

INVESTMENT REPORT 2024/25

INNOVATION INTEGRATION AND SIMPLIFICATION IN EUROPE



Data annex

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Investment Report 2024/2025: Innovation, integration and simplification in Europe

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About the Economics Department

The mission of the EIB Economics Department is to provide economic analyses and studies to support the Bank in its operations and in the definition of its positioning, strategy and policy. The department and its team of economists is headed by Debora Revoltella, director of economics.

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The views expressed in this publication are those of the authors and do not necessarily reflect the position of the European Investment Bank.

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Published by the European Investment Bank.

Printed on FSC® Paper.

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Download the complete report:

<https://www.eib.org/en/publications/20240354-investment-report-2024>

Available as:

pdf: ISBN 978-92-861-5902-2 ISSN: 2599-8277

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About the report

The annual EIB report on investment and investment finance is a product of the EIB Economics Department. The report provides a comprehensive overview of the developments and drivers of investment and investment finance in the European Union. It combines an analysis and understanding of key market trends and developments, with a thematic focus explored in greater depth. This year, the focus is Europe's ability to marshal the investment needed for the green transition and to support innovation. The report draws extensively on the results of the annual EIB Investment Survey (EIBIS) and the EIB Municipalities Survey, combining internal EIB analysis with contributions from leading experts in the field.

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Acknowledgements

Ambra Boilini for research assistance.

Data annex

The availability and quality of the data on investment are critical to supporting effective policymaking. In addition to national accounts, economists need to rely on other sources of macroeconomic data to analyse important aspects of investment, including infrastructure investment and intangible investment, and they increasingly make use of firm-level data.

This annex outlines these datasets and provides references to detailed methodological notes.

EIB Investment Survey

General module

The EIB carries out an annual survey of firms in the European Union (EIBIS General Module) with the aim of monitoring investment and investment finance activities and capturing potential barriers to investment. The survey covers approximately 12 000 companies across the European Union and slightly more than 800 firms in the United States. It is administered by telephone (in the local language) and takes an average of 25 minutes to complete. The first wave of the survey took place in 2016 and the survey completed its ninth wave in 2024, with interviews held between April and July 2024.

Using a stratified sampling methodology, the EIBIS General Module is representative for all 27 Member States of the European Union and the United States. It is representative at the level of four firm size classes (micro, small, medium and large) and four sector groupings (manufacturing, services, construction and infrastructure) for most countries.

Firms must have a minimum of five employees to be interviewed, with full-time and part-time employees counted as one and employees working less than 12 hours per week excluded. Eligible respondents are employees in senior positions with responsibility for investment decisions.

The survey is designed to build a panel of observations over time and is set up in such a way that survey data can be linked to firms' reported balance sheet and profit-and-loss data (see EIBIS-Orbis matched dataset below). Approximately 40% of the companies interviewed in each wave are companies that have already taken part in the survey in the previous wave.

The EIBIS General Module complements pre-existing information on investment activities in the European Union. It adds a firm-level dimension to the macroeconomic data available and thus facilitates a more fine-grained analysis of firm investment patterns. It also adds to existing firm-level surveys at a national level by providing full comparability of results across countries. The survey complements the European Commission investment survey by asking a much wider set of qualitative and quantitative questions on firm investment activities. It rounds out the European Central Bank/European Commission SAFE survey by focusing on the link between firm investment and investment finance decisions.

Table 1

EIBIS at a glance

27	EU Member States are all consistently represented by the survey – more specifically, non-financial enterprises with at least five employees and belonging to NACE categories C to J.
4	industry groupings and size classes determine the representativeness of the data within almost every member country.
12 033	firms in the European Union participated in the last wave of the survey.
800	US firms participated in the last wave of the survey.
44%	of all firms participating in the last wave responded in at least two consecutive waves.
79%	of firms surveyed in 2024 agreed to be contacted again for next year's survey.

The EIBIS is a very powerful instrument built according to the highest scientific standards. To guarantee top quality, every step of the survey process is executed and closely monitored by experts in the field. All steps – sampling and weighting, questionnaire development and translation, the fieldwork, and quality control and data processing – are also subject to strict controls and validation. More information on these technical aspects can be found in the technical report produced by the market research company conducting the survey (Ipsos, 2020). Table 1 presents key numbers about the EIBIS.

All aggregated data using the EIBIS General Module in this report are weighted by value added to reflect the contribution of different firms to economic output more closely. More information about the survey is available at www.eib.org/eibis.

Representativeness of the general module

The EIB Investment Survey is designed to be representative for the European Union and the United States at a country level and for most countries at a country-industry-group and country-size-class level.

In an EIB working paper (Brutscher et al., 2020), we assessed the data quality of the EIBIS in three steps. First, we benchmarked the sampling frame from which all survey respondents are drawn, the Bureau van Dijk Orbis database, against official statistics to see how well our sampling frame captures the relevant business population.

Second, we compared the final EIBIS sample against firms drawn at random from the same sampling frame and compared statistics constructed from the financial information included in that sampling frame. The purpose of this exercise was to assess whether and to what extent firms' willingness or unwillingness to participate in the survey may have led to a selection bias.

Last, we compared aggregate statistics calculated from the final EIBIS sample to corresponding statistics from Eurostat and the Organisation for Economic Co-operation and Development (OECD). In addition, we compared statistics based on financial information calculated from the EIBIS to the counterpart data obtained from the CompNet database. This purpose of this exercise was to evaluate both the level and dynamics of the financial information calculated from firm-level data.

Overall, the results from all three steps are very positive. First, the assessment of the sampling frame (a comparison of the Bureau van Dijk Orbis dataset with the Eurostat Structural Business Statistics (SBS) for the European Union and the United Kingdom¹ for the relevant sector/size classes) showed coverage ratios (number of firms in Orbis/number of firms in the SBS database) between 75% and 100% for the majority of countries. The ratio is between 50% and 75% in a few countries, and in only four – Cyprus, Greece, Luxembourg and Poland – does the coverage ratio fall below 50%.²

The sampling frame must cover a high percentage of the population of interest for the EIBIS survey results to reflect what is happening in the non-financial corporate sector in the European Union. However, this condition alone is not sufficient because, like any other survey, the EIBIS runs the risk of selection bias if there are systematic differences between firms that are willing to participate in the survey and firms that are not.

Secondly, to test whether (and if so, to what extent) the EIBIS sample is subject to such selection issues, we compared the distribution of a set of financial ratios in the final EIBIS sample against those of five samples drawn at random from the same sampling frame. The financial ratios were calculated using information in Orbis. The idea was that statistically identical distributions between the EIBIS sample and the random samples would provide evidence that selection bias does not pose a major issue for representativeness and vice versa.

1 For the United States, the statistics were compiled from the US Census Bureau and the Bureau of Economic Analysis.

2 An important driver of the positive coverage ratio is that the EIBIS samples firms with five or more employees. Coverage ratios tend to be higher for larger firms, so excluding the smallest firms from sampling significantly boosts coverage.

Using a Kolmogorov-Smirnov approach to compare the two samples, we find that for almost all countries, the percentage of variables for which the null hypothesis of equal distribution in the EIBIS and random samples is rejected is very low, suggesting a high degree of resemblance between EIBIS and the random sample.³ In other words, comparing the final EIBIS sample with a series of random samples from the same sampling frame provides little evidence of sampling bias in our data.

Finally, a comparison of the financial information from Orbis for firms in the final EIBIS sample to CompNet data also suggests good coverage of both EIBIS and Orbis information. The CompNet data are based on a distributed micro-data approach. Relevant data are extracted from often-confidential firm-level datasets available within national central banks or national statistical institutes and aggregated so that the confidentiality of firm data is preserved. The outcome of CompNet is a wide range of indicators at the country-sector-size-class level.

To assess the final EIBIS sample, we reproduced the same country-sector-size-class level indicators using the Orbis information for firms in the EIBIS (where possible) and compared them to those in the CompNet dataset. What we found is a very close match between the two datasets, with the financial variables in the EIBIS and the CompNet database showing very similar trends.

More information on both the general module and the add-on module in the EIB Investment Survey is available upon request by email to eibis@eib.org.

EIB Municipalities Survey 2024

In 2024, the EIB Municipalities Survey polled 1 002 municipalities in the European Union on their infrastructure investment activities and associated barriers.

The survey was administered by telephone (in the local language) among mayors, treasurers and/or municipalities' chief civil engineers. It took a median average of about 23 minutes to complete. Fieldwork took place between June and September 2024. As part of the survey, 1 002 municipalities were interviewed in all 27 EU Member States.

The sample frame from which municipalities were randomly selected was a comprehensive list of European municipalities. All larger municipalities (above 2 000 inhabitants) were eligible to be included in the exercise.

Regional and European Union-wide figures are weighted based on the urban population in each country to take size differences into account.

More information on the EIB Municipalities Survey is available upon request by email to municipality_survey@eib.org.

EIBIS-Orbis matched dataset

This report includes analysis based on a dataset that combines firm-level information from Bureau van Dijk's Orbis with the EIBIS – the EIBIS-Orbis matched dataset. The matching was carried out by the current survey provider Ipsos until the 2022 survey wave, while since 2023 this has been done by the EIB. Orbis is a proprietary dataset that contains firm-level accounting information and ownership data, gathered and standardised according to a global format that makes accounting data comparable across jurisdictions. Items from the balance sheet and profit-and-loss accounts have been used to construct standard financial

³ The Kolmogorov-Smirnov (KS) test is a nonparametric statistical test for the equality of probability distribution between two samples. Unlike a t-test, KS does not just compare the means of a variable, but also tests the null hypothesis that two samples are drawn from the same distribution by quantifying the distance between the empirical distribution functions of two samples. It therefore compares the shapes of the two distributions and evaluates whether the vertical differences between them are statistically significant.

ratios for firms that reflect financing activity and financial health. All data were reviewed following standard cleaning procedures to eliminate outliers and inconsistencies. Negative values for fixed assets, total assets and other stock variables were removed and all ratios have been winsorised at 1%. Starting in 2024, the matching has also been updated with Orbis Intellectual Property, which features a rich dataset on the patenting activities of companies listed in Orbis.

The matched dataset complements the cross-sectional perspective of the EIBIS with time series information starting in 2000. Custom panel datasets used in several analyses in this report were constructed thanks to this dataset.

ETS-Orbis matched dataset

To identify the firms behind the operator accounts in the EU Emissions Trading System, we rely on the correspondence table provided by the Joint Research Centre of the European Commission (Letout, 2021). We use the following procedure to purge the file of possible duplicates or false-positive links. First, we drop all records with missing account or firm identifiers. Second, we drop all records that assign multiple firm identifiers to the same account holder. We then drop duplicate records to allow for many-to-one matching with the emission file (one company may have multiple accounts in the EU Emissions Trading System). The last step is to collapse the installation level information by firm. We keep track of the number of installations owned by a firm over time and the sum of all the verified emissions and emission allowances attributed to them. We also assign an Emissions Trading System subsector to each firm, based on which two-digit sector was responsible for the majority of a firm's emissions over the years.

State aid and its relationship with national accounts and EU funding

Various measures of financial support for corporates are used throughout the report. These measures use different sources and are not directly comparable. This section aims to clarify their relationship with each other.

What is state aid?

State aid encompasses all forms of government-controlled financial resources that may be transferred or granted to undertakings, companies and industries on a discretionary basis. For a public measure to constitute state aid, it must satisfy all of the cumulative criteria of Article 107(1) of the Treaty of Functioning of the European Union – it should constitute an intervention by the state or through state resources giving a selective advantage to the recipient that distorts or potentially distorts competition and affects trade between EU countries. State aid is therefore recognised by the treaty as an advantage that is in principle incompatible with the internal market and is in general prohibited.

Despite the general prohibition, there are policy objectives, defined by the treaty, for which state aid interventions can be justified as necessary to ensure the economy functions properly and equitably. These objectives include social and regional cohesion, employment, research and development, sustainable development, services of general economic interest, etc. State aid may also be compatible with the treaty if the measure in question corrects specific market failures. In response to exceptional circumstances (such as the COVID-19 pandemic or the energy crisis), the state aid framework can be relaxed to include more diversified forms of aid, higher ceilings and extended time frames.

The European Commission must have been informed of and have approved state aid measures before they are activated, although there are exceptions to this notification obligation to reduce the administrative burden on authorities and to encourage aid to be channelled into economic growth without giving recipients an unfair competitive advantage. This is the case for measures covered by the General Block Exemption Regulation, de minimis aid measures (not exceeding €200 000 per undertaking over any period of three fiscal years) and interventions that fall under a scheme already approved by the Commission.

State aid and national accounts

State aid refers to the transfer of wealth to recipients, while the associated part of national accounts refers to monetary transactions between institutional units. State aid instruments take the form of grants, interest rate subsidies, tax advantages, guarantees, the provision of goods and services on preferential terms, debt write-offs, loan advances, etc. In addition, multiple instruments often coexist in the same state aid provision (for example, a grant may appear together with an interest rate subsidy). The closest relationship that can be established between state aid and national accounts is in the monetary transaction portion of wealth transfer.

Financial support for corporates appears in national accounts, providing insights into transfers from the general government and the rest of the world (including EU funds) to various institutional sectors, including corporates. Transfers can be current (affecting disposable income) or capital (linked to fixed assets). Current transfers include subsidies and social contributions, while capital transfers include investment grants, for example. There is no one-to-one link between state aid financial instruments and national accounts categories.

National accounts categories (provided as financial support for non-financial corporations) that can be associated with state aid instruments are subsidies on production (D39) and investment grants (D92). Subsidies on production are payments from the government or EU institutions to resident producers without a direct return, classified as current transfers because they affect disposable income (such as subsidies to reduce pollution). Investment grants are considered capital transfers, as they are linked to the acquisition or disposal of fixed assets to support specific investment projects and might be transfers from the rest of the world, including EU funds. Subsidies and investment grants are recorded in national accounts when the related transaction occurs, and grants in kind are recorded when asset ownership is transferred.

The partial overlap between state aid and national accounts is due to the different nature and coverage of the data. Using a grant as a state aid instrument is a clear example of a monetary transaction registered between the state and the recipient, meaning that it is also recorded in national accounts. For tax rate reductions (another state aid instrument), the amount of tax collected will be lower, but without monetary transactions taking place between the state and the beneficiary, meaning that there is no record of it in national accounts. In addition, while aggregate statistics on state aid provided are available from the State Aid Scoreboard, disaggregated data are only available from the Transparency database above the reporting threshold (EUR 500 000 per beneficiary and year before 2020 and gradually lowered to EUR 100 000 from 2020 onwards) or from national databases (where these exist).

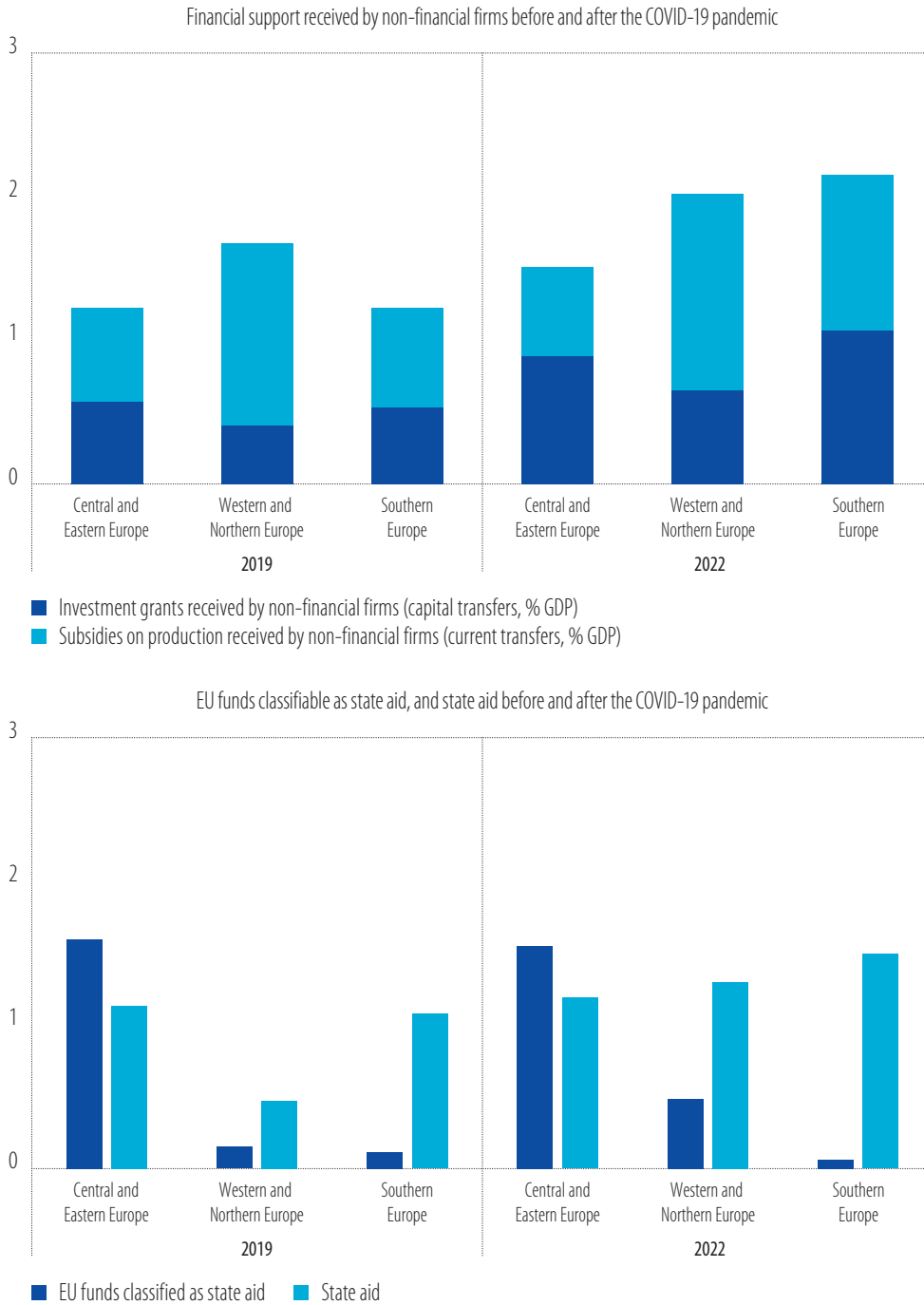
State aid and EU funding resources used for supporting corporates

Control concept criteria are used to decide what part of EU funding can be considered state aid; whenever EU funds are managed by national authorities, state aid rules apply provided that other state aid criteria defined by the treaty are satisfied. Funds that are directly managed by the European Union do not count as state aid. In addition, not all EU funds managed nationally have firms as beneficiaries (a prerequisite for being considered state aid). EU funds such as the Innovation Fund, InvestEU, HorizonEU and funds under the Common Agricultural Policy are not under state aid control (for example, the Innovation Fund is directly managed by the European Union). Conversely, the Recovery and Resilience Facility, EU Structural and Investment Funds and the Just Transition Fund may fall under state aid control (Member States are responsible for selecting the project and setting grant amounts under the Recovery and Resilience Facility, subject to the Commission's approval of the corresponding recovery and resilience plan).

State aid accounts for a smaller share of gross domestic product (GDP) than financial support received by non-financial corporations. Figure 1 illustrates the relative dimensions of three items expressed as a share of GDP: subsidies on production and investment grants received by non-financial corporations (registered in national accounts), the amount of EU funds that may constitute state aid, and state aid. Financial support increased in all macro regions from 2019 to 2022, with the highest growth seen in

Southern Europe (0.9 percentage points). State aid has also been on an upward trajectory, with Western and Northern Europe displaying the most dynamic growth pattern.

Figure 1
Distribution of population across age groups (millions of people, UN population forecasts)



Source: EIB staff calculations based on UN Population forecasts, 2024 edition.
 Note: Values for 2044 are UN forecasts assuming zero immigration.

Both before and after the COVID-19 pandemic, the EU financing share of state aid seems to have been highest in Central and Eastern Europe, followed by Western and Northern Europe and lastly Southern Europe. It is important to keep in mind that the EU financing share of state aid does not include all EU fund payments, only those potentially compatible with state aid rules. Many EU funding programmes – such as those managed by the European Investment Bank, the European Investment Fund and InvestEU – are not considered. In Central and Eastern Europe, the amount received from EU funds classifiable as state aid is relatively high compared to the financial support received by non-financial corporations in the same year (0.4 and 0.04 percentage points higher than financial support for non-financial corporations in 2019 and 2022, respectively). This is not surprising, given that EU funds are not only allocated to the corporate sector, but also support various other projects such as educational programmes and public research initiatives.

Calculating the share of government investment financed with European Structural and Investment Funds

There are limited data on the use and amount of EU resources deployed in different EU Member States. The European Commission refers to the projects that are financed using Multiannual Financial Framework resources as investment. However, this does not hold for all projects conceptually or from an accounting point of view, with these projects not being recorded as government gross fixed capital formation under the Eurostat classification. Similarly, only some Recovery and Resilience Facility-related spending can be regarded as public gross fixed capital formation.

To bridge this data gap, we approximate the contribution of EU funds to public investment over the current programming period (2021-2027) using the data from projects implemented under the Multiannual Financial Framework 2014-2020. Both the Recovery and Resilience Facility and European Structural and Investment Funds (including cohesion funds) finance projects that support private spending on increasing tangible and intangible capital stock, classifiable as capital transfers. Using data from the Kohesio database covering EU Structural and Investment Funds for 2014 to 2021, we classify projects as public investment, capital transfer, current expenditure or other spending. This classification makes it possible to estimate the contribution of the Multiannual Financial Framework 2014-2020 to government investment in each EU Member State. Finally, by using the same proportion as a best guess for the future share of EU funds, we can project their contribution to public investment in the next Multiannual Financial Framework period.

Using the Regulatory Indicators for Sustainable Energy (RISE) as the regulatory environment for firms' energy efficiency investments

The World Bank Group's Regulatory Indicators for Sustainable Energy (RISE) evaluate the policy and regulatory landscape for energy efficiency across 140 countries, including 20 of the 27 EU Member States. The RISE Energy Efficiency (EE) score offers a comprehensive measure making it possible to examine the relationship between a country's policy environment and how likely firms are to invest in energy efficiency.

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