/resilience-dashboards_en.

1

The history of competitiveness in the Basque Country: A long-term strategy

The Basque Country is known for being a territory that has proactively and steadily built an effective and industry-focused territorial strategy over several decades. Starting after the severe recession in the 1970s—in which the region faced a situation of industrial decline, high unemployment and the negative impact of terrorism—there has been a prolonged process of growth and socioeconomic transformation.

Through this process, GDP per capita went from 70.2% of the average in EU-15 countries in 1980 to 97.5% in 2019, accompanied by steady increases in R&D investment (from 0.1% of GDP in 1980 to 1.9% in 2019) and exports (from 22.8% of GDP in 1980 to 36.4% of GDP in 2019). Today it is among the European regions with the highest GDP per capita and lowest level of population at risk of poverty and social exclusion (ranking 29th and 26th, respectively, among more than 200 EU regions). This transformation into a region that is internationally competitive, focused on innovation, socioeconomically advanced and highly inclusive has given rise to various international studies that identify the Basque Country as a case study in successful economic development.²

In the new rebuilding period in which we currently find ourselves, and as background for reflecting on a new framework for analysing future competitiveness, it is important to analyse the path taken by the Basque Country to: (i) gain a proper understanding of the foundations of the Basque Country's current competitiveness; and (ii) identify the key challenges and opportunities we face. This chapter briefly summarises the competitiveness strategy of the Basque Country constructed over the past four decades, with a focus on the past decade. It ends by identifying the main challenges and opportunities currently presenting themselves in the context of the three major transitions.³

² See, for example, OECD (2011), Morgan (2016) and Porter *et al.* (2016).

³ The chapter is based largely on the study by Aranguren *et al.* (2021a), where it is possible to find a more detailed analysis.

1.1 Building the foundations of competitiveness for the Basque Country

The transition in Basque competitiveness from the 1980s to the 2008 financial crisis has been analysed by various authors,⁴ who focus on three periods which broadly correspond to three decades. The 1980s were characterised by the creation of a new regional government and the industrial restructuring it was necessary to undertake to respond to the profound economic crisis of those years. In the 1990s, this process led to the development of a competitiveness strategy to improve efficiency, based on a pioneering cluster policy and aimed at internationalisation and diversification into new activities (at this stage, less R&D based). In the 2000s, it evolved towards industrial diversification based on ongoing efforts around innovation, scientific progress and opening up to foreign markets.

The foundations of competitiveness built in the Basque Country over the three decades leading up to 2008 are characterised by a search for inclusive competitiveness

To summarise, the foundations of competitiveness built in the Basque Country over the three decades leading up to 2008 are characterised by a search for inclusive competitiveness, which shifted from competing in traditional factors to competing in efficiency and innovation, under the leadership of a regional government with considerable authority and capabilities, and which was committed to a cluster policy, technology infrastructure, and advanced training and education systems, with unique support for vocational education and training.

1.2 Basque competitiveness strategy over the past decade

The experience and capabilities developed over the three decades from 1980 to 2008 put the region in a solid position to respond to the major economic recession produced by the financial crisis. In fact, the impact of the crisis was significantly less than the crises of the 1970s and 1980s, and less than in the rest of Spain. Since 2008, the strategy has continued to evolve, and building on the approach developed in previous studies (Aranguren *et al.*, 2012; Valdaliso and Wilson, 2015), it is possible to update the characteristics of the main foundations of the Basque competitiveness strategy by answering three questions: (i) *what for?*; (ii) *what?*; and (iii) *who and how?* Figure 1.1. highlights the key aspects, which are analysed in greater detail below.⁵

The major economic recession had a lesser impact on the Basque Country than previous economic crises

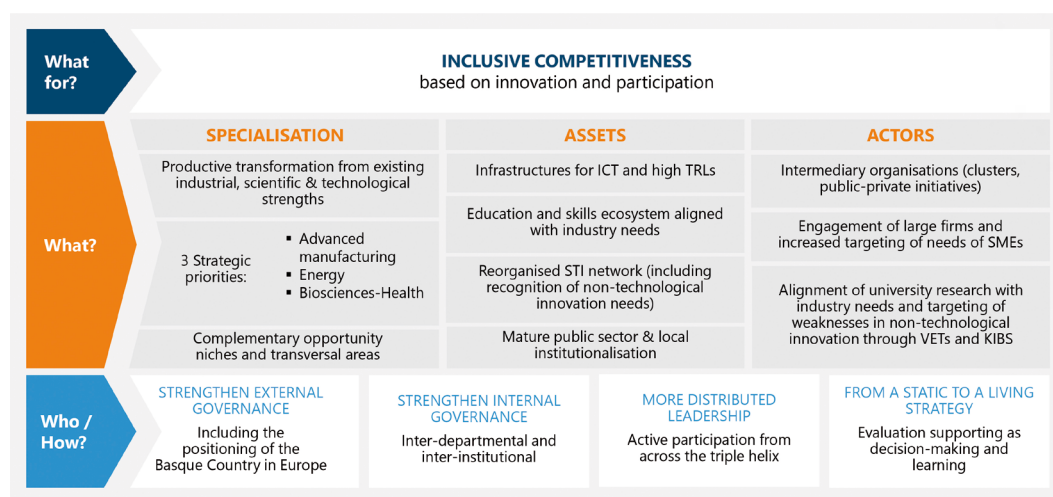
What for?

The direction of the competitiveness strategy has changed slightly over the past decade. Keeping inclusion at its core, the strategy has evolved. Firstly, it is now based primarily on R&D&I. Secondly, with both the experience of the Basque government in policy making and the development of associationism, clusters and spaces for public-private collaboration, the foundations were laid to make that strategy more systematic and participatory.

The competitiveness strategy has evolved into one based on innovation, keeping inclusion at its core

⁴ See, for example, Aranguren *et al.* (2012), Porter *et al.* (2016) or Valdaliso (2013, 2015), and Aranguren *et al.* (2021a) for a summary.

⁵ For a more detailed analysis of each core idea, see Aranguren *et al.* (2021a).

FIGURE 1.1 Basque competitiveness strategy 2009-2020

Source: Compiled by authors.

What?

Under this new approach based on innovation and participation, we can identify different features of the *what?* of the strategy, corresponding to its specialisation, assets and stakeholders.

Specialisation

As regards the economic activities in which the Basque Country specialises, in the past decade there has been a clear commitment to the science and technology plans approved by the Basque Country to promote productive transformation into new opportunities, based on existing scientific, technological and industrial strengths. The 2015 Science, Technology and Innovation Plan identified ageing, energy, transport and mobility, the digital world, and the science industry as target markets; and advanced manufacturing, biosciences and nanosciences as cross-cutting capabilities to respond to these markets. The 2020 Science, Technology and Innovation Plan, which explicitly set out the smart specialisation strategy (S3), identified three strategic priority areas (advanced manufacturing, energy and biosciences/health) and four opportunity niches (food, cultural and creative industries, urban habitat and environmental ecosystems).

In implementing the participatory processes around the three strategic priorities and four opportunity niches in the S3, the key role of four horizontal areas has emerged: internationalisation; training, education and skills; new business models; and entrepreneurship. Internationalisation has been included from the start of the strategy, but new business models (due primarily to the growing awareness that competitiveness does not depend solely on identifying and prioritising technological spheres), training and education (in response to difficulties faced by firms in finding workers with backgrounds suited to the job market), and entrepreneurship (linked to entrepreneurial undertakings and new business, primarily in the sphere of technology 4.0), are aspects that have come to the fore more powerfully in the most recent period.

New business models; training, education and skills; and entrepreneurship are other key areas of the strategy

The new 2030 Science, Technology and Innovation Plan reflects the evolution of areas of specialisation in line with the three transitions

The new 2030 Science, Technology and Innovation Plan, released in February 2021, reflects the evolution of areas of specialisation in line with the three transitions: technological/digital, energy/climate, and social/health. Now the three strategic priorities are labelled smart industry, cleaner energies and personalised health care; while the four opportunity niches (or territories) are healthy food, eco-innovation, sustainable cities and creative Basque Country. Along with these changes in the focus of the priorities, the 2030 Plan identifies a group of cross-sector driving initiatives (healthy ageing, electric mobility and circular economy). Moreover, the core element of transforming and restoring the competitiveness of Basque industry in the context of the three transitions is also the main pillar of the new 2021-2024 Industrial Development and Internationalisation Plan.

Assets

In the context of this specialisation, the strategy has focused on four key assets:

- **Digital infrastructure** (among others, the Basque Cybersecurity Centre and Basque Digital Innovation Hub) and technology infrastructure focused on high TRLs,⁶ particularly industry-specific advanced manufacturing centres (motor vehicles, aeronautics, wind energy, and the aforementioned digital world).
- The **skills system**, and particularly the ongoing alignment of the offerings of educational institutions with S3 priorities. Thus, in academia, the Clúster4Gune was established in 2017, encompassing 11 universities and other triple helix stakeholders. It works to strengthen university-business cooperation. In the sphere of vocational education and training (VET), several things have been promoted: dual VET (something that has also been pioneered in academia), challenge-based collaborative learning (ETHAZI), and driving innovation within small firms with the support of VET schools (Tkgune).
- The **Basque Science, Technology and Innovation Network (RVCTI)**, whose reorganisation included establishing a scorecard to measure and monitor advances by the key players, adapting public R&D support programmes to the strategy, incorporating health R&D units into the network, setting up the Basque Research and Technology Alliance (BRTA), and a growing awareness of the need to strengthen non-technological innovation at SMEs (for example, through the new Hazinnova and Tkgune programmes).
- The **public sector and local institutions**, with the passage of Act 2/2016 on Local Entities, completing the set-up of the institutional architecture of the Basque Country. This in a general context of ending the policy followed in previous periods of creating new institutions and stimulating public-private cooperation without government structures (for example, the steering groups and working groups in the S3 priorities), with the notable exception of the creation of Basque Trade and Investment, established to further drive the internationalisation of Basque business.

⁶ TRL is an acronym for technological readiness level.

Actors

Based on the public leadership and public-private cooperation that characterised previous periods, three specific groups of actors stand out as being central to the strategy:

- **Intermediate institutions**, including cluster associations, business associations, local development agencies, the network of combined VET schools (coordinated by Teknika) and a number of public-private organisations such as Innobasque and Orkestra.
- **Basque firms**, both large and small. There has been an effort to give the former a strong role and presence in such bodies as the Basque Council for Science, Technology and Innovation and the S3 priority steering groups. The latter have become the main focus of attention in both the policies of provincial councils (which was previously the case) and the policies promoted by the Basque Government.
- **Innovation stakeholders within the RVCTI**, among which stand out: science and technology stakeholders, supply and demand intermediaries, and knowledge-intensive business services.

SMEs have become the main focus of attention in policies promoted by the Basque Government

Who and how?

Lastly, with regard to *who?* and *how?* it is possible to highlight four key aspects in the past decade:

- Efforts to improve **external governance**, in relations with both the central government and some of the Basque Country's neighbouring regions (for example, within the framework of the New Aquitaine-Euskadi Euroregion created in 2011, to which Navarre was added in 2016), and the Basque Country's positioning in European Union programmes, networks and platforms.
- Efforts to improve the **internal governance** of the Basque Country, both among institutional stakeholders and between these and non-governmental stakeholders, and particularly within the framework of S3 (which is led for the first time by the Basque Prime Minister's Office with the support of Innobasque, facilitating intra-institutional and inter-institutional coordination and the inclusion of non-governmental stakeholders).
- Progress towards a **more distributed leadership in policy-making processes**, particularly through the steering groups established as public-private spaces to implement S3, and supported by the implementation of the strategy's monitoring and evaluation processes.
- The leap from a static strategy reflected in a plan to a **living strategy** that is constructed by territorial stakeholders, facilitated by consensus and political stability in the region.

There is more distributed leadership in policy-making processes, shifting from a static to a dynamic strategy

1.3 Challenges and opportunities in the context of the major transitions

The impact of the COVID-19 pandemic has highlighted the need to accelerate the major transitions. In addition to the green, digital and demographic transitions, it has become apparent that there is a need to strengthen and emphasise the health care, education and food systems to advance on the path to green, digital and just growth set out in the Next Generation EU initiative. Thus, the greatest challenge currently facing the Basque Country is to incorporate major societal challenges (most noteworthy the challenge of climate change) into its competitiveness strategy, turning them into an opportunity for regional development.

In terms of the *what for?* of the strategy, there is an important implication for the direction of economic development, which cannot be dissociated from social and environmental sustainability. It will be important to strengthen the aim of inclusive competitiveness, in the context of existing global concern around growing inequality (which has had a negative impact on democracy and values, among other things), and combining it with the more explicit aim of sustainable competitiveness.

In the *what?* of the strategy there are four key aspects to be considered to take on the three major transitions:

- **Economic and scientific/technological specialisation:** The focus in recent decades on areas intrinsically linked to the three transitions—in energy, the digital economy and biosciences/health—represents the first base for generating opportunities and steering productive transformation towards these transitions. In this regard, a significant challenge is strengthening non-technological innovation, given the social nature of the major transitions and the competitive advantages possible from effectively combining technological innovation and non-technological innovation in the context of these transitions. Likewise, the pandemic has drawn attention to the need to strengthen and highlight what has been called the foundational economy as a comprehensive strategy. Firstly, as a key vehicle for personal well-being through the development of the health care system, education system and food system, and by extension, productivity in all industries, which rely on healthy, qualified and happy people. Secondly, through their more direct contribution to the competitiveness of the productive economy through, for example, product innovation or value generation models that can be scaled at an international level. It will also be important to give the system the necessary financial resources to tackle these challenges.
- **Physical infrastructure:** The investment in infrastructure to date represents a strength, particularly that linked to the transitions (for example, the Basque Digital Innovation Hub, the advanced manufacturing centres in the auto industry, aeronautics and energy, or the recent focus on electrolysis plants and hydrogen). In this type of investments, the challenge now lies in activating local demand to ensure profitability, as well as promoting interregional and international cooperation around them.
- **Individual capabilities:** The transitions require new capabilities, and the ongoing commitment and improvement which has taken place in the Basque skills system in recent years will make it possible to undertake this. A key challenge is increasing

Strengthening the goal of inclusive competitiveness with the more explicit aim of sustainable competitiveness is a challenge of the strategy's *what for?*

The foundational economy needs to be strengthened as a comprehensive strategy

the capacity to anticipate future capability needs in order to proactively adapt to them. It is also necessary to continue generating capabilities for collaboration and performance in environments characterised by their diversity (sustainable, interdisciplinary and transdisciplinary transitions). Additionally, in connection with the demographic challenge, lifelong learning takes on particular importance. Likewise, attracting talent with suitable backgrounds in these spheres will be a key element to reinforce.

- **Territorial actors:** The Basque Country has an extensive network of intermediary and local actors with important skills and knowledge for the transitions, including cluster organisations, development agencies, RVCTI stakeholders and combined VET schools. In addition to these intermediary actors, firms play an essential role, and the Basque Country has an industrial history leveraged by lead firms, which represents an asset for tackling the transitions. However, there is the challenge of both anchoring key firms currently in the territory and attracting new firms with capabilities important for the transitions, so that the latter complement the former. Another essential challenge is that of intensifying collaboration, focusing each stakeholder on contributing distinctive value that when combined with others can more effectively address the three major transitions.

Each territorial actor must focus on developing the distinctive value of their contribution to help address the three transitions

And lastly, tackling the transitions also entails challenges related to the *who?* and *how?* of the strategy, particularly in terms of ensuring a common strategy shared by all territorial actors, including civil society. These challenges are:

- **Collaborative governance:** The Basque Country's prior history of building a multi-actor and multi-level governance model represents an advantage for tackling the transitions, as they are typically highly complex, making collective action and the involvement of society key. Likewise, over the years, the Basque Country has built networks of relationships with other regions and at the European level (for example, the New Aquitaine-Euskadi-Navarre Euroregion or the Vanguard initiative), which will need to be deepened to tackle the transitions. However, it is possible to identify important governance challenges with regard to: driving collaboration among the different S3 steering groups; the involvement of universities, SMEs, entrepreneurs, the working world and civil society, so crucial for the transitions; and mechanisms for organising the multilevel participation of stakeholders in a strategy for the territory as a whole.⁷
- **Capabilities and distributed leadership of the strategy:** The Basque Country has well-developed public-private and public-public interaction capabilities to create a cohesive policy community and develop a strategic vision to tackle the transitions. However, the challenge lies in extending, deepening and sophisticating these abilities, incorporating new key stakeholders for the transitions and targeting them in developing these abilities. In addition, to incorporate a long-term perspective, it is necessary to increase the anticipatory capacity which makes it possible to develop an innovative (and sometimes disruptive) strategy.

The strategy's collaborative governance and distributed leadership are key to tackling the three transitions

The analysis in this chapter shows that the Basque Country faces the challenges of the three transitions from a solid base. We now face the challenge of building on this foundation to maintain and increase inclusive competitiveness in the context of rapid, disruptive transitions characterised by considerable uncertainty. Anticipating

⁷ For further details, see Chapter 6 of the *Basque Country Competitiveness Report 2017* (Orkestra, 2017).

We have a solid base from which to boost inclusive competitiveness in the context of the transitions

this, the three transitions play a central role in the strategies and plans published by the Basque Government in the last year, including its recovery strategy (Berpiztu), 2030 Science, Technology and Innovation Plan, and 2021-2024 Industrial Development and Internationalisation Plan. In the following chapters of this report, we develop and apply a framework for territorial competitiveness adapted to this context of transitions, reinforcing the *what for?* of competitiveness for wellbeing.

2

Territorial competitiveness for wellbeing: Towards a new framework

Tackling the challenges associated with the major transitions entails changing how we conceive the competitiveness of a territory, especially in terms of the relationship between economic/business competitiveness and the different dimensions of wellbeing. In this chapter, we introduce an evolution of the framework which was used in the previous six Basque Country Competitiveness Reports to better reflect the new context in which we find ourselves.⁸

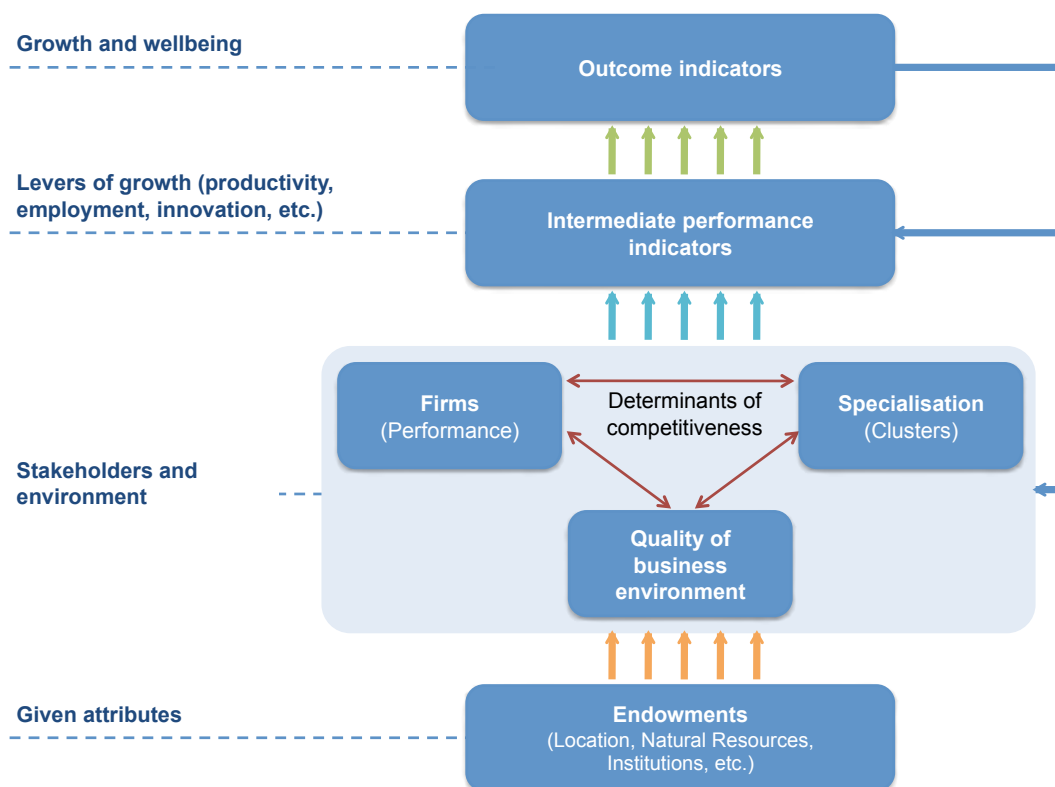
2.1 Why a new framework for territorial competitiveness?

A framework for territorial competitiveness has three main functions. Firstly, it should help us to organise the different indicators available to evaluate the situation in a territory, both their evolution over time and their position compared to other territories. Secondly, it should help us to reflect on how policies and strategies oriented towards specific objectives—for example, towards a greener, more digital or more just competitiveness—are developed. And lastly, it should help us to identify and respond to research questions about specific issues and cause-and-effect relationships, supporting research agendas and knowledge generation that can improve competitiveness and its contribution to wellbeing.

The territorial competitiveness framework Orkestra has been using for the past 10 years was developed as part of a European project for the implementation of the European Cluster Observatory (Aranguren *et al.*, 2010). Since then, it has been used as a structure for analysing the competitiveness of the Basque Country and other territories at four levels of indicators: (i) final outcomes; (ii) intermediate performance; (iii) determinants of competitiveness; and (iv) endowments (Figure 2.1). The framework has helped us to structure and communicate this diagnostic analysis, for our competitiveness reports and Regional Competitiveness Observatory,⁹ as well as for other projects in which analyses of the competitiveness of different territorial units play a key role.

⁸ See Aranguren *et al.* (2021b) for a more detailed presentation of the framework and the international literature and frameworks which served as its inspiration.

⁹ See www.orquestra.deusto.es/competitiveness-observatory/es/ES21/dashboard.

FIGURE 2.1 Territorial competitiveness framework used by Orkestra since 2011

Source: Compiled by authors.

A new competitiveness framework is needed to forge ahead in response to the challenges associated with the transitions

However, it has become increasingly clear that this framework has limitations for articulating policies, strategies and action plans in specific directions that support responses to the challenges associated with the transitions, and for analysis of the complex relationships among different dimensions, such as economic dimensions and other dimensions of wellbeing. The motivation to modify the previous framework derives from the conviction that a territorial competitiveness framework focused on our current situation must help us to: (i) analyse and drive forwards the competitiveness of a territory to generate sustainable wellbeing for its citizens; and (ii) understand the long-term challenges and opportunities associated with the transitions analysed in the previous chapter.

The new framework presented in this chapter continues to be influenced by development economics and traditional theories of growth, as well as competitiveness frameworks such as Porter's diamond (1990) and the World Economic Forum (2019) and European Commission (Annoni and Dijkstra, 2019) rankings. In this regard, it is clearly an evolution of the previous framework, with some reconfiguration of the traditional dimensions to make a clearer distinction between a territory's performance, its structural context, and the levers of competitiveness that should be the focus of policies and strategies.

Secondly, the new framework reflects a more substantial change, influenced by the literature and initiatives that have emerged in the past decade to stress the need to analyse development beyond economic progress, underscored by, among other things, the shortcomings of GDP from the perspective of both sustainability and per-

sonal wellbeing.¹⁰ Furthermore, as regards the three major transitions, in recent years, there has been an emphasis on the role of governments and public policy to take on major societal challenges, highlighting the need to give direction to the different levers of competitiveness for the benefit of sustainability (Schot and Steinmuller, 2018; Mazzucato, 2019). We therefore propose to: (i) significantly increase the weight and centrality of dimensions of a territory's performance that go beyond the economic dimension; and (ii) emphasise the relationship between the dimensions of economic/business performance and those other dimensions of personal wellbeing.¹¹

The new framework has evolved from the previous one, meeting the need to analyse development beyond economic progress

2.2 A new framework for analysing territorial competitiveness for wellbeing

The new framework developed by Orkestra proposes a number of essential elements when identifying and analysing the keys to competitiveness for wellbeing in the Basque Country or other territories. It is the fruit of over a year of internal reflection and processes of consultation with key stakeholders in the spheres of competitiveness and wellbeing in the Basque Country, as well as international experts. It also includes learnings rooted in the literature and frameworks developed by other institutions.¹² As we can see in Figure 2.2, the framework combines three fundamental elements:

- In the centre, in **blue**, is the **territory's performance**, with a clear distinction between: (i) the dimensions of economic/business performance which typically form part of the analysis of territorial competitiveness, and (ii) the dimensions of wellbeing whose needs territorial competitiveness must ultimately serve.
- On the right, in **green**, are the **dynamic levers of competitiveness** for the territory, which include all the factors that have some impact on the territory's competitiveness and wellbeing, and which may be affected or guided by policies and strategies (of stakeholders, governments and the territory itself).
- On the left, in **orange**, is the **structural context** of the territory, which includes characteristics which are largely given and which are neither good nor bad per se. These components change slowly over time, but it is possible to alter some of them in the medium to long term through policies or strategies focused on the dynamic levers. In other words, the levers not only affect economic/business perfor-

The framework distinguishes between dimensions of economic/business performance and dimensions of wellbeing

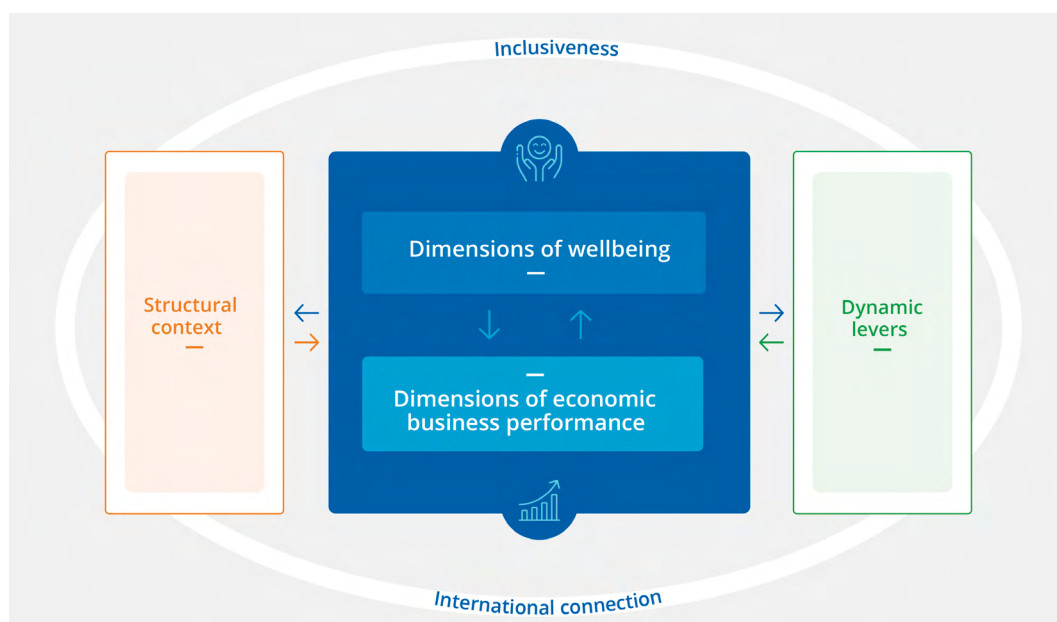
¹⁰ The most noteworthy initiatives, which are based on the contribution of such authors such as Stiglitz *et al.* (2009), include the OECD *How's Life* Reports (<https://www.oecd.org/statistics/how-s-life-23089679.htm>), incorporating quality of life indicators into the European Statistical System (<https://ec.europa.eu/eurostat/web/quality-of-life>), and the development and progressive implementation of the Sustainable Development Goals (SDGs) (<https://sdgs.un.org/goals>). Also worth noting are the specific developments in the area of territorial competitiveness (Aiginger and Firgo, 2017; Huggins and Thompson, 2012; Larrea, 2018; Wilson, 2008), and the recent Iñigo de Loyola initiative, driven by Orkestra in partnership with fourteen members of the Association of Universities Entrusted to the Society of Jesus in Latin America (AUSJAL), which has focused on the role of universities in fostering a new territorial competitiveness for inclusive and sustainable wellbeing (Aranguren and Canto, 2021).

¹¹ The framework used in previous Basque Country Competitiveness Reports also included indicators beyond economic progress in the 'final outcome indicators', but did not give them central importance or incorporate all the dimensions of wellbeing. For example, there was a particularly limited presence of indicators related to the environment.

¹² See Aranguren *et al.* (2021b).

mance, but they can also change some of the elements of the context. However, these changes have a longer time horizon.¹³

FIGURE 2.2 Performance, context and levers of territorial competitiveness



Source: Compiled by authors.

The two groups of dimensions of performance, the structural context and dynamic levers are discussed in greater detail below. We also present the entire framework, which includes inclusivity and the international connection as cross-cutting elements.

2.2.1 Dimensions of wellbeing

The dimensions of wellbeing reflect final outcomes in terms of personal wellbeing in the territory. This wellbeing is multidimensional, as initially highlighted by the capabilities approach and subsequently incorporated into wellbeing literature. However, as Stiglitz *et al.* (2018a, 2018b) and Kanbur *et al.* (2018) assert with regard to the Sustainable Development Goals (SDG) initiative driven by the United Nations, too many dimensions and goals make it difficult to communicate and clearly convey policy messages. Additionally, competitiveness has a greater impact on some dimensions than on others, and similarly to how the Quality of Life (Eurostat) and *How's Life* (OCDE) initiatives have done, it is advisable to organise the indicators measuring the territory's position in terms of the wellbeing of its residents into a limited number of dimensions. Following reflections based on the wellbeing literature and the different international frameworks used to analyse it, we have arrived at seven dimensions which encompass the 17 SDG.

The first dimension is general. It captures the life satisfaction of people living in the territory, a subjective indicator that is widely recognised as important for under-

¹³ For example, investments in the dynamic levers of physical capital or knowledge can affect the development of the economic and business structure of a territory.

The framework's seven dimensions of wellbeing encompass the 17 Sustainable Development Goals

standing the overall wellbeing of the population and which makes it possible to include issues and aspects not contained in the other dimensions. The other six dimensions are more specific in nature, and each one can be measured using a range of potential indicators. The definitions are set out in table 2-1, together with examples of indicators and their relationship with the SDGs.

TABLE 2.1 Dimensions of wellbeing

Dimension	Definition	Examples of indicators	Relationship with the SDGs
Life satisfaction	Life satisfaction expressed by persons living in a territory.	<ul style="list-style-type: none"> Life satisfaction. Gender gap in life satisfaction. 	
Material life	Material aspects of the life of persons living in a territory.	<ul style="list-style-type: none"> Equivalent median income. S80/S20 by income. Inadequate housing. 	<ul style="list-style-type: none"> SDG 1 (no poverty). SDG 2 (zero hunger). SDG 9 (industry, innovation and infrastructure).
Employment	Good quality jobs for persons living in a territory.	<ul style="list-style-type: none"> Unemployment rate. Job satisfaction. Gender pay gap. 	<ul style="list-style-type: none"> SDG 8 (decent work and economic growth).
Social life	Social aspects of the life of persons living in a territory.	<ul style="list-style-type: none"> Satisfaction with the time available. Confidence in people. Gender gap in sense of security. 	<ul style="list-style-type: none"> SDG 16 (peace, justice and strong institutions). SDG 17 (partnerships for the goals).
Learning	Lifelong education and training, learning and skills development of persons living in a territory.	<ul style="list-style-type: none"> Senior secondary or tertiary education. Lifelong learning. Average marks in mathematics, literacy and science. 	<ul style="list-style-type: none"> SDG 4 (quality education).
Health	Health of persons living in a territory.	<ul style="list-style-type: none"> Life expectancy. Gap in life expectancy by level of education. Self-perceived state of health. 	<ul style="list-style-type: none"> SDG 3 (good health and wellbeing).
Environment	Environmental conditions for persons living in a territory.	<ul style="list-style-type: none"> Air pollution. Greenhouse gas emissions. Urban waste recycling rate. 	<ul style="list-style-type: none"> SDG 3 (good health and wellbeing). SDG 6 (clean water and sanitation). SDG 7 (affordable and clean energy). SDG 11 (sustainable cities and communities). SDG 12 (responsible production and consumption). SDG (climate action). SDG 14 (life below water). SDG 15 (life on land).

NB: SDG 5 (gender equality and empower all women and girls) and SDG 10 (reduce inequality within and among countries) are cross-cutting across all seven dimensions of wellbeing.

Source: Compiled by authors.

2.2.2 Economic/business performance

The dimensions of economic/business performance reflect the outcomes of business activities and the economic system as a whole

The dimensions of economic/business performance reflect the results of business activities and a territory's economic system as a whole. They are particularly linked to SDG 8 (decent work and economic growth), SDG 9 (industry, innovation and infrastructure) and SDG 12 (responsible production and consumption). When analysing this performance, in keeping with the traditional analysis of territorial competitiveness, we can differentiate between the four main areas shown in table 2.2 (which includes examples of indicators for each).

It is important to note that, rather than constituting goals in themselves, the economic/business performance reflected in these dimensions reflects intermediate goals. In other words, in theory, these outcomes serve the final outcomes included in the dimensions of wellbeing and generally serve to achieve the latter. Nonetheless, in practice, the relationship between one and the other is not one-way. Instead, both types of factors and outcomes have a complex and mutual impact on each other. Studying that interaction thus constitutes an important research agenda in itself.¹⁴

TABLE 2.2 Dimensions of economic/business performance

Dimension	Definition	Examples of indicators
Productivity and GDP	Capacity of the territory's economic/business system to generate added value.	<ul style="list-style-type: none"> • GDP per capita (PPP). • Productivity: GDP per hour worked (€). • Productivity in manufacturing: GVA of manufactured goods per hour worked in manufacturing (€).
Profitability	Capacity of the territory's economic/business system to obtain profits from its activities.	<ul style="list-style-type: none"> • Unit labour cost (%). • Gross operating surplus (% GDP). • ROA (return on assets) (%). • ROE (return on equity) (%).
Innovation and entrepreneurship	Capacity of the territory's economic/business system to generate innovations and new firms.	<ul style="list-style-type: none"> • Innovative firms (%). • Firms with product innovation (%). • Firms with process innovation (%). • Sales of new or improved products (%). • High-growth firms (%).
Internationalisation	Capacity of the territory's economic/business system to expand abroad.	<ul style="list-style-type: none"> • Exports of goods and services (% of GDP). • Balance of international trade in goods and services (% of GDP). • Exports of goods (% of agro-industrial GVA). • Balance of international trade in goods (% of GDP).

Source: Compiled by authors.

¹⁴ For example, positive economic/business performance allows higher GDP and ceteris paribus, higher personal income, higher employment, increased public expenditure on education and health, greater social stability, more efficient use of natural resources and investment capacity in maintaining the environment, and generally, greater life satisfaction. And in turn, higher income level for the population allows more sophisticated demand, a higher level of skills and better individual health, which result in higher productivity, which has a positive impact on economic/business performance.

2.2.3 Structural context

The structural context includes a number of characteristics of the territory itself which are largely permanent or fairly stable over time. Consequently, they are not expected to experience major short-term changes produced by policies. Furthermore, to a large extent, structural characteristics are neither good nor bad in themselves, although public strategies and policies must take them into account. This is the case because both the type of challenges faced by stakeholders and the effects resulting from the measures taken will be different depending on these characteristics. In general, the suitability of policies will be determined by how well they fit the characteristics of the structural context: what is appropriate for one context may be wrong for another. For this reason, these characteristics are also fundamental elements to which attention must be paid in exercises which seek to identify territories that share similar initial conditions for benchmarking or comparison.¹⁵

The structural context includes characteristics of the territory itself which are largely permanent or stable over time

Within the structural context of a territory, it is possible to identify three dimensions related to the territory's geography and demographics, economic and business structure, and institutional structure (and value system). Table 2.3 shows the details of these three dimensions and identifies groups of indicators relating to each.

TABLE 2.3 Dimensions of structural context

Dimension	Definition	Groups of indicators
Geo-demographic	Factors related to geographic location, size, rural/urban make-up and population structure of the territory.	<ul style="list-style-type: none"> • Location. • Population structure.
Economic/business structure	Distribution of scientific and technological activity, industries/clusters and types of firms.	<ul style="list-style-type: none"> • Sectoral and scientific/technological structure. • Type of firm.
Institutional structure and values	Set of organisations and rules of the game, tangibles and intangibles that structure social, economic and political interactions in a territory.	<ul style="list-style-type: none"> • Political, administrative and legal system. • Culture and values.

Source: Compiled by authors.

2.2.4 Dynamic levers

There is a set of dynamic levers that operate on the context of competitiveness for inclusive and sustainable wellbeing. They have an impact on that level of competitiveness for wellbeing. These are elements with regard to which there is more margin for action and which combine to affect the economic/business performance of the territory and the present and future wellbeing of citizens. Acting on these levers can also produce medium- and long-term changes in some aspects of the structural context, such as for example, sectoral structure or scientific and technological structure.

The dynamic levers operate on the context of competitiveness and offer more margin for action

¹⁵ See, for example, the exercise in identifying territories for benchmarking conducted by Navarro *et al.* (2014).

To organise these levers of competitiveness, we have identified six dimensions around which there is broad consensus in the literature regarding their contribution to competitiveness and wellbeing. They represent the six types of 'capital' in an economy – natural capital, physical (produced) capital, financing, knowledge, human capital and social/institutional capital. Together, they mirror the explanatory factors or variables in a function of production for competitiveness for wellbeing.

Table 2.4 provides a definition of each lever, together with an idea of the groups of indicators which may be used to analyse them. In fact, in each one of the levers, it is possible to identify different types of indicators (resources or assets, use and productivity, opportunities and public policy), depending on the case, for in-depth analysis of the most important determinants of competitiveness for a specific territory. However, beyond their role in comparative analysis, these dynamic levers are particularly important for giving structure to reflections on the policies and/or strategies needed to move a territory's competitiveness and wellbeing in one direction or another, and so tackle the three transitions.

TABLE 2.4 Dynamic levers of competitiveness for wellbeing

Dynamic Lever	Definition	Groups of indicators
Natural capital	Natural factors which have a direct or indirect impact on creating economic value and wellbeing.	<ul style="list-style-type: none"> • Energy. • Other natural assets. • Biodiversity and ecosystems.
Physical capital	Tangible assets produced by humans which make it possible to create economic value and wellbeing.	<ul style="list-style-type: none"> • Investment and stock of physical capital. • Infrastructure. • Machinery and equipment.
Financing	Factors which make it possible to finance creating economic value and wellbeing.	<ul style="list-style-type: none"> • Firms. • Public administration. • Foreign.
Knowledge	ICT and intangible knowledge-based assets which make it possible to create economic value and wellbeing.	<ul style="list-style-type: none"> • R&D. • Intellectual property. • ICT.
Human capital	Training and education, health and labour market participation which have an impact on creating economic value and wellbeing.	<ul style="list-style-type: none"> • Health. • Education and training. • Job market.
Social and institutional capital	Systems of rules and organisation which structure social interactions, affecting the creation of economic value and wellbeing.	<ul style="list-style-type: none"> • Institutional quality. • Social capital.

Source: Compiled by authors.

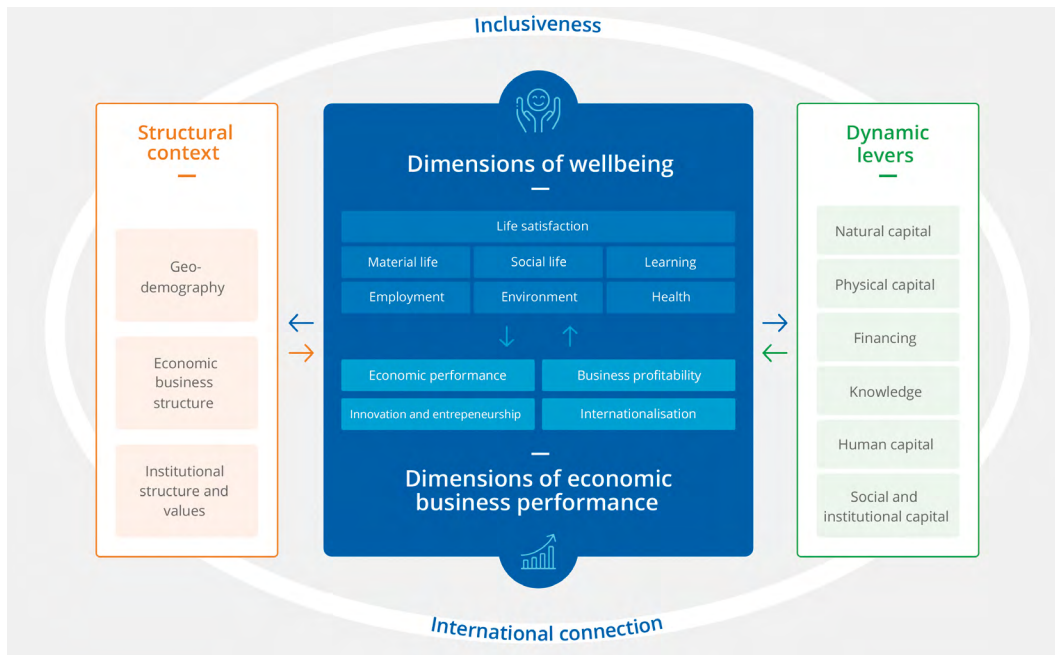
Inclusivity and international connection are critical cross-cutting elements for understanding competitiveness for wellbeing

2.2.5 The complete framework and cross-cutting elements

Figure 2.3 presents the complete framework for territorial competitiveness for wellbeing, incorporating the different dimensions discussed above. In addition to these dimensions, there are **two cross-cutting elements that are critical to understanding competitiveness for wellbeing**, and which cannot be limited to one dimension or another in the framework:

- **Inclusivity:** The ultimate aim of the framework is to support the achievement of inclusive wellbeing, which means that all the dimensions of performance and many of the dynamic levers must take this inclusivity into account in the analysis. This manifests itself in different ways which may have greater or lesser importance depending on the dimension analysed (wealth inequality, gender, race, age, sexual orientation, disability, etc.).

FIGURE 2.3 A new framework for territorial competitiveness for wellbeing



Source: Compiled by authors.

- **International connection:** Competitiveness is a concept closely linked to internationalisation, which has been assigned a clear and specific dimension in the analysis of economic/business performance. However, beyond being associated with a specific dimension of economic performance, international connection is also important in analysing the dimensions of wellbeing (for example, the environment) and levers that give rise to the competitiveness (for example, knowledge or financing).

It is essential to bear these two cross-cutting elements in mind in selecting indicators, in reflections on policies or strategies, and in formulating research agendas based on the framework.

2.3 From concept to practice: how to use the framework

Returning to the three main functions of a territorial competitiveness framework we explained at the start of the chapter, this new framework developed by Orkestra can be used in practice in three ways:

1. As a tool for **comparative assessments** that analyse the strengths and weaknesses of different factors of competitiveness and wellbeing. These assessments

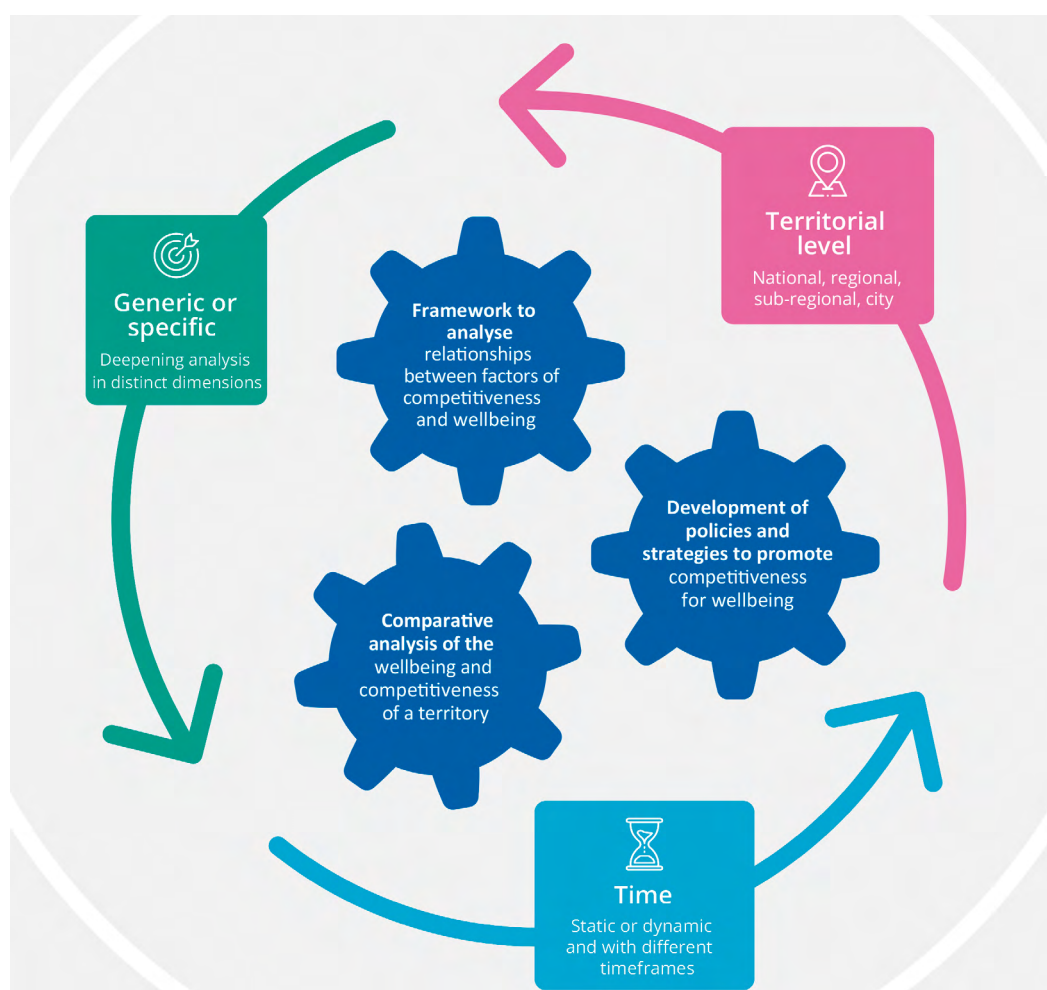
The new competitiveness framework developed by Orkestra has three possible utilisations

are useful for identifying the challenges to competitiveness and wellbeing in territories and helping guide their policies and strategies. The territories with which the territory under analysis is compared can vary (regions or countries in the European Union, Spanish autonomous communities, provinces, etc.), and the comparative analyses can be conducted over time, studying changes in the different dimensions of competitiveness and wellbeing in a territory.

2. As a tool for **fostering reflection on the policies and strategies of a territory which promote concrete changes**, such as for example, to tackle different aspects of the green, digital and demographic transitions. In this regard, the framework makes it possible to incorporate targets and goals to guide the development of these policies and strategies, and support their monitoring and tracking.
3. As a framework for **identifying and structuring research questions with regard to the relationship between the different factors of competitiveness and wellbeing**, thus contributing value to the international state of the art regarding territorial development and ultimately providing a better guide for practical experimentation with some policies and strategies.

In the context of these three uses of the framework, it is also worth noting three characteristics that are important for all of them, which are shown in Figure 2.4.

FIGURE 2.4 Uses of the territorial competitiveness framework in the service of wellbeing



Source: Compiled by authors.

The first characteristic is how they apply to different territorial units, from the country level to regions and even cities or municipalities. In this regard, the framework presented is multi-scale, and its shared use among different territorial units and agencies and bodies in each of them should be aimed at seeking greater coordination and complementarity among policies and strategies so that the overall impact is more beneficial. Additionally, the different dimensions of the framework are not equally important for every territorial unit, and in each dimension it will be necessary to identify the most important elements with regard to the possibility of formulating policies or strategies.

Secondly, how it can be applied to different time horizons. For both comparative analysis and for guiding policies and strategies, the framework makes it possible to analyse the present, as well as to conduct trend analyses of the past and to undertake reflections on challenges to work on in each dimension in the future.

The third characteristic is how it can be either applied for analysis of all dimensions of the framework as a whole, which makes it possible to gain a systemic perspective and even help to understand the relationships between different dimensions, or to perform studies of specific dimensions individually, and so delve further into a specific analysis that is contextualized in a more general framework.

Lastly, it is important to highlight that no framework can reflect the complexities of territorial competitiveness and its relationships with wellbeing without having certain overlaps or imperfections in how different factors are handled (and in how the available indicators are assigned to them). In this regard, the framework presented here should be viewed as a dynamic framework which will evolve over time, guided by the experimentation and learning that emerge from its use.¹⁶ To continue this journey, in the following chapters of this report, we will use it as follows: (i) to provide structure for an analysis of the assessment of the Basque Country's performance, covering all the dimensions of wellbeing and economic/business performance; and (ii) to experiment with an exploratory analysis of different elements of the dynamic levers of competitiveness, a deeper analysis of which we anticipate being central themes of future reports.

The framework can be applied to different territorial units, time horizons, and the dimensions as a whole or individually

The new competitiveness framework will evolve, guided by experimentation and the learning that emerges from its use

¹⁶ In the context of the Basque Country, it is already being used to guide analyses in projects with such stakeholders as the Provincial Council of Bizkaia and the Basque Government, adapting to the learning from these processes. At the international level, it is also being used to guide a research agenda on the relationship between the dimensions of economic performance (productivity) and dimensions of wellbeing, in collaboration with the OECD Spatial Productivity Lab.

3

Competitiveness and wellbeing in the Basque Country: An analysis

In this chapter, we begin to apply the central part of the framework to assess the performance of the Basque Country in both the seven dimensions of wellbeing and the four dimensions of economic/business performance.

Analysis of the central part of the framework is based on indicators selected for their suitability and feasibility

The analysis is based on indicators that have been selected bearing in mind, one, their relevance for understanding the dimension in question (the suitability of the indicator) and two, the availability of recent comparable data (the feasibility of the indicator). Like in previous editions of the competitiveness report, we have attempted to select indicators that allow comparisons to be made with other European regions. However, to increase the incorporation of more suitable indicators, in some cases comparisons are only made with other countries, the Spanish average or other autonomous communities. For ease of analysis, we have selected the following territories: i) two European regions (Baden-Württemberg and Upper Austria) which were already the focus of analysis in the 2020 Competitiveness Report due to their similar characteristics to the Basque Country and positive economic and social performance; ii) Germany as a reference country in Europe; iii) the EU with 27 members (EU-27), to determine the comparison with the average European reality; and iv) Spain, to learn how the Basque Country compares with the national average. We will present the data for these territories whenever they are available.

Furthermore, the assessment combines a look at the present, based on the most recent data available, with an eye on trends that make it possible to analyse how the situation has evolved in recent years, specifically, since 2013, the year the previous economic crisis hit rock bottom and we began to see a recovery. In some cases, we present the comparison between the two years, and in others, we supplement this by discussing trends across the years in that period.

3.1 Dimensions of wellbeing

3.1.1 *Life satisfaction*

The **life satisfaction** indicator captures subjective feeling with regard to quality of life. Eustat (Basque Statistics Office) calculates this through the Wellbeing Survey. The

results indicate that, despite the pandemic, life satisfaction among the Basque population showed a slight improvement, going from 7.4 in 2018 to 7.5 in 2020.¹⁷ This indicator is not directly comparable with that for other territories, but it can be examined through the European Social Survey (ESS),¹⁸ which is conducted in several countries every two years. However, due to the pandemic, there has been some delay, and it is only available up to 2018. Table 3.1 presents the indicators for both the population as a whole and the possible gender gap. We can see that average satisfaction among the Basque population is slightly lower than that of the two comparable European regions, higher than the average for the EU-27 and Spain, and very similar to Germany. Satisfaction increased in both the Basque Country and the other territories compared to 2014 values, when the effects of the financial crisis may still have been felt.

Despite the pandemic, life satisfaction among the Basque population improved slightly

TABLE 3.1 Indicators of life satisfaction

	Last available year							Closest year to 2013						
	Year	Basque Country	Spain	Germany	EU-27	Baden-Württemberg	Upper Austria	Year	Basque Country	Spain	Germany	EU-27	Baden-Württemberg	Upper Austria
Life satisfaction	2018	7.7	7.4	7.6	7.1	8.0	8.0	2014	7.1	7.0	7.4	7.0	7.7	6.9
Gender gap in life satisfaction (%)	2018	-4.5	0.5	1.2	0.9	-5.5	-1.5	2014	1.9	-1.3	1.1	5.3	1.1	2.0

Source: European Social Survey (ESS). Compiled by authors.

NB: The EU-27 average has been calculated including the number of EU-27 countries surveyed each year. In 2014, there were 17 countries, and in 2018 this included 22 countries.

Secondly, in the **gender gap** indicator,¹⁹ positive values indicate that the average value of the indicator is higher for men than for women. The opposite is true for negative values. In this case, we can conclude that satisfaction levels are quite similar for both genders, as we do not see a clear difference that continues over time. Thus, for example, women in the Basque Country rate their life satisfaction as 4.5% higher than men (a total of 7.9 for women and 7.5 for men). This is also the case in the other territories, with the exception of Baden-Württemberg. Comparison with 2014 indicates that values have changed direction in almost every territory. There is a similar result with the life satisfaction indicator in the Eustat Wellbeing Survey, in which we see that in some years, satisfaction is slightly higher for men (2017 and 2018), and in others, it is women who express greater satisfaction (2014, 2019 and 2020).

¹⁷ See: https://www.eustat.eus/elementos/la-satisfaccion-global-con-su-vida-de-la-poblacion-de-la-c-a-de-euskadi-aumenta-en-2020-a-pesar-de-la-pandemia-/not0018806_c.html

¹⁸ See: <https://www.europeansocialsurvey.org/>

¹⁹ In this and other report indicators that measure the gender gap, this is calculated as: Gap = (1 - average value of the indicator for women/average value of the indicator for men) *100

3.1.2 Material life

The material dimensions of life include various indicators that include: i) the monetary resources available to the population, ii) the inequality in the territory with regard to this income, and iii) access to decent housing, a basic element of material life. The values of the three indicators are shown in Table 3.2.

TABLE 3.2 Material life indicators

	Last available year					Closest year to 2013				
	Year	Basque Country	Spain	Germany	EU-27	Year	Basque Country	Spain	Germany	EU-27
Median equivalent income (PPP)	2019	22 638	16 171	22 693	17 325	2013	20 285	14 250	19 478	14 962
S80/S20 by income*	2020	4.4	5.9	4.9	5.0	2014	4.2	6.8	5.1	5.2
Housing with deficiencies (%)	2019	14.4	14.7	12.0	12.7	2013	16.3	16.7	13.1	15.6

Source: Eurostat, INE and Eustat. Compiled by authors.

NB: (*) The last year available for EU-27 countries is 2019.

To analyse average income, we have used **equivalent median income**. The indicator is considered more suitable for measuring the level of wellbeing among citizens than GDP per capita, which is included in the economic outcome indicators. This is so because it measures household income (rather than the economy as a whole), and it does so for the average household, eliminating the distorted image which average income can give if there are high levels of inequality.²⁰ This indicator can be calculated using the Eustat Survey on Poverty and Social Inequalities (EPDS in its Spanish acronym), which is conducted every two years. For 2020, it indicates that median income was €18 963, a significant increase over the value for 2018, which was €16 855.

This indicator is not directly comparable with that for other territories. The territorial comparison provided in Table 3.2 shows that the position of the Basque Country for this indicator, in purchasing power parity terms, is quite a bit higher than the Spanish average and the European average, and is very close to the German average. Likewise, we see that in all territories, the value of the indicator has increased in comparison with 2013.

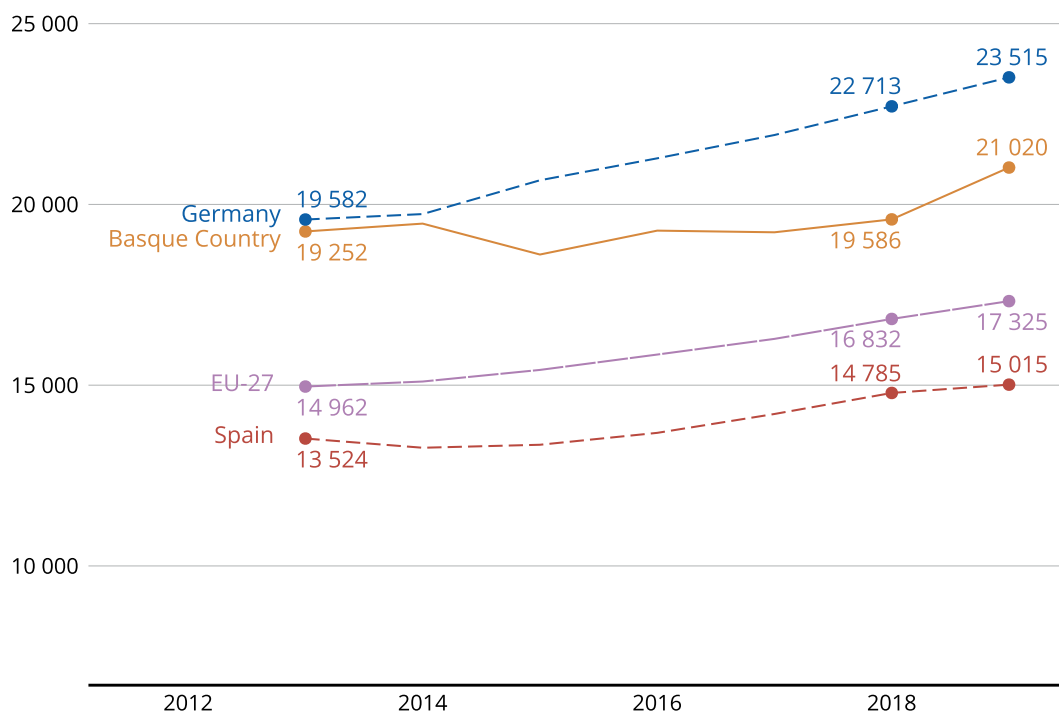
One detail which should be mentioned is that calculations in purchasing power parity terms are considered suitable for making international comparisons because they adjust for the difference in prices between different countries. However, by applying the same scale to all the regions in a country, it does not take into account the differences within it. Given that average prices are higher in the Basque Country than in Spain, the adjustment from euros to PPP should be lower than what was carried out. As Graph 3.1 shows, if the indicator is calculated in euros, the Basque Country continues to have higher income levels than Spain and the EU-27, but is below the aver-

²⁰ Equivalent median income also takes into account household makeup. Therefore, it also adjusts for differences that could be caused by the different makeup of households in different areas.

The Basque Country's position in equivalent median income in PPP terms is quite a bit higher than the Spanish and European averages, and very close to the German average

age levels for Germany.²¹ What is more, this difference comes about from 2015. That year, German income began an upward trend which has continued quite steadily, while income in the Basque Country only increased considerably since 2019, when it clearly exceeded the value for 2014.

GRAPH 3.1 Equivalent median income (euros, 2013-2019)



Source: Eurostat and INE. Compiled by authors.

As regards **level of inequality** —measured by means of the S80/S20 ratio, which compares the income of the richest 20% of the population with the poorest 20%— the Basque Country has less inequality than the other territories taken into consideration.²² However, unlike the other territories, where inequality fell between 2014 and 2019 (slightly in the case of Germany and the EU-27 and significantly in Spain), in the Basque Country, it increased slightly between 2014 and 2020. This appears to have been the result of the pandemic, as in 2018 the rate was 4.1 in the Basque Country. In the other territories, it is not yet possible to determine the impact of the pandemic, as the figures for 2020 are not available. In Table 3.2, the figure for the Basque Country in this indicator comes from the EPDS. The alternative data provided by the INE (Spanish National Statistics Institute) give a more unfavourable image of the Basque Country, starting with higher inequality in 2014 (5.2), which remained fairly constant in 2019 (5.3), above the European average. Regardless of which of these values are more accurate, it is important to bear in

Inequality is lower in the Basque Country than in the benchmark territories

²¹ It should be taken into account that the values are given in current euros. Therefore, they are not adjusted for inflation.

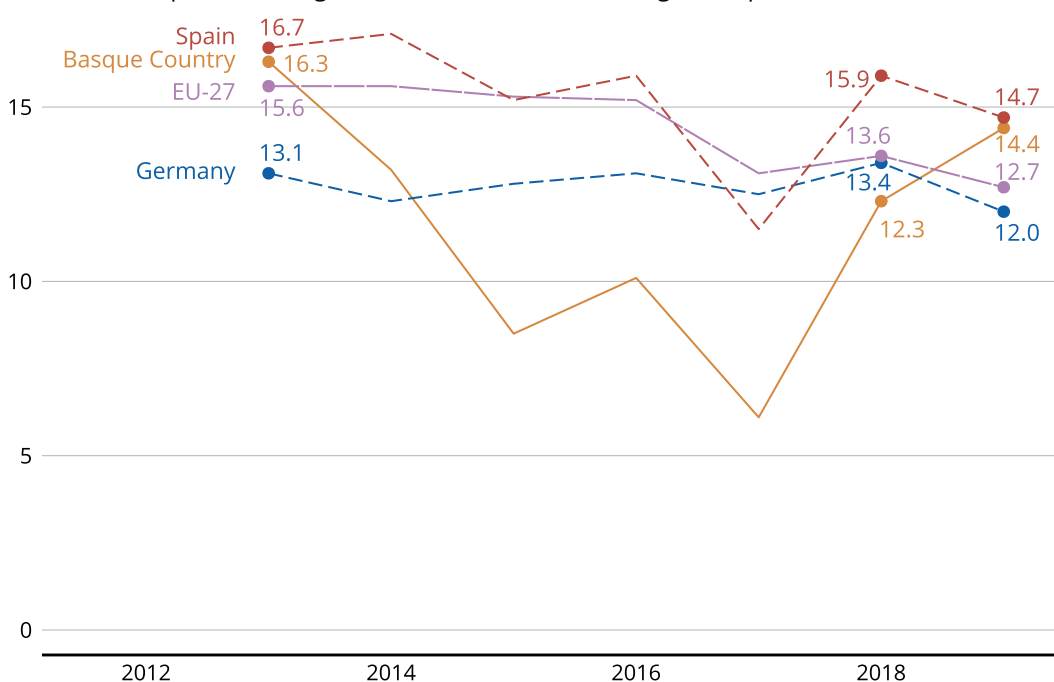
²² This indicator is available for some European regions, including regions in Austria, but in the case of this country, only between the years 2014 and 2018. This is why Upper Austria is not included in the table. The values for this region (3.5 in 2014 and 3.7 in 2018) indicate that it has lower levels of inequality than that of the Basque Country.

mind that the pandemic has increased levels of inequality, especially considering that, just as the *Basque Country Competitiveness Report 2020* showed, in 2018 the population in all economic strata did not attain its 2008 purchasing power, and it was the population strata with the lowest purchasing power that suffered most in the crisis.

Lastly, the percentage of the population living in homes with certain housing inadequacies (including leaks; dampness on the walls, floors, ceilings or foundations; or rotting in the floors, window frames or doors) has been chosen as an indicator to measure **access to decent housing**, a fundamental pillar of individual inclusion. According to this indicator, there has been an improvement when compared to 2013. However, even so, the percentage of people in the Basque Country living with these inadequacies is only slightly lower than in Spain and is above the average for both Germany and Europe. The Eustat data, which differ somewhat from those provided by the INE and are calculated every two years, point to a decline in the indicator between 2010 (when it was 7.7%) and 2018 (when it reached 14.2%). However, in 2020 there was a considerable improvement, with the figure falling to 10.5%. The time we have spent in confinement during the pandemic has highlighted even more the impact that our living space has on our wellbeing. For this reason, it is important to ensure that the change in trend is consolidated.

The percentage of people in inadequate housing is slightly lower in the Basque Country than in Spain and higher than the German and European average, but it improved in 2020

GRAPH 3.2 Population living in homes with certain housing inadequacies (% , 2013-2019)



Source: Eurostat and INE. Compiled by authors.

3.1.3 Employment

Paid work has an impact on personal wellbeing not only because it is a main source of income, which makes it possible to improve material conditions, but also because it is an important factor in inclusion, enabling the achievement of professional and

personal fulfilment. Thus, as shown in table 3.3, it is not only a matter of having a job, but about the quality of the job.

TABLE 3.3 Employment indicators

	Last available year							Closest year to 2013						
	Year	Basque Country	Spain	Germany	EU-27	Baden-Wurtemberg	Upper Austria	Year	Basque Country	Spain	Germany	EU-27	Baden-Wurtemberg	Upper Austria
Unemployment rate (aged 15-74)	2020	9.5	15.5	3.8	7.1	3.2	3.9	2013	16.6	26.1	5.2	11.4	3.3	4.3
Job satisfaction	2018	7.2	7.3	7.0	7.2	—	—	2013	7.2	6.9	6.9	7.1	—	—
Gender pay gap	2019	9.5	10.3	—	—	—	—	2013	19.6	16.8	—	—	—	—

Source: Eurostat, INE and Eustat. Compiled by authors.

The first indicator analysed is, therefore, the **unemployment rate**, which allows us to determine what percentage of the labour force, that is, those people willing and available to work, could not find a job. The data show that this rate was 9.5% in 2020, a little over 9.2% in 2019, having fallen considerably compared to the value for 2013. It should be noted that these people do not include those who were included in Temporary Redundancy Plans (ERTE in its Spanish acronym), who continue to be considered employees despite not working. The data also show that, despite progress, the unemployment rate was above the European average and considerably higher than the average for Germany and the two regions used as benchmarks. Therefore, consolidating job creation so that the people who want to work can do so continues to be a major challenge.

The unemployment rate is higher than in the benchmark territories and much lower than in Spain

Table 3.3 also includes the **average job satisfaction** indicator, as a subjective evaluation of job quality.²³ There are no significant differences between the different territories, and values have changed little since 2013. However, it should be taken into account that there are various factors which affect job quality, some of which (such as temporary or unwanted part-time work) have been analysed in previous competitiveness reports. It was concluded that, as with unemployment rates, the Basque Country is also in a worse position than the European and German average for these indicators. In addition, we see considerable differences between genders, as the rate of temporary work and especially unwanted part-time work is higher in the case of women than among men.

The rate of unwanted part-time work is higher among women than men

The indicator chosen to analyse gender differences is the **pay gap**, measured in terms of hourly wage. As indicated in the report on gender gaps in the Basque job market put together by Iseak for Emakunde (De la Rica *et al.*, 2019), the pay gap in terms of annual or monthly salary reflects gender differences in terms of total com-

²³ In the Basque Country, data are also available for 2020, when the figure was 7.3, one tenth above the value for 2019, the latter being comparable with the other territories.

The pay gap between men and women has shrunk in recent years

pensation. However, this compensation depends on two factors: the total number of hours worked, and the wage paid for each hour worked. As part-time and temporary work are more prevalent among women than men, the lower number of hours worked largely explains why the average pay received by women is lower than that of men. Despite this, the data in Table 3.3 indicate that the pay gap per hour worked still persists,²⁴ showing that women in the Basque Country are paid an average of 9.5% less than men, a slightly higher figure than that for Spain. This is partly due to the fact that there are also differences between men and women in terms of education level, occupations they hold or industries in which they work, and these differences take the form of wage differences. As a positive aspect, it should be noted that the gap has been shrinking considerably with regard to figures in 2013 and that this has meant that the Basque Country's position has flipped in comparison with Spain.

3.1.4 Social life

The time spent on leisure and interacting with other people has a considerable impact on the subjective feeling of wellbeing, happiness and life satisfaction. Table 3.4 shows various indicators selected to measure this area of wellbeing.

TABLE 3.4 Social life indicators

	Last available year							Closest year to 2013						
	Year	Basque Country	Spain	Germany	EU-27	Baden-Württemberg	Upper Austria	Year	Basque Country	Spain	Germany	EU-27	Baden-Württemberg	Upper Austria
Satisfaction with the time available	2018	6.9	6.8	6.7	6.8	—	—	2013	6.9	6.7	6.5	6.7	—	—
Confidence in people	2018	5.7	5.1	5.3	4.9	5.6	5.8	2014	5.0	4.9	5.0	4.8	5.3	5.1
Gender gap in the sense of security	2018	22.3	22.9	30.8	22.0	27.6	23.3	2014	28.8	23.9	30.4	24.7	32.4	9.5

Source: ESS, Eurostat, INE. Compiled by authors.

The Basque Country ranks higher than the European, Spanish and German averages in confidence in people

Firstly, it is worth mentioning that there are no major differences in the average level of **satisfaction with time available** between the territories analysed, and this has remained very consistent over time. However, when looking at the average value of the **confidence in people** indicator, one of the characteristics of social life and closely related to the social capital that is analysed as a lever of competitiveness, there is a slightly greater variation. The Basque Country's position is at a similar level to Baden-Württemberg and Upper Austria, above the European, Spanish and German averages. This is something which has changed in comparison to the

²⁴ The pay gap data provided by the INE are not directly comparable with those on Eurostat for European countries. The Eurostat data indicate that the pay gap in Spain (11.9) is lower than in the EU-27 (15.2) and Germany (20.1). It is therefore possible to consider that the pay gap in the Basque Country is also lower than in those territories.

situation in 2014, when the difference between the other territories was smaller. The Basque Country and Upper Austria are the territories which have shown the greatest improvement. In the case of the Basque Country, this may be related to the end of terrorist violence, which may have contributed to greater confidence in other people.

Being able to enjoy leisure and social relationships is also related to the possibility of doing so in an environment that is considered safe. However, the **sense of security** is not perceived equally by different groups. Therefore, this indicator, calculated using European Social Survey data, has been selected to evaluate the difference between genders. According to the data in Table 3.4, women feel more insecure than men in all the territories under consideration. In the case of the Basque Country, the average score for security among women was 22.3% lower than for men, a very similar value to the European and Spanish averages, and lower than that of Germany and Baden-Württemberg, where the gender gap in perception of security is larger. The table also indicates that the situation has improved in comparison with 2013. However, this contradicts what is indicated by the values that can be calculated with data from the Eustat Wellbeing Survey. According to this source, the gender gap in sense of security went from 25% in 2014 (when 66% of women stated that they felt safe walking alone in their area of residence, compared to 88% of men) to 35% in 2019 (when the percentage of women who stated that they felt safe was 55% and the percentage for men was 85%). Despite the fact that the sources point to a different trend in the indicators, in both cases, they indicate a considerable gap. This is therefore something to be taken into account if we want to achieve greater parity between men and women in levels of wellbeing.

The average score for sense of security is lower among women than men in the Basque Country

3.1.5 Learning

Education has value in itself as a response to the basic human need to learn. It likewise has a very positive impact on other dimensions of wellbeing, as higher levels of education are usually associated with better jobs and pay, healthier lifestyles and greater political and civic involvement, while also providing the skills necessary for better integration into society. Table 3.5 includes several indicators to evaluate both the education level achieved and the fact that learning continues throughout life and the quality of the education received.

TABLE 3.5 Learning indicators

	Last available year							Closest year to 2013						
	Year	Basque Country	Spain	Germany	EU-27	Baden-Württemberg	Upper Austria	Year	Basque Country	Spain	Germany	EU-27	Baden-Württemberg	Upper Austria
Senior secondary or tertiary education	2020	75.3	62.9	85.7	79.0	84.9	85.9	2013	68.1	55.5	86.7	74.7	85.8	81.6
Lifelong learning	2020	13.1	11.0	7.7	9.2	8.2	10.6	2013	13.6	11.4	7.9	9.9	8.9	12.7
Average marks in mathematics, literacy and science	2018	487	480	500	484	—	—	2012	503	489	515	491	—	—

Source: Eurostat, OECD (Pisa Report). Compiled by authors.

The gap is closing between the Basque Country and European territories in senior secondary or tertiary education

The **senior secondary or tertiary education** indicator, measured as the percentage of the population aged between 25 and 64 that have achieved these education levels, determines whether the adult population attains education levels above that of compulsory education. This is a rather structural indicator that advances slowly when older people, generally with lower education levels, move out of the age band under consideration and are replaced by younger people who have generally attained higher levels of education. This is reflected in data in the table, with this indicator going from 68.1% to 75.3%. Although this percentage is clearly above the Spanish average, it is still lower than the other territories under consideration, which are almost 10% above the Basque Country's figure. It is positive, however, that this gap is narrowing. Looking at annual data shows that the gap has narrowed particularly in the last year, when the indicator rose almost 3% (from 72.1% to 75.3%), compared to smaller increases of 1% in previous years. It would be unusual for such a significant improvement in an indicator which, as mentioned, is structural in nature, to be repeated in successive years, and it may be expected to be followed by more measured improvements.

Learning cannot be considered a process that is restricted to the early stages of life. Due to both changing demands in the work environment and individual motivation to continue developing on a personal level, another of the indicators analysed is **lifelong learning**, measured as the percentage of the population aged 25 to 64 who have taken part in training and education activities or learning in the four weeks prior to being interviewed in the Labour Force Survey. The data show that this is one of the indicators in which the Basque Country stands out in a positive way, as the percentage in 2020 was 13.1, being higher than the other territories and above the 10% target set by the European Commission. The percentage has dropped slightly compared to 2013, when it was 13.6. Moreover, it is advisable to take into account that there are European countries where the levels are much higher (e.g. Sweden 28.6%, Finland 27.3%, Denmark 20.0%) and that it is also important to consider the average duration of these courses, which is generally short in the Basque Country and Spain (in the case of people in work) when compared to countries like the United Kingdom.

Lastly, we must consider that learning may vary with regard to the **quality of the education received** and individual capability to turn that education into both basic and applied knowledge. The OECD Pisa report is a benchmark in this area for a systematic and comparable international evaluation of what young people know and are able to do upon completing their initial secondary education. The indicator selected gives average marks in mathematics, literacy and science. The data show that the value for the Basque Country is somewhat better than the European and Spanish averages but worse than that of Germany. We also find that in all the territories under consideration there has been a drop in this indicator. This points to a need to share the challenge of improving the quality of education for young people with other territories. However, this does not mean it ceases to be an aspect which must continue to improve.

In education quality, the Basque Country ranks higher than the European and Spanish averages but lower than Germany

3.1.6 Health

Health is one of the most highly valued aspects of personal life. Furthermore, it generates virtuous circles with other dimensions of wellbeing, as people with good

health have more opportunities to participate in the job market and both educational and leisure activities, thus increasing their quality of life. Table 3.6 shows the indicators that measure health, both objectively and subjectively.

TABLE 3.6 Health indicators

	Last available year							Closest year to 2013						
	Year	Basque Country	Spain	Germany	EU-27	Baden-Württemberg	Upper Austria	Year	Basque Country	Spain	Germany	EU-27	Baden-Württemberg	Upper Austria
Life expectancy	2019	84.0	83.6	81.3	81.3	82.3	82.3	2013	83.1	82.8	80.6	80.5	81.9	81.4
Gap in life expectancy by level of education	2019	4.4	4.6	—	—	—	—	2016	2.8	4.6	—	—	—	—
Self-perceived state of health	2019	72.1	75.3	65.5	68.6	—	—	2013	69.7	71.7	64.9	66.5	—	—

Source: Eurostat, INE. Compiled by authors.

The first indicator is **life expectancy at birth**, which is higher in the Basque Country than in the rest of the territories under consideration. However, the data —still provisional in the case of the EU-27 countries and not available for the other European regions— indicate that the pandemic has cut life expectancy much more markedly in the Basque Country (where life expectancy was reduced by almost one year, going from 84.0 to 83.1 years) and Spain (where the decline was more than one year, dropping from 83.6 to 82.4 years), than in Germany (where it was only reduced by two tenths, to 81.1 years).

Life expectancy depends on various factors, and as mentioned above, there appears to be a positive correlation between the individual education level and life expectancy. This is the aspect included in the table as **gap in life expectancy at age 25 between people with a tertiary education and people with a primary or lower level of education**. This indicator is only available at the national level and since 2016. These data indicate that in both the Basque Country and Spain, the gap is around 4.5%. In the case of the Basque Country, this means that in 2019, a person aged 25 with basic education had a life expectancy 2.6 years less than that of a person of the same age with higher education, quite a considerable difference. This gap, which reflects one dimension of inclusivity, increased compared to the situation three years earlier.

Lastly, the objective evaluation of state of health measured using life expectancy is supplemented by a subjective evaluation of the **self-perceived state of health**, which is calculated as the percentage of people aged 16 or older who state that they are in good or very good health in the Living Conditions Survey. As with life expectancy, self-perceived state of health is better than the European and German averages. However, in this case, it is lower than the values for Spain. In this indicator, we also see a positive trend between 2013 and 2019. And in this case, there are still no data to assess whether the pandemic, in addition to its negative impact on life expectancy, has had the same effect on self-perceived state of health.

The gap in life expectancy at age 25 between people with tertiary education and people with primary education or less has widened

Self-perceived state of health is higher than the European and German averages but lower than the values for Spain

3.1.7 Environment

Regeneration, preservation and proper management of the environment are essential to achieving sustainable development. Firstly, environmental conditions have a direct impact on the health and quality of life of the people currently living in the territory, but they also have an effect on the wellbeing of future generations. Mitigating the risks deriving from climate change and adapting economies and societies to the new environmental reality have become a major challenge for the entire planet. The latest report from the United Nations Intergovernmental Panel on Climate Change (IPCC), published in August 2021, confirms that environmental conditions have changed for the worse throughout the entire planet due to the impact of human activity. If current trends continue, it is estimated that the planet's temperature will broadly exceed the 1.5°C limit established in the 2015 Paris Agreement. To limit the effects of climate change in upcoming decades, it will be necessary to reach zero net CO₂ emissions worldwide by 2050. This would entail drastic changes in how energy and materials are used and the need to protect the natural environment. Table 3.7 shows the indicators measuring key aspects related to this dimension.

TABLE 3.7 Environment indicators

	Last available year							Closest year to 2013						
	Year	Basque Country	Spain	Germany	UE27	Baden-Wurtemberg	Upper Austria	Year	Basque Country	Spain	Germany	UE27	Baden-Wurtemberg	Upper Austria
Air pollution (PM2.5 microparticles)	2019	8.1	10.0	11.9	13.2	11.2	12.0	2013	9.3	10.6	13.7	14.8	13.7	14.4
Greenhouse gas emissions (tons of CO ₂ equivalent per capita)	2019	8.5	7.1	10.1	8.4	—	—	2013	8.6	7.2	12.0	9.1	—	—
Urban waste recycling rate	2018	41.6	34.8	67.1	47.2	—	—	2013	40.6	32.5	63.8	41.5	—	—

Source: Eurostat, Eustat, OECD, Basque Department of the Environment, Territorial Planning and Housing. Compiled by authors.

We first analyse the **average level of air pollution**, measured in PM2.5 microparticles, experienced by the population. It is positive to observe that levels in the Basque Country are below the rest of the territories, both countries and benchmark regions, and that progress is being made in all of them, which will have an impact on the wellbeing of citizens.

Greenhouse gas emissions levels have declined very little since 2013

However, when the analysis shifts to **levels of greenhouse gas emission**, some of which are also pollutants, we see that levels in the Basque Country are lower than in Germany, but quite on par with the European average and above levels in Spain. This is undoubtedly related to the type of economic activity carried out in each location. However, the fact that these levels have scarcely dropped in the Basque Country since 2013, unlike that of other locations, seems to indicate that greater effort must be made to reduce this type of emissions. Only by doing so will it be possible to meet the targets set in the European Green Deal Climate and Energy Framework: reducing

greenhouse gas emissions by 40% compared to 1990 levels.²⁵ Continuing with this argument, in Box 1 we provide a disaggregated analysis of the carbon footprint associated with consumption in the Basque Country. The 2020 data, not yet available, will most likely show that these levels have declined due to the reduction in industrial activity caused by the pandemic. The challenge consists of resuming economic activity through investment in improvements that make it possible to make progress towards sustainability.

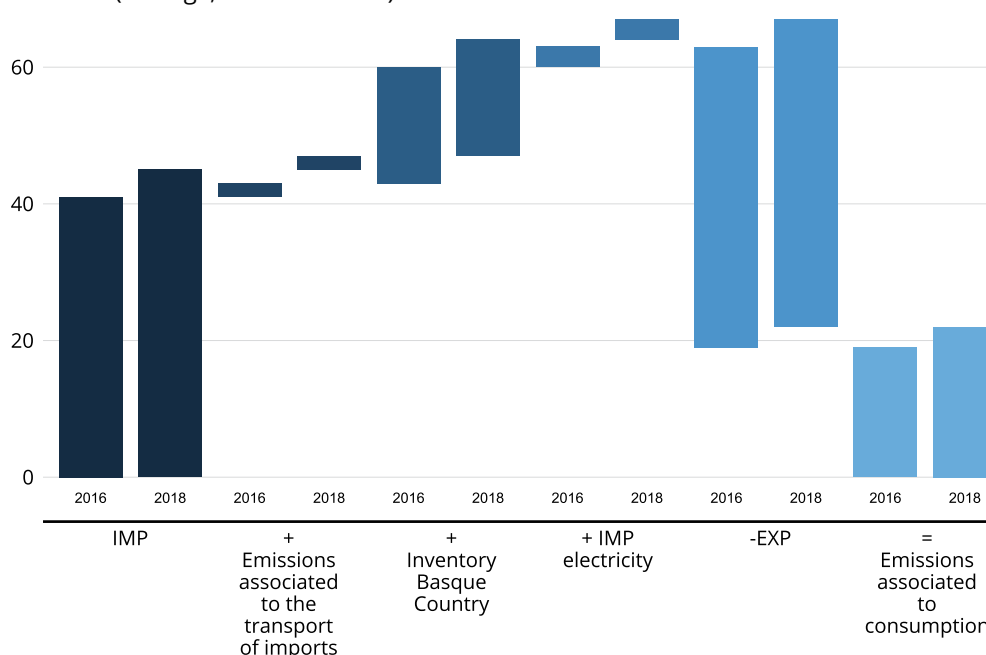
Lastly, as a method of measuring the attitudes of citizens towards caring for the environment, we have included an indicator titled **urban waste recycling rate**.²⁶ The data show that, although we are above the Spanish average, we are still below the European average and considerably behind levels in Germany. In addition, although the trend is positive compared to 2013, the rate only increased by 1%, compared to higher increases in other territories. A higher recycling rate can also be achieved by firstly, increasing the volume of waste separated for recycling, but also reducing waste generation.

The recycling rate for urban waste has only risen one percentage point since 2013

BOX 1 Carbon footprint of the Basque economy

In 2018, consumption-based emissions in the Basque Country totalled 21.8 million tonnes of CO₂ equivalent. Emissions linked to imports and exports largely offset each other, and transport-related emissions for imports were 1 922 million tonnes.

GRAPH 3.3: Consumption-based emissions in million tonnes of CO₂ equivalent (average, 2016 and 2018)



Source: Compiled by authors based on Larrea Basterra and Álvaro Hermana (2020), Agencia Tributaria, C-Intereg, Ecoinvent.

NB: When we refer to production-based emissions, this includes emissions in the Basque Country inventory plus emissions from electricity imports.

²⁵ See: https://ec.europa.eu/clima/eu-action/climate-strategies-targets/2030-climate-energy-framework_es.

²⁶ It is important to acknowledge that this indicator not only reflects attitudes among the population but also depends on the infrastructure capacity of public or private services for recycling urban waste.

Taking these 2018 results into account, which are provided by an update to estimates made for 2016 (Larrea Basterra and Álvaro Hermana, 2020), it is possible to assert that there is a need for the Basque Country to reduce emissions, given that the growth of economic activity over the 2016-2018 period led to a rise in consumption-based greenhouse gas (GHG) emissions.

However, in an industrial economy such as the Basque Country, there is a great balance between emissions from imports and exports. Beginning with the import side, progress must be made on purchasing products where production is more efficient in terms of GHG emissions. This is no simple task, but the European Union (EU) Carbon Border Adjustment Mechanism proposed in July 2021 should make it possible to obtain information about the carbon content of imported products. Moreover, the tax which this measure will impose on products coming into the EU territory could boost the import of products with lower emissions.

As far as the transport of imports is concerned, the associated emissions have increased at a proportionally lower rate than imports, which may be considered positive. To improve this parameter, it is necessary to optimise intermodal transport combinations. And along the same lines, sea transport should be promoted, as opposed to road or air transport (which would also support many activities linked to ports). Likewise, the use of rail, ‘the great forgotten’, could be promoted, when it is an environmentally efficient means of transport. Promoting these means of transport for both long and short distances will have a significant impact, given the high volume of movements in the territories closest to them.

It is also necessary to continue with efforts to reduce emissions linked to production processes taking place in the Basque Country. Some of the products with the highest emissions (e.g. crude oil and petroleum derivatives, metallurgy and wood) are linked to activities such as oil refining and metallurgy (iron and steel plants, foundries, non-ferrous metallurgy). Given their large share in the Basque economy, it will be important to take coordinated measures that make it possible to adapt these activities to the new standards required.

Likewise, it will be necessary to reduce emissions from electricity imports, which will primarily involve attaining a better decarbonised electricity mix at the Spanish and EU levels, as well as signing contracts for the purchase of electricity from renewable sources. This is also a way to generate added value in the Basque economy, which boasts an energy cluster and potential in the sphere of renewable energies.

All these reductions of GHG emissions will lead to a drop in those linked to exports, as the emissions linked to the product life cycle will have largely been reduced. The result will be a decrease in consumption-based emissions, which can be optimised with proper waste management and progress towards a low-carbon economy.

3.2 Dimensions of economic/business performance

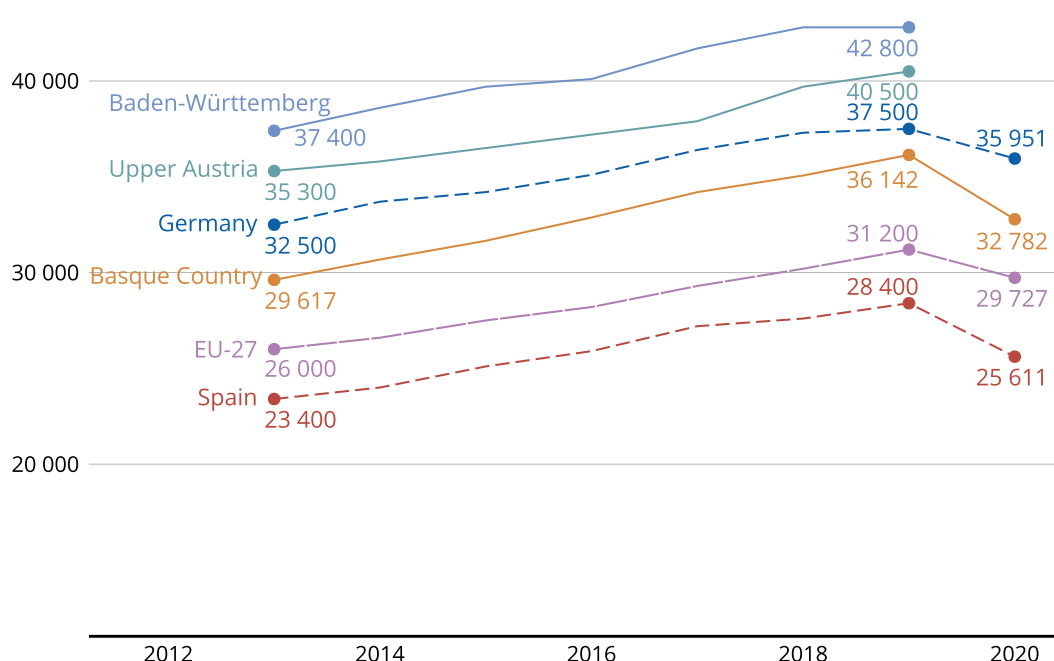
3.2.1 *Economic performance*

In this section, we discuss the capacity of a territory’s economic/business system to generate wealth and added value, in the understanding that this is an intermediate objective with the aim of increasing personal wellbeing. This will in turn create favourable conditions for improving these economic results through the various relationships that shape the present competitiveness framework.

The simplest indicator frequently used to compare the level of wealth and trends in competitive performance between territories is **GDP per capita**, measured in purchasing power parity terms for international comparison. As Graph 3.4 shows, all the economies reported positive growth from 2013 to 2019. However, beginning in 2017, Germany's growth rates are slightly lower than in the other territories. As a result, in 2019, Basque GDP per capita was close to that of Germany, although lower than that of the two comparable regions. Even so, it was significantly higher than the European average, representing 115.8% of the average value for the EU-27. However, the COVID-19 crisis has reduced that difference, which dropped to 110.3% in 2020. This decrease is explained by the higher decline in Basque GDP (9.3%) compared to 4.6% for the EU-27.²⁷

The impact of the pandemic has shrunk the Basque Country's advantage over the EU-27 average in GDP per capita

GRAPH 3.4 GDP per capita (PPP, 2013-2020)



Source: Eurostat and Eustat. Compiled by authors.

Both employment rate and productivity have an impact on the level and variation of the per capita income indicator. Whereas there are physical, legal and social limits to growth of the employment rate, productivity is a constant and sustainable source of progress which relies on innovation and scientific/technological advances. There are various methods of measuring productivity (e.g. apparent productivity of labour, total factor productivity, etc.). Here we will use **apparent productivity per hour worked**, which represents the ratio of a measure of production (GDP in euros) and the resources used (number of real hours worked). This indicator is considered more suitable for measuring productivity than productivity per person employed be-

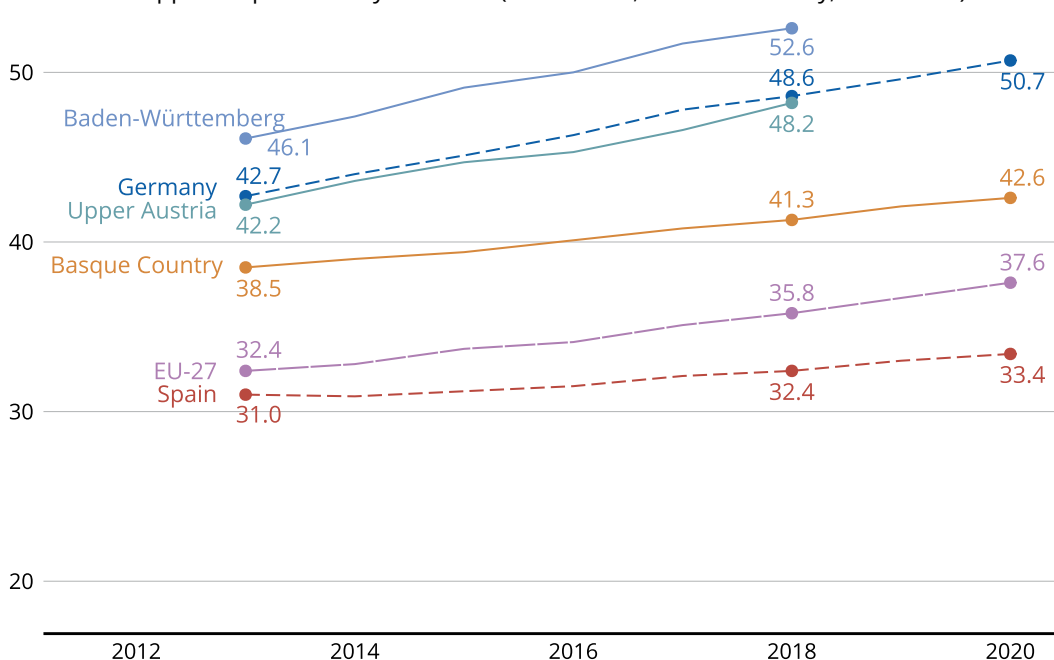
²⁷ Similarly to what was mentioned in the case of equivalent available income in the material life section of the dimensions of wellbeing, had the analysis been made measuring GDP per capita in euros, the conclusions would be similar, except that the gap with Baden-Württemberg and Germany would be somewhat larger, the gap with Germany would have remained relatively constant until 2019, increasing even more in the last year.

cause it is not affected by the differences in hours worked, which may vary considerably between the compared territories. Furthermore, it allows us to better measure what happens with this variable in situations such as what has been experienced in the pandemic, during which, thanks to Spain's Temporary Redundancy Plans (ERTE), many workers remained formally in work, although they were not involved in production activity.

Data on apparent productivity per hour worked for the economy as a whole indicate that the Basque Country ranks lower than the benchmark territories and Germany, but much higher than the EU-27 average and Spain.

As Graph 3.5 shows, data on apparent productivity per hour worked for the economy as a whole indicate that the Basque Country ranks lower than the two European reference regions and Germany, but much higher than the EU-27 average and that of Spain.

GRAPH 3.5 Apparent productivity of labour (euros/hour, overall economy, 2013-2020)



Source: Eurostat and Eustat. Compiled by authors.

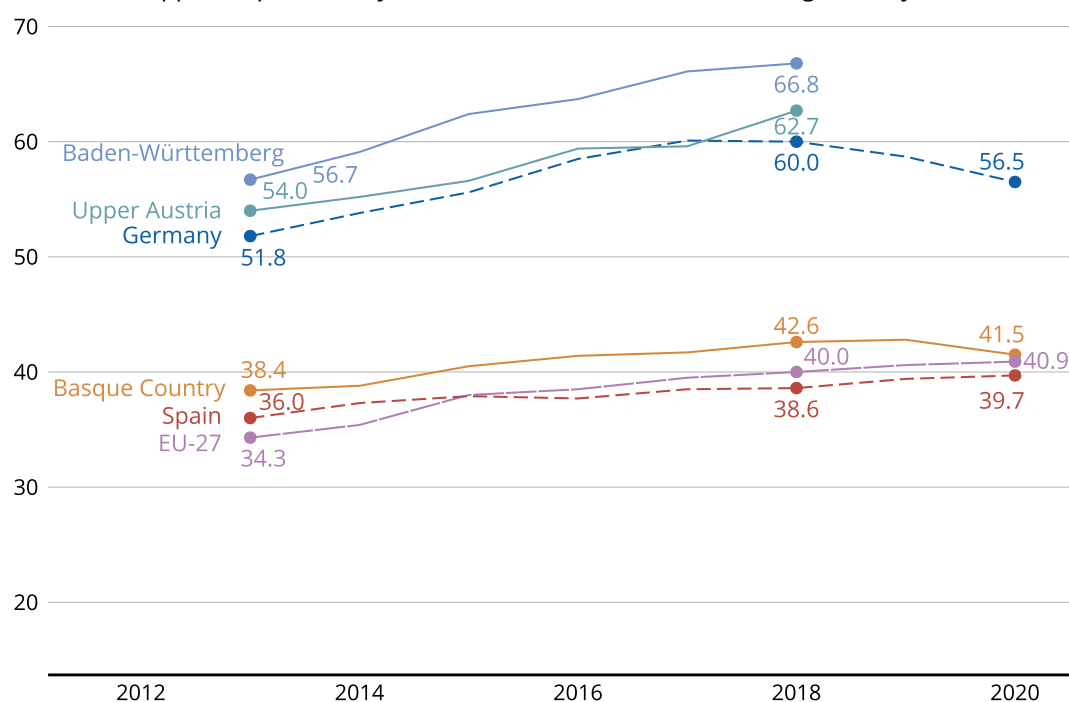
A major determinant of a territory's productivity is its sectoral makeup. For this reason, in Graph 3.6 we also analyse productivity just for the manufacturing industry, a sector more open to foreign competition than on average in the economy. In the case of manufactured goods, instead of GDP, the gross value added for the industry is used as a measure of output or economic activity. Comparing the two graphs, we can see that while in the Basque Country the productivity of the economy as a whole is very similar to that of the manufacturing industry (the latter being only 3% higher in 2018, the last year for which data are available for the European regions), in the other territories it is considerably higher: 12% on average in the EU-27, 18% in Germany, 19% in Spain, 27% in Baden-Württemberg and 30% in Upper Austria. As a result, productivity per hour worked in the Basque manufacturing industry exceeds that of Spain and the EU-27, but to a much lesser extent than in the economy as a whole. Similarly, the gap in productivity is larger in comparison with Germany and the two reference regions.

We can also see that, although productivity in Spain and the EU-27 continued to increase even in 2020, in the Basque Country it fell in the last year. And more signifi-

Productivity per hour worked in the Basque manufacturing sector exceeds that of Spain and the EU-27

cant, if possible, is that although productivity in Germany remains higher than in the other territories for which we have 2020 data, it has been dropping since 2018. Declines in productivity are usually attributed to two main causes: i) a sharp downturn in economic activity, accompanied by a much smaller decline in employment, as firms try to retain jobs; or ii) economic growth leveraging activities with much lower added value (e.g. Spain or Italy between 2000 and 2007).²⁸ In the case of the Basque Country, it is clear that the drop in 2020 is due to a smaller reduction in employment than in GVA (reproducing the behaviour of the Basque Country when the Great Recession hit, with GDP initially plummeting but employment less so, the opposite of what happened in Spain). In the case of Germany, the same effect applied in 2020. And a slowdown in growth was already becoming apparent in 2019. The greater decline in the manufacturing industry, compared to the economy as a whole, may be explained by the differing impact of the crisis depending on industry, or by different ways of hiring and organising workers among industries (e.g. more unionised and with more stable jobs in industry). The trend in European regions remains to be seen, but in 2018, productivity in Upper Austria once again exceeded the average for both Germany and Baden-Württemberg, and unlike what happened in the country, it did not drop but increased less than the previous year.

GRAPH 3.6 Apparent productivity of labour (euros/hour, manufacturing industry, 2013-2020)



Source: Eurostat and Eustat. Compiled by authors.

²⁸ In the first case, the effect is due to firms trying to retain jobs, to which it can be added the implementation of schemes such as the ERT, which result in employment (the number of people in work) being formally maintained, although the people included in that figure are not actually working. In such cases, measures of productivity based on number of FTE jobs would show a small decrease, and measures based on people in work would show a very sharp decrease. In the second case, growth in lower-added-value activities may occur because low productivity industries (which lower the average productivity of the economy as a whole) are developed or because high-value-added and high-salary jobs are replaced by others with less added value.

3.2.2 Business profitability

Having analysed what is happening in terms of economic performance in the economy as a whole, this section focuses on studying the capacity of the economic/business system to generate profitability in its activities. We begin by analysing **unit labour costs (ULC)**. Conceptually, this indicator captures the underlying relationship between pay and productivity (in both cases, either per worker or per hour worked). Pay for work is one component, together with capital, of the classic function of production and has a direct impact on firms' bottom line. And productivity (which can be considered both an economic and business result) is a record of the efficiency of the production process, which is linked to the quality of human capital and has a leverage effect on a territory's living standards, economic growth and social development.

Next, we analyse the comparative level of **labour cost per employee (LCE)**, **productivity** and ULC for 2020. Table 3.8 shows 2020 data for these indicators calculated per employee for the economy as a whole and for the manufacturing production industry. We can see that the Basque Country has much higher labour cost per employee than that of Spain and the EU-27 averages (+3.2 pp.); whereas productivity level is lower than Germany and quite a bit higher than Spain and the EU-27. Additionally, Basque ULC are 2.2 pp. lower than that of Spain (although with a different makeup, partially the result of differences in economic specialisation), and both are lower than the EU-27 and Germany. As regards the situation in the manufacturing industry, the two geographic areas reporting the highest labour costs are Germany (much higher than the rest) and the Basque Country (maintaining a slight growth trend between 2013 and 2019); whereas in terms of productivity, the Basque Country (which dropped 4.1 pp. between 2019 and 2020) reports a significantly lower level than Germany and above that of EU-27 and Spain. Clearly, the sharp decline in manufacturing industry GVA in 2020 is having an impact on reported productivity.

The sharp decline in manufacturing industry GVA in 2020 has had an impact on reported productivity

TABLE 3.8: Labour cost per employee (LCE) and productivity, and unit labour costs (ULC) (2020)

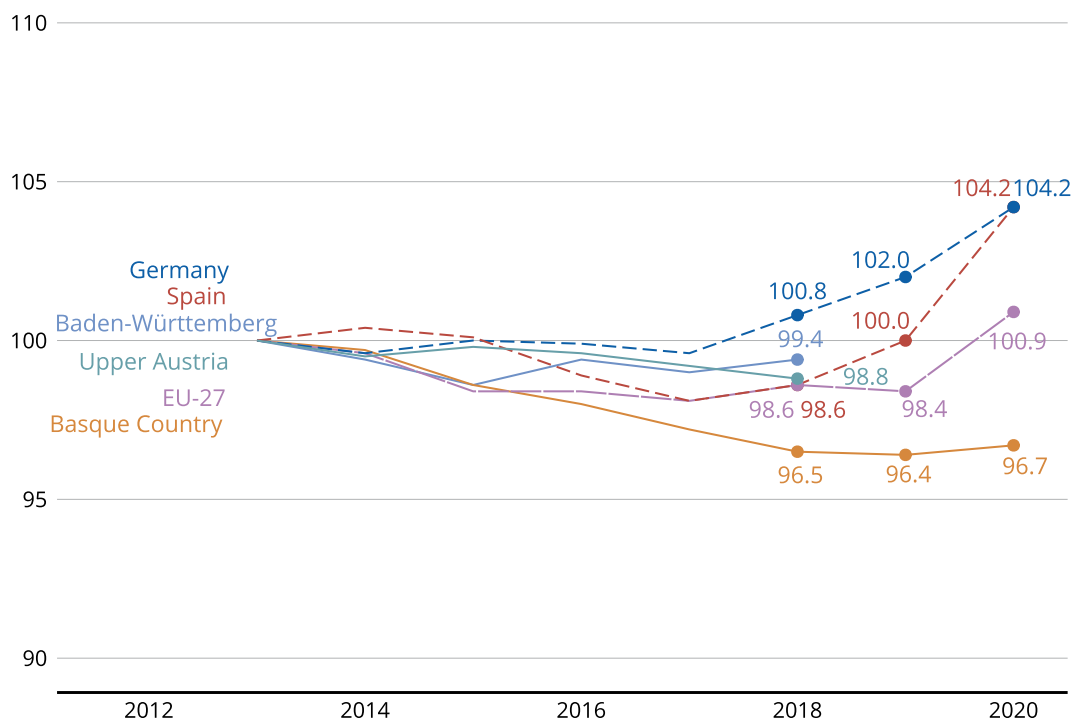
	Total economy			Manufacturing industry		
	Labor cost per employee (thousand €)	Productivity per employee (thousand €)	Unit labor costs (%)	Labor cost per employee (thousand €)	Productivity per employee (thousand €)	Unit labor costs (%)
Basque Country	38.9	63.3	61.5	43.9	62.9	69.8
Spain	32.3	52.7	61.3	36.4	65.5	55.6
Germany	45.1	67.4	66.9	56.8	78.6	72.3
EU-27	37.0	58.0	63.7	39.5	65.4	60.4

Source: Eurostat and Eustat. Compiled by authors.

In Graph 3.7, we can see that in the Basque economy as a whole, unit labour costs (ULC), calculated per employee, trended downward until 2018, stabilised in 2019, and reported an increase in the past year as a result of the pandemic (although to a much lesser extent than in the other territories). The data available to 2018 show ULC in the reference European regions at a higher level than in the Basque Country.

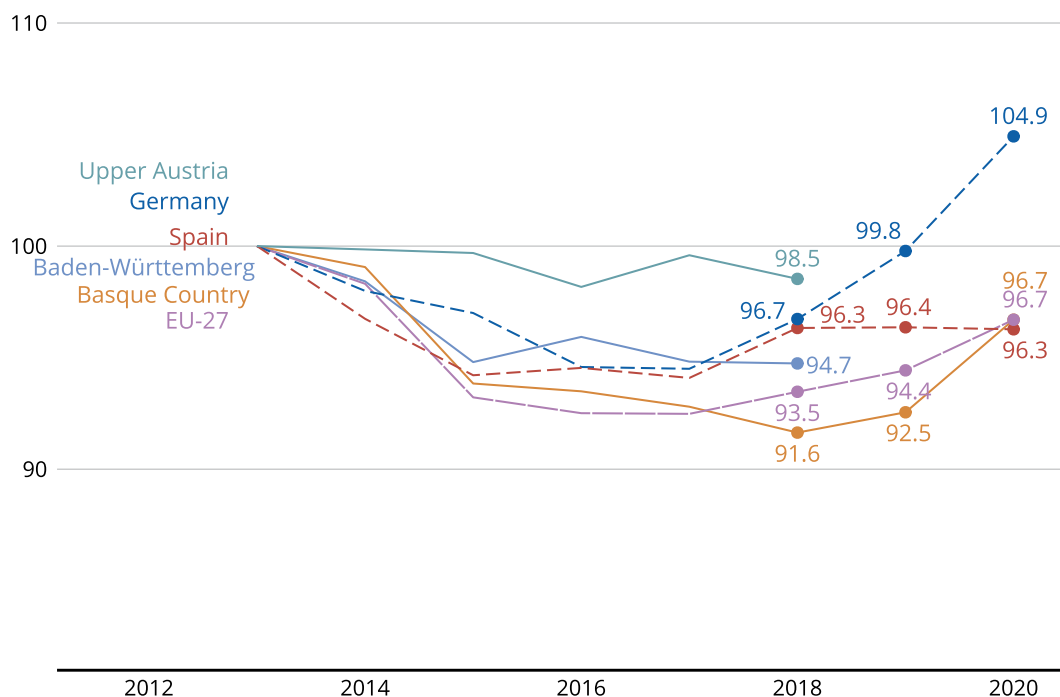
As regards the manufacturing industry (Graph 3.8), calculated per employee, since emerging from the previous crisis, ULC in the Basque Country have trended slightly downward until 2018. In the past year, they reported a substantial increase similar to that seen in Germany.

GRAPH 3.7 Unit Labour Cost Index (ULC) (2013=100) (overall economy, 2013-2020)



Source: Eurostat and Eustat. Compiled by authors.

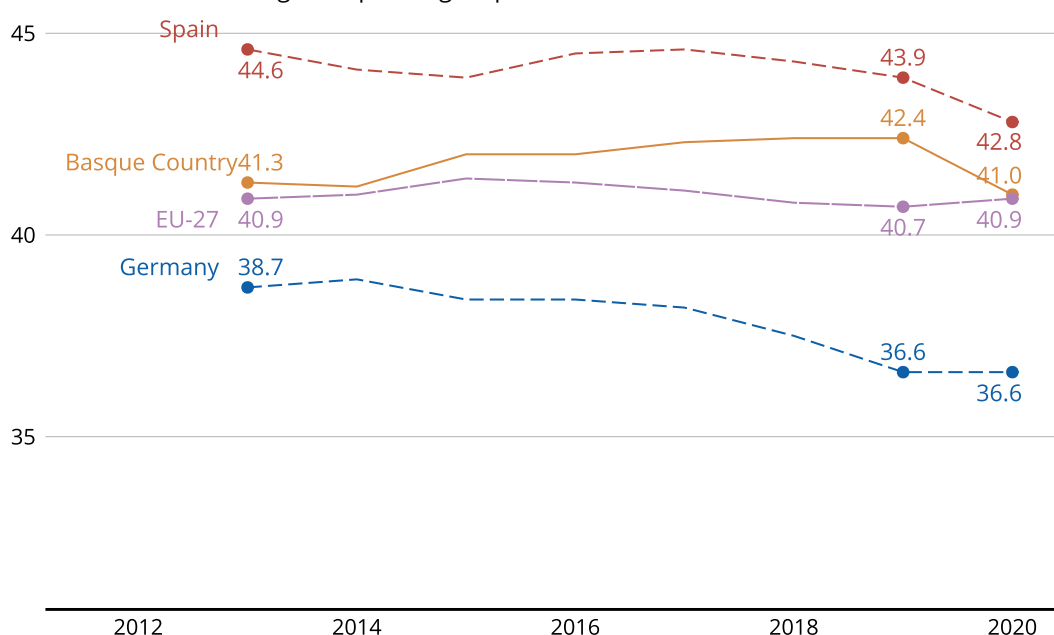
GRAPH 3.8 Unit Labour Cost Index (ULC) (2013=100) (manufacturing industry, 2013-2020)



Source: Eurostat and Eustat (Basque Statistics Office). Compiled by authors.

In addition to labour costs, we also analyse **gross operating surplus**, defined by the INE as the surplus generated by operating activities after deducting the labour factor (specifically, employees). Therefore, this indicator makes it possible to report what portion of the total income for the economy is earned by the capital factor. However, it should be clarified that this includes income from self-employed workers and consumption of fixed capital (or depreciation and amortisation). With the data gathered, in Graph 3.9 we can see a higher share of income which is not represented by the wage-earning population in both Spain and the Basque Country, with a slight upward trend until 2019, cut short last year as a result of the pandemic. For its part, Germany ranks quite a bit lower than the other territories under consideration.

GRAPH 3.9 Variation in gross operating surplus



Source: Eurostat and Eustat. Compiled by authors.

In 2020, the ROA of Basque firms declined considerably, coming in below those in Spain

Lastly, we present trends in the two indicators representing business profitability, return on assets (ROA) and return on equity (ROE).²⁹ In the first case, Basque firms reported a recovery in ROA in 2019 and lower ROE than Spain and Europe due to their lower financial leverage. For its part, in 2020 the ROA of Basque firms declined considerably compared to the pre-COVID year, coming in below the figure for Spain. ROE clearly captures the lower economic profitability and lower leverage of Basque firms. In any event, the data reflect the aggregate situation among firms, COVID-19 having

²⁹ The analysis of Basque firms compared to those in Europe used two sources: balance sheet and income statement data at the firm level from the Bureau Van Dijk SABI-Informa Database and data from the BACH Project (Bank for the Accounts of Companies Harmonised). The latter information source contains data for firms in the following European benchmark countries. Germany, Belgium, Spain, France, Italy, Poland, Czech Republic, Austria, Slovakia and Portugal. Despite the fact that accounting systems and practices are not entirely homogeneous among countries, and that there are differences between BACH (EU-12) and SABI (Basque Country and Spain), we feel that for the indicators selected, the degree of homogeneity is sufficient for the comparison to provide valid results.

had an asymmetrical impact in terms of both sector of economic activity and firm size. In Box, where we present a business typology for financial performance prior to COVID-19, we discuss this.

TABLE 3.9 Business profitability indicators

	Basque Country (a)			Spain (a)			Europa (b)		
	2013	2019 (p)	2020 (p)	2013	2019 (p)	2020 (p)	2008	2013	2019
ROA	2.3	3.6	1.3	1.6	3.6	2.1	3.9	3.5	3.7
ROE	1.8	6.8	2.2	1.1	9.0	5.6	7.7	6.7	8.8

Source: (a) SABI-Informa and (b) BACH. Compiled by authors.

NB: The SABI data for 2019 and 2020 are provisional, as the standard sample (approx. 30%) has not been collected.

BOX 2 Business typology for pre-COVID-19 financial performance

Initially, COVID-19 entailed a decline in business profitability, followed by a decline in solvency, especially among the most affected firms/industries. To support firms affected by the pandemic, it is necessary to establish mechanisms which make it possible to identify firms that have been jeopardised as a result of the COVID-19 crisis, as opposed to those which were already having some prior difficulty. This is no simple differentiation, as the vast majority of firms will be affected by the crisis and will therefore present similar symptoms.

FIGURE 3.1 Differentiation of firms according to impact of COVID-19



Following the factors for differentiating firms developed by Blanchard *et al.* (2020), in a joint paper with the Basque Finance Institute of the Basque Government, Orkestra has identified four types of firms to classify their performance under COVID-19¹ and help focus the programmes to be implemented.

- Economically PROFITABLE³¹ AND SOLVENT.³²
- Economically PROFITABLE but have become INSOLVENT due to an increase in debt.

³⁰ Research project: 'Financiación para la consolidación empresarial en la era post Covid-19'.

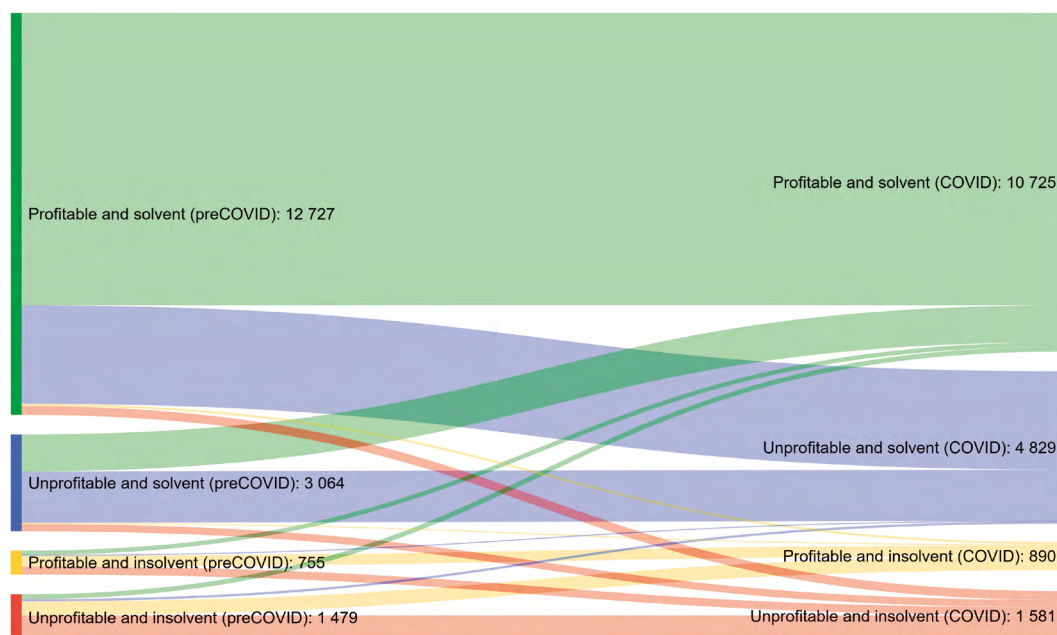
³¹ Definition of profitability: for pre-COVID-19, that the company had a positive surplus from its business activity over the last three years. For after COVID-19, that the company had a positive surplus from its business activity in 2020.

³² Definition of solvency: that the Net Financial Debt / Assets ratio is below 7.5, following the European Commission definition for firms in crisis.

- Economically UNPROFITABLE but SOLVENT.
- Economically and financially UNPROFITABLE and INSOLVENT.

The goal is to produce a methodology that will make it possible to evaluate the impact of COVID-19 by comparing the initial situation (2017-2019) with subsequent development (2020 and later). Following the aforementioned methodology, we have analysed trends in 18 025 firms with headquarters in the Basque Country, including various industries and sizes.

GRAPH 3.10 Changes in financial types during COVID-19



Source: SABI-Informa. Compiled by authors.

Analysis of the performance of the sample of firms highlights the negative impact of COVID-19, especially on profitability and to a lesser extent on solvency. Of the 12 727 firms categorised as profitable and solvent prior to COVID-19, 27% were no longer in this position in 2020. What is more, prior to the pandemic, 12% of firms were classified as having solvency problems, a percentage which has increased to 14% of the firms analysed. Despite this general trend, declining profitability and to a lesser extent solvency, firm performance has varied. And although they are in the minority, some firms have improved their situation compared to prior to the pandemic (2% have become solvent when previously they were not).

Although delinquent payment levels have not increased and bad debts in the system remain below 5%,⁴ there are studies that point to an uptick in insolvency proceedings in 2022.⁵ In this context, liquidity policies have given way to policies aimed at improving the solvency of firms, such as novations of existing loans, subordinated loans, and tools for direct shareholding interest by government bodies. With the aim of increasing efficiency, these policies must be supplemented by private action by both shareholders (capital increases) and other finance providers (commitment to maintaining pre-crisis credit lines).

³³ Boletín Estadístico del Banco de España, 2.º semestre de 2021.

³⁴ Insolvency increases expected amid phase-out of fiscal support, Economic Research, Crédito y Caución, October 2021.

3.2.3 Innovation and entrepreneurship

In this section, we analyse **the territory's ability to generate outcomes from innovation**. The data presented includes delineation by:

- Sector: industry as a whole (excluding construction) and commercial services with a clear innovation profile.³⁵
- Firm size: 10-249 employees (hereinafter referred to as 'SMEs').³⁶

The methodological change introduced by the Oslo Manual in 2018 (OECD/Eurostat, 2019) means that results from that year on are not fully comparable with those of previous years. For this reason, for the territorial analysis, we have used the most recent Eurostat data available, for 2018, and those provided by Eustat for the Basque Country for that same year. The time period for the analysis is 2018 and 2019, solely for the Basque Country.

TABLE 3.10 Percentages of firms with 10-249 employees that innovate

	Basque Country		Spain	Germany	EU-27
	2018	2019	2018	2018	2018
Innovators (% of total SMEs)	39.9	41.1	30.0	66.6	49.2
Product innovators (% of total SMEs)	23.9	29.5	13.8	38.7	28.7
Process innovators (% of total SMEs)	33.6	35.0	22.9	54.2	40.0
Sales of new products (% of total sales)	12.7	16.5	7.2	6.9	7.8

Source: Eustat and Eurostat. Compiled by authors.

As we can see in Table 3.10, in 2018, the percentage of Basque SMEs engaged in some sort of innovation (39.9%) is higher than in Spain (30%) but lower than in the EU-27 (49.2%), and especially, than in Germany (66.6%). Looking at the industry and size breakdowns included in Appendix 1, in all territories we see firstly, that there is a higher percentage of innovative firms in industry than in services (40.9% and 38.9%, respectively, in the Basque Country), and secondly, that firms with 50 or more employees are proportionally more innovative than smaller firms. (In the Basque Country, 65.3% of firms this size were innovators in 2018, compared to 39.9% of all firms).

The percentage of SMEs engaged in some sort of innovation is higher than in Spain but lower than in the EU-27 and Germany

As regards type of innovation, the Basque Country ranks in the middle between Spain on one side, and Germany and the EU-27 on the other. This is true for both product and process innovation. However, calculations by size indicate that for the

³⁵ This includes the core industries (Eurostat): Industry (B: Mining and quarrying, C: Manufacturing, D: Electricity, gas, steam and air conditioning supply, and E: Water supply, sewerage, waste management and remediation activities) and services (46: Wholesale trade and agents; except of motor vehicles and motorcycles, H: Transport and storage, J: Information and communication, K: Financial and insurance activities, 71: Architectural and engineering activities; technical testing and analysis, and 72: Research and development).

³⁶ This 'SME' classification is defined in the European Innovation Scoreboard. Moreover, in the data presented, the business unit for Eurostat is the firm, whereas Eustat refers to the enterprise.

The percentage of firms with product innovation and process innovation is higher than the European average for the 50+ employee size bracket

50+ employee size bracket, in the Basque Country, the percentage of both firms with product innovation and those with process innovation (42.9% and 52.3%, respectively) is above the European average (38.6% and 51%). Moreover, in the specific case of product innovation (goods or services), the Basque Country is closing in on Germany (where the percentage was 46.8%).

For its part, process innovation includes three types of innovation which were classified separately in the past: process, organisational and marketing innovation. The Basque Country ranked very differently in each: relatively acceptable in the first and with considerable weakness in the latter two. On combining them into a new category and giving it the same name as what was previously a more restricted type of innovation (production process innovation), the seeming positive position in process innovation now appears as a major weakness, due to the weight of organisational and marketing innovation (in which the Basque Country continues to lag behind) in the new category.

The economic impact of product innovation can be measured using the percentage of total sales represented by sales of new or improved products. This percentage is 12.7% in the Basque Country, higher than the other territories subject to comparison, which do not top 8%. It is striking that Germany ranks low in this indicator. Therefore, when interpreting it as, for example, the ability to transfer product innovation to the marketplace, there may be other factors to take into account. Additionally, when considering a new product, we distinguish between whether it is new to the firm or to the market. The former case is more common in the four territories (in the case of the Basque Country, 8.4% for new-to-firm products and 4.4% for new-to-market products in 2018). Furthermore, it is also generally the case that the impact of these products on turnover is higher among industrial SMEs (where they account for 13.1% of total sales in the Basque Country) than among those in the service industry (where the percentage was 12.2%).

As regards the time comparison in the Basque Country, the percentage of innovative Basque SMEs increased by 3% between 2018 and 2019. However, growth rates in the percentages of SMEs that are product and process innovators have been uneven (23% and 4%, respectively). For its part, the percentage of novelty in sales increased 30%, with higher growth in industry than in services (37.2% and 19.9%, respectively). This growth is partially due to the fact that total turnover for the industrial sector fell 4.6% in 2019. As regards the services sector, there was a slight decline (1.7%) in total sales of products that are new to the firm. When we have more up-to-date data for the countries —expected next year, as this is a biannual indicator in Eurostat— it will be possible to evaluate whether the positive growth in the Basque Country in some indicators has made it possible to narrow the existing gap, especially with regard to product innovation.

Now, with the aim of analysing the **level of entrepreneurship in the territory**, we offer a comparative analysis of the development of high-growth firms in the 2013-2020 period. However, for some territories, these data are only available for certain years. The firms considered meet the following criteria:

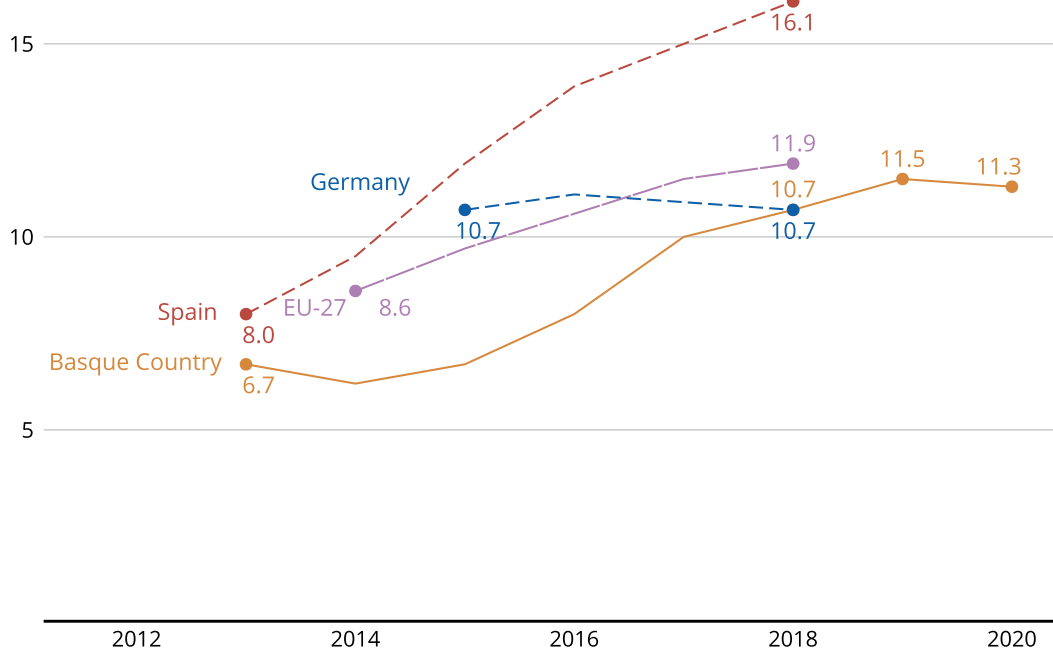
- They belong to sectors of the business economy, excepting holding activities.

- Their average annual growth in number of employees is more than 10% per year for a period of three years, and they had at least 10 employees when they began to grow.

Graph 3.11 shows that the Basque Country has a lower percentage of high-growth firms than the other territories, although it did rank the same as Germany in 2018 (10.7%). Growth in the Basque Country in 2019 (coming in at 11.5%) put it at almost the same level as the 2018 value for the EU-27 (11.9%). Spain was the territory with the highest proportion of this type of firm during the 2013-2018 period. The overall upward trend (except in the case of Germany) was particularly intense in the Basque Country starting in 2015, reaching 7% year-on-year growth between 2018 and 2019. However, this trend was interrupted in the Basque Country in 2020, when there was a 1% decrease. It should be noted that this indicator is heavily affected by the economic situation. Thus, as the Basque Country and Spain were in a very deep recession in 2013, it is normal for them to have had a lower rate of high-growth firms. In contrast, as economic growth was proportionally higher in the final years of the recovery, it is not surprising that this rate would also experience higher growth.

The Basque Country has a lower percentage of high-growth firms than the other territories, although it is on a par with Germany

GRAPH 3.11 High-growth firms (% of firms with more than 10 employees, 2013-2020)



Source: Eustat and Eurostat. Compiled by authors.

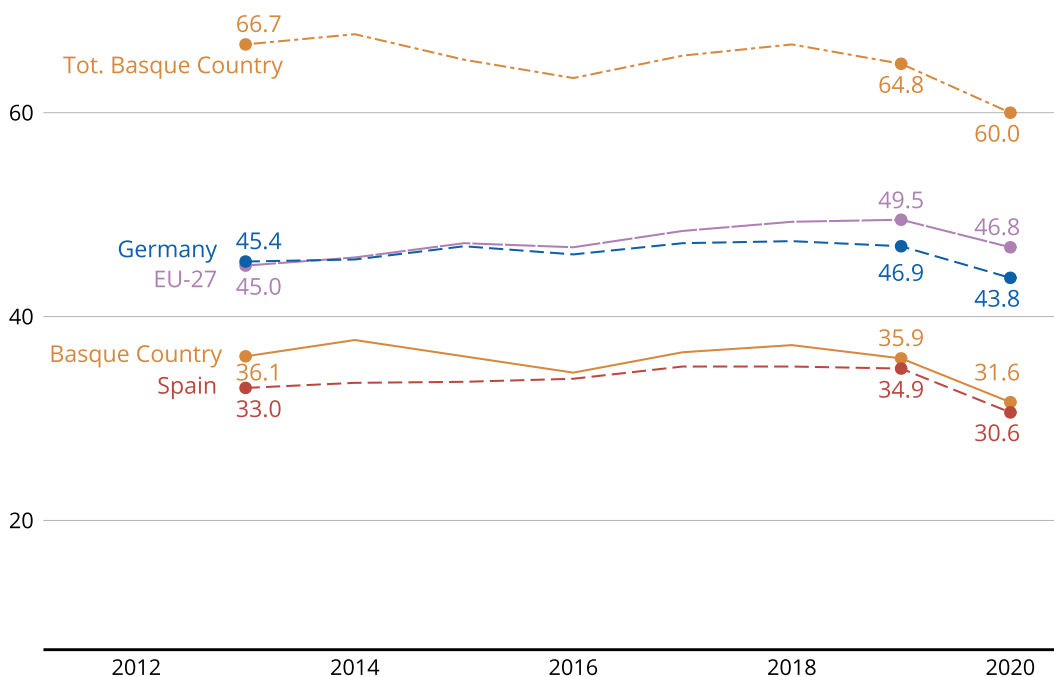
3.2.4 Internationalisation

This section presents a group of indicators relating to Basque foreign trade. We will analyse international exports of goods and services, as well as just goods, and the respective balances of trade. Except in the case of goods exports, which are linked to the gross value added (GVA) of the goods-producing industries (that is, agroindustry), the other figures are calculated with regard to gross domestic product (GDP).

In As regards trends in exports over GDP between the years 2019 and 2020, the drop seen in the Basque Country, from 35.9% to 31.6%, is as high as in Spain, both being higher than Germany. As shown below, this is partially linked to the drop in exports of energy products. If we take total foreign sales (that is, those to the rest of Spain, as well as abroad) as a benchmark, the Basque Country experienced a similar decline to Germany (-7%). Between these two years, the effects of the COVID-19 crisis can be seen in all territories, with an overall decline in exports and a smaller share of GDP, despite the downturn there as well.

Graph 3.12, we can see that Basque exports of goods and services account for around 36% of GDP during the 2013-2020 period (31.6% in 2020), placing it slightly above Spain but some distance from the levels of Germany and the EU-27, which are a little under 50%. However, if in addition to export transactions from the Basque Country abroad, we consider sales to the rest of the state ('Tot. Basque Country' in the graph), the proportion with regard to GDP averages 65%.

GRAPH 3.12 International exports of goods and services (% PIB, 2013-2020)



Source: Eustat and Eurostat. Compiled by authors.

All territories analysed reported an overall decline in exports, accounting for a smaller share of GDP

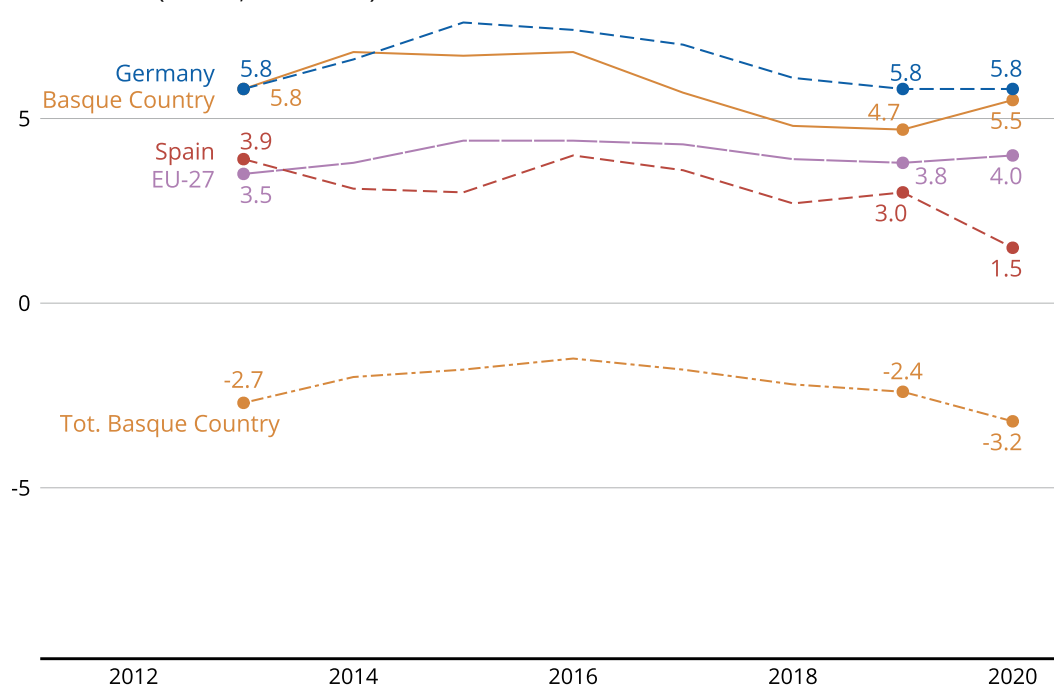
As regards trends in exports over GDP between the years 2019 and 2020, the drop seen in the Basque Country, from 35.9% to 31.6%, is as high as in Spain, both being higher than Germany. As shown below, this is partially linked to the drop in exports of energy products. If we take total foreign sales (that is, those to the rest of Spain, as well as abroad) as a benchmark, the Basque Country experienced a similar decline to Germany (-7%). Between these two years, the effects of the COVID-19 crisis can be seen in all territories, with an overall decline in exports and a smaller share of GDP, despite the downturn there as well.

Graph 3.13 shows that at the start of the period, the ratio of foreign balance of trade in goods and services to Basque GDP matches or even exceeds that of Germany.

However, from 2015, this behaviour begins to diverge, and from 2017 onwards, values dropped in both territories, but more markedly in the case of the Basque Country, recovering slightly at the end of the period (5.5% in 2020).

Between 2019 and 2020, the territories followed different trends: the ratio of balance of international trade to GDP fell in Spain (–50%) but rose slightly in the EU-27 (6%), and it remained consistent in Germany. This allowed the Basque Country, with a year-on-year rate of 16%, to once again approach the value in this country. As regards Basque trade transactions as a whole (international and with the rest of Spain), the balance of trade was negative throughout the entire period and accounted for –3% of GDP in 2020. This value increased compared to the previous year, the result of a drop in GDP and an increase in the trade deficit.

GRAPH 3.13 International balance of trade in goods and services
(% GDP, 2013-2020)



Source: Eustat and Eurostat. Compiled by authors.

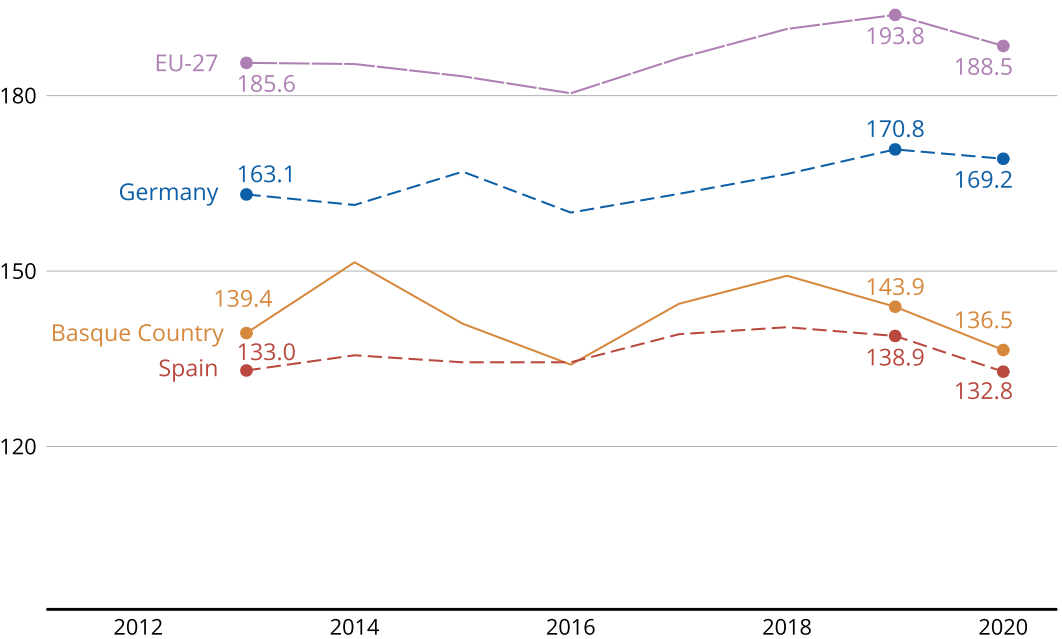
Graph 3.14 shows the variation in these exports, relativised according to agroindustrial GVA, which is where the production of goods is concentrated, thus avoiding distortions caused by the relative weight of services in the economy. In the period under consideration, the last eight years, Basque international exports of goods were higher than Spain's but lower than German and European exports, with values close to 143%.

This indicator, which fell in all territories between 2019 and 2020, did so to a greater extent in the Basque Country (–5%). This is due to the fact that drops in goods exports were proportionally higher than those of the GVA of the agricultural and industrial sectors. It is interesting to examine Basque exports of energy and non-energy products separately, firstly, due to their occasionally disparate behaviours, and secondly, because of the significant share of total exports held by the former. In the last

In the last year, we saw a 53% year-on-year decline in Basque energy exports, compared to 15% for non-energy

year, we saw a year-on-year decrease of 53% in Basque energy exports, compared to 15% for non-energy.

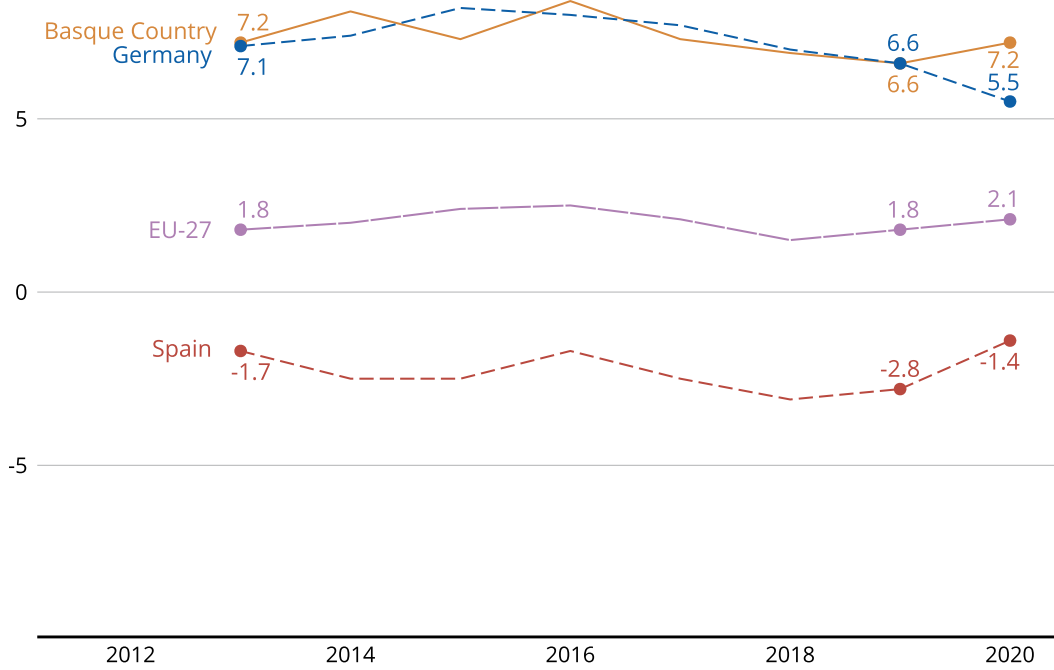
GRAPH 3.14 International exports of goods (% agroindustrial GVA, 2013-2020)



Source: Eustat and Eurostat. Compiled by authors.

The ratio of balance of trade in goods to GDP in the Basque Country was similar to Germany's but higher than the EU-27 and Spain between 2013 and 2020

Lastly, Graph 3.15 shows us that, between 2013 and 2020, the ratio of balance of trade in goods to GDP was similar for the Basque Country and Germany, around 7% on average, considerably higher than for the EU-27 (2%) and Spain, where it was negative (-2%). Looking at variation throughout the period, until 2016, the Basque Country and Germany reported inverse trends. However, starting in 2017, the trend turned downward in both cases. In the last year, Germany was the only territory in which the ratio of balance of trade in goods to GDP fell, leaving a considerable gap with the Basque Country (5.5% compared to 7.2%). This indicator rose 8% in the Basque Country between 2018 and 2019, despite the balance of trade in goods falling 2%. This is explained by the fact that this decrease in the balance of trade was offset by the larger drop in GDP. If we once again make a distinction between energy products and non-energy products, we find that both balances have declined. In the case of energy products, for which it is negative, this meant a reduction in the deficit.

GRAPH 3.15 Balance of international trade in goods (% GDP, 2013-2020)

Source: Eustat and Eurostat. Compiled by authors.

4

Exploring the levers of competitiveness in the Basque Country

The analysis presented in the preceding chapter provides a detailed description of the position of the Basque Country in different dimensions of wellbeing performance and economic/business performance. To improve this performance, the promotion of strategies and policies must be focused on the dynamic levers indicated in the green section of the framework presented in Chapter 2. These levers constitute the six types of 'capital' found in an economy, the combination of which —as in a function of production— will determine the scope of future performance around competitiveness for wellbeing. Therefore, analysis of these dynamic levers is at the centre of Orkestra's research agenda, and their different elements are the focus of virtually every project on which Orkestra is working together with various stakeholders, both in the Basque Country and abroad. As such, each lever could be the basis of an entire competitiveness report, and it is anticipated that future editions will focus on one or the other in detail. In this final chapter, we conduct a number of exploratory and illustrative analyses of certain key dimensions of each of the dynamic levers in the framework.

4.1 Natural capital

The natural capital lever represents the natural factors which have a direct or indirect impact on creating economic value and wellbeing. Although energy has been considering an important factor in determining the economic competitiveness of a territory (Stern, 2011), attention has only recently been given to the role natural capital in the broad sense of the term plays in creating added value and wellbeing in an economy (Kasztelan, 2015).³⁷

The political and regulatory pressure deriving primarily from the commitment undertaken in the Paris Agreement makes it necessary to profoundly transform the global economy in upcoming decades to limit the negative effects of climate change.³⁸ In

³⁷ According to the OECD, natural capital includes three components: natural resource stocks, land and ecosystems (www.oecd.org). In this report, natural capital (renewable or not) is divided into three categories (a) energy resources; (b) other natural resources (e.g. marine, forest, etc.); and (c) biodiversity and ecosystems.

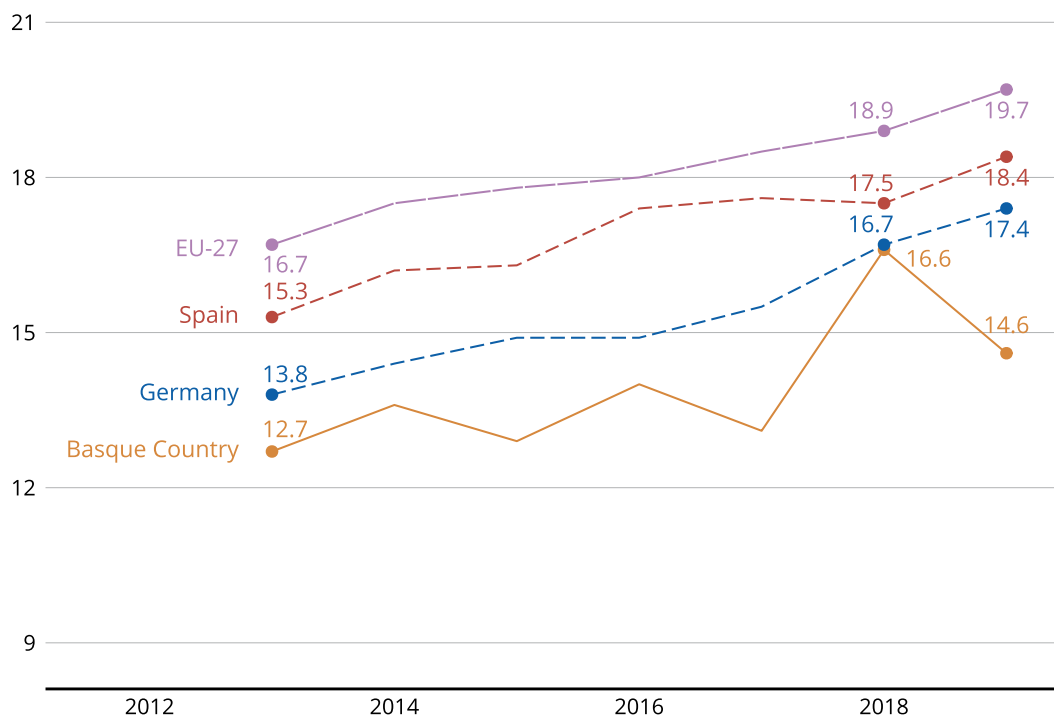
³⁸ In Europe, this has taken the form of impetus for a new growth and competitiveness strategy —the European Green Deal and the Next Generation EU recovery programme— aimed at developing a greener, more circular and efficient, more digital, and more just economy.

this context, **environmental sustainability becomes a driving factor of territorial competitiveness** by means of greater efficiency and productivity in the use of materials and energy, and a smaller footprint for human activities as whole (economic and non-economic).

In the field of energy, the Basque Country has succeeded in increasing the **share of renewable sources** in its energy matrix from 12.7% in 2013 to 14.6% in 2019 (Graph 4.1). This figure has not matched the 20% target set by the European Commission in its 2020 climate and energy package,³⁹ and it is some distance from the 32% target set by the Climate and Energy Framework for 2030.⁴⁰ Progress between the years 2013 and 2019 took place despite the fact that water resources in the Basque territory are already well exploited, wind (wind speed and intensity) and solar radiation resources are more limited than in other parts of the Iberian Peninsula, and biomass plays a secondary role (stable) in the Basque energy mix (IDAE, 2011; Sancho *et al.*, 2012). Furthermore, the relief of the Basque Country somewhat limits the maximum potential growth of this type of energy, meaning that they account for a smaller share than reported in the EU-27 (19.7% in 2019), Germany (17.4%) and Spain (18.4%).⁴¹

The Basque Country has succeeded in increasing the share of renewable sources in its energy matrix, despite existing limitations

GRAPH 4.1 Share of renewable energy sources in gross final energy consumption (%)



Source: Eustat and Eurostat. Compiled by authors.

³⁹ See: https://ec.europa.eu/clima/eu-action/climate-strategies-targets/2020-climate-energy-package_es.

⁴⁰ See: https://ec.europa.eu/clima/eu-action/climate-strategies-targets/2030-climate-energy-framework_es.

⁴¹ Regarding the regional comparison, in 2017, in Baden-Württemberg (Germany), renewables accounted for 13% of primary energy consumption (Baden-Württemberg Statistisches Landesamt, 2020), and in Upper Austria, this figure topped 31% in 2019/2020 (World Sustainable Energy Days, 2021).

Moving forward with decarbonising the economy and meeting greenhouse gas emission reduction targets will entail considerable costs for Basque firms

As regards **energy intensity**, we are in a better position than the EU average, having produced continuous improvement over time, as economic efficiency has increased. Between 2013 and 2019, for example, it fell 12.4% (in line with the EU-27 average, 12.8%, below the figure for Germany, 16.8%, and above Spain, 10.0%). It is more challenging to make progress on delinking economic growth from **greenhouse gas emissions**, which, as mentioned in Chapter 3, have remained relatively constant since 2013. This is due to the Basque energy matrix's dependence on fossil fuels, brought about by the weight of the transport and industrial sector, and by the need to use natural gas as an energy source that offers flexibility and support for the development of renewable energies, and the increase in the economy's electrification rate, which in turn entails high energy dependence (90.0% in 2018, compared to 55.7%, 63.6% and 73.3% in the EU-28, Germany and Spain, respectively).

The need to embark, the sooner the better, on a **profound transformation of all production processes to move forward with decarbonising the economy** and meet the demanding targets for reducing greenhouse gas emissions established by the European Climate Law (–55% by 2030, relative to 1990 levels, and zero net emissions by 2050 at the latest) will entail significant costs for all Basque firms.

Additionally, electricity and natural gas prices in the Basque Country, which directly influence the competitiveness of industrial firms, are determined by the structural characteristics of the peninsula's energy system.⁴² This leaves them more exposed to price volatility on the global market than in the case of other energy systems and to temporary situations of relative energy scarcity which translate into higher prices than the rest of the European continent.

The energy/environmental transition is also generating opportunities for the Basque business sector. The evolution of the Basque energy matrix has been accompanied by the development of highly competitive value chains in areas of the energy industry such as renewable energies,⁴³ power grids and power electronics,⁴⁴ and the oil and gas industry.⁴⁵ Moreover, other emerging industries (energy storage and hydrogen, primarily) offer considerable opportunities for growth and generating added value in upcoming years.⁴⁶

Opportunities for generating greater interrelationships among energy, industry and the environment in the Basque economy are reflected in the growth of **added value in the environmental industry**. Despite continuing to rank below the EU-27, Germany and Spain, it was growing more quickly until 2017, the last year for which there are data available (Graph 4.2). Likewise, there was a 16% increase in **employment in the environmental industry** between 2015 and 2017.

There was growth in the added value of the environmental industry and an increase in employment in that sector between 2015 and 2017

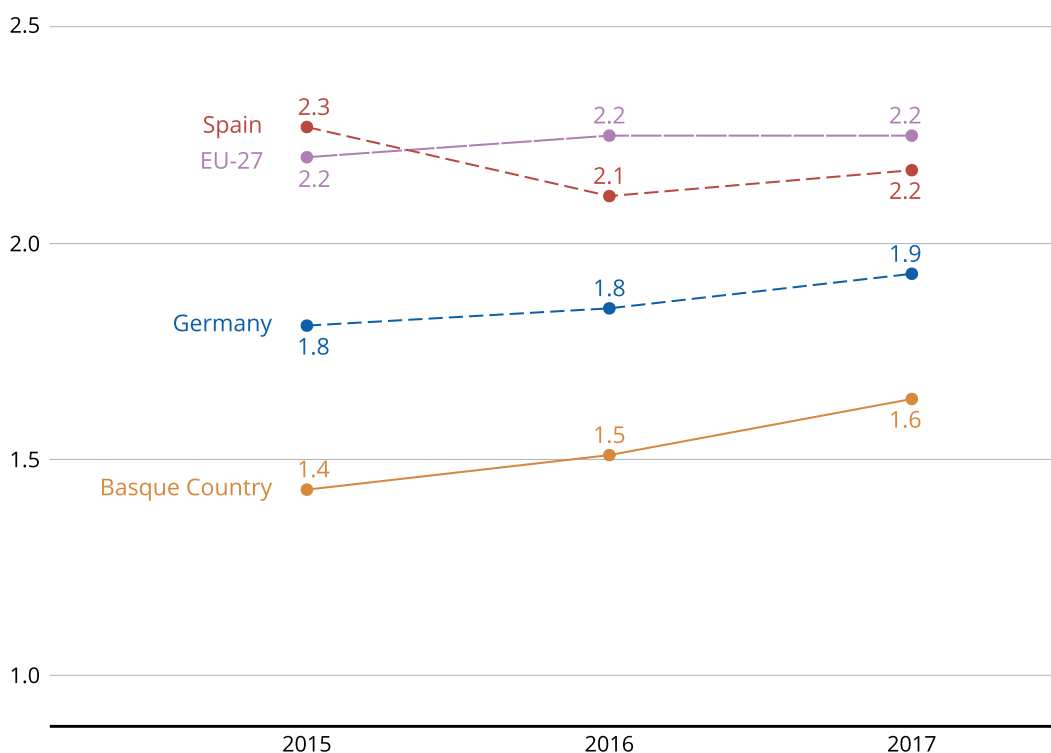
⁴² One of the paths to improving the competitiveness of Basque (and Spanish) industrial firms in this area consists of supporting changes in the design of energy rates in order to correct current asymmetries compared to the rate schemes found in neighbouring countries (e.g. the share of taxes in final bills).

⁴³ Principally land-based wind and, in recent years, water-based wind: more than 100 firms in wind and 200 in the marine sector, with combined global turnover of more than €18 billion a year.

⁴⁴ More than 80 firms and €16.5 billion a year worldwide.

⁴⁵ More than 100 firms and €9 billion in global turnover.

⁴⁶ The Basque electrical energy storage industry includes major firms and research institutions, with activities along the entire value chain (Fernández and Álvaro, 2019). In the case of hydrogen, one highlight is the Basque Hydrogen Corridor.

GRAPH 4.2 GVA of the environmental goods and services industry (% GDP)

Source: Eustat and Eurostat. Compiled by authors.

The growth of the environmental industry has been supported by an increase in R&D&I activities around such institutions as the Basque Ecodesign Center and other initiatives supporting innovation in areas related to sustainability in the different historical territories of the Basque Country. Thus, the number of Basque firms engaged in offering services in the areas of the circular economy, ecodesign and waste treatment is increasing, along with the number of firms with environmental certifications (e.g. ecodesign) and organic ecolabels on their products (Ihobe, 2020). In fact, in the sphere of the circular economy, the Basque Country ranks above the Spanish average in many indicators, although in some, it comes in below the EU-28 average (Ihobe, 2018, 2019).⁴⁷

The number of companies offering services in the field of the circular economy, eco-design and waste treatment is growing

Additionally, the ratio of **environmental tax collection** to GDP in the Basque Country went from 1.6% in 2014 (below Germany and Spain) to 1.8% in 2019 (in line with the values reported in the aforementioned countries, although still below the 2.4% reported for the EU-27 as a whole). This indicates that generally, green taxation is not used to drive the energy/climate transition.

Lastly, defending biodiversity and ecosystems is reflected in the **area of Basque territory that is protected** (almost 24% of the total in 2016) or included in the Natura 2000 Network (20.7%, compared to 27% of Spain and 5% of Germany) (Basque Gov-

⁴⁷ For example, the Basque Country is in a strong position in: employment in circular economy activities (2.1%); material productivity (GDP/domestic materials consumption) (€3.34/kg); waste recycling rate (except minerals) (51%); packing recycling rate (79%); and circular use of materials rate (9.2%). Also noteworthy is the percentage of green public procurement (i.e. according to environmental criteria) among the different Basque government bodies, compared to both Spain and the EU-28.

It is necessary to continue making progress on protecting biodiversity and adapting the territory's infrastructure to climate change

ernment, 2016). However, there is room for progress in the recovery and regeneration of natural spaces in poor condition (Basque Government, 2016), increasing forest cover and deploying green infrastructure to help cool urban areas and mitigate the impact of natural catastrophes (European Commission, 2020b), and adapting the territory's infrastructure to climate change, developing the environmental efficiency of carbon sinks (e.g. forests). There are also opportunities to boost economic value generation linked to environmental management activities, ecosystem recovery, new land use (e.g. carbon offsets), or tourism that combines ecology, outdoor activities (e.g. nature reserves) and gastronomy.

4.2 Physical capital

The physical capital lever refers to tangible assets produced by humans which make it possible to create economic value and wellbeing. In this section, we present various indicators to understand the status of a territory's tangible assets. We analyse investment flows and stocks of capital in general, and more specifically, infrastructure investment in both information and communication technology equipment and machinery and equipment.

Gross capital formation (or investment) is a flow variable that registers the allocations of all fixed assets (machinery and equipment, construction, inventory changes and other assets) in an economy during a given period. In Table 4.1, using Eurostat data, we can see that the Basque Country ranked considerably lower than the other territories under consideration. For their part, the data provided by Eustat offer a more positive outlook, with values ranging from 24.1% in 2013 (rather than the 18.0% given by Eurostat) to 24.4% in 2020. The differences between the two sources is not due to methodological questions, but to how investments are valued by the different stakeholders. Whereas Eurostat takes its data from the INE, which applies a top-down approach based on breaking down the recorded gross capital formation into the different autonomous communities, Eustat offers a more specific valuation of investment by the territory's firms and government.

TABLE 4.1 Gross investment (% of GDP, 2013-2020)

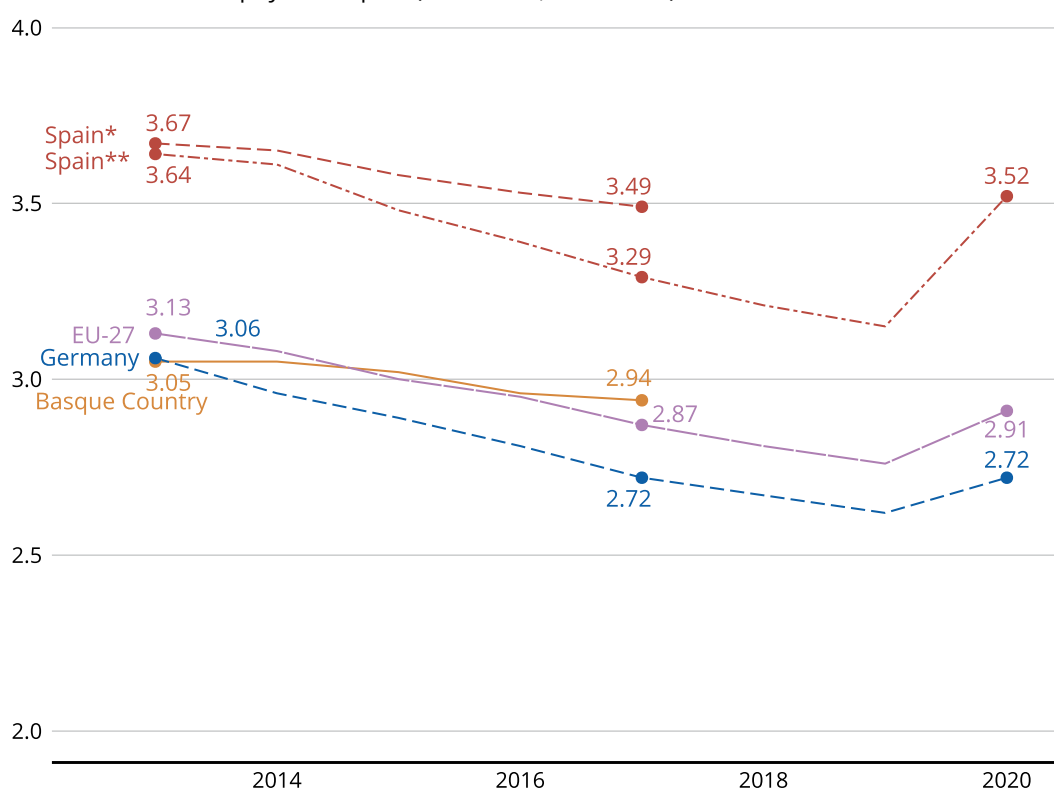
	2013	2014	2015	2016	2017	2018	2019	2020
Basque Country*	18.0	18.9	16.9	13.6	16.7	16.6		
Basque Country**	24.1	23.3	23.4	23.8	23.9	24.4	24.7	24.4
Spain	17.2	17.9	19.0	18.8	19.4	20.5	20.8	20.5
Germany	20.1	20.4	19.7	20.0	20.8	21.6	21.4	20.3
EU-27	19.9	20.3	20.7	21.0	21.5	22.1	22.4	21.5
Baden-Wurtemberg	20.9	20.5	20.8	21.0	21.8	23.0		
Upper Austria	22.1	21.6	21.7	22.8	23.3	23.4		

Source: Eurostat and Eustat. Compiled by authors.

NB: For the Basque Country, both (*) Eurostat and (**) Eustat data are provided. The 2020 data for the Basque Country are early data.

In contrast, the **stock of physical capital as a proportion of GDP** is an indicator representing the accumulation of gross capital formation flow (deducted from a relevant depreciation rate).⁴⁸ As we can see in Graph 4.3, all areas reported a downward trend in this indicator until 2019, especially Spain. The records for 2020 are affected by the decline in GDP, significantly increasing the indicator. In terms of level, Spain is the territory with the largest stock of capital in relation to GDP, which may be influenced by the activation of major gross capital formation flows in construction during the period prior to the financial crisis of 2008-2013. For its part, the Basque Country reported similar values to the EU-27 until 2017, which is the last year for which information is available, slightly exceeding those values in that last year. However, the difference in the data for Spain between the two sources (Eurostat, which is directly comparable to the EU-27 data, and the IVIE (Valencian Institute of Economic Research, which is directly comparable to the Basque Country) call for certain caution in making the comparison between the Basque Country and the EU-27.

GRAPH 4.3 Stock of physical capital (times GDP, 2013-2020)



Source: IVIE, Ameco and Eurostat. Compiled by authors.

NB: Spain* IVIE-INE / Spain** Eurostat.

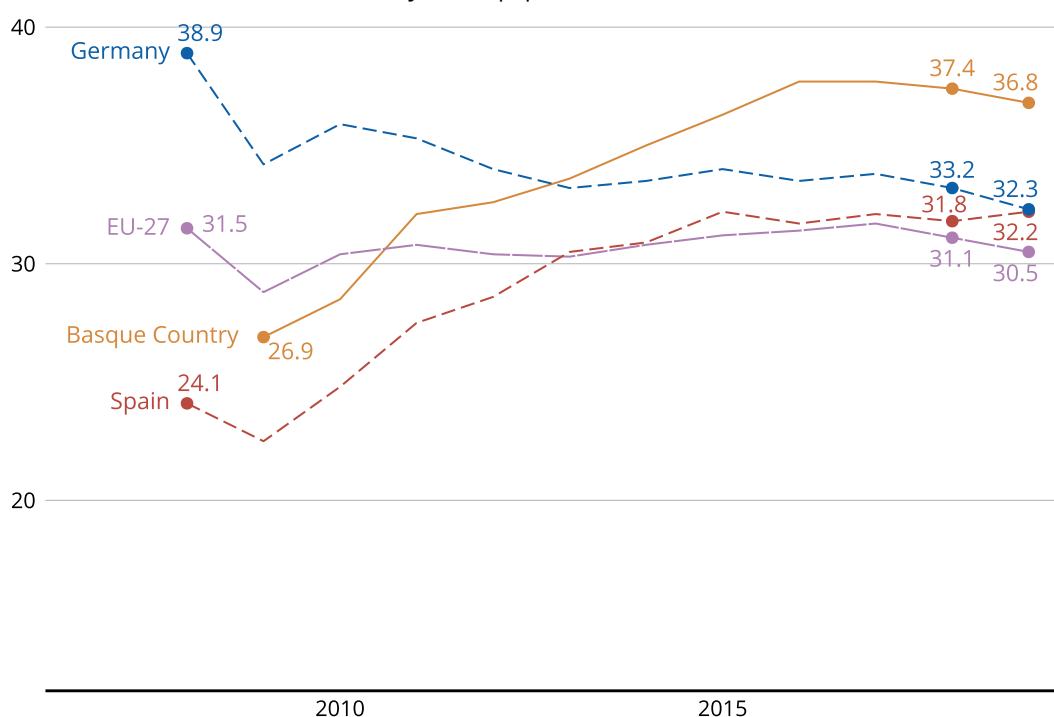
An important component of gross investment is **investment in machinery and equipment**, which is especially significant for economies where industry represents a large share because it provides an indication of the expansion or renewal of manufacturing capacity. In Graph 4.4, we can see that starting in 2014, the value for the Basque Country began to distance itself from that of the other territories, exceeding

Investment in machinery and equipment has continued to grow, exceeding German values since 2014

⁴⁸ In the case of the EU-27, Germany and Spain, there are data available up to 2020, from the Ameco database. And for the Basque Country (and Spain), the IVIE data (largely based on that from the INE) go as far as 2017.

Germany's values. This shows that this element, which has been increasing in weight since the start of the crisis, is being prioritised even more.

GRAPH 4.4 Investment in machinery and equipment (% of GCF, 2013-2020)



Source: Eurostat and Eustat. Compiled by authors.

Employment rises in capital goods sectors

Another way to analyse the impact of the property and equipment industry on the economy is to explore employment in these activities in relation to total employment. Thus, in Table 4.2, which uses data from the European Cluster Collaboration Platform (ECCP), the greater specialisation of the German region of Baden-Württemberg (DE1) is obvious; whereas the Basque Country posts similar results to those for Germany and Upper Austria (AT31). In terms of trends, in the last three years considered, employment in capital goods industries in the Basque Country was higher than the 2013-2018 average, indicating that employment in this industry is on the rise.

TABLE 4.2 Trends in employment in economic activities related to property and equipment (2013-2018)

	2013	2014	2015	2016	2017	2018	2019
Basque Country	3.85	3.41	3.38	3.55	3.66	3.77	3.65
Spain	1.11	1.01	1.00	1.05	1.10	1.08	1.11
Germany	4.73	4.71	4.63	4.58	4.54	4.59	5.61
EU-27	3.07	3.03	2.73	2.68	2.64	2.66	3.14
Baden-Wurtemberg	8.67	8.63	8.59	8.49	8.53	8.68	10.43
Upper Austria	5.41	5.36	5.40	5.38	5.40	5.55	5.46

Source: ECCP. Compiled by authors.

NB: We have considered industries related to property and equipment for activities 26-27-28 (two-digit CNAE (National Economic Activities Classification) codes).

4.3 Financing

The financing lever includes all factors which make it possible to finance creating economic value and wellbeing. There are three main perspectives from which this financing can be analysed: firms, government and foreign.

With regard to firms, **equity and financial assets** are key structural indicators. We find higher equity among the assets of Basque firms compared to those from Spain and Europe. As regards the weight of financial assets (principally capturing stakes of local firms in affiliates), the level remained consistent in the Basque Country in 2020, above the European average. It is worth mentioning that, given the depth of the crisis caused by COVID-19, the results may not reflect changes of trend in these structural indicators.

TABLE 4.3 Equity and financial assets of firms, 2013, 2019 and 2020

	Basque Country (a)			Spain (a)			Europa (b)		
	2013	2019 (p)	2020 (p)	2013	2019 (p)	2020 (p)	2008	2013	2019
Equity / Assets	45.3	43.5	44.8	37.9	41.4	43.8	31.6	35.2	37.3
Financial assets / Assets	35.2	33.2	32.2	36.0	29.2	35.1	21.0	22.5	25.6

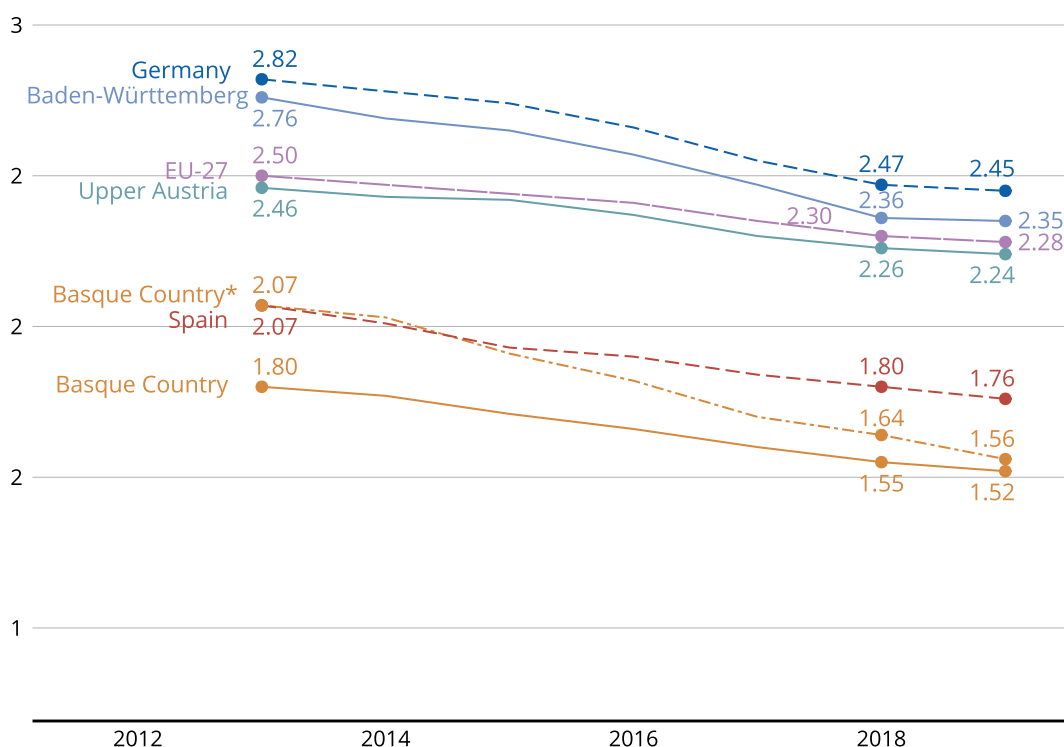
Source: (a) SABI-Informa and (b) BACH. Compiled by authors.

NB: The SABI data for 2019 and 2020 are provisional, as the standard sample (approx. 30%) has not been collected.

It is also interesting to monitor the **weight of the financial sector (banks, insurance companies and other financial entities) in total employment** for the territory. In Graph 4.5, we can see that the financial sector has a lesser impact on employment in the Basque Country compared to the other territories under consideration. This is obviously due to the Basque Country's industrial specialisation and the fact that financial activity is principally concentrated in large urban areas. It should be noted that the general trend pattern is downward in all territories. This may reflect a trend towards reducing the use of human resources in the financial industry, which more heavily relies on technological and digital resources to interact with its clients.⁴⁹

Due to its industrial specialisation, employment in the Basque financial sector has a lesser impact compared to other territories

⁴⁹ The Eustat and Eurostat data give very similar values for the Basque Country in 2019, but different starting situations in 2013. According to Eustat, the weight of the financial sector in the Basque Country was very similar to that in Spain for that year. Therefore, according to Eustat, the weight of the sector has declined more sharply than is indicated by the Eurostat data.

GRAPH 4.5 Employment in the financial sector (% of total employment, 2013-2019)

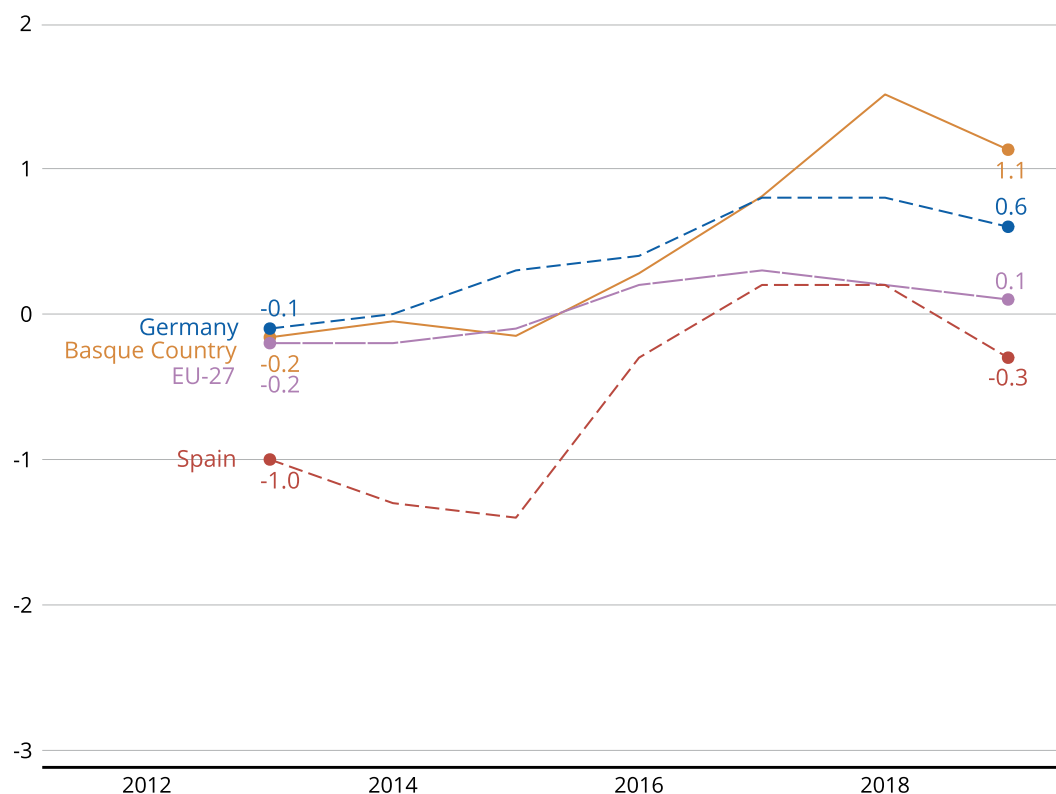
Source: Eurostat and (*) Eustat. Compiled by authors.

NB: Activity codes 64 to 66 in the two-digit National Economic Activities Classification (CNAE).

Turning to public administration, the **capacity (+) or need (-) for financing as a percentage of GDP** indicator reflects the government's budget implementation, and therefore, it shows the difference between revenue and expenditure. In the case of subnational government,⁵⁰ we can see differences in the level of budget stability between countries and regions. As can be seen in Graph 4.6, when the Great Recession hit its lowest point in 2013, the public deficit of subnational government was, in its relative smallness, several times greater in Spain than the average for EU-27 countries and in Germany. At that time, the government of the Basque Country was already reporting more favourable performance than the Spanish average. In 2019, the last year for which we have budget settlements, although in all the territories considered we see an improvement in budget balance, the improvement is particularly notable in the Basque Country, which has a budget surplus of over 1%, even more than that of the German subnational government. The debt level of the government of the Basque Country was also lower than the average for Spanish regional and local government (14% compared to 26%). It was almost on a par with the EU-27 average and clearly below that of Germany. However, Basque public administrations came into the pandemic in a relatively favourable position, which has enabled them to, among other things, carry out active policies to deal with it in a more decided manner than in other autonomous communities.

⁵⁰ Public administration encompasses different levels. The ones which are more relevant from the perspective of regional comparative analysis are regional and local governments, what the OECD refers to as subnational governments. At this level, public deficit levels are usually quite a bit lower than those of the national general government. This is because, despite formal statements of local and regional autonomy, the highest levels of government generally have certain power of control over the expenditure and debt levels of lower levels of government.

Basque public administrations have been able to implement decisive active policies in response to the pandemic

GRAPH 4.6 Subnational government capacity (+) or need (-) for financing (% of GDP, 2013-2019)

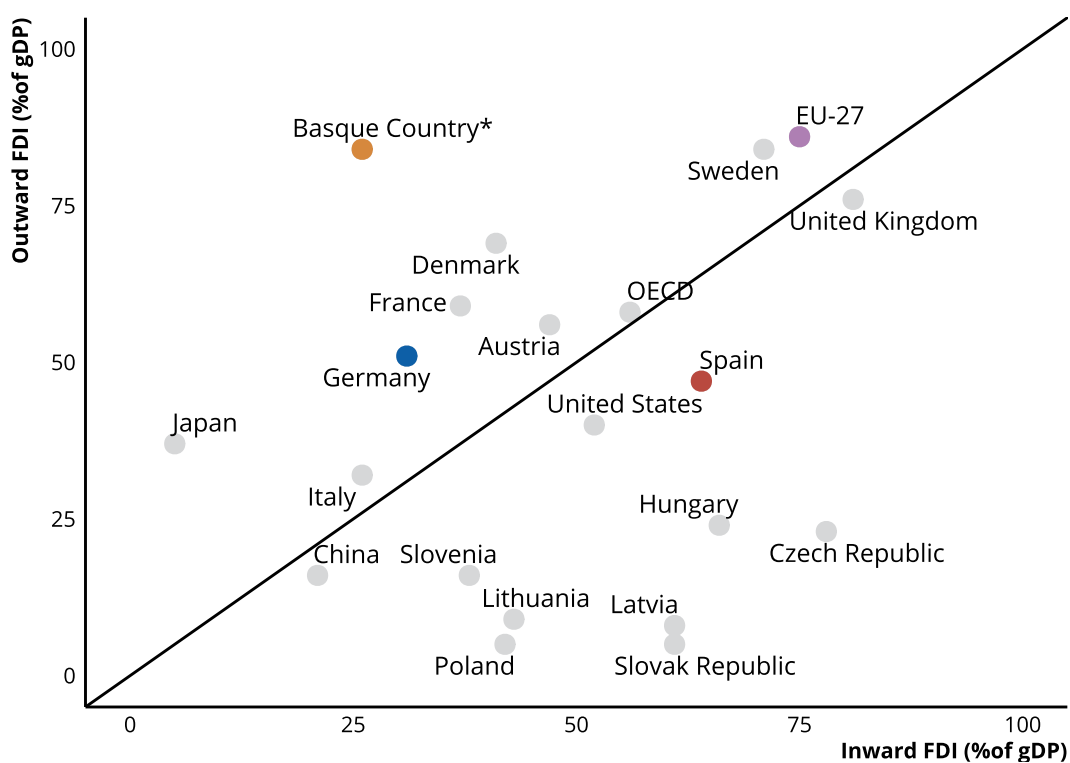
Source: Eurostat and Eustat. Compiled by authors.

Looking at foreign financing, foreign direct investment (FDI) is distinguished from purely financial transactions, as investors can or try to exert effective influence over its management.⁵¹ In this regard, indicators of inward FDI are associated with such aspects as the attractiveness of a territory for doing business, accessing its knowledge and/or high-level innovation system, market, inputs.

In this area, we analyse indicators of inward and outward investment capital, distinguishing between stock levels and flow. As regards stock of FDI, in Graph 4.7 we can see that the Basque Country has a relatively low stock of inward FDI; whereas it is noteworthy for its high level of stock of outward FDI in relation to the size of its economy. This is an indicator of the considerable internationalisation of Basque firms, while also reflecting certain limitations in attracting FDI. The trends in inward and outward flows of FDI are presented in Table 4.4. In both cases, there is a great deal of diversity in the behaviour of flows between 2013 and 2020. In the latter year, the inward flow of FDI was considerably lower than the average for 2013-2019, due to the impact of the health crisis, except in Germany. For their part, outward FDI flows were considerably lower than the average for 2013-2019, except in the Basque Country.

The Basque Country has a relatively low stock of inward FDI and is noteworthy for its high level of outward stock in relation to the size of its economy

⁵¹ FDI is made up international transactions by means of which: a local investor creates a firm, or acquires a stake in a company residing in another country; or a foreign investor creates a firm, or acquires all or part of a firm in the territory.

GRAPH 4.7 Stocks of inward and outward FDI (% of GDP, 2020)

Source: OECD and Ministry of Industry, Trade and Tourism (Government of Spain). Compiled by authors.

NB: * 2019.

TABLE 4.4 Flows of inward and outward FDI (% of GDP, 2020)

FDI inflow (% GDP)									
	2013	2014	2015	2016	2017	2018	2019	2020	Avg. 2013-2019
Basque Country	1.7	2.1	1.2	3.0	3.7	1.5	0.7	1.2	2.0
Spain	2.1	1.6	0.7	2.6	3.2	3.8	0.6	0.4	2.1
Germany	0.3	-0.1	0.9	0.5	1.3	1.6	1.4	0.9	0.8
EU-27	1.5	1.6	3.8	2.9	1.9	1.8	2.5	0.9	2.3
FDI outflows (% GDP)									
	2013	2014	2015	2016	2017	2018	2019	2020	Avg. 2013-2019
Basque Country	2.3	1.2	0.8	4.7	2.3	1.9	1.5	4.9	2.1
Spain	1.1	2.7	3.5	3.6	4.3	2.7	1.4	1.8	2.7
Germany	1.1	2.2	2.9	1.8	2.3	2.2	3.6	0.9	2.3
EU-27	2.3	2.9	5.8	3.7	2.2	1.8	2.4	0.5	3.0

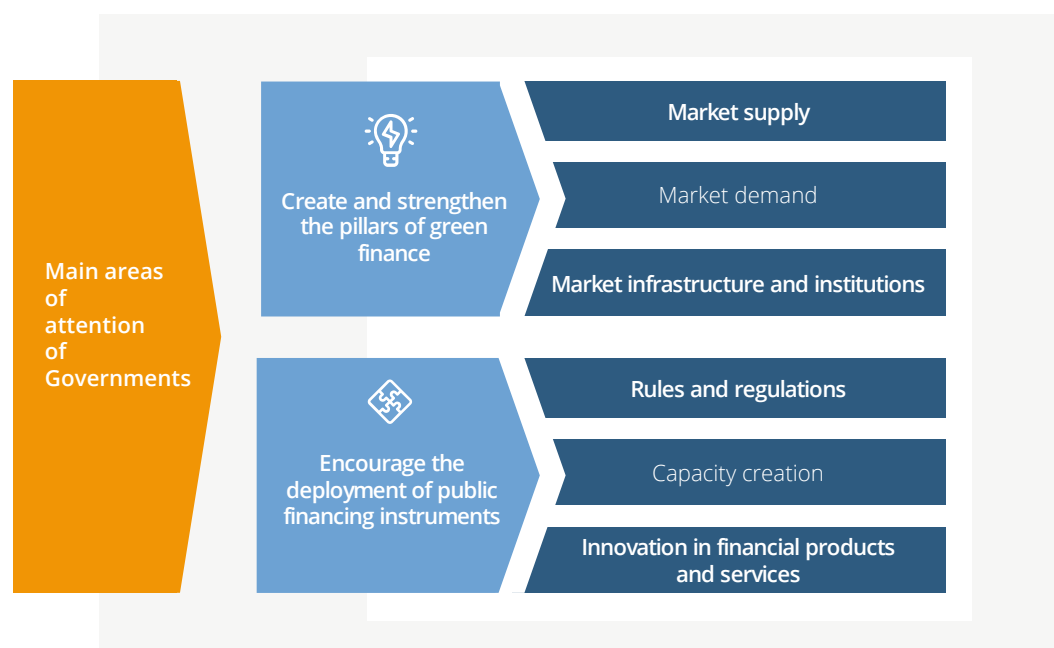
Source: OECD and Ministry of Industry, Trade and Tourism (Government of Spain). Compiled by authors.

Lastly, in the context of the three major transitions analysed in the initial chapters, it is important to consider that levers such as financing may be focused on specific aims related to these transitions. In Box 3, we consider the role governments can play in fostering a financing ecosystem that facilitates the green transition.

BOX 3 The importance of a competitive, local green financing ecosystem

A recent Orkestra paper (Fernández and Larrea, 2021) analyses the role played by subnational governments (regional and local) in developing a financing ecosystem to facilitate the ecological transition to an economy with zero net emissions. The main conclusion drawn from this investigation is that regional governments with sufficient political autonomy, such as the Basque Government, are especially well positioned to drive the development of a local financing ecosystem that facilitates financial innovation and makes it possible to generate capital flows, both public and private, to finance the high volume of investment in clean technologies, in infrastructure (energy, communications, etc.), in digitalisation, energy efficiency, etc. required to decarbonise the economy. This may be achieved through measures aimed at developing the local financial market (from both the supply side and the demand side of sustainable financial products), creating and strengthening market and financial institutions, developing the regulatory and standards framework linked to sustainable finance, increasing the financial capabilities of the different stakeholders (individuals, firms and public administrations), and driving innovation in financial products and services. In a context of considerable competition for resources from the European Union and Member States, the development of a dynamic and innovative local financial market will be another factor in territorial competitiveness.

FIGURE 4.1 The six dimensions of green financing on which governments should focus



Source: Fernández, J. and Larrea, M. (2021). Fostering green financing at the subnational level. The case of the Basque Country. *Ekonomiaz*, 99, 151-181.

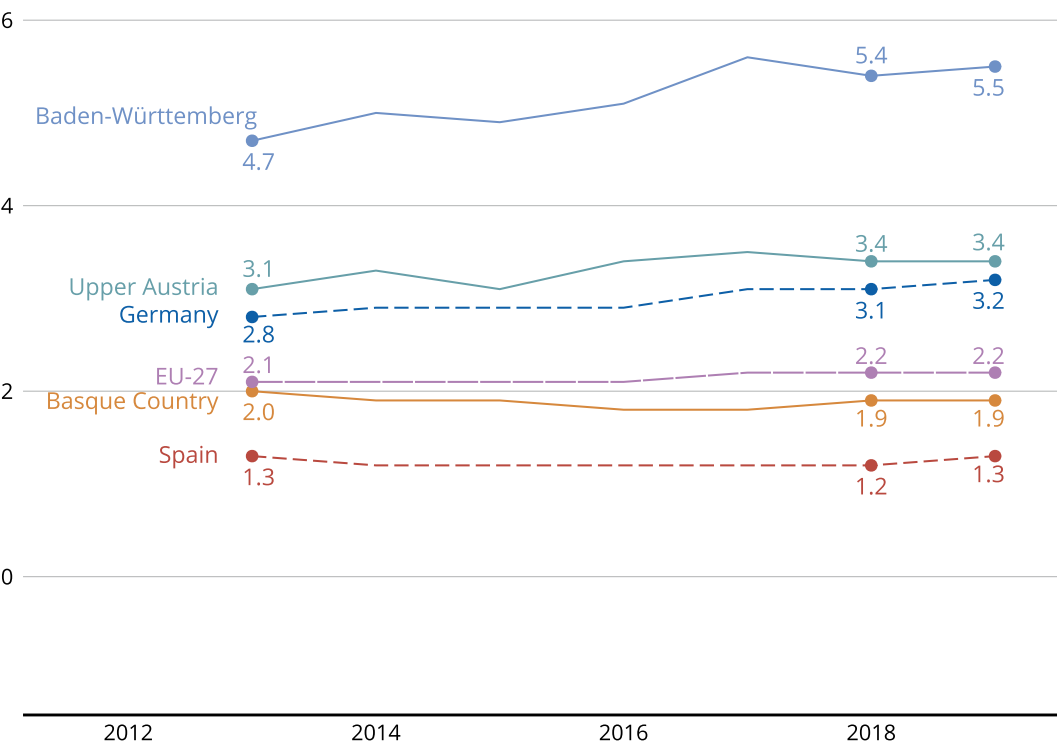
4.4 Knowledge

The knowledge lever includes all intangible knowledge-based assets and ICT which make it possible to create economic value and wellbeing. In this lever, we can analyse a group of indicators related to R&D, intellectual property rights and ICT, which reflect efforts and results in spheres of knowledge recognised as essential to improve the final outcomes of competitiveness and wellbeing. These elements are closely linked to the innovation outcomes and entrepreneurship analysed in the previous chapter.

In R&D expenditure, the Basque Country (1.9% of GDP in 2019) ranks higher than Spain (1.3%), but lower than other territories

The ratio of R&D expenditure to GDP is an indicator which makes it possible to measure the level of resources allocated to R&D. As Graph 4.8 shows, throughout the period of study, this R&D input did not reach 2% in the Basque Country (except in 2013). It is thus above Spain but slightly below the European average and further from Germany and the two reference regions included in this analysis. All the territories experienced growth in 2019, with the Basque Country having a lower year-on-year rate (0.7%) than the rest, although it continues the positive trend of the last three years.

GRAPH 4.8 R&D expenditure (% GDP), 2013-2019



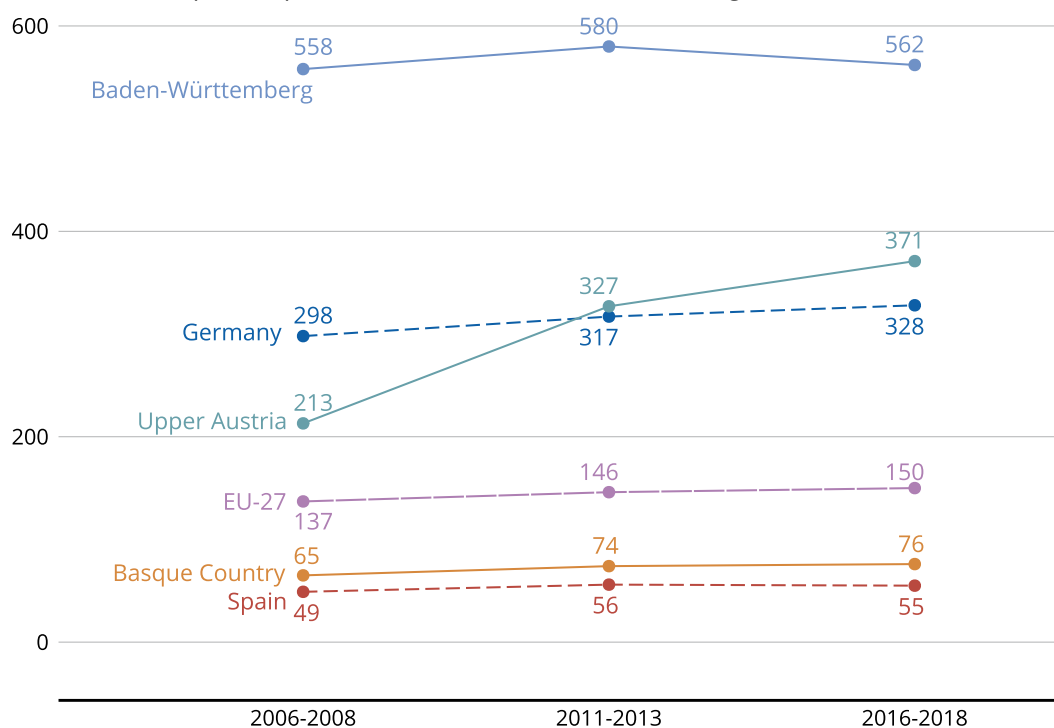
Source: Eurostat and Eustat. Compiled by authors.

The average value for PCT patents per million inhabitants was almost four times lower than in Germany for the 2016–2018 period

For their part, **patents** are an indicator of technological output, although with some inadequacies. Graph 4.9 shows that in terms of PCT patents per million inhabitants, the average value for the Basque Country in the three-year period from 2016 to 2018 was 76, compared to 328 patents per million inhabitants in Germany (more than four times more). The differences with regard to the German and Austrian regions are even greater. This highlights the fact that while in R&D expenditure (input), the gap

separating the Basque Country and Germany is relatively small, in patents (output), this gap is considerably more pronounced, indicating that there is ample room for improvement in the efficiency of the system.

GRAPH 4.9 PCT patents per million inhabitants (triennium average, 2006-2018)



Source: REGPAT (OECD). Compiled by authors.

Generally speaking, the variation between the triennia has been very different: between the first and second, the number of patents per million inhabitants increased in all territories, but in the last (2016-2018), this figure was lower than the previous one in Spain and Baden-Württemberg.⁵² Despite this, the German region was the leader throughout the period, while Upper Austria reported the highest growth. In the Basque Country, the rate of change between the first and second triennia was almost 14% and close to 3% between the second and the third, ranking slightly below average growth for the territories as a whole in both cases.

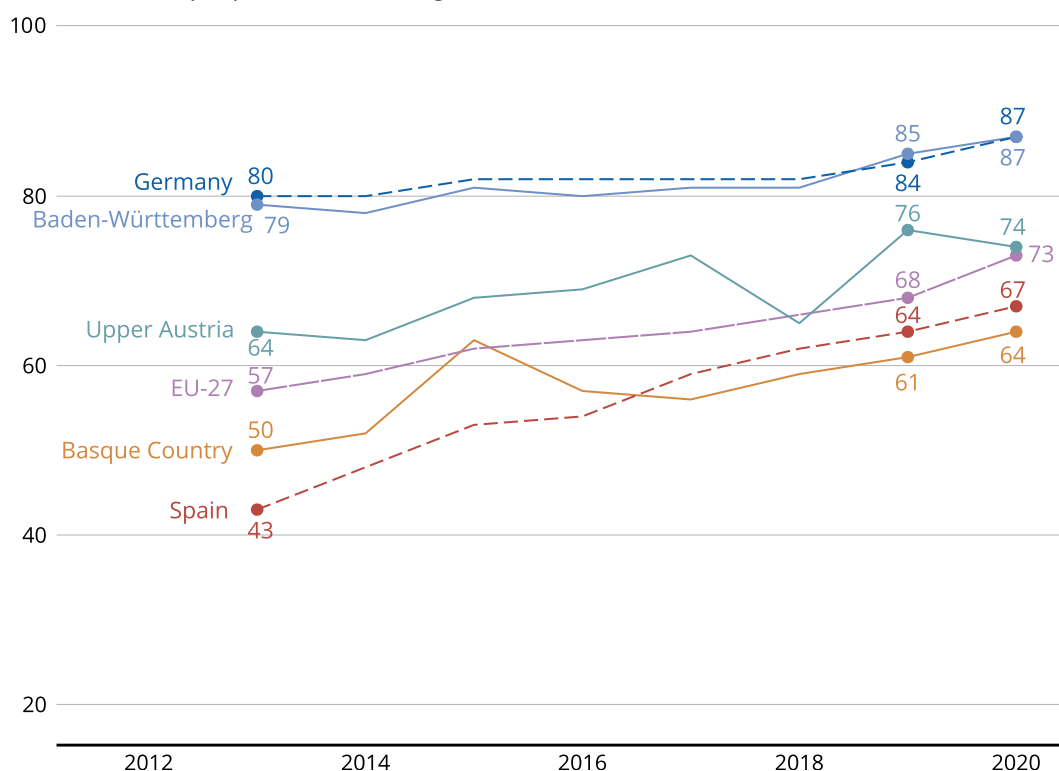
Turning to ICT, Box 4 highlights the principal conclusions in the *2020 DESI Report on the Basque Country*, which indicate that progress has been made on social and economic digitalisation and a very favourable position in the European context. However, the DESI indicators refer primarily to the existing infrastructure and ICT demand and use. It is important to also consider the ICT production side (supply), a sector in which the Basque Country does not stand out very positively in percentage of jobs in ICT sectors and exports of goods linked to ICT. In this area, the *2020 DESI Report on the Basque Country* acknowledges the need to improve the development of digital competences.

Improvement is needed in the development of digital competences

⁵² It should be noted that patents are usually published with some delay in the REGPAT database used for this analysis, and that the patent data for the last triennium is likely to increase somewhat.

The level of individual ICT use gives some indication of general knowledge of ICT among the population. One common indicator of this, within the most common transactional online activities, is **online shopping**. Graph 4.10 shows how this has evolved, and we can see that in 2020, the percentage for the Basque Country (64%) is below that of the other territories. As mentioned in previous competitiveness reports, this indicator has several interpretations. While a lower level may indicate to some extent a lower daily use of ICT, it may also reflect such characteristics as the demographic profile of the population or a preference for shopping at local shops. In addition, in the context of the pandemic which emerged in 2020, it may be expected that this indicator increases that year due to the digital growth resulting from lockdown. However, the rates of change for that year are not higher than in previous years. The highest is found in the Basque Country, 5%.⁵³

GRAPH 4.10 People who have made online purchases in the past 12 months
(% people between the ages of 16 and 74, 2013-2020)



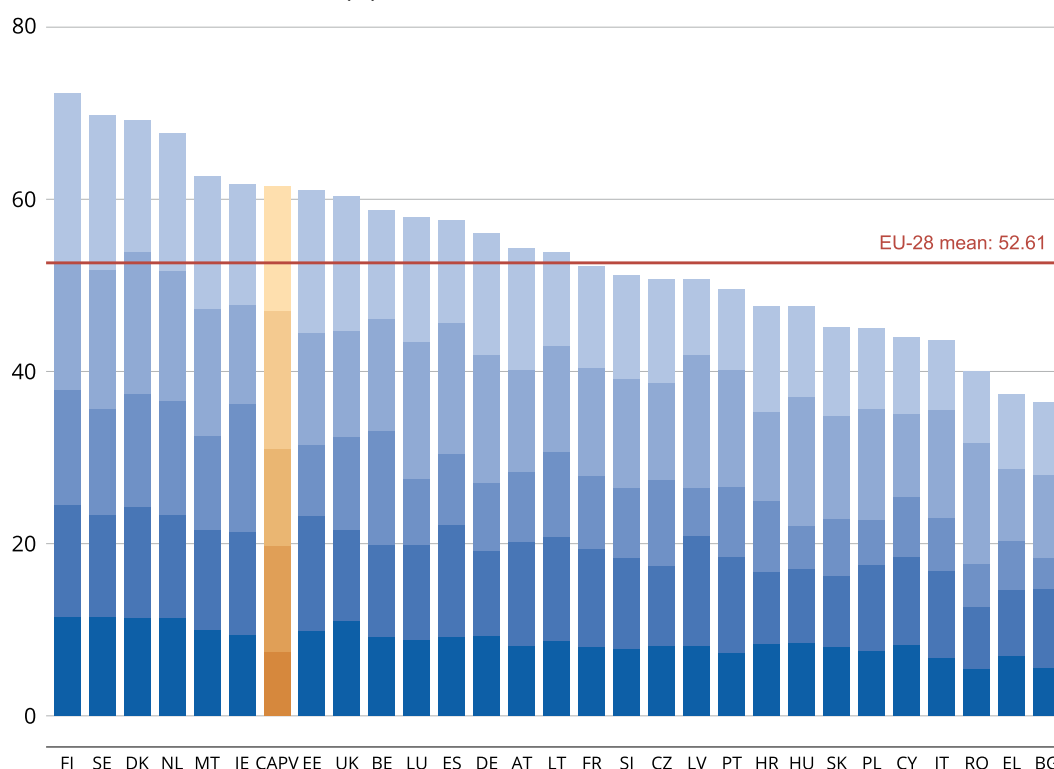
Source: Eustat and Eurostat. Compiled by authors.

⁵³ On this subject, it is advisable to take into account that the surveys used to obtain these data refer to the first (Eurostat) and second (Eustat) quarters of the referenced year.

BOX 4 Principal conclusions of the 2020 DESI Report on the Basque Country

The fourth edition of the DESI or Digital Economy and Society Index for the Basque Country highlights that social and economic digitalisation continued to move forward for the third consecutive year, reaching a value of 61.54%. As Graph 4.11 shows, because of this, the Basque Country ranks seventh among European countries as a whole and has established itself as part of the most advanced group in digitalisation.

GRAPH 4.11 DESI 2020 Index (%)



Source: EUROSTAT, EUSTAT, CNMC, SETID, INE. Compiled by authors based on questionnaires created in-house.

Since 2018, progress has been made on virtually every aspect of digitalisation. In the last year, the Basque Country moved up one position in connectivity and use of Internet services, and two in digital public services, also speeding up in the latter two aspects. Integration of digital technology, which grew half of what it did in 2019, remained in the same position. The same was true of human capital, with faster growth in 2020.

The Basque Country thus maintains the digital pulse in Europe. Various digital policies have contributed to these achievements, noteworthy among them the Euskadi 2020 Digital Agenda, supplemented by other multilevel institutional policies, especially from the provincial councils. In short, the foundations for the digitalisation of the Basque Country are solid and increasingly consolidated. Even so, in an environment in which European countries as a whole are making progress with each passing year, it is essential to continue improving. For this reason, it is especially important to pay attention to the structurally weakest indicators. In this respect, the development of digital competences and household use of internet services offer space to allow for such progress in the next phases of the digitalisation of the Basque Country. The Strategy for the Digital Transformation of the Basque Country 2025 includes these and other key aspects for the technological/digital transition in upcoming years.

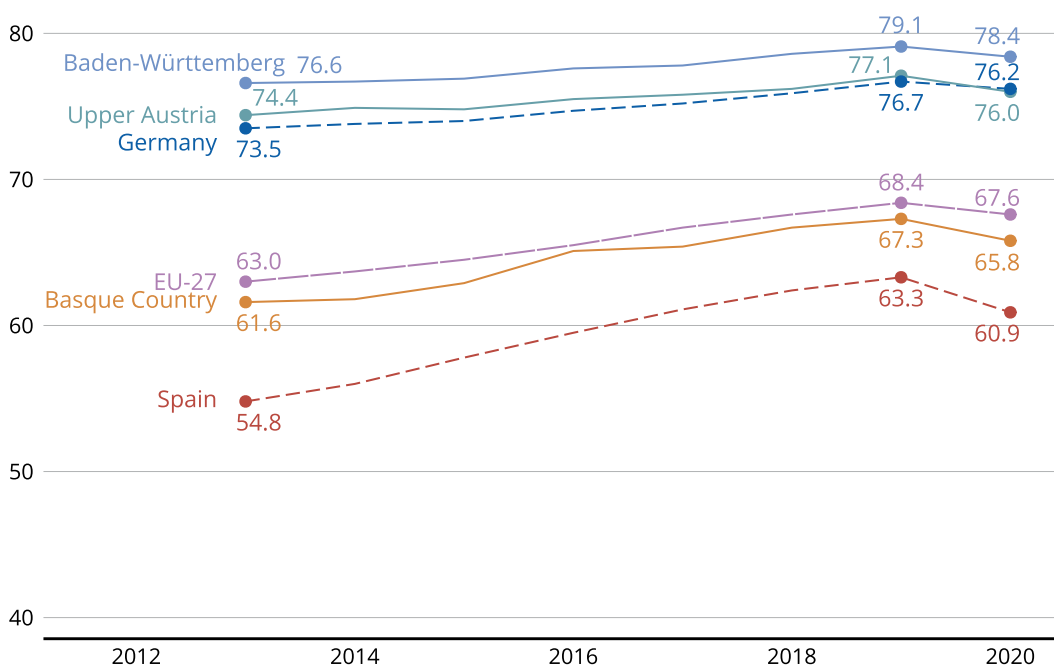
4.5 Human capital

The human capital lever refers to various dimensions related to individuals —knowledge, skills, health and participation— which determine how they contribute to the labour market and thus have an impact on creating economic value and wellbeing. There is a clear connection between this lever and several of the dimensions considered to be the outcome of wellbeing. And it is not always easy to distinguish between the two, as a given element (for example, a good education level) may contribute to personal wellbeing but can also constitute a resource for creating greater economic value. It is the latter fact which is discussed in this section, in which we analyse three groups of indicators that reflect different elements of human capital.

Firstly, the **employment rate among the population aged 15 to 64**⁵⁴ reflects the intensity with which a territory harnesses the available human capital (Graph 4.12). In 2020, the employment rate in the Basque Country was below that of most of the territories subject to comparison, coming in at 65.8% for the population aged 15 to 64. Variation over time in this indicator reveals a 4.2% increase in the Basque Country in 2020, compared to 2013. However, there is also a clear relatively greater drop than in other territories (except Spain) in 2020 due to the pandemic. Additionally, these declines in employment rates would have been much greater if workers under Spain's Temporary Redundancy Plans (ERTE) had not been counted as employees.

In 2020, the employment rate was below that of most of the benchmark territories

GRAPH 4.12 Employment rate of the population aged 15-64 (2013-2020)



Source: Eurostat. Compiled by authors.

⁵⁴ Although the legal working age is 16 in Spain, Eurostat produces an estimate for the indicator starting at 15 to make it easier to compare with the other EU countries.

In general terms, the low employment rate compared to the benchmark European territories can be partially explained by the high unemployment rates mentioned in the section on employment in Chapter 3. But it is also important to take into account that the Basque Country has a high percentage of young people enrolled in tertiary education and who are therefore neither in the labour force nor in work. If the comparison is made for the 25-64 age bracket, the differences shrink between the Basque Country and Germany (a country where many young people complete vocational training and enter the labour market directly, without going through tertiary education). Lastly, there are clear differences in labour force participation rates. In 2020, the rate in the Basque Country (75.4%) is low in comparison with the EU-27 (77.4%), Germany (81.1%), Baden-Württemberg (81.2%) and Upper Austria (82.2%). This lower labour force participation rate may be due to the impact of discouragement with the job search that had not completely dissipated since the economic crisis that began in 2008.

The analysis by gender points to sustained differences in the employment rate of men and women in the Basque Country over time, separated by more than five points throughout the entire series in favour of men. In 2020, the employment rate for women (62.8%) was 6.1 points lower than that of men (68.9%). Furthermore, the drop in the employment rate in 2020 compared to 2019 was slightly greater for women (1.7 points) than for men (1.3 points).

The employment rate for men and women in the Basque Country consistently favours men by over five points

Labour market participation also varies by age range. In the case of young people, in 2020, the youth unemployment rate (ages 15-24) in the Basque Country was 33.2%,⁵⁵ considerably higher than the benchmark territories, where it ranged from 6.8% in Baden-Württemberg to 16.8% in the EU-27 as a whole. The only area with a higher rate than the Basque Country was Spain as a whole, at 38.3%. Additionally, it should be noted that due to the pandemic, youth unemployment in the Basque Country rose 5.8 points in 2020.

The second group of indicators are those which capture individual skills. Among these, the **population aged 30-34 with senior secondary and tertiary education as their highest education level** reflects the skill level of the youth workforce joining the labour market. Post-compulsory secondary education (senior secondary: *Bachillerato*, and Intermediate VET) and tertiary education (Higher VET and university education) are essential for human capital to contribute to future competitiveness and wellbeing.

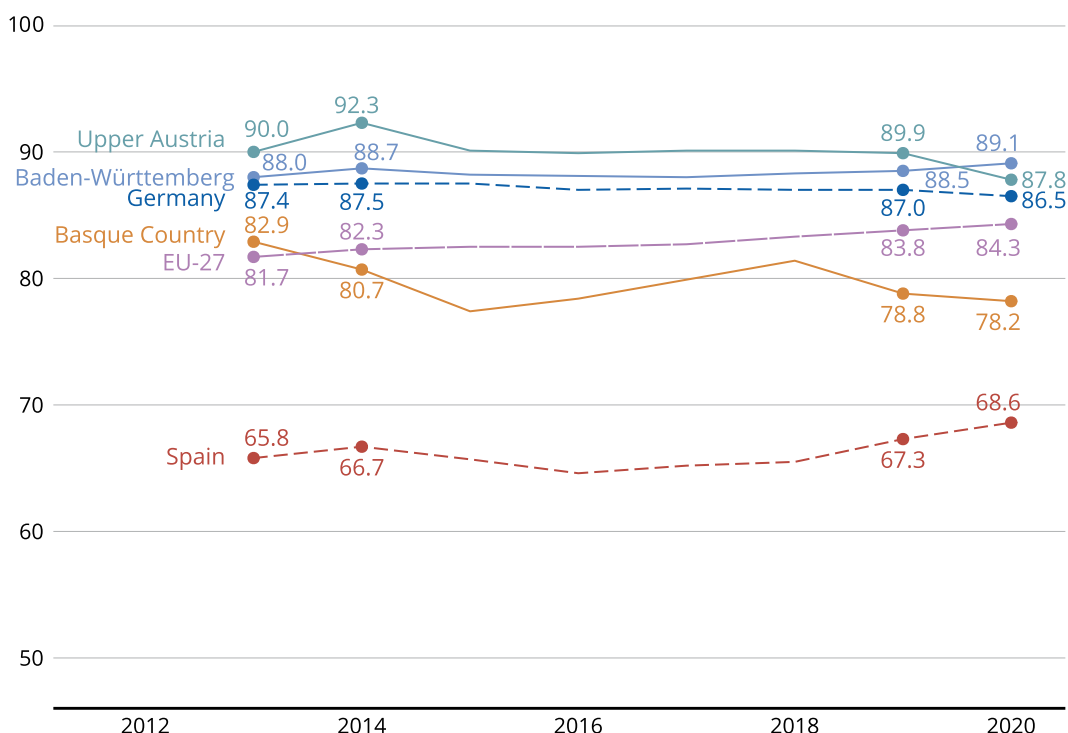
In 2020, 78.2% of the Basque population aged 30-34 had a minimum of post-compulsory secondary education, a lower percentage than most of the benchmark territories (Graph 4.13). We can therefore see that the weakness identified for the population as a whole in analysing the indicators of wellbeing is not being corrected in younger population bands.⁵⁶ Additionally, the variation over time shows a 2.5 point drop in the Basque Country compared to 2014 and 0.7 points in comparison with 2019. This could be explained by the increase in the young foreign/immigrant population, whose education level does not go beyond compulsory education. The foreign-born population aged 30-34 has gone from representing 15.4% in 2014 to 21.6%

⁵⁵ According to Eustat, the figure is 25.7% in 2020 for the 16-24 age band, increasing 4.8% compared to 2019. This age band is slightly different than that available through Eurostat, where the age group includes those aged 15-24.

⁵⁶ This weakness is primarily found in the percentage of young people who have not managed to obtain a senior secondary qualification.

in 2020. Given the importance of the immigrant population as a resource in our society, it is important to make it easier for the foreign-born population to also continue educating themselves in order to make the most of their potential. Additionally, the percentage of the population with senior secondary and tertiary education varies by age range, topping 82% in the Basque Country for the 25-34 years range in 2020, with a 1.8 point increase compared to 2014 for this age range.

GRAPH 4.13 Population aged 30-34 with senior secondary or tertiary education (% , 2013-2020)



Source: Eurostat. Compiled by authors.

NB: In 2014, there was an interruption in the time series, so the data are interpreted starting that year.

The analysis by gender points to sustained differences over time in the percentage of people in the Basque Country aged 30-34 with senior secondary and tertiary education. In 2020, 79.9% of women had attained this education level, compared to 76.6% of men. However, the drop in 2020 compared to 2014 was sharper among women (5.3 points) than among men (0.1 points).

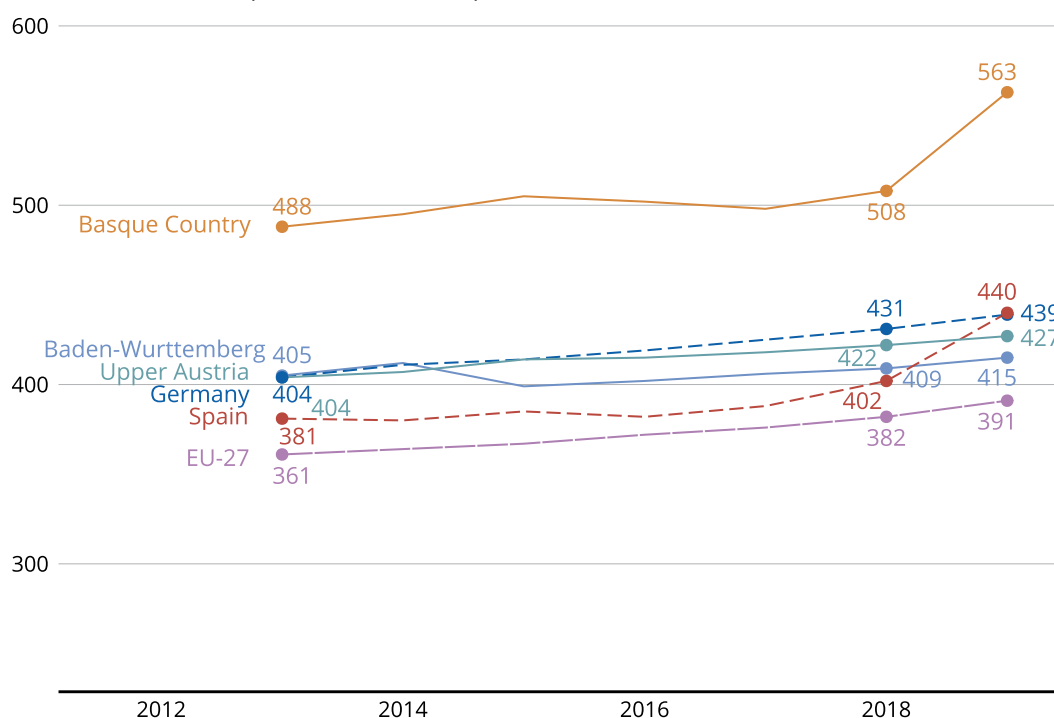
The third dimension to be considered is less traditional, and it reflects the importance of the health of the people who make up a territory's human capital, as has become abundantly clear in the new context of the pandemic. There are of course many dimensions linked to health, but one indicator that generally reflects a territory's ability to keep its population healthy, even in times of pandemic, is the **number of medical personnel per capita** (Graph 4.14).

In 2019 (last year with data available), the Basque Country had 563 doctors for every 100 000 inhabitants, amply exceeding all the benchmark territories. Variation over time for this indicator shows that the ratio of medical personnel to inhabitant is sig-

nificantly higher in the Basque Country than in the benchmark territories throughout the series analysed. Likewise, the increase in medical personnel in 2019 compared to 2013 is common to all the territories analysed, although the greatest increase occurred in the Basque Country and Spain as a whole (15.6% in both cases). Good performance in this indicator represents a very important aspect for the wellbeing of the population and the resilience of the territory during a health crisis such as COVID-19.

The number of doctors per 100 000 inhabitants is considerably higher than in all the benchmark territories

GRAPH 4.14 Medical personnel (number per 100 000 inhabitants)



Source: Eurostat. Compiled by authors.

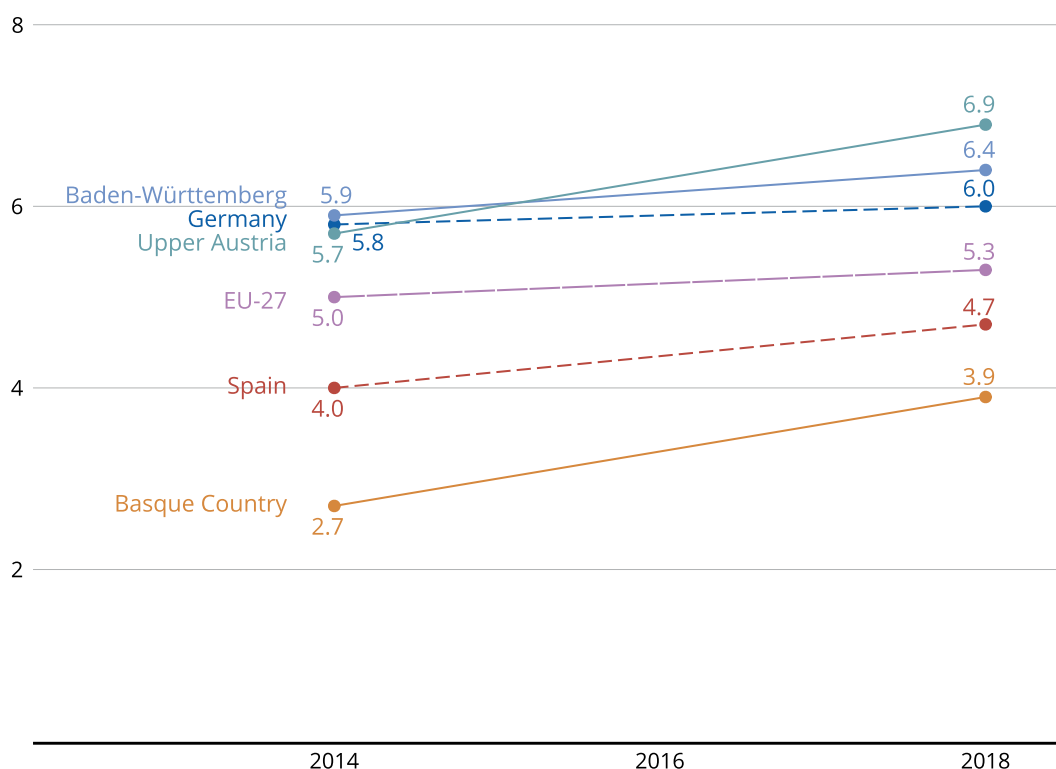
NB: The data for the EU-27 as a whole for the 2014-2019 period are estimates.

4.6 Social and institutional capital

The social and institutional capital lever reflects the system of rules and organisation which structure social interactions, affecting the creation of economic value and wellbeing. There is therefore a certain overlap with one of the dimensions in the structural context, institutional structure and values. We have included those aspects of a more permanent nature over time, and those which are more dynamic (see Chapter 2).

Firstly, in order to evaluate the quality of public institutions, we analyse the **average value for confidence in the legal system** according to the subjective evaluation of citizens surveyed in the European Social Survey. As can be seen from Graph 4.15, the Basque Country is the territory with the worst rating of the legal system, even worse than Spain, and much lower than the reference regions. In all territories, we can also see that confidence went up between 2014 and 2018, with Upper Austria and the Basque Country reporting the highest increase. In the case of Upper Austria, this increase puts it above both Baden-Württemberg and Germany in 2018.

According to European Social Survey data, among the compared territories, the Basque Country gives the lowest ranking to the legal system

GRAPH 4.15 Confidence in the legal system

Source: ESS. Compiled by authors.

The European Social Survey also includes questions about confidence in other institutions such as the police, the national parliament and the European Parliament, but not the regional parliament, as this institution is not found in all European regions. The results for the evaluation of the police and national parliament are very similar to those for the legal system. In both cases, the average score in all territories went up between 2014 and 2018, and the Basque Country is the territory that rated both institutions the lowest. We can also see that in all the territories, the institution which scored the highest of the three is the police, and the worst is the national parliament. In the case of the Basque Country, in 2018, average confidence in the police was 5.5, and 3.4 in the national parliament.

Having confidence in institutions is crucial to feeling safe, both as a person and in a work and business environment. For this reason, this is one of the levers on which further work must be carried out. However, it is important to also recognise that according to the **institutional quality** indicator published every four years, Basque citizens consider the quality of government to be greater than the EU average.⁵⁷

Next, we analyse the **level of cooperation among firms**, as a measure of business social capital. Specifically, the analyses focus on cooperation among SMEs (firms with between 10 and 250 employees) to engage in R&D&I. As in the section on innovation outcomes in Chapter 3, due to the change in methodology for the innovation survey, the results are focused on the years 2018 and 2019. In Graph 4.16 we can see that,

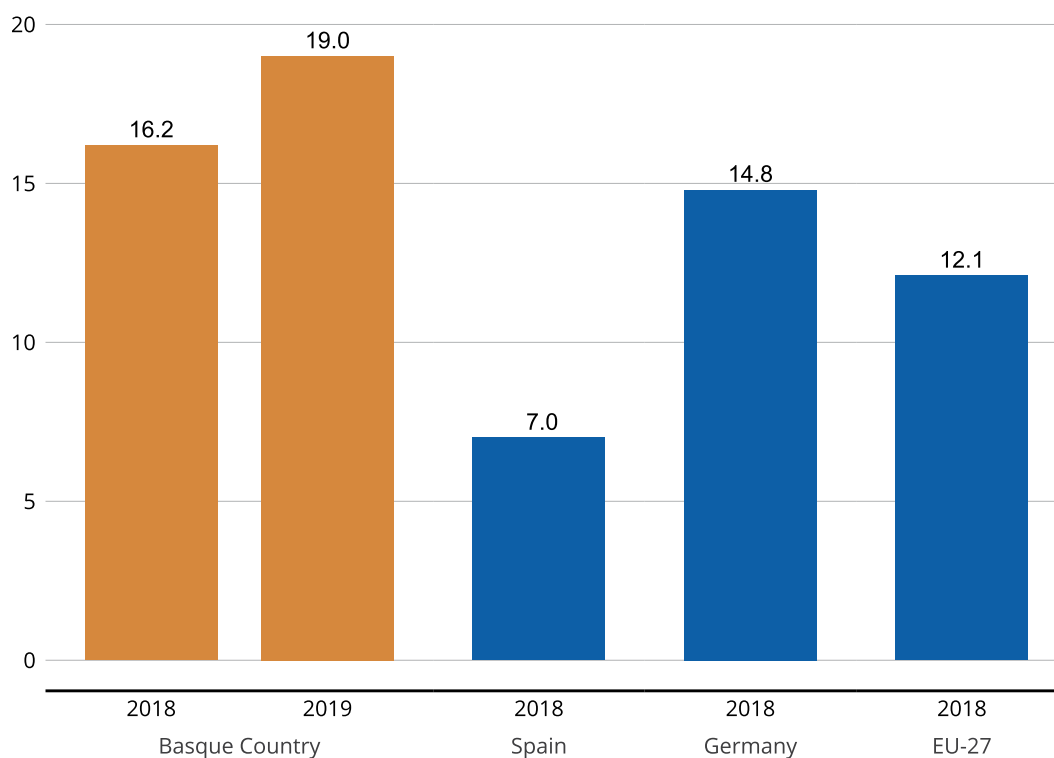
⁵⁷ See Charron *et al.* (2021).

Basque citizens
rate institutional
quality higher than
the EU average

unlike with confidence in institutions, the Basque Country has the highest level of co-operation, and the cooperation increased from 2018 to 2019. As indicated in the first chapter, this culture of cooperation is something which has been fostered over many years through the cluster policy and other initiatives at different levels of government, and it is an important strength for reinforcing innovation.

The Basque Country is the territory with the highest cooperation among firms, and that cooperation increased from 2018 to 2019

GRAPH 4.16 SMEs that cooperation in innovation (% total SMEs)



Source: Eustat and Eurostat. Compiled by authors.

Conclusions

In the *Basque Country Competitiveness Report 2020*, we identified different phases of the Basque Country's resilience in the face of the crisis resulting from the COVID-19 pandemic. We noted that the transition from the resistance phase —in which we found ourselves in 2020— to the recovery and renewal phase —which was expected to begin in 2021— entailed taking advantage of the windows of opportunity that arise from all crises, which can alter previous growth trajectories. The opportunities to emerge from this crisis that are presenting themselves are also determined by a group of profound transitions —green, digital, demographic and social— that have led us to question certain elements of our own model of competitiveness. The core theme of this report has thus been to present and experiment with a new territorial competitiveness framework for this new context, a framework that provides clear directionality in line with these transitions and with the aim of moving towards inclusive and sustainable wellbeing.

To ground these reflections in the specific context of our territory, we began with an analysis of the history of the Basque competitiveness strategy, highlighting its key characteristics over the last decade. The distinguishing features of the strategy during this period include:

- A focus on strategic priorities and opportunity niches through an explicit smart specialisation strategy that seeks to engage small and large firms, universities and other key stakeholders;
- Restructuring of the Basque Science, Technology and Innovation Network, which included adapting public R&D support programmes to the S3, setting up the Basque Research and Technology Alliance (BRTA), and strengthening monitoring;
- Aligning the education, training and skills system with the needs of the production system;
- A greater focus on non-technological innovation as a supplement to technological innovation;
- Improving governance mechanisms to boost more distributed forms of regional leadership and improve external connectivity.

The main future challenge is incorporating major societal challenges into this strategy, turning them into opportunities for firms and for society. In terms of the 'what

for' of the strategy, it will be important to reinforce the already well-integrated goal of inclusive competitiveness and combine it with the more explicit goal of sustainable competitiveness from an environmental perspective. This has implications for 'what' is prioritised, 'who' leads and implements the strategy, and 'how' they do it, especially in terms of: i) investment in infrastructure; ii) individual capabilities; iii) proper alignment of science and technology stakeholders with the challenges of the transitions; iv) strengthening (and attracting) key firms for the transitions; and v) leveraging the dynamics of cooperation and governance (internal and external), already well developed in the context of the strategy over the last decade, towards the new combinations of stakeholders and capabilities necessary to tackle innovative projects to accelerate the transitions.

To analyse the competitiveness of the Basque Country in a context in which it is necessary to clearly steer competitiveness towards the major social transitions, we have presented an evolution in the framework used in previous competitiveness reports. The new framework proposes a number of essential elements for identifying and analysing the keys to competitiveness for wellbeing. In the centre, there is a clear distinction in territorial performance between: (i) the dimensions of economic/business performance which typically form part of the analysis of territorial competitiveness, and (ii) the dimensions of wellbeing which should represent the ultimate goal of territorial competitiveness. Thus, analysis of the Basque Country's performance according to this framework is organised into dimensions of wellbeing and dimensions of economic/business performance.

The main challenge is to incorporate major societal challenges into the Basque competitiveness strategy

The new framework proposes a number of essential elements when considering and identifying the keys to competitiveness for wellbeing

How does the Basque Country perform in final outcomes of wellbeing?

Overall, the snapshot of the different dimensions of wellbeing considered in the framework shows a territory that has achieved high levels of life satisfaction, with strong comparative performance in such areas as income generation capacity, confidence in people, lifelong learning, citizen health and air quality. The areas where urgent improvements are needed to attain an even more holistic wellbeing are essentially (quality) job creation and the transition to a greener economy, with an eye to certain dimensions of learning and the presence of inequalities (income, education and gender).

Regarding the overall wellbeing of the population, it should be noted that perceived **life satisfaction**—an indicator that reflects how people in a territory holistically evaluate their lives—is comparably high in the Basque Country and has risen substantially in recent years (even slightly in 2020, despite the pandemic). Under this general indicator, we analyse six specific dimensions of wellbeing:

Perceptions of life satisfaction are comparably high in the Basque Country

- As regards **material life**, equivalent median income in the Basque Country is comparatively high and trending upward (even in 2020). However, income generation is only one part of material life, and there are some indications of concern regarding the rise in income inequality.
- **Employment** is a fundamental dimension of wellbeing, not only due to its direct impact on personal income but also as an important factor of inclusion, enabling people to develop personally and professionally. Job satisfaction in the Basque

The challenge of creating jobs, particularly for young people and ensuring that they are of high quality, remains critical

Country is stable and on a par with the EU-27 average, while the Basque unemployment rate continues its downward trajectory, and was under 10% in both 2019 and 2020. However, the gap with the EU-27 remains sizable and is even wider with Germany and reference regions such as Baden-Württemberg and Upper Austria. The challenge of creating jobs, particularly for young people, and ensuring that they are high quality (with less job insecurity) remains critical.

- In the **social life** dimension, satisfaction with free time remains stable and very similar to the benchmark territories. More remarkably, and very important due to its critical role in the dynamics of cooperation —so important to competitiveness today— is the fact that confidence in people has improved significantly in the Basque Country in recent years and is now on a par with the benchmark regions.
- **Learning** is another dimension with intrinsic value for the individual. It also affects other dimensions of wellbeing, such as employment, material life and social life. The assessment highlights, first, that the gap with other territories in the percentage of the population with higher education (senior secondary or tertiary) has narrowed considerably since 2013 (with an appreciable surge between 2019 and 2020), and second, that the Basque Country continues to stand out in comparison with the European average in lifelong learning. However, in general, all territories must continue to pay careful attention to quality in the basics (mathematics, literacy and science).
- The results for **health** are highly positive, revealing very high life expectancy and self-perceived state of health compared to other territories. However, the latest figures suggest that the pandemic has cut life expectancy in the Basque Country by almost one year.
- Lastly, and perhaps most importantly in the context of the climate crisis, we consider the **environment**. Although the Basque Country reports comparatively strong performance, with improvements in air quality, it is concerning that, in contrast to other territories, we see no great progress in terms of reducing greenhouse gas emissions. What is more, the recycling rate —itself a reflection of the population's attitudes towards the environment— lags behind the European average and further behind Germany. Given the need to accelerate the green transition of society as a whole and the cost this will entail for Basque firms and the general population, performance in this dimension must improve significantly in upcoming years.

There has been no significant progress in reducing greenhouse gas emissions, and recycling rates are below the European average

In considering these results, the cross-cutting dimension of **inclusiveness** is especially important. We have analysed various indicators that offer some perspective on this issue. Firstly, and as an example of the impact of inequality, there is a considerable gap in life expectancy according to education level. A 25-year-old who has completed basic education can expect to live 2.6 fewer years than a person who has completed higher education, and this gap has widened in recent years. What is more, there are considerable gaps linked to gender. While life satisfaction levels are fairly similar between men and women, there continue to be gaps that disadvantage women in terms of sense of security (22%) and pay (9.5%). Exerting influence on the levers of competitiveness to facilitate equal access to similar jobs for men and women will help continue to shrink the pay gap. Furthermore, greater pay transparency at firms will make it possible to detect pay discrimination in order to limit this discrimination.

How does the Basque Country rank in terms of economic/business performance?

With regard to the indicators of economic/business performance traditionally associated with competitiveness, the Basque Country has strong foundations, as reflected in the analysis of its competitiveness strategy in Chapter 1 (and the analysis of previous competitiveness reports). However, in each of the four dimensions analysed —economic performance, business profitability, innovation and internationalisation— the most recent data point to several aspects to be taken into account for post-pandemic recovery and renewal.

- In terms of overall **economic performance**, the Basque Country ranks well in GDP per capita, at 115.8% of the EU-27 average. However, the impact of the pandemic has been more pronounced than in other territories, and the gap with Germany that had been narrowing in previous years increased in 2020. Moreover, although productivity (per hour worked) is higher than in Spain and the EU-27, the gap with Germany and the benchmark regions is still significant.
- Analysis of **business profitability** reveals higher unit labour costs (ULC) in all territories due to the pandemic. While Basque ULC are lower than those in the other benchmark territories in the economy as a whole, in the manufacturing industry they are above Spain and the EU-27. The pandemic has also had a marked negative impact on profitability and, to a lesser extent, on the solvency of Basque firms. Combined with remarks about the productivity gap with Germany, the analysis points to the need to maintain business competitiveness through steady increases in productivity, especially via innovation. In the context of recovery from the pandemic, this should be supported by actions to improve the solvency of firms that make it possible to mobilise the necessary funds.
- In this regard, **innovation** is among the dimensions in which the Basque Country has some way to go in comparison with Germany and the EU-27. However, we do see recent improvements in terms of innovation in SMEs. As indicated in Chapter 1, there has been considerable effort in recent years to strengthen non-technological innovation in combination with technological innovation. This has put the Basque Country in a strong position in product and production process innovation. But it will be important to continue along this path, strengthening organisational and marketing innovation to expand the innovative capacity of firms in the specific context of the transitions, which demand new combinations of product and process innovation.
- Lastly, **internationalisation** is one area of performance which has very clearly been affected by the pandemic. The Basque Country has maintained its position in various indicators analysed: ranking above Spain and below Germany and the EU-17 in proportion of exports of goods and services (and goods), but very close to Germany as regards balance of trade. In an international context still feeling the impact of the uncertainties of the pandemic, combined with other geopolitical aspects and rigidity in certain supply chains, the continued support offered to SMEs in navigating this situation by, for example, Basque Trade and Investment and the cluster management organisations will be important to maintain strong international performance in the short, medium and long term.

Business competitiveness must be maintained by steadily boosting productivity through innovation

Internationalisation has clearly been affected by the pandemic and other geopolitical elements

Levers for the future of competitiveness

This analysis of outcomes (the blue area of the framework) sheds light on where strategies and policies should be focused in order to bring about improvements in both economic/business competitiveness (especially in productivity through innovation) and how it manifests as wellbeing (especially in employment, environment and inclusion). But these policies and strategies must operate in the context of a specific geo-demographic, economic/business and institutions/values structure (the orange area of the framework), within which different dynamic levers of competitiveness (the green area of the framework) can be addressed. In Chapter 4, we offered a partial analysis of the six dynamic levers identified in the framework, to illustrate the type of indicators that can be included in each lever and how it is thus possible to support reflections on actions, policies and strategies.

Progress must be made on decarbonising mobility, although this will entail costs for the entire Basque economy

- As regards **natural capital**, we see an improvement in the share of renewable energies, but with limited expansion, in part due to our access to renewable sources and the barriers to implementation of renewable generation. As a result of our industrial specialisation, which is heavily energy-intensive, energy consumption is high. Although it is gradually decreasing, as economic efficiency rises, we will need to move forward with replacing conventional fuels with fuels with low or zero net emissions. This represents a challenge that will generate significant costs for the entire Basque economy. On the positive side, highlights include business opportunities linked to the environmental industry, in which the Basque Country has a strong position, making it possible to engage in activities related to the circular economy, for example. We must also continue moving forward on the protection of biodiversity and adapting the territory's infrastructure to climate change.
- As regards **physical capital**, comparison with the EU-27, Germany and the reference regions indicates that investment levels have fallen significantly, with a necessity to return to higher pre-2008 crisis levels. Priority should be given to investment in machinery and equipment, which can be linked to the territory's economic activity, as the Basque Country is notable for its capacity in this sector, which accounts for a high percentage of employment, significantly higher than in the EU-27 (although less than in Germany and the reference regions).
- The **financing** lever includes three central elements. Firstly, we see a recovery of ROA in 2019, followed by a considerable decline in 2020 in the context of the pandemic, whereas ROE captures the lower economic profitability and leverage of Basque firms. With regard to public administrations, the Basque Country is notable for its financial stability, which led it to be in a position of financing capacity at the start of the COVID-19 crisis. As regards foreign capital, given the high level of internationalisation of Basque firms, the stock of outward FDI is high. However, there does appear to be some difficulty in attracting inward foreign investment. The process of economic recovery will require both the ability to make use of internal financial resources and attracting more funds from outside the country. Furthermore, in connection with the challenges of the natural capital lever, the importance of strengthening a green financing ecosystem is notable.
- In the **knowledge** lever, we analyse variables related to both R&D and digitalisation. There is a solid foundation in digitalisation, but work must continue developing digital competency to keep pace with the digital transition among people, firms and the government. As regards R&D, it is once again clear that R&D expenditure

is lower than in other territories. The economic recovery will require strengthening this area in order to continue making progress on innovation outcomes. Moreover, steering R&D towards the challenges and opportunities of the three transitions — and particularly the green transition— will be critical to achieving both business competitiveness and future wellbeing.

- With regard to **human capital**, as reflected in the wellbeing outcomes, the Basque Country is notable for its strong capabilities in the health care system, an important asset for maintaining a productive labour force. However, there remains the challenge of continuing to create jobs, as employment rates are low in comparison with the reference regions. This job creation must also be achieved by strengthening the labour force participation rate, as the rates are low. This challenge particularly affects women and young people, so these are groups that will require particular attention, and achieving higher employment will require a continued focus on education. In this area, we have identified that there continues to be a high percentage of people in the 30-34 age range who have not gone beyond compulsory secondary education, and this trend has been negative in recent years. It is therefore advisable to stimulate intermediate training (Intermediate VET) and higher education and training (Higher VET and university education). As mentioned earlier, this will have not only economic consequences but also an impact on personal wellbeing.
- In **social capital**, the challenge consists of continuing to improve confidence in institutions, still below the other territories analysed, although it should be remembered that this primarily concerns State institutions. By contrast, it is important to build on existing strengths in business trust to tackle ambitious projects around the challenges and opportunities of the transitions. It is necessary to build on the various cooperation policies developed to date to strengthen, for example, innovation projects that foster cooperation among new combinations of stakeholders with different capabilities, which together can provide novel solutions to aspects related to major social and economic challenges.

The process of economic recovery will require financial resources and attracting more funds from outside the country

It is necessary to continue focusing on education to achieve higher employment

It is necessary to build on existing business trust to tackle projects related to the transitions

Competitiveness in the context of the major transitions: A research agenda and continued action

The emphasis in this report has been primarily on presenting a new territorial competitiveness framework adapted to the current challenges facing the Basque Country and other territories to tackle the green, digital, demographic and social transitions and achieve competitiveness for wellbeing. Applying parts of this framework to the Basque Country has yielded conclusions regarding different dimensions of performance. These should guide Orkestra's future research agenda, in dialogue with its stakeholders in a process of continuous experimentation, adaptation and strengthening the framework over time.

It will be particularly important to: (i) research the relationships between the dimensions of wellbeing and the dimensions of economic/business performance to better understand the complementarities and trade-offs between different elements; and (ii) delve further into the analysis of the six levers —the production function underlying outcomes, both economic/business and wellbeing, and where it is possible to act on policies— and to understand their relationships with the specific structural context of the Basque Country.

Applying the new framework has yielded conclusions that should guide Orkestra's future research agenda in dialogue with its stakeholders

The priority here should be to better understand the levers which have an impact on the weakest dimensions of competitiveness for wellbeing in the Basque Country identified in this report: (quality) employment, the environment, and (innovation-driven) productivity. This in turn has implications concerning the next steps on the path of the Basque competitiveness strategy, which must build on the existing distinctive features —the current S3, the Basque Science, Technology and Innovation Network, the education, training and skills system, and the mechanisms of governance and territorial leadership— to drive actions aimed at strengthening these weaknesses and anticipating the impacts of the transitions on future competitiveness and wellbeing.

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Appendix

Appendix 1

Firms with 10-249 employees that innovate by industry and size (%)

		Basque Country		Spain	Germany	EU-27
		2018	2019	2018	2018	2018
Innovators (% total SMEs)	Industry	40.9	46.0	32.7	69.8	51.8
	Services	38.9	35.8	27.7	63.9	46.8
	< 50 empl.	35.0	36.2	26.9	62.3	46.0
	≥ 50 empl.	65.3	66.1	47.2	81.2	63.0
Product innovators (% total SMEs)	Industry	22.3	31.9	15.5	41.6	31.0
	Services	25.6	26.8	12.3	36.2	26.6
	< 50 empl.	20.2	25.5	11.8	36.3	26.5
	≥ 50 empl.	42.9	49.7	24.7	46.8	38.6
Process innovators (% total SMEs)	Industry	34.2	37.9	24.3	56.7	41.6
	Services	32.9	31.8	21.7	52.0	38.5
	< 50 empl.	29.9	31.4	20.9	50.7	37.4
	≥ 50 empl.	52.3	53.2	33.9	65.7	51.0
Sales of new products (% total sales)	Industry	13.1	18.0	8.8	8.1	9.8
	Services	12.2	14.7	6.0	6.1	6.4
	< 50 empl.	8.5	10.8	4.4	5.8	6.6
	≥ 50 empl.	17.1	21.9	9.5	7.6	8.8

Glossary

AUSJAL	Association of Jesuit Universities of Latin America
BACH	Bank for the Accounts of Companies Harmonised
BRTA	Basque Research and Technology Alliance
CNMC	National Commission of Markets and Competition
DESI	Digital Economy and Society Index
ECCP	European Cluster Collaboration Platform
EPDS	Poverty and social inequalities survey (Encuesta de pobreza y desigualdades sociales)
ERTE	Temporary redundancy plans (Expedientes de regulación temporal de empleo)
ESS	European social survey
EU	European Union
EXP	Exports
FDI	Foreign direct investment
GDP	Gross domestic product
GFCF	Gross fixed capital formation
GHG	Greenhouse gases
GVA	Gross value added
ICT	Information and communication technologies
IDEA	Institute for Energy Diversification and Saving (Instituto para la Diversificación y Ahorro de la Energía)

IMP	Imports
INE	Spanish National Statistics Institute
IPCC	Intergovernmental Panel on Climate Change
IVIE	Valencian Institute of Economic Research
KIBS	Knowledge intensive business services
LCE	Labour cost per employee
OECD	Organisation for Economic Co-operation and Development
PCT	Patent Cooperation Treaty
PPP	Purchasing power parity
R&D	Research and development
R&D&I	Research, development and innovation
ROA	Return on assets
ROE	Return on equity
RVCTI	Basque Science, Technology and Innovation Network
S3	Smart specialisation strategy
SDG	Sustainable development goals
SETID	Secretary of State for Telecommunications and Digital Infrastructures
SMEs	Small and medium-sized enterprises
TRLs	Technology readiness levels
ULC	Unit labour cost
VET	Vocational education training



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